



A MITEL
PRODUCT
GUIDE

Unify OpenScape 4000 V10

AMO Descriptions V10

AMO Descriptions

Service Documentation

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1 Important Information

This manual contains all AMOs and their parameters and a short description of their meaning.

A detailed description of the features that can be activated/deactivated with these AMO parameters can be found in the following deocumentations:

- OpenScape 4000 V7, Section 3 - Feature Usage Examples
- OpenScape 4000 V7, Section 4 - IP Solutions

2 ACDGP - Automatic Call Distribution Groups

Interrelationships	Parameter Descriptions
Functions of the AMO	Error Messages and Advisories

AMO ACDGP provides the capability to ADD static data for ACD Groups, as well as to CHANGE, DELETE, DISPLAY, and REGENERATE the associated data.

An ACD group is associated with the following attributes:

PhoneMail (PM) groups:

Service Access Number (PMSAN)

NORMAL groups:

a search method, one supervisor, various call waiting LED values, and may be designated as the primary group of its supervisor. The search methods are Linear (LIN), Circular (CIRC), and First In / First Out (FIFO). In the LIN search method, the search for the first available agent is performed in a linear fashion, always beginning with the first agent positioned in the group. The CIRC method starts with the position immediately following the last agent that was found to be available, and continues searching the list by position in a circular manner until an available agent is found. The FIFO method selects the agent who has been available the longest, without regard to the position of the agent in the group.

Each normal ACD group must be assigned to a supervisor. By default, the first group assigned to a supervisor is set as the primary group of the supervisor. As additional groups are assigned to the same supervisor, the craft may designate a different group to be the primary group by setting parameter PRIMARY to YES. Each supervisor with at least one group must have one and only one primary group.

The call waiting LED values are used to notify the agents in the group when the number of calls queued to the group have reached a certain level. The LED will remain off until the number of calls reaches the ON value. The LED flashes, then winks when those values are reached. Conversely, when the number of calls declines to less than the assigned LED value, the LED responds accordingly. The LED thresholds are specified by parameters ON, FLASH, and WINK. The values for these parameters must be set up as ON<FLASH<WINK.

The number of agents in an ACD group is maintained by AMO AGENT, and the system maximum for each group is 400 agents.

ACDGP - Automatic Call Distribution Groups

Interrelationships

If the search method is changed from CIRCULAR or LINEAR to FIFO, or vice versa, all agents in the group must be logged off by the AMO prior to the change. The agents are not allowed to log back on until the change has been completed. All agents marked as autologon will be automatically logged on by the AMO following completion of the change.

Every ACD PM group is bind to a Service Access Number.

2.1 Interrelationships

- AMO ACDRT : Configures ACD Routing Tables which may assign steps which will route to an ACD group (RTGRP). If an ACD group is referenced in an ART that group cannot be deleted.
- AMO AGENT : Configures ACD agents which can be assigned to ACD groups by AMO ACDGP. To delete an ACDGP you must first remove all the agents assigned to that ACDGP.
- AMO DIMSU : Determines the number of ACD groups which can be set up in the system.
- AMO SDAT : Set the supervisor ACD attribute to an already created extension. This extension can be used for supervisor extension SUPEXT in AMO ACDGP.
- AMOs SBCSU : Configures STNOs that can become the attribute for ACD supervisor set, which is assigned as SUPEXT by AMO ACDGP.
- AMO ZAND : Sets the ACD feature on or off. ACD groups can not be added or changed if the ACD feature is off.
- AMO-RICHT : SAN must be configured
- AMO-DNIT : Determines the GRPPN. To enter a GRPPN you must first set it in AMO-DNIT

2.2 Functions of the AMO

- [ADD-ACDGP](#) : ADD static ACD group data
- [CHANGE-ACDGP](#) : CHANGE static ACD group data
- [DELETE-ACDGP](#) : DELETE static ACD group data
- [DISPLAY-ACDGP](#) : DISPLAY static ACD group data

- **REGENERATE-ACDGP** : REGENERATE static ACD group data

2.2.1 ADD-ACDGP

A new ACD group is created by means of the function ADD-ACDGP. Parameter ACDGRP describes which group of the possible 255 groups is to be created. If parameter ACDGRP is not entered, the AMO will assign the first free group number. It is an error to enter an ACDGRP which is used by another group. The remaining parameters describe the ACD group to be created.

In creating a new ACD group, the supervisor extension for that ACD group must be assigned. The supervisor extension for an ACD group must be configured by AMO SDAT with the attribute for ACD supervisor set.

The LED option is defaulted to NO. If the LED option is set to YES for an ACD group, then the LED values are required and must be set for ON, FLASH, and WINK.

The search method is optional, and is defaulted to FIFO by the AMO.

In case of PM group, the PMSAN must be configured by AMO-RICHT. ADD-RICHT:PM,<IDX>,,,<SAN>,<NAME>; where AMO RICHT's index can be between 1 and 10 and the SAN value must be equal to the PMSAN value of AMO-ACDGP.

Procedure Overview

Command Code	Parameter
ADD-ACDGP	<pre>[ACDGP=<number>], TYPE=PM, PMSAN=<keynum> TYPE=NORMAL, [SEARCH=<param>], SUPEXT=<number> , [PRIMARY=<param>] , LED=YES , ON=<number>, FLASH=<number>, WINK=<number>, GRPPN=<number>, GRPNAME=<text>; , LED=NO; , GRPPN=<number>, GRPNAME=<text>;</pre>

Examples

1. Create ACD group #1 assigned to supervisor 233601 with circular search.

Input:

ACDGP - Automatic Call Distribution Groups

Functions of the AMO

```
ADD-  
ACDGP:ACDGRP=1,TYPE=NORMAL,SEARCH=CIRC,SUPEXT=233601,LED=YES,ON=  
6,FLASH=13,WINK=20;
```

Output:

```
H01: ACD GROUP ACDGRP=1 HAS BEEN ADDED.
```

2. Create ACD group #2 assigned to supervisor 233601 as primary group, with FIFO search method, without LED option.

Input:

```
ADD-ACDGP:ACDGRP=2,TYPE=NORMAL,SUPEXT=233601,PRIMARY=YES,LED=NO;
```

Output:

```
H01: ACD GROUP ACDGRP=2 HAS BEEN ADDED.
```

3. Create another group assigned to supervisor 233601 with linear search.

Input:

```
ADD-  
ACDGP:TYPE=NORMAL,SEARCH=LIN,SUPEXT=233601,LED=YES,ON=6,FLASH=13  
,WINK=20;
```

Output:

```
H01: ACD GROUP ACDGRP=3 HAS BEEN ADDED.
```

4. Create ACD PM group

Input:

```
ADD-ACDGP:ACDGRP=12,TYPE=PM,PMSAN=123#;
```

Output:

```
H02: ACD GROUP ACDGRP=12 HAS BEEN ADDED AS A PHONEMAIL GROUP.
```

2.2.2 CHANGE-ACDGP

Parameters of a created ACD group can be changed by means of the function CHANGE-ACDGP. With the exception of ACDGRP, all parameters are optional, but at least one of the optional parameters must be entered for a change of attribute data to occur.

An ACD group, i.e., the only, and therefore the primary group of a supervisor, may be assigned to a different supervisor. An ACD group that is the primary group, but not the only group assigned to a

supervisor may not be assigned to a different supervisor until one of the other groups is changed to become the primary group of the present supervisor.

If the search method is changed from CIRCULAR or LINEAR to FIFO, or vice versa, all agents in the group are blocked by the AMO prior to the change. The agents are not allowed to log back on until the change has been completed. All agents marked as autologon are automatically logged on by the AMO following completion of the change.

CHANGE-ACDGP is used in order to delete GRPNAME and GRPPN. For GRPPN the user must enter '00000' and for GRPNAME '*****' must be entered.

In case of PM group, the new PMSAN must be configured by AMO-RICHT.

Procedure Overview

Command Code	Parameter
CHANGE-ACDGP	ACDGP=<number>, TYPE=PM, PMSAN=<keynum> TYPE=NORMAL, [SEARCH=<param>], [SUPEXT=<number>] , [PRIMARY=<param>] , [LED=YES] , [ON=<number>], [FLASH=<number>], [WINK=<number>], [GRPPN=<number>], [GRPNAME=<text>]; , [LED=NO] , [GRPPN=<number>], [GRPNAME=<text>];

Examples

1. Change ACD group #1 to supervisor 233622.

Input:

```
CHANGE-ACDGP:ACDGRP=1,SUPEXT=233622;
```

Output:

```
H04: THE ACD GROUP 1 HAS BEEN CHANGED.
```

2. Change ACD group search method and turn on the LED option.

Input:

```
CHANGE-ACDGP:ACDGRP=2,SEARCH=LIN,LED=YES,ON=4,FLASH=10,WINK=15;
```

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Functions of the AMO

Output:

H04: ACD GROUP ACDGRP=2 HAS BEEN CHANGED.

2.2.3 DELETE-ACDGP

Created ACD groups are deleted by means of the function DELETE ACDGP. Only the group number has to be entered to cancel an ACD group. When a request is entered for deleting an ACD group, the AMO requires that there are no agents assigned to the group. A group may not be deleted until all the agents assigned to it have been reassigned or deleted using AMO AGENT.

An ACD group, i.e., the only, and therefore the primary group of a supervisor, may be deleted. An ACD group that is the primary group, but not the only group assigned to a supervisor, may not be deleted until one of the other groups is changed to become the primary group of the present supervisor.

An ACD group can not be deleted if the group is reference by routing tables (AMO-ACDRT).

Procedure Overview

Command Code	Parameter
DELETE-ACDGP	ACDGRP=<number>;

Examples

1. Delete ACD group #2.

Input:

DEL-ACDGP:ACDGRP=2;

Output:

F13: THE SPECIFIED ACD GROUP IS CONFIGURED AS A PRIMARY GROUP.
IT CAN BE DELETED ONLY AFTER ASSIGNING
AN OTHER GROUP TO BE THE PRIMARY GROUP
OF SUPERVISOR SUPEXT=@@@@@.

2. Delete ACD group #1.

Input:

DEL-ACDGP:ACDGRP=1;

Output:

H03: ACD GROUP ACDGRP=1 HAS BEEN DELETED.

2.2.4 DISPLAY-ACDGP

The parameters of one or more ACD groups can be displayed by means of the function DISPLAY-ACDGP.

There are several ways to request a display. A range of ACD Groups may be displayed with ACDGRP as the lower range and upper range of the display. If the ACDGRP is not entered, all ACD groups on system are displayed. One particular ACDGRP may be displayed, or several groups may be displayed by chaining the ACDGRPs.

For example:

ALL ACD GROUPS:	DISP-ACDGP;;
ONE SPECIFIC GROUP:	DISP-ACDGP:5;
ACD GROUPS WITHIN A CERTAIN RANGE:	DISP-ACDGP:2&&5;
SEVERAL GROUPS:	DISP-ACDGP:1&3&4&10;

All ACD groups assigned to a supervisor extension may be displayed by entering the SUPEXT. ACD groups may also be displayed by a search method, or by primary status. To display the agents assigned to an ACD group, use AMO AGENT.

Parameters SUPEXT, SEARCH and PRIMARY belong to the same group which means only one parameter is allowed to be entered at one time. If ACDGRP is not entered, then display will be done for all groups in the system.

When initiating this function, the following checks are performed. Each check produces a reaction and a prompt or end.

Procedure Overview

Command Code	Parameter
DISPLAY-ACDGP	[ACDGRP=<number>], { [SUPEXT=<number>] [SEARCH=<param>], [PRIMARY=<param>], [TYPE=<param>] };

Examples

1. Display ACD groups 1 and 5.

Input:

DISP-ACDGP:ACDGRP=1&5;

Output:

```
+-----+-----+-----+-----+-----+-----+-----+-----+
|ACDGRP | #AGTS  | SUPEXT | SEARCH | PRIMARY | ON    | FLASH | WINK |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

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Functions of the AMO

1	5	233601	CIRC	NO	13	18	20
TYP: NORMAL		PMSAN:					
5	8	233635	LIN	YES	5	10	15
TYP: NORMAL		PMSAN:					

2. Display all primary ACD groups.

Input:

DISP-ACDGP:PRIMARY=YES;

Output:

ACDGRP	#AGTS	SUPEXT	SEARCH	PRIMARY	ON	FLASH	WINK
2	15	233601	LIN	YES	0	0	0
TYP: NORMAL		PMSAN:					
5	8	233635	CIRC	YES	4	8	16
TYP: NORMAL		PMSAN:					
8	17	233623	CIRC	YES	0	0	0
TYP: NORMAL		PMSAN:					
11	22	233618	FIFO	YES	11	22	44
TYP: NORMAL		PMSAN:					

3. Display ACD groups with LINEAR search method from group 2 to group 30.

Input:

DISP-ACDGP:ACDGRP=2&&30,SEARCH=LIN;

Output:

ACDGRP	#AGTS	SUPEXT	SEARCH	PRIMARY	ON	FLASH	WINK
2	15	233601	LIN	YES	0	0	0
TYP: NORMAL		PMSAN:					
4	8	233623	LIN	NO	4	8	16
TYP: NORMAL		PMSAN:					
9	17	233623	LIN	NO	8	17	34
TYP: NORMAL		PMSAN:					

14	22	233618	LIN	NO	0	0	0
TYP: NORMAL		PMSAN:					
19	15	233603	LIN	NO	7	15	30
TYP: NORMAL		PMSAN:					
25	17	233611	LIN	YES	8	14	17
TYP: NORMAL		PMSAN:					

4. Display all ACD Groups assigned to supervisor 233635

Input:

DISP-ACDGP:SUPEXT=233635;

Output:

ACDGRP	#AGTS	SUPEXT	SEARCH	PRIMARY	ON	FLASH	WINK
3	15	233635	CIRC	NO	7	15	30
TYP: NORMAL		PMSAN:					
4	8	233635	LIN	NO	4	8	16
TYP: NORMAL		PMSAN:					
5	8	233635	LIN	YES	5	10	15
TYP: NORMAL		PMSAN:					
13	17	233635	CIRC	NO	8	17	34
TYP: NORMAL		PMSAN:					
22	17	233635	FIFO	NO	0	0	0
TYP: NORMAL		PMSAN:					
24	22	233635	FIFO	NO	11	22	44
TYP: NORMAL		PMSAN:					

2.2.5 REGENERATE-ACDGP

The function REGENERATE-ACDGP is used for regenerating ACDGPs in the same order as in ADD-ACDGP format.

ACD groups may be regenerated for a single group, several groups or a range of groups.

ACDGP - Automatic Call Distribution Groups

Functions of the AMO

Procedure Overview

Command Code	Parameter
REGENERATE-ACDGP	[ACDGRP=<number>];

Examples

1. Regenerate all ACD groups.

Input:

```
REG-ACDGP;
```

Output:

```
ADD-ACDGP:1,NORMAL,CIRC,233601,NO,YES,13,20,30;  
ADD-ACDGP:2,NORMAL,LIN,233601,YES,NO;  
ADD-ACDGP:3,NORMAL,CIRC,233635,NO,YES,7,15,30;  
ADD-ACDGP:4,NORMAL,LIN,233635,NO,YES,4,8,16;  
ADD-ACDGP:5,NORMAL,LIN,233635,YES,YES,5,10,15;  
ADD-ACDGP:8,NORMAL,CIRC,233623,YES,NO;  
ADD-ACDGP:9,NORMAL,LIN,233623,NO,YES,8,17,34;  
ADD-ACDGP:11,NORMAL,FIFO,233618,YES,YES,11,22,44;  
ADD-ACDGP:13,NORMAL,CIRC,233635,NO,8,17,34;  
ADD-ACDGP:14,NORMAL,LIN,233618,NO,NO;  
ADD-ACDGP:19,NORMAL,LIN,233603,NO,YES,7,15,30;  
ADD-ACDGP:21,NORMAL,FIFO,233603,YES,7,15,30;  
ADD-ACDGP:22,NORMAL,FIFO,233635,NO,NO;  
ADD-ACDGP:24,NORMAL,FIFO,233635,NO,YES,11,22,44;  
ADD-ACDGP:25,NORMAL,LIN,233611,YES,YES,8,14,17;
```

2. Regenerate ACD groups 1, 5 and 8.

Input:

```
REG-ACDGP:1&5&8;
```

Output:

```
ADD-ACDGP:1,NORMAL,CIRC,233601,NO,YES,13,20,30;  
ADD-ACDGP:5,NORMAL,LIN,233635,YES,YES,5,10,15;  
ADD-ACDGP:8,NORMAL,CIRC,233623,YES,NO;
```

3. Regenerate ACD groups 10 through 19.

Input:

```
REG-ACDGP:10&&30;
```

Output:

```
ADD-ACDGP:11,NORMAL,FIFO,233618,YES,YES,11,22,44;  
ADD-ACDGP:13,NORMAL,CIRC,233635,NO,YES,8,17,34;  
ADD-ACDGP:14,NORMAL,LIN,233618,NO,NO;  
ADD-ACDGP:19,NORMAL,LIN,233603,NO,YES,7,15,30;
```


2.3 Parameter Descriptions

ACDGRP	ACD Group Number	
	Type of Input	: 0 to 20 single values, concatenated with & or &&, optional (DISPLAY / REGENERATE) single value, mandatory (CHANGE / DELETE) single value, optional (ADD)
	Possible Values	: numeric, 1-255
	Default Value	: none (ADD / CHANGE / DELETE) all (REGEN / DISPLAY)
FLASH	LED Flash Option	
	Type of Input	: single value, mandatory (ADD,LED=YES) single value, optional (CHANGE,LED=YES)
	Possible Values	: numeric, 2-254
	Default Value	: none
	Note	: set to 0 by AMO if LED option is off
GRPPN	Group Pilot Number	
	Type of Input	: single value, optional (ADD) single value, optional (CHANGE)
	Possible Values	: numeric, 0-999999
	Note	deleted when 00000 is entered(CHANGE)
GRPNAME	Group Pilot Number	
	Type of Input	: single value, optional (ADD) single value, optional (CHANGE)
	Possible Values	: numeric, 0-999999
	Note	deleted when ***** is entered(CHANGE)
LED	LED Options for ACD Group	

ACDGP - Automatic Call Distribution Groups

Parameter Descriptions

	Type of Input	: single value, mandatory (ADD)
		single value, optional (CHANGE)
	Possible Values	: NO turns off LED option
		YES turns on LED option
	Default Value	: NO (CHANGE)
		none (ADD)
ON	LED On Option	
	Type of Input	: single value, mandatory (ADD,LED=YES)
		single value, optional (CHANGE,LED=YES)
	Possible values	: numeric, 1-253
	Default values	: none
	Note	: set to 0 by AMO if LED option is off
PMSAN	PhoneMail Service Access Number	
	Type of Input	0-9,*,#,A-D, max. 22-digits
		single value, mandatory (ADD/CHANGE)
PRIMARY	Primary Option for ACD Group	
	Type of Input	: single value, 3. parameter of a max-1-group (DISPLAY)
		: single value, optional (ADD / CHANGE)
	Possible Values	: NO
		YES
	Default Value	: NO
SEARCH	Search Method for ACD Group	
	Type of Input	: single value, 2. parameter of a max-1-group (DISPLAY)
		single value, optional (ADD / CHANGE)
	Possible Values	: CIRC distributed circular method
		FIFO first in, first out method

		LIN	linear hunt method
	Default Value	: FIFO	
SUPEXT	Supervisor Extension Number for ACD Group		
	Type of Input	: single value, 1. parameter of a max-1-group (DISPLAY)	
		single value, mandatory (ADD)	
		single value, optional (CHANGE)	
	Possible Values	: numeric, 0-999999	
	Default value	: none	
TYPE	normal or phonemail acd group		
	Type of Input	: single value, mandatory	
	Possible Values	: NORMAL	
		PM	
WINK	LED Wink Option		
	Type of Input	: single value, mandatory	
		single value, optional	
	Possible Values	: numeric, 3-255	
	Default Value	: none	
	Note	: set to 0 by AMO if LED option is off	

2.4 Error Messages and Advisories

Note:

AMO ACDGP communicates with the call processing subsystem when performing various commands. Some of the error and advisory messages reflect a negative response from Call Processing during requests from the AMO to log off, log on, or block an agent group.

ACDGP - Automatic Call Distribution Groups

Error Messages and Advisories

For some types of commands, AMO ACDGP sends a message to Call Processing (request to block an Agent Group) prior to changing the static database. If the request fails (negative ack from Call Processing), the static database is not changed. error message F17 reflects this.

2.4.1 Error Messages

- F01: MEMORY RESERVED FOR ACD GROUPS IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:.
ADD-DIMSU:ACDGRP=<?>;
- F02: ACD GROUP ACDGRP=@@@ HAS ALREADY BEEN CREATED.
- F03: THE FOLLOWING RESTRICTIONS MUST HOLD AMONG
THE LED ACTIVIZATION THRESHOLD VALUES:
ON:@@@ < FLASH:@@@ < WINK:@@@.
- F05: SUPERVISOR SUPEXT=@@@@@@ IS NOT CONFIGURED.
(SEE AMOS SBSCU,STNO)
- F07: STATION NUMBER SUPEXT=@@@@@@ HAS BEEN
CONFIGURED AS A FLOATING STATION.
(SEE AMO SCSU,INS=FLOAT)
- F09: SUBSCRIBER SUPEXT=@@@@@@
HAS NO SUPERVISOR CLASSMARK.
ADD REQUIRED CLASSMARK WITH THE FOLLOWING COMMAND:
CHANGE-SDAT:STNO=@@@@@@,TYPE=ATTRIBUT,AATTR=SUPER;
- F10: THE ACD GROUP WAS ADDED AS A PRIMARY GROUP.
IT CAN BE ASSIGNED TO A DIFFERENT SUPERVISOR
ONLY AFTER ASSIGNING AN OTHER GROUP TO BE THE
PRIMARY GROUP OF SUPERVISOR SUPEXT=@@@.
- F11: ACD GROUP ACDGRP=@@@ IS STILL
REFERENCED BY ACD ROUTING TABLES.
ENTER COMMAND 'DISP-ACDRT;' AND SEARCH FOR ENTRIES
HAVING THE WORDS 'ACDGRP', 'CACDGRP' IN THE
OUTPUT COLUMN MARKED BY HEADER 'PARAMETER'.
(ACTION=RTGRP/COND) "
- F12: THE ACD GROUP ACDGRP=@@@ IS NOT CONFIGURED.
- F13: THE SPECIFIED ACD GROUP IS CONFIGURED AS A PRIMARY GROUP.
IT CAN BE DELETED ONLY AFTER ASSIGNING
AN OTHER GROUP TO BE THE PRIMARY GROUP
OF SUPERVISOR SUPEXT=@@@@@@
- F14: THE SPECIFIED ACD GROUP CAN BE DELETED ONLY
AFTER DELETING THE AGENTS STILL ASSIGNED TO IT.
DISPLAY THE GROUP'S AGENTS WITH THE FOLLOWING COMMAND:
DISP-AGENT:ACDGRP=@@@.

- F15: THE SPECIFIED ACD GROUP IS CONFIGURED AS A PRIMARY GROUP.
IT CAN BE CHANGED INTO A NORMAL GROUP
BY ASSIGNING AN OTHER GROUP TO BE THE
PRIMARY GROUP OF SUPERVISOR SUPEXT=@@@@@.
- F16: ACD FEATURE IS BLOCKED.
ACTIVATE IT WITH THE FOLLOWING COMMAND:.

CHANGE-ZAND:TYPE=ACD,ACDALLOW=YES;
- F17: COULD NOT BLOCK ACD GROUP ACDGRP=@@@.

(NEGATIVE ACKNOWLEDGEMENT FROM CALL PROCESSING)
- F19: THE GIVEN PMSAN IS NOT SET. SET IT WITH:
ADD-RICHT:PM,<IDX>,,,<SAN>,<NAME>;
A NUMBER BETWEEN 1-10 MUST BE ENTERED FOR IDX
SAN VALUE MUST BE EQUAL TO THE PMSAN OF AMO-ACDGP
- F20: DELETION NOT ALLOWED. ACD PM GROUP @@@ IS ASSOCIATED
WITH TRUNK GROUP @@.
- F21: IT IS NOT ALLOWED TO CHANGE THE TYPE OF AN ACD GROUP
- F22: GROUP PILOT NUMBER GRPPN @@@@@@ IS NOT A VALID DIRECTORY NUMBER CONFIGURED
WITH AMO DNIT ROUTING=DRTD ODER DRTSDA.

2.4.2 Advisories

- H01: ACD GROUP ACDGRP=@@@ HAS BEEN ADDED.
- H02: ACD GROUP @@@ HAS BEEN ADDED AS A PHONEMAIL GROUP.
- H03: ACDGRP ACDGRP=@@@ HAS BEEN DELETED.
- H04: ACDGRP ACDGRP=@@@ HAS BEEN CHANGED.
- H05: ACDGRP ACDGRP=@@@ IS NOT CONFIGURED.
- H06: THE GIVEN ACD GROUP HAS BEEN REGISTERED AS THE PRIMARY GROUP OF
THE SUPERVISOR SUPEXT=@@@@@, BECAUSE A SUPERVISOR SUPERVISING
ONE GROUP AT LEAST MUST POSSESS A PRIMARY GROUP (PRIMARY=YES).
- H07: THERE ARE NO ACD GROUPS WITHIN THE
RANGE SPECIFIED FOR PARAMETER 'ACDGRP'.
- H08: THERE ARE NO ACD GROUPS WITH ACDGRP=@@@.
- H09: THERE ARE NO ACD GROUPS WITH THE REQUESTED
PARAMETERS WITHIN THE SPECIFIED 'ACDGRP'-RANGE.
- H10: NEGATIVE ACKNOWLEDGEMENT FROM CALL PROCESSING.
- H11: DUE TO LACK OF MEMORY THE AGENT AGTID=@@@@@
COULD NOT BE LOGGED ON BY CALL PROCESSING.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:

ADD-DIMSU:ACDLOGON=<?>;
- H12: ACD GROUP ACDGRP=@@@ COULD NOT BE LOGGED OFF.

(NEGATIVE ACKNOWLEDGEMENT FROM CALL PROCESSING)
- H13: ACD GROUP ACDGRP=@@@ COULD NOT BE LOGGED ON.

ACDGP - Automatic Call Distribution Groups

Error Messages and Advisories

(NEGATIVE ACKNOWLEDGEMENT FROM CALL PROCESSING)

COULD NOT LOG ON AGENT AGTID=@@@ BECAUSE THE APPROPRIATE DEVICE (AUTOEXT) IS NOT IDLE OR IS UNAVAILABLE. IN ORDER TO LOG ON DEACTIVATE AND ACTIVATE THE DEVICE WITH THE FOLLOWING COMMANDS:
DEACT-DSSU:OFFTYPE=DC,TYPE=STNO,STNO=<AUTOEXT>;
ACT-DSSU:ONTYPE=ANL,TYPE=STNO,STNO=<AUTOEXT>;

H14: COULD NOT LOG ON AGENT AGTID=^agtid^ BECAUSE THE APPROPRIATE DEVICE (AUTOEXT) IS NOT IDLE OR IS UNAVAILABLE. IN ORDER TO LOG ON DEACTIVATE AND ACTIVATE THE DEVICE WITH THE FOLLOWING COMMANDS:
DEACT-DSSU:OFFTYPE=DC,TYPE=STNO,STNO=<AUTOEXT>;
ACT-DSSU:ONTYPE=ANL,TYPE=STNO,STNO=<AUTOEXT>;
OR USE THE FUNCTION RESTART-DSSU.

2.4.3 Use of Output Messages for each Function

- ADD:
F01, F02, F03, F05, F07, F09, F16, F19
H01, H02, H06, H11
- CHANGE:
F03, F05, F07, F09, F10, F12, F15, F16, F17, F19, F21
H04, H06, H10, H11, H12, H13
- DELETE:
F11, F12, F13, F14, F20
H03
- DISPLAY:
H05, H07, H08, H09
- REGENERATE:
H05, H07

3 ACDRS - ACD Route Selection

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Descriptions	

By means of AMO ACDRS, a customer-specific route can be established for each Route Control Group (RCG) by assigning a Day Shift Number (DSNUM) to each day of the week for the RCGs. The DSNUM indicates the Day Shift selection to be used by a RCG for a given day.

A Day Shift entry is created by assigning SHIFTS to a DSNUM. A SHIFT denotes the ending time for a specific shift, as well as the ACD Routing Table (ART) and End of Shift (EOS) to be assigned to calls arriving during that shift. The DSNUM identifies the Day Shift table entry to be used for storing all the shifts for a specific Day. There is no limit to the number of shifts assigned to a DSNUM as long as the shift pool of 20400 shifts is not exhausted. A DSNUM must have shifts assigned for a 24 hour period. The craft must assign the default EOS (23:59) with the ACD Route Table Default (ARTDEF) parameter, but it can be set to any user configured ART. The EOS will be set to NO.

The craft may create up to 1020 DSNUMs with an average of 20 shifts each for a total of 20400 SHIFTS.

A DSNUM may be assigned to multiple RCGs for various days of the week. A DSNUM cannot be deleted if it is being referenced in the Route Selection table.

AMO ACDRS supports Calendar Routing; i.e. the ability to set ACD routing based on calendar (special) dates.

Calendar Routing allows the customer to set up a route for each Route Control Group (RCG) by assigning special dates and Day Shift Numbers (DSNUM) to the Calendar Routing Table.

The DSNUM indicates the Day Shift selection to be used by the RCG for specific date(s).

The special dates can be specified for any year within the range entity 1996 - 2095 and can be a single date entity or a range of dates entity. The Route Selection Table for a RCG must be set up prior to assigning Calendar Routing to the RCG.

The input will require a Start Date, an End Date, and the DSNUM associated with that RCG. This creates a range entity which can have any length from one day to one year.

The special date(s) configured for a RCG is independent from the special dates configured for others RCGs. This allows each RCG to be configured with its own set of special dates.

There are some general rules that are followed for Calendar Routing.

ACDRS - ACD Route Selection

Restrictions

- The total number of entries supported in the Calendar Routing table is limited to 32000 entries.
- Nonrepeating date entities that coincide or overlap repeating date entities take precedence over those repeating date entities.
- Date entities of the same type (nonrepeating or repeating) cannot coincide or overlap.
- When entering an end date parameter, the end year must be specified if a start year is specified. Also, the end year must be greater than or equal to the start year for a nonrepeating date entity or a '*' for a repeating date entity when the start year has been entered.

End of Shift Description

Every EOS time has, independent from the RCG, its EOS Group, which will be generated automatically. When calls arrive during a SHIFT, they are queued to the EOS Group until they are answered or until the end-shift time arrives. If the latter happens and EOS parameter is set to YES, the calls are then rerouted back through the Route Selection Process. If the EOS=NO, the calls will not be rerouted when the SHIFT ends. In this case the SHIFT has to answer all waiting calls.

3.1 Restrictions

This description is valid from SP300E-V3.0

3.2 Interrelationships

- AMO DNIT : A RCG must have a route selection defined before it can be referenced in the DNI table.
- AMO ACDRT : A RCG cannot be assigned an ART until that ART has been created by AMO ACDRT.
- AMO ACDSO : A RCG cannot have route selection defined unless the RCG has been created by AMO ACDSO.
- AMO ZAND : The ACD feature has to be turned on by AMO ZAND.

3.3 Functions of the AMO

- [ADD-ACDRS](#) : Create route selection information
- [CHANGE-ACDRS](#) : Change route selection information
- [DELETE-ACDRS](#) : Delete route selection information
- [DISPLAY-ACDRS](#) : Display route selection information
- [REGENERATE-ACDRS](#) : Regenerate route selection information

3.3.1 ADD-ACDRS

By means of the function ADD-ACDRS, route selection information may be created. Two shifts are usually set up when a DSNUM is created. The first SHIFT created is assigned the ART and EOS values that were input. The EOS is defaulted to NO if not entered. Since each Day Shift must be set up for all 24 hours of a day, the AMO defaults the last shift of the day (23:59) and then creates this shift as input by the user in parameter ARTDEF. The default EOS for shift 23:59 will be NO. This defaulted shift may be modified using the CHANGE function.

To create a Day Shift that has all 24 hours assigned to the same ART and EOS, the user enters 23:59 for the SHIFT. The values entered for parameters ART and EOS will be assigned and will also overwrite the ART entered for ARTDEF and the default EOS value (NO).

If a DSNUM is not entered, the AMO will use the first available DSNUM. There are 1020 possible DSNUMs that provide at least one entry for each RCG. The craft may assign an average of 20 shifts per DSNUM for a system maximum of 20400 SHIFTS.

After a DSNUM has been created, it may be assigned to RCGs. A DSNUM may be assigned to multiple RCGs for various normal days of a week and special (Calendar Routing) date entities.

The Route Selection Table for a RCG must be set up prior to assigning Calendar Routing to the RCG.

When setting Calendar Routing, a start date and an end date must be specified when creating a range entity for a special date.

The start date is considered to be the first date within the range entity and the end date is considered to be the last date within the range entity.

If an end date is not given, it is assumed to be the same as the start date creating a range entity of one day. Also, if the year is not entered, it is assumed to be a repeating (indefinite) year assignment.

ACDRS - ACD Route Selection

Functions of the AMO

A RCG cannot be assigned DSNUMs unless the ACD feature is set to RELEASED by AMO ZAND.

Procedure Overview

Command Code	Parameter
ADD-ACDRS	<pre>| TYPE=DS, [DSNUM=<number>], SHIFT=<number> , ART=<number>, [EOS=<param>] , ARTDEF=<number>; | TYPE=RS, RCG=<number>, SUN=<number>, MON=<number> , TUE=<number>, WED=<number>, THU=<bumber> , FRI=<number>, SAT=<number>; | TYPE=CR, RCG=<number> , [STARTYR=<key-num>], STARTMON=<number>, STARTDAY=<number> , [ENDYR=<key-num>], [ENDMON=<number>], [ENDDAY=<number>] , DSNUM=<number>;</pre>

Examples:

1. Add a day shift that has all 24 hours assigned to ART 28, with an EOS group.

Input:

```
ADD-ACDRS:TYPE=DS, SHIFT=23-59, ART=28, EOS=YES, ARTDEF=28;
```

Output (the AMO will use the DSNUM 10, because it is the first DSNUM available):

```
H01: DAY SHIFT SCHEME DSNUM=10 HAS BEEN CREATED.
```

2. Assigned route selection for RCG 5, with Day Shift 10 on MON through Fri and Day Shift 2 on Sat and Sun.

Input:

```
ADD-
ACDRS:TYPE=RS, RCG=5, SUN=2, MON=10, TUE=10, WED=10, THU=10, FRI=10, SAT
=2;
```

Output:

```
H02: ROUTE SELECTION TABLE RCG=5 HAS BEEN CREATED.
```

3. Add a day shift with the first shift ending at 8:29 am, assigned to ART 17, with no EOS group. Also create the default shift for 11:59 pm at ART 21.

Input:

```
ADD-ACDRS:TYPE=DS,SHIFT=8-29,ART=17,ARTDEF=21;
```

Output (the AMO will use the DSNUM 11, because it is the first DSNUM available):

```
H01: DAY SHIFT SCHEME DSNUM=11 HAS BEEN CREATED.
```

4. December 25, considered a repeating holiday, is to be added to the Calendar Routing Table for RCG=1. December 25 will use the routing specified for DSNUM=101.

Input:

```
ADD-  
ACDRS:TYPE=CR,RCG=1,STARTMON=12,STARTDAY=25,ENDMON=12,ENDDAY=25,  
DSNUM=101;
```

Output:

```
H18: THE ENTERED DATES HAVE BEEN ADDED TO THE CALENDAR ROUTING  
TABLE.
```

5. July 28, 1997, needs to be added to the Calendar Routing Table for RCG=2 as a non-repeating special date. This date will use the routing specified for DSNUM=103. Since this is a single day range entity, the end date is not input and defaults to the start date.

Input:

```
ADD-  
ACDRS:TYPE=CR,RCG=2,STARTYR=1997,STARTMON=7,STARTDAY=28,DSNUM=10  
3;
```

Output:

```
H18: THE ENTERED DATES HAVE BEEN ADDED TO THE CALENDAR ROUTING  
TABLE.
```

6. December 28 through January 2 need to be added to the Calendar Routing Table for RCG=2 as a repeating special date. These dates will use the routing specified for DSNUM=105.

Input:

```
ADD-  
ACDRS:TYPE=CR,RCG=2,STARTYR=*,STARTMON=12,STARTDAY=28,ENDYR=*,EN  
DMON=1,ENDDAY=2,  
DSNUM=105;
```

Output:

ACDRS - ACD Route Selection

Functions of the AMO

H18: THE ENTERED DATES HAVE BEEN ADDED TO THE CALENDAR ROUTING TABLE.

3.3.2 CHANGE-ACDRS

By means of the function CHANGE-ACDRS, route selection information may be modified.

The CHANGE action performs the following functions:

- adding a new SHIFT to a Day Shift
- changing a current SHIFT of a Day Shift
- deleting a current SHIFT of a Day Shift
- for Route Selection and Calendar Routing, changing of the DSNUM for specific RCG(s)

If the Day Shift is to be changed, the AMO searches the Day Shift Table entry for the SHIFT time. If the input SHIFT does not exist, then the shift is added for the DSNUM, and set to the ART number entered. When adding a shift to a DSNUM, the ART parameter is required. The EOS will default to NO. If the SHIFT already exists, the ART and/or the EOS input will be changed. Either the ART or EOS must be entered.

To delete a shift from a DSNUM, set the ART to equal 0. A shift may be deleted if the ACD feature is set to blocked, but a shift may not be added or changed if the ACD feature is set to blocked. Note that shift 23:59 may never be deleted.

The Day Shift assignments in the Route Selection table may be changed for a RCG for any number of days.

For Calendar Routing the CHANGE function can be used to change a specific DSNUM for a single date entity or a range of date entities. However, the Craft is not allowed to expand, change or decrease the value of an existing range entity. Thus, to modify a range entity, the Craft must use the DELETE and ADD functions.

A RCG cannot have its DSNUM changed unless the ACD feature is set to RELEASED by the AMO ZAND.

Note:

To change a single or a range of special date entities, the Craftsperson must input into the starting date. Entering any date other than the starting date within a range entity will cause an error to be displayed and the function to be aborted.

Procedure Overview

Command Code	Parameter
CHANGE-ACDRS	| TYPE=DS, DSNUM=<number>, SHIFT=<number>

ACDRS - ACD Route Selection

Functions of the AMO

Command Code	Parameter
	, { (min 1) ART=<number>, EOS=<param>};
	| TYPE=RS, RCG=<number>, { (min 1) SUN=<number> , MON=<number>, TUE=<number> , WED=<number>, THU=<number> , FRI=<number>, SAT=<number>};
	| TYPE=CR, RCG=<number> , STARTYR=<key-num>, STARTMON=<number>, STARTDAY=<number> , DSNUM=<number>;

Examples:

1. Add a shift ending at 4:59 pm to day shift number 10. Assign this new shift to ART 33, with an EOS group.

Input:

CHA-ACDRS: TYPE=DS, DSNUM=10, SHIFT=16-59, ART=33, EOS=YES;

Output:

H03: DAY SHIFT SCHEME DSNUM=10 HAS BEEN CHANGED.
H11: ATTENTION! THE MODIFIED DAY SHIFT SCHEME DSNUM=11
IS STILL REFERENCED IN ROUTE SELECTION TABLES..

2. Change the Day Shift Number for Tue and Wed to 14 for RCG number 5.

Input:

CHA-ACDRS: TYPE=RS, RCG=5, TUE=14, WED=14;

Output:

H04: ROUTE SELECTION TABLE RCG=5 HAS BEEN CHANGED.

3. Change special Calendar Routing date July 28,1997 of RCG=2 from DSNUM=103 to DSNUM=110.

Input:

CHA-
ACDRS:TYPE=CR, RCG=2, STARTYR=1997, STARTMON=7, STARTDAY=28, DSNUM=110;

Output:

H21: CALENDAR ROUTING TABLE RCG=2 HAS BEEN CHANGED.

3.3.3 DELETE-ACDRS

By means of the function DELETE-ACDRS, Route Selection and Calendar Routing information may be deleted.

A DSNUM cannot be deleted if it is referenced in the Route Selection table.

A DSNUM, RCG route selection or Calendar Routing tables can be deleted without regard to whether or not the ACD feature is set to BLOCKED.

A RCG Route Selection Table cannot be deleted if it is referenced in the Directory Number Information (DNIT) table; however, all entries in the Calendar Routing table can be deleted for an RCG without regard to referencing.

Note: To delete a single or a range of special date entities, the Craftsperson MUST input into the starting date. Entering any date other than the starting date within a range entity will cause an error to be displayed and the function to be aborted.

Procedure Overview

Command Code	Parameter
DELETE-ACDRS	| TYPE=DS, DSNUM=<number>; | TYPE=RS, RCG=<number>; | TYPE=CR, RCG=<number> , STARTYR=<key-num>, STARTMON=<number>, STARTDAY=<number>;

Examples:

1. Delete Day Shift number 24.

Input:

```
DEL-ACDRS:TYPE=DS,DSNUM=24;
```

Output:

```
H05: DAY SHIFT SCHEME DSNUM=24 HAS BEEN DELETED.
```

2. Delete the route selection entry for RCG 5.

Input:

```
DEL-ACDRS:TYPE=RS,RCG=5;
```

Output:

ACDRS - ACD Route Selection

Functions of the AMO

H06: ROUTE SELECTION TABLE RCG=5 HAS BEEN DELETED.

3. Delete special date July 28,1997 of RCG=2.

Input:

DEL-ACDRS:TYPE=CR,RCG=2,STARTYR=1997,STARTMON=7,STARTDAY=28;

Output:

H19: THE ENTERED DATES HAVE BEEN DELETED FROM THE CALENDAR ROUTING TABLE.

4. Delete special dates Jan 2 through Jan 6, 1997 of RCG=10.

Input:

DEL-ACDRS:TYPE=CR,RCG=10,STARTYR=1997,STARTMON=1,STARTDAY=2;

Output:

H19: THE ENTERED DATES HAVE BEEN DELETED FROM THE CALENDAR ROUTING TABLE..

5. Delete special repeating dates December 28 through January 2 of RCG=2.

Input:

DEL-ACDRS:TYPE=CR,RCG=2,STARTYR=*,STARTMON=12,STARTDAY=28;

Output:

H19: THE ENTERED DATES HAVE BEEN DELETED FROM THE CALENDAR ROUTING TABLE..

3.3.4 DISPLAY-ACDRS

By means of the function DISPLAY-ACDRS, all Route Selection and Calendar Routing entries are displayed.

There are several ways to display the route selection information:

- Display Day Shift 5:

DIS-ACDRS,TYPE=DS,DSNUM=5;

- Display all Day Shifts that reference ART 23:

DIS-ACDRS,TYPE=DS,ART=23;

- Display all Day Shifts referenced in RCG 44:

DIS-ACDRS,TYPE=DS,RCG=44;

- Display route selection for RCGs 8 through 11:

DIS-ACDRS,TYPE=RS,RCG=8&&11;

- Display all RCGs that reference DSNUM 12:

DIS-ACDRS,TYPE=RS,DSNUM=12;

There are several ways to display Calendar Routing dates:

- Display all Calendar Routing information:

DIS-ACDRS,TYPE=CR;

- Display all Calendar Routing information for RCG 44:

DIS-ACDRS,TYPE=CR,RCG=44;

- Display Calendar Routing information for RCGs 6 through 9:

DIS-ACDRS,TYPE=CR,RCG=6&&9;

Only one of the optional parameters for the Day Shift Table (following the TYPE = DS branch) may be entered. If none of the optional parameters are entered for the TYPE = DS, then all SHIFTS for all DSNUMs and Calendar Routing dates will be displayed.

Only one of the optional parameters for the Route Selection table (following the TYPE = RS branch) may be entered. If none of the optional parameters are entered for the TYPE = RS, then the route selection for all the RCGs will be displayed.

If no parameters are entered, all DS, RS and CR entries will be displayed (DIS-ACDRS;).

There are no error messages associated with DISPLAY-ACDRS.

Procedure Overview

Command Code	Parameter
DISPLAY-ACDRS	| [TYPE=DS], {(max 1) DSNUM=<number>,ART=<number> ,RCG=<number>; | [TYPE=RS], {(max 1) RCG=<number>,DSNUM=<number>; | [TYPE=CR], [RCG=<number>; | [TYPE=ALL];

Example:

1. Display Day Shift numbers 5 through 11.

Input:

ACDRS - ACD Route Selection

Functions of the AMO

DISP-ACDRS:TYPE=DS,DSNUM=5&&11;

Output:

DSNUM	SHIFT	ART	EOS
5	7:59	18	NO
5	11:59	24	YES
5	12:59	16	NO
5	16:59	24	YES
5	23:59	27	NO
DSNUM	SHIFT	ART	EOS
7	23:59	48	NO
DSNUM	SHIFT	ART	EOS
9	6:59	19	NO
9	10:59	33	YES
9	11:59	17	NO
9	15:59	33	YES
9	23:59	38	NO
DSNUM	SHIFT	ART	EOS
10	0:29	60	NO
10	1:29	72	NO
10	2:29	53	NO
10	2:59	51	NO
10	3:29	76	NO
10	4:29	81	YES
10	22:59	27	NO
10	23:19	28	NO
10	23:29	119	NO
10	23:39	85	NO
10	23:49	49	NO
10	23:59	73	NO

Example:

2. Display Route Selection table for RCGs number 23, 25, and 28.

Input:

DIS-ACDRS:TYPE=RS,RCG=23&25&28;

Output:

RCG	SUN	MON	TUE	WED	THU	FRI	SAT
23	7	5	5	5	5	5	7
25	18	18	18	18	18	22	22

28	7	13	13	13	13	13	7

Example:

3. Display Day Shifts referenced by RCG number 23.

Input:

DISP-ACDRS:TYPE=DS,RCG=23;

Output:

DSNUM	SHIFT	ART	EOS				
5	7:59	18	NO				
5	11:59	24	YES				
5	12:59	16	NO				
5	16:59	24	YES				
5	23:59	27	NO				
DSNUM	SHIFT	ART	EOS				
7	23:59	48	NO				
RCG	SUN	MON	TUE	WED	THU	FRI	SAT
23	7	5	5	5	5	5	7

Example:

4. Display Day Shifts that reference ART 24.

Input:

DISP-ACDRS:TYPE=DS,ART=24;

Output:

ART 24			
DSNUM	SHIFT	ART	EOS
5	7:59	18	NO
5	11:59	24	YES
5	12:59	16	NO
5	16:59	24	YES
5	23:59	27	NO
DSNUM	SHIFT	ART	EOS

ACDRS - ACD Route Selection

Functions of the AMO

13	11:59	24	YES
	16:59	16	YES
	23:59	27	NO

33	11:59	24	YES
	16:59	18	YES
	23:59	27	NO

Example:

5. Display all RCGs that reference DAY SHIFT numbers 12 AND 34.

Input:

DIS-ACDRS:TYPE=RS,DSNUM=12&34;

Output:

DSNUM 12								
RCG	SUN	MON	TUE	WED	THU	FRI	SAT	
13	12	12	34	34	34	34	34	
15	12	28	28	28	28	28	12	
38	12	13	13	13	13	13	12	

DSNUM 34								
RCG	SUN	MON	TUE	WED	THU	FRI	SAT	
13	12	12	34	34	34	34	34	
18	34	34	34	34	34	22	22	
142	34	23	23	34	34	34	34	

Example:

6. Display all Calendar Routing Information for RCGs 6 through 9.

Input:

DIS-ACDRS:TYPE=CR,RCG=6&9;

Output:

RCG	DSNUM	START DATE	END DATE
6	2	01/01/1997	01/05/1997
6	3	02/26/1997	03/03/1997

|	7	|	44	|	02/29/2000	|	03/10/2000	|
+-----+		+-----+		+-----+		+-----+		+-----+
|	8	|	17	|	12/25/*	|	12/25/*	|
+-----+		+-----+		+-----+		+-----+		+-----+
|	9	|	6	|	10/14/1997	|	10/14/1997	|
+-----+		+-----+		+-----+		+-----+		+-----+
|	9	|	12	|	05/24/1997	|	05/26/1997	|
+-----+		+-----+		+-----+		+-----+		+-----+

3.3.5 REGENERATE-ACDRS

By means of the function REGENERATE-ACDRS, ADD and CHANGE commands are generated to recreate the Day Shift, RCG Route Selection and the Calendar Routing table entries.

Table regeneration of AMO-ACDRS will be done as follows:

TYPE = DS will regenerate the Day Shift table only.

TYPE = RS will cause both the Day Shift table and RCG route selection table to be regenerated. The RCG route selection table cannot be regenerated without the Day Shift table.

TYPE = ALL will cause all 3 tables to be regenerated.

There are no error/advisory messages associated with REGENERATE-ACDRS.

Procedure Overview

Command Code	Parameter
REGENERATE-ACDRS	[TYPE=DS], [DSNUM=<number>]; | [TYPE=RS], [RCG=<number>]; | [TYPE=CR], [RCG=<number>], [STARTYR=<key-num>] , [STARTMON=<number>], [STARTDAY=<number>]; [TYPE=ALL];

Example:

1. Regenerate all Day Shift tables.

Input:

REG-ACDRS: TYPE=DS;

Output:

ACDRS - ACD Route Selection

Functions of the AMO

```
ADD-ACDRS:DS,5,7-59,18,NO,29;
CHA-ACDRS:DS,5,11-59,24,YES;
CHA-ACDRS:DS,5,12-59,16,NO;
CHA-ACDRS:DS,5,16-59,24,YES;
ADD-ACDRS:DS,5,23-59,27,NO,36;
ADD-ACDRS:DS,7,23-59,48,NO,45;
ADD-ACDRS:DS,9,6-59,19,NO,55;
CHA-ACDRS:DS,9,10-59,33,YES;
CHA-ACDRS:DS,9,11-59,17,NO;
CHA-ACDRS:DS,9,15-59,33,YES;
ADD-ACDRS:DS,9,23-59,38,NO,68;
ADD-ACDRS:DS,10,0-29,60,NO,75;
CHA-ACDRS:DS,10,1-29,72,NO;
CHA-ACDRS:DS,10,2-29,53,NO;
CHA-ACDRS:DS,10,2-59,51,NO;
CHA-ACDRS:DS,10,3-29,76,NO;
CHA-ACDRS:DS,10,4-29,81,YES;
CHA-ACDRS:DS,10,22-59,27,NO;
CHA-ACDRS:DS,10,23-19,28,NO;
CHA-ACDRS:DS,10,23-29,119,NO;
CHA-ACDRS:DS,10,23-34,103,NO;
CHA-ACDRS:DS,10,23-39,85,NO;
CHA-ACDRS:DS,10,23-44,86,NO;
CHA-ACDRS:DS,10,23-49,49,NO;
CHA-ACDRS:DS,10,23-54,79,NO;
ADD-ACDRS:DS,10,23-59,73,NO,23;
ADD-ACDRS:DS,11,8-29,46,NO,34;
CHA-ACDRS:DS,11,12-29,21,YES;
CHA-ACDRS:DS,11,13-29,41,NO;
CHA-ACDRS:DS,11,17-29,21,YES;
CHA-ACDRS:DS,11,23-29,52,NO;
```

Example:

2. Regenerate all Day Shift, RCG route selection and Calendar Routing tables.

Input:

```
REG-ACDRS;;
```

Output:

```
ADD-ACDRS:DS,5,7-59,18,NO,29;
CHA-ACDRS:DS,5,11-59,24,YES;
CHA-ACDRS:DS,5,12-59,16,NO;
CHA-ACDRS:DS,5,16-59,24,YES;
ADD-ACDRS:DS,5,23-59,27,NO,36;
ADD-ACDRS:DS,7,23-59,48,NO,45;
ADD-ACDRS:DS,9,6-59,19,NO,55;
CHA-ACDRS:DS,9,10-59,33,YES;
CHA-ACDRS:DS,9,11-59,17,NO;
CHA-ACDRS:DS,9,15-59,33,YES;
ADD-ACDRS:DS,9,23-59,38,NO,68;
ADD-ACDRS:DS,10,0-29,60,NO,75;
CHA-ACDRS:DS,10,1-29,72,NO;
CHA-ACDRS:DS,10,2-29,53,NO;
CHA-ACDRS:DS,10,2-59,51,NO;
CHA-ACDRS:DS,10,3-29,76,NO;
CHA-ACDRS:DS,10,4-29,81,YES;
CHA-ACDRS:DS,10,22-59,27,NO;
```

```
CHA-ACDRS:DS,10,23-19,28,NO;
CHA-ACDRS:DS,10,23-29,119,NO;
CHA-ACDRS:DS,10,23-34,103,NO;
CHA-ACDRS:DS,10,23-39,85,NO;
CHA-ACDRS:DS,10,23-44,86,NO;
CHA-ACDRS:DS,10,23-49,49,NO;
CHA-ACDRS:DS,10,23-54,79,NO;
ADD-ACDRS:DS,10,23-59,73,NO,23;
ADD-ACDRS:DS,11,8-29,46,NO,34;
CHA-ACDRS:DS,11,12-29,21,YES;
CHA-ACDRS:DS,11,13-29,41,NO;
CHA-ACDRS:DS,11,17-29,21,YES;
CHA-ACDRS:DS,11,23-29,52,NO;
ADD-ACDRS:RS,5,9,10,10,10,10,10,9;
ADD-ACDRS:RS,8,5,11,11,11,11,11,5;
ADD-ACDRS:RS,23,7,5,5,5,5,5,7;
ADD-ACDRS:RS,25,11,11,11,11,11,7,7;
ADD-ACDRS:RS,28,7,10,10,10,10,10,7;
ADD-ACDRS:CR,1,*,12,25,*,12,25,101;
ADD-ACDRS:CR,2,1997,7,25,1997,7,25,103;
ADD-ACDRS:CR,5,*,12,28,*,1,2,105;
```

3.4 Parameter Descriptions

ART	ACD Routing Table
	Type of Input : 0 to 20 single values, concatenated with & or && 2. parameter of a max-1-group (DISPLAY,TYPE=DS) single value, 1. parameter of a min-1-group (CHANGE,TYPE=DS) single value, mandatory (ADD,TYPE=DS)
	Possible Values : numeric, 0-4000 (CHANGE,TYPE=DS) numeric, 16-4000 (ADD,TYPE=DS / DISPLAY,TYPE=DS)
	Default Value : none
ARTDEF	ACD Routing Table default
	Type of Input : single value, mandatory
	Possible Values : numeric, 16-4000
	Default Value : none (for SHIFT=23:59)
DSNUM	Day Shift Number
	Type of Input : 0 to 20 single values, concatenated with & or && 1. parameter of a max-1-group (DISPLAY,TYPE=DS) 0 to 20 single values, concatenated with & or && 2. parameter of a max-1-group (DISPLAY,TYPE=RS)

ACDRS - ACD Route Selection

Parameter Descriptions

	single value, mandatory (ADD,TYPE=CR / CHANGE,TYPE=CR / CHANGE,TYPE=DS / DELETE,TYPE=DS)
	single value, optional (ADD,TYPE=DS)
Possible Values	: numeric, 1-1020
Default Value	: lowest available (ADD) all (REGEN,TYPE=DS / DISPLAY,TYPE=DS) none (DELETE / DISPLAY,TYPE=RS)
ENDDAY	End Day of range entity
Type of Input	: single value, optional
Possible Values	: numeric, 1-31
Default Value	: STARTDAY
ENDMON	End Month of range entity
Type of Input	: single value, optional
Possible Values	: numeric, 1-12
Default Value	: STARTMON
ENDYR	End Year of range entity
Type of Input	: single value, optional
Possible Values	: 0-9,*, up to 4 characters
Default Value	: STARTYR
EOS	End Of Shift option
Type of Input	: single value, 2. parameter of a min-1-group (CHANGE,TYPE=DS) single value, optional (ADD,TYPE=DS)
Possible values	: NO YES
Default values	: NO
FRI	Friday day shift number
Type of Input	: single value, 6. parameter of a min-1-group (CHANGE,TYPE=RS) single value, mandatory (ADD,TYPE=RS)
Possible Values	: numeric, 1-1020
Default Value	: none

MON	Monday day shift number
Type of Input	: single value, 2. parameter of a min-1-group (CHANGE,TYPE=RS) single value, mandatory (ADD,TYPE=RS)
Possible Values	: 1-1020
Default Value	: none
RCG	Route Control Group
Type of Input	: 0 to 20 single values, concatenated with & or &&, 1. parameter of a max-1-group (DISPLAY,TYPE=RS) 0 to 20 single values, concatenated with & or &&, 3. parameter of a max-1-group (DISPLAY,TYPE=DS) 0 to 20 single values, concatenated with & or &&, optional (DISPLAY,TYPE=CR) single value, mandatory (ADD,TYPE=CR / ADD,TYPE=RS / CHANGE,TYPE=CR / CHANGE,TYPE=RS / DELETE,TYPE=CR / DELETE,TYPE=RS)
Possible Values	: numeric, 1-1020
Default value	: none (ADD,CHANGE,DELETE) none (DISPLAY,TYPE=DS) all (DISPLAY,TYPE=RS)
SAT	Saturday day shift number
Type of Input	: single value, 7. parameter of a min-1-group (CHANGE,TYPE=RS) single value, mandatory (ADD,TYPE=RS)
Possible Values	: numeric, 1-1020
Default Value	: none
SHIFT	Shift end time
Type of Input	: 2 single values, concatenated with -, mandatory
Possible Values	: numeric, 0-59
Default Value	: none
STARTDAY	Start Day of range entity
Type of Input	: single value, mandatory

ACDRS - ACD Route Selection

Parameter Descriptions

	Possible Values	: numeric, 1-31
	Default Value	: none
STARTMON	Start Month of range entity	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 1-12
	Default Value	: none
STARTYR	Start Year of range entity	
	Type of Input	: single value, mandatory (CHANGE,TYPE=CR / DELETE,TYPE=CR) single value, optional (ADD,TYPE=CR)
	Possible Values	: 0-9,*, up to 4 characters
	Default Value	: * (indicates repeating year)
SUN	Sunday day shift number	
	Type of Input	: single value, 1. parameter of a min-1-group (CHANGE,TYPE=RS) single value, mandatory (ADD,TYPE=RS)
	Possible Values	: numeric, 1-1020
	Default Value	: none
THU	Thursday day shift number	
	Type of Input	: single value, 5. parameter of a min-1-group (CHANGE,TYPE=RS) single value, mandatory (ADD,TYPE=RS)
	Possible Values	: numeric, 1-1020
	Default Value	: none
TUE	Tuesday day shift number	
	Type of Input	: single value, 3. parameter of a min-1-group (CHANGE,TYPE=RS) single value, mandatory (ADD,TYPE=RS)
	Possible Values	: numeric, 1-1020
	Default Value	: none

TYPE	Type of table
Type of Input	: single value, mandatory (ADD / CHANGE / DELETE) single value, optional (DISPLAY / REGENERATE)
Possible Values	: ALL all tables (DISPLAY / REGENERATE) CR calendar routing (ADD / CHANGE / DELETE / DISPLAY) DS day shift RS route selection
Default Value	: none (ADD / CHANGE / DELETE) ALL (DISPLAY / REGEN)
WED	Wednesday day shift number
Type of Input	: single value, 4. parameter of a min-1-group (CHANGE,TYPE=RS) single value, mandatory (ADD,TYPE=RS)
Possible Values	: numeric, 1-1020
Default Value	: none

3.5 Error Messages and Advisories

3.5.1 Error Messages

F01: THE ACD FEATURE IS DEACTIVATED.
ACTIVATE IT WITH THE FOLLOWING COMMAND:
CHANGE-ZAND:TYPE=ACD,ACDALLOW=YES;

F02: ROUTE SELECTION TABLE FOR RCG=@@@@ HAS ALREADY BEEN CREATED.

F03: THERE IS NO DAY SHIFT SCHEME WITH DSNUM=@@@@.
CREATE IT WITH THE FOLLOWING COMMAND:
ADD-ACDRS:TYPE=DS,DSNUM=@@@@,SHIFT=<?>,ART=<?>,ARTDEF=<?>;

F04: THE RCG=@@@@ IS NOT YET CONFIGURED AS A ROUTE CONTROL GROUP.
USE THE FOLLOWING COMMAND TO ADD THIS NUMBER
TO THE SET OF RESERVED 'RCG' INDICES:
CHANGE-ACDSD:TYPE=CAFRCG,RCG=@@@@,CAFDN=<?>;

ACDRS - ACD Route Selection

Error Messages and Advisories

- F05: CANNOT DELETE DAY SHIFT SCHEME DSNUM=@@@@ - IT IS STILL REFERENCED IN THE ROUTE SELECTION TABLE (RS) OR THE CALENDAR ROUTING TABLE (CR).
DISPLAY REFERENCES WITH THE FOLLOWING COMMANDS:
DISP-ACDRS:TYPE=RS; DISP-ACDRS:TYPE=CR;
- F06: CANNOT DELETE ROUTE SELECTION TABLE FOR RCG=@@@.
IT IS STILL REFERENCED IN THE DIRECTORY NUMBER INFORMATION TABLE (DNI).
DISPLAY REFERENCES WITH THE FOLLOWING COMMAND:
DISP-DNIT:TBL=DNI;
- F07: THERE IS NO ACD ROUTING TABLE WITH ART=@@@.
CREATE IT WITH THE FOLLOWING COMMAND:
ADD-ACDRT:ART=@@@,MAXSTEP=<?>;
- F08: MEMORY RESERVED FOR DAY SHIFTS SCHEMES IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDSHIFT=<?>;
- F09: THE PARAMETER 'ART' MUST BE SPECIFIED IF A NEW SHIFT END TIME IS TO BE ADDED TO A DAY SHIFT SCHEME (IF THE VALUE ENTERED FOR 'SHIFT' DID NOT EXIST BEFORE IN THE GIVEN 'DSNUM')
- F10: THE END-OF-SHIFT TABLE (EOS) IS FULL.
IN ORDER TO ASSIGN THE VALUE EOS=YES TO A DAY SHIFT AN OTHER DAY SHIFT HAVING EOS=YES MUST BE DELETED OR BE RESET TO THE VALUE EOS=NO.
- F11: THE DAY SHIFT TABLE IS FULL.
NO MORE DAY SHIFT SCHEMES (DSNUM) OR SHIFT END TIMES (SHIFT) MAY BE ADDED.
- F12: THERE IS YET NO ROUTE SELECTION TABLE SET UP FOR ROUTE CONTROL GROUP RCG=@@@.
- F13: CANNOT DELETE THE LAST SHIFT END TIME (SHIFT=23-59) FROM A DAY SHIFT SCHEME.
- F14: THE SPECIFIED COMBINATION OF 'ART' AND 'EOS' IS ALREADY PRESENT IN THE GIVEN DAY SHIFT SCHEME. NEW VALUES FOR 'ART' AND/OR 'EOS' MUST BE ENTERED TO CHANGE DATA.
- F15: INCORRECT VALUE FOR SHIFT HOURS WITHIN PARAMETER 'SHIFT'.
POSSIBLE VALUES: 0 TO 23
- F16: THE SHIFT END TIME (SHIFT) TO BE DELETED VIA ENTERING ART=0 IS NOT PRESENT IN THE GIVEN DAY SHIFT SCHEME.
- F17: THE FIRST 15 ACD ROUTING TABLES (ART 1-15) ARE NOT ASSIGNABLE TO DAY SHIFTS (SEE AMO ACDRT).
- F18: NOT NEEDED FOR ACD-G.
- F19: MEMORY RESERVED FOR CALENDAR ROUTING IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDCALEN=<?>;

F20: COULD NOT CHANGE OR DELETE ENTRY BECAUSE THE
STARTING DATE ENTERED IS NOT PRESENT IN THE
ROUTE SELECTION TABLE SPECIFIED BY THE RCG.

F21: THIS DATE IS ALREADY USED FOR CALENDAR ROUTING BY THE
ROUTE SELECTION TABLE BELONGING TO THE SPECIFIED 'RCG'

F22: THE ENTERED DATE OR DATE RANGE IS INVALID.

F23: CALENDAR ROUTING TABLE COULD NOT BE ADDED BECAUSE THERE IS
NO ROUTE SELECTION TABLE SET UP FOR THE SPECIFIED 'RCG'

F24: CANNOT DELETE ROUTE SELECTION TABLE FOR RCG=@@@.
IT IS STILL REFERENCED IN THE CALENDAR ROUTING TABLE (CR) .
DISPLAY REFERENCES WITH THE FOLLOWING COMMAND:
DISP-ACDRS:TYPE=CR;

3.5.2 Advisories

H01: DAY SHIFT SCHEME DSNUM=@@@@ HAS BEEN CREATED

H02: ROUTE SELECTION TABLE RCG=@@@@ HAS BEEN CREATED.

H03: DAY SHIFT SCHEME DSNUM=@@@@ HAS BEEN CHANGED.

H04: ROUTE SELECTION TABLE RCG=@@@@ HAS BEEN CHANGED.

H05: DAY SHIFT SCHEME DSNUM=@@@@ HAS BEEN DELETED.

H06: ROUTE SELECTION TABLE RCG=@@@@ HAS BEEN DELETED.

H07: THERE ARE NO ROUTE SELECTION TABLES USING
DAY SHIFT SCHEME DSNUM=@@@@.

H08: THERE ARE NO DAY SHIFTS SCHEMES USING
ACD ROUTING TABLE ART=@@@@.

H09: DAY SHIFT SCHEME DSNUM=@@@@ HAS NOT BEEN CREATED.

H10: ROUTE SELECTION TABLE RCG=@@@@ HAS NOT BEEN CREATED.

H11: ATTENTION! THE MODIFIED DAY SHIFT SCHEME DSNUM=@@@@
IS STILL REFERENCED IN ROUTE SELECTION TABLES.

H12: DAY SHIFT SCHEME DSNUM=@@@@ HAS ALREADY BEEN CREATED.

H13: PARAMETER 'EOS' IS IGNORED IN CASE
ART=0 (DELETING A SHIFT END TIME) .

H14: CHANGE IN THE END OF SHIFT TABLE (EOS) CAUSED
A NEGATIVE RESPONSE FROM CALL PROCESSING.

H15: SHIFT END TIME SHIFT=@@-@@ HAS BEEN
DELETED BECAUSE OF COMMAND INPUT ART=0.

H16: SHIFT END TIME SHIFT=@@-@@ HAS BEEN CHANGED.

H17: SHIFT END TIME SHIFT=@@-@@ HAS BEEN ADDED

H18: THE ENTERED DATES HAVE BEEN ADDED
TO THE CALENDAR ROUTING TABLE.

ACDRS - ACD Route Selection

Error Messages and Advisories

H19: THE ENTERED DATES HAVE BEEN DELETED
FROM THE CALENDAR ROUTING TABLE.

H20: THERE ARE NO ENTRIES IN THE CALENDAR ROUTING TABLE
FOR THE PARAMETERS ENTERED.

H21: CALENDAR ROUTING TABLE RCG=@@@@ HAS BEEN CHANGED.

3.5.3 Use of Output Messages for each Function

- ADD:
F01, F02, F03, F04, F07, F08, F10, F11, F15,
F19, F20, F21, F22, F23,
H01, H02, H12, H14, H18
- CHANGE:
F01, F03, F04, F07, F08, F09, F12, F13, F14,
F15, F16, F17, F18, F22, F23, F24,
H03, H04, H11, H13, H14, H15, H16, H17, H21
- DELETE:
F03, F05, F06, F12, F22, F24
H05, H06, H14, H19
- DISPLAY:
H07, H08, H09, H10, H20
- REGENERATE:
NONE

4 ACDRT - ACD Routing Tables

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Descriptions	

AMO ACDRT provides the functions for creating and maintaining ACD Routing Tables (ARTs).

An ART may consist of up to 64 Steps. The maximum number of ARTs is 4000 when fully dimensioned and each ART contains 16 or less steps. Memory space is allocated in 16 step blocks for each ART (an ART of 17 steps will be allocated space for 32 steps). Since the maximum number of ARTs is based on ARTs consisting of 16 steps, the actual maximum may be below 4000. The maximum number of ARTs is also affected by the amount of available memory (see AMO DIMSU).

The steps that may be input are: Conditional Routing (COND), Route to Offsite Number (RTOFF), Route to Extension (RTEXT), Route to Recorded Announcement (RTREC), Route to Music (RTMUS), Route to Agent (RTAGT), Route to Group (RTGRP), Wait x Seconds (WTSEC), GOTO Step (GOSTEP), Skip (SKIP), Delay Ringback (DELAYRB), and Disconnect (DISCON).

The first ART is initialized to DISCON. It is not administrable, but the user can display it. The SET function applies to the next 14 ARTs that are accessible only by service personnel. The default Step for ARTs 2-15 is DISCON. ARTs 2-15 cannot be accessed by the ADD, CHANGE, DELETE, or COPY functions. The user can display ARTs 1-4000, but can only regenerate ARTs 2-4000. ARTs 16-4000 are administrable via the ADD, CHANGE, DISPLAY, REGENERATE, DELETE, COPY and TEST functions.

The routing steps described below may be used in any order or combination with certain conditions applying to some of the steps:

- Conditional Routing (COND):
 - used as a conditional GOTO step.
 - if the condition specified evaluates to false, then routing continues with the next step, otherwise, when true, routing continues at the specified step.
 - is based on an ACD group dynamic variables (status).
 - is controlled by the number of agents available (AGTAVL), the number of agents logged on (AGTLGN), the number of calls queued (CALQED), or the age of the oldest call in queue in minutes and seconds (OLDINQ).

- cannot reference a step beyond the ARTs maximum step.
- Disconnect (DISCON):
 - the system disconnects the call.
 - used to handle after hours calls.
 - should be preceded by a route to recorded announcement.
 - should be a final logical step.
- GOTO Step x (GOSTEP):
 - the system routes the call to the specified step number.
 - if step x is less than the current step, then all steps from step x to the GOTO cannot be a Delay Ringback or Route to Group step. This will prevent the call from queuing multiple times.
 - cannot reference a step beyond the ARTs maximum step.
- Route to Agent (RTAGT):
 - call is routed to the specified agent logon ID.
 - agent logon ID will be verified.
 - if the agent cannot receive the call, the call advances to the next step.
 - route to agent cannot follow a route to group step if the agent belongs to the same ACD group that is configured in the route to group step.
- Route to Extension (RTEXT):
 - will route call to specified extension.
 - the AMO will verify that the extension number is valid.
 - the AMO will store the digit string.
 - if the extension cannot be alerted, the call advances to the next step.
 - may be an ACD routing number, a NON-ACD extension, or an ACD extension, but cannot have a SIDANI (SA) routing type (see AMO DNIT).
 - an error will be output if the extension number is not in the same DPLN group created for ACD in AMO ZAND (defaulted to DPLN group 0) and is not a subscriber or a routing number with a digit analysis of STN, ATND, HUNT, or ATNDIND (via ADD-WABE) or DNI (ADD-DNIT, TBL=DNI).

- all extensions of digit analysis type ATND must be associated with an attendant code via AMO VFGKZ and all extensions of digit analysis result STN or ATNDIND must have been associated with a device by AMOs SCSU/SBCSU/SSCSU or ACSU respectively, or an error will result.
- Route to Group x (RTGRP):
 - call is routed to the specified group number.
 - if there are no available agents, the call is queued and routing continues with the next step.
 - cannot appear more than once in the same ART for the same Group x.
 - cannot be followed by Route to agent in Group X.
 - group number will be verified.
- Route to Music (RTMUS):
 - the system routes the call to the specified ACD music number.
 - should be followed by a Wait x step, which indicates the length of time a caller listens to music before routing to next step.
 - music recorder number will be verified.
- Route to Offsite Number (RTOFF):
 - can route call to an offsite number.
 - can route to a Phonemail server (2 string formats are possible):
String format for route to Phonemail with mailbox number:

aaaaaaACDmm...m

where:

aaaaaa	=> 1 to 6 digits to indicate the Phonemail access number.
ACD	=> string to identify route to a Phonemail or Voice Mail server.
mm...m	=> 1 to n digits to indicate the Phonemail mailbox number.

String format for route to Phonemail with CP mailbox (general mailbox) number:

aaaaaaACD

where:

aaaaaa	=> 1 to 6 digits to indicate the Phonemail access number
ACD	=> string to identify route to a Phonemail or Voice Mail server

- can route to a Voice Mail server (only one string format is possible):

String format for route to Voice Mail with mailbox number:

aaaaaaACDmm...m

where:

aaaaaa => 1 to 6 digits to indicate the Phonemail access number

ACD => string to identify route to a Phonemail or Voice Mail server

mm...m => 1 to n digits to indicate the Voice Mail mailbox number

- the AMO will not verify the number.
- the AMO will store the digit string.
- public access code is required for public network.
- the public access code (leading the route to offsite number) must be configured for the same DPLN group as defined for ACD by AMO ZAND (TYPE=ACD, parameter ACDDPLN).
- Route to Recording (RTREC):
 - the system routes the call to the specified ACD recorded announcement.
 - announcement must be fixed start.
 - announcement recorder number will be verified.
- Wait x (WTSEC):
 - causes call to "remain" at previous step for x seconds.
 - entering a wait time as the first step causes the caller to hear ringback for that specified length of time.
 - times are entered in increments of 5 seconds with a maximum of 300 seconds.
 - 0 seconds causes caller to wait until call is answered, received, disconnected, etc.
- Skip (SKIP)
 - has no effect on call; routing continues with next step.
- Delay Ringback (DELAYRB)
 - should be first step in an ART.
 - can be used for external, CORNET and internal ACD calls.
 - if after DELAYRB step comes RTGRP step, the caller will hear ringback tone.

- if after DELAYRB step comes RTGRP and RTREC steps, if the ACD group can not be accessed, the caller will hear the recorded announcement.
- if after DELAYRB step comes RTGRP and RTMUS steps, if the ACD group can not be accessed, the caller will hear the specified music.
- if after DELAYRB step comes RTGRP and DISCON steps, and no queue is possible, the caller will be disconnected.
- Wait for an application (WTAPPL)
 - A step of type DELAYRB must not occur together with a WTAPPL step in the same ART
 - Only the (new) command HEARTCND is allowed before WTAPPL
 - Other ART steps can be configured after the WTAPPL command. Steps of type GOSTEP may be used to go back to a step containing the WTAPPL command, except if there is a RTGRP step configured between the WTAPPL and the GOSTEP commands.
- Route to heartbeat destination (RTHEART)
- Conditional routing to heartbeat destination(HEARTCND)

Inserting/Deleting ART Steps

AMO ACDRT also supports inserting and deleting ART steps within an existing ART through the use of the CHANGE and SET functions. When an insert or delete is done, any GOTO steps (both regular GOTO steps and conditional GOTO steps) that are affected by the operation within the affected ART are adjusted accordingly.

Insert Action

ACDRT performs three major checks prior to doing the insertion of an ART step into the ART. If any one of these checks fails, the craft is presented with an error message and the insertion is aborted.

First, ACDRT checks to see if there is enough room in the ART for another step. The test for enough room is to see if there is a SKIP step in the last position within the ART. If there isn't, an error message is displayed to indicate that the insert could not be accomplished due to insufficient table size. The craft is advised to increase the size of the table.

Then, ACDRT checks to see if there are any GOTO steps within the ART that point to the last step (which must be a SKIP). If there are any, an error is posted to inform the craft that the insert could not be done.

ACDRT - ACD Routing Tables

Restrictions

Finally, ACDRT tests the validity of the new step. The tests for validity are the same as have always been used for changing ART steps from the SKIP default to some other action. If the step is not valid, an error is posted and processing is terminated.

Assuming all of the above checks passed successfully, the step is inserted into the ART.

Note: When inserting a new GOTO step or a Conditional step that contains a GOTO step, the GOTO step number (specified by GSTEP or CGSTEP within the command) must be the current step number of the step to go to. The GSTEP/CGSTEP number will then be adjusted properly after the insertion using the GOTO step adjustment logic.

Delete Action

ACDRT performs two major checks prior to deleting an ART step.

First, it checks to see if the step to be deleted is referenced by any existing GOTO (regular and conditional) steps. If it is, an error message is displayed to indicate that the deletion could not be accomplished.

Second, ACDRT tests if the step being deleted is a Route to Recorded Announcement and if there is a Disconnect step further in the ART. If so, an advisory is displayed to inform the craft that the Disconnect should be preceded by a Route to Recorded Announcement step. This is only an advisory; therefore, the deletion is still performed.

Assuming the first check passed successfully, the step is deleted from the ART. All of the steps that were after the deleted step are shifted back one position and the last step in the ART is marked as a SKIP step.

4.1 Restrictions

This description is valid from HiPath 4000 V1.0.

4.2 Interrelationships

- AMO ACDGP
 - AMO AGENT
 - AMO RCSU
- References for ACD groups, Agents and Recordings must be initiated by the AMOs ACDGP, AGENT and RCSU respectively prior to use.

- AMO ACSU Extensions referenced by AMO ACDRT must be set up by the AMOs ACSU, DNIT, SA, SCSU/SBCSU/SSCSU and VFGKZ.
- AMO DNIT
- AMO SA
- AMOs SCSU/SBCSU/SSCSU
- AMO VFGKZ
- AMO ACDRS An ART must be created by AMO ACDRT prior to use in AMO ACDRS.
An ART may not be deleted until all references to it are removed by AMO ACDRS.
- AMO ACDSO The length of Agent Identification will be set by AMO ACDSO.
- AMO ZAND The ACD feature has to be turned on by AMO ZAND.
In addition, it can define a specific DPLN group to be used for ACD.

4.3 Functions of the AMO

- [ADD-ACDRT](#) : Create an ACD Routing Table
- [CHANGE-ACDRT](#) : Change, add, insert or delete steps in ACD Routing Tables
- [DELETE-ACDRT](#) : Delete an ACD Routing Table
- [DISPLAY-ACDRT](#) : Display ACD Routing Tables
- [REGENERATE-ACDRT](#) : Regenerate ACD Routing Tables
- [COPY-ACDRT](#) : Copy an existing ACD Routing Table
- [SET-ACDRT](#) : Modify ACD Routing Tables 2 to 15
- [TEST-ACDRT](#) Display the dial plan groups used in the steps RTOFF and RTEXT.

4.3.1 ADD-ACDRT

The ADD-ACDRT function creates ACD routing tables.

With ADD-ACDRT, ARTs can be added by specifying the ART number (ART) and the maximum number of steps (MAXSTEP) for a table. This creates an ART with the first step initialized to disconnect (DISCON) and the remaining steps to skip (SKIP).

Procedure Overview

Command Code	Parameter
ADD-ACDRT	ART=<number>,MAXSTEP=<number>;

ACDRT - ACD Routing Tables

Functions of the AMO

Example:

Create a new ART with a MAXSTEP of 10 and assign it number 16.

Input:

```
ADD-ACDRT:ART=16,MAXSTEP=10;
```

Output:

```
H01: ACD ROUTING TABLE=16 HAS BEEN CREATED.
```

```
H04: THE UPPER LIMIT FOR THE NUMBER OF ART STEPS HAS BEEN SET TO  
MAXSTEP=10.
```

4.3.2 CHANGE-ACDRT

The CHANGE ACDRT function modifies steps in ACD routing tables 16 or greater.

This function is used to change, insert, and delete steps in an existing ART using the step modify mode (TYPE=ARTSTEP, INSSTEP, and DELSTEP, respectively). This function is also used to change the maximum number of steps (MAXSTEP) for an existing ART using the table modify mode (TYPE=MAX).

When using MAXSTEP to decrease the number of steps, the steps that are to be "deleted" are checked. If these steps are referenced in a goto (GSTEP) or conditional (COND) step, an error is generated.

If the VALOLD parameter is specified for testing the oldest call in a queue, then the number of minutes and seconds are entered using the following format:

mmm-ss

Minutes may be entered alone. If seconds are to be specified, both minutes and seconds must be entered, even when minutes are zero as shown:

Entered	Minutes	Seconds
0-35	0	35
2-0	2	0
2	2	0
0-0	0	0
0	0	0

Procedure Overview

Command Code	Parameter
CHANGE-ACDRT	<pre> ART=<number> |, TYPE=MAX, MAXSTEP=<number>; |, TYPE={ARTSTEP, INSSTEP}, STEP=<number> |, ACT=<DELAYRB>; |, ACT=<DISCON>; |, ACT=<SKIP>; |, ACT=<GOSTEP>, GSTEP=<number>; |, ACT=<WTSEC>, SEC=<number>; |, ACT=<RTAGT>, AGTID=<number>; |, ACT=<RTEXT>, EXTNUM=<number>; |, ACT=<RTGRP>, ACDGRP=<number>; |, ACT=<RTMUS>, MUSNUM=<number>; |, ACT=<RTOFF>, DIRNUM=<number>; |, ACT=<RTREC>, RECNUM=<number>; |, ACT=<WTAPPL>, APPLSEC=<number>; |, ACT=<RHEART>; |, ACT=<HEARTCND>, APPLNAM=<string>, HEARTSEC=<number>, CONDSTEP=<number>; |, ACT=COND, CACDGRP=<number>, CGSTEP=<number> |, TEST=CALQEDEQ, VALCAL=<number>; |, TEST=CALQEDNE, VALCAL=<number>; |, TEST=CALQEDLT, VALCAL=<number>; |, TEST=CALQEDGT, VALCAL=<number>; |, TEST=OLDINQEQ, VALOLD=<number>; |, TEST=OLDINQNE, VALOLD=<number>; |, TEST=OLDINQLT, VALOLD=<number>; |, TEST=OLDINQGT, VALOLD=<number>; |, TEST=AGTLGNEQ, VALAGT=<number>; |, TEST=AGTLGNNE, VALAGT=<number>; |, TEST=AGTLGNLT, VALAGT=<number>; |, TEST=AGTLGNGT, VALAGT=<number>; |, TEST=AGTAVLEQ, VALAGT=<number>; |, TEST=AGTAVLNE, VALAGT=<number>; |, TEST=AGTAVLLT, VALAGT=<number>; |, TEST=AGTAVLGT, VALAGT=<number>; |, TYPE=DELSTEP, STEP=<number>; </pre>

Examples

1. Change step 15 of ART 30 to Disconnect.

Input:

ACDRT - ACD Routing Tables

Functions of the AMO

CHANGE-ACDRT: ART=30,TYPE=ARTSTEP,STEP=15,ACT=DISCON;

Output:

H09: A STEP WITH THE DISCON-STATEMENT SHOULD BE
PRECEDED BY A STEP WITH THE RTREC-STATEMENT.

H10: THE DISCON-STATEMENT SHOULD BE THE FINAL
LOGICAL STEP OF AN ACD ROUTING TABLE.

H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP
ART:STEP=30:15
HAS BEEN CHANGED TO ACT=DISCON.

2. Change Step 9 of ART 16 to a Route to Offsite

Step with a directory number of 008979948800.

Input:

CHANGE-
ACDRT:ART=16,TYPE=ARTSTEP,STEP=9,ACT=RTOFF,DIRNUM=008979948800;
0;

Output:

H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP
ART:STEP=16:09

HAS BEEN CHANGED TO ACT=RTOFF.

H23: PLEASE CHECK THAT THE DIGIT ANALYSIS RESULT FOR
THE STATION NUMBER DIRNUM=008979948800 ENTERED IS
ALSO VALID FOR DPLN GROUP DPLNGRP=0.
(SEE AMO ZAND, TYPE=ACD, ACDDPLN=0)."

3. Change Step 9 of ART 32 to a Route to Phonemail Server, with phonemail access number 328670, and mailbox number 2345.

Input:

CHANGE-
ACDRT:ART=32,TYPE=ARTSTEP,STEP=9,ACT=RTOFF,DIRNUM=328670ACD2345;
45;

Output:

H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP
ART:STEP=32:09

HAS BEEN CHANGED TO ACT=RTOFF.

4. Change Step 8 of ART 33 to a Route to Phonemail Server, with phonemail access number 725884, and CP mailbox number (general mailbox number).

Input:

CHANGE-
ACDRT:ART=33,TYPE=ARTSTEP,STEP=8,ACT=RTOFF,DIRNUM=725884ACD;
8;

Output:

H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP
ART:STEP=33:08

HAS BEEN CHANGED TO ACT=RTOFF.

5. Change Step 5 of ART 34 to a Route to Voice Mail Server, with voice mail access number 556677, and mailbox number 4423.

Input:

CHANGE-
ACDRT:ART=34,TYPE=ARTSTEP,STEP=5,ACT=RTOFF,DIRNUM=556677ACD44
23;

Output:

H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP
ART:STEP=34:05
HAS BEEN CHANGED TO ACT=RTOFF.

6. Change step 1 of ART 18 to a Conditional step for ACD group number 75 (ACDGRP), and go to step 5 (GSTEP) if agents available (TEST) is greater than 5 (VALAGT).

Input:

CHANGE-
ACDRT:ART=18,TYPE=ARTSTEP,STEP=1,ACT=COND,CACDGRP=75,CGSTEP=5
, TEST=AGTAVLGT,VALAGT=5;

Output:

H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP
ART:STEP=18:01
HAS BEEN CHANGED TO ACT=COND.

7. Change step 6 of ART 18 to a Conditional step for ACD group number 43 (ACDGRP), and go to step 9 (GSTEP) if oldest call in queue (TEST) is less than 3 minutes and 20 seconds (VALOLD).

Input:

CHANGE-
ACDRT:ART=18,TYPE=ARTSTEP,STEP=6,ACT=COND,CACDGRP=43,CGSTEP=9
, TEST=OLDINQLT,VALOLD=3-20;

Output:

H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP
ART:STEP=18:06
HAS BEEN CHANGED TO ACT=COND.

8. Change step 2 of ART 25 to a Delay Ringback step.

Input:

CHANGE-ACDRT:ART=25,TYPE=ARTSTEP,STEP=2,ACT=DELAYRB;

Output:

F35: THE DELAY RINGBACK STATEMENT (DELAYRB) IS ONLY ALLOWED
AS THE FIRST STEP OF AN ACD ROUTING TABLE.

ACDRT - ACD Routing Tables

Functions of the AMO

9. Insert GOTO step with GSTEP=15 at step position 5 of ART 20.
(Assume the ART has 32 steps and at least one other GOTO step will be adjusted.)

Input:

```
CHANGE-ACDRT:ART=20,TYPE=INSSTEP,STEP=5,ACT=GOSTEP,GSTEP=15;
```

Output:

```
H18: STEP ART:STEP=20:5 HAS BEEN INSERTED.  
H20: AT LEAST ONE (CONDITIONAL) JUMP STATEMENT HAS BEEN  
ADJUSTED.
```

10. Insert a Route to Agent step at step position 4 of ART 10 (which is a full ART).

Input:

```
CHANGE-  
ACDRT:ART=10,TYPE=INSSTEP,STEP=4,ACT=RTAGT,AGTID=123456;
```

Output:

```
F38: THIS ACD ROUTING TABLE IS FULL.  
USE THE FOLLOWING COMMAND TO RAISE THE  
UPPER LIMIT (MAXSTEP) FOR THE NUMBER OF ART STEPS:  
CHANGE-ACDRT:TYPE=MAX,MAXSTEP=<?>;
```

11. Insert a Route to Music step at step 8 of ART 25 (but there is a GOTO step in step position 3 within the ART that points to the last SKIP step in the ART).

Input:

```
CHANGE-ACDRT:ART=25,TYPE=INSSTEP,STEP=8,ACT=RTMUS,MUSNUM=5;
```

Output:

```
F39: THE LAST 'SKIP' STATEMENT OF THE ART MAY NOT BE  
THE TARGET OF A (CONDITIONAL) JUMP STATEMENT.
```

12. Delete step 2 from ART 25, but step 2 is referenced by the GOTO step in position 6 within the ART.

Input:

```
CHANGE-ACDRT:ART=25,TYPE=DELSTEP,STEP=2;
```

Output:

```
F40: STEP ART:STEP=25:2 CAN NOT BE DELETED  
BECAUSE IT IS USED AS THE TARGET OF THE (CONDITIONAL)  
JUMP STATEMENT CONTAINED IN STEP STEP=6.
```

13. Delete step 3 from ART 30 (ART 30 has 12 step positions, and a GOTO must be adjusted).

Input:

CHANGE-ACDRT:ART=30,TYPE=DELSTEP,STEP=3;

Output:

H19: STEP ART:STEP=25:3 HAS BEEN DELETED.
H20: AT LEAST ONE (CONDITIONAL) JUMP STATEMENT HAS BEEN ADJUSTED.

14. Delete the RTREC step in position 8 in ART 20, but there is a DISCON step in position 10 within the ART. The ART has 20 step positions.

Input:

CHANGE-ACDRT:ART=20,TYPE=DELSTEP,STEP=8;

Output:

H19: STEP ART:STEP=20:8 HAS BEEN DELETED.
H21: THE RTREC-STATEMENT HAS BEEN DELETED, NOW THERE STANDS A DISCON-STATEMENT.
H09: A STEP WITH THE DISCON-STATEMENT SHOULD BE PRECEDED BY A STEP WITH THE RTREC-STATEMENT.

4.3.3 DELETE-ACDRT

An ACD Routing Table is deleted with the DELETE-ACDRT function.

To delete an ART, only the ART number is specified. A routing table cannot be deleted if referenced in the ACD Route Selection Table - see AMO ACDRS.

When initiating this function, the following checks are performed. Each check produces a reaction and a prompt or end.

Procedure Overview

Command Code	Parameter
DELETE-ACDRT	ART=<number>;

Examples:

1. Delete ACDRT 33

Input:

DELETE-ACDRT:ART=33;

Output:

H06: ACD ROUTING TABLE ART=33 HAS BEEN DELETED.

2. Delete ACDRT 19 and 42

Input:

DELETE-ACDRT:ART=19&42;

Output:

H06: ACD ROUTING TABLE ART=19 HAS BEEN DELETED.
H06: ACD ROUTING TABLE ART=42 HAS BEEN DELETED.

4.3.4 DISPLAY-ACDRT

DISPLAY-ACDRT displays the ARTs and Steps.

Using the DISPLAY-ACDRT function, a single, chained, or range of ARTs may be displayed. If the ART parameter is omitted, all tables will be displayed. If the step parameter is omitted, all steps will be displayed. The step parameter accepts chained and ranges of values.

Procedure Overview

Command Code	Parameter
DISPLAY-ACDRT	[ART=<NUMBER>], [STEP=<NUMBER>];

Examples:

1. DISPLAY ALL steps for ART 33

Input:

DISPLAY-ACDRT:ART=33;

Output:

| ART 33 MAXSTEP 11				ACDRS REFERENCES 3		
| STEP	| ACTION	| PARMETER	| VALUE	| GSTEP	| TEST	| VALUE
| 1	COND	ACDGRP	5	7	AGTAVLLT	10
| 2	SKIP					
| 3	RTGRP	ACDGRP	5			
| 4	RTMUS	MUSNUM	21			
| 5	WAIT	SEC	0			
| 6	DISCON					
| 7	COND	ACDGRP	9	11	AGTAVLLT	1
| 8	RTGRP	ACDGRP	9			
| 9	RTREC	RECNUM	41			
| 10	WAIT	SEC	30			
| 11	DISCON					

2. DISPLAY steps 1, 5 and 9 for ART 33

Input:

DISPLAY-ACDRT:ART=33,STEP=1&5&9;

Output:

ART 33 MAXSTEP 11				ACDRS REFERENCES 3		
STEP	ACTION	PARMETER	VALUE	GSTEP	TEST	VALUE
1	COND	ACDGRP	5	7	AGTAVLLT	10
5	WAIT	SEC	0			
9	RTREC	RECNUM	41			

4.3.5 REGENERATE-ACDRT

REGENERATE-ACDRT for ARTs 2-15 regenerates commands to recreate an ART using the SET-ACDRT function. REGENERATE-ACDRT for ARTs 16-4000 regenerates commands to recreate an ART using the ADD-ACDRT and CHANGE-ACDRT functions. ARTs 2-4000 can be regenerated by omitting the ART parameter, or a single, chained, or range of ARTs can be specified.

Procedure Overview

Command Code	Parameter
REGENERATE-ACDRT	[ART=<NUMBER>];

Examples:

1. Regenerate ART 16

Input:

```
REGENERATE-ACDRT:ART=16;
```

Output:

```
ADD-ACDRT:16,4;
CHANGE-ACDRT:16,ARTSTEP,1,COND,75,AGTAVLGT,5,3;
CHANGE-ACDRT:16,ARTSTEP,2,RTOFF,00897994880;
CHANGE-ACDRT:16,ARTSTEP,3,RTGRP,5;
CHANGE-ACDRT:16,ARTSTEP,4,DISCON;
```

2. Regenerate all ACDRTs

Input:

```
REGENERATE-ACDRT;
```

Output:

```
SET-ACDRT:2,MAX,1;
SET-ACDRT:2,ARTSTEP,1,DISCON;
SET-ACDRT:3,MAX,1;
SET-ACDRT:3,ARTSTEP,1,DISCON;
SET-ACDRT:4,MAX,1;
SET-ACDRT:4,ARTSTEP,1,DISCON;
SET-ACDRT:5,MAX,1;
```

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Functions of the AMO

```
SET-ACDRT:5,ARTSTEP,1,DISCON;
SET-ACDRT:6,MAX,1;
SET-ACDRT:6,ARTSTEP,1,DISCON;
SET-ACDRT:7,MAX,1;
SET-ACDRT:7,ARTSTEP,1,DISCON;
SET-ACDRT:8,MAX,1;
SET-ACDRT:8,ARTSTEP,1,DISCON;
SET-ACDRT:9,MAX,1;
SET-ACDRT:9,ARTSTEP,1,DISCON;
SET-ACDRT:10,MAX,1;
SET-ACDRT:10,ARTSTEP,1,DISCON;
SET-ACDRT:11,MAX,1;
SET-ACDRT:11,ARTSTEP,1,DISCON;
SET-ACDRT:12,MAX,1;
SET-ACDRT:12,ARTSTEP,1,DISCON;
SET-ACDRT:13,MAX,1;
SET-ACDRT:13,ARTSTEP,1,DISCON;
SET-ACDRT:14,MAX,1;
SET-ACDRT:14,ARTSTEP,1,DISCON;
SET-ACDRT:15,MAX,1;
SET-ACDRT:15,ARTSTEP,1,DISCON;
ADD-ACDRT:16,4;
CHANGE-ACDRT:16,ARTSTEP,1,COND,75,AGTAVLGT,5,3;
CHANGE-ACDRT:16,ARTSTEP,2,RTOFF,008979948800;
CHANGE-ACDRT:16,ARTSTEP,3,RTGRP,5;
CHANGE-ACDRT:16,ARTSTEP,4,DISCON;
ADD-ACDRT:17,5;
CHANGE-ACDRT:17,ARTSTEP,1,SKIP;
CHANGE-ACDRT:17,ARTSTEP,2,RTMUS,15;
CHANGE-ACDRT:17,ARTSTEP,3,WTSEC,25;
CHANGE-ACDRT:17,ARTSTEP,4,RTEXT,1234;
CHANGE-ACDRT:17,ARTSTEP,5,DISCON;
ADD-ACDRT:18,1;
CHANGE-ACDRT:18,ARTSTEP,1,DISCON;
ADD-ACDRT:33,2;
CHANGE-ACDRT:33,ARTSTEP,1,DELAYRB;
CHANGE-ACDRT:33,ARTSTEP,2,RTMUS,4;
```

4.3.6 COPY-ACDRT

The COPY-ACDRT function copies ACD routing tables.

With COPY-ACDRT, ARTs can be copied from existing ARTs by specifying the ART number (ART) to copy from and the desired new ART number (NEWART) to be assigned.

Procedure Overview

Command Code	Parameter
COPY-ACDRT	ART=<NUMBER>, NEWART=<NUMBER>;

Example:

Copy an ART from an existing ART.

Input:

COPY-ACDRT:ART=54,NEWART=97;

Output:

H07: ACD ROUTING TABLE=97 HAS BEEN CREATED AS A COPY OF TABLE ART=54.

4.3.7 SET-ACDRT

The SET-ACDRT function modifies ACD routing tables 2 to 15.

This function is used to change, insert, and delete steps in an existing ART using the step modify mode (TYPE=ARTSTEP, INSSTEP, and DELSTEP, respectively). This function is also used to change the maximum number of steps (MAXSTEP) for ARTs 2 to 15 using the table modify mode (TYPE=MAX).

SET-ACDRT may only be used by service personnel.

When using MAXSTEP to decrease the number of steps, the steps that are to be "deleted" are checked. If these steps have not been set to skip steps, or if the steps are referenced in a GOTO (GSTEP) or conditional (COND) step, an error will be generated.

If the VALOLD parameter is specified for testing the oldest call in a queue, the number of minutes and seconds will be entered using the following format:

mmm-ss

Minutes may be entered alone. If seconds are to be specified, both minutes and seconds must be entered, even when minutes are zero as shown:

Entered	Minutes	Seconds
0-35	0	35
2-0	2	0
2	2	0
0-0	0	0
0	0	0

Procedure Overview

Command Code	Parameter
SET-ACDRT	ART=<NUMBER>, , TYPE=MAX, MAXSTEP=<number>;

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Functions of the AMO

Command Code	Parameter
	<pre> ,TYPE={ARTSTEP,INSSTEP},STEP=<number> ,ACT=<DELAYRB>; ,ACT=<DISCON>; ,ACT=<SKIP>; ,ACT=<GOSTEP>,GSTEP=<number>; ,ACT=<WTSEC>,SEC=<number>; ,ACT=<RTAGT>,AGTID=<number>; ,ACT=<RTEXT>,EXTNUM=<number>; ,ACT=<RTGRP>,ACDGRP=<number>; ,ACT=<RTMUS>,MUSNUM=<number>; ,ACT=<RTOFF>,DIRNUM=<number>; ,ACT=<RTREC>,RECNUM=<number>; ,ACT=<WTAPPL>,APPLSEC=<number>; ,ACT=<RTHEART>; ,ACT=<HEARTCND>,APPLNAM=<string>,HEARTSEC=<number>, CONDSTEP=<number>; ,ACT=COND,CACDGRP=<number>,CGSTEP=<number> ,TEST=CALQEDEQ,VALCAL=<number>; ,TEST=CALQEDNE,VALCAL=<number>; ,TEST=CALQEDLT,VALCAL=<number>; ,TEST=CALQEDGT,VALCAL=<number>; ,TEST=OLDINQEQ,VALOLD=<number>; ,TEST=OLDINQNE,VALOLD=<number>; ,TEST=OLDINQLT,VALOLD=<number>; ,TEST=OLDINQGT,VALOLD=<number>; ,TEST=AGTLGNEQ,VALAGT=<number>; ,TEST=AGTLGNNE,VALAGT=<number>; ,TEST=AGTLGNLT,VALAGT=<number>; ,TEST=AGTLGNGT,VALAGT=<number>; ,TEST=AGTAVLEQ,VALAGT=<number>; ,TEST=AGTAVLNE,VALAGT=<number>; ,TEST=AGTAVLLT,VALAGT=<number>; ,TEST=AGTAVLGT,VALAGT=<number>; ,TYPE=DELSTEP,STEP=<number>; </pre>

Examples:

1. Change step 1 of ART 2 to SKIP.

Input:

```
SET-ACDRT: ART=2,TYPE=ARTSTEP,STEP=1,ACT=SKIP;
```

Output:

```

H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP
ART:STEP=2:01
HAS BEEN CHANGED TO ACT=SKIP.

```


Refer to CHANGE function for more examples.

4.3.8 TEST-ACDRT

The TEST-ACDRT function displays the dial plan groups used in the steps RTOFF and RTEXT.

Using TEST-ACDRT the craft can compare the ACD dial plan groups configured by AMO ZAND (parameter ACDDPLN) with the dial plans used in ACD routing tables in steps 'Route to Offsite Number (RTOFF)' and 'Route to Extension (RTEXT)'.

If in the table produced by TEST-ACDRT no access code appears for an ACD dial plan group number configured by AMO ZAND, then we know that no ACD calls will be routed to that ACD destination.

Procedure Overview

Command Code	Parameter
TEST-ACDRT	;

Example:

Check if the configured route to offsite and route to extension steps will still be valid after changing the ACD dial plan group in AMO ZAND to 3 (AMO ZAND, ACD, ACDDPLN).

Input:

TEST-ACDRT;

Output:

+-----+-----+-----+-----+			
ACDDPLN = 3 (AMO ZAND:ACD,ACDDPLN)			
+-----+-----+-----+-----+			
ART:STEP	DIRNUM (RTOFF STEP)	CD	DPLN GROUP
+-----+-----+-----+-----+			
17:3	098984637	0	0
+-----+-----+-----+-----+			
		0	1
+-----+-----+-----+-----+			
		-----	2
+-----+-----+-----+-----+			
		-----	3
+-----+-----+-----+-----+			
		-----	4
+-----+-----+-----+-----+			
		-----	5
+-----+-----+-----+-----+			
		-----	6
+-----+-----+-----+-----+			
		-----	7
+-----+-----+-----+-----+			

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Functions of the AMO

		-----	8
		-----	9
		-----	10
		-----	11
		-----	12
		-----	13
		-----	14
		-----	15
ACDDPLN = 3 (AMO ZAND:ACD,ACDDPLN)			
ART:STEP	EXTNUM (RTEXT STEP)	CD	DPLN GROUP
18:3	8888	8888	0
		-----	1
		-----	2
		8888	3
		-----	4
		-----	5
		-----	6
		8888	7
		-----	8
		-----	9
		-----	10
		-----	11
		-----	12
		-----	13
		-----	14
		-----	15

COMMENTS:

- In ART 17, STEP 3 there is a route to offsite number configured. The string "-----" in the row corresponding to the dial plan group within column CD (call destination) means that

- a) either the access code 0 is not configured in the dial plan 3,
- b) or the access code 0 is configured, but there is no route associated with this access code.

The ACD destination is unreachable in both cases.

- In ART 18, STEP 3 there is a route to extension, in fact a HUNT GROUP with number 8888. The repetition of this number in the row corresponding to dial plan group 3 (in column CD) means that this number is defined by AMO WABE and consequently no problem will occur after changing the ACD dial plan (ACDDPLN) to 3 using AMO ZAND.

4.4 Parameter Descriptions

ACDGRP	ACD Group number		
	Type of Input	: single value, mandatory	
	Possible Values	: numeric, 1-255	
	Default Value	: none	
ACT	Action for Step		
	Type of Input	: single value, mandatory	
	Possible Values	: COND	conditional routing
		DELAYRB	delay ringback
		DISCON	disconnect
		GOSTEP	goto step
		HEARTCND	conditional routing to heartbeat destination
		RTAGT	route to agent
		RTEXT	route to extension
		RTGRP	route to acd group
		RTHEART	route to heartbeat destination
		RTMUS	route to music
		RTOFF	route to offsite number
		RTREC	route to recording
		SKIP	skip
		WTAPPL	wait for an application
		WTSEC	wait seconds
	Default Value	: none	

ACDRT - ACD Routing Tables

Parameter Descriptions

AGTID	Agent ID	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 0-999999
	Default Value	: none
APPLNAM	Application name	
	Type of Input	: single value, mandatory
	Possible Values	: text, up to 16 characters
	Default Value	: none
APPLSEC	Length of the pause, in seconds	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 0-300
	Default Value	: none
ART	ACD Routing Table number	
	Type of Input	: 0 to 32 single values, concatenated with & or &&, optional (DISPLAY)
		: 0 to 64 single values, concatenated with & or &&, optional (REGENERATE)
		: 1 to 64 single values, concatenated with &, mandatory (DELETE)
		: single value, mandatory (ADD / CHANGE / COPY / SET)
	Possible Values	: numeric, 1-4000 (DISPLAY)
		: numeric, 16-4000 (ADD / CHANGE / COPY / DELETE)
		: numeric, 2-15 (SET)
		: numeric, 2-4000 (REGENERATE)
	Default Value	: DISPLAY all ARTs
CACDGRP	ACD Group for conditional checks	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 1-255

	Default Value : none
CGSTEP	Step goto number for conditional step Type of Input : single value, mandatory Possible Values : numeric, 1-64 Default Value : none
CONDSTEP	The step to go if the condition is true Type of Input : single value, mandatory Possible Values : numeric, 1-64 Default Value : none
DIRNUM	Directory number Type of Input : single value, mandatory Possible Values : 0-9,*,#,A-D, up to 22 characters Default Value : none
EXTNUM	Extension number Type of Input : single value, mandatory Possible Values : 0-9,*,#,A-D, up to 6 characters Default Value : none
GSTEP	Step goto number Type of Input : single value, mandatory Possible Values : numeric, 1-64 Default Value : none
HEARTSEC	Time delay before routing, in seconds Type of Input : single value, mandatory Possible Values : numeric, 1-300 Default Value : none
MAXSTEP	Maximum step of ART Type of Input : single value, mandatory

ACDRT - ACD Routing Tables

Parameter Descriptions

	Possible Values	: numeric, 1-64
	Default Value	: none
MUSNUM	Music number	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 1-32
	Default Value	: none
NEWART	ACD Routing Table number for copied art	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 16-4000
	Default Value	: none
RECNUM	Recorded Announcement Number	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 1-206
	Default Value	: none
SEC	Seconds	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 0-300
	Default Value	: none
STEP	Step number	
	Type of Input	: 0 to 32 single values, concatenated with & or &&, optional (DISPLAY) single value, mandatory (CHANGE,TYPE=ARTSTEP,DELSTEP,INSSTEP / SET,TYPE=ARTSTEP,DELSTEP,INSSTEP)
	Possible Value	: numeric, 1-64
	Default Value	: CHANGE none DISPLAY all steps
TEST	Type of conditional test	
	Type of Input	: single value, mandatory
	Possible Value	: AGTAVLEQ if number of agents available is equal than

	: AGTAVLGT	if number of agents available is greater than
	: AGTAVLLT	if number of agents available is lower than
	: AGTAVLNE	if number of agents available is not equal than
	: AGTLGNEQ	if number of agents logged on is equal than
	: AGTLGNGT	if number of agents logged on is greater than
	: AGTLGNLT	if number of agents logged on is lower than
	: AGTLGNNE	if number of agents logged on is not equal than
	: CALQEDEQ	if number of calls in queue is equal than
	: CALQEDGT	if number of calls in queue is greater than
	: CALQEDLT	if number of calls in queue is lower than
	: CALQEDNE	if number of calls in queue is not equal than
	: OLDINQEQ	if oldest call in queue is equal age
	: OLDINQGT	if oldest call in queue is older than
	: OLDINQLT	if oldest call in queue is younger than
	: OLDINQNE	if oldest call in queue is not equal age
Default Value	: none	

TYPE	Function mode	
	Type of Input	: single value, mandatory
	Possible Value	: ARTSTEP change an existing step
		DELSTEP delete an existing step
		INSSTEP insert a new step
		MAX define maximum step allowed in art
	Default Value	: none
VALAGT	Condition compare value for agents	
	Type of Input	: single value, mandatory
	Possible Value	: numeric, 0-750
	Default Value	: none
VALCAL	Condition compare value for calls queued	
	Type of Input	: single value, mandatory
	Possible Value	: numeric, 0-4000
	Default Value	: none
VALOLD	Condition compare value (mmm-ss) for oldest call in queue	
	Type of Input	: 1 to 2 single values, concatenated with -, mandatory
	Possible Value	: numeric, 0-999
	Default Value	: none

4.5 Error Messages and Advisories

4.5.1 Error Messages

- F01: NO ACD ROUTING TABLE WITH ART=@@@ CONFIGURED.
- F02: NO AGENT WITH AGTID=@@@@@ CONFIGURED.
CREATE IT WITH THE FOLLOWING COMMAND:
ADD-AGENT:AGTID=@@@@@; DOES NOT EXIST.
- F03: NO ACD GROUP WITH ACDGRP=@@@@@ CONFIGURED.
CREATE IT WITH THE FOLLOWING COMMAND:
ADD-ACDGP:ACDGRP=@@@@@,SUPEXT=<?>;
- F04: THE NUMBER ENTERED FOR 'STEP' IS BEYOND THE CONFIGURED
UPPER LIMIT FOR THE NUMBER OF ART STEPS (MAXSTEP).
- F05: MEMORY RESERVED FOR ACD ROUTING TABLES IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDRT=<?>;
- F06: ACD ROUTING TABLE ART=@@@@ HAS ALREADY BEEN CREATED.
- F07: THE JUMP TARGET (C)GSTEP=@@ FOR THE STATEMENT
OF STEP=@@ IS BEYOND THE CONFIGURED UPPER
LIMIT FOR THE NUMBER OF ART STEPS (MAXSTEP).
- F08: ACD GROUP ACDGRP=@@ IS ALREADY USED
IN THE RTGRP-STATEMENT OF STEP=@@.
- F09: THIS RTGRP-STATEMENT WHICH FORWARDS THE CALL TO
ACD GROUP ACDGRP=@@@ MAY NOT BE INSERTED BEFORE
THE RTAGT-STATEMENT OF STEP STEP=@@. THE LATTER
FORWARDS THE CALL TO AGENT AGTID=@@@@@ BUT AGENT
AGTID=@@@@@ BELONGS TO THE SAME ACD GROUP ACDGRP=@@@
- F10: MUSIC MUSNUM=@@ HAS NOT YET BEEN CREATED.
USE THE FOLLOWING COMMAND TO ADD TO THE RECORDER TABLE
A MUSIC NUMBER FOR AN RTMUS-STATEMENT:
ADD-RCSU:OPMODE=CONTINUOUS,OPTYPE=RANDOM,RECAPL=ACDMUS,MUSNUM=@@;
- F11: ANNOUNCEMENT RECNUM=@@@ HAS NOT YET BEEN CREATED.
USE THE FOLLOWING COMMAND TO ADD TO THE RECORDER TABLE
AN ANNOUNCEMENT NUMBER FOR A RTREC-STATEMENT:
ADD-RCSU:OPMODE=DEMAND,OPTYPE=FIXED,RECAPL=ACDR,RECNUM=@@@;
- F12: MEMORY RESERVED FOR ACD ROUTING TABLES IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDRT=<?>;
- F13: MEMORY RESERVED FOR AUXILIARY ACD ROUTING DATA IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDRTX=<?>;
- F14: A STEP CONTAINING AN RTGRP-STATEMENT (ROUTE TO ACD GROUP)
OR ONE THAT PRECEDES SUCH A STEP MAY NOT BE APPOINTED
TO BE THE TARGET OF A (CONDITIONAL) JUMP STATEMENT.
- F15: THE SPECIFIED AGENT IS CERTAINLY NOT CONFIGURED
SINCE ALREADY THE NUMBER OF DIGITS IN THE INPUT
FOR 'AGTID' DIFFERS FROM THE REQUIRED VALUE
'AGTIDLEN' (SEE AMO ACSD).

- F16: STATION NUMBER EXTNUM=@@ HAS AN INVALID
DIGIT ANALYSIS RESULT IN ACD DIAL PLAN DPLN=@@.
VALID DIGIT ANALYSIS RESULTS ARE EITHER
'STN, ATND, HUNT, ATNDIND' OR 'DNI'
(SEE AMO WABE, DAR=STN, ATND, HUNT, ATNDIND,
AND AMO DNIT, TBL=DNI).
A DIGIT ANALYSIS RESULT OF 'STN' MUST HAVE A ROUTE VALUE OF 0.
(SEE AMO WABE, DESTNO).
- F17: THE INPUT FOR THE SECONDS MUST BE GIVEN AS A MULTIPLE OF 5.
- F18: THE RTAGT-STATEMENT ROUTING THE CALL TO AN AGENT OF GROUP
ACDGRP=@@@ MAY NOT FOLLOW THE RTGRP-STATEMENT OF
STEP=@@ FORWARDING THE CALL TO THE SAME ACD GROUP..
- F19: ACD FEATURE IS BLOCKED.
ACTIVATE IT WITH THE FOLLOWING COMMAND:
CHANGE-ZAND:TYPE=ACD,ACDALLOW=YES;
- F21: MEMORY RESERVED IS INSUFFICIENT FOR COPYING ACD ROUTING TABLES.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDRT=<?>;
- F22: THERE ARE REFERENCES TO THE ACD ROUTING TABLE ART=@@@@.
ENTER COMMAND 'DISP-ACDRS:TYPE=DS;' AND SEARCH FOR ENTRIES
WITH THE ABOVE VALUE IN THE OUTPUT COLUMN MARKED BY HEADER
'ART'. THE ACD ROUTING TABLE IS USED BY THE
DAY SHIFT SCHEMES SHOWN IN COLUMN 'DSNUM'.
- F23: THE TARGET OF A (CONDITIONAL) JUMP STATEMENT
MAY NOT BE THE STEP ITSELF (STEP=GSTEP/CGSTEP).
- F24: STATION NUMBER EXTNUM=@@@@@@ MUST FIRST
BE ASSOCIATED WITH AN ATTENDANT DEVICE:
ADD-ACSU:ATNDNO=@@@@@@,PEN=<?>,DPLN=<?>,COS=<?>;
- F25: STATION NUMBER EXTNUM=@@@@@@ HAS BEEN REGISTERED IN THE
DNI TABLE WITH ACD ROUTING TYPE 'SIDANI' (SA), HENCE
IT CANNOT BE THE JUMP TARGET OF AN RTEXT-STATEMENT.
(SEE AMO DNIT,TBL=DNI, INTRTDN,ROUTING)
- F26: STATION NUMBER EXTNUM=@@@@@@ MUST FIRST BE ASSOCIATED
WITH AN ATTENDANT GROUP AND ITS ACCESS CODE:
ADD-VFGKZ:TYPE=ATNDGR,CD=@@@@@@,ATNDGR=<?>
- F32: RECORDER MODE OF OPERATION MUST BE 'FIXED'.
CHANGE SETTING WITH THE FOLLOWING COMMAND:
CHANGE-RCSU:PEN=<?>,OPTYPE=FIXED,RECAPL=ACDR,RECNUM=<?>;
- F33: THE INPUT FOR THE FIELD FOR SECONDS IN PARAMETER
'VALOLD' MUST BE A NUMBER BETWEEN 0 AND 59.
- F35: THE DELAY RINGBACK STATEMENT (DELAYRB)IS ONLY ALLOWED
AS THE FIRST STEP OF AN ACD ROUTING TABLE.
- F36: A STEP CONTAINING A DELAYRB-STATEMENT (DELAY RINGBACK) MAY
NOT BE THE TARGET OF A (CONDITIONAL) JUMP STATEMENT.
- F37: CAN NOT CONFIGURE THIS FIRST ART STEP AS A
DELAYRB-STATEMENT (DELAY RINGBACK) BECAUSE IT IS
USED AS THE TARGET OF (CONDITIONAL) JUMP STATEMENTS.
- F38: THIS ACD ROUTING TABLE IS FULL.
USE THE FOLLOWING COMMAND TO RAISE THE
UPPER LIMIT (MAXSTEP) FOR THE NUMBER OF ART STEPS:
CHANGE-ACDRT:TYPE=MAX,MAXSTEP=<?>;
- F39: THE LAST 'SKIP' STATEMENT OF THE ART MAY NOT BE
THE TARGET OF A (CONDITIONAL) JUMP STATEMENT.
- F40: STEP ART:STEP=@@@@:@@ CAN NOT BE DELETED
BECAUSE IT IS USED AS THE TARGET OF THE (CONDITIONAL)
JUMP STATEMENT CONTAINED IN STEP STEP=@@

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Error Messages and Advisories

- F41: STATION NUMBER EXTNUM=@@@@@ MUST HAVE THE DIGIT ANALYSIS RESULT 'HUNT' OR 'ATND'. THROUGH THE HELP OF AMO ZAND THIS NUMBER MUST ALSO BE ASSOCIATED WITH THE ACD DIAL PLAN CONFIGURED BY AMO WABE. (SEE AMO WABE, DPLN AND AMO ZAND, ACDDPLN=@@).
- F42: STEPS OF TYPE 'DELAYRB' AND 'WTAPPL' MUST NOT OCCUR TOGETHER IN THE SAME ROUTING TABLE.
- F43: ONLY A 'HEARTCND' IS ALLOWED BEFORE A 'WTAPPL' STEP.
- F44: 'WTAPPL' MAY NOT BE THE DESTINATION OF A 'GOSTEP' STATEMENT IF THERE IS A 'RTGRP' BETWEEN THEM.
- F45: THE AGENT'S GROUP MAY NOT BE A PHONEMAIL GROUP.

4.5.2 Advisory Messages

- H01: ACD ROUTING TABLE=@@@@ HAS BEEN CREATED.
- H02: NO FLEXAMA MEMORY IS CURRENTLY ALLOCATED FOR ACD ROUTING TABLES.
- H03: ART STEPS WITH SKIP-STATEMENTS HAVE BEEN ADDED FROM ART:STEP=@@@@:@@ TO ART:STEP=@@@@:@@.
- H04: THE UPPER LIMIT FOR THE NUMBER OF ART STEPS HAS BEEN SET TO MAXSTEP=@@.
- H05: THE ACTION OF THE STATEMENT CONTAINED IN STEP ART:STEP=@@@@:@@ HAS BEEN CHANGED TO ACT=@@@@@@@@.
- H06: ACD ROUTING TABLE ART=@@@@ HAS BEEN DELETED.
- H07: ACD ROUTING TABLE=@@@@ HAS BEEN CREATED AS A COPY OF TABLE ART=@@@@.
- H09: A STEP WITH THE DISCON-STATEMENT SHOULD BE PRECEDED BY A STEP WITH THE RTREC-STATEMENT.
- H10: THE DISCON-STATEMENT SHOULD BE THE FINAL LOGICAL STEP OF AN ACD ROUTING TABLE.
- H12: A STEP WITH THE RTMUS-STATEMENT SHOULD BE FOLLOWED BY A STEP WITH THE WTSEC-STATEMENT.
- H13: STATION NUMBER (EXTNUM) HAS NOT BEEN CONFIGURED. CREATE IT WITH THE FOLLOWING COMMAND:
ADD-SCSU:STNO=<?>,
OR
ADD-SBCSU:STNO=<?>
OR
ADD-SSCSU:STNO=<?>,
OR
ADD-DNIT:TBL=DNI, INTRTDN=<?>,
- H15: NO CHANGES HAVE OCCURRED.
- H16: ROUTING TO STATION NUMBER EXTNUM=@@@@@ WORKS ONLY IF THIS NUMBER IS ASSOCIATED WITH A HUNT GROUP ACCESS CODE. ASSIGN IT WITH THE FOLLOWING COMMAND:
ADD-SA:TYPE=VCE,CD=@@@@@,
- H17: AT LEAST ONE CONFIGURED ART STEP HAS BEEN DELETED.
- H18: STEP ART:STEP=@@@@:@@ HAS BEEN INSERTED.
- H19: STEP ART:STEP=@@@@:@@ HAS BEEN DELETED.
- H20: AT LEAST ONE (CONDITIONAL) JUMP STATEMENT HAS BEEN ADJUSTED.
- H21: THE RTREC-STATEMENT HAS BEEN DELETED, NOW THERE STANDS A DISCON-STATEMENT.

H22: DUE TO THE ACD CONFIGURATION BY AMO ZAND (ACDDPLN=@@@@@@@)
EXTNUM @@@@@@ REPRESENTS @@@@@@@@@@@@ FROM DPLN GROUP @@

H23 PLEASE CHECK THAT THE DIGIT ANALYSIS RESULT FOR
THE STATION NUMBER DIRNUM=@@@@@@@@@@@@@@@@@@@@@ ENTERED IS
ALSO VALID FOR DPLN GROUP DPLNGRP=@@.
(SEE AMO ZAND, TYPE=ACD, ACDDPLN=@@)

H24 NO REFERENCE WAS FOUND IN THE ACD ROUTING TABLES.

4.5.3 Use of Output Messages for each Function

- ADD:

F05, F06, F12, F19
H01, H02, H04

- CHANGE / SET:

F01, F02, F03, F04, F05, F07, F08, F09, F10, F11,
F12, F13, F14, F15,
F16, F17, F18, F19, F23, F24, F25, F32, F33, F35,
F36, F37, F38, F39,
F40, F41, F42, F43, F44, F45,
H03, H04, H05, H09, H10, H12, H13, H15, H16, H17,
H18, H19, H20,
H21, H22, H23

- COPY:

F01, F05, F06, F12, F13, F21
H07

- DELETE:

F01, F05, F22
H06

- DISPLAY:

F04, F05

- REGENERATE:

NONE

- TEST:

H24

5 ACDSD - ACD System Data

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO ACDSD maintains the ACD system data. The AMO supports three tables: System Table, Message Table, and Route Control Group Table. The actions performed by this AMO are: CHANGE, DISPLAY, and REGENERATE.

System Table

The System Table contains eight fields: FEATURE, AGTIDLEN, QFACTOR, AGTTARGET, DELAYRBT, SMTIMER, SERVCOUT and MONPIN.

The System Table parameters are modified by the CHANGE command except when the FEATURE is blocked by AMO-ZAND.

The AGTIDLEN determines the length of the ACD agent id. Its value range is from 1 to 6 digits.

The QFACTOR is the length of the waiting time spent in a queue after which the priority of all calls in a queue is upgraded. Its value ranges from 0 to 300 seconds with increments of 5 seconds. A QFACTOR value which is not an increment of 5 seconds, is rounded up or down to ensure multiples of 5 only. If the QFACTOR value is less than 5, it is rounded up to 5 seconds since 0 has a special significance. The value of 0 seconds indicates that a priority is not changed for an ACD call. Call Processing is sent an event when the QFACTOR is modified from a zero value to a non-zero value (see CHANGE action).

The AGTTARGET determines if the ACD agent is targeted by the agent's ID number or by the agent's logged on EXTENSION. This is used by the ACD features Silent/Tone Monitoring, Control of Agent Features and Short Message service. In the short message service, when the AGTTARGET is set to EXTENSION, the agent does not have to be logged on in order to receive messages. If the AGTTARGET is set to ID, the agent must be logged on in order to receive messages.

For AGTIDLEN, QFACTOR, and AGTTARGET, there are default values set in the Database.

The DELAYRBT is the Delay Ringback timer (used for internal and external calls). Its value range is from 1 to 25 seconds. This timer must be set lower than the lowest T310 timer of any of the PRI public network switches which are connected to the Hicom CBX. For details on the carrier's T310 timer value, the craftperson should contact the local carrier's Technical Representative.

The Silent/Tone Monitoring Connection Delay Timer (SMTIMER) controls the amount of time used by ACD Call Processing to establish an initial connection to an agent to be monitored or to re-establish a subsequent connection to an agent being monitored. The values for silent/tone monitoring connection delay time can be one of two values; 500 or 3000msecs.

The SERVCOUT field allows the activation and deactivation of the Service Out feature on an ACD system-wide basis. The Service Out feature puts an ACD agent's phone into an "unavailable" mode for Ring-No-Answer situations. The SERVCOUT field when set to YES, indicates the Service Out feature is active (default) and, when set to NO, indicates the Service Out feature is not active.

With the MONPIN flag it can be set if the system should protect the Silent/Tone Monitoring feature with a security PIN code.

Message Table

The Message Table contains two fields: MESSAGE and MSGTYPE.

The MESSAGE field is a text field of up to 24 characters initialized to blanks by Database.

The MSGTYPE field selects among the seventeen message records which fall into three categories: EMERGENCY, AGENT and SUPERVISOR. One of the records holds an emergency message. There are 8 further records for "agent to supervisor messages (SPV)", and 8 further records for "supervisor to agent messages (AGT)". The text of all seventeen messages can be modified by the craftsperson through the CHANGE action.

Route Control Group Table

The third table is the Route Control Group table. This table is indexed by the RCG field and contains the internal directory number field (CAFDN). The RCG is initialized for use in the system when it receives a CAFDN value. The Digit Analysis Result (DAR) of this internal number must be set to 'RCG' by AMO WABE. The RCG value ranges from 1 to 1020. The CAFDN is the directory number pertaining to a RCG with a value range from 1 to 6 digits. A RCG's CAFDN value can only be assigned or unassigned. It may not be changed from one extension to another. In order to change a CAFDN value, first delete the CAFDN and the RCG, then add back the RCG with its new CAFDN value. The value is required, therefore a default value is not given.

AMO DIMSU controls the memory allocations for the RCG table.

5.1 Restrictions

This description is valid from HiPath 4000 V1.0

5.2 Interrelationships

- AMO ACDRS : Before using the RCG in the route selection AMO ACDRS checks if it has been created. AMO ACDSD can not delete a RCG that is being used in the route selection table.
- AMO AGENT : AMO ACDSD can not change the agent ID length until all ACD agents are deleted.
- AMO CTIME : The user must assure that the delay ringback timer (DELAYRBT) is greater or equal than the ACL route request timer (ROUTEREQ). Else the Call Bridge can not route the ACD call because the delay ringback timer has been expired before the ACL route request timer.
- AMO DIMSU : Dimensioning of ACD Route Control Groups (ACDRCG).
- AMO DNIT : Before using the RCG in the Directory Number Identification table AMO DNIT checks if it has been created.
- AMO XAPPL : Can set RCG(s) as a monitored element. AMO ACDSD can not delete a RCG which is being monitored.
- AMO ZAND : Activates the ACD feature. No changes (CHANGE-ACDSD) can be performed unless the ACD feature is turned on.
- AMO WABE : Sets the Digit Analysis Result (DAR) of the CAFDN value for RCG.

5.3 Functions of the AMO

- [CHANGE-ACDSD](#) : Change ACD system data
- [DISPLAY-ACDSD](#) : Display ACD system data
- [REGENERATE ACDSD](#) : Regenerate ACD system data

5.3.1 CHANGE-ACDSD

No changes can be performed unless the ACD feature is turned on (see AMO ZAND). The CHANGE function serves for modifying the ACD system data.

The branch TYPE=SYS is used for updating the system table containing the agent ID length (AGTIDLEN), agent target type (AGTTARGET), the ACD queue priority enhancement time (QFACTOR), the delay ringback timer (DELAYRBT), the silent/tone monitoring connection delay timer (SMTIMER), the service out feature switch (SERVCOUT) and the flag that shows if the silent/tone monitoring is defended by a PIN (MONPIN).

AGTIDLEN cannot be changed if there are ACD agents configured in the system (see AMO AGENT).

Whenever the QFACTOR is modified from a zero value to a nonzero value, Call Processing is notified with a QFACTOR EVENT. The QFACTOR is updated regardless of a Call Processing response to the event.

The branch TYPE=MSG is used for changing the message texts.

The branch TYPE=CAFRCG is used to update the assignment of a Control Agent Facilities Directory Number (CAFDN) to a Route Control Group. The CAFDN must have a digit analysis result DAR=RCG set by AMO WABE. If an asterisk is entered (CAFDN = *) the number is set to NULL and the RCG is deleted. A RCG cannot be deleted if it is referenced by the Route Selection Table (AMO ACDRS).

Procedure Overview

Command Code	Parameter
CHANGE-ACDSD	| TYPE=SYS, [AGTIDLEN=<number>], [QFACTOR=<number>] | , [AGTTARGET=<param>], [DELAYRBT=<number>] | , [SMTIMER=<number>], [SERVCOUT=<param> ] | , [MONPIN=<param>], [AGTFWD=<param>] | , [NACDAWK=<param>]; | TYPE=MSG, MESSAGE=<string> | , MSGCAT=AGT | SPV, MSGNUM=<number>; | , MSGCAT=EMER; | TYPE=CAFRCG, RCG=<number>, CAFDN=<key-num>;

Examples:

1. In the system table, set agent ID length to 4, set QFACTOR to 20 and the agent target to ID.

Input:

CHANGE-ACDSD:TYPE=SYS,AGTIDLEN=4,QFACTOR=20,AGTTARGET=ID;

Output:

H02: THE REQUIRED AGENT IDENTIFIER LENGTH HAS BEEN
CHANGED TO AGTIDLEN=4 DIGITS.

H05: THE TYPE OF AGENT IDENTIFICATION (TARGET TYPE)
HAS BEEN CHANGED TO AGTTARGET=ID.

H06: THE WAITING TIME FOR ACQUIRING THE NEXT HIGHEST CALL
PRIORITY HAS BEEN CHANGED TO QFACTOR=20 SECONDS.

2. In the system table, set delay ringback timer to 13.

Input:

CHANGE-ACDSD:TYPE=SYS,DELAYRBT=13;

Output:

H01: THE DELAY RINGBACK TIMER SETTING HAS BEEN CHANGED TO
DELAYRBT=13 SECONDS. THIS SETTING MAY NOT BE
LESS THAN THE ACL ROUTE REQUEST TIMER SETTING, ELSE THE
CALL BRIDGE CAN'T ROUTE THE ACD CALL BECAUSE THE DELAY
RINGBACK TIMER EXPIRES BEFORE THE ACL ROUTE REQUEST TIMER.
(SEE AMO CTIME, ROUTEREQ).

3. In the message table, change the agent's message number 4 (sent by the supervisor) to "call 4".

Input:

CHANGE-ACDSD:TYPE=MSG,MESSAGE="CALL 4",MSGCAT=AGT,MSGNUM=4;

Output:

H03: THE CAF DIRECTORY NUMBER FOR RCG (CAFDN) HAS
BEEN ASSIGNED TO ROUTE CONTROL GROUP RCG=4.

4. In the CAFRCG table, change route control group number 6 to have directory number 542341.

Input:

CHANGE-ACDSD:TYPE=CAFRCG,RCG=6,CAFDN=542341;

Output:

H04: THE CAF DIRECTORY NUMBER FOR RCG (CAFDN) HAS
BEEN ASSIGNED TO ROUTE CONTROL GROUP RCG=6.

5.3.2 DISPLAY-ACDSD

All ACD system data are displayed through the use of function DISPLAY-ACDSD. It displays the tables SYS, MSG, and CAFRCG. The tables can be displayed one by one, in chain, or all. If no value is entered, all three tables are displayed.

Additionally, as information for service personnel, the ACD lodens/ltg lines are shown.

There are no error messages associated with the function DISPLAY-ACDSD.

Procedure Overview

Command Code	Parameter
DISPLAY-ACDSD	| [TYPE=SYS] ; | [TYPE=MSG] | , [MSGCAT=AGT | SPV] , [MSGNUM=<number>] ; | , [MSGCAT=EMER] ; | [TYPE=CAFRCG] , [RCG=<number>] ;

Examples:

1. Display system table.

Input:

DISP-ACDSD:TYPE=SYS;

Output:

ACD SYSTEM DATA										
AGTID	QFAC	AGT	FEA	DELAY	SM	SERV	MON	AGT	NACD	
LEN	TOR	TARGET	TURE	RBT	TIMER	OUT	PIN	FWD	AWK	
6	0	EXT	ON	5	500	YES	NO	YES	NO	
ACD_ACL :		LODEN = 41E H				LTG LINE = 563 H				
ACD_ROUTING:		LODEN = 41D H				LTG LINE = 562 H				
DNI_PSEUDO :		LODEN = 0 H				LTG LINE = 0 H				

2. Display the agents in the message table.

Input:

DISP-ACDSD:TYPE=MSG,MSGCAT=AGT;

Output:

ACD SHORT MESSAGE		
MSGCAT	MSGNUM	MESSAGE
AGT	1	MESSAGE 1: SUPV TO AGENT
AGT	2	MESSAGE 2: SUPV TO AGENT
AGT	3	MESSAGE 3: SUPV TO AGENT
AGT	4	MESSAGE 4: SUPV TO AGENT

AGT	5	MESSAGE 5: SUPV TO AGENT
AGT	6	MESSAGE 6: SUPV TO AGENT
AGT	7	MESSAGE 7: SUPV TO AGENT
AGT	8	MESSAGE 8: SUPV TO AGENT

3. Display the RCG numbers 7, 62, and 105 in the CAFRCG table.

Input:

DISP=ACDSD:TYPE=CAFRCG;RCG=7&62&105;

Output:

ACD CAFRCG	
RCG	CAFDN
7	234567
62	902388
105	160123

4. Display the System Table, the Message Table (agent, supervisor and emergency sections), and CAFRCG Table.

Input:

DISP-ACDSD:;

Output:

ACD SYSTEM DATA									
AGTID	QFAC	AGT	FEA	DELAY	SM	SERV	MON	AGT	NACD
LEN	TOR	TARGET	TURE	RBT	TIMER	OUT	PIN	FWD	AWK
6	0	EXT	ON	5	500	YES	NO	YES	N0
ACD_ACL :		LODEN = 41E H				LTG LINE =		563 H	
ACD_ROUTING:		LODEN = 41D H				LTG LINE =		562 H	
DNI_PSEUDO :		LODEN = 0 H				LTG LINE =		0 H	

ACD SHORT MESSAGE		
MSGCAT	MSGNUM	MESSAGE
AGT	1	MESSAGE 1: SUPV TO AGENT
AGT	2	MESSAGE 2: SUPV TO AGENT
AGT	3	MESSAGE 3: SUPV TO AGENT
AGT	4	MESSAGE 4: SUPV TO AGENT
AGT	5	MESSAGE 5: SUPV TO AGENT
AGT	6	MESSAGE 6: SUPV TO AGENT
AGT	7	MESSAGE 7: SUPV TO AGENT

ACDSD - ACD System Data

Functions of the AMO

AGT	8	MESSAGE 8: SUPV TO AGENT
SPV	1	MESSAGE 1: AGENT TO SUPV
SPV	2	MESSAGE 2: AGENT TO SUPV
SPV	3	MESSAGE 3: AGENT TO SUPV
SPV	4	MESSAGE 4: AGENT TO SUPV
SPV	5	MESSAGE 5: AGENT TO SUPV
SPV	6	MESSAGE 6: AGENT TO SUPV
SPV	7	MESSAGE 7: AGENT TO SUPV
SPV	8	MESSAGE 8: AGENT TO SUPV
EMER		EMERGENCY: AGENT TO SUPV
ACD CAFRCG		
RCG	CAFDN	
7	234567	
62	902388	
105	160123	

5.3.3 REGENERATE ACDSD

A craftsperson can regenerate any of the ACD System Data AMO commands through the use of function REGENERATE-ACDSD.

There are no error/advisory messages associated with the function REGENERATE-ACDSD.

Attention: Output will be suppressed for REGENERATE-ACDSD if the ACD feature is not activated (CHANGE-ZAND:TYPE=ACD,ACDALLOW=NO;) !

Procedure Overview

Command Code	Parameter
REGENERATE-ACDSD	| [TYPE=SYS] ; | [TYPE=MSG] , [MSGCAT=<param>] ; | , [MSGCAT=AGT|SPV] , [MSGNUM=<number>] ; | , [MSGCAT=EMER] ; | [TYPE=CAFRCG] , [RCG=<number>] ;

Examples:

1. Regenerate the System Table.

Input:

REGEN-ACDSD:SYS;

Output:

CHANGE-ACDSD:SYS,6,20,ID,13,500,YES,NO,YES,NO;

2. Regenerate all ACDSD's Tables; System, Message, and Route Control Group.

Input:

REGEN-ACDSD;

Output:

CHANGE-ACDSD:SYS,6,20,ID,13,500,YES,NO,YES,NO;
CHANGE-ACDSD:MSG,"MESSAGE 1: SUPV TO AGENT",AGT,1;
CHANGE-ACDSD:MSG,"MESSAGE 2: SUPV TO AGENT",AGT,2;
CHANGE-ACDSD:MSG,"MESSAGE 3: SUPV TO AGENT",AGT,3;
CHANGE-ACDSD:MSG,"MESSAGE 4: SUPV TO AGENT",AGT,4;
CHANGE-ACDSD:MSG,"MESSAGE 5: SUPV TO AGENT",AGT,5;
CHANGE-ACDSD:MSG,"MESSAGE 6: SUPV TO AGENT",AGT,6;
CHANGE-ACDSD:MSG,"MESSAGE 7: SUPV TO AGENT",AGT,7;
CHANGE-ACDSD:MSG,"MESSAGE 8: SUPV TO AGENT",AGT,8;
CHANGE-ACDSD:MSG,"MESSAGE 1: AGENT TO SUPV",SPV,1;
CHANGE-ACDSD:MSG,"MESSAGE 2: AGENT TO SUPV",SPV,2;
CHANGE-ACDSD:MSG,"MESSAGE 3: AGENT TO SUPV",SPV,3;
CHANGE-ACDSD:MSG,"MESSAGE 4: AGENT TO SUPV",SPV,4;
CHANGE-ACDSD:MSG,"MESSAGE 5: AGENT TO SUPV",SPV,5;
CHANGE-ACDSD:MSG,"MESSAGE 6: AGENT TO SUPV",SPV,6;
CHANGE-ACDSD:MSG,"MESSAGE 7: AGENT TO SUPV",SPV,7;
CHANGE-ACDSD:MSG,"MESSAGE 8: AGENT TO SUPV",SPV,8;
CHANGE-ACDSD:MSG,"EMERGENCY: AGENT TO SUPV",EMER;
CHANGE-ACDSD:CAFRCG,1,43201;
CHANGE-ACDSD:CAFRCG,2,43202;
CHANGE-ACDSD:CAFRCG,3,43203;
CHANGE-ACDSD:CAFRCG,4,43204;

5.4 Parameter Description

AGTFWD	Forward of agents
Type of Input	: single value, optional
Possible Values	: YES
	NO

ACDSD - ACD System Data

Parameter Description

Default Value : NO

AGTIDLEN

ACD Agent's ID Length

Type of Input : single value, optional

Possible Values : numeric, 1-6

Default Value : 6 (database default)

AGTTARGET

ACD Agent Target

Type of Input : single value, optional

Possible Values : EXT Extension of Agent

ID Identification Number of Agent

Default Value : EXT (database default)

CAFDN

Control Agent Facility Directory Number for RCG

Type of Input : single value, mandatory

Possible Values : 0-9,*, up to 6 characters

Default Value : none

DELAYRBT

Delay Ringback Timer

Type of Input : single value, optional

Possible Values : numeric, 1-25

Default Value : 5 (database default)

MESSAGE

Message Text

Type of Input : single value, mandatory

Possible Values : text, up to 24 characters

Default Value : blanks

MONPIN

Silent/Tone monitoring PIN

Type of Input : single value, optional

Possible Values : YES activate silent/tone monitoring PIN feature

NO deactivate silent/tone monitoring PIN feature

Default Value : NO

MSGCAT	Message Category
Type of Input	: single value, mandatory (CHANGE,TYPE=MSG) single value, optional (DISPLAY,TYPE=MSG / REGENERATE,TYPE=MSG)
Possible Values	: AGT from Supervisor to Agent EMER Emergency Message SPV from Agent to Supervisor
Default Value	: all DISPLAY & REGENERATE none CHANGE
MSGNUM	Message Number
Type of Input	: single value, mandatory (CHANGE,TYPE=MSG,MSGCAT=AGT / CHANGE,TYPE=MSG,MSGCAT=SPV) single value, optional (DISPLAY,TYPE=MSG,MSGCAT=AGT / DISPLAY,TYPE=MSG,MSGCAT=SPV)
Possible Values	: numeric, 1-8
Default Value	: all DISPLAY & REGENERATE none CHANGE
NACDAWK	Non ACD calls with Autowork
Type of Input	: single value, optional
Possible Values	: YES NO
Default Value	: NO
QFACTOR	Queue Factor Timer
Type of Input	: single value, optional
Possible Values	: numeric, 0-300
Default Value	: 0 (database default)
RCG	Route Control Group
Type of Input	: 0 to 64 single values, concatenated with & or &&, optional (DISPLAY,TYPE=CAFRCG / REGENERATE,TYPE=CAFRCG) : single value, mandatory (CHANGE,TYPE=CAFRCG)

ACDSD - ACD System Data
Error Messages and Advisories

	Possible Values	: numeric, 1-1020	
	Default Value	: action dependent	
SERVOUT	Silent/Tone monitoring PIN		
	Type of Input	: single value, optional	
	Possible Values	: YES	activate service out feature
		NO	deactivate service out feature
	Default Value	: YES	
SMTIMER	Silent/Tone monitoring PIN		
	Type of Input	: single value, optional	
	Possible Values	: 500..3000	silent/tone monitoring connection delay timer
	Default Value	: 500	
TYPE	Type of Table		
	Type of Input	: single value, mandatory (CHANGE)	
		single value, optional (DISPLAY / REGENERATE)	
	Possible Values	: CAFRCG	Control Agent Facility RCG
		: MSG	Short Message Table
		: SYS	System Table
	Default Value	: action dependent	
		none	CHANGE
		all	DISPLAY & REGENERATE

5.5 Error Messages and Advisories

5.5.1 Error Messages

F01: ROUTE CONTROL GROUP RCG=@@@ CAN BE REMOVED
FROM THE SET OF RESERVED 'RCG' INDICES ONLY AFTER
DELETING THE ROUTE SELECTION TABLE ASSIGNED TO IT.
(SEE AMO ACDRS, RCG)

F02: THERE IS NO ENTRY IN THE DIGIT ANALYSIS RESULT TABLE FOR THE GIVEN 'CAFDN' (CAF DIRECTORY NUMBER FOR RCG). (SEE AMO WABE, DAR)

F03: THE ASSIGNMENT IN THE DIGIT ANALYSIS RESULT TABLE FOR THE GIVEN 'CAFDN' (CAF DIRECTORY NUMBER FOR RCG) IS INCORRECT (NOT 'RCG'). (SEE AMO WABE, DAR)

F04: THE NUMBER ENTERED FOR 'CAFDN' (CAF DIRECTORY NUMBER FOR RCG) IS ALREADY ASSIGNED TO ROUTE CONTROL GROUP RCG=@@@.

F05: THE REQUIRED AGENT IDENTIFIER LENGTH (AGTIDLEN) CAN BE CHANGED ONLY AFTER DELETING ALL ACD AGENTS. (SEE AMO AGENT, AGTID)

F06: MEMORY RESERVED FOR ROUTE CONTROL GROUPS IS INSUFFICIENT. ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:"
ADD-DIMSU:ACDRCG=<?>;

F07: ACD FEATURE IS BLOCKED."
ACTIVATE IT WITH THE FOLLOWING COMMAND:
CHANGE-ZAND:TYPE=ACD,ACDALLOW=YES;

F08: ROUTE CONTROL GROUP RCG=^rcg^ IS JUST BEING MONITORED. (SEE AMO XAPPL,DTYPE=MONCB,RCG)

F09: THERE IS NO ROUTE CONTROL GROUP WITH RCG=@@@.

F10: ROUTE CONTROL GROUP (RCG) IS ALREADY CREATED.

F14: THE INPUT FOR 'CAFDN' (CAF DIRECTORY NUMBER FOR RCG) CONTAINS" INVALID CHARACTERS. VALID CHARACTERS ARE: *,0-9

5.5.2 Advisories

H01: THE DELAY RINGBACK TIMER SETTING HAS BEEN CHANGED TO DELAYRBT=@@ SECONDS. THIS SETTING MAY NOT BE LESS THAN THE ACL ROUTE REQUEST TIMER SETTING, ELSE THE CALL BRIDGE CAN'T ROUTE THE ACD CALL BECAUSE THE DELAY RINGBACK TIMER EXPIRES BEFORE THE ACL ROUTE REQUEST TIMER. (SEE AMO CTIME, ROUTEREQ).

H02: THE REQUIRED AGENT IDENTIFIER LENGTH HAS BEEN CHANGED TO AGTIDLEN=@ DIGITS.

H03: MESSAGE MSGNUM=@ OF TYPE MSGCAT=@@@@@@@@ HAS BEEN CHANGED.

H04: THE CAF DIRECTORY NUMBER FOR RCG (CAFDN) HAS BEEN ASSIGNED TO ROUTE CONTROL GROUP RCG=@@@.

H05: THE TYPE OF AGENT IDENTIFICATION (TARGET TYPE) HAS BEEN CHANGED TO AGTTARGET=@@@.

H06: THE WAITING TIME FOR ACQUIRING THE NEXT HIGHEST CALL PRIORITY HAS BEEN CHANGED TO QFACTOR=@@@ SECONDS.

H07: NO ROUTE CONTROL GROUPS (RCG) PRESENT.

H08: THERE IS NO 'CAFDN' (CAF DIRECTORY NUMBER FOR RCG) ASSIGNED YET TO ROUTE CONTROL GROUP RCG=@@@.

H09: THE WAITING TIME FOR ACQUIRING THE NEXT HIGHEST CALL PRIORITY MUST BE A MULTIPLE OF 5. THE VALUE ENTERED HAS BEEN ROUNDED OFF TO QFACTOR=@@@.

H10: THE ROUTE CONTROL GROUP HAS BEEN REMOVED FROM THE SET OF RESERVED 'RCG' INDICES BECAUSE OF THE ASTERISK (*) IN THE FIRST POSITION OF THE COMMAND INPUT FOR PARAMETER 'CAFDN'.

H17: THIS COMMAND INPUT DOES NOT INDUCE CHANGES IN CURRENT CONFIGURATION DATA.

ACDSD - ACD System Data

Error Messages and Advisories

H18: NO ROUTE CONTROL GROUPS (RCG) PRESENT.
H19: THE SILENT/TONE MONITORING TIMER HAS BEEN SET TO
SMTIMER=@@@.
H20: THE FLAG FOR SILENT/TONE MONITORING PIN FEATURE HAS BEEN SET TO MONPIN=@@@.
H21: THE FLAG FOR FORWARD OF AGENTS HAS BEEN SET TO AGTFWD=@@@.
H22: THE FLAG FOR NON-ACD-CALLS WITH AUTOWORK HAS BEEN SET TO NACDAWK=@@@.

5.5.3 Use of Output Messages for each Function

- When initiating this function, the following checks are performed. Each check produces a reaction and a prompt or end.
- CHANGE:
F01, F02, F03, F04, F05, F06, F07, F08, F09, F10, F14
H01, H02, H03, H04, H05, H06, H08, H09, H10, H17,
H20,H21,H22
- DISPLAY:
H07, H08
- REGENERATE:
NONE

6 ACMSM - ACL Manager Communication Parameters

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO ACMSM (ACL Manager Specification of Communication Parameters) specifies all parameters needed by the ACL Manager to allow communication between an ACL application and the ACL Complex .

Before executing the ADD-ACMSM command, one must execute first ADD-CPSM / CPTP command in order to configure the port on the server and the physical communication parameters of the application.

The execution of DELETE-CPSM / CPTP command has to be immediately followed by the execution of DELETE-ACMSM command .

One must also execute the ADD-XAPPL command before executing ADD-ACMSM.

ADD-XAPPL configures an application number for the ACL application as well as the CP specific information for the ACL application .The execution of ADD-XAPPL is not necessary for the configuration of the Message Trace Function. However, the assignment of an application number for the Message Trace Function should be coordinated with the application numbers already configured through ADD-XAPPL.

Depending on whether the ACL application is host-based or server-based, the relationships between fields in the commands CPSM, CPTP, XAPPL and ACMSM are shown in the Tables below:

HOST-Based Application:

AMO	CPSM	CPTP (LAN)	XAPPL	ACMSM
Matching Fields	EMSAPPL	EMSAPPL		PBXAPPL
	DPAPPL	DPAPPL	APPLDP	ACLAPPL
	PROCID	DPPROC		PROCID
		NO (TYPE=APPL)	APPLNO	APPLNO
	UNIT		UNIT	UNIT

ACMSM - ACL Manager Communication Parameters

Restrictions

SERVER-Based Application:

AMO	CPSM	CPTP (LAN)	XAPPL	ACMSM
Matching Fields	EMSAPPL	EMSAPPL	APPLDP	ACLAPPL
	DPAPPL	DPAPPL		PBXAPPL
	PROCID	DPPROC		PROCID
		NO (TYPE=APPL)	APPLNO	APPLNO
	UNIT		UNIT	UNIT

6.1 Restrictions

This description is valid from SP300E-V2.0

6.2 Interrelationships

- AMO CPSM Communication Parameters for Data Link

Is required by all ACL applications: host-based and server-based;
it has the role to establish the communication parameters between CMS and the ACL application(s) or CMS
- AMO CPTP Communication Parameters for TCP/IP connection.
- AMO XAPPL Data Processing Applications

Is required by all ACL applications:
host-based and server-based;
it has the role to establish the configuration of CP specific information for ACL applications.
- AMO BCSM Board Configuration Service Module

Only required if ACL appl. on host computer
- AMO TCSM Terminal Configuration, Service Module

Only required if ACL appl. on host computer
- AMO LCSM Line Configuration in a Server

Only required if ACL appl. on host computer

6.3 Functions of the AMO

- **ADD-ACMSM** : ACL Manager Specific Configuration
- **CHANGE-ACMSM** : Change communication parameters
- **DELETE-ACMSM** : Delete communication parameters
- **DISPLAY-ACMSM** : Interrogate the communication parameters
- **REGENERATE-ACMSM** : Regenerate the database for the communication parameters

6.3.1 ADD-ACMSM

This function is used to configure the ACL application communication parameters, for the ACL Manager.

Procedure Overview

Command Code	Parameter
ADD-ACMSM	<pre>[UNIT=<param>],APPLNO=<number> |,TYPE=TRACE,ACLAPPL=<string>,PBXAPPL=<string> ,PROCID=<string>; |,TYPE=ACLAPPL,ACLAPPL=<string>,PBXAPPL=<string> ,PROCID=<string>,ACCESS=<param>,[PASSWD=<string>] |,[PACKAGE=Y],MAXSBYTE=<number>,MAXRBYTE=<number>; |,[PACKAGE=N];</pre>

Examples

1. Create a configuration for the host-based application "DECAPPL" and which enables message packaging.

Input:

```
ADD-ACMSM:A1,16,ACLAPPL,"DECAPPL","ACM","H1",CB,"DECPWD",Y,500,750;
```

Output:

Start- and End message

2. Create a configuration for the host-based application "DICAPPL" and which disables message packaging.

Input:

```
ADD-ACMSM:A1,17,ACLAPPL,"DICAPPL","ACM","H1",CB,,N;
```

Output:

Start- and End message

3. Create a configuration for the ACL Message Trace Function.

Input:

ADD-ACMSM:A1,18,TRACE,"TRACE","ACM","TRACEPRC";

Output:

Start- and End message

6.3.2 CHANGE-ACMSM

This command is used to modify parameter values in the database. It may only be executed if the ACL application has already been configured (with ADD-ACMSM).

Once configured , the values for parameters UNIT, APPLNO, TYPE , ACLAPPL, PBXAPPL and PROCID are not allowed to be changed. New values for these parameters must be configured with ADD-ACMSM command.

All other parameter values in the database can be changed by entering the value PARAMETER for the parameter CHTYPE.

The Event Stream to an application can be turned on/off by entering the value STREAM for the parameter CHTYPE.

Procedure Overview

Command Code	Parameter
CHANGE-ACMSM	[UNIT=<param>],APPLNO=<number> |,CHTYPE=STREAM,STREAM=<param>; |,CHTYPE=PARAMETER,[PASSWD=<string>] |,[PACKAGE=Y],MAXSBYTE=<number>,MAXRBYTE=<number>; |,[PACKAGE=N];

Examples

1. Turn on the event stream to the application 16 .

Input:

CHANGE-ACMSM:A1,16,STREAM,ON;

Output:

Start- and End message

2. For application 6 disable message packaging.

Input:

CHANGE-ACMSM:A1, 6, PARAMETER, , N;

Output:

Start- and End message

3. For application 99 , disable message packaging, and change the password.

Input:

CHANGE-ACMSM:A1, 99, PARAMETER, "PARPWD", N;

Output:

Start- and End message

4. For the application 17 ,enable message packaging.

Input:

CHANGE-ACMSM:A1, 17, PARAMETER, Y, 500, 800;

Output:

Start- and End message

6.3.3 DELETE-ACMSM

This command is used to delete configurations, for the ACL applications, from the database.

An application is indicated by its application number.

If the user enters value "ALL" for the parameter APPLIC, all configurations for ACL applications in the specified unit will be deleted from the database.

If the user wants to delete from the database only one configuration , she/he must enter value "ONE" for the parameter APPLIC and then specify the ACL application number.

Procedure Overview

Command Code	Parameter
DELETE-ACMSM	[UNIT=<param> | , APPLIC=ALL; | , APPLIC=ONE, APPLNO=<number>;

Examples

1. Delete from the database the configurations for the applications 17 and 99 in unit A1.

Input:

DELETE-ACMSM:A1,ONE,17;

Output:

Start- and End message

Input:

DELETE-ACMSM:A1,ONE,99;

Output:

Start- and End message

6.3.4 DISPLAY-ACMSM

This function is used to interrogate the specified parameters for the communication between an ACL application and the ACL Complex(s).

Procedure Overview

Command Code	Parameter
DISPLAY-ACMSM	[UNIT=<param>], [APPLNO=<number>];

Examples

1. Output the link parameters for all applications in A1

Input:

DISPLAY-ACMSM: A1;

Output:

UNIT	: A1	TYPE	: ACLAPPL		
APPLNO	: 16	ACLAPPL:	DECAPPL	PBXAPPL: ACM	PROCID: H1
		ACCESS	: CB	PASSWD : DECPWD	
		PACKAGE:	YES	MAXSBYTE: 500	MAXRBYTE: 750
UNIT	: A1	TYPE	: ACLAPPL		
APPLNO	: 6	ACLAPPL:	DEXAPPL	PBXAPPL: ACM	PROCID: H1
		ACCESS	: CB	PASSWD : ASCPWD	
		PACKAGE:	NO		
UNIT	: A1	TYPE	: ACLAPPL		
APPLNO	: 13	ACLAPPL:	UNIXAPPL	PBXAPPL: ACM	PROCID: APPLPROC
		ACCESS	: CB	PASSWD : PDSPWD	
		PACKAGE:	NO		


```

+-----+-----+
| UNIT    : A1    | TYPE   : TRACE                |
| APPLNO   : 18    | ACLAPPL: TRACE    PBXAPPL: ACM    PROCID: TRACEPRC |
+-----+-----+

```

2. Display the configuration for application 16

Input:

DISPLAY-ACMSM: A1,16;

Output:

```

+-----+-----+
| UNIT    : A1    | TYPE   : ACLAPPL                |
| APPLNO   : 16    | ACLAPPL: DECAPPL    PBXAPPL: ACM    PROCID: H1    |
|          | ACCESS : CB          PASSWD : DECPWD                |
|          | PACKAGE: YES        MAXSBYTE: 500    MAXRBYTE: 750    |
+-----+-----+

```

6.3.5 REGENERATE-ACMSM

This function outputs the communication parameters in form of a command listing.

Procedure Overview

Command Code	Parameter
REGENERATE-ACMSM	[UNIT=<param>;

Example

Output all data as position-oriented ADD commands.

Input:

REGENERATE-ACMSM:A1;

Output:

```

ADD-
ACMSM:A1,16,ACLAPPL,"DECAPPL","ACM","H1",CB,"DECPWD",Y,500,750;
ADD-ACMSM:A1,6 ,ACLAPPL,"DEXAPPL","ACM","H1",CB,"ACSPWD,N;
ADD-
ACMSM:A1,13,ACLAPPL,"UNIXAPPL","ACM","APPLPROC",CB,"PDSPWD",N;
ADD-ACMSM:A1,18,TRACE,"TRACE","ACM","TRACEPRC";

```

6.4 Parameter Description

ACCESS Accessible ACL Function

ACMSM - ACL Manager Communication Parameters

Parameter Description

Type of Input : single value, mandatory
Possible Values : CB Call Bridge connection set-up (World, except USA)
ECCS host-controlled connection set-up (USA only)

ACLAPPL ACL Application Name

Type of Input : single value, mandatory
Possible Values : text, up to 8 characters

APPLIC Applications to be deleted

Type of Input : single value, mandatory
Possible Values : ALL delete all parameters
ONE delete one parameter

APPLNO ACL Application Number

Type of Input : single value, mandatory (ADD / CHANGE / DELETE,APPLIC=ONE)
single value, optional (DISPLAY)
Possible Values : numeric, 2-99

CHTYPE Type of change

Type of Input : single value, mandatory
Possible Values : PARAMETER change parameter
STREAM stream switch on/off

MAXSBYTE Send Message max. bytes number

Type of Input : single value, mandatory (ADD,TYPE=ACLAPPL,PACKAGE=Y)
single value, optional
(CHANGE,CHTYPE=PARAMETER,PACKAGE=Y)
Possible Values : numeric, 256-1020

MAXRBYTE Receive Message max. bytes number

Type of Input : single value, mandatory (ADD,TYPE=ACLAPPL,PACKAGE=Y)
single value, optional
(CHANGE,CHTYPE=PARAMETER,PACKAGE=Y)

	Possible Values	: numeric, 256-1020
PACKAGE	Enable Message Packaging	
	Type of Input	: single value, optional
	Possible Values	: N no
		Y yes
PASSWD	Password	
	Type of Input	: single value, optional
	Possible Values	: text, up to 8 characters
	Default Value	: blanks (no password)
	Default Value	: N
PBXAPPL	Communication Partner Name	
	Type of Input	: single value, mandatory
	Possible Values	: text, up to 8 characters
	Default Value	:
PROCID	Data Processing Processor ID	
	Type of Input	: single value, mandatory
	Possible Values	: text, up to 8 characters
	Default Value	:
STREAM	Event Stream ON/OFF	
	Type of Input	: single value, mandatory
	Possible Values	: OFF off
		ON on
	Default Value	: OFF
TYPE	Application Type	
	Type of Input	: single value, mandatory
	Possible Values	: ACLAPPL acl application

TRACE acl message trace function

UNIT	Functional System Unit i.e. Server Code
Type of Input	: single value, optional
Possible Values	: A1 (Application and Data Server)
Default Value	A1

6.5 Error Messages and Advisories

6.5.1 Error Messages

- F01: APPLICATION NUMBER @@@ HAS NOT BEEN CONFIGURED.
- F02: IN THE UNIT @@, THE NUMBER @@@ HAS ALREADY BEEN ASSIGNED TO THE APPLICATION @@@@@@@@.
- F03: APPLICATION @@@ IS NOT CURRENTLY SIGNED ON.
- F04: EVENT STREAM WAS TURNED OFF BY @@@ AND THEREFORE CANNOT BE TURNED ON BY THE AMO.
- F05: THE COMBINATION ACLAPPL=@@@@@@@@, PBXAPPL=@@@@@@@@, PROCID=@@@@@@@@ MAY ONLY BE USED ONCE.
- F07: FOR THE UNIT @@ AND APPLNO @@@ EXIST NO CONFIGURATION IN THE DATABASE.
- F08: EVENT STREAM SWITCHING ON/OFF CURRENTLY NOT ALLOWED.
- F09: DATABASE IS FULL; NO MORE PARAMETER CONFIGURATIONS ALLOWED.
- F10: TO ENABLE MESSAGE PACKAGING, THE MAXIMUM NUMBER OF BYTES ACL APPLICATION MAY RECEIVE IN ONE MESSAGE MUST BE ENTERED.
- F11: THE ENTERED NAME @@@@@@@@ MUST NOT START WITH A BLANK.
- F12: THE APPLICATION NUMBER @@@ IS ASSIGNED TO A TRACE FUNCTION.
- F15: NO MESSAGE FROM ACL MANAGER
- F16: TURN ON/OFF EVENT STREAM NOT POSSIBLE BECAUSE ACM IS NOT ACTIVE.
- F17: TO ENABLE MESSAGE PACKAGING, THE MAXIMUM NUMBER OF BYTES ACL APPLICATION MAY SEND IN ONE MESSAGE MUST BE ENTERED.
- F18: THE REASON @@@ RECEIVED FROM THE ACL MANAGER IS UNKNOWN.
- F19: THE EVENT STREAM CAN NOT BE TURNED ON BY THE AMO BECAUSE IT WAS TURNED OFF BY ACM FLOW CONTROL.
- F20: (CAN OCCUR ONLY IN USA SWITCHES)
THE PARAMETER BRANCH ACCESS = CB CANNOT BE USED IN THE USA;
IN THE USA ACCESS = ECCS MUST BE USED.
- F21: THE PARAMETER BRANCH ACCESS = ECCS CANNOT BE USED;
PLEASE USE, ACCESS = CB.
- F22: DATA BASE CAN NOT BE ACCESSED.

6.5.2 Advisories

H01: THE EVENT STREAM TO THE APPLICATION @@@ IS ALREADY @@@.
H02: IN THE DATABASE NO CHANGE IS POSSIBLE.
H03: NO ENTRY IN THE DATABASE.
H04: THIS CONFIGURATION ALREADY EXISTS.
H05: CHANGE STREAM IS INITIATED AND TIMER HAS BEEN SET UP.

6.5.3 Use of Output Messages for each Function

- ADD:
F02, F05, F09, F11, F22
H04
- CHANGE:
F01, F03, F04, F07, F08, F10, F12, F15, F16, F17,
F18, F19, F20, F21, F22
H01, H02, H05
- DELETE:
F01
H03
- DISPLAY:
F01
H03
- REGENERATE:
NONE

ACMSM - ACL Manager Communication Parameters

Error Messages and Advisories

7 ACSU - Attendant Console Configuration

Interrelationships	Parameter Descriptions
Functions of the AMO	Error Messages and Advisories

Up to 64 attendant consoles (ATNDs) can be present in a system. They can be divided into up to 16 ATND groups.

ATNDs of type 4 (CORNET-TS on a Up0/E-interface) or PC-Application for ATND (CORNET-T on a Up0/E-interface) can be assigned at SLMO and SLMQ (except SLMQ3) boards and/or boards with the same functionality (SLOP2, STHC and SLMOP).

A mixed assignment of ATND types is possible.

7.1 Interrelationships

- AMO ACDRT : Administration of the ACD Routing Tables
- AMO COSSU : Administration of the classes of service
- AMO DIMSU : Administration of the database layout
- AMO HOTLN : Administration of hotline / offhook intercept
- AMO KNDEF : Administration of the virtual nodes
- AMO KNMAT : Assign of the default number if secret ATND number
- AMO LIN : Administration of the location identification number
- AMO NAVAR : Administration of static night switch option data
- AMO VFGR : Attendant console groups
- AMO WABE : Dialing plans, feature access codes Assignment of access codes and digit analysis results in the dial plans

7.2 Functions of the AMO

- [ADD-ACSU](#) : Create the static attendant console data
- [CHANGE-ACSU](#) : Change the static attendant console data
- [DELETE-ACSU](#) : Cancel an ATND or optional static ATND data
- [DISPLAY-ACSU](#) : Interrogate the static ATND data
- [REGENERATE-ACSU](#) : Regenerate the static ATND data

7.2.1 ADD-ACSU

This function is used to assign an attendant console.

The port location of the attendant console to be assigned is identified with the parameter PEN. An available port must be configured for this PEN. The suitable board type depends on the value of the parameter ACTYPE.

The ATND type is selected by the parameter ACTYPE.

The parameter SATNDNO determines whether the personal number of an ATND (ATNDNO)

- a) does appear on the display of an internal or external station (SATNDNO=NO),
- b) does not appear on the display of an internal or external station (SATNDNO=YES)
- c) or does not appear on the display of an external station (SATNDNO=ONLYEXT). A default number will be displayed. The default number is assigned by the AMO KNMAT.
(CHANGE-
KNMAT:NPI=ISDN,LEVEL=<nr>,DNNO=<nr>,DNNOL=OWN,M
ODCON=OUT&REPEXT,
NUMRED=<nr>;)

The parameter PUBNUM defines the public telephone number. Related to the public telephone number the type of number (TON) and the numbering plan identification can be entered. An entry for TON and NPI will be ignored if no value for PUBNUM is entered. An advisory message is displayed.

The following combinations of parameter NPI and TON are allowed:

NPI=ISDN(E.164)	NPI=PNP(private)	NPI=UNKNOWN
TON=INTERNAT (international number)	TON=L2REGIO (level 2 regional number)	TON=UNKNOWN
TON=NATIONAL (national number)	TON=L1REGIO (level 1 Regional number)	
TON=SUSCR (subscriber number)	TON=LOCAL (local number)	
TON=UNKNOWN (unknown)	TON=UNKNOWN (unknown)	
	TON=ABBR (abbreviated number)	

Procedure Overview

Command Code	Parameter
ADD-ACSU	ATNDNO=<number>, PEN=<gg-u-sss-cc>, DPLN=<number> , COS=<number>, [LCOSV=<number>], [SPDC1=<number>] , [SPDC2=<number>, [LANG=<param>], [ACTYPE=<param>] , [EOVR=<param>], [SATNDNO=<param>] , [NNO=<number>], [SRCGRP=<number>], [CLASSMRK=<param>] , [PUBNUM=<number>], [TON=<param>], [NPI=<param>]; , [STNOOOS=<number>], [STNOAPE=<param>], , [AMOALTRT=<param>], [CLUSTID=<number>];

Example

Adding an ATND

Input:

```
ADD-ACSU:ATNDNO=390, PEN=1-1-115-
7, DPLN=0, COS=1, LANG=GER, ACTYPE=ACWMQ;
```

Output:

```
H02 : ATNDNO 390 NEEDS TO BE ASSIGNED TO AN ATND GROUP
```

7.2.2 CHANGE-ACSU

The function CHANGE makes it possible to modify the parameters defined during creation.

In general, only the new parameter value is entered. The AMO carries out the necessary cross-checks to other data and replaces the old value by the new if the checks are positive. Only when the ATNDNO, which must always be specified for identification, is changed the new ATNDNO have to be specified in parameter NEWNO.

An attendant calling number (ATNDNO) or the feature access group (DPLN) may be changed only if the attendant calling number is not referenced in an ACD routing table. It has to be previously removed by AMO ACDRT.

Procedure Overview

Command Code	Parameter
CHANGE-ACSU	ATNDNO=<number>, {NEWNO=<number>, DPLN=<number> , COS=<number>, LCOSV=<number>, SPDC1=<number> , SPDC2=<number>, LANG=<param>, EOVR=<param> , SATNDNO=<param>, NNO=<number>,

ACSU - Attendant Console Configuration

Functions of the AMO

Command Code	Parameter
	,SRCGRP=<number>,CLASSMRK=<param> ,PUBNUM=<number>,TON=<param>,NPI=<param>; ,[STNOOOS=<number>],[STNOAPE=<number>], ,[AMOALTRT=<param>],[CLUSTID=<number>;

7.2.3 DELETE-ACSU

The ATND data is divided into optional data and data required for normal operation.

The parameter DELOPT is used to determine if the ATND is to be cancelled altogether, or whether and which optional data is to be cancelled.

When DELOPT = ALL is entered, the created ATND is cancelled so that the associated port location becomes free.

If an ATND entered as a hotline or offhook intercept destination is to be cancelled, an advisory is output that a new destination must be entered.

An ATND may be cancelled only if it is no longer integrated in an ATND group. It has to be previously removed by AMO VFGR.

An attendant may be cancelled only if it is no longer referenced in an ACD routing table. It has to be previously removed by AMO ACDRT.

Procedure Overview

Command Code	Parameter
DELETE-ACSU	ATNDNO=<number>,DELOPT=<param>;

7.2.4 DISPLAY-ACSU

This function makes it possible to output attendant console data.

If ATNDNO is entered, the data regarding the ATND are listed.

If parameter ATNDNO is not specified, the data of all the ATNDs existing in the system is listed.

Procedure Overview

Command Code	Parameter
DISPLAY-ACSU	[ATNDNO=<number>;

Example

The data for ATNDNO 298 is to be displayed

Input:

DISPLAY-ACSU:ATNDNO=298;

Output:

ASSIGNED DATA FOR ATTENDANT TERMINAL									
ATNDNO				298	||	ACTYPE		ACWIN	
=====					||	ATNDGR		0	
-----					||	PEN		1-2- 25- 5	
SRCGRP				0	||	NNO		7- 1- 21	
DPLN				0	||	SPDC1		0	
COS				1	||	SPDC2		2	
LCOSV				1	||	LANG		GER	
CLASSMRK	G711		G729		||	EOVR		NO	
					||	SATNDNO		NO	
PUBNUM				7220	||				
TON				NATIONAL	||				
NPI				ISDN	||				
STNOOOS				456327	||				
STNOAPE					||				
AMOALTRT	NO				||	CLUSTID		5	

7.2.5 REGENERATE-ACSU

If ATNDNO is entered, the data regarding the ATND are regenerated.
If parameter ATNDNO is not specified, the data of all the ATNDs existing in the system are regenerated.

Procedure Overview

Command Code	Parameter
REGENERATE-ACSU	[ATNDNO=<number>];

7.3 Parameter Descriptions

ACTYPE	AC-Type
Type of Input	: Single value, optional
Possible Values	AC4 ac connect to slmo or slmq.
	ACWMQ ACWIN with multiple queue mode
	ACWMQIP ACWINIP with multiple queue mode

ACSU - Attendant Console Configuration

Parameter Descriptions

		ACW2Q	ACWIN with double queue mode.
		ACW2QIP	ACWINIP with double queue mode.
	Default Value	: AC4	
AMOALTRT	amo alternate routing		
	Type of Input	: Single value	
		ADD, CHANGE:	1 single value, optional
	Possible Values	: YES, NO	
	Default Value	: NO	
ATNDNO	Attendant calling number		
	Type of Input	: Single value, mandatory	
		ADD:	1 single value, mandatory
		DELETE, CHANGE:	1 to 2 values, mandatory, concatenated with & or &&
		DISPLAY, REGENERATE:	1 to 2 values, optional, concatenated with & or &&
	Possible Values	: 0 - 9, up to 12 characters, ATNDNO must exist in numbering plan	
CLASSMRK	DNIL classmarks		
	Type of Input	: 0 to 4 single values, concatenated with &, optional	
	Possible Values	EC	Echo Cancellation
		G711	Voice compression via G711
		G729	Voice compression (mandatory) according to G.729A
		G729OPT	Voice compression (optional) according to G.729A
		INIT	Echo Cancellation, G711, G729OPT
		NONE	no ip classmarks activated
		VAD	Voice activity detection
		HG3530	bandwidth control for IP phone subscriber
		HG3550	bandwidth control for IP trunk
	Default Value	: INIT	Action ADD
CLUSTID	Cluster ID		
	Type of Input	: Single value	
		optional (ADD)	

		optional (CHANGE)
	Possible Values	: 0 - 512
		should be 0 for all TDM Phones should be greater than 0 for all HFA Phones
	Default Value	: 0 Action ADD
COS	Class of service of this ATND	
	Type of Input	: Single value mandatory (ADD) optional (CHANGE)
	Possible Values	: 1 - 1000
	The ATND COS for incoming calls must at least include unrestricted long distance service and unrestricted tie-line access. It is not necessary to verify an ATND's COS for outgoing calls.	
DELOPT	Deletion option	
	Type of Input	: Single value, mandatory
	Possible Values	ALL delete attendant
		PUBNUM public telephone number
		SPDC speed calling central
		STNOOOS alternate routing number for OOS
		STNOAPE alternate routing number for AP emergency
DPLN	Feature access group, dial plan	
	Type of Input	: Single value, mandatory (ADD) optional (CHANGE)
	Possible Values	: 0 - 15
EOVR	Emergency override/forced hold	
	Type of Input	: Single value, optional
	Possible Values	: Y [yes] N [no]
	Default Value	: N
LANG	Language parameter for ATND	
	Type of Input	: Single value, optional

ACSU - Attendant Console Configuration

Parameter Descriptions

Possible Values	: BRA	= brazilian
	CAT	= catalan
	CFR	= canadian french
	CROAT	= croatian
	CZ	= czech
	DAN	= danish
	DUT	= dutch
	ENG	= english
	FIN	= finnish
	FRE	= french
	GER	= german
	GRE	= greek
	HU	= hungarian
	ITA	= italian
	NOR	= norwegian
	PO	= polish
	POR	= portuguese
	RUS	= russian
	SLOVAK	= slovakian
	SLOVEN	= slovene
	SPA	= spanish
	SWE	= swedish
	TUR	= turkish
Default Value	: GER	

LCOSV LCR class of service for voice-services of this attendant

Type of Input : Single value,
 optional (ADD, CHANGE)

Possible Values : 1 - 1000 (ADD, CHANGE)

Default Value : 1

The AC is to be assigned a class of service which contains all LCR authorizations if possible.
LCOSV = 1 is reserved for this purpose.

NEWNO New station number for the ATND

Type of Input : Single value
 optional

Possible Values : 0 - 9, up to 6 characters, NEWNO must exist in the numbering plan

NNO	virtual node identification: level2-level1-level0		
	Type of Input	: 1 to 3 single values, concatenated with -, optional Levels have to be filled from low to high (e.g. not allowed: 1-0-12)	
	Possible Values	: 0 - 999	level0
		0 - 253	level1
		0 - 29	level2
NPI	Numbering plan identification		
	Type of Input	: Single value, optional	
	Possible Values	: ISDN	ISDN (E.164)
		PNP	private numbering plan
		UNKNOWN	unknown
Default Value		: UNKNOWN	
PEN	Port equipment number of the ATND: LTG-LTU-SLOT-CCT		
	Type of Input	: 4 single values, concatenated with -, mandatory	
	Possible Values	: <gg-uu-sss-cc>	numeric, 0-254
		gg	LTG 1
		uu	LTU 1 - 99 (dependent on the system)
		sss	SLOT 1 - 121
		cc	CCT
PUBNUM	Public telephone number		
	Type of Input	: Single value, optional	
	Possible Values	: 0 - 9, up to 15 characters	
PUBNAME	Public name		
	Type of input	Single value, optional	
	Possible Values	Text, max 22 characters	
SATNDNO	Secret attendant calling number		
	Type of Input	: Single value, optional	
	Possible Values	: NO	= the ATND number does appear on the internal or external station's display

ACSU - Attendant Console Configuration

Parameter Descriptions

	YES	= the ATND number does not appear on the internal or external station's display
	ONLYEXT	= the ATND number does not appear on the external station's display. A default number will be displayed; assigned by the AMO-KNMAT.
	Default Value	: NO
SCRGRP	Source group index	
	Type of Input	: single value, optional
	Possible Values	: 0 - 255
	Default Value	: 0
SPDC1	Central speed dialer 1	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 15
	Default Value	: 0
SPDC2	Central speed dialer 2	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 15
	Default Value	: 0
STNOOOS	subscriber individual alternate routing no for OOS	
	Type of Input	: Single value, optional
	Possible Values	: keyed numeral,up to 22 characters
	Default Value	:
STNOAPE	subscriber individual alternate routing no for AP emergency 2	
	Type of Input	: Single value, optional
	Possible Values	: keyed numeral,up to 22 characters
	Default Value	:
TON	Type of number	
	Type of Input	: Single value, optional
	Possible Values	: ABBR abbreviated number

INTERNAT	international number
L1REGIO	level 1 regional number
L2REGIO	level 2 regional number
LOCAL	local number
NATIONAL	national number
SUBSCR	subscriber number
UNKNOWN	unknown

Default Value : UNKNOWN

7.4 Error Messages and Advisories

7.4.1 Error Messages

F01: ATNDNO <xxxxxxx> NOT ASSIGNED

F02: ATNDNO <xxxxxxx> ALREADY ASSIGNED

F03: PEN OCCUPIED OR SIGNED OFF

F06: THE ATTENDANT CONSOLES CANNOT BE ADDED; THE CONTRACTED NUMBER OF FLEX+TDM LICENSES <max> IS REACHED.
PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES.
PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO ADD MORE ATTENDANT CONSOLES.

F08: PEN <gg-u-sss-cc> IS 'SIGNED_OFF'.
RELEASE WITH AMO BCSU OR USE AN OTHER PEN.

F09: MAXIMUM NUMBER OF ATNDS REACHED, ATNDNO <xxxxxxx> NOT ASSIGNED

F10: ATNDNO <xxxxxxx> IS STILL IN AN ATND GROUP; DELINK WITH AMO VFGR

F11: ATNDNO <xxxxxx> CANNOT BE PROCESSED. IT IS STILL REFERENCED IN THE ACD ROUTING TABLE <art-no>.
DELETE THE ATND BY AMO ACDRT FROM ROUTING TABLES BEFORE REPEATING THIS COMMAND.

F15: PEN ERROR; PERMISSIBLE RANGE FOR LTG: 1-<ltg_max>

F16: CHANGING OF THE CALLING NUMBER IS ALLOWED BY A SINGLE VALUE FOR ATNDNO ONLY

F17: ATNDNO <xxxxxxx> ENTERED MORE THAN ONCE

F19: NO ADVANCE PROVISION FOR ATNDNO <xxxxxxx> IN DIAL PLAN

F20: NO ENTRY FOR VIRTUAL NODE ID IS EXISTING.
ADD NO LESS THAN ONE ENTRY WITH AMO KDEF, TYPE=OWN.

F21: INADMISSIBLE VALUE FOR LTU ENTERED IN PEN PARAMETER

F24: LEVEL <x> OF NNO MAY NOT EXCEED <max_val>

F25: PEN ERROR; SLOT FORMALLY INCORRECT

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F26: PEN ERROR; PERMISSIBLE RANGE FOR CIRCUIT NUMBER: <0-cct_max>

F27: NO <bd-type> MODULE ASSIGNED AT THE PEN ENTERED

F29: INSUFFICIENT SUBUNIT RESOURCES FOR ATNDNO <xxxxxx>

F30: INSUFFICIENT DEVICE MEMORY FOR ATNDNO <xxxxxx>

F31: ATNDNO <xxxxxx>: NO MEMORY AVAILABLE FOR DEVICE SEARCH (RULO)
(AMO DIMSU: PARAMETER <param>)

F32: THE SPECIFIED CLASS OF SERVICE DOES NOT HAVE UNRESTRICTED OUTWARD TOLL AND TIE ACCESS

F33: THE CLASS OF SERVICE SPECIFIED IS NOT ASSIGNED

F35: NNO IS NOT DEFINED IN THE VIRTUAL NODE TABLE (AMO KNDEF)

F36: LTG <ltg> NOT ASSIGNED

F37: LTU <ltu> NOT ASSIGNED

F38: NO MODULE HAS BEEN ASSIGNED FOR THE SPECIFIED PEN

F39: ATNDNO <xxxxxx>: INVALID COMBINATION OF NPI=<npi> AND TON=<ton>

F40: INSUFFICIENT USER INDEX FOR ATNDNO <xxxxxx> (AMO DIMSU: PARAMETER STN)

F41: CLASSMRK: 'INIT' AND/OR 'NONE' CAN ONLY BE SET EXCLUSIVELY.

F42: STNOOS ^xxxxxxxxxxxxxxxxxxxxxxxx^ DOES NOT LEAD TO A VALID DAR.

F43: STNOAPE ^xxxxxxxxxxxxxxxxxxxxxxxx^ DOES NOT LEAD TO A VALID DAR.

F44: STNOOS ^xxxxxxxxxxxxxxxxxxxxxxxx^ CAN NOT BE THE SAME AS ATNDNO.

F45: STNOAPE ^xxxxxxxxxxxxxxxxxxxxxxxx^ CAN NOT BE THE SAME AS ATNDNO.

F46: STNOOS COULD NOT BE ADDED BECAUSE THERE IS NO ENOUGH MEMORY INCREASE MEMORY
VIA ADD-DIMSU:ALTROUT=<?>;

F47: STNOAPE COULD NOT BE ADDED BECAUSE THERE IS NO ENOUGH MEMORY INCREASE MEMORY
VIA ADD-DIMSU:ALTROUT=<?>;

F48: THE LCR CLASS OF SERVICE SPECIFIED IS NOT ASSIGNED

F49: THE CGW BOARD CONFIGURATION DATA HAS NOT YET BEEN SET UP
(ADD-CGWB:LTU=@@, SLOT=@@@, SMODE=NORMAL)

F50: THE ATTENDANT CONSOLES CANNOT BE ADDED; THE CONTRACTED NUMBER
THE PACKAGE COMSCENDO SECURITY LICENSE <xxxxxx> IS REACHED.
PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES.

F51: CGW MODULE IS CURRENTLY DEFINED AS A STANDBY BOARD, WHICH CANNOT BE USED FOR
ACWINIP DEVICE CONFIGURATION
(DISP-HFAB:MTYPE=STMIHFA2,LTU=<xx>,SLOT=<xxx>;)

F52: HMUSIC <xxx> IS NOT YET ASSIGNED (ADD-RCSU:RECAPL=HMUSIC,)

F53: <xxxxxxxxxxxx> DPLN <xx> IS NOT ALLOWED FOR NODE <xxxxxxxxxxxx>.

F54: FOR PARAMETER IPPASSW EITHER 'NONE' OR AT LEAST
6 ALPHA-NUMERICAL CHARACTERS MUST BE ENTERED

F55: THE ATTENDANT CONSOLES CANNOT BE ADDED; THE CONTRACTED NUMBER OF
FLEX LICENSES <xxxxxx> IS REACHED.
PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES.
PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO ADD MORE ATTENDANT CONSOLES.

7.4.2 Advisories

- H01: ATNDNO <xxxxxx> IS STILL ASSIGNED AS A HOTLINE OR OFFHOOK INTERCEPT DESTINATION
- H02: ATNDNO <xxxxxx> NEEDS TO BE ASSIGNED TO AN ATND GROUP
- H03: ATNDNO <xxxxxx>: TON AND NPI ARE IGNORED BECAUSE NO VALUE FOR PUBNUM IS EXISTING
- H05: THE CONTRACTED NUMBER OF FLEX LICENSES IS EXCEEDED.FLEX LICENSE IS MARKED AS TRIAL ENTITY.THE FEATURE FLEX LICENSE WILL BE DEACTIVATED,IF TRIAL MODE EXPIRES WITHOUT SUFFICIENT LICENSES.
- H06: FOR THE ATTENDANT CONSOLE <xxxxxx> NO ALTERNATE ROUTING NUMBER FOR OOS IS CONFIGURED,BUT THE ACTIVATION OF FEATURE ALTERNATE ROUTING HAS BEEN ALREDY DONE. PLEASE CONFIGURE SUBSEQUENTLY EITHER WITH AMO APRT A SOURCEGROUP OR WITH AMO ACSU A SUBSCRIBER INDIVIDUAL ALTERNATE ROUTING NUMBER FOR OOS.
- H07: ATNDNO @@@@: IPCODEC,DMCALLWD AND IPPASSW ARE IGNORED BECAUSE ATNDNO IS NOT TYPE OF ACWMQIP OR ACW2QIP.
- H08: ATNDNO @@@@: SECLEVEL IS IGNORED AS TDM AC SECURITY LEVEL CAN NOT BE SET TO STANDARD OR CIPHER.
- H09: SECLEVEL CHANGE WILL BE INITIATED AFTER DEACTIVATION AND RE-ACTIVATION OF THE SUBSCRIBER (RESTART-DSSU: TYPE=PEN OR TYPE=STNO)
- H10: Download of changed NEWNO and/or IPPASSW to the modules will be initiated after deactivation and re-activation of the circuit. (RESTART-DSSU:TYPE=PEN,PEN1=<1>-<1-15,17-99>-@@@-@@@;)
- H11: NNO is ignored if VNR active.
- H12: ATNDNO @@@@: SECLEVEL IS IGNORED AS HFA AC SECURITY LEVEL CAN NOT BE SET TO STANDARD OR TRADITIONAL.
- H13: ATNDNO @@@@: SECLEVEL IS SET TO TRADITIO AS NO OTHER SECLEVEL IS ALLOWED FOR AC4.
- H14: ATNDNO @@@@: SECLEVEL IS IGNORED AS AC4 SECURITY LEVEL CAN ONLY BE SET TO TRADITIO.

7.4.3 List of Abbreviations

<art-no>	number of ACD routing table
<atnd-max>	contracted number of attendant consoles
<bd_type>	{SLMB, SLMO/SLMQ}
<cct_max>	max number of circuits at the module
<gg-uu-sss-cc>	PEN of the ATND: LTG-LTU-SLOT-CCT
<ltg>	LTG
<ltg_max>	max number of LTG in the system
<ltu>	LTU
<ltu_max>	max number of LTU in the system

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<max_val>	max. number of a node identification
<npi>	value of Numbering plan identification
<param>	Parameter of the AMO DIMSU (STN or RULO)
<ton>	value of type of number
<xx>	SPDC list
<xxxxxx>	ATND calling number

7.4.4 Use of the Output Messages for each Action

ADD	: F02, F03, F06, F08, F09, F15, F19, F20, F21, F24, F25, F26, F26, F27, F29, F30, F31, F32, F33, F34, F35, F36, F37, F38, F39, F40, F41, H02, H03,
CHANGE	: F01, F02, F10, F11, F16, F17, F19, F24, F31, F32, F33, F35, F39, F41, H02, H03,
DELETE	: F01, F10, F11, F17, F19, H01,
DISPLAY	:
REGENERATE	:

8 ACTDA - Activation of User Features

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO ACTDA is used to regenerate feature-specific data entered by a user via the terminal. The functions DISPLAY, REGENERATE, ADD and DELETE are implemented. The AMO enables these data to be saved while the software version (APS) is being changed.

Using the DISPLAY function, the user data recorded by ACTDA can be displayed on the administration and maintenance terminal.

A command batch is generated with the REGENERATE function, based on the user data. This command batch is used for reinitializing the database.

The ADD function initializes the database with the user data.

The AMO ACTDA is used mainly for regenerating data. In addition, it can be used for test purposes.

In special cases it can be necessary to deactivate the activated call forwarding of a station. This function has been implemented in the branch DELETE.

TYPE	Feature	Function
STN	DND	Do-not-disturb
	FWD	Fixed / variable call forwarding
	OPTISET	individual optiset E / optipoint 500 settings
	OUTHUNT	switch out of hunt group
	RCUTOFF	Ringer Cutoff
	REMIND	Timed reminder
	REPSECR	Deputy for secretary
	RNGXFER	Ring transfer
	VCR	Voice call rejection
ATNDGR	NOPT	Night variant for ATNDGR
ITR	DNDGR	Group do-not-disturb function
	ISTR	Controlled station-to-station restriction
		Controlled station-to-station restriction for all ISTR groups
MOBHFA	MLOGON	LOGON of mobile HFA-user
	MLOGOFF	LOGOFF of mobile HFA-user

Table 1 User data administrated by ACTDA

ACTDA - Activation of User Features

Restrictions

Some user data is already administrated by other AMOs. These data are not additionally administrated by ACTDA.

AMO	Feature-specific data
CHESE	Secretarial transfer function destinations
ZIEL	Individual speed dialing numbers
	Call numbers for stored number redial
	Name/repertory key data for DIGITEs
	DSS (direct station selection) destinations
	Messenger call destinations
	Name/repertory key data for ATNDs
TAPRO	Store key functions for DIGITEs
BERUM	Data for class-of-service changeovers (individual, group, all)

Table 2 User data administrated by other AMOs

8.1 Restrictions

This description is valid from HiPath 4000 V2.0

8.2 Interrelationships

None

8.3 Functions of the AMO

- [ADD-ACTDA](#) : Create feature-specific user data
- [DELETE-ACTDA](#) : Delete feature-specific user data
- [DISPLAY-ACTDA](#) : Interrogate feature-specific user data
- [REGENERATE-ACTDA](#) : Regenerate feature-specific user data

8.3.1 ADD-ACTDA

Create the feature-specific user data in the database.

Procedure Overview

Command Code	Parameter
ADD-ACTDA	<pre> TYPE=STN, STNO=<number>, FEATCD=FWD, CFVAR=<param>, DTYPE=<param>, [ITYPE=<param>], SI=<param>, [DESTNO=<key-num>]; | FEATCD=DND; | FEATCD=CWT; | FEATCD=VCR; | FEATCD=RNGXFER; | FEATCD=REPSECR; | FEATCD=REMIND, REMIND=<number>; | FEATCD=OPTISET, { (min1) RINGVOL=<number>, RINGSOUN=<number>, ALERTVOL=<number>, CALLVOL=<number>, SPKRVOL=<number>, ROOMCHAR=<param>, DISPCONT=<number>, ROLLVOL=<number>, SLKCONT=<number>}; | FEATCD=RCUTOFF; | FEATCD=VARRING, [RNGTIME=<number>]; | TYPE=ATNDGR; ATNDGR=<number>, { (min1) [NOPT=<number>], [ACT=<param>] }; | TYPE=ITR, [ITR=<number>], FEATCD=<param>; | TYPE=MOBHFA, | ACTION=MLOGON, HOMESTNO=<key-num>, HOMEPIN=<string>, VISSTNO=<number>; | ACTION=MLOGOFF, HOMESTNO=<key-num>, [COND=<param>]; </pre>

Note:

If no entry is made for parameter ACT in the branch ATNDGR, the entered night option will be preselected, but not activated.

Call forwarding is not allowed between subscribers (source and destination) who belongs to the same ONS group.

Examples

1. Enter a variable call-forwarding destination (and activate) and enter a timed reminder for STN 62850.

Input:

ACTDA - Activation of User Features

Functions of the AMO

```
ADD-ACTDA:STN,62850,FWD,STATIONV,CFU,GEN,VCE,63627;  
ADD-ACTDA:STN,62850,REMIND,01130;
```

2. Activate night option 3 for ATND group 2.

Input:

```
ADD-ACTDA:ATNDGR,2,3,ACT;
```

Output:

```
H04 : NIGHT SWITCH FOR ATND GROUP 2 ACTIVATED.
```

3. Set maximum number of rings until call forwarding is executed.

Input:

```
ADD-  
ACTDA:TYPE=STN,STNO=37278,FEATCD=FWD,CFVAR=STATIONV,DTYPE=CFN  
R,ITYPE=GEN,SI=VCE,DESTNO=32149;
```

```
ADD-ACTDA:TYPE=STN,STNO=37278,FEATCD=VARRING,RNGTIME=10;
```

8.3.2 DELETE-ACTDA

Deactivate the features FWD and 'Voice Call Rejection' for a station.

Procedure Overview

Command Code	Parameter
DELETE-ACTDA	TYPE=<param>, STNO=<number>, FEATCD=FWD, [CFVAR=<param>], [DTYPE=<param>], [ITYPE=<param>], [SI=<param>]; | FEATCD=DND | FEATCD=CWT | FEATCD=VCR

Example 1

Deactivate FWD for station 250123 in service FAX.

Input:

```
DELETE-ACTDA:STN,250123,FWD,,,FAX;
```

Note:

If one of the parameters CFVAR, DTYPE, ITYPE or SI is specified, only the corresponding forwarding destination is interrogated. For parameters that have not been specified, every possible value is interrogated. In the example above every FWD that has been found for service FAX is deactivated for the station.

8.3.3 DISPLAY-ACTDA

Interrogate the feature-specific data in the database for a specific station, ITR groups, or ATND groups.

Procedure Overview

Command Code	Parameter
DISPLAY-ACTDA	[TYPE=STN], [STNO=<number>; | [TYPE=ATNDGR], [ATNDGR=<number>; | [TYPE=ITR], [ITR=<number>]

Examples

1. Display the features for the stations 250200 to 250220.

Input:

DISPLAY-ACTDA:STN,250200&&250220;

Output:

```

+-----+
| STATION NUMBER 250200 |
+-----+
| DIVERSION      : |
| DESTINATION NUMBER | CFVAR | DTYPE | ITYPE | SI |
|                  |      |      |      |   |
+-----+-----+-----+-----+-----+
| 250201          | STATIONV | CFBNR | GEN | VCE |
+-----+-----+-----+-----+-----+
| DO NOT | VOICE CALL | RING | REP. | REMIND | RINGER- |
| DISTURB | REJECT | XFER . | SECR. | HH:MM | CUTOFF |
+-----+-----+-----+-----+-----+
|          | x |          |          | 11:00 |          |
+-----+-----+-----+-----+-----+
| INDIVIDUAL SETTINGS FOR OPTISET AND OPTIPOINT500: |
| RINGVOL : 3   RINGSOUN: 5   ALERTVOL: 3   CALLVOL: 3 |
| SPKRVOL : 2   ROOMCHAR: NORMAL   DISPCONT: 2   ROLLVOL: 1 |
| SLKCONT : 2 |
+-----+-----+-----+-----+-----+
| STATION NUMBER 250210 |
+-----+
| DIVERSION      : |
| DESTINATION NUMBER | CFVAR | DTYPE | ITYPE | SI |
|                  |      |      |      |   |
+-----+-----+-----+-----+-----+
| 08972247230          | STATIONV | CFU | EXT | VCE |
| 03038652226          | STATIONV | CFU | GEN | FAX |
+-----+-----+-----+-----+-----+
| DO NOT | VOICE CALL | RING | REP. | REMIND | RINGER- |
| DISTURB | REJECT | XFER . | SECR. | HH:MM | CUTOFF |
+-----+-----+-----+-----+-----+
|          | x |          |          | 11:00 |          |
+-----+-----+-----+-----+-----+

```

ACTDA - Activation of User Features

Functions of the AMO

+-----+-----+-----+-----+-----+-----+-----+						
| INDIVIDUAL SETTINGS FOR OPTISET AND OPTIPOINT500:						
| RINGVOL : 3	RINGSOUN: 5	ALERTVOL: 3	CALLVOL: 3			|
| SPKRVOL : 2	ROOMCHAR: NORMAL	DISPCONT: 2	ROLLVOL: 1			|
| SLKCONT : 2						|
+-----+-----+-----+-----+-----+-----+-----+						
| SWITCHED OUT OF HUNT GROUP IN SERVICE: VCE						
+-----+-----+-----+-----+-----+-----+-----+						
| STATION NUMBER 250211						
+-----+-----+-----+-----+-----+-----+-----+						
| DO NOT	VOICE CALL	RING	REP.	REMIND	RINGER-	|
| DISTURB	REJECT	XFER	SECR.	HH:MM	CUTOFF	|
+-----+-----+-----+-----+-----+-----+-----+						
|	x			11:00		|
+-----+-----+-----+-----+-----+-----+-----+						
| INDIVIDUAL SETTINGS FOR OPTISET AND OPTIPOINT500:						
| RINGVOL : 3	RINGSOUN: 5	ALERTVOL: 3	CALLVOL: 3			|
| SPKRVOL : 2	ROOMCHAR: NORMAL	DISPCONT: 2	ROLLVOL: 1			|
| SLKCONT : 2						|
+-----+-----+-----+-----+-----+-----+-----+						

Note:

Only those parts of the table that contain data are displayed.

2. Display the features for the ITR groups.

Input:

DISPLAY-ACTDA:ITR;

Output:

+-----+-----+-----+			
| ITR	DNDGR	ISTR	|
| 0	X	X	|
| 1	X		|
| 2	X		|
| 3	X	X	|
| 4	X		|
| 5	X		|
| 6	X		|
| 7	X		|
| 8	X	X	|
| 9	X		|
| 10	X		|
| 11	X	X	|
| 12	X		|
| 13	X	X	|
| 14	X		|
| 15	X		|
+-----+-----+-----+			

3. Display the features for the ATND groups

Input:

DISPLAY-ACTDA:ATNDGR;

Output:

+-----+	
| ATNDGR NOPT |	
| 0 1 |	
| 1 1 |	
+-----+	

8.3.4 REGENERATE-ACTDA

Regenerate the changed database entries.

Note

VCR deactivated by DELETE-ACTDA will not be regenerated!

Procedure Overview

Command Code	Parameter
REGENERATE-ACTDA	[TYPE=STN], [STNO=<number>]; | [TYPE=ATNDGR], [ATNDGR=<number>]; | [TYPE=ITR], [ITR=<number>]

Example

Regenerate the feature-specific data in the database.

Input:

REGENERATE-ACTDA;

Output:

ADD-ACTDA:STN,62850,FWD,STATIONV,CFBNR,GEN,VCE,636271154;
 ADD-ACTDA:STN,62850,REMIND,01130;
 ADD-ACTDA:ITR,,DNDGR;

8.4 Parameter Description

ACT	Activation parameter for night option
Type of Input	: single value, optional
Possible Values	: ACT activate night option
ACTION	mobile HFA logging action, branching parameter
Type of Input	: single value, mandatory

ACTDA - Activation of User Features

Parameter Description

	Possible Values	: MLOGON MLOGOFF	LOGON of the mobile HFA visitor LOGOFF of the mobile HFA visitor
ALERTVOL	Optiset / Optipoint 500 alert tone volume		
	Type of Input	: single value, 3. parameter of a min-1-group	
	Possible Values	: numeric, 0 to 7	
ATNDGR	Attendant group number		
	Type of Input	: 1 to 16 single values, concatenated with & or && mandatory (ADD,TYPE=ATNDGR) single value, optional	
	Possible Values	: numeric, 0 to 15	
CALLVOL	Optiset handset volume		
	Type of Input	: single value, 4. parameter of a min-1-group	
	Possible Values	: numeric, 0 to 7	
CFVAR	call forwarding variant		
	Type of Input	: single value, mandatory (ADD,TYPE=STN,FEATCD=FWD) single value, optional (DELETE,FEATCD=FWD)	
	Possible Values	: STATIONF STATIONV SYSTEM CLIENT	station call forwarding fix station call forwarding variable system call forwarding Circuit client data
COND	Condition for LOGOFF		
	Type of Input	: single value, optional	
	Possible Values	: IDLESTN UNCOND	LOGOFF only, when station is idle unconditional LOGOFF
DESTNO	forwarding destination number		
	Type of Input	: single value, optional	
	Possible Values	: 0-9,*,#,A-D,up to 22 characters	
DISPCONT	optipoint display contrast		
	Type of Input	: single value, 7.parameter of a min-1-group	
	Possible Values	: numeric, 0-7	

DTYPE	diversion type	
	Type of Input	: 1 to 5 single values, concatenated with &, optional (DELETE,FEATCD=FWD) single value, optional (ADD,TYPE=STN,FEATCD=FWD)
	Possible Values	: CFB call forwarding busy CFBNR call forwarding busy/no reply CFDEV call forwarding device CFDND call forwarding do not disturb CFNR call forwarding no reply CFU call forwarding unconditional
FEATCD	User feature code; specifies features with user data to be saved	
	Type of Input	: 1 to 2 single values, concatenated with &, mandatory (ADD,TYPE=ITR) single value, mandatory (ADD,TYPE=STN,DELETE)
	Possible Values	: DND act./deact. ft. do not disturb (ADD,TYPE=STN,DELETE) CWT ACTIVATE/DEACTIVATE FT. CALL WAITING/SECOND CALL DNDGR act. ft. do not disturb - group (ADD,TYPE=ITR) FWD act./deact. ft. call forwarding (ADD,TYPE=STN,DELETE) ISTR act. ft. int.self-dial traffic restr. (ADD,TYPE=ITR) OPTISET indiv. settings for optiset and optipoint 500 (ADD,TYPE=STN) OUTHUNT switch out of hunt group (ADD,TYPE=STN) RCUTOFF ringer cutoff (ADD,TYPE=STN) REMIND activate ft. reminder (ADD,TYPE=STN) REPSECR activate ft. representative for secretary (ADD,TYPE=STN) RNGXFER activate ft. ring transfer executive/ secretary (ADD,TYPE=STN)

ACTDA - Activation of User Features

Parameter Description

	VARRING	Variable Ring Time (ADD,TYPE=STN)
	VCR	activate ft. voice call reject (ADD,TYPE=STN)
FWDDISK	NO ANSWER ADVANCE TIMER FROM CLIENT TO DESK FOR OSMO&CIRCUIT The first Routing step is the OSMO/Circuit Client. The Client rings until the FWDDISK _forward to desk timer expires.	
	Type of Input	single value, optional
	Possible Values	numeric, 0-30
FWDCELL	NO ANSWER ADVANCE TIMER FROM DESK TO MOBILE FOR OSMO&CIRCUIT Upon FWDDISK timer expiry the call is forwarded to the deskphone and FWDCELL timer is started if mobile number/alternative number is available otherwise FWDVM is started. The incoming call is still signaled at the Client.	
	Type of Input	single value, optional
	Possible Values	numeric, 0-30
FWDVM	NO ANS ADV TIMER TO VM FOR OSMO & TO CFNR DEST FOR CIRCUIT Upon expiry of FWDCELL forward to mobile the call is forwarded to the mobile number/ alternative device and FWDVM is started. Upon expiry of FWDVM forward to Voice Mail the call is forwarded to the deskphones No Answer Destination (Voicemail for many users)	
	Type of Input	single value, optional
	Possible Values	numeric, 0-30
FWDCFNR	NO ANSWER ADVANCE TIMER FOR OSMO ONLY	
	Type of Input	single value, optional
	Possible Values	numeric, 0-30
HOMEPIN	PIN of the visitor	
	Type of Input	: single value, mandatory
	Possible Values	: alphanumeric except #, max. 12 digits
HOMESTNO	home station number of the visitor	
	Type of Input	: single value, mandatory
	Possible Values	: 0...9,*,#,A...D max. 22 digit
INSECLNK	controls the logon in case of security ON/OFF	
	Type of Input	single value, optional

	Possible Values	Y	YES
		YES	YES
		N	NO
		NO	NO
ITR	Internal restriction group / closed user group		
	Type of Input	: 0 to 16 single values, concatenated with & or &&, optional (ADD,TYPE=ITR) single value, optional (DISPLAY,TYPE=ITR/REGENERATE,TYPE=ITR)	
	Possible Values	: numeric, 0 to 15	
	Note	: If parameter ITR is not specified, the function GRP_DND_ALL or ITR_ALL is carried out	
ITYPE	incoming seizure		
	Type of Input	single value, optional	
	Possible Values	INT	internal calls
		EXT	external calls
		GEN	all calls
NOPT	Night options for attendant		
	Type of Input	: single value, mandatory	
	Possible Values	: numeric, 1 to 8	
REMIND	Time for reminder, with format DHHMM (within 24 hours)		
	Type of Input	0 to 12 single values, concatenated with &, mandatory	
	Possible Values	numeric, 00000-02359, 10000-12359, 20000-22359, 30000-32359, 40000-42359, 50000-52359, 60000-62359	
	Note	: The time entry contains the weekday and time, whereby 0 = Sunday, 1 = Monday, 2 = Tuesday, 3 = Wednesday, 4 = Thursday, 5 = Friday, 6 = Saturday .	
RINGSOUN	Optiset / Optipoint 500 ringer sound		
	Type of Input	: single value, 2. parameter of a min-1-group	
	Possible Values	: numeric, 0 - 15	
		0 -15	Optipoint 500
		0 - 7	Optiset E
	Note	: The values 1 -16 will be displayed on the Optipoint 500 device	
RINGVOL	Optiset / Optipoint 500 ringer volume		

ACTDA - Activation of User Features

Parameter Description

	Type of Input	: single value, 1. parameter of a min-1-group
	Possible Values	: numeric, 0 - 7
RNGTIME	Ring Time	
	Type of Input	: single value, optional
	Possible Values	: numeric, 0 - 60
ROLLVOL	Rollover volume	
	Type of Input	: single value, 8. parameter of a min-1-group
	Possible Values	: numeric, 0 - 7
ROOMCHAR	room characteristic for hands-free talking	
	Type of Input	: single value, 6. parameter of a min-1-group
	Possible Values	: ECHO echoing room NORMAL normal room QUIET quiet room
SI	Service indicator	
	Type of Input	: 1 to 8 single values, concatenated with &, mandatory (ADD,TYPE=STN,FEATCD=FWD) single value, optional (DELETE,FEATCD=FWD)
	Possible Values	: AUDIO3K1 digital audio device 3,1 khz DTE service data terminal equipment for system devices FAX service facsimile for system devices FAXG23 facsimile group 2&3 FAXG4 facsimile group 4 GENSRVC general service SPCH speech TEL3K1 telephony (3,1 khz, anate) TEL7K telephony 7khz TONES unrestricted digital information with tones UDI unrestricted digital information VCE service indicator for system devices VIDEOTEL videotelephony
SIINHT	Service indicator for switch on of hunt group	
	Type of Input	1 to single values, concatenated with &, mandatory

	Possible Values	DTE	service data terminal equipment for system devices
		FAX	service facsimile for system devices
		VCE	service voice for system devices
SIOUTHT	Service indicator for switch out of hunt group		
	Type of Input	: 1 to single values, concatenated with &, mandatory	
	Possible Values	: DTE	service data terminal equipment for system devices
		FAX	service facsimile for system devices
		VCE	service voice for system devices
SLKCONT	Display contrast for self labeling keys		
	Type of Input	: single value, 9.parameter of a min-1-group	
	Possible Values	: numeric, 0-7	
SPKRVOL	Optiset loudspeaker volume		
	Type of Input	: single value, 5. parameter of a min-1-group	
	Possible Values	: numeric, 0 - 7	
STNO	station number		
	Type of Input	: 0 to 30 single values, concatenated with & or &&, optional (DISPLAY/REGENERATE,TYPE=STN)	
		single value, mandatory (ADD,TYPE=STN/ DELETE)	
	Possible Values	: numeric, up to 12 characters	
TYPE	Branch parameter, desired subscriber feature option		
	Type of Input	: single value, mandatory (ADD/DELETE)	
		single value, optional (DISPLAY/REGENERATE)	
	Possible Values	: ATNDGR	attendant group number (ADD/DISPLAY/REGENERATE)
		ITR	internal traffic restriction (ADD/DISPLAY/REGENERATE)
		MOBHFA	LOGON/LOGOFF of mobile HFA user (ADD)
		STN	station (ADD/DISPLAY/REGENERATE)
VISSTNO	station number of the visited station		

ACTDA - Activation of User Features

Error Messages and Advisories

Type of Input : single value, mandatory
Possible Values : numeric,
max. 12 digits

8.5 Error Messages and Advisories

List of Abbreviations

<ft> Feature to be activated according to parameter FEATCD
<si> Service indicator
<stn> Type of station, to which the following number is referring
<x> ... Numerical string (the maximum length is described by the number of "x" in the brackets)
<loc> location of the HFA station (home-/visited station)
<logtype> LOGON/LOGOFF of a HFA user
<var> Call forwarding variant the value entered in parameter CFVAR

8.5.1 Error Messages

F01: <NTYP> <RNR> DOES NOT LEAD TO DAR STNO
F02: <NTYP> <RNR> HAS NOT BEEN ASSIGNED
F03: FOR STATION NO.<RNR> SERVICE <PERMSI>,
NO <DEVTYP> CALL FORWARDING DESTINATION IS ASSIGNED.
F04: STATION NO.<RNR> IS A <DEVTYP>-DEVICE.
FOR PARAMETER SI THE FOLLOWING VALUES ARE ALLOWED:
<PERMSI> (3 to 9 values)
F05: ATND GROUP <VFGR>: NIGHT OPTION <NAVAR> IS NOT ASSIGNED
F06: INTERNAL TRAFFIC RESTRICTION GROUP <xx> IS NOT ASSIGNED TO ANY TERMINAL DEVICE
F07: USER <RNR> IS NOT THE EXECUTIVE IN AN EXEC/SECRETARY SYSTEM
F08: USER <RNR> IS NOT THE SECRETARY IN AN EXEC/SECRETARY SYSTEM
F10: NO REPR. HAS BEEN ASSIGNED TO SECRETARY <RNR> IN THE EXEC/SECR SYSTEM.
F11: ON THE ENTRY OF CFVAR=STATIONV, PARAMETER DESTNO MUST BE ENTERED.
F12: <RNR> IS A SYSTEM DEVICE. ON THE ENTRY OF CFVAR=DEVICEV,
ONLY ONE VALUE IS ALLOWED FOR PARAMETER DTYPE.
F13: THE TIME <ZEIT> SPECIFIED FOR PARAMETER REMIND IS IMPLAUSIBLE
F14: REMINDER <xxxxxx> IS NOT IN ALLOWED TIME INTERVAL.
THE REMINDER HAS TO BE WITHIN THE NEXT 24 HOURS.
F15: REMINDER <ZEIT> CANNOT BE ENTERED IN THE STATIC TIMED REMINDER MEMORY
F16: A TIMED REMINDER HAS ALREADY BEEN ACTIVATED FOR ANATE <RNR>
F17: NUMBER <NTYP> AND <rnr> MAY NOT BE THE SAME

F18: ATTENDANT GROUP <xx> HAS NOT BEEN ASSIGNED

F19: DESTNO <xxxxxxx> LEADS TO AN EMERGENCY ROUTE
AND MUST NOT BE USED AS FORWARDING DESTINATION.

F20: PARAMETER COMBINATION NOT ALLOWED.
PERMISSIBLE COMBINATION:

PARAMETER:	DFVAR	DTYPE	ITYPE
VALUES:	STATIONF	CFU	GEN
	STATIONV	CFU	INT,EXT,GEN
		CFB	GEN
		CFNR	GEN
		CFBNR	GEN
		CFDEV	GEN
	SYSTEM	CFU	INT,EXT
		CFB	INT,EXT
		CFNR	INT,EXT
		CFDND	INT,EXT
	CLIENT	CFU	GEN
		CFNR	GEN

F21: STATION NO <RNR> IS NOT OF TYPE OPTISET OR OPTIPOINT.

F22: THE DIVERSION POOL IS EMPTY. NO FURTHER FORWARDING
DESTINATIONS CAN BE ASSIGEND.
REMEDY: INCREASE PARAMETER AULZIEL IN AMO DIMSU.

F23: STATION <RNR> IS NO DIGITAL DEVICE.

VOICE CALL REJECT, THEREFORE, CAN NOT BE ACTIVATED.

F24: ON CFVAR = STATIONV, THE PARAMETERS DTYPE AND ITYPE MUST BE ENTERED

F25 ENTRY OF THE PARAMETERS DTYPE AND ITYPE IS ONLY POSSIBLE AT CFVAR = STATIONV.

F26: STATION NO <RNR> IS MAPPED TO STATION NO <xxxxxxx> VIA AMO RUFUM
PLEASE USE THIS AMO FOR FURTHER PROCESSING.

F27: ACD DESTINATION NUMBER <zielnr> DOES NOT LEAD TO AN ACD
ROUT GROUP AND MAY NOT BE ENTERED AS A CFW-DESTINATION.

F28: STATION NO <RNR> IS NOT OF TYPE KEYSET.
RINGER CUTOFF CAN NOT BE ACTIVATED.

F29: <DEVTYP>-STATION NUMBER <RNR> IS NOT MEMBER OF A HUNT GROUP.

F30: NIGHT SWITCH FOR ATND GROUP <VFGR> CANNOT BE ACTIVATED:
SOME ATNDS STILL IN DAYTIME MODE. ENSURE THAT ALL ATNDS ARE IN NIGHT MODE AND TRY
AGAIN.

F31: NO ACKNOWLEDGEMENT RECEIVED FROM CALL PROCESSING WITHIN SPECIFIED TIME.

F32: THE ENTERED DESTINATION NUMBER WAS RECOGNIZED AS AN INVALID/INCOMPLETE
LCR NUMBER, AND CANNOT BE PROCESSED FURTHER ON.

F33: DIVERSION TYPE CFDEV CAN NOT BE COMBINED WITH A VOICE SERVICE.

F34: THE VISITED STATION IS NOT IDLE.

F35: <LOGART> WAS REJECTED BY THE <PHONLOC> STATION.

F36: THE FEATURE IS BLOCKED AT THE <PHONLOC> NODE BY AMO FEASU.

F37: THE PIN OF THE HOME STATION OF THE MOBILE HFA USER IS NOT VALID (AMO PERSI).

F38: THE IP ADDRESS OF THE HOME BOARD OF THE HFA USER IS TEMPORARILY NOT AVAILABLE.

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Error Messages and Advisories

- F39: THE LOGON / LOGOFF ACTION COULD NOT BE EXECUTED ON THE HOME NODE (EG. BOARD OR CIRCUIT OR TERMINAL OF HOME PORT OUT OF ORDER).
- F40: THE PIN MUST NOT CONTAIN THE CHARACTER "#".
- F41: THE MESSAGE RECEIVED FROM CALL PROCESSING CAN NOT BE INTERPRETED. (EVENT-CODE OR SUBCODE OR LOGON-/LOGOFF RESULT FAULTY)
- F42: CALL FORWARDING IS NOT ALLOWED BETWEEN MEMBERS OF THE SAME ONS GROUP.
- F44: SINCE <NTYP> <RNR> IS A SIP SUBSCRIBER.
ACTIVATION OF CALL FORWARDING IS NOT ALLOWED
- F45: THE VISITED STATION DOES NOT SUPPORT SPE.
- F46: THE HOME STATION DOES NOT SUPPORT SPE.
- F47: SIGNALLING PATH DOES NOT SUPPORT SPE.
- F48: DESTINATION NO. IS UNASSIGNED
- F49: SOURCE <NTYP> <RNR> DOES NOT HAVE A DEVICE CONFIGURED
WITH THE VALUE ENTERED UNDER PARAMETER SERVICE INDICATOR(SI)
- F50: ZANDE/KEYSYS/LRNGCOFF IS SET TO YES, THEREFORE RINGER CUTOFF CAN BE
ACTIVATED ONLY FROM DEVICE.

8.5.2 Advisories

- H01: NO FEATURES MANAGED BY ACTDA HAVE BEEN ACTIVATED
- H02: NO NUMBER HAS BEEN ASSIGNED IN THE SPECIFIED RANGE
- H03: FEATURE <LM> HAS NOT BEEN ACTIVATED FOR SUBSCRIBER <RNR>.
- H04: NIGHT SWITCH FOR ATND GROUP <VFGR> ACTIVATED.
- H07: THE FEATURES RNGXFER, REPSECR, REMIND AND CWT CANNOT BE
ACTIVATED FOR FUNCTIONAL OR UFA DEVICES.
- H08: ON CFVAR = STATIONF AND CFVAR = SYSTEM, THE PARAMETERS DTYPE AND ITYPE ARE
IGNORED.
- H09: ON THE ENTRY CFVAR=<AULVAR>, PARAMETER DESTNO IS IGNORED.
- H10: <DEVTYPE>-STATION NUMBER <RNR> IS ALREADY SWITCHED OUT OF THE HUNT GROUP.
- H11: <LOGART> WAS TRIGGERED.
10 SECONDS WAITING TIME.
- H12: FOR STATION NO RNR, THE HARDWARE SETTINGS CONCERNING AUDIO ADJUSTMENTS,
DISPLAY CONTRAST, LABELS CONTRAST, AND ROOMCHAR CAN ONLY BE CHANGED LOCALLY
BY PHONE DUE TO OPENSTAGE OPS60/80 PHONE SPECIFICATION.
- H13: STNO RNR IS A KEYSET WITH LINETONE=YES. THE SETTING OF RINGVOL AND RINGSOUN
IS NOT EFFECTIVE. THE LINES OF THE STATION CAN BE CONFIGURED INDIVIDUALLY
WITH AMO KCSU, PARAMETERS RINGVOL AND RINGTYPE.

Tabelle 1

- H14: Values greater than 3 for DISPCONT and/or SLKCONT are only allowed for OpenStage devices. The specified value will be ignored and the maximum possible value 3 for the actual device will be configured.
- H15: TO ACTIVATE THE RINGSOUN SETTING, SET USER->AUDIO->SETTINGS->RINGER TO 'NO RINGER FILE' AT THE OPENSTAGE 60/80 PHONE.
- H16: <DEVTYP>-STATION NO <RNR> IS ALREADY SWITCHED IN TO THE HUNT GROUP.
- H17 ON CFVAR = CLIENT, THE PARAMETER ITYPE IS IGNORED.

Tabelle 1

8.5.3 How the Output Messages are used for each Action

ADD	:	F01,	F02,	F03,	F04,	F05,	F06,	F07,	F08,	F10,	F11,
		F12,	F13,	F14,	F15,	F16,	F17,	F18,	F19,	F20,	F21,
		F22,	F23,	F26,	F27,	F28,	F29,	F30,	F31,	F32,	F33,
		F34,	F35,	F36,	F37,	F38,	F39,	F40,	F41,	F42,	
		H04,	H07,	H09,	H10,	H11,					
DELETE	:	F01,	F02,	F23							
		H03									
DISPLAY	:	H01,	H02								

ACTDA - Activation of User Features

Error Messages and Advisories

9 AFR - Automatic fault report

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO "AFR" can be used to control the three Logical Device Units (LDU) "Automatic Fault Report" (FAMAFR1,2,3). Wherever the term FAMAFR is referred to in this AMO description, the functions and/or procedures described apply in each case similarly to FAMAFR1, FAMAFR2 and FAMAFR3.

In addition, a high-priority fault report can be generated and sent to one FAMAFR each to test the entire transmission path and check out connection setup.

When fault transmission is deactivated, the fault reports in the memory are preserved, but no more fault reports are accepted from FAMAFR. Fault reports generated in the system are transmitted by FAMAFR to the service center or to the respective fault recording unit connected; The following parameters can be set for this purpose:

Parameter list

- LDU (branch parameter - for whose FAMAFR the following applies)
Selection of an FAMAFR for which the initiated actions or the following parameters apply.
The parameter LDU can assume the values 'AFR1', 'AFR2', and 'AFR3'.
- TYPE (selection parameter for activate or deactivate)
This parameter can be used to specify whether fault transmission (TYPE=LDU) is to be activated or deactivated and/or logging of fault reports on the service terminal (TYPE=PROT) is to be on or off.
- PAR (selection parameter for add or change)
This parameter is used to specify whether the following parameters affect the fault transmission (PAR=LDU) or the fault pair list (PAR=TAB).
- DEL (selection parameter for delete)
This parameters is used to specify whether entire fault pair list (DEL=ALL) or only one line of this fault pair list (DEL=LINE) is to be deleted. If only one line is to be deleted, its line number (FINO=1 ... 99) must also be specified.

Parameter list for fault transmission (PAR=LDU)

- PRI (Priority Setting)
Each fault report is given a certain priority.
The parameter PRI defines the starting priority at which fault

reports must be transmitted instantly, and the finishing priority at which fault reports must be stored in Hicom.

The highest priority is one, the lowest eight.

- MAXF = Maximum number of high-priority fault reports which may be accepted during the supervision time.
If the maximum number of fault reports is exceeded, an avalanche fault report will be generated 'F0000 M5 AVALANCHE FAULT HIGH PRIORITY SEE AD AMO-AFR' and sent to the respective service center connected. After the avalanche report has been sent, FAMAFR is deactivated.
- MAXFL = Maximum number of low-priority fault reports which may be accepted during the supervision time.
If maximum number of fault reports exceeded -> avalanche fault report will be generated 'F0000 M5 AVALANCHE FAULT LOW PRIORITY SEE AD AMO-AFR' and sent to the respective service center connected. After the avalanche report has been sent, FAMAFR is deactivated.
- FSUPV (Supervision time for maximum number of fault reports)
A certain maximum number of fault reports is allowed within the specified supervision time so that the service center will not be flooded with fault reports. The supervision time must be specified in minutes (0 ... 99).
- SETUPLT (Connection Setup Limit)
This is the fault memory occupancy level starting at which an attempt is made to set up a connection to the service center connected in order to transfer the low-priority fault reports that have accumulated in the meantime. Limit values from 1% ... 90% may be specified.
- TRSTART (Start of Stored Fault Report Transmission to Network Control Center)
Defines the time of day (0 ... 23 hours, 0 ... 59 minutes) at which the accumulated low-priority fault reports must be transmitted, regardless of the fault memory occupancy level.
- PERIOD
Defines the number of days (0 ... 99) after which the recently accumulated low-priority fault reports must be transmitted.
- RETRLT (Retransmission Limit)
Maximum number of successive attempts (0 ... 9) to transmit the contents of the fault memory if the preceding transmission was bad (within one connection).

- **ACTTIME (ACTIVATIONTIME AFTER SWITCH OFF THROUGH AVALANCHE)**
Defines the period in minutes (0.. 60) of automatical activation after automatical switching off by message avalanche. During attitude of 0 min no automatical activation is required.
- **MNEGCALL (Maximum Negative Call Setup)**
If value of this parameter is 0, AFR-Task works without counting unsuccessful dial-ups.
If it is other than 0, an internal counter in AFR-Task counts the unsuccessful dial-ups to SC (SIRA, Manager). When the count reaches of the value of MNEGCALL the dial-up to the SC is blocked for 12h. Also the following advisory message will be displayed in this case:
F6524 E8 N0103 NO ACT A1 SM-AM MAINTENANCE
06-03-24 11:15:59
ALARM CLASS: CENTRAL: 029

FORMAT: 33
WARNING BY AFR TASK: MAXIMUM OF UNSUCCESSFULLY DIAL UP IS REACHED
SENDING TO SC IS BLOCKED FOR 12 HOURS (AFR2)

Parameter list for the fault pair list (PAR=TAB)

- **FNUM (F-number of a fault action start)**
A fault number (5 characters, alphanumeric) is entered under FNUM.
- **FACTION (Start of fault action)**
More specific details of the cause of the fault are given under FACTION. Together with FNUM, it characterizes the start of a fault.
- **ENUM (F-number of a fault action end)**
The fault number (5 characters, alphanumeric) of the end of fault report is entered under ENUM.
- **EACTION (End of fault action)**
The cause of the fault which has come to an end is entered under GACTION. Together with ENUM, it characterizes the end of a fault.
- **COMP (Number of following lines to be compared)**
This parameter specifies the number of following lines (0 ... 5) containing module information, which are definitive for comparing the start of fault and end of fault report.
- **FSUPV (Supervision time for fault pair alarm)**
A start of fault report is preserved in the fault memory for at least this period before it is transmitted. If the end of fault report is received before start of fault is reported (comparison with F-number, action and following lines), this pair will be deleted.

At the end of the supervision time, the fault report is transmitted according to its priority.
The supervision time must be specified in minutes (0 ... 99).
Single end of fault reports are also transmitted according to priority.

9.1 Interrelationships

If no link has been set up in the CMS database (AMO CPSM) for the FAMAFRx application, the corresponding LDU cannot be activated.

9.2 Functions of the AMO

- **ACTIVATE-AFR** : Activating FAMAFR and logging
- **DEACTIVATE-AFR** : Deactivating FAMAFR and logging
- **ADD-AFR** : Adding the parameters or the fault pair lists of an LDU FAMAFR
- **CHANGE-AFR** : Changing the parameters of an LDU FAMAFR
- **DELETE-AFR** : Deleting pairs of an LDU FAMAFR
- **DISPLAY-AFR** : Displaying the parameters and the fault pair list of an LDU FAMAFR
- **OUTPUT-AFR** : Outputting the status information of an LDU FAMAFR
- **REGENERATE-AFR** : Regenerating the parameters and the fault pair lists of all 3 FAMAFRs
- **START-AFR** : Starting a fault transmission by generating a high-priority pseudo fault report

9.2.1 ACTIVATE-AFR

Activating an LDU FAMAFR and logging

Procedure Overview

Command Code	Parameter
ACTIVATE-AFR	LDU=<param>, TYPE=<param>;

Example

The LDU FAMAFR2 and logging are to be activated

Input:

```
ACTIVATE-AFR:AFR2,LDU&PROT;
```

9.2.2 DEACTIVATE-AFR

Deactivating an LDU FAMAFR and logging

Procedure Overview

Command Code	Parameter
DEACTIVATE-AFR	LDU=<param>, TYPE=<param>;

9.2.3 ADD-AFR

Adding the parameter list of an LDU FAMAFR or the fault pair list of an LDU FAMAFR. The parameter LDU is used to distinguish between FAMAFR1, FAMAFR2 and FAMAFR3. The branch parameter PAR is used to distinguish between the parameter list and the fault pair list.

Procedure Overview

Command Code	Parameter
ADD-AFR	<pre> LDU=<param>, PAR=LDU, PRI=<number>, MAXF=<number> , MAXFL=<number>, FSUPV=<number> , SETUPLT=<number>, TRSTART=<number> , PERIOD=<number>, RETRLT=<number>; [, ACTTIME=<number>, MNEGCALL=<number>]; | PAR=TAB , FNUM=<string>, FACTION=<param> , ENUM=<string>, EACTION=<param> , COMP=<number>, FSUPV=<number>; </pre>

Example of adding an FAMAFR2 fault transmission :

Faults starting at priority level 4 are to be transmitted instantly. A maximum of 20 high-priority faults and 20 low-priority faults are to be accepted within 60 minutes. The contents of the fault memory are to be transmitted when the fault memory is 90% full of fault reports. The contents of the fault memory are transmitted to the fault recording unit connected every 2 days at 12.00 hours. Up to 9 successive attempts shall be made to transmit the faults. Further AFR should automatically be activated after 20 minutes in case of a message avalanche.

Input:

AFR - Automatic fault report

Functions of the AMO

```
ADD-AFR:AFR2,LDU,4,20,20,60,90,12-00,02,9,20;
```

How to insert an entry in the fault pair list of FAMAFR2 :

In the FAMAFR fault pair list, the start of fault report "F5388 OUTSERV" is to be entered with the end of fault report "F5389 INSERV". To allow the two reports to be assigned correctly, the first follow-up line (module information) must be analyzed. The start of fault report should be preserved in the fault memory for at least 10 minutes.

Input:

```
ADD-AFR:AFR2,TAB,F5388,OUTSERV,F5389,INSERV,1,10;
```

9.2.4 CHANGE-AFR

Changing the parameter list of an LDU FAMAFR. At least one of the parameters of the list must be specified.

Procedure Overview

Command Code	Parameter
CHANGE-AFR	LDU=<param>, { PRI=<number>,MAXF=<number> ,MAXFL=<number>,FSUPV=<number> ,SETUPLT=<number>,TRSTART=<number> ,PERIOD=<number>,RETRLT=<number>}; [,ACTTIME=<number>,MNEGCALL=<number>];

Example

In the FAMAFR2, change the priority of faults that are to be transmitted instantly, to 6, and set the maximum number of high-priority faults that are to be accepted within the time specified in parameter FSUPV to 10.

Input:

```
CHANGE-AFR:LDU=AFR2,PRI=6,MAXF=10;
```

9.2.5 DELETE-AFR

Deleting an entry or the entire the fault pair list of an FAMAFR

Procedure Overview

Command Code	Parameter
DELETE-AFR	LDU=<param>,DEL=LINE,FINO=<number>; |DEL=ALL;

Example

Deleting the second entry in the FAMAFR1 fault pair list

Input:

```
DELETE-AFR:AFR1,LINE,2;
```

9.2.6 DISPLAY-AFR

Displaying the FAMAFR parameter lists. Unless the branch parameter PAR is specified, both the parameter list and the fault pair list of the specified LDU FAMAFR will be displayed. Unless the parameter LDU is specified, the parameter lists and/or the fault pair lists of all 3 FAMAFRs will be displayed.

Procedure Overview

Command Code	Parameter
DISPLAY-AFR	[LDU=<param>], [PAR=<param>];

Example

Displaying the parameter list and the fault pair list of FAMAFR2

Input:

```
DISPLAY-AFR:AFR2;
```

Output:

```
FAMAFR2
```

```
AUTOMATIC FAULT REPORT = ON
PRINTOUT AT EXCHANGE   = OFF
```

```
PARAMETER LIST
```

```
=====
                                PARM      VALUE
                                ----      ----
PRIORITY SETTING (HIGH/EQU=TRANSMIT, LOW=STORE) PRI      =   6
MAX. NUMBER OF HIGH PRIORITY FAULTS DURING FSUPV MAXF      =  10
MAX. NUMBER OF LOW PRIORITY FAULTS DURING FSUPV  MAXFL     =  20
SUPERVISION TIME FOR MAXF AND MAXFL              FSUPV     =  60    [MM]
FAULT MEMORY OCCUPANCY LEVEL FOR TRANSMIT        SETUPLT    =  90    [%]
START OF FAULT TRANSMISSION TO NCC                TRSTART    = 12-00 [HH-MM]
PERIOD BETWEEN REPORTS IN DAYS                    PERIOD     =   02    [TT]
MAXIMUM RETRANSMISSION LIMIT                     RETRLT     =    9
ACTIVATION TIME AFTER SWITCH OFF THROUGH AVALANCHE ACTTIME =   00 [MM]
```

```
TABLE OF FAULT PAIRS
```

```
=====
+=====+=====+=====+=====+
|      | START OF FAULT | END OF FAULT |      |
+=====+=====+=====+=====+
| FINO | FNUM  | FACTION | ENUM  | EACTION | COMP | FSUPV |
```

9.2.7 OUTPUT-AFR

Outputting the status information of an LDU FAMAFR in a list. If no parameter is specified, the status information of all 3 FAMAFRs will be output.

Procedure Overview

Example

Outputting the LDU FAMAFR2 status information

Input:

```
OUTPUT-AFR:AFR2;
```

Output:

```
LDU FAMAFR2:          STATUS INFORMATION
=====
CONNECTION ESTABLISHED      : YES
LAST CONNECTION SETUP GOOD  : YES
CONNECTION FAULT REPORTED   : NO
FAULT AVALANCHE OCCURRED    : NO
DISK ACCESS POSSIBLE        : YES
FAULTS STORED                : 20
FAULT MEMORY OCCUPANCY LEVEL : 12 [%]
CONNECTING PATHS PROVIDED   : FAMAFR2
```

9.2.8 REGENERATE-AFR

Displaying the parameter list and the fault pair list in the form of commands for regeneration of all 3 FAMAFRs.

Procedure Overview

Example

Input:

REGENERATE-*AFR*;

Output:

```

ACTIVATE-AFR: AFR1, LDU&PROT ;
ACTIVATE-AFR: AFR2, LDU&PROT ;
ACTIVATE-AFR: AFR3, LDU ;
ADD-AFR      : AFR1, LDU , 4 , 20 , 20 , 60 , 90 , 12-00 , 2 , 5 , 20 ;
DELETE-AFR   : AFR1, ALL ;
ADD-AFR      : AFR1, TAB,"F5388",OUTSERV,"F5389",INSERV,1,10;
ADD-AFR      : AFR2, LDU , 6 , 10 , 20 , 60 , 90 , 12-00 , 2 , 9 , 0 ;
DELETE-AFR   : AFR2, ALL ;
ADD-AFR      : AFR2, TAB,"F5388",OUTSERV,"F5389",INSERV,1,10;
ADD-AFR      : AFR3, LDU , 4 , 20 , 20 , 60 , 90 , 12-00 , 2 , 5 , 60 ;
DELETE-AFR   : AFR3, ALL ;
ADD-AFR      : AFR3, TAB,"F5388",OUTSERV,"F5389",INSERV,1,10;

```

9.2.9 START-AFR

Starting an LDU FAMAFR by generating a high-priority pseudo fault report

Procedure Overview

Command Code	Parameter
START-AFR	LDU=<param>;

Example of starting the LDU FAMAFR3

Input:

```
START-AFR:AFR3;
```

9.3 Parameter Description

ACTTIME	ACTIVATIONTIME AFTER SWITCH OFF THROUGH AVALANCHE Type of Input : Single value, optional (ADD) (CHANGE) Possible Values : 0 - 60 (minutes)
COMP	Number of following lines to be compared Type of Input : Single value mandatory (ADD) Possible Values : 0 to 5 (lines)
DEL	Selection parameter for delete Type of Input : Single value

AFR - Automatic fault report

Parameter Description

		mandatory	(DELETE)
	Possible Values	: ALL, LINE	
EACTION	End of fault action		
	UNDEF means no analysis of fault action		
	Type of Input	: Single value	
		mandatory	(ADD)
	Possible Values	: NOACT, ADVISORY, BDOOS, LBCOOS, LCXREST, CHANOOS, OUTSERV, INSERV, RESET, SCHASWU, SCHALTG, SOFTREST, ACTION04, HARDREST, RELOAD, UNDEF	
ENUM	F-number of a fault action end		
	Type of Input	: Single value	
		mandatory	(ADD)
	Possible Values	: Alphanumeric, 5 characters	
FACTION	Start of fault action		
	UNDEF means no analysis of fault action		
	Type of Input	: Single value	
		mandatory	(ADD)
	Possible Values	: NOACT, ADVISORY, BDOOS, LBCOOS, LCXREST, CHANOOS, OUTSERV, INSERV, RESET, SCHASWU, SCHALTG, SOFTREST, ACTION04, HARDREST, RELOAD, UNDEF	
FINO	Entry number index in fault pair list		
	Type of Input	: Single value	
		mandatory	(DELETE)
	Possible Values	: 1 to 99	
FNUM	F-number of a fault action start		
	Type of Input	: Single value	
		mandatory	(ADD)

	Possible Values	: Alphanumeric, 5 characters
FSUPV	Supervision time for fault pair alarm or maximum number of faults	
	Type of Input	: Single value
		mandatory (ADD)
		Group parameter (CHANGE)
	Possible Values	: 0 to 99 (minutes)
LDU	Parameter for LDU FAMAFR addressed	
	Type of Input	: Single value
		mandatory (ACTIVATE, DEACTIVATE, ADD, CHANGE, DELETE, START)
		optional (DISPLAY, OUTPUT)
	Possible Values	: AFR1, AFR2, AFR3
MAXF	Maximum number of high-priority fault reports during FSUPV	
	Type of Input	: Single value
		mandatory (ADD)
		Group parameter (CHANGE)
	Possible Values	: 1 to 999
MAXFL	Maximum number of low-priority fault reports during FSUPV	
	Type of Input	: Single value
		mandatory (ADD)
		Group parameter (CHANGE)
	Possible Values	: 1 to 999
MNEGCALL	Maximum negative call setup	
	Type of Input	: Single value, optional
		optional (ADD)
		Group parameter (CHANGE)
	Possible Values	: Numeric, 0-255
PAR	Selection parameter for LDU and fault pair table	

AFR - Automatic fault report

Parameter Description

	Type of Input	: Single value mandatory (ADD) optional (DISPLAY)
	Possible Values	: LDU, TAB
PERIOD	Number of days after which low-priority faults are transmitted	
	Type of Input	: Single value mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 0 to 99 (days)
PRI	Priority setting (higher/equal=transmit, lower=store)	
	Type of Input	: Single value mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 1 to 8
RETRLT	Maximum retransmission limit of a data block	
	Type of Input	: Single value mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 0 to 9
SETUPLT	Fault memory occupancy level for transmission	
	Type of Input	: Single value mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 1 to 90 (per cent)
TRSTART	Fixed time of day for transmission of low-priority fault reports	
	Type of Input	: Single value mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 0 to 23 (hours)

0 to 59 (minutes)

TYPE Selection parameter for activate/deactivate
Type of Input : Single value, chained single values
 mandatory (ACTIVATE, DEACTIVATE)
Possible Values : LDU, PROT

9.4 Error Messages and Advisories

9.4.1 Error Messages

F00: AFR END DEACTIVATE-MESSAGE <ETAG>--<EMONAT>
F01: ACTIVATE NOT POSSIBLE. CONNECTING PATH NOT SET UP.
F02: PARAMETER TRSTART NOT IN VALUE RANGE: 23-59 [HH-MM]
F03: FAULT PAIR LIST FULL. FAULT PAIR NOT ENTERED
F04: ENTRY NUMBER (FINO) @@ UNKNOWN
F05: SPECIFIED FAULT PAIR ALREADY EXISTS, ENTRY INDEX (FINO) : <ZLNR>
F06: A FAULT PAIR WITH THE SPECIFIED FAULT START PARAMETERS ALREADY EXISTS
 PLEASE ADD THE FAULT PAIR WITH SUPERVISION TIME FSUPV = @@

9.4.2 Advisories

H01: LDU FAMAFR DEACTIVATED, FAULT REPORT NOT TRANSMITTED
H02: NO VALID ENTRIES IN FAMAFR FAULT PAIR LIST
H03: NO VALID ENTRIES IN FAMAFR FAULT PAIR LIST
H04: FAMAFR WAS ALREADY ACTIVATED
H05: FAMAFR WAS ALREADY DEACTIVATED
H06: PROTOCOLLING WAS ALREADY ACTIVATED
H07: PROTOCOLLING WAS ALREADY DEACTIVATED
H08: FAULT PAIR TABLE REORGANIZED
H09: AFR WAS ALREADY ACTIVATED
H10: AFR WAS ALREADY DEACTIVATED
H11: PROT WAS ALREADY ACTIVATED

AFR - Automatic fault report

Error Messages and Advisories

H12: PROT WAS ALREADY DEACTIVATED

H13: SPECIFIED FAULT PAIR ALREADY EXISTS, ENTRY INDEX (FINO) : @@

10 AGENT - ACD Agents

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

AMO AGENT provides the ability to add, change, display, delete, and regenerate agent attributes for Automatic Call Distribution (ACD).

10.1 Interrelationships

- AMO ACDGP : Configures ACD groups which can be assigned to agents by AMO AGENT.
- AMO ACDRT : Configures ACD Routing Tables which may assign steps which will route to an ACD agent (RTAGT) or to the extension number of an ACD agent (RTEXT). If an agent ID is referenced in an ART, that AGTID cannot be removed.
- AMO ACDSO : This AMO determines the length of the agent ID for the system.
- AMO CODEW : Codeword for administration block in SWU (number of agent IDs).
- AMO DIMSU : Determines the number of agent IDs which can be set up in the system.
- AMO SBCSU : Configures STNOs which can be assigned as AUTOEXT by AMO AGENT if the STNOs contain the AGENT and AUTOLOG attributes and assigns the STNO to a device which can be logged onto by an ACD agent.
- AMO SDAT : Set the ACD attributes to STNOs which are used by AMO AGENT (AUTOLOG, AGENT)
- AMO ZAND : Sets the ACD feature on or off. ACD agents cannot be added or changed if the ACD features is turned off.

10.2 Functions of the AMO

- [ADD-AGENT](#) : Add agent and his attributes to a specific group
- [CHANGE-AGENT](#) : Change agent attributes

AGENT - ACD Agents

Functions of the AMO

- **DELETE-AGENT** : Delete individual agent and his attributes from ACD group or autoextension only, for an agent
- **DISPLAY-AGENT** : Display agent attributes
- **REGENERATE-AGENT** : Regenerate agents

10.2.1 ADD-AGENT

A new agent and related attributes can be created with the action ADD. The ADD-AGENT command can be used to add an agent to a specific ACD group by entering the group number (ACDGRP). The agent can be positioned within the ACD Group as specified by parameter (AGTPOS), or can be assigned to the next available slot in the group's table by default. AGTPOS may not be a number greater than the next AVAILABLE position. If so, the agent still will be assigned to the next available position and an advisory message will be presented.

AGTID is the only way an agent can be recognized by the system, therefore, AGTID must be unique and is a required parameter. The AGTID length is in range of 1 to 6 digits, and is set by the AMO ACDSO

An agent can be a phonemail agent or a normal one. This is specified by parameter AGTTYPE (agent type). If it's a normal agent, the following attributes must/may be set:

Parameter AUTOWK is used to automatically place an agent in the work mode. This precludes an ACD agent from receiving incoming ACD calls for a programmed period of time following an ACD call, based on the individual agent's logon identification number. The time can be specified as either a discrete amount of time up to 5 minutes or as an indefinite time period. The 'autowork' option puts the agent into the work mode immediately following the completion of an ACD call. If the AUTOWK timer has been set to a discrete amount of time, the work mode is terminated and the available mode is activated by the system upon expiration of the agent's individual AUTOWK timer. The agent may also manually deactivate the work mode by depressing the available or unavailable key before the timer has expired. If the AUTOWK timer has been set to indefinite time, the agent must manually deactivate the work mode by depressing the available or unavailable key in order to receive incoming ACD calls. In either case, someone with CAF (ACD Control Agent Facility attribute) authorization can take the agent out of work mode and assign the agent to available or unavailable mode by entering an appropriate access code.

The range for AUTOWK is 0 to 9 seconds in intervals of 1, or 10 to 300 seconds in intervals of 5 (i.e. 10, 15, 20 ...). A special value of 299 may be used to indicate indefinite time. The AUTOWK parameter is an optional parameter with the default value of 0 to indicate AUTOWK is not invoked.

Parameter AUTOEXT is used to allow the system to automatically logon the agent following a system reload, hard restart, soft restart, or after

a status change which places the line in-service. This action causes the device associated with the agent's extension number to be placed in the Available mode. For lines equipped with an LED, the LED will be turned on. The AUTOEXT can be an extension of 1 to 6 digits, must be set up as a STNO by either AMOs SCSU, SBCSU or SSCSU, and must be set up with AUTOLOG attribute by AMO SDAT.

When an AUTOEXT is assigned to an agent through the ADD or CHANGE command, AMO AGENT requests CP to logon the agent upon completion of the configuration action. CP may not be able to logon the agent due to insufficient memory in DIMSU for the autologon parameter. When the memory allocation is increased, the AUTOLOG extension must be deactivated and activated to force the logon. If the logon fails because the line is not idle, then the extension must be deactivated and activated through AMO DSSU to ensure that the agent will be logged on upon completion of the call in progress.

Agents can be 'flexible' within the system and may be assigned to a specific group as needed by the supervisor. Flexible status is realized if an agent is added without a group number. Flexible agents are put into the 'blocked' mode, and stay in the 'blocked' mode until all the group associated data for the agent is added. AUTOWK is the only optional parameter that can be set for 'flexible' agents.

For a phonemail (PM) agent there are two attributes: PEN (port equipment number: ltg-ltu-slot-cct) and ISDN B channel (BCHAN). Both parameters must be set. A PM agent must be a member of a PM group (see AMO-ACDGP).

Notes:

- The AGENT ID's (AGTID) must be stored sorted in numeric ascending order. The time required to resort the AGENT ID table is reduced if the AGENT ID's are ADDED in ascending order and DELETED in descending order. Since CP is blocked during any writes to the AGENT ID table, it is recommended that all changes to the AGENT ID table be done during times of minimum call traffic.
- An auto logon extension number (AUTOEXT) can only be logged on with its configured agent ID (AGTID).

Procedure Overview

Command Code	Parameter
ADD-AGENT	AGTID=<number>, [ACDGRP=<number>], [AGTPOS=<number>] | AGTTYPE=NORMAL | , [AUTOWK=<number>], [AUTOEXT=<number>]; | AGTTYPE=PM, PEN=<number>, BCHAN=<number>;

AGENT - ACD Agents

Functions of the AMO

Examples:

1. Add an agent with agent identification number "1236" to the auto call distribution group number "4" at the next available position.

Input:

```
ADD-AGENT:AGTID=1236,ACDGRP=4, AGTTYPE=NORMAL;
```

Output:

```
H01: AGENT AGTID=1236 HAS BEEN ADDED.
```

2. Add an agent with agent identification number "3224" to the auto call distribution group number "4" positioned at the 12th slot in the group "4".

Input

```
ADD-AGENT:AGTID=3224,ACDGRP=4,AGTPOS=12,AGTTYPE=NORMAL;
```

Output:

```
H01: AGENT AGTID=3224 HAS BEEN ADDED.
```

3. Add an agent with agent identification number "3556" to the auto call distribution group number "4" positioned at the 15th slot in the group with AUTOWK value of 120 seconds, and automatic logon extension number of 7554.

Input:

```
ADD-AGENT:  
AGTID=3556,ACDGRP=4,AGTPOS=15,AGTTYPE=NORMAL,AUTOWK=120,AUTOEXT=  
7554;
```

Output:

```
H01: AGENT AGTID=3556 HAS BEEN ADDED.
```

4. Add an agent with agent identification number "9823" to the ACD system to be in "reserve" (flexible) not related to any group, with AUTOWK value of 130 seconds.

Input:

```
ADD-AGENT:AGTID=9823,AGTTYPE=NORMAL,AUTOWK=130;
```

Output:

```
H06: AGENT AGTID=9823 HAS BEEN ADDED TO THE FLEXIBLE ACD GROUP.
```

5. Add a PM agent with agent identification number "1000" to the PM auto call distribution group number "5". The associated port equipment number is 1-2-103-0, the ISDN B channel is channel 1.

Input:

ADD-AGENT: AGTID=1000,ACDGRP=5,AGTTYPE=PM,PEN=1-2-103-0,
BCHAN=1;

Output:

H01: AGENT AGTID=1000 HAS BEEN ADDED.

10.2.2 CHANGE-AGENT

An agent's attributes can be modified with the action CHANGE. Parameter AGTID is required to identify the agent and is mandatory. If changing the AGTID parameter, both the AGTID and NEWID must be presented within the CHANGE-AGENT command, where AGTID is the current agent's id and NEWID is the agent's new id. Parameter AGTPOS is optional for changing the agent position in the ACD group table. Parameters AUTOWK and AUTOEXT are for changing the autowork time and auto logon extension number and are optional. AUTOEXT must be a unique extension.

Parameter NEWID is used for changing an agent's identification number and has the same requirements as parameter AGTID. NEWID is an optional parameter for CHANGE-AGENT and must be present when changing the AGTID.

An AGTID cannot be changed to a NEWID if the AGTID is referenced in an ACD ART by AMO ACDRT.

A flexible agent (i.e. an agent without a group) can be assigned to a group using the CHANGE-AGENT action; and vice versa, an agent associated with a group can be removed from the group by changing the ACDGRP to zero. Changing the ACDGRP to zero causes that agent be placed in the blocked mode with no position or auto logon extension. An error message is generated when changing the ACDGRP to zero and specifying a AGTPOS or AUTOEXT.

If there is a change in ACDGRP, AUTOEXT, or AGTID for an agent, that agent will be logged off until the change has been completed.

If ACDGRP is changed, it must be kept in mind, that a PM agent must be a member of a PM group, a NORMAL agent can be either a member of a NORMAL group or a floating agent. The new ACDGRP value must represent the TYPE of the given agent.

An agent can not be changed to an ACD group if by doing so it causes an illegal step in an ACD routing table (ART). An ART cannot have a route to agent in group X following a route to group X. For more details regarding this restriction, see AMO ACDRT.

Note:

It is strongly advised that when a change is made for an agent position (AGTPOS parameter), that this change be done either during off hours or the period of lightest traffic. This is because if an agent whose position is queued is changed, the queue no longer reflects the correct position of its members and it may take some time to unqueue all agents whose group positions have been changed as a result of the "cha-agent" command (those agents whose positions follow the changed agent position). If no agent positions are queued when an agent's position is changed by AMO AGENT (most likely during off hours or periods of lightest traffic), then the queue, when formed as a result of heavier traffic, will always reflect the actual position of the agent.

Procedure Overview

Command Code	Parameter
CHANGE-AGENT	AGTID=<number>, { (min1) ACDGRP=<number>, AGTPOS=<number> , AUTOWK=<number>, AUTOEXT=<number> , NEWID=<number>};

Examples:

1. Change the agent with AGTID=3556 to group 6.

Input:

```
CHANGE-AGENT:AGTID=3556,ACDGRP=6;
```

Output:

```
H02: AGENT AGTID=3556 HAS BEEN CHANGED.
```

2. Change the agent with AGTID=3556 to group 6 at the position 2.

Input:

```
CHANGE-AGENT:AGTID=3556,ACDGRP6=6,AGTPOS=2;
```

Output:

```
H02: AGENT 3556 IS CHANGED.
```

3. Change the agent's id from AGTID=3556 to new id
NEWID=2376,AUTOWK=60, and AUTOEXT=5634.

Input:

```
CHANGE-AGENT:AGTID=3556,NEWID=2376,AUTOWK=60,AUTOEXT=5634;
```

Output:

```
H02: AGENT AGTID=3556 HAS BEEN CHANGED.
```

4. Remove the agent with AGTID=3556 from group "4" and place him in "flexible" agents list.

Input:

CHANGE-AGENT:AGTID=3556,ACDGRP=0;

Output:

H07: AGENT AGTID=@@@@@@ HAS BEEN MOVED TO THE FLEXIBLE GROUP.

10.2.3 DELETE-AGENT

An agent with all related attributes may be deleted from an ACD group by the DELETE action. When deleting an agent, parameter AGTID is required. An agent cannot be deleted if it is being referenced in an ART set up by AMO ACDRT. An agent with the silent monitoring attribute can be deleted with no specific restriction.

The user deletes all agent attributes by specifying TYPE = ALL or omitting the TYPE parameter when deleting an agent.

Agents will be logged off before a delete.

Deletion of an agent (i.e. not the last agent) will compact the order of the agents; therefore, the agent position (AGTPOS) will change for some of the agents.

The user can optionally delete only the autoextension for an agent by indicating TYPE = AUTOEXT in a delete command. For this type of delete, no other agent attributes other than the autoextension is affected. The autoextension device itself is not deleted, only the reference to the autoextension in the database for the agent is deleted.

If an autoextension to be deleted has not been assigned to the agent, then error message F10 will be output. Autoextension can't be deleted from a PM agent.

Procedure Overview

Command Code	Parameter
DELETE-AGENT	AGTID=<number>, [TYPE=<param>];

Examples:

1. Delete the agent with identification number AGTID=1234.

Input:

DELETE-AGENT:AGTID=1234;

Output:

H03: AGENT AGTID=1234 HAS BEEN DELETED.

- 2. Delete the autoextension for agent whose identification number is 1234 (assumes that this agent has an autoextension)

Input:

DELETE-AGENT:AGTID=1234,TYPE=AUTOEXT;

Output:

H19: THE 'AUTOMATIC LOGON' FEATURE HAS BEEN
WITHDRAWN FROM AGENT AGTID=1234.

10.2.4 DISPLAY-AGENT

The display action displays information about a specific agent, range of agents, or all agents associated with a specific group, all groups, or range of groups; or the ACD system as a whole. This information consists of the parameters which were configured by the ADD-AGENT action, i.e., agent's logon identification number (AGTID), group number (ACDGRP), agent position in the group (AGTPOS), agent type, auto work time (AUTOWK), agent extension if auto logon is set (AUTOEXT) or PEN and ISDB B channel.

Flexible agents can be displayed by displaying the group zero (i.e. ACDGRP=0).

If ACDGRP is not entered, all agents will be displayed sorted by their AGTID's. If ACDGRP is entered, all agents belonging to that group will be displayed by their positions.

The display can be filtered to the agent type.

Procedure Overview

Command Code	Parameter
DISPLAY-AGENT	[AGTID=<number>], [ACDGRP=<number>], [AGTTYPE=<param>];

Examples:

- 1. Display all the agents in the ACD system.

Input:

DISPLAY-AGENT;;

Output:

+-----+ | ACD AGENT'S DATA INFORMATION | +-----+				
+-----+	+-----+	+-----+	+-----+	+-----+
| AGTID |	| ACDGRP |	| AGTPOS |	| AUTOWK |	| AUTOEXT |
+-----+	+-----+	+-----+	+-----+	+-----+

| 008897 |	| 1 |	| 1 |	| 120 |	| 7768 |
| TYPE: NORMAL	|	| PEN:	|	| BC:
| 009876 |	| 2 |	| 1 |	| 90 |	| 7555 |
| TYPE: NORMAL	|	| PEN:	|	| BC:
| 200000 |	| 1 |	| 4 |	| 0 |	|
| TYPE: NORMAL	|	| PEN:	|	| BC:
| 500001 |	| 5 |	| 1 |	|	|
| TYPE: PM	|	| PEN: 1-2-103-0	|	| BC: 1 |

2. Display agents with AGTID=200000 and AGTID=500001

Input:

DISPLAY-AGENT:AGTID=200000&500001;

ACD AGENT'S DATA INFORMATION				
AGTID	ACDGRP	AGTPOS	AUTOWK	AUTOEXT
200000	1	4	0	
TYPE: NORMAL		PEN:		BC:
500001	5	1		
TYPE: PM		PEN: 1-2-103-0		BC: 1

3. Display all agents in the range 009876and 500001

Input:

DISPLAY-AGENT:AGTID=008897&&200000;

Output:

ACD AGENT'S DATA INFORMATION				
009876	2	1	90	7555
TYPE: NORMAL		PEN:		BC:
200000	1	4	0	
TYPE: NORMAL		PEN:		BC:
500001	5	1		
TYPE: PM		PEN: 1-2-103-0		BC: 1

4. Display all agents in the ACD group number "1".

Input:

DISPLAY-AGENT:ACDGRP=1;

ACD AGENT'S DATA INFORMATION				
AGTID	ACDGRP	AGTPOS	AUTOWK	AUTOEXT
008897	1	1	120	7768
TYPE: NORMAL		PEN:		BC:
200000	1	4	0	
TYPE: NORMAL		PEN:		BC:

5. Display flexible agents.

Input:

DISPLAY-AGENT:ACDGRP=0;

Output:

ACD AGENT'S DATA INFORMATION				
AGTID	ACDGRP	AGTPOS	AUTOWK	AUTOEXT
187000	0		300	
TYPE: NORMAL		PEN:		BC:

6. Display PM agents.

Input:

DISPLAY-AGENT:AGTTYPE=PM;

Output:

ACD AGENT'S DATA INFORMATION				
AGTID	ACDGRP	AGTPOS	AUTOWK	AUTOEXT
500001	5	1		
TYPE: PM		PEN: 1-2-103-0		BC: 1

10.2.5 REGENERATE-AGENT

The Regenerate action enables the regeneration of the ADD-AGENT commands. The output format is set up so that it can be used directly as an input command for the function ADD. REGENERATE-AGENT is used for regeneration of all agents in ACD, or by ACDGRP's (single, chained, or range).

Procedure Overview

Command Code	Parameter
REGENERATE-AGENT	[AGTID=<number>], [ACDGRP=<number>];

Examples:

1. Regenerate all the agents in the ACD system.

Input:

```
REGENERATE-AGENT;
```

Output:

```
ADD-AGENT:187000,0,,NORMAL,300,;
ADD-AGENT:008897,1,1,NORMAL,120,7768;
ADD-AGENT:200001,1,2,NORMAL,60,;
ADD-AGENT:500001,5,1,PM,1-2-103-0,1;
```

2. Regenerate all the ACDGRP=1 and ACDGRP=2.

Input:

```
REGENERATE-AGENT:ACDGRP=1&2;
```

Output:

```
ADD-AGENT: 008897,1,1,NORMAL,120,7768;
ADD-AGENT: 200001,1,2,NORMAL,60,;
ADD-AGENT: 200002,1,3,NORMAL,120,;
ADD-AGENT: 200000,1,4,NORMAL,0,;
ADD-AGENT: 009876,2,1,NORMAL,90,7555;
```

3. Regenerate all the agents in the ACDGRP=0 through ACDGRP=3.

Input:

```
REGENERATE-AGENT:ACDGRP=0&&3;
```

Output:

```
ADD-AGENT: 187000,0,,NORMAL,300,;
ADD-AGENT: 008897,1,1,NORMAL,120,7768;
ADD-AGENT: 200001,1,2,NORMAL,60,;
ADD-AGENT: 200002,1,3,NORMAL,120,;
ADD-AGENT: 200000,1,4,NORMAL,0,;
ADD-AGENT: 009876,2,1,NORMAL,90,7555;
ADD-AGENT: 187654,3,1,NORMAL,300,;
```

4. Regenerate agents 187000 and 500001

Input:

REGENERATE-AGENT:AGTID=187000&500001;

Output:

ADD-AGENT: 187000,0,,NORMAL,300;
ADD-AGENT: 500001,5,1,PM,1-2-103-0,1;

10.3 Parameter Description

ACDGRP	ACD Group Number
Type of Input	: 0 to 20 single values, concatenated with & or &&, optional (DISPLAY) 0 to 64 single values, concatenated with & or &&, optional (REGENERATE) single value, 1. parameter of a min-1-group (CHANGE) single value, optional (ADD)
Possible Values	: numeric, 0-255
Default Value	. none
AGTID	Agent's Identification Number
Type of Input	: 0 to 20 single values, concatenated with & or &&, optional (DISPLAY) single value, mandatory (ADD / CHANGE / DELETE)
Possible Values	: numeric, up to 6 characters
Default Value	: none
AGTPOS	Agent's Position in a Group
Type of Input	: single value, parameter of a min-1-group (CHANGE) single value, optional (ADD)
Possible Values	: numeric, 1-1000
Default Value	: next available position, if ACDGRP = 0, AGTPOS default to 0
AGTTYPE	Type of Agent
Type of Input	: single value, mandatory
Possible Values	: NORMAL normal acd agent

		: PM	PM acd agent
AUTOEXT	Auto Logon Extension Number		
	Type of Input	: single value, parameter of a min-1-group (CHANGE)	
		single value, optional (ADD)	
	Possible Values	: numeric, up to 6 characters	
	Default Value	: none	
AUTOWK	Auto Work Time		
	Type of Input	: single value, parameter of a min-1-group (CHANGE)	
		single value, optional (ADD)	
	Possible Values	: numeric, 0-300, 299 may be used to indicate indefinite time	
	Default Value	: 0	
BCHAN	B-channel of a trunk		
	Type of Input	: single value, mandatory	
	Possible Values	: numeric, 1-30	
NEWID	Agent's New Identification Number		
	Type of Input	: single value, parameter of a min-1-group	
	Possible Values	: numeric, up to 6 characters	
	Default Value	: none	
PEN	port equipment number: Itg-Itu-slot-cct		
	Type of Input	: 4 single values, concatenated with -, mandatory	
	Possible Values	: numeric, 0-127	
TYPE	Type Of Deletion		
	Type of Input	: single value, optional	
	Possible Values	: ALL	delete all agent attributes
		: AUTOEXT	delete only the agent 'autoex' attribute
	Default Value	: ALL	

10.4 Error Messages and Advisories

Note:

AMO AGENT communicates with the Call Processing subsystem when performing various commands. Some of the error and advisory messages reflect a negative response from call processing during requests from the AMO to log off, log in, or block an agent's device. For some types of commands, AMO AGENT sends a message to Call Processing (request to block an agent's device) prior to changing the static database. If the request fails (negative response from Call Processing), the static database is not changed. Error messages F24 and F26 reflect this. For some types of commands, AMO AGENT sends a message to Call Processing (request to logoff or logon an agent's device) after changing the static database. The AMO changed the static database, but the agent's device was not logged off or in. Advisory messages H13-H18 reflect this.

10.4.1 Error Messages

- F01: THE INPUT FOR PARAMETER 'AGTID'
MUST BE EXACTLY @ DIGITS LONG.
(DISP-ACDSD:TYPE=SYS; PARAMETER 'AGTIDLEN').
- F02: AGENT IDENTIFICATION NUMBER
AGTID=@@@@@ IS ALREADY IN USE.
- F03: NO ACD GROUP WITH ACDGRP=@@@ CONFIGURED.
(DISP-ACDGP:ACDGRP;)
- F04: NO MORE AGENTS CAN BE ASSIGNED TO ACD GROUP ACDGRP=@@@.
THE MAXIMUM NUMBER OF AGENTS HAS ALREADY BEEN ATTAINED.
- F05: INSTEAD OF AUTOWK=@@@ ENTER ANY VALUE BETWEEN 1 TO 9, OR A MULTIPLE OF 5
BETWEEN 10 TO 300 FOR THE LENGTH OF THE SYSTEM CONTROLLED WORK PERIOD.
- F06: THE SUBSCRIBER CAN NOT BE CONFIGURED AS AN AGENT HAVING
'AUTOMATIC LOGON' FEATURE (AUTOEXT=@@@@@) BECAUSE THE
STATION NUMBER HAS BEEN CONFIGURED AS A FLOATING STATION.
(SEE AMO SCSU, INS=FLOAT)
- F08: STATION NUMBER AUTOEXT=@@@@@ MUST FIRST BE
CLASSMARKED FOR THE AUTOMATIC LOGON FEATURE.
SET REQUESTED CLASSMARK WITH THE FOLLOWING COMMAND:
CHANGE-SDAT:STNO=@@@@@,TYPE=ATTRIBUT,AATTR=AUTOLOG;
- F09: FOR A FLEXIBLE AGENT THE OPTIONAL PARAMETERS
'AGTPOS' AND 'AUTOEXT' MAY NOT BE SPECIFIED.
- F10: NO EXTENSION (AUTOEXT) FOR THE 'AUTOMATIC LOGON' FEATURE
HAS YET BEEN ASSIGNED TO AGENT AGTID=@@@@@
- F11: NO AGENT CONFIGURED WITH AGTID=@@@@@.
- F12: THE NUMBER @@@@@ ENTERED FOR 'NEWID'
(NEW AGENT IDENTIFICATION NUMBER) IS ALREADY IN USE.
- F13: THE STATION NUMBER @@@@@ ENTERED FOR 'AUTOEXT'
IS ALREADY ASSIGNED TO AN OTHER AGENT.
- F15: SETTING AUTOWORK FOR PM AGENTS IS NOT POSSIBLE

- F16: ACD FEATURE IS BLOCKED.
ACTIVATE IT WITH THE FOLLOWING COMMAND:
CHANGE-ZAND:TYPE=ACD,ACDALLOW=YES;
- F18: AGENT AGENT=@@@@@@ IS STILL
REFERENCED BY ACD ROUTING TABLES.
ENTER COMMAND 'DISP-ACDRT;' AND SEARCH FOR ENTRIES
HAVING THE WORD 'AGTID' IN THE OUTPUT COLUMN
MARKED BY HEADER 'PARAMETER'. (ACTION=RTAGT)
- F19: MEMORY RESERVED FOR AGENTS IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDAGT=<?>;
- F20: THE NUMBER @@@@@@ ENTERED FOR 'AUTOEXT'
IS NOT YET CONFIGURED AS A STATION NUMBER.
(SEE AMO SBCSU,STNO)
- F22: STATION NUMBER AUTOEXT=@@@@@@ MUST FIRST BE
CLASSMARKED AS AN AGENT. SET REQUESTED
CLASSMARK WITH THE FOLLOWING COMMAND:"
CHANGE-SDAT:STNO=@@@@@@,TYPE=ATTRIBUT,AATTR=AGENT;
- F24: AGENT AGTID=@@@@@@ HAS NOT BEEN DELETED BECAUSE
THE APPROPRIATE DEVICE COULD NOT BE DEACTIVATED.
(NEGATIVE ACKNOWLEDGEMENT FROM CALL PROCESSING)
- F26: AGENT AGTID=@@@@@@ HAS NOT BEEN CHANGED BECAUSE
THE APPROPRIATE DEVICE COULD NOT BE DEACTIVATED.
(NEGATIVE ACKNOWLEDGEMENT FROM CALL PROCESSING)
- F28: AGENT AGTID=@@@@@@ MAY NOT BE MOVED TO GROUP
ACDGRP=^acdgrp^ BECAUSE BOTH PARAMETERS ARE
REFERENCED IN THE SAME ACD ROUTING TABLE (ART).
(THIS RESTRICTION CAN BE RELIEVED A LITTLE,
SEE AMO ACDRT, TYPE=ARTSTEP, ACT=RTAGT/RTGRP/COND)
- F29: AN AGENT ENDOWED WITH THE 'AUTOMATIC LOGON'
FEATURE (WHOSE 'AUTOEXT' HAS BEEN CONFIGURED)
MAY NOT BE MOVED TO THE FLEXIBLE ACD GROUP.
- F30: MEMORY RESERVED FOR AUTOMATIC LOGON AGENTS IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDLOGON=<?>;
- F31: A PM AGENT MUST JOIN A PM GROUP
- F32: A NORMAL AGENT MUST NOT JOIN A PM GROUP
- F33: DEL AUTOEXT IS ONLY ALLOWED FOR A NORMAL AGENT
- F34: INSUFFICIENT MEMORY SPACE (SEE AMO DIMSU, ACDAGT AND ACDPRIM)
- F35: TRUNK GROUP OF ACDPMGRP DOES NOT EQUAL TO INPUT ACDGRP
- F36: INPUT B-CHANNEL NOT AVAILABLE
- F37: B-CHANNEL @@ IS NOT OUT-OF-SERVICE.
PLEASE USE LONG TERM DEACTIVATION WITH THE FOLLOWING COMMAND:
DEACTIVATE-DSSU:OFFTYPE=L,TYPE=BCHAN,PEN1=<pen>,BCHL=<number>;
- F38: AUDIBLE SOURCE ID PERSANN=@@@ HAS YET TO BE CREATED (ADD-
RCSU:OPMODE=CONT,OPTYPE=RANDOM, RECAPL=ACDR,RECNUM=@@@;).
- F39: THE APPLICATION TYPE ASSIGNED FOR RECORDER 'AUDSRCID' BY AMO RCSU MUST BE
RECAPL=ACDR.
- F40: RECORDER 'AUDSRCID' MUST BE CONFIGURED WITH CONTINUOUS OPERATIONS MODE AND
RANDOM START (CHANGE-RCSU,OPMODE=CONT,OPTYPE=RANDOM,RECNUM=;).
- F41: RECORDER 'AUDSRCID' MUST BE CONFIGURED WITH CONTINUOUS OPERATIONS MODE AND
RANDOM START (CHANGE-RCSU,OPMODE=CONT,OPTYPE=RANDOM,RECNUM=;).
- F42: PARAMETER PERSANN IS NOT VALID FOR PHONEMAIL AGENTS.
- F43: THE SPECIFIED PEN IS NOT MEMBER OF A PM TRUNK GROUP (AMO BUEND,TDCSU).

AGENT - ACD Agents

Error Messages and Advisories

10.4.2 Advisories

H01: AGENT AGTID=@@@@@@ HAS BEEN ADDED.
H02: AGENT AGTID=@@@@@@ HAS BEEN CHANGED.
H03: AGENT AGTID=@@@@@@ HAS BEEN DELETED.
H04: AGENT POSITIONS WITHIN A GROUP MUST BUILD AN UNINTERRUPTED SEQUENCE. THE NEW POSITION AGTPOS=@@@@ HAS THEREFORE BEEN ASSIGNED TO THE AGENT SPECIFIED IN THE COMMAND.
H05: THIS COMMAND CAUSED A CHANGE IN THE AGENT POSITIONS WITHIN ACD GROUP ACDGRP=@@@.
H06: AGENT AGTID=@@@@@@ HAS BEEN ADDED TO THE FLEXIBLE ACD GROUP.
H07: THE AGENT AGTID=@@@@@@ HAS BEEN MOVED TO FLEXIBLE GROUP.
H08: THERE ARE NO AGENTS HAVING 'AGTID' WITHIN THE REQUIRED RANGE.
H09: THERE ARE NO AGENTS HAVING 'ACDGRP' WITHIN THE REQUIRED RANGE.
H10: THERE ARE NO AGENTS ASSIGNED YET TO ACD GROUP ACDGRP=@@@.
H11: NO AGENT WITH AGTID=@@@@@@ CONFIGURED
H12: THERE IS NO ACD GROUP WITH ACDGRP=@@@ CONFIGURED.
(SEE AMO ACDGP,ACDGRP)
H13: LOGON OF AGENT AGTID=@@@@@@ NOT POSSIBLE.
(NEGATIVE ACKNOWLEDGEMENT FROM CALL PROCESSING)
H14: COULD NOT LOG ON AGENT AGTID=@@@@@@ BECAUSE THE APPROPRIATE DEVICE (AUTOEXT) IS NOT IDLE OR IS UNAVAILABLE. IN ORDER TO LOG ON DEACTIVATE AND ACTIVATE THE DEVICE THE FOLLOWING COMMANDS:
DEACT-DSSU:OFFTYPE=DC,TYPE=STNO,STNO=<AUTOEXT>;
ACT-DSSU:ONTYPE=ANL,TYPE=STNO,STNO=<AUTOEXT>;
OR USE FUNCTION RESTART-DSSU.
H15: LOGON OF AGENT AGTID=@@@@@@ NOT POSSIBLE BECAUSE THE DEVICE (AUTOEXT) IS NOT IN SERVICE. ACTIVATE DEVICE WITH THE FOLLOWING COMMAND:
ACT-DSSU:ONTYPE=ANL,TYPE=STNO,STNO=<AUTOEXT>;
H16: AGENT AGTID=@@@@@@ COULD NOT BE RELOGGED BY CALL PROCESSING DUE TO THE LACK OF LOGON POSITIONS. ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:ACDLOGON=<?>;
H17: LOGOFF OF AGENT AGTID=@@@@@@ NOT POSSIBLE.
(NEGATIVE ACKNOWLEDGEMENT FROM CALL PROCESSING)
H18: NEGATIVE RESPONSE FROM CALL PROCESSING.
H19: THE 'AUTOMATIC LOGON' FEATURE HAS BEEN WITHDRAWN FROM AGENT AGTID=@@@@@@.
H20: THERE ARE NO AGENTS CONFIGURED.

10.4.3 Use of Output Messages for each Function

- ADD:
F01, F02, F03, F04, F05, F06, F08, F09, F13, F16, F19,
F20, F22, F30, F31
H01, H04, H05, H06, H13, H14, H15, H16, H17, H18

- CHANGE:
F01, F02, F03, F04, F05, F06, F08, F09, F11, F12, F13,
F15, F16, F20, F22,
F26, F28, F29, F30, F32, F34, F35
H02, H04, H05, H07, H13, H14, H15, H16, H17, H18
- DELETE:
F01, F10, F11, F18, F24, F33, F36
H03, H15, H19
- DISPLAY:
F01
H08, H09, H10, H11, H12, H20
- REGENERATE:
NONE

AGENT - ACD Agents

Error Messages and Advisories

11 ANSU - Enter System Number into SWU Data Base

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO ANSU has the task of entering the system numbers in the SWU database and displaying or regenerating the entered system numbers and APS code numbers from the database.

11.1 Restrictions

This description is valid from SP300-V3.1

11.2 Interrelationships

none

11.3 Functions of the AMO

- [ADD-ANSU](#) : Enter the system number in the database
- [DISPLAY-ANSU](#) : Interrogate and output the system number and the APS code numbers
- [REGENERATE-ANSU](#) : Regenerate the system number

11.3.1 ADD-ANSU

The system number is only entered in those database subsystems which can contain customer-specific data. Since the SWU database consists of several subsystems, the system number can also be selectively entered in certain DB subsystems only. Existing entries are overwritten. If individual values are entered for parameter SUSY, i.e. a system number is not to be entered in all DB subsystems, the system numbers of DB subsystems not to be processed are compared with the newly entered system number. If deviations are detected, Advisory H01 is output. An empty database is initialized with

ANSU - Enter System Number into SWU Data Base

Functions of the AMO

"EMPTY_DB_ZDBxxxxx". In addition, by entering parameter SP the system program number entered in the DIR file for the specified APS on the hard disk can be changed.

Note

The system program number in the APS (SP) is defined during SP production, and subsequent alteration (by means of ADD) is not permitted.

Procedure Overview

Command Code	Parameter
ADD-ANSU	TYPE=SYSNO, SYSNO=<string>, [SUSY=<string>]; | TYPE=SP, APS=<string>, SP=<string>;

Note

If the parameter SUSY is not specified, the system number is entered in all SWU subsystems.

Examples

The system number is entered in the SWU database subsystem DB_SUSY_ZDBCCDD1.

Input:

ADD-ANSU:SYSNO,"L31617S0001X", "ZDBCCDD1";

In APS S6-E50, the system program number is replaced by the number P30252X5521A10101.

Input:

ADD-ANSU:SP,"S6-E50SC", "P30252X5521A10101";

11.3.2 DISPLAY-ANSU

This function provides an overview, in the form of a table, of system program numbers contained in the 3rd set of the APS-DIR files of the SWU, and of the system numbers entered in the DB subsystems.

Procedure Overview

Command Code	Parameter
DISPLAY-ANSU	;

Example

Input:

DISPLAY-ANSU;

Output:

APS TYPE	NAME	SP REFERENCE NO.
SWU RES-CODE	S3-E50SC	P30252X55211A1011
SWU RES-TEXT	S3-E51ST	P30252X55212A1011
SWU AMO-CODE	B3-E50BC	P30252X55213A1011
SWU AMO-TEXT	B3-E51BT	P30252X55214A1011

SYSTEM NUMBER	DB SUBSYSTEM NAME
L31617S0001X	DB_SUSY_ZDBCCDD1
L31617S0001X	DB_SUSY_ZDBCCDD2
L31617S0001X	DB_SUSY_ZDBCCDD3

11.3.3 REGENERATE-ANSU

With this function, the ADD command or, if there are different system numbers, the ADD commands, are regenerated.

Note

The branch TYPE = SP cannot be regenerated.

Procedure Overview

Command Code
REGENERATE-ANSU

Parameter
;

Example

Input:

REGENERATE-ANSU;

Output:

ADD-ANSU:SYSNO,"L31617S0001X	", "DD1	";
ADD-ANSU:SYSNO,"L31617S0001X	", "DD2	";
ADD-ANSU:SYSNO,"L31617S0002X	", "DD3	";

11.4 Parameter Description

APS	APS NAME (for which the SP number is to be changed)

ANSU - Enter System Number into SWU Data Base

Parameter Description

	Type of Input	: Single value, mandatory
	Possible Values	: Valid name of an APS. The 6-digit APS name must be supplemented with the last 2 characters of the DIR file name (BS2000). DIR file name: DIRxy x = APS code y = function code S SWU C Code APS D ADS T Text APS A AMO-ADS F Text server (FIRST) B AMO-SWU A Text server (ALTERNATIVE) V VMS Y Symbols T TCS
	Example	: APS name for SWU-AMO-CODE: B6-S50BC
SP	SYSTEM PROGRAM NUMBER IN THE APS	
	Type of Input	: Single value, optional
	Possible Values	: 17-digit code number
SUSY	DATABASE SUBSYSTEM NAME FOR THE SWU	
	Type of Input	: Single value, optional
	Possible Values	: 8-digit name of DB subsystem
SYSNO	SYSTEM NUMBER	
	to be entered (System number, correct number of positions, without hyphens)	
	Type of Input	: Single value, mandatory
	Possible Values	: 17-digit system number
TYPE	ANSU OPTIONS	
	(branching parameter)	
	Type of Input	: Single value, mandatory
	Possible Values	: SYSNO = SYSTEM NUMBER SP = SYSTEM PROGRAM NUMBER IN THE APS

11.5 Error Messages and Advisories

11.5.1 Error Messages

F01: NO ENTRY FOUND FOR SWU ON READING <:PDS:APSI/PS>
F02: SUBSYSTEM @@@@@@@@ NOT PRESENT IN THE SWU
F03: APS WITH SPECIFIED NAME NOT ON VOLUME
F04: SPECIFIED SYSTEM PROGRAM NUMBER NOT PLAUSIBLE

11.5.2 Advisories

H01: SYSTEM NUMBERS DO NOT MATCH
H02: NO CONFIGURATION FOR SPECIFIED SYSTEM NUMBER
H03: DIRECTORY FILE FOR APS @@@@@@@@ : SP NUMBER @@@@@@@@
overwritten
H04: SUBSYSTEM @@@@@@@@ : SYSTEM NUMBER @@@@@@@@ OVERWRITTEN

ANSU - Enter System Number into SWU Data Base

Error Messages and Advisories

12 ANUM - Enter System Number into Data Base

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO ANUM has the task of entering the system number in the database of the HW module ADS and of displaying or regenerating the entered system number and APS code numbers from the database.

12.1 Restrictions

This description is valid from Hicom 300 E V3.0

12.2 Interrelationships

none

12.3 Functions of the AMO

- [ADD-ANUM](#) : Entry of the system number into the database
- [DISPLAY-ANUM](#) : Interrogation and output of the system number and the APS code numbers
- [REGENERATE-ANUM](#) : Regeneration of the system number

12.3.1 ADD-ANUM

The system number is entered only in those database subsystems that can contain customer-specific data. Already existing entries are overwritten. If single values are entered for the parameter SUSY, i.e., a system number is not to be entered in all DB subsystems; thus the system numbers of the DB subsystems not to be processed are compared with the newly entered number and the advisory H01 is issued in case of discrepancies. An empty database is initialized with "EMPTY DB ZDBxxxxx". In addition, the SP code number entered in the DIR file on hard disk for the corresponding APS can be changed by specifying the parameter SP.

ANUM - Enter System Number into Data Base

Functions of the AMO

Note

The system number (SYSNO) is defined during the SP production; a subsequent change (via ADD) is not permitted.

Procedure Overview

Command Code	Parameter
ADD-ANUM	TYPE=SYSNO, [UNIT=<param>], SYSNO=<string>; | TYPE=SP, APS=<string>, SP=<string>;

Examples

The system number is to be entered into the database of the ADS.

Input:

ADD-ANUM:SYSNO,A1,"L31617S0001X";

The SP number P30252B1111A00101 is to be entered in the DIR file of the APS A6-E50AC.

Input:

ADD-ANUM:SP,"A0-EJ0AC","P30252B4100A50401";

12.3.2 DISPLAY-ANUM

This action provides an overview in table format of the system numbers entered in the DB subsystems and of the APS code numbers contained in the 3rd record of the APS DIR file. A check is made to determine whether all entered system numbers are the same.

Procedure Overview

Command Code	Parameter
DISPLAY-ANUM	[UNIT=<param>], [LIST=<param>;

Example

Interrogating the system numbers in the Voice Mail Server

Input:

DISPLAY-ANUM:A1;

Output:

ANUM - Output for SWU

APS-TYPE | NAME | SP-CODE NUMBER

```

-----+-----+-----
ADS AMO-TEXT | A0-TJ0AF | P30252B4100B50401
ADS RES-CODE | A0-EJ0AC | P30252B4100A00178

```

```

-----+-----
SYSTEM NUMBER | HW MODULE
-----+-----
L31617S0001X | ZDAVMM01
-----+-----

```

12.3.3 REGENERATE-ANUM

This action regenerates the ADD command.

Note

Branch TYPE=SP cannot be regenerated.

Procedure Overview

Command Code
REGENERATE-ANUM

Parameter
[UNIT=<param>;

Example

Regenerate the system numbers from the database of the SWU.

Input:

REGENERATE-ANUM:A1;

Output:

ADD-ANUM:SYSNO,A1,"L31617S0001X";

12.4 Parameter Description

SYSNO	System number to be entered (System number, correct number of positions, without hyphens)
Type of Input	: Single value, mandatory
Possible Values	: 17-digit system number
APS	Name of the APS for which the SP number is to be changed
Type of Input	: Single value, mandatory

ANUM - Enter System Number into Data Base

Parameter Description

	Possible Values	: Valid name of an APS. The 6-digit APS name must be supplemented with the last 2 characters of the DIR file name (BS2000). DIR file name: DIRxy x = APS code y = action code S SWU C Code APS D ADS T Text APS A AMO-ADS F Text server (FIRST) B AMO-SWU A Text server (ALTERNATIVE) Y Symbols
	Example	: APS name for ADS-RES-CODE: A1-EJ0AC
BRAND	BRAND VERSION STRING FOR THE APS Type of Input: single value, optional Possible Values: text, 51 characters	
SP	APS number Type of Input : Single value, optional Possible Values : 17-digit code number	
TYPE	Branch parameter Type of Input : Single value, mandatory Possible Values : SYSNO,SP	
UNIT	FUNCTIONAL SYSTEM UNIT CODE OF SERVER Type of Input : Single value, optional Possible Values : A1 ADMINISTRATION AND DATA SERVER Default Value : A1	

12.5 Error Messages and Advisories

12.5.1 Error Messages

F01: NO ENTRY FOR HW MODULE @@ FOUND DURING READING OF <:PDS:APSI/PS> .
F02: THERE IS NO APS WITH THIS NAME ON THE HARD DISK
F03: THE SPECIFIED SYSTEM PROGRAM NUMBER IS NOT PLAUSIBLE
F04: THE SPECIFIED BRAND VERSION STRING IS NOT PLAUSIBLE. CORRECT FORMAT :
Vxxx[.yyy] Raaa.bbbbb.ccccc [free text]""
F05: THE SYSTEM PROGRAM NUMBER IS ALREADY ENTERED AND CAN NOT BE CHANGED

12.5.2 Advisories

H01: SYSTEM NUMBER @@@@@@@@@@@@@@@@@@ WAS OVERWRITTEN IN THE DB ADDRESSED
H02: NO CONFIGURATION FOR SYSTEM NUMBER.
H03: IN THE DIR FILE FOR APS <APS> SP NUMBER <SP> WAS OVERWRITTEN

ANUM - Enter System Number into Data Base

Error Messages and Advisories

13 APC - Application Configuration

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO "Application Configuration" (APC) serves to manage the applications of the integrated HICOM server. Each application consists of one or more subsystems, a subsystem may occur in several applications, and an application may be active in one or more servers, but the subsystem itself exists only once in the program library (PGLIB).

An application update for a certain server only ever takes effect at the next RELOAD of the server concerned.

The PGLIB-loading tables will be overwritten while UPDAT. An UPDAT- if any- should be done before any changes of applications with APC. Otherwise, while an UPDAT, the changed loading tables with AMO APC will be overwritten with the unchanged loading tables from memory.

13.1 Restrictions

This description is valid from SP300 - E V3.0 WP2

13.2 Interrelationships

- AMO DBC : Database Configuration
- AMO APS : Application program system transfer to hard disk
- AMO UCSSM : Unit configuration of service modules
- AMO UPDAT : Update Control
- AMO USSM : Unit switch of service modules
- AMO SWS : Software supply

13.3 Functions of the AMO

- [ACTIVATE-APC](#) : Activating applications in one or more servers with the possibility of naming a loading place

APC - Application Configuration

Functions of the AMO

- DEACTIVATE-APC : Deactivating applications in one or more servers
- DISPLAY-APC : Displaying the applications, the servers and individual subsystems
- REGENERATE-APC : Regenerating all applications in all servers
- EXEC-APC : Automatical generating of Loading Tables

13.3.1 ACTIVATE-APC

The specified application for the specified loading place in the specified server is transferred to the PGL loading tables.

The AMO ensures that a subsystem is entered only once in a loading table; that is, only subsystems not yet entered for the server are applied to the specified loading place.

It is not possible to activate applications in servers IHS and ISU at the same time.

If the loading place is not named, BP (local MEM) will be taken instead of it.

The information saying which directory contains the subsystem that is to be entered is obtained by the AMO straight from the PGLIB by reading the RMX directory files.

The AMO does not ensure whether the specified subsystem configuration really has enough space in the server's existing memories.

The PGLIB loading tables are overwritten at every change.

The following points are valid only for IHS applications.

If the subsystem name ZDAIHS00 is identified, it will be converted, prior to entry in the loading table, to the subsystem name of the database of the specified server.

If the subsystem name ZMDAMCJ0 is identified, it will be converted (in the case of server ADS) to the subsystem name ZMDAMCJA.

When "SERVER=ADS" is specified, "ZDAIHS00" ==> "ZDAADS00" and "ZMDAMCJ0" ==> "ZMDAMCJA".

Procedure Overview

Command Code	Parameters
ACTIVATE-APC	APPL=<string>, SERVER=<param>, [MEMORY=<param>];

Example

Activating the application "TFS-AS" in server ADS with loading place CM as the only change

Input:

```
ACTIVATE-APC:"TFS-AS",ADS,CM;
```

13.3.2 DEACTIVATE-APC

The specified application is removed from the loading tables of the specified server.

It is not possible to deactivate applications in servers IHS and ISU at the same time.

The AMO ensures that only those subsystems are removed that are not needed for any other application in this server.

The PGLIB loading tables are overwritten at every change.

Procedure Overview

Command Code	Parameters
DEACTIVATE-APC	APPL=<string>, SERVER=<param>;

Example

Deactivating the application "TFS-AS" in server ADS as the only change

Input:

```
DEACTIVATE-APC:"TFS-AS",ADS;
```

13.3.3 DISPLAY-APC

The display shows the applications with their subsystems and the servers with their activated applications, or a subsystem and its loading places.

It is possible to display applications in servers IHS and ISU at the same time.

The display can be confined to a server, an application or an application in a server. If only a subsystem is specified, only the subsystem and its loading places will be displayed.

With the parameter MODE can be defined which applications will be examined:

- only installed applications (default value)
- possible (defined in applicaton tables but not activated)
- both (installed and possible)

Procedure Overview

Command Code	Parameters
DISPLAY-APC	[APPL=<string>], [SERVER=<string>], [SUSY=<string>], [MODE=<string>];

Examples

1. Displaying the application TFS-AS in server ADS

Input:

DISPLAY-APC:"TFS-AS",ADS;

Output:

```
DISPLAY-APC:"TFS-AS",ADS;

RELATING-TABLE FOR IHS
=====

CLASSIFICATION:  APPLICATION - SUBSYSTEMS

+=====+=====+=====+
I  APPL  I  SUSY                                     I
+=====+=====+=====+
| TFS-AS  | ZBBINW00 ZBBMECO0 ZBBTRFA0 ZBBRTTX0 ZBOXMAN0 |
+-----+-----+-----+

CLASSIFICATION:  APPLICATION - SERVER - LOAD-LOCATION

+=====+=====+=====+
I  APPL  I  SERVER  I  LOAD-L      I
+=====+=====+=====+
| TFS-AS  |    ADS    |    BP    |
+-----+-----+-----+
```

2. Displaying the subsystem ZBOXMAN0 (parameter MODE=B)

Input:

DISPLAY-APC:,,ZBOXMAN0,B;

Output:

```
DISPLAY-APC:,,ZBOXMAN0,B;

RELATING-TABLE FOR IHS
=====
```

CLASSIFICATION: SUBSYSTEM - SERVER - LOAD-LOCATION

```

=====+=====+=====+
I  SUSY  I  SERVER  I  LOAD.PLACE  I
=====+=====+=====+
| ZBOXMAN0 |    ADS    |    BP    |
-----+-----+-----+

```

CLASSIFICATION: SUBSYSTEM - APPLICATIONS

```

=====+=====+=====+
I  SUSY  I  APPL                                     I
=====+=====+=====+
| ZMASWS00 | BS-ADP   BS-ADPMP BS-ADS   BS-ADSMP
-----+-----+-----+

```

3. Displaying the all activated applications (parameter MODE=A is default, similar as DISPLAY-APC;)

Input:

DISP-APC:,,,A;

Output

DISP-APC:,,,A;

RELATING-TABLE FOR IHS

CLASSIFICATION: APPLICATION - SUBSYSTEMS

```

=====+=====+=====+
I  APPL  I  SUSY                                     I
=====+=====+=====+
| BS-ADS | ZAACMS00 ZAFTRAN0 ZCGOUTP0 ZDAADSGA ZDAADS00 ZDACFGC0 |
|        | ZDACFG00 ZDAIHSC0 ZDBOTTRA ZDBSYS0A ZDBSYS00 ZDSSM@C0 |
|        | ZDSSM@D0 ZDSSM@E0 ZGGDEB10 ZMASWS00 ZMDAMCGA ZMDAMCJA |
|        | ZMDHIST0 ZMDMMIJA ZMDSIG00 ZMEUPDJA ZMFLBTJ0 ZMHSTBMA |
|        | ZMIPTCHA ZMNCDBR0 ZMQSYNCO ZMSONUS0 ZMSSVCJ0 ZMSUPP1A |
|        | ZODBACKUP ZODBIOS0 ZODDAFM0 ZODDSCR0 ZODFAM00 ZODMLM00 |
|        | ZODPBO00 ZODPCL00 ZODPGL00 ZODUSFM0 ZONNCAN0 ZONNUCL0 |
|        | ZONPRIDA ZOTXENL0 ZPPCOA00 ZPPDEP00 ZPPDIAG0 ZPPJTAE0 |
|        | ZQPCOM00
-----+-----+-----+
| MTFM   | ZODMTFM0
-----+-----+-----+
| MTH    | ZONMTH00
-----+-----+-----+

```

CLASSIFICATION: APPLICATION - SERVER - LOAD-LOCATION

```

=====+=====+=====+
I  APPL  I  SERVER  I  LOAD-L.  I
=====+=====+=====+
| BS-ADS |    ADS    |    BP    |
-----+-----+-----+
| MTFM   |    ADS    |    BP    |
-----+-----+-----+
| MTH    |    ADS    |    BP    |
-----+-----+-----+

```

APC - Application Configuration

Functions of the AMO

RELATING-TABLE FOR ISU

=====

CLASSIFICATION: APPLICATION - SUBSYSTEMS

I		APPL		I		SUSY		I	
|		80CM24A		|		ZCACALP0 ZCGCDBM0 ZCGCOLLM ZDBCCINT ZDBCCMCH ZDBCC000		|	
|				|		ZDBGPIINT ZDBGPMCH ZDBINTCC ZDBINTLL ZDBINTSC ZDBLTG00		|	
|				|		ZDBOTTR0 ZDBSYS0S ZDHIASN0 ZEEPREP0 ZLDCSVC0 ZLIDBAR0		|	
|				|		ZMBADPJ0 ZMBAMDB0 ZMDAMCGS ZMEUPDJS ZMHVKME0 ZMIBZMJ0		|	
|				|		ZMSUPP1S ZMSUPP2S ZMSUPP3S ZONINTH0 ZQFABT00 ZQFJTAE0		|	
|				|		ZQFJTAE0 ZQFMAINL ZQFMAINS ZQISOMHL ZQPCOM00 ZQQDC00L		|	
|				|		ZQQDC00S ZQQPITLL ZQQPITZ0 ZQSRECDL ZQSREC00 ZQVVECOL		|	
|				|		ZQVVECOS ZRSDEPS0		|	
|		80CM24B		|		ZDBCCDDB ZDBCCDDC ZDBCCDDD ZDBCCDDF ZDBCCDD0 ZDBCCDSA		|	
|				|		ZDBCCDSC ZDBCCDSF ZDBCCDSW ZDBCCDSY ZDBCCDS0 ZDBGPDCC		|	
|				|		ZDBGPDDB ZDBGPDFF ZDBGPD00 ZDBGPDSB ZDBGPDSF ZQQRTO0L		|	
|				|		ZQQRTO0S		|	
|		BS-ADSMP		|		ZAACMS0 ZAFTRAN0 ZCGOUTP0 ZDAADSGA ZDAADSM0 ZDACFGC0		|	
|				|		ZDACFG00 ZDAIHSC0 ZDBSYS0A ZDBSYS00 ZDSSM@C0 ZDSSM@D0		|	
|				|		ZDSSM@E0 ZGGDEB10 ZMASWS00 ZMDAMCJA ZMDHIST0 ZMDMMIJA		|	
|				|		ZMDSIG00 ZMFLBTJ0 ZMHSTBMA ZMIPTCHA ZMKBST00 ZMNCDBR0		|	
|				|		ZMQSYNCO ZMSONUS0 ZMSSVCJ0 ZMSUPP1A ZODBCKUP ZODBIOS0		|	
|				|		ZODDAFM0 ZODDSCR0 ZODFAM00 ZODFMFM0 ZODPBO00 ZODPCL00		|	
|				|		ZODPGL00 ZODUSFM0 ZONNCAN0 ZONNUCL0 ZONPRIDM ZPPCOA00		|	
|				|		ZPPDEF00 ZPPDIAGO ZPPJTAE0 ZQPCOM00		|	
|		I-POOL4		|		ZCOPOOL4		|	
|		POOL5		|		ZCGPOOL5		|	

CLASSIFICATION: APPLICATION - SERVER - LOAD-LOCATION

I		APPL	I	SERVER	I	LOAD-L.	I
		=====					
	|	80CM24A	|	SWU	|	BP	|

	|	80CM24B	|	SWU	|	BP	|

	|	BS-ADSMP	|	SWU	|	BP	|

	|	I-POOL4	|	SWU	|	BP	|

	|	POOL5	|	SWU	|	BP	|

AMO-APC -212 APPLICATION CONFIGURATION

DISPLAY COMPLETED;

4. Displaying the application ACM with output from application table.

Input:

DISPLAY-APC:ACM,,P;

Output:

DISPLAY-APC:ACM,,P;

```

=====+
DISPLAY FROM APPLICATION TABLE
=====+

CLASSIFICATION: APPLICATION - SUBSYSTEMS
=====+=====+=====+
I  APPL  I  SUSY                                     I
=====+=====+=====+
|  ACM   |  ZBAACM00                                     |
+-----+-----+-----+

```

5. Displaying the server ADS with the parameter MODE=B.

Input:

DISPLAY-APC:,ADS,,B;

Output:

DISPLAY-APC:,ADS,,B;

```

RELATING-TABLE FOR IHS
=====

CLASSIFICATION: APPLICATION - SERVER - LOAD-LOCATION

=====+=====+=====+
I  APPL  I  SERVER  I  LOAD-L. I
=====+=====+=====+
| BS-ADS |    ADS    |    BP    |
+-----+-----+-----+
| MTFM   |    ADS    |    BP    |
+-----+-----+-----+
| MTH    |    ADS    |    BP    |
+-----+-----+-----+

=====+=====+=====+
DISPLAY FROM APPLICATION TABLE
=====+

CLASSIFICATION: APPLICATION - SUBSYSTEMS
=====+=====+=====+
I  APPL  I  SUSY                                     I
=====+=====+=====+
| ACLBT  |  ZBACLBT0                                     |
+-----+-----+-----+
|  ACM   |  ZBAACM00                                     |
+-----+-----+-----+
| BS-ADP |  ZAACMSE0  ZAFTRAN0  ZCGOUTP0  ZDAADSGA  ZDAADSM0  ZDACFGC0 |
|         |  ZDACFG00  ZDAIHSC0  ZDBOTTRA  ZDBSYS0A  ZDBSYS00  ZDSSM@C0 |
|         |  ZDSSM@D0  ZDSSM@E0  ZGGDEB10  ZMASWS00  ZMDAMCGA  ZMDAMCJA |
|         |  ZMDHIST0  ZMDMMIJA  ZMDSIG00  ZMEUPDJA  ZMFLBTJ0  ZMHSTBMA |

```

APC - Application Configuration

Functions of the AMO

	ZMIPTCHA	ZMNCDBR0	ZMQSYNCO	ZMSONUS0	ZMSSVCJ0	ZMSUPP1A	
	ZODBKUP	ZODBIOS0	ZODDSCR0	ZODFAM00	ZODPBO00	ZODPCL00	
	ZODPGL00	ZODUSFM0	ZOLTCP00	ZONNCAN0	ZONNUCL0	ZONPRIDA	
	ZOTXENL0	ZPPDEF00	ZPPJTAE0	ZQPCOM00			
BS-ADPMP	ZAACMSE0	ZAFTRAN0	ZCGOUTP0	ZDAADSGA	ZDAADSM0	ZDACFGC0	
	ZDACFG00	ZDAIHSC0	ZDBSYS0A	ZDBSYS00	ZDSSM@C0	ZDSSM@D0	
	ZDSSM@E0	ZGGDEB10	ZMASWS00	ZMDAMCJA	ZMDHIST0	ZMDMMIJA	
	ZMDSIG00	ZMFLBTJ0	ZMHSTBMA	ZMIPTCHA	ZMKBST00	ZMNCDBR0	
	ZMQSYNCO	ZMSONUS0	ZMSSVCJ0	ZMSUPP1A	ZODBKUP	ZODBIOS0	
	ZODDSCR0	ZODFAM00	ZODEFMF0	ZODPBO00	ZODPCL00	ZODPGL00	
	ZODUSFM0	ZOLTCP00	ZONNCAN0	ZONNUCL0	ZONPRIDM	ZPPDEF00	
	ZPPJTAE0	ZQPCOM00					
BS-ADS	ZAACMS00	ZAFTRAN0	ZCGOUTP0	ZDAADSGA	ZDAADS00	ZDACFGC0	
	ZDACFG00	ZDAIHSC0	ZDBOTTRA	ZDBSYS0A	ZDBSYS00	ZDSSM@C0	
	ZDSSM@D0	ZDSSM@E0	ZGGDEB10	ZMASWS00	ZMDAMCGA	ZMDAMCJA	
	ZMDHIST0	ZMDMMIJA	ZMDSIG00	ZMEUPDJA	ZMFLBTJ0	ZMHSTBMA	
	ZMIPTCHA	ZMNCDBR0	ZMQSYNCO	ZMSONUS0	ZMSSVCJ0	ZMSUPP1A	
	ZODBKUP	ZODBIOS0	ZODDSCR0	ZODFAM00	ZODMLM00	ZODPBO00	
	ZODPCL00	ZODPGL00	ZODUSFM0	ZONNCAN0	ZONNUCL0	ZONPRIDA	
	ZOTXENL0	ZPPDEF00	ZPPJTAE0	ZQPCOM00			
BS-ADSM	ZAACMS00	ZAFTRAN0	ZCGOUTP0	ZDAADSGA	ZDAADSM0	ZDACFGC0	
	ZDACFG00	ZDAIHSC0	ZDBSYS0A	ZDBSYS00	ZDSSM@C0	ZDSSM@D0	
	ZDSSM@E0	ZGGDEB10	ZMASWS00	ZMDAMCJA	ZMDHIST0	ZMDMMIJA	
	ZMDSIG00	ZMFLBTJ0	ZMHSTBMA	ZMIPTCHA	ZMKBST00	ZMNCDBR0	
	ZMQSYNCO	ZMSONUS0	ZMSSVCJ0	ZMSUPP1A	ZODBKUP	ZODBIOS0	
	ZODDSCR0	ZODFAM00	ZODEFMF0	ZODPBO00	ZODPCL00	ZODPGL00	
	ZODUSFM0	ZONNCAN0	ZONNUCL0	ZONPRIDM	ZPPDEF00	ZPPJTAE0	
	ZQPCOM00						
BS-IS	ZAACMS00	ZAFTRAN0	ZDAADSGA	ZDACFGC0	ZDACFG00	ZDAIHSC0	
	ZDAIHS00	ZDBOTTRA	ZDBSYS0A	ZDBSYS00	ZDSSM@C0	ZDSSM@D0	
	ZDSSM@E0	ZGGDEB10	ZMDAMCGA	ZMDAMCJ0	ZMEUPDJA	ZMHSTBMA	
	ZMIPTCHA	ZMSSVCJ0	ZMSUPP1A	ZODBIOS0	ZODDSCR0	ZODFAM00	
	ZODMLM00	ZODPBO00	ZODUSFM0	ZONNCAN0	ZONNUCL0	ZONPRIDA	
	ZOTXENL0	ZPPDEF00	ZPPJTAE0	ZQPCOM00			
BS-MPSTA	ZAACMS00	ZAFTRAN0	ZCGOUTP0	ZDAADSGA	ZDAADSM0	ZDACFGC0	
	ZDACFG00	ZDAIHSC0	ZDBOTTRA	ZDBSYS0A	ZDBSYS00	ZDSSM@C0	
	ZDSSM@D0	ZDSSM@E0	ZGGDEB10	ZMDAMCGA	ZMDAMCJA	ZMDMMIJA	
	ZMDSIG00	ZMEUPDJA	ZMFLBTJ0	ZMHSTBMA	ZMIPTCHA	ZMKBST00	
	ZMNCDBR0	ZMSONUS0	ZMSSVCJ0	ZMSUPP1A	ZODBKUP	ZODBIOS0	
	ZODDSCR0	ZODFAM00	ZODEFMF0	ZODPBO00	ZODPCL00	ZODPGL00	
	ZODUSFM0	ZONNCAN0	ZONNUCL0	ZONPRIDM	ZPPDEF00	ZPPJTAE0	
	ZQPCOM00						
BS-UNIX	ZOTXENL0						
BSGENSUP	ZDACFGC0	ZDACFG00	ZDAIHSC0	ZDBSYS0A	ZDBSYS00	ZGGDEB10	
	ZMDAMCJA	ZMHSTBMA	ZMSSVCJ0	ZMSUPP1A	ZODFAM00	ZODPBO00	
	ZONMTH00	ZONNCAN0	ZONNUCL0				
BST	ZMKBST00						
CMSV-A?	ZAAATXT@V						
CMSV-F?	ZAAFTXT@V						
DAT-REC	ZODDAFM0						

| DCF77D	| ZODCFD00	|
+-----+	+-----+	+-----+
| DCF77P	| ZODCFP00	|
+-----+	+-----+	+-----+
| DS	| ZBTDIR00	|
+-----+	+-----+	+-----+
| ETD	| ZBTETB00	|
+-----+	+-----+	+-----+
| MTFM	| ZODMTFM0	|
+-----+	+-----+	+-----+
| MTH	| ZONMTH00	|
+-----+	+-----+	+-----+
| NS	| ZBNETRU0	|
+-----+	+-----+	+-----+
| TCP	| ZOLTCP00	|
+-----+	+-----+	+-----+
| TF	| ZBBINW00 ZBBMECO0 ZBBRTFA0 ZBBRTTX0 ZBBUTCS0 ZBOXMA0	|
|	| ZMDMMIJA ZODADLI0	|
+-----+	+-----+	+-----+
| TF-A?	| ZAATXT@T ZBATXT@T	|
+-----+	+-----+	+-----+
| TF-F?	| ZAFTXT@T ZBFTXT@T	|
+-----+	+-----+	+-----+
| TM	| ZCATMOC0	|
+-----+	+-----+	+-----+
| VDS	| ZBBDVS00	|
+-----+	+-----+	+-----+
| VM	| ZBBMECO0 ZBOXMAN0 ZBRTCO00 ZODADLI0	|
+-----+	+-----+	+-----+
| VM-A?	| ZAATXT@V ZBATXT@V	|
+-----+	+-----+	+-----+
| VM-F?	| ZAFTXT@V ZBFTXT@V	|
+-----+	+-----+	+-----+

13.3.4 REGENERATE-APC

The applications activated in all servers are output.

The output for server SWU is done as "EXEC-APC" , followed by an advisory H16 for each active application.

Procedure Overview

Command Code	Parameters
REGENERATE-APC	;

Example

Regenerating the PGL loading tables

Input:

REGENERATE-APC;

Output:

```
ACTIVATE-APC:"TFS-AS",ADS,BP;  
  
EXEC-APC;  
H16: ACTIVATE-APC: "B370      ",SWU,BP;
```

13.3.5 EXEC-APC

The loading tables for the specified servers are generated and activated automatically.

When the server is not specified, the SWU will be assumed and the AMO APC reads from the database the values for ARCHITECTURE and ARCHITECTURE-TYPE which have been configured with the AMO DBC. The AMO APC investigates the applications which have to be loaded using the HW architecture tables. The AMO APC activates the new SWU loading tables. The already existing SWU loading tables will be deleted and exchanged to the new generated ones.

The HW architecture tables can be checked by invoking

```
STA-LIST:":PDS:APSU/HWARCH?",,,M,N;
```

Because of overwriting an existing loading table, the AMO DBC has to be executed before the execution of AMO APC.

Changes by AMO DBC or AMO APS will be taken over in the SWU/L00 loading tables only after an execution of "EXEC-APC;".

When the server is specified, the AMO-APC reads the old loading and application tables, investigates which applications have to be loaded for the specified server, deletes the old loading tables and configures new ones. Although "EXEC-APC:server;" is needed in very few cases, it should not be forgotten if whatever change occur in application tables (example: new subsystem by the automatic takeover of the new software version).

If SWS is started with parameter UPDATE=Y, the UPDATE task (at the end of its work) automatically executes EXEC-APC for all configured servers.

Procedure Overview

Command Code	Parameters
EXEC-APC	[SERVER=<string>;

13.4 Parameter Description

APPL	Name of application	
	Type of Input	: Chained single value, string (with '&') mandatory (ACTIVATE,DEACTIVATE) optional (DISPLAY)
	Possible Values	: Alphanumeric name (8 places max.)
MEMORY	Memory to be loaded with application	
	Type of Input	: Single value, identifier optional
	Possible Values	: CA = Common memory absolute CM = Common memory BP = Local memory
	Default Value	: BP
MODE	Which applications are to be displayed?	
	Type of Input	: Single value, identified optional (DISPLAY)
	Possible Values	: A = activated P = possible (from APPLTAB) B = both (activated and possible)+
SERVER	Server for application	
	Type of Input	: 1 to 3 single values, concatenated with '&', mandatory mandatory (ACTIVATE,DEACTIVATE) optional (DISPLAY, EXEC)
	Possible Values	ADS ADMINISTRATION- AND MAINTENANCE-SERVER
		TF1 TEXT- AND FAX-SERVER (TFS)
		TF2 TEXT- AND FAX-SERVER (TFS)
		TF3 TEXT- AND FAX-SERVER (TFS)
		VM1 VOICEMAIL-SERVER (VMS)
		VM2 VOICEMAIL-SERVER (VMS)
		VM3 VOICEMAIL-SERVER (VMS)
		SWU SWITCHING UNIT

APC - Application Configuration

Error Messages and Advisories

L00	LINE TRUNK GROUP
APE	SERVER ISU ON CC-AP

SUSY Subsystem for application

 Type of Input : Chained single value, string
 optional

 Possible : Alphanumeric name (8 places)
 Values

13.5 Error Messages and Advisories

13.5.1 Error Messages

F01: SUBSYSTEM <SUSY> FROM APPLICATION <APPL> NOT FOUND IN <SYSTEM>-PGLIB

F02: THE APPLICATION <APPL>, THAT HAS TO BE ACTIVATED , IS UNKNOWN IN ":PDS:APSZ/
ISU/APLTAB<SYSTEM>"

F03: THE APPLICATION <APPL>, THAT HAS TO BE DECTIVATED, IS UNKNOWN IN ":PDS:APSZ/
ISU/APLTAB<SYSTEM>"

F04: ACTION IS NOT ALLOWED WHILE SOFTWARE UPGRADE OR PATCH-AMO IS RUNNING

F05: AMO-BREAK BECAUSE OF ERROR IN DISK-OPERATION
STATUS = H'@@@

F06: APPLICATION @@@@ could NOT BE ACTIVATED IN SERVER @@@
BECAUSE APPLICATION @@@@ IS ALREADY ACTIVATED IN THIS SERVER

F07: IT ISN'T POSSIBLE TO DEACTIVATE BASIS APPLICATION @@@@ IN SERVER ADS

F08: ACTIVATING AN APPLICATION IN SERVER BP DOES NOT ALLOW
ANOTHER NAME OF SERVER TO BE ENTERED IN THE COMMAND

F09: DEACTIVATING AN APPLICATION IN SERVER BP DOES NOT ALLOW
ANOTHER NAME OF SERVER TO BE ENTERED IN THE COMMAND

F10: SIMULTANEOUS ACTIVATING OF APPLICATIONS IN IHS AND ISU IS NOT POSSIBLE

F11: SIMULTANEOUS DEACTIVATING OF APPLICATIONS IN IHS AND ISU IS NOT POSSIBLE

F12: ERROR WHILE READING THE ARCHITECTURE TABLE . STATUS = H'<STATUS>

F13: THE SERVER NAME IN THE ARCHITECTURE TABLE IS UNKNOWN.
ARCHITECTURE = @@@@@@ , ARCHITECTURE_TYPE = @@

F14: ERROR IN THE ARCHITECTURE TABLE ! APPLICATIONS FOR SWU/L00
HAVE TO BE ENTERED IN BLOCK FORM

F15: LOADING PLACE FOR DATA PROCESSORS MUST BE BP !

F16: BLOCKING OF BLOCK RECORD <Z/@@@> IS NOT POSSIBLE !

F17: NO APPLICATIONS CONFIGURED IN SERVER <SERVER>

F18: INTERNAL ERROR IN DELETING THE TC FILE.
PLEASE REPORT THIS TO SYSTEM SPECIALISTS !
STATUS = H'<STATUS>

F19: FOR THE SERVER <SERVER> THERE IS NO BASE APPLICATION ACTIVATED.

F20: FOR THE SERVER <SERVER> THE BASE APPLICATION MUST STAY ACTIVATED OR ALL
APPLICATION MUST BE DEACTIVATED.

F21: ACTIONS ACTIVATE-DEACTIVATE-EXEC ARE NOT ALLOWED ON CC-AP

13.5.2 Advisories

H01: APPLICATION <APPL> IS UNKNOWN IN ":PDS:APSZ/ISU/APLTAB<SYSTEM>"
H02: APPLICATION <APPL> IS NOT ACTIVATED IN SERVER <SERVER>
H03: APPLICATION <APPL> IS NOT ACTIVATED IN ANY SERVER
H04: FILE ":PDS:APSZ/ISU/APLTAB<SYSTEM>" NOT FOUND ON HD
H05: NO APPLICATIONS ACTIVATED
H06: NO APPLICATIONS ACTIVATED IN SERVER @@@
H07: THE APPLICATION <APPL> , THAT HAS TO BE ACTIVATED , IS ALREADY ACTIVATED IN
SERVER <SERVER>
H08: THE APPLICATION <APPL> , THAT HAS TO BE DEACTIVATED , IS ALREADY DEACTIVATED
IN SERVER <SERVER>
H09: SUBSYSTEM <SUSY> NOT FOUND IN <SYSTEM>-PGLIB
H10: A SUBSYSTEM FROM APPLICATION <APPL> NOT FOUND IN <SYSTEM>-PGLIB
H11: APPLICATION TABLE ":PDS:APSZ/ISU/APLTABD" INCONSISTENT TO PGL-LOADING-TABLE
H12: NO POSSIBILITY TO ACTIVATE ANY APPLICATION IN SERVER <SERVER>
BECAUSE TAB-FILES NOT GENERATED FROM AMO-APC !
H13: REFERENCED SUBSYSTEM NOT LOADED IN REFERENCED SERVER
H14: REFERENCED SUBSYSTEM NOT LOADED IN ANY SERVER
H15: APPLICATION TABLE ":PDS:APSZ/ISU/APLTABS" INCONSISTENT TO PGL-LOADING-TABLE
H16: ACTIVATE-APC: @@@@,@@@,@@;
H17: EXECUTION OF THE AMO APC ON A MONOPROCESSORY ARCHITECTURE
WHILE THE MEMORY TEST OF THE RTO IS RUNNING LEADS TO SEVERE PROBLEMS ON THE
V24 INTERFACE.
SUGGESTION: TURN OFF THE ROUTINE FOR THE MEMORY TESTING !
(SET-FUNSU: SWU,RJ,MEMACEA,0; -> EX-FUNSU:SWU;)
H18: NO APPLICATIONS CONFIGURED IN SERVER <SERVER>
H19: SUBSYSTEM <SUSY> IS UNKNOWN IN APPLICATION-TABLES
H20: ON MONO PROCESSOR ARCHITECTURES ONLY THE APPLICATIONS ACTIVATED
H21: FOR THE SERVER ADS THERE IS AT THE MOMENT NO BASE APPLICATION ACTIVATED.
H22: HHS IS A DUAL SYSTEM AND CC-AP IS A MONO SYSTEM AND THEREFORE DIFFERENT
APPLICATIONS ARE ACTIVATED FOR THE 2 SYSTEMS.
H23: WARNING: ERROR IN THE ARCHITECTURE TABLE FOUND ! ARCHITECTURE = <ARCHITEK> ,
ARCHITECTURE-TYPE = <ARTYP> NO LOAD TABLES FOR CC-AP WERE GENERATED .
(APPLICATIONS FOR CC-AP ARE TO BE ACTIVATED MANUALLY . BY MEANS OF: ACTIVATE-
APC:,APE;) !!!

14 APESM - Configure the AP shelf number of the CC-AP hosting shelf

The description of this AMO is only available in html format!

15 APESU - Configuration of main data for AP Emergency

The description of this AMO is only available in html format!

16 APP - Append File

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

This function makes it possible for the user to append a file to another file.

The name of the destination file and the contents of the appended file remain unchanged.

16.1 Restrictions

This description is valid from SP300 E V 3.0 WP2

16.2 Interrelationships

- AMO-complex FIDES
File and device service (see System AMO Section 'ISY startup system')

16.3 AMO Functions

- [START-APP](#) : Appending of files

16.3.1 START-APP

Procedure Overview

Command Code	Parameter
START-APP	SRCFILE=<string>,DESTFILE=<string>, [ANS=<param>] , [DIALOG=<param>], [UNIT=<param>;

Example

Append the file AAA/BBB/CCC to the file DDD/EEE/FFF on hard disk 0.

Input:

START-APP:" :PDS:AAA/BBB/CCC",":PDS:DDD/EEE/FFF";

16.4 Parameter Description

ANS	User answer Will subsequently requested, if user answer is mandatory Type of Input : Single value optional Possible Values : Y = append current file N = not append current file I = interrupt append C = append all following files Default Value : has no meaning
DESTFILE	Destination file to which the sourcefile is appended Type of Input : Single value mandatory Possible Values : fully qualified file name maximum of 32 positions file could be on HD or FM
DIALOG	Dialog mode Is text to be output on the terminal by programs if AMO is called? Type of Input : Single value optional Possible Values : Y APPEND CURRENT FILE Default Value : Y
SRCFILE	Sourcefile File appended at the end of the destination file Type of Input : Single value mandatory Possible Values : fully qualified file name maximum of 32 positions file could be on CT, DT, MT, HD or FM

UNIT	Functional system unit i.e. server or swu code		
Type of Input	: Single value optional		
Possible Values	: A1	= Administration and Data Server (ADS)	
	V1		
	V2		
	V3		
	T1		
	T2		
	T3		
	: C1		

16.5 Error Messages and Advisories

16.5.1 Error Messages

F01: APPEND IS ONLY POSSIBLE FOR HD AND FM
F02: <datnam> PARTIAL QUALIFICATION NOT ALLOWED
F03: <datnam> DOES NOT EXIST
F04: DESTINATION FILE DOES NOT EXIST
F05: DISK <disk> IS FILLED TO CAPACITY

16.5.2 Advisories

H01: <srcfile> TO <destfile>>
H02: APPENDED (number BYTES COPIED)

APP - Append File

Error Messages and Advisories

17 APRT - Access Point Routing Table

General	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

17.1 General

The AMO APRT performs the following functions for APs in NBCS:

- Configuration of the IP addresses for the AP net
The AP IP address, the Netmask and the TA IP address can be maintained per AP.
- Configuration of the IP routing tables
The IP routing tables are a part of the board configuration data for the NCUI and the STMI boards. They consist of 8 entries each with a destination IP address, a destination mask and router IP address. For the NCUI boards the IP routing tables are configured per board, for the STMI boards the same values in the IP routing tables are valid for all STMI boards configured in the system.
The configuration data will be loaded to the corresponding board either by plugging the board in or by means of the AMOs BSSU/ USSU after successful configuration with the AMO STMIB.
- Configuration of the survivability path (if allowed by PFS)
Survivability can be configured per AP. It is a purchasable feature and can only be configured by AMO APRT if the remote survivability PFS counter in the system is greater than the number of APs already configured for survivability.
- Configuration of the alternate routing table
The entries in the alternate routing table are configured per source group index. For each particular source group index the entries in the alternate routing table are sorted by the position parameter that can be shown e.g. with a display command.
An entry in the alternate routing table consists of
 - an alternate routing number
 - an access code
 - an artificial calling number

In order to make the administration of the alternate routing table easier a further parameter is provided to enter a range of artificial calling numbers. If an artificial calling number is entered together with a artificial calling number range it means

APRT - Access Point Routing Table

Interrelationships

that a there are as many artificial calling numbers configured as specified in the artificial calling number range, starting with the artificial calling number entered and incremented by one.

- Configuration of source group related "Alternate Routing on Error" table:

For the cases of OOS (Out of Service) and AP emergency, AMO-APRT administers the source group related Alternate Routing Numbers

Entries of the table consist of

- An Alternate Routing Number
- An Extension number : Number of digits to supplement the alternate routing number
- A Gateway IP address of the alternate logon switch

Administration of the table depends on the type of the alternate routing.(OOS or APE). For the type APE, Gateway IP address is not needed.

17.2 Interrelationships

- AMO DIMSU : Configuration of features, switching unit
- AMO SIPCO : Configuration of basic IP addresses
- AMO UCSU : Configuration of LTU and NCUI boards
- AMO BCSU : Configuration of STMI boards
- AMO STMIB : Configuration of board data for STMI and NCUI boards

17.3 Functions of the AMO

- [ADD-APRT](#) : password class 2
- [CHANGE-APRT](#) : password class 2
- [DELETE-APRT](#) : password class 2
- [DISPLAY-APRT](#) : password class 2
- [REGENERATE-APRT](#) : password class 2

17.3.1 ADD-APRT

- TYPE=APNET

The values for APIPADDR, NETMASK and TAIPADDR are optional and will be generated by DB if not filled in. The following restrictions apply:

- The APIPADDR is mandatory in the case of the AP connected via an IP network.
- If the TAIPADDR is entered the APIPADDR has to be entered, too.

- TYPE=SURV

CONF=ROUTER: assigns the address of a SL100 router and the address of a survivability router to a particular router number. It is neither necessary to enter a value for the routernr number nor to fill in values for the addresses, they will both be generated if not entered.

CONF=AP: configures APs for survivability by assigning them to a particular router that has been configured before with the branch CONF=ROUTER.

An AP can only be configured for survivability if the PFS counter for remote survivability is greater than the number of configured shelves for survivability.

- TYPE=ALTROUT

Only in the case of ALRTYPE=ALR the further parameters can be used for the configuration of an alternate routing path.

The combination of alternate routing number, access code and artificial calling number has to be unique. If an artificial calling number range is entered all resulting artificial calling numbers will be checked against the already configured artificial calling numbers for the particular source group.

- TYPE=ALTERR

ALRTYPE =OOS :

Configures the Out Of Service (by AMO) part of the Alternate Routing on Error table for the given Source Group. The combination of ALTRTNR and EXTNO is saved into the table together with the GWIPADR value.

ALRTYPE =APE :

Configures the Access Point Emergency part of the Alternate Routing on Error table for the given Source Group. The combination of ALTRTNR and EXTNO is saved. GWIPADR is not needed for the type APE.

APRT - Access Point Routing Table

Functions of the AMO

The EXTNO is set to ZERO if the entered ALTRTNR is a Station Number.

Procedure overview

Command Code	Parameter
ADD-APRT	<pre>TYPE=APNET,LTU=<number>, [APIPADDR=<number>], [NETMASK=<number>], [TAIPADDR=<number>]; | TYPE=SURV, CONF=ROUTER,[ROUTERNR=<number>], [LSADDR=<number>]; | CONF=AP,LTU=<number>, ROUTERNO=<number>; | SURVTYPE=MODEM; | SURVTYPE=SURVLAN,SURVIP=<number>, SURVNETM=<number>, SURVRT=<number>, [VLANTAG=<param>], [VLANID=<number>] | TYPE=ALTROUT,SRGGRP=<number>, [POS=<number>], ALRTYPE=<param>,[ALTRTNR=<key-num>], [ACCODE=<key-num>], [ARTCNR=<key-num>], [ARTCNRNG=<number>]; | TYPE=ALTERR, SRGGRP=<number>, | ALRTYPE=OOS,[ALTRTNR=<key-num>], [GWIPADR=<number>], [EXTNO=<number>]; | ALRTYPE=APE, ALTRTNR=<key-num>, [EXTNO=<number>];</pre>

17.3.2 CHANGE-APRT

- TYPE=APNET

The values for APIPADDR, NETMASK and TAIPADDR are optional and will be generated by DB if not filled in. The following restrictions apply:

- The APIPADDR is mandatory in the case of the AP connected via an IP network.
- If the TAIPADDR is entered the APIPADDR has to be entered, too.

- TYPE=ROUTTBL

Both, the entries in the IP routing tables for NCUI and STMI boards can be changed with AMO APRT. The entries in the IP routing tables for STMI boards are the same for all STMI boards, no specific STMI board can therefore be addressed in the MTYP=STMI branch.

After changing the IP routing tables the board data has to be loaded to the corresponding board by means of the AMOs BSSU/USSU.

- TYPE=ALTROUT

The entry in the alternate routing table for a particular source group index and position can be modified.

Although the parameter ARTCNR is defined as a key-numeral number , it can contain only numeric characters, except for one condition :

When the combination ARTCNR=*** ARTCNRNG=0 is fulfilled the parameters of the corresponding record are reset to their initial values (ARTCNR is deleted and ARTCNRNG is set to 0).

If ARTCNR contains non-numeric characters but is not equal to "****", the AMO breaks with error message F18.

If ARTCNR is equal to "****" but ARTCNRNG is not equal to zero, ARTCNR and ARTCNRNG are ignored (advisory message H14 is given) but all other entered parameters will take effect.

TYPE=ALTErr

The entries of the Alternate Routing numbers on Error for both types OOS and APE can be modified per source group.

Procedure overview

Command Code	Parameter
CHANGE-APRT	<pre> TYPE=APNET, LTU=<number>, [APIPADDR=<number>], [NETMASK=<number>], [TAIPADDR=<number>]; | TYPE=ROUTBL, [MTYPE=STMI], [DSTADDR1=<number>], [DSTMSK1=<number>], [ROUTER1=<number>], [DSTADDR2=<number>], [DSTMSK2=<number>], [ROUTER2=<number>], [DSTADDR3=<number>], [DSTMSK3=<number>], [ROUTER3=<number>], [DSTADDR4=<number>], [DSTMSK4=<number>], [ROUTER4=<number>], [DSTADDR5=<number>], [DSTMSK5=<number>], [ROUTER5=<number>], [DSTADDR6=<number>], [DSTMSK6=<number>], [ROUTER6=<number>], [DSTADDR7=<number>], [DSTMSK7=<number>], [ROUTER7=<number>], [DSTADDR8=<number>], [DSTMSK8=<number>], [ROUTER8=<number>]; | [MTYPE=NCUI], LTU=<number>, [DSTADDR1=<number>], [DSTMSK1=<number>], [ROUTER1=<number>], [DSTADDR2=<number>], [DSTMSK2=<number>], [ROUTER2=<number>], [DSTADDR3=<number>], [DSTMSK3=<number>], [ROUTER3=<number>], [DSTADDR4=<number>], [DSTMSK4=<number>], [ROUTER4=<number>], [DSTADDR5=<number>], [DSTMSK5=<number>], [ROUTER5=<number>], [DSTADDR6=<number>], [DSTMSK6=<number>], [ROUTER6=<number>], [DSTADDR7=<number>], [DSTMSK7=<number>], [ROUTER7=<number>], [DSTADDR8=<number>], [DSTMSK8=<number>], [ROUTER8=<number>]; </pre>

APRT - Access Point Routing Table

Functions of the AMO

Command Code	Parameter
	| TYPE=ALTROUT, SRCGRP=<number>, POS=<number>, | [ALTRTNR=<key-num>], [ACCODE=<key-num>], | [ARTCNR=<key-num>], [ARTCNRNG=<number>]; | TYPE=ALTERR, SRCGRP=<number>, | ALRTYPE=OOS, [ALTRTNR=<key-num>], [GWIPADR=<number>] | [EXTNO=<number>]; | ALRTYPE=APE, [ALTRTNR=<key-num>], [EXTNO=<number>];

17.3.3 DELETE-APRT

- TYPE=APNET

The complete data for an APNET will be deleted by specifying the LTU number.

- TYPE=ROUTTBL

The IP routing tables can only be deleted by the AMOs that are deleting the corresponding boards - this is the AMO UCSU for NCUI boards and the AMO BCSU for STMI boards.

Applying the DELETE-APRT on a particular entry in the IP routing tables will reset the destination IP address, the destination mask and the router IP address to 0.0.0.0. If no value is entered for INDEX all fields of the corresponding IP routing table will be reset.

- TYPE=SURV

CONF=ROUTER: removes a router configuration addressed by the router number. This is only possible if all APs assigned to the router are removed before.

CONF=AP: Removes the configuration of the specified AP for survivability from a particular router.

The counter indicating the number of APs configured for survivability is decremented by one.

- TYPE=ALTROUT

The alternate routing path for a particular source group index and position is deleted. If no value is entered for the position parameter all entries in the alternate routing table for the particular source group are deleted.

- TYPE=ALTERR

The alternate routing number (on Error) entry for a particular source group index is deleted. If no values are entered for the parameters SRCGRP and ALRTYPE then all entries in the alternate routing table are deleted.

Procedure overview

Command Code	Parameter
DELETE-APRT	<pre> TYPE=APNET, LTU=<number>; | TYPE=ROUTTBL, [MTYPE=STMI], [INDEX=<number>]; | [MTYPE=NCUI], [LTU=<number>], [INDEX=<number>]; | TYPE=SURV, CONF=ROUTER, ROUTERNO=<number>; | CONF=AP, LTU=<number>; | TYPE=ALTROUT, SRCGRP=<number>, [POS=<number>]; | TYPE=ALTERR, [SRCGRP=<number>], [ALRTYPE=<param>]; </pre>

17.3.4 DISPLAY-APRT

- TYPE=APNET

Displays the configured AP net tables sorted by LTU

- TYPE=ROUTTBL

The IP routing table data can be displayed for either the STMI or the NCUI boards by using the parameter MTYPE.

For the STMI boards the routing table will be displayed only once followed by the information on which LTU/SLOT the STMI boards are configured.

If the parameter MTYPE is not entered the IP routing tables will be displayed for all STMI and NCUI boards, starting with the STMI boards.

- TYPE=SURV

CONF=ROUTER: displays for all configured routers the router number, the address of the SL100 router and the address of the survivability router.

CONF=AP: Displays which AP is configured for survivability on which particular router.

- TYPE ALTROUT:

Displays the alternate routing table data for a particular source group index or for all source group indices if no value is entered for the source group parameter.

- TYPE ALTERR:

Displays the alternate routing on error table data for a particular source group index or for all source groups if no value is entered for the source group parameter.

APRT - Access Point Routing Table

Functions of the AMO

Procedure overview

Command Code	Parameter
DISPLAY-APRT	[TYPE=APNET], [LTU=<number>]; | [TYPE=ROUTTBL], [MTYPE=STMI]; | [MTYPE=NCUI], [LTU=<number>]; | [TYPE=SURV], CONF=ROUTER, [ROUTERNO=<number>]; | CONF=AP, [LTU=<number>]; | [TYPE=ALTROUT], [SRCGRP=<number>]; | [TYPE=ALTERR], [SRCGRP=<number>];

17.3.5 REGENERATE-APRT

- TYPE=APNET
Regenerates the configured AP net table sorted by LTU
- TYPE=ROUTTBL
The IP routing table data can be regenerated for either the STMI or the NCUI boards by using the parameter MTYPE. If parameter MTYPE is not entered the IP routing tables will be regenerated for all STMI and NCUI boards, starting with the STMI boards.
For the STMI boards a change command of AMO APRT will be generated, because the actual configuration of those boards is done by AMO BCSU. Although the AMO will not generate commands for IP routing tables that do contain only default values can force the AMO to regenerate those by entering a value for the LTU parameter.
- TYPE=SURV
If the CONF parameter is not entered the data for all configured routers followed by the the commands for configuring the APs for survivability are generated, otherwise only the specified commands are generated.
- TYPE=ALTROUT:
Regenerates the alternate routing table data for a particular source group index or for all source group indices if no value is entered for the source group parameter.
- TYPE ALTERR:
Regenerates the alternate routing on error table data for a particular source group index or for all source groups if no value is entered for the source group parameter.

Overview of Procedures

Command Code	Parameter
REGENERATE-APRT	<pre>[TYPE=APNET], [LTU=<number>; | [TYPE=ROUTBL], [MTYPE=STMI]; | [MTYPE=NCUI], [LTU=<number>; | [TYPE=SRV], [CONF=ROUTER], [ROUTERNO=<number>; | [CONF=AP], [LTU=<number>; | [TYPE=ALTROUT], [SRCGRP=<number>; | [TYPE=ALTERR], [SRCGRP=<number>;</pre>

17.4 Parameter Description

ACCODE	access code		
	Type of input	: single value, mandatory	(ADD, TYPE=ALTROUT)
		single value, optional	(CHANGE, TYPE=ALTROUT)
	Possible Values	: 0-9,*,#,A-D, up to 6 characters	
ALRTYPE	type of the entry in the alternate routing table		
	Type of Input	: single value, mandatory	
	Possible Values	: ALR	alt. routing number is a DID, DIT or PRI no
		NOALR	no nbcs alternate routing path
		PUBDID	alternate routing number is a pulic did number
		OOS	Out Of Service (by AMO)
		APE	AccessPoint Emergency
ALTRTNR	alternate routing number		
	Type of Input	: single value, optional	
	Possible Values	: 0-9,*,#,A-D, up to 22 characters	
APIPADDR	AP IP address		
	Type of Input	: 4 single values, concatenated with ., mandatory	(ADD,TYPE=APNET-AP)
		4 single values, concatenated with.,optional	(CHANGE,TYPE=APNET-AP)
	Possible Values	: numeric, 0-255	

APRT - Access Point Routing Table

Parameter Description

ARTCNR	artificial calling number		
	Type of Input	:	single value, optional
	Possible Values	:	0-9,*,#,A-D, up to 6 characters
ARTCNRNG	artificial calling number range		
	Type of Input	:	single value, optional
	Possible Values	:	numeric, 0-9999
CONF	configuration		
	Type of Input	:	single value, mandatory (ADD,TYPE=SURV-survivability path / DELETE,TYPE=SURV-survivability path / DISPLAY,TYPE=SURV-survivability path)
		:	single value, optional (REGENERATE,TYPE=SURV-survivability path)
	Possible Values	:	AP AP configuration on router
		:	ROUTER router configuration
DSTADDR1	first destination address in the routing table		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
DSTADDR2	second destination address in the routing table		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
DSTADDR3	third destination address in the routing table		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
DSTADDR4	fourth destination address in the routing table		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
DSTADDR5	fifth destination address in the routing table		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255

DSTADDR6	sixth destination address in the routing table	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0-255
DSTADDR7	seventh destination address in the routing table	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0-255
DSTADDR8	eighth destination address in the routing table	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0-255
DSTMSK1	network mask	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0, 128. 192, 224, 240, 248, 252, 254, 255
DSTMSK2	network mask	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0, 128. 192, 224, 240, 248, 252, 254, 255
DSTMSK3	network mask	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0, 128. 192, 224, 240, 248, 252, 254, 255
DSTMSK4	network mask	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0, 128. 192, 224, 240, 248, 252, 254, 255
DSTMSK5	network mask	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0, 128. 192, 224, 240, 248, 252, 254, 255
DSTMSK6	network mask	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0, 128. 192, 224, 240, 248, 252, 254, 255
DSTMSK7	network mask	
	Type of Input	: 4 single values, concatenated with ., optional
	Possible Values	: numeric, 0, 128. 192, 224, 240, 248, 252, 254, 255

APRT - Access Point Routing Table

Parameter Description

DSTMSK8	network mask		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0, 128, 192, 224, 240, 248, 252, 254, 255
EXTNO	number of digits to extend the alternate routing number		
	Type of Input	:	single value, optional
	Possible Values	:	numeric, 0-6
GWIPADR	Gateway IP address of the alternate logon switch		
	Type of Input	:	4 single values chained with ".", optional
	Possible Values	:	numeric, 0-255
INDEX	index of routing table entry		
	Type of Input	:	single value, optional
	Possible Values	:	numeric, 1-8
LSADDR	address of survivability router within LS net		
	Type of Input	:	4 single values, concatenated with ., mandatory
	Possible Values	:	numeric, 0-255
LTU	ltu number		
	Type of Input	:	single value, mandatory (ADD,TYPE=APNET-AP net table / ADD,TYPE=ROUTTBL-payload routing table/ ADD,TYPE=SURV- survivability path,CONF=AP-AP configuration on router / CHANGE,TYPE=ROUTTBL-payload routing table,MTYPE=NCUI-NCUI Board / DELETE,TYPE=APNET-AP net table / DELETE,TYPE=SURV- survivability path,CONF=AP-AP configuration on router)

APRT - Access Point Routing Table

Parameter Description

		single value, optional	(DELETE,TYPE=ROUTTBL-payload routing table,MTYPE=NCUI-NCUI Board / DISPLAY,TYPE=APNET-AP net table / DISPLAY,TYPE=ROUTTBL-payload routing table,MTYPE=NCUI-NCUI Board / DISPLAY,TYPE=SURV-survivability path,CONF=AP-AP configuration on router / REGENERATE,TYPE=APNET-AP net table / REGENERATE,TYPE=ROUTTBL-payload routing table,MTYPE=NCUI-NCUI Board / REGENERATE,TYPE=ROUTTBL-payload routing table,MTYPE=STMI-STMI board / REGENERATE,TYPE=SURV-survivability path,CONF=AP-AP configuration on router)		
	Possible Values	: numeric, 17-99			
MTYPE	module type				
	Type of Input	: single value, optional			
	Possible Values	: NCUI	NCUI Board		
		STMI	STMI Board		
NETMASK	netmask				
	Type of Input	: 4 single values, concatenated with ., mandatory	(ADD, TYPE=APNET-AP)		
		4 single values, concatenated with ., optional	(CHANGE,TYPE=APNET-AP)		
	Possible Values	: numeric, 0, 128, 192, 224, 240, 248, 252, 254, 255			
POS	position				
	Type of Input	: single value, mandatory	(CHANGE,TYPE=ALTROUT-alternate routing table)		
		single value, optional	(ADD,TYPE=ALTROUT-alternate routing table / DELETE,TYPE=ALTROUT-alternate routing table)		
	Possible Values	: numeric, 1-500			
ROUTER1	IP address of the next hop router				
	Type of Input	: 4 single values, concatenated with ., optional			
	Possible Values	: numeric, 0-255			

APRT - Access Point Routing Table

Parameter Description

ROUTER2	IP address of the next hop router		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
ROUTER3	IP address of the next hop router		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
ROUTER4	IP address of the next hop router		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
ROUTER5	IP address of the next hop router		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
ROUTER6	IP address of the next hop router		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
ROUTER7	IP address of the next hop router		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
ROUTER8	IP address of the next hop router		
	Type of Input	:	4 single values, concatenated with ., optional
	Possible Values	:	numeric, 0-255
ROUTERNO	router number		
	Type of Input	:	single value, mandatory
			(ADD,TYPE=SURV-survivability path,CONF=AP-AP configuration on router / DELETE,TYPE=SURV-survivability path,CONF=ROUTER-router configuration)

APRT - Access Point Routing Table

Parameter Description

		single value, optional	(ADD,TYPE=SURV-survivability path,CONF=ROUTER-router configuration / DISPLAY,TYPE=SURV-survivability path,CONF=ROUTER-router configuration / REGENERATE,TYPE=SURV-survivability path,CONF=ROUTER-router configuration)
	Possible Values	: numeric, 1-10	
SRCGRP	source group index		
	Type of Input	: single value, mandatory	(ADD,TYPE=ALTROUT-alternate routing table, TYPE = ALTERR- Alternate Routing On Error / CHANGE,TYPE=ALTROUT-alternate routing table , TYPE=ALTERR-Alternate Routing On Error / DELETE,TYPE=ALTROUT-alternate routing tableTYPE=ALTERR-Alternate Routing On Error)
		single value, optional	(DISPLAY,TYPE=ALTROUT-alternate routing table, TYPE=ALTERR-Alternate Routing On Error) DELETE,TYPE=ALTERR-Alternate Routing On Error)/ REGENERATE,TYPE=ALTROUT-alternate routing table, TYPE=ALTERR-Alternate Routing On Error)
	Possible Values	numeric, 0-255	
SURVIP	IP address assigned to the access point		
	Type of Input	: 4 single values, concatenated with ., optional	
	Possible Values	: numeric, 0-255	
SURVNETM	Survivability netmask		
	Type of Input	: 4 single values, concatenated with ., optional	
	Possible Values	: numeric, 0-255	
SURVRT	IP Address of Alternative Survivability Router		
	Type of Input	: 4 single values, concatenated with ., optional	
	Possible Values	: numeric, 0-255	

APRT - Access Point Routing Table

Error Messages and Advisories

SURVTYPE	Signaling survivability type			
	Type of Input	:	single value, mandatory	
	Possible Values	:	SURVLAN	Survivability via alternative LAN
		:	MODEM	Survivability via modem
TAIPADDR	TAP IP address			
	Type of Input	:	4 single values, concatenated with ., optional	
	Possible Values	:	numeric, 0-255	
TYPE	branch parameter			
	Type of Input	:	single value, mandatory	(ADD/CHANGE/DELETE)
		:	single value, optional	(DISPLAY/REGENERATE)
	Possible Values	:	ALTROUT	alternate routing table
		:	APNET	AP net table
		:	ROUTTBL	payload routing table (CHANGE/DELETE/DISPLAY/REGENERATE)
		:	SURV	survivability path (ADD/DELETE/DISPLAY/REGENERATE)
VLANID	VLAN-ID for VLAN-Tagging			
	Type of Input	:	single value, optional	
	Possible Values	:	numeric, 0-4094	
VLANTAG	VLAN tagging on LAN-IF			
	Type of Input	:	single value, optional	
	Possible Values	:	Y	yes (TRUE)
		:	YES	yes (TRUE)
		:	N	no (FALSE)
		:	NO	no (FALSE)

17.5 Error Messages and Advisories

17.5.1 Error Messages

F01: APIPADDR @@@.@@@.@@@.@@@, TAIPADDR @@@.@@@.@@@.@@@ AND NETMASK @@@.@@@.@@@.@@@ HAVE TO BUILD A SUBNET OR MAYBE THERE EXISTS A CONFLICT OF ADDRESSES.
-> CHECK PARAMETER APRTADDR OF AMO-UCSU.

APRT - Access Point Routing Table

Error Messages and Advisories

- F02: PARAMETER APIPADDR AND TAIPADDR ARE NOT ALLOWED TO BE NEITHER THE NET ADDRESS NOR THE BROADCAST ADDRESS OF THE AP SUB NET.
- F03: LRU @@@ IS NOT CONFIGURED.
- F04: THE SURVIVABILITY NET IS NOT CONFIGURED. PLEASE CONFIGURE FIRST BY MEANS OF ADD-SIPCO.
- F05: FOR THIS ACTION THE CONNECTION TO THE AP SHELF MUST BE DEACTIVATED. PLEASE DEACTIVATE BY MEANS OF EXEC-USSU:DELAP.
- F06: AT LEAST ONE COMPLETE ENTRY FOR DSTADDRX, DSTMSKX AND ROUTERX HAS TO BE PROVIDED
- F07: IT IS NOT ALLOWED TO MIX 4 WITH 5 OR 6 DIGIT ARTIFICIAL CALLING NUMBERS WITHIN AN ARTIFICIAL CALLING NUMBER RANGE
- F08: ROUTER NUMBER @@ IS NOT CONFIGURED.
- F09: THE LSADDR IS ALREADY ASSIGNED TO AN OTHER ROUTER OR THE GIVEN ROUTER IS ALREADY CONFIGURED.
- F10: THE ROUTER CANNOT BE DELETED. THERE ARE STILL LTUS ASSIGNED TO THE ROUTER
- F11: THERE IS NO AP NET TABLE CONFIGURED FOR LRU @@@
- F12: THE ENTRY IN DER ALTERNATE ROUTING TABLE DOES NOT EXIST
- F13: THE AP IP ADDRESSES ARE ALREADY CONFIGURED
- F14: AP IS ALREADY CONFIGURED FOR SURVIVABILITY
- F15: THE ENTRY IN DER ALTERNATE ROUTING TABLE DOES ALREADY EXIST FOR THE SOURCE GROUP
- F16: THE REMOTE SURVIVABILITY FOR A ACCESS POINT CANNOT BE ADDED. THE CONTRACTED NUMBER OF @@@ IS REACHED. PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES. PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO USE ONE OF THESE FEATURES.
- F17: AP IS NOT CONFIGURED FOR SURVIVABILITY
- F18: DIGITS *,#, A,B,C,D ARE NOT ALLOWED FOR ARTIFICIAL CALLING NUMBER
- F19: THE GIVEN LSADDR IS NOT WITHIN THE VALID RANGE OF LS NET.
- F20: THE PARAMETER APIPADDR AND TAIPADDR HAVE TO BUILD A SUBNET BUT ARE NOT ALLOWED TO BE WITHIN LS NET.
- F21: THE PARAMETER ACCODE MUST BE SPECIFIED IN CASE OF ALRTYPE = @@@@@@.
- F22: NO MORE ENTRIES POSSIBLE FOR THIS SOURCE GROUP.
- F23: THERE ARE ALREADY EXISTING ENTRIES WITH ALRTYPE = @@@@@@, ADDING ENTRIES WITH ALRTYPE = @@@@@@ IS NOT ALLOWED.
- F24: FOR THE GIVEN SOURCE GROUP AN ENTRY WITH ALRTYPE=PUBDID IS ALREADY EXISTING.
- F25: ENTRY FOR SRCGRP = @@ (TYPE = @@@) ALREADY CONFIGURED. PLEASE USE THE CHANGE COMMAND TO MODIFY THE EXISTING DATA.
- F26: THE LENGTH OF ALTERNATE ROUTING NUMBER AND THE EXTNO IS @@ CHARACTES.IT MUST NOT EXCEED 22 CHARACTERS.
- F27: THE VALUES 0.0.0.0 AND 255.255.255.255 ARE NOT ALLOWED FOR THE GATEWAY IP-ADDRESS.
- F28: AN EXTNO WITHOUT AN ALTERNATE ROUTING NUMBER IS NOT PERMITTED.
- F29: NO DATA FOR SRCGRP = @@ (TYPE = @@@) CONFIGURED. PLEASE USE THE ADD COMMAND TO CONFIGURE DATA.
- F30: ENTERED ALRTRNR @@@@@@@@@@@@@@@@@@@@@@ DOES NOT LEAD TO A VALID DAR.
- F31: THE ALTERNATE ROUTING NUMBER @@@@@@@@@@@@@@@@@@ LEADS TO A STATION NUMBER. EXTNO CAN NOT BE CHANGED TO A NON ZERO VALUE.
- F32: FOR THIS AP SHELF AP EMERGENCY IS STILL CONFIGURED. PLEASE DECONFIGURE THIS FEATURE FIRST BY MEANS OF AMO-APESU.
- F33: THERE ARE NO CONFIGURATION ALLOWED WITHIN THE ATLANTIC LAN SEGMENT 192.0.2.XXX .
- F34: THE SURVIVABILITY CONFIGURATION CANNOT BE DELETED AS AP @@@ IS CONFIGURED AS SIGPWSW=SRVONLY. (CHECK AMO-STMIB MTYPE=NCUI2 TYPE=SIGQOS).
- F35: SURVIP AND SURVRT HAVE TO BE IN THE SAME SUBNET.

APRT - Access Point Routing Table

Error Messages and Advisories

F36: TO CONFIGURE SIGNALING SURVIVABILITY OVER ALTERNATIVE LAN, SIGNALING VIA UDP HAS TO BE SWITCHED ON. (CHANGE-UCSU:UNIT=AP,LTU=@@@,SIGMODE=HSRUDP;)
F37: SAME DEFAULT ROUTER ALREADY DEFINED WITH AMO SIPCO.

17.5.2 Advisories

H01: APRTADDR @@@.@@@.@@@.@@@ DOES NOT FIT TO THE AP SUBNET. PARAMETER APRTADDR HAS TO BE CHANGED BY MEANS OF AMO-UCSU.
H02: SVADDR @@@.@@@.@@@.@@@ HAS BEEN ASSIGNED TO ROUTER @@.
H03: ALL POSSIBLE SURVIVABILITY ROUTER ARE ALREADY CONFIGURED.
H04: FOR ALRTYPE PUBDID ANY VALUE ENTERED FOR ALTRTNR, ACCODE, ARTCNR OR ARTCNRNG WILL BE IGNORED
H05: CHANGED IP ROUTING TABLE EXISTING - LOADING OF NCUI BOARD NECESSARY BY MEANS OF EXEC-USSU:UPDATAP,@@@;
H06: CHANGED IP ROUTING TABLE EXISTING - LOADING OF STMI BOARD NECESSARY BY MEANS OF RES-BSSU:PARTNO,...
H07: POS VALUE FOR THE NEW RECORD IS @@@
H08: NO CONFIGURED DATA FOUND DOR ENTERED VALUE(S).
H09: SINCE AN ARTIFICIAL CALLING NUMBER WAS ENTERED, THE ARTIFICIAL CALLING NUMBER RANGE HAS BEEN CHANGED FROM 0 TO 1.
H10: SRCGRP = @@ (TYPE = @@@@@@@@) RELATED ENTRY IS ALREADY EMPTY. NO DATA DELETED.
H11: SINCE NO ALTRTNR HAS BEEN ENTERED, EXTNO IS IGNORED.
H12: THE ENTERED ALTERNATE ROUTING NUMBER LEADS TO A NOT PERMITTED DAR. THE EXTNO VALUE IS IGNORED AND SET TO 0.
H13: NO DATA FOR SOURCEGROUP(S) CONFIGURED, DELETE NOT POSSIBLE.
H14: TO RESET THE PARAMETERS TO ITS INIT VALUES THE COMBINATION ARTCNR=*** AND ARTCNRNG=0 MUST BE FULFILLED.
H15: PARAMETER TAIPADDR IS NOT SUPPORTED ON SOFT GATES AND HAS BEEN IGNORED.

17.5.3 Use of the messages per action

ADD	:	F01, F13, F22, H01,	F02, F14, F23, H02,	F03, F15, F24, H03,	F04, F16, F25, H05,	F06, F18, F26, H09,	F07, F19, F27, H11,	F08, F20, F30, H12,	F09 F21
CHANGE	:	F01, F29, H07,	F02, F30, H08,	F15, F31, H12	F18,	F20,	F26,	F27,	F28,
DELETE	:	F03, H10,	F05, H13	F10,	F11,	F12,	F17,		
DISPLAY	:	H08							
REGENERATE	:	none							

APRT - Access Point Routing Table
Error Messages and Advisories

18 APS - Software Load Upgrade

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO APS has the task of transferring program systems (PS) in the program library (PGLIB) onto the hard disk area ":PDS:".

The program systems may be supplied on cartridge or on Digital Audio Tape (DAT), or may already have been copied by remote administration and maintenance onto a hard disk area by means of file transfer.

If the supplied subsystems (SUSY) are already on the HD, all required files (SUSY and DIR) are stored under a uniform prefix (e.g. ":AMD:FBT/FCOR/L10/.....").

Since the PGLIB must be handled with special care, the AMO APS first runs a series of test functions before the actual copy procedure takes place.

The AMO APS also provides information on the status of the PS and individual subsystems (SUSY) in the PGLIB.

The supplied customer program system contains two or more DIR files, which are on a single data carrier. The actual subsystems (SUSY) may be contained on two or more data carriers.

There is no follow-up-tape-processing in the sense of relevant standards for cartridge respectively DAT. Only the individual filenames of the subsystems indicate whether the proper DAT or cartridge is applied. By comparing the supplied DIR files with the DIR files on the HD, a compatibility check is made to determine whether copying is worthwhile or at all possible.

In addition, the SUSY supplied on one or more data carriers and named in the DIR files are copied onto the HD.

The accesses to the Program Library must be coordinated, to guarantee the consistency and the correctness of the informations about the PGLIB.

This coordination is managed by an entry into the system catalog. Does this entry already exist the AMO APS will interrupt with the following message:

```
PROGRAMM LIBRARY IS AT THE MOMENT IN USE.
PARALLEL ACCESS NOT POSSIBLE.
```

Furthermore the AMO APS can handle program systems, which are on a HD-area with a logical name unequal :PDS:.

The wanted logical name can be named by the parameter 'DESTDEV'.
If there is no value for 'DESTDEV' given then the default value is
:PDS:.

18.1 Restrictions

This description is valid from SP300-V3.3

18.2 Interrelationships

- AMO BACK : Automatic backup of program system
- AMO CMP : Comparison of Files
- AMO DLSP : Device Logical Area, Server Modules
- AMO RTAPE : DAT and Cartridge Reservation
- AMO XAPC : Xenix Applikations Verwaltung
- AMO-complex FIDES : File and device service
(see System AMO Section 'ISY startup system')

18.3 Functions of the AMO

- [TEST-APS](#) : Test the supplied DIR files against the PGLIB status
- [COPY-APS](#) : Copy the subsystems in the program library onto the HD
- [DISPLAY-APS](#) : Display the contents of the program library
- [OUTPUT-APS](#) : Output the DIR file without editing
- [DUMP-APS](#) : Dump the PGLIB on the data carrier

18.3.1 TEST-APS

Tests whether the status of the supplied PS match the status on the HD.
However, this test does not change the :PDS: area in any way.
The test can be carried out as often as desired, unless a COPY-APS has
not successfully been completed beforehand.

Depending on input, there are various test options:

- If a DIR file is not specified (parameter DIRNAME), the NORMAL test
is run.

The test ascertains which PS have been supplied and which are already present. In the event that the version number and corrected version number of the supplied PS are greater than those of the PS already present, the supplied PS are copied. This means that only those SUSY are copied whose version or corrected version in the supplied PS has been altered in comparison to the PS already present.

If the DIR file corresponds to the DIR file specified on the data carrier (e.g. "DIRDC0.20.001"), the specified PS in the PGLIB is copied.

If the DIR file corresponds to the DIR file specified in the PGLIB (e.g. "D0-EF0DC"), the specified PS is deleted from the PGLIB.

Duplicate entries will be detected and rejected by the AMO APS.

The specified PS are copied without testing of their version or corrected version, even if they were not yet present in the PGLIB. If a complete delivery is being made, all SUSY of the specified PS are copied.

If a partial delivery is being made, all SUSY are copied which have been altered with respect to the PGLIB status. If PS are found which have been altered but were not specified, the NORMAL test is then run for these PS.

If an additional DIR file exists on the data carrier, it is tested regardless of input.

Only those PS are copied for which the DIR files have been specified. For each SUSY a query is made as to whether it is to be copied, and, if it is not to be copied, whether the present status is to be deleted.

- If two or more DIR files of the same type are on a data carrier, the user is queried as to whether the DIR file is to be copied. DIR files of the same type are, for example, DIRD11.20.001 (Server texts in German) and DIRD22.20.001 (Server texts in English).

All system programs of PGLIB and data carrier will be tested normal.

If DIRNAME is declared as a DIR file of data carrier, the system program will be tested forced. The other one will be tested normal.

If DIRNAME is declared as a DIR file of PGLIB, the system program will be deleted on PGLIB.

The kind of assumption can be directed by the parameter MODE.

APS - Software Load Upgrade

Functions of the AMO

- If MODE is declared as (NALL/FALL/NGEN/FGEN), the declaration of DIRNAME and SELE will be rejected. If MODE is declared as DELETE and system programs have been declared, the system programs have to be declared as system programs of PGLIB. (e.g.: data carrier DIRDC0.20.001 in PGLIB D0-EF0DC).
- If in addition to the parameter value NORMAL the name of a DIR-file is specified, this program system will be tested regardless of a predecessor.

By declaration of SELE you will get an assortment of selections. Without the parameter SELE you will get either selections depending on parameter MODE or no selections.

- Repeated testing means that a tested status of a system program will be tested any more.

The sense of using repeated testing is that additional selections can be added or deleted without a run of COPY-APS between two runs of TEST-APS.

Repeated testing is only possible by the MODES of NORMAL, FORCE, DBNORM, DBONLY and DELETE.

Procedure Overview

Command Code	Parameter
TEST-APS	[FILENAME=<string>], [DIRNAME=<string>], [MODE=<param>] , [SELE=<string>], [DESTDEV=<string>] , [LANAME=<string>], [ANS=<param>];

Examples

1. DIR file DIRSC0.20.001 will be tested forced. Other DIR files on the source device will be tested normal.

Input:

```
TEST-APS:,"DIRSC0.20.001",;
```

2. DIR file DIRSC0.20.001 will be tested forced. A cartridge is used as source device and has been reserved by the AMO RTAPE with the logical name "C". Other DIR files on the source device will be tested normal.

Input:

```
TEST-APS:":C:", "DIRSC0.20.001",;
```

3. All program system of data carrier will be tested. The subsystems of all present selections will be tested whether the subsystem has changed.

Input:

TEST-APS:":C:";

4. All program systems of PGLIB will be tested. The subsystems of all present selections will be tested whether the subsystem has changed.

All subsystems of DIR files DIRBC0 and DIRB22 will be assumed forced.

Input:

TEST-APS:":C:", "DIRBC0.20.001"&"DIRB22.20.001";

5. All program systems of specified data carrier will be tested with all selections and all subsystems of these selections (Generation system).

Input:

TEST-APS:":C:", , FALL;

6. All changed subsystems of all system programs and selections will be tested.

Input:

TEST-APS:":C:", , NALL;

7. The specified program systems and their actuall selections will be tested. The changed subsystems will be assumed by COPY-APS.

Input:

TEST-APS:":C:", "DIRDC0.20.001"&"DIRSC0.20.001", NORMAL;

8. The specified program systems and their actuall selections will be tested. The changed subsystems and DB subsystems will be assumed by COPY-APS.

Input:

TEST-APS:":C:", "DIRDC0.20.001"&"DIRSC0.20.001", DBNORM;

(*1) Valid for SP300-V3.1

9. The specified program systems and their actuall selections will be tested. The changed subsystems will be assumed by COPY-APS.

Input:

TEST-APS:":C:", "DIRDC0.20.001"&"DIRSC0.20.001", FORCE;

10. The specified program systems will be tested, their actuall selections have to be deleted by the following run of COPY-APS. All subsystems will be deleted by the following run of COPY-APS. The name of program systems have to be the name in PGLIB.

Input:

APS - Software Load Upgrade

Functions of the AMO

TEST-APS:,"S0-EF0DC"&"B0-EF0BC",DELETE;

- 11.The specified program systems and their actuall selections will be tested. Only DB subsystems will be assumed by the following run of COPY-APS. The program systems have to be specified with their actuall correct version on PGLIB.

Input:

TEST-APS:":C:", "DIRDC0.20.001"&"DIRSC0.20.001", DBONLY;

- 12.The specified program systems of data carrier and PGLIB will be tested. All changed subsystems will be assumed by the following run of COPY-APS.

Input:

TEST-APS:":C:", , NORMAL, SELEK001&SELEK002&&SELEK003;

- 13.The specified program systems of data carrier and PGLIB will be tested. All subsystems will be assumed by the following run of COPY-APS.

Input:

TEST-APS:":C:", , FORCE, SELEK001&SELEK002&SELEK003;

- 14.The specified selections, which have to be deleted, of all program systems in PGLIB will be tested. All subsystems which are not contained in any selection and the subsystems of the specified selections will be tested. All subsystems, which will not be used any more, will be deleted by the following run of COPY-APS.

Input:

TEST-APS:":C:", , DELETE, SELEK001&SELEK002&SELEK003;

- 15.The specified selections of the specified program systems will be tested. The subsystems with changed status will be assumed by the following run of COPY-APS.

Input:

TEST-APS:":C:", "DIRDC0.20.001", NORMAL, SELEK001&SELEK002&SELEK003;

- 16.The specified selections of the specified program systems will be tested. All subsystems will be assumed by the following run of COPY-APS.

Input:

TEST-APS:":C:", "DIRDC0.20.001", FORCE, SELEK001&SELEK002&SELEK003;

- 17.All actuall active and all specified selections of the specified program systems will be tested. The changed subsystems will be assumed by the following run of COPY-APS.

Input:

```
TEST-APS:":C:", "DIRDC0.20.001"&"DIRSC0.20.001", NORMAL,  
SELEK001&SELEK002&SELEK003;
```

18. All actually active and all specified selections of the specified program systems will be tested. The changed subsystems and the DB subsystems will be assumed by the following run of COPY-APS.

Input:

```
TEST-APS:":C:", "DIRDC0.20.001"&"DIRSC0.20.001", DBNORM,  
SELEK001&SELEK002&SELEK003;
```

19. The specified selections of specified program systems will be tested. Only the DB subsystems will be assumed by the following run of COPY-APS.

Input:

```
TEST-APS:":C:", "DIRDC0.20.001"&"DIRSC0.20.001", DBONLY,  
SELEK001&SELEK002&SELEK003;
```

20. In the specified program systems all selections, which have been specified as to delete, will be tested. All subsystems which are not contained in any selection and all subsystems of the specified selections will be tested. The subsystems which are not required any more will be deleted by the following run of COPY-APS. The program systems have to be specified with their name of PGLIB.

Input:

```
TEST-APS:":C:", "D0-EF0DC", DELETE, SELEK001&SELEK002&SELEK003;
```

21. The added selection SIMPLEX has to be deleted from PGLIB, the not added selection DUPLEX has to be added.

Input:

```
TEST-APS: ", "S0-EF0SC", DELETE, SIMPLEX;
```

```
TEST-APS: ", "DIRSC0.20.030", FORCE, DUPLEX;
```

22. Testin of a program system. The program system will be copied by a following COPY-APS into the area :PDS2":. The area with the name :PDS: must be changed with CHANGE-TINIT:A1,A1H2E," :PDS:" to ":PDS2:"

Input:

```
T-APS:":C:", "DIRDC0.20.001",,, ":PDS2:";
```

18.3.2 COPY-APS

Copies all those subsystems which are marked in the DIR file by TEST-APS as 'to be copied', into PDS.

Copies all those subsystems which are marked in the DIR file by TEST-APS as 'to be copied', in this HD-area, which is specified by the parameter DESTDEV.

Generates the file structure required by the loader (PGLIB) (e.g. 'TAB' files) in the PGLIB. The PGLIB does not return to a consistent status until after successful completion, and only then can the next TEST action take place.

Procedure Overview

Command Code	Parameter
COPY-APS	[ANS=<param>;

Example

Copy all subsystems marked 'to be copied'.

Input:

COPY-APS;

18.3.3 DISPLAY-APS

This action supplies information on the output status of:

- 1. all system programs and subsystems
- 2. all system programs
- 3. an individual system program
- 4. an individual subsystem
- 5. a DIR file in comparison with the OMF header
- 6. Selections

The declaration of TYPE=SELE doesn't put out tables of values for Xenix system programs.

Procedure Overview

Command Code	Parameter
DISPLAY-APS	[ANS=<param> |, [TYPE=ALL], [DESTDEV=<string>; (1) |, [TYPE=PSALL], [SP=<string>], [DESTDEV=<string>; (2) |, [TYPE=PSGL], SP=<string>, [DESTDEV=<string>; (3)

Command Code	Parameter
	|, [TYPE=SUSY], SUSY=<string>, SP=<string> (4) |, [DESTDEV=<string>];
	|, [TYPE=DIR], FILENAME=<string> (5) |, [DESTDEV=<string>];
	|, [TYPE=SELE], [SP=<string>], [SELE=<string>] (6) |, [SUSY=<string>], [DESTDEV=<string>];

Example

1. Interrogate the supplied DIR file DIRSC0.02.023.

Eingabe:

```
DISP-APS: ,DIR, ":C:DIRSC0.02.023";
```

Ausgabe:

```
DIR-FILE: :C:DIRSC0.02.023
COMPLETE READ-IN
PROGRAM SYSTEM: S6-S00SC
VERSION NUMBER: 02
UPDATE VERSION NUMBER: 023
ITEM CODE NUMBER: P12345-X12343-A123-00-9999
PROGRAM SYSTEM WITH CODE SUBSYSTEMS
INTERFACE VERSION:
PROGRAMMSYSTEM: S6-S00ST      NUMBER: A01
PROGRAMMSYSTEM: D6-S00DC      NUMBER: B31

SUBSYSTEM DIR      | | SUBSYSTEM OMF
-----+-----
ZONCANN.S6-S00.02.022 | |
ZONPRIDS.S6-S00.02.023 | |
```

2. Display the subsystems "ZGGDEB0A".

Input:

```
DISPLAY-APS: ,SUSY,ZGGDEB0A,"D0-EF0DC";
```

Output:

```
PROGRAM SYSTEM      : D0-EF0DC
VERSION NUMBER      : 20
UPDATE VERSION NUMBER : 014
ITEM CODE NUMBER    : P30252B0011A60301
PROGRAM SYSTEM WITH CODE SUBSYSTEMS
INTERFACE VERSION:
PROGRAM SYSTEM| NUMBER
-----+-----
D0-TF1D0      | 000
S0-TF1S0      | 000

SUBSYSTEM DIR      | | SUBSYSTEM OMF
-----+-----
ZGGDEB0A.D0-EF0.20.013 | | ZGGDEB0A.D0-EF0.20.013
```

3. Display all selections of system program "D0-EF0DC".

Input:

DISPLAY-APS: ,SELE, "D0-EF0DC";

Output:

PROGRAM SYSTEM: D0-EF0DC						
SELECTION	|	SUBSYSTEMS				
-----+-----						
D0-EF0DC	|*	<all subsystems which are not included in any selection>				
SELEK002	|	ZDBVM100 ZBPTAB00 ZCATAB00 ZCMTAB00				
SELEK001	|*	ZODBKUP NBATABD0 NBATABE0				
-----+-----						
SELECTION	|	PDS (KB)	MEMORY	MEM MIN	MEM MAX	|
-----+-----+-----+-----+-----+-----+-----						
D0-EF0DC	|*	123456789	123456789	123456789	123456789	|
SELEK002	|	123456789	123456789	123456789	123456789	|
SELEK001	|*	123456789	123456789	123456789	123456789	|
-----+-----+-----+-----+-----+-----+-----						
SUMMARY	|	123456789	123456789	123456789	123456789	|

All selections signed with '*' are contained in PGLIB.

The value <PDS (KB)> is investigated for all subsystems of a selection by calling the DMS function GET_FILE_STATUS. The summary of all selections includes each subsystem of these selections only for one times.

The value <MEMORY> is investigated by evaluating the OMF structure in PGLIB as the summary of all lenght of segments. The summary of all selections includes each subsystem of these selections only for one times.

The value <MEM MIN> is investigated by evaluating the Config Information as the summary of all subsystems of a selection. The summary of all selections includes each subsystem of these selections only for one times.

The value <MEM MAX> is investigated by evaluating the Config Information as the summary of all subsystems of a selection. The summary of all selections includes each subsystem of these selections only for one times. If the value <MEM MAX> exceeds H'FFFF of a Config Information, the value of MEM MIN will be taken for evaluation.

4. Display all selections of "SELEK001".

Input:

DISPLAY-APS: ,SELE, ,SELEK001;

Output:

PROGRAM SYSTEM: D0-EF0DC						
SELECTION	|	SUBSYSTEMS				

```

-----+-----
SELEK001  |*| ZODBKUP UODBKUP NBATABD0 NBATABE0

SELECTION  | | PDS (KB) | MEMORY   | MEM MIN  | MEM MAX  |
-----+-----+-----+-----+-----+
SELEK001  |*| 123456789 | 123456789 | 123456789 | 123456789 |

PROGRAM SYSTEM: A0-EF0AC

SELECTION  | | SUBSYSTEMS
-----+-----
SELEK001  |*| NBACK@C0

SELECTION  | | PDS (KB) | MEMORY   | MEM MIN  | MEM MAX  |
-----+-----+-----+-----+
SELEK001  |*| 123456789 | 123456789 | 123456789 | 123456789 |

PROGRAM SYSTEM: A0-EF1A1

SELECTION  | | SUBSYSTEMS
-----+-----
SELEK001  |*| NBACK@D0

SELECTION  | | PDS (KB) | MEMORY   | MEM MIN  | MEM MAX  |
-----+-----+-----+-----+
SELEK001  |*| 123456789 | 123456789 | 123456789 | 123456789 |

```

5. Display the subsystem "ZODBKUP".

Input:

DISPLAY-APS: ,SELE,"D0-EF0DC",,ZODBKUP;

Output:

```

PROGRAM SYSTEM: D0-EF0DC

SELECTION  | | SUBSYSTEMS
-----+-----
D0-EF0DC  |*| <all subsystems which are not included in any selection>
SELEK002  | | ZDBVM100 ZBPTAB00 ZCATAB00 ZCMTAB00
SELEK001  |*| ZODBKUP UODBKUP NBATABD0 NBATABE0

SELECTION  | | PDS (KB) | MEMORY   | MEM MIN  | MEM MAX  |
-----+-----+-----+-----+
D0-EF0DC  |*| 123456789 | 123456789 | 123456789 | 123456789 |
SELEK002  | | 123456789 | 123456789 | 123456789 | 123456789 |
SELEK001  |*| 123456789 | 123456789 | 123456789 | 123456789 |
-----+-----+-----+-----+
SUMMARY   | | 123456789 | 123456789 | 123456789 | 123456789 |

SUBSYSTEM  | | PDS (KB) | MEMORY   | MEM MIN  | MEM MAX  |
-----+-----+-----+-----+
ZODBKUP    |*| 123456789 | 123456789 | 123456789 | 123456789 |

```

6. Interrogate the supplied DIR file DIRSC0.

Input:

DISPLAY-APS: ,DIR," :D:DIRSC0.20.001";

Output:

```
DIR FILE: :D:DIRSC0.20.001
COMPLETE READ-IN
PROGRAM SYSTEM      : S0-EF0SC
VERSION NUMBER      : 20
UPDATE VERSION NUMBER : 001
ITEM CODE NUMBER    : P12345-X12343-A123-00-9999
PROGRAM SYSTEM WITH CODE SUBSYSTEMS
INTERFACE VERSION:
PROGRAM SYSTEM | NUMBER
-----+-----
D0-EF0DC      | 000

SUBSYSTEM DIR      | |
-----+-----
ZONCANNS.S0-EF0.20.001 | |
ZONPRIDS.S0-EF0.02.001 | |
```

18.3.4 OUTPUT-APS

Output one or more DIR file(s) without editing.
The contents of the specified DIR file(s) are output record by record.

Procedure Overview

Table with 2 columns: Command Code, Parameter. Row 1: OUTPUT-APS, FILENAME=<string>, [ANS=<param>;]

Example

- 1. Output of the DIR file "D6-S00DC" on the hard disk.

Eingabe:

```
OUTPUT-APS:":PDS:APSI/PS/D6-S00DC",;
```

Ausgabe:

```
-- FILE CONTENTS < :PDS:APSI/PS/D6-S00DC > --
| | |APSI/PS/D6-S00DC      |D6-S00.02.025|D6-S00.02.024|T|C02500
|S|V6-S00VC|000|T6-S00TC|000|      |000|      |000|      |000
|N|P30252B0011A60204
U|I|APSI/PS/D6-S00DC      |DIRC.D6-S00.02.025.ASC|DIRDC.02.025
|B|Z/ADM
| |APSZ/ADM/CM/ABS/ZAACMSA0      |ZAACMSA0.D6-S00.02.005|ZAACMSA0.02.005
| |APSZ/ADM/BP/ABS/ZAFTMS0      |ZAFTMS0.D6-S00.02.002|ZAFTMS0.02.002
| |APSZ/ADM/BP/ABS/ZCGOUTP0      |ZCGOUTP0.D6-S00.02.024|ZCGOUTP0.02.024
|D|APSZ/ADM/BP/ABS/ZDAADM00      |ZDAADM00.D6-S00.02.024|ZDAADM00.02.024
| |APSZ/ADM/BP/ABS/ZDAINTF0      |ZDAINTF0.D6-S00.02.005|ZDAINTF0.02.005
. . .
| |APSZ/ADM/BP/ABS/ZQSREC00      |ZQSREC00.D6-S00.02.005|ZQSREC00.02.005
| |APSZ/ADM/BP/ABS/ZQVVEC00      |ZQVVEC00.D6-S00.02.005|ZQVVEC00.02.002
| |APSZ/ADM/BP/ABS/ZRSDEFS0      |ZRSDEFS0.D6-S00.02.023|ZRSDEFS0.02.023
| |APSZ/ADM/BP/ABS/ZUPTPM00      |ZUPTPM00.D6-S00.02.006|ZUPTPM00.02.006
| |APSZ/ADM/BP/ABS/ZUPTSTP0      |ZUPTSTP0.D6-S00.02.006|ZUPTSTP0.02.006
|B|X/END
```


2. Output of the DIR file "DIRDC0.20.069" on the data carrier Cartridge.

Input:

OUTPUT-APS:":C:DIRDC0.20.069",;

Output:

```
-- FILE CONTENTS < :PDS:APSI/PS/D0-EF0DC > --
|#|APSI/PS/D0-EF0DC          |D0-EF0.20.069|D0-EF0.20.069|V|C06900|
|S|A0-EF0AC|000|D0-TF1D0|000|S0-EF0SC|000|          |000|          |000|
|N|P30252B0011A60204
|I|APSI/PS/D0-EF0DC          |DIRC.D0-EF0.20.069.ASC|DIRDC0.20.069
| |APSI/SE/SELEDC0          |ZSELEDC0.D0-EF0.20.068|ZSELEDC0.20.068
|B|Z/ISU
| |APSZ/ISU/BS/ABS/ZAACMSA0    |ZAACMSA0.D0-EF0.20.069|ZAACMSA0.20.069
| |APSZ/ISU/BS/ABS/ZAFTRAN0    |ZAFTRAN0.D0-EF0.20.065|ZAFTRAN0.20.065
| |APSZ/ISU/BS/ABS/ZCGOUTP0    |ZCGOUTP0.D0-EF0.20.069|ZCGOUTP0.20.069
|D|APSZ/ISU/BS/ABS/ZDAADSM0    |ZDAADSM0.D0-EF0.20.050|ZDAADSM0.20.050
| |APSZ/ISU/BS/ABS/ZONNUCL0    |ZONNUCL0.D0-EF0.20.063|ZONNUCL0.20.063
.
.
.
.
.
| |APSZ/ISU/BS/ABS/ZRTAPECO    |ZRTAPECO.D0-EF0.20.067|ZRTAPECO.20.067
| |APSZ/ISU/BS/ABS/ZSAVCOC0    |ZSAVCOC0.D0-EF0.20.067|ZSAVCOC0.20.067
| |APSZ/ISU/BS/ABS/ZSTTABD0    |ZSTTABD0.D0-EF0.20.055|ZSTTABD0.20.055
| |APSZ/ISU/BS/ABS/ZTINITC0    |ZTINITC0.D0-EF0.20.067|ZTINITC0.20.067
| |APSZ/ISU/BS/ABS/ZTTEXTE0    |ZTTEXTE0.D0-EF0.20.036|ZTTEXTE0.20.036
|B|X/END
```

3. Output of the DIR file "DIRDC0.20.069" on the data carrier DAT.

Input:

OUTPUT-APS:":D:DIRDC0.20.069";

Output:

```
-- FILE CONTENTS < :PDS:APSI/PS/D0-EF0DC > --
|#|APSI/PS/D0-EF0DC          |D0-EF0.20.069|D0-EF0.20.069|V|C06900|
|S|A0-EF0AC|000|D0-TF1D0|000|S0-EF0SC|000|          |000|          |000|
|N|P30252B0011A60204
|I|APSI/PS/D0-EF0DC          |DIRC.D0-EF0.20.069.ASC|DIRDC0.20.069
| |APSI/SE/SELEDC0          |ZSELEDC0.D0-EF0.20.068|ZSELEDC020068
|B|Z/ISU
| |APSZ/ISU/BS/ABS/ZAACMSA0    |ZAACMSA0.D0-EF0.20.069|ZAACMSA020069
| |APSZ/ISU/BS/ABS/ZAFTRAN0    |ZAFTRAN0.D0-EF0.20.065|ZAFTRAN020065
| |APSZ/ISU/BS/ABS/ZCGOUTP0    |ZCGOUTP0.D0-EF0.20.069|ZCGOUTP020069
|D|APSZ/ISU/BS/ABS/ZDAADSM0    |ZDAADSM0.D0-EF0.20.050|ZDAADSM020050
| |APSZ/ISU/BS/ABS/ZONNUCL0    |ZONNUCL0.D0-EF0.20.063|ZONNUCL020063
.
.
.
.
.
| |APSZ/ISU/BS/ABS/ZRTAPECO    |ZRTAPECO.D0-EF0.20.067|ZRTAPECO20067
| |APSZ/ISU/BS/ABS/ZSAVCOC0    |ZSAVCOC0.D0-EF0.20.067|ZSAVCOC020067
| |APSZ/ISU/BS/ABS/ZSTTABD0    |ZSTTABD0.D0-EF0.20.055|ZSTTABD020055
| |APSZ/ISU/BS/ABS/ZTINITC0    |ZTINITC0.D0-EF0.20.067|ZTINITC020067
| |APSZ/ISU/BS/ABS/ZTTEXTE0    |ZTTEXTE0.D0-EF0.20.036|ZTTEXTE020036
|B|X/END
```

18.3.5 DUMP-APS

Dump one or all DIR file(s) on the data carrier.
The contents of the PGLIB are copied to the data carrier and can be copied again using TEST APS and COPY APS. All subsystems, or just the DATABASE subsystems, may be dumped.
Individual server databases can be accessed by declaring the parameter SUSY.
It is not possible to dump individual SWU databases.
If the parameter SUSY is declared as "ZAPLTABD" or "ZAPLTABS", then the load tables of the according module (D = Server, S = SWU) are dumped.
If the parameter TYPE is declared as "PS", ALL subsystems are dumped. An additional declaration of "SUSY" is ineffective.

Note:

The value of the parameter DIRNAME must be entered exactly as specified when the volume was reserved with AMO RTAPE.

It is also possible to dump the difference between the actually DIR files and the DIR files specified by the parameter OLDDIR.

The parameter 'DESTDEV' indicates that virtuell device from which the named program systems have to be copied.

Procedure Overview

Command Code	Parameter
DUMP-APS	FILENAME=<string>, [ANS=<param>] |, [TYPE=GEN], [DESTDEV=<string>; |, [TYPE=PS], [DIRNAME=<string>], [DESTDEV=<string>; |, [TYPE=DB], [DIRNAME=<string>], [SUSY=<string>] |, [DESTDEV=<string>; |, [TYPE=DELTA], OLDDIR=<string>, [DESTDEV=<string>;

Examples

- 1. Dump all subsystems on Cartridge.
Input:
DUMP-APS:":C:";
- 2. Dump the SWU program system on cartridge.
Input:
DUMP-APS:":C:", PS, "S0-EF0SC";

3. Dump the VMS database on cartridge.

Input:

DUMP-APS:":C:",DB,"S0-TFGSG","ZDBTXTGC";

4. The delta between the old DIR file and the specified DIR file has to be dumped onto the data carrier, which has been reserved by the name "C".

Input:

DUMP-APS:":C:",,DELTA,"DBDA:OLDDIRS/DIRDC0.20.068";

5. Dump all subsystems on DAT.

Input:

DUMP-APS:":D:";

18.4 Parameter Description

ANS	Answer
Type of Input	: Single value optional
Possible Values	: (TEST, COPY and OUTPUT)
	Y = Yes
	N = No
Possible Values	: (DISPLAY)
	Y = SUBSYSTEM
	N = FUNCTION FOR CURRENT FILE NOT CARRIED OUT
	C = PROCEED WITH FUNCTION FOR ALL FOLLOWING FILES
	I = DIRECTORY FILE
DESTDEV	name of the destination device
	name of the HD-area on which the program library is located
Type of Input	: Single value, optional
Possible Values	: logical area name (3 to 9 characters)
Default Value	: ":PDS:"
DIRNAME	Name of directory file

APS - Software Load Upgrade

Parameter Description

	Type of Input	: Single value, max. 8 linked single values (TEST) Single value (DUMP) optional	
	Possible Values	: Filename on data carrier max. 17 chars. (TEST) Filename in PGLIB (DUMP).	
FILENAME	Filename of MML CMD file		
	Type of Input	: Single value mandatory (DISPLAY, OUTPUT, DUMP) optional (TEST)	
	Possible Values	: File name (max. 32 chars.) Part of file name, describes type of production file (TEST)	
	Default Value	: (TEST) :BF0:	
LANAME	Logical area name		
	Type of Input	: Single value optional	
	Possible Values	: logical area name (3 to 9 chars.)	
	Default Value	: :DBDA:	
MODE	Desired test mode		
	Type of Input	: Single value optional	
	Possible Values	: NORMAL Normal test DBNORM Normal test with database DBONLY Database only DELETE Delete program system or SELE FORCE Forced test NALL Normal test, all NALLDB Normal test, all and database FALL Forced test, all FGEN Forced test NGEN Normal test	
	Default Value	: Normal test	

OLDDIR	Old directory file against which delta is created
Type of Input	: Single value mandatory
Possible Values	: File name (max. 32 chars.)
SELE	Name of the selection for status output (DISPLAY). Name of the selection to be transferred/deleted. (TEST)
Type of Input	: Single value optional
Possible Values	: Name of a selection (max. 8 chars.)
SP	Name of system program
Type of Input	: Single value mandatory (DISPLAY, TYPE=PSGL,SUSY) optional (DISPLAY, TYPE=SELE) optional (DISPLAY, TYPE=PSALL,SELE)
Possible Values	: system program name (max. 8 chars.)
SUSY	Name of subsystem, for which status display is required. (DISPLAY) Name of database to be dumped. (DUMP)
Type of Input	: Single value mandatory (DISPLAY, TYPE=SUSY)
Possible Values	: Subsystem name (max. 8 chars.)
TYPE	Desired software load upgrade option
Type of Input	: Single value optional
Possible Values	: (DISPLAY)
	ALL All DISPLAYED files
	PSALL All system programs
	PSGL One system program
	SUSY Subsystem
	DIR Directory file

APS - Software Load Upgrade

Error Messages and Advisories

Possible Values	:	(DUMP)
	PS	All program systems
	DB	Database subsystems
	GEN	Forced test according to cartridge
	DELTA	DUMP-APS creates deltas to old directory
Default Value	:	PSALL (DISPLAY)
	PS	(DUMP)

18.5 Error Messages and Advisories

18.5.1 Error Messages

F01: SUBSYSTEM NAME <susy> FROM DIR DIFFERENT TO SUBSYSTEM NAME <susy> FROM OMF
F02: DB-RECORD IN BLOCK <string> INVALID
F03: DB-SUSY <susy> NOT DELIVERED
F04: SUBSYSTEM <susy> FROM SELEKTION <sele> NOT INCLUDED IN PROGRAM SYSTEM <ps>.
F05: PREDECESSOR <ps> NOT IN PGLIB, PROGRAM SYSTEM WILL NOT BE TRANSFERRED
F06: SELECTIONLIST <string> DOES NOT EXIST
F07: DIR-FILE <string> NOT ON DATA MEDIUM
F10: DIR <dir> TO BE TRANSFERRED BY FORCE NOT ON THE DATA MEDIUM
F11: <dir> DOESW NOT EXIST IN THE PROGRAM LIBRARY
F12: SPECIFIED DIR-FILE <dir> NOT ON DATA MEIDIUM
F13: SPECIFIED SELECTION (<sele>) IN NO SELECTION LIST
F14: CONTENTS OF <:PDS:APSK/LTB> UNKNOWN
F15: MORE THAN <numner> PS'E CAN'T BE PROCESSED
F16: THE INTERFACE IDENTIFIER <string> OF THE NEW (OLD, SWAPPED)
PROGRAM SYSTEM <ps> DOESN'T MATCH WITH THE INTERFACE IDENTIFIER OF
THE NEW (OLD, SWAPPED) PROGRAM SYSTEM <ps> !
F17: PARAMETER DATNAM WRONG
F18: NO DIR-FILE TO CHECK ON THE DATA MEDIUM
F19: PROGRAM SYSTEM <ps> NOT PRESENT IN THE PROGRAM LIBRARY
F20: SYNTAX ERROR IN DIR <dir>
F21: TOO MANY DIR FILES
F22: SPECIFIED OLDDIR <dir> DOESN'T EXIST
F23: PROGRAM SYSTEM <ps> NOT IN PROGRAM LIBRARY
F24: SELECTION LISTS MUST NOT BE DELETED!
F25: PROGRAM SYSTEM <ps> WILL NOT BE DUMPED
F26: SELECTION LIST <dir> NICHT IN AUXILIARY AREA
F27: DIR FILE <ps> OF MASTER DIR NOT IN PROGRAM LIBRARY
F29: PGL MESSAGE ERROR
F30: DEMANDED REGEN FOR <server> HAS NOT BEEN COMPLETED
F31: DSCR MESSAGE ERROR
F32: GENERATED ABS_TYP LIST TOO SMALL

F33: DELIVERY IDENTIFIER INDETERMINABLE PROGRAM ERROR
F34: SUSY WORK NOTE NOT DETERMINABLE PROGRAM ERROR
F35: REQUIRED FUNCTION INDETERMINABLE
F36: NO <string> COULD BE FOUND
F38: CAUTION: EXECUTE ADINIT TEST FIRST
F39: ADINIT-TEST ABORTED; CALL P-APS
F40: ERROR ON TESTING LTB-FILE
F41: <dir> IS NO DIR FILE
F42: TAPE <string> UNCATALOGED
F43: TAPE <string> NOT RELEASED
F44: TAPE <string> NOT RESERVED
F45: FILE <string> NO OMF286-SUBSYSTEM
F46: ERROR: TYP IS UNKNOWNF

It will be used additional error messages from the used FAM- and
NUCLEUS- procedures.

Fnn: ERROR BY <action> <string>: H'<nnnn>

18.5.2 Advisories

H01: REGEN TO START FOR <server>
H02: TEST WHETHER ALL NEEDED SUBSYSTEMS ARE ON THE DATA MEDIUM
H03: IS SUSY NAME FROM DIR TO BE COMPARED WITH SUSY NAME FROM OMF
(J/N) ?
H04: CREATING LIST OF CHANGED SUBSYSTEMS
H05: IN DIR-FILE <dir>
NO SUBSYSTEM TO PROCESS
H06: PROGRAM SYSTEM <ps>
WILL NOT BE TRANSFERRED, SINCE IT IS ALREADY IN THE PGLIB
H07: IS PROGRAM SYSTEM <ps1>
SWAPPED BY <ps2> (J/N) ?
H08: SPECIFIED SELEKTION <sele>
IS NOT ACTIVE
H09: IN SELECTION <sele>
NO DATA BASIS SUBSYSTEM GEFUNDEN
H10: SPECIFIED SELECTION <sele>
ALREADY DEACTIVATED
H11: TESTING OF <dir> =
<ps>
H12: <ps> IS A PROGRAM SYSTEM
WITH CODE SUBSYSTEMS
H13: <ps> IS A PROGRAM SYSTEM
WITH SYMBOL SUBSYSTEMS
H14: <ps> IS A PROGRAM SYSTEM
WITH TEXT SUBSYSTEMS
H15: <ps> WILL BE TESTED AS DATA BASE DELIVERY

APS - Software Load Upgrade

Error Messages and Advisories

H16: <ps> WILL BE TESTED DBONLY
H17: <ps> WILL NOT BE TRANSFERRED
BECAUSE SELECTIONS ARE SPECIFIED
BUT SELECTION LIST DOES NOT EXIST
H18: <ps> DELETE TESTING OF
H19: <ps> FORCED TESTING OF
H20: <ps> IS TESTED NORMALLY
H21: SYNTAX ERROR IN DIR <dir> H' <xxxx>
H22: TESTING OF DIR FILES ON THE DATA MEDIUM
H23: PS NAMED TWICE !
<dir> = <ps> !
H24: IS PROGRAM SYSTEM <ps>
TO BE DELETED FROM PGLIB ?
H25: LIST OF PROGRAM SYSTEMS DELIVERED TWICE
H26: WHICH PROGRAM SYSTEM IS TO BE TRANSFERRED ?
H27: TRANSFER OF PS <ps> ? (J/N)
H28: TERMINATE ? (J/N)
DELETING ALL TEMPORARY AUXILIARY FILES
H29: TESTING THE STATE OF TEST APS
H30: TEST AGAIN (J/N) ?
H31: CHOOSE FUNCTION COPY-APS !
H32: ALREADY TESTED PROGRAM SYSTEMS WILL BE TESTED MULTIPLE
H33: PS/DB SAVE STARTED
H34: PS/DB SAVE TERMINATED
H35: SHOULD DIR FILE <dir> BE OVERWRITTEN ?
H36: NO PROGRAM SYSTEM HAS BEEN COPIED
H37: THE PROGRAM LIBRARY INCLUDES NO CHANGED SUBSYSTEM COMPARED WITH
OLDDIR <dir>
H39: PS/DB SAVE COMPLETED
H40: PATCHING RUNNING OR ABORTED.
PLEASE END PATCHING FIRST !
H41: FILE <string> WAS GENERATED
H42: FILE <string> FOR "FBT-FAMUP" IN USE
H43: TRANSFERRING OF <dir> =
<ps>
H44: ADINIT-COPY ABORTED
H45: FOR PROCESSOR <server>
EXECUTE RELOAD (POWER ON) !!
H46: FILE <string> HAS BEEN DELETED
H47: MORE THAN <numner> INTERFACE IDENTIFIERS NOT GENERATED
H48: TAPE WITH FILE <string> MOUNTED? (J/N)
H49: NEXT TAPE MOUNTED ? (J/N)
H50: PROGRAM SYSTEM INCLUDES NO INTERFACE VERSIONES
H51: PROGRAM SYSTEM : <ps>
INCLUDES NO SUBSYSTEMS
H52: SUBSYSTEM <susy>
IS IN PROGRAM SYSTEM <ps> NICHT EXISTING
H53: PROGRAM SYSTEM : <ps>
NOT IN PGLIB
H54: NO PROGRAM SYSTEMS IN PGLIB
H55: NO FILE NAME HAS BEEN SPECIFIED
H56: PROGRAM SYSTEM <ps>

HAS NO SELECTION LIST

H57: VALUES CAN BE CALCULATED FOR SUBSYSTEMS OF TYPE (Z/N/U) ONLY

H58: PROGRAM LIBRARY IS AT THE MOMENT AT USE .

SIMULTANEOUS ACCESS NOT POSSIBLE.

19 ASPIK - Change System Program Number in MML Command File on Hard Disk

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO ASPIK overwrites the old SP number with a new number to be entered by the user. This function is required because generation with an MML batch in which the SP number differs from the SP number in the DIR file is rejected by GENDB.

19.1 Restrictions

This description is valid from Hicom 300 E V3.0

19.2 Interrelationships

- AMO GENDB : Generate Data Base with MML Command File

19.3 Functions of the AMO

- [CHANGE-ASPIK](#) : Change system program number in the MML command file

19.3.1 CHANGE-ASPIK

Procedure Overview

Command Code

CHANGE-ASPIK

Parameter

FILE=<string>,UNIT=<param>
,APSTYP=<param>
,SP=<string>;

Example

Changing SP number P30252B1111A00101 in file :PAS:TESTFILE to P30252B1111A00412

ASPIK - Change System Program Number in MML Command File on Hard Disk
Parameter Description

Input:
CHANGE-ASPIK: TESTFILE,BP,RESCODE,P30252B1111A00412;
Output:
H01 : OLD SP NUMBER P30252B1111A00101 WAS OVERWRITTEN

19.4 Parameter Description

APSTYP	Denotes the APS for which the SP number is to be changed. Type of Input : Single value, mandatory Possible Values : AMOCODE, AMOTEXT, RESCODE
FILE	Name of MML command file The AMO checks whether the file is on the hard disk. If this is not the case, parameter FILE is prompted. Type of Input : Single value, mandatory Possible Values : Syntactically correct DMS file name
SP	New SP number In principle any SP number can be entered; for safety reasons the overwritten number is output in an advisory on the screen. Type of Input : Single value, mandatory Possible Values : 17-digit SP number
UNIT	Name of hardware module Type of Input : Single value, mandatory Possible Values : A1 = ADS BP = SWU

19.5 Error Messages and Advisories

19.5.1 Error Messages

F01: THERE IS NO MML FILE WITH THE NAME SPECIFIED
F02: THE MML FILE CONTAINS NO ENTRY FOR THE HW MODULE SPECIFIED
F03: ERROR IN ACCESS TO HARD DISK UPON DMS CALLUP <xxxxxxxxxxxxxxxxxxxx>

DMS EXCEPTION CODE <xxxxxx>
F04: THE FILE INDICATED IS NOT A SAM FILE.
CONVERSION POSSIBLE BY CALLING UP AMO GENDB.

19.5.2 Advisories

H01: OLD SP CODE NUMBER <yyyyyyyyyyyyyyyyyy> WAS OVERWRITTEN

Descriptions

<xxxxxxxxxxxxxxxxxxxx> : Name of relevant DMS call:
open : OD_P_OPEN_SAM_FILE
get : OD_P_GET
putx : OD_P_PUTX
close : OD_P_CLOSE
<yyyyyyyyyyyyyyyyyy> : SP number

ASPIK - Change System Program Number in MML Command File on Hard Disk

Error Messages and Advisories

20 ASSGN - Device Assignment

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The APS of the Hicom system has 3 tables in each of which real output devices are assigned to the symbolic output devices used by the AMOs to output results. These tables are listed below:

- standard device assignment table for external connections (SATEC) (Logon extern).
This table contains the device assignments to be used generally if AMOs are called via terminals or data lines.
- standard device assignment table for internal connections (SATIC) (Logon intern).
This table contains the device assignments to be used generally if APS's that are not AMOs send outputs to a device.
- a session-specific device assignment table (SCT).
The assignments from the SATEC or from the SATIC are transferred to this table when a session is opened, depending on whether the session was opened by a terminal, or via data link, or by an APS.

The AMO ASSGN can display or change the device assignments of all three tables.

A change in a standard assignment table effects all subsequent sessions, while a change in the session-specific assignment table is effective only for the duration of the session.

20.1 Restrictions

This description is valid from SP300-V3.4

20.2 Interrelationships

- AMO ATCSM : Asynchronous Terminal Configuration Service Module
- AMO SIGNL : Error Signaling Control

20.3 AMO Functions

- **CHANGE-ASSGN** : Change of the device assignments
- **DISPLAY-ASSGN** : Display of the device assignments
- **REGENERATE-ASSGN** : Regeneration of the device assignments

20.3.1 CHANGE-ASSGN

Change of the device assignments for the following:

1. Current, session-specific device assignment table
2. Standard device assignment table for external connections (SATEC)

One of the logical devices (parameter LDEV) can be assigned to the symbolic devices (parameter SDEV). It is also possible to assign a specific logical device to several symbolic devices.

Logical Device FILE/CFILE (expandable/cyclic file on hard disk)

If the logical device FILE or CFILE is assigned, the AMO also waits for the input of a file name. The file is created by AMO if it does not yet exist. This file is always a BYTE FILE.

The file name NULL or a file name starting with NULL has a special status. It is provided for the controlled suppression of outputs, and no file is created for it. This file name is allowed only with the logical device FILE. The standard prefix of the file name for the logical device CFILE must be C- .

For the logical device CFILE, the AMO waits for the specification of the file length in addition to the file name. The file is then created with the requested length and retains this length during its life. A standard file (FILE) is set up with a length of 0 and is then continuously expanded during writing.

Assignment Test Matrix

The AMO checks the validity of the assignment on the basis of an assignment test matrix that the AMO has for each assignment table. The permitted, prohibited and permanently-assigned logical devices are entered in this matrix for all symbolic devices.

For permanent assignments, only the permanently assigned logicaldevice may be specified during the change, e.g., to reconstruct the assignment.

If the requested assignment is prohibited, the AMO enters a dialog status in which it asks the user whether the assignment test matrix is to be output.

This dialog status is initiated by an input request with the verb 'DIALOG01'. The name of the only parameter in this action, which can only be called down by the AMO, is 'ANS', the possible values are 'Y' or 'N'.

Example of a dialog :

Input:

CHANGE-ASSGN:SCT,DIALOG,C01;

Output:

F03 : LOGIC DEVICE C01 MUST NOT BE ALLOCATED IN SCT
TO SYMBOLIC DEVICE DIALOG.

IS THE MATRIX TO BE OUTPUTTED WITH THE ADMISSIBLE,
INADMISSIBLE AND FIXED
ASSIGNMENT SCHEMES FOR THE SCT ?

<DIALOG01-assgn:

Input:

Y

Output:

```
TBL = SCT      L | D
                D | E
                E | F
                V | A
                | U C C C C C C P P P P I I A T S
                | L O O O O O O R R R R L L F N E
SDEV           | T 1 2 3 4 5 6 1 2 3 4 E E R D R
-----+-----
RESULT        | /                                     / / /
ERR           | /                                     / / /
DIALOG        | / / / / / / / / / / / / / / / / / /
PR            | /                                     / / /
CON           | /                                     / / /
DPT1          | /
DPT2          | /
DPT3          | /
DPT4          | /
AFR           | / / / / / / / / / / / / = / /
ATND          | / / / / / / / / / / / / = /
```

ASSIGNMENT SCHEME: INADMISSIBLE = "/" , ADMISSIBLE = " " ,
FIXED = "="

Procedure Overview

Command Code	Parameter
CHANGE-ASSGN	[TBL=SCT], SDEV=<param> , LDEV=FILE, FILE=<string>; , LDEV=CFILE, FILE=<string>, LEN=<number>;

Command Code	Parameter
	<pre>|,LDEV=<remaining values>; | [TBL=SATEC],SDEV=<param> ,LDEV=FILE,FILE=<string>; |,LDEV=CFILE,FILE=<string>,LEN=<number>; |,LDEV=<remaining values>; | [TBL=SATIC],SDEV=<param> ,LDEV=FILE,FILE=<string>; |,LDEV=CFILE,FILE=<string>,LEN=<number>; |,LDEV=<remaining values>;</pre>

Example

Assign the expandable hard disk file REGEN-STAPEL to the symbolic device RESULT in the standard device assignment table for external connections.

Input:

```
CHANGE-ASSGN:SATEC,RESULT,FILE,"REGEN-STAPEL";
```

Output:

```
CHANGE-ASSGN:SATEC,RESULT,FILE,"REGEN-STAPEL";

H500: AMO ASSGN STARTET
AMO-ASSGN-...      INPUT/OUTPUT DEVICE ASSIGNMENT
CHANGE COMPLETED;
```

20.3.2 DISPLAY-ASSGN

Display of the device assignments for the following:

- The current, session-specific device assignment table (portion of the session control table)
- The standard device assignment table for external connections (SATEC)
- The standard device assignment table for internal connections (SATIC)

In general, the table with the specifications of the symbolic device and the logical device is used for the output. For the logical device FILE or CFILE, the file name is also output and for CFILE, the length of the file is added.

Since the length of the file is stored in the file itself and may not be capable of being read in the event of a file access error, "???" is output to identify the read error instead of the file length.

Procedure Overview

Command Code	Parameter
DISPLAY-ASSGN	[TBL=<param>];

Example

Display the standard device assignment table for external connections.

Input:

```
DISPLAY-ASSGN:SATEC;
```

Output:

```
DISPLAY-ASSGN:SATEC;
H500: AMO ASSGN STARTET
```

```
TABLE: SATEC
```

SYMBOLIC DEVICE	LOGICAL DEVICE	FILE NAME	FILE LENGTH (IN BYTE)
RESULT	FILE	REGEN-STAPEL	
ERR	DEFAULT		
DIALOG	DEFAULT		
PR	PR1		
CON	DEFAULT		
DPT1	CO2		
DPT2	CO2		
DPT3	CO2		
DPT4	CO2		
ATND	ATND		
AFR	AFR		

```
AMO-ASSGN-... INPUT/OUTPUT DEVICE ASSIGNMENT
DISPLAY COMPLETED;
```

20.3.3 REGENERATE-ASSGN

Remark: For parameter

Regenerate the device assignments for the following:

ASSGN - Device Assignment

AMO Functions

- Standard device assignment table for external connections (SATEC)
- Standard device assignment table for internal connections (SATIC)

The regeneration of the session-specific device assignment table (SCT) is not practical, because the SCT is a temporary table which is deleted after the session is ended.

Notes

Contrary to the function DISPLAY, the symbolic device DIALOG is output only for the SATIC during REGENERATE because the assignment of a logical device to the symbolic device DIALOG in the function CHANGE is permitted only for SATIC.

If the length of a CFILE cannot be determined for the REGENERATE action, then the value "64000" is output (not "???" as for DISPLAY) for this file. In addition, the advisory message H6 is output in order to show that the standard value has been substituted for the real value.

Procedure Overview

Command Code	Parameter
REGENERATE-ASSGN	TBL=SATEC\SATIC;

Example

Regenerate the standard assignment table for external connections.

Input:

```
REG-ASSGN:SATEC;
```

Output :

```
H500: AMO ASSGN STARTED
CHANGE-ASSGN:SATEC,RESULT,FILE      ,"REGEN-BATCH";
CHANGE-ASSGN:SATEC,ERR      ,DEFAULT;
CHANGE-ASSGN:SATEC,PR      ,PR1;
CHANGE-ASSGN:SATEC,CON      ,DEFAULT;
CHANGE-ASSGN:SATEC,DPT1     ,CO2;
CHANGE-ASSGN:SATEC,DPT2     ,CO2;
CHANGE-ASSGN:SATEC,DPT3     ,CO2;
CHANGE-ASSGN:SATEC,DPT4     ,CO2;
CHANGE-ASSGN:SATEC,ATND     ,ATND;
CHANGE-ASSGN:SATEC,AFR      ,AFR;
AMO-ASSGN-...              INPUT/OUTPUT DEVICE ASSIGNMENT
REGENERATE COMPLETED;
```

20.4 Parameter Description

NOTE: Remark: The parameter LDEV can additionally have the value USER. This assigns the logical device 'TELNET TASK OVER USER TASK'. In the table below this parameter value is not mentioned because the TELNET TASK is not officially released.

DLISTGR	Name of the distributor with the receiving terminal devices
Type of Input	: Single value, mandatory
Possible Values	: No restriction
FILE	File name
Type of Input	: Single value, mandatory
Possible Values	: All alphanumerical ACSII characters and the special characters '-' '_' '#' '|' '%' '&' 1st position must be a letter for LDEV=CFIL with prefix "C-"
LDEV	Logical device (branching parameter)
Type of Input	: Single value, mandatory
Possible Values	: DEFAULT = device via which the AMO was started
	CO1-CO6 = terminal 1 to terminal 6
	PR1-PR4 = printer 1 to printer 4
	AFR = automatic fault report
	ATND = attendant terminal
	FILE = expandable file on hard disk
	CFIL = cyclic file on hard disk
	USER TELNET TASK VIA USER TASK
LEN	Length of file
Type of Input	: Single value, mandatory
Possible Values	: 100000-9999999
SDEV	Symbolic device
Type of Input	: Single value, chained single values, mandatory

ASSGN - Device Assignment

Parameter Description

	Possible Values	: RESULT	= result
		ERR	= error
		DIALOG	= device via which the AMO was started
		PR	= printer
		CON	= terminal
		DPT1-DPT4	= dependability terminal 1 to 4
		AFR	= automatic fault report
		ATND	= attendant terminal
STNO	Directory number of the receiving terminal device		
	Type of Input	: Single value, mandatory	
	Possible Values	: internal directory number with specified service or valid direction number with external directory number	
SVC	Service of the receiving terminal device		
	Type of Input	: Single value, optional	
	Possible Values	: FAX = facsimile	
TBL	Device assignment table to be processed		
	Type of Input	: Single value, optional (CHANGE and DISPLAY), mandatory (REGENERATE)	
	Possible Values	: SCT	= session-specific table
		SATEC	= standard table for external connections
		SATIC	= standard table for internal connections
	Default Value	: SCT	
TYPE	Type of address (branching parameter)		
	Type of Input	: Single value, mandatory	
	Possible Values	: STNO	= a specific terminal device
		DLISTGR	= a list of terminal devices

20.5 Error Messages and Advisories

20.5.1 Error Messages

F01: FILE NAME IS INCORRECT.
ONLY SPECIAL CHARACTERS "-" "_" "#" "|" "%" "&" ARE PERMITTED.

F02: IT WAS NOT POSSIBLE TO SET UP FILE @@@@@@@@@@@@@@.

F03: LOGIC DEVICE @@@@@@@@ MUST NOT BE ALLOCATED IN @@@@@@ TO SYMBOLIC DEVICE @@@@@@.

F04: LOGIC DEVICE @@@@@@@@ DOES NOT HAVE DIALOG CAPABILITIES AND THEREFORE MUST NOT BE ASSIGNED TO THE SYMBOLIC DEVICE DIALOG.

F05: LOGIC DEVICE @@@@@@@@ IS NOT CONFIGURED.

F07: THERE IS INSUFFICIENT MEMORY FOR A FILE OF THE REQUIRED SIZE ON THE DISK.

F08: NO SPACE ON THE DISK FOR A NEW FILE.

F09: ERR IN COMPILATION OF FILE HEADER.
IT WAS NOT POSSIBLE TO SET UP FILE @@@@@@@@@@@@@@.

F10: ERROR DURING CLOSURE OF FILE @@@@@@@@@@@@@@.
NOTE: THE FILE IS NOW OPEN ON THE DISK.

F11: ERROR IN COMPILATION OF FILE HEADER.
FILE @@@@@@@@@@@@@@ IS ERRONEOUS, BUT COULD NOT BE DELETED AGAIN.

F13: FILE NAME MUST START WITH A LETTER.

F14: AT LDEV=CFILE, THE FILE NAME MUST START WITH "C-".

F15: ERROR IN CHECKING FILE HEADER.
FILE IS NOT A CFILE OR FILE HEADER HAS BEEN DESTROYED.

F16: AT LDEV=FILE THE FILE NAME MUST NOT START WITH A "C-".

F17: AT LDEV OR SDEV = "???" THE TEXT MASK FOR THE READ SET VALUE WAS NOT FOUND.
-> CONVERSION TABLE OF AMO DESTROYED OR
-> DIFFERENT VERSIONS OF AMO AND DB.

F18: FILE <FILE> WAS ALREADY SET UP. THE FILE LENGTH VALUE CAN ONLY BE APPLIED TO NON-EXISTENT FILES. CURRENT FILE LENGTH IS <FLENGTH> . IF NECESSARY, DELETE FILE OR USE A DIFFERENT FILE NAME.

20.5.2 Advisories

H01: THE ALLOCATED LOGIC DEVICE @@@@@@@@ WAS STILL RESERVED.
THE RESERVATION HAS BEEN CANCELLED.

H02: FILE @@@@@@@@@@@@@@ HAS BEEN SET UP.

H03: FILE @@@@@@@@@@@@@@ WAS ALREADY SET UP.

H04: FILE @@@@@@@@@@@@@@ WAS ALREADY SET UP.
ENTERED FILE LENGTH IS DISREGARDED.
THE FILE LENGTH VALUE CAN ONLY BE APPLIED TO NON-EXISTENT FILES.
IF NECESSARY, DELET FILE OR USE A DIFFERENT FILE NAME.

20.5.3 Use of the Output Messages for Each Action

CHANGE	:	F01,	F02,	F03,	F04,	F05,	F07,	F08,	F09,
		F10,	F11,	F13,	F14,	F15,	F16,		
		H01,	H02,	H03,	H04,				
DISPLAY	:	F17							
REGENERATE	:	F17							

21 ATCSM - Asynchronous Terminal Configuration, Service Module

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO ATCSM processes the descriptions of *asynchronous devices* and device types as well as the allocation of these devices and device types to physical lines and enables the activation of a device or a line.

The AMO ATCSM does not process the description of device 1, the device type allocated to device 1 and the allocations to line 8, because this description, together with the allocations, forms the configuration of the standard administration and maintenance terminal.

21.1 Restrictions

This description is valid for SP300-Rel6.3.

In case of a Hipath 4000 v2.0 there don't exist synchrone or asynchrone V24 - Lines.

21.2 Interrelationships

- AMO UCSM : Unit Configuration of Server Devices
- AMO LCSM : Line Configuration, Service Module
- AMO BCSM : Board Configuration, Service Modules
- AMO TCSM : Terminal Configuration of Server
- AMO LSSM : Line Switch, Service Modules

21.3 Functions of the AMO

- [ADD-ATCSM](#) : Create asynchronous devices and device types
- [CHANGE-ATCSM](#) : Change asynchronous devices and device types
- [DELETE-ATCSM](#) : Cancel asynchronous devices and device types
- [DISPLAY-ATCSM](#) : Display asynchronous devices and device types

- **REGENERATE-ATCSM** : Regenerate asynchronous devices and device types

21.3.1 ADD-ATCSM

Restriction:

In case of a Hipath 4000 v2.0 there don't exist synchrone or asynchrone V24 - Lines.

- Create a device type (DEVTYPE) in the device-profile
- Create a device (TYPENO) in the device table
- Create an allocation of a device (TYPENO), logical device (IDEVNAME) or device type (DEVTYPE)
- Create an allocation of a device (TYPENO) and line (LN) with optional startup (OPMODE)

Prerequisites

- Existing server configuration (via AMO UCSM)
- A device can be reconfigured only if the old configuration was cancelled in the database.
- For the allocation of a device type to a device, the corresponding device and the device type as well as the logical line characteristics associated with the device must be configured.
- A device type must be allocated to the device before a line is allocated to a device.

Notes

- If the device type is already created, it will be overwritten and an advisory (H14) will be displayed.
- The device types RSV1 til RSV3 are for reserve and so they have no default values. Creating these device types without input of valid control character sequences will be rejected (F45).

Procedure Overview

Command Code	Parameter
ADD-ATCSM	[UNIT=<param> , TYPE=CFIG, CFIG=TYPE, DEVTYPE=<param>, [CRLF=<hex>] , [FF=<hex>], [USERGD=<hex>], [STATXBLK=<hex>]

Command Code	Parameter
	<pre>, [STOTXTBL=<hex>], [VATR NORM=<hex>] , [VATRDARK=<hex>], [CRCHAR=<hex>] , [LNPERSCR=<decimal>], [CHPERLN=<decimal>]; |, TYPE=CFIG, CFIG=DEV, TYPENO=<decimal> , [TERMDESC=<param>], [CHPERLN=<decimal>] , [CNTRLNA=<hex>], [T=<decimal>], [ANSLNT=<hex>] , [ANSLN=<hex>], [ECHOCHAR=<hex>], [FILLWTPR=<hex>], , [FILLCNT=<decimal>], [CNTRLND=<hex>] , [TFOUT=<hex>], [TFIN=<hex>], [DISDELN=<hex>] , [FRAMEFL=<hex>], [PARERR=<hex>], , [OVERFL=<hex>], [DAOUTT=<decimal>] , [DAINT=<decimal>], [RSVT=<decimal>] , [INTOUTT=<decimal>], [DIALT=<decimal>] , [PASSEXCL=<hex>], [PASSRES=<hex>]; |, TYPE=ADD, ALSEL=TYPE, LDEVNAME=<param> , [DIAIND=<param>], DEVTYPE=<param>, TYPENO=<decimal>; |, TYPE=ADD, ALSEL=LN, TYPENO=<decimal>, LN=<decimal> , [OPMODE=<param>];</pre>

Example

A system with an AMT (administration and maintenance terminal) which is connected to line 8 of module A1 (ADS) is specified.

A standard service terminal with a connected PT88 is provided. This hardware configuration is to be connected to line 9 of module A1 of the ADS. Output on this device must be program-controlled, with the option of output on the screen only, on the printer only, or on both the screen and the printer.

In the first three calls, the control character sequences of the required device types are defined by default values. The type-specific data is then created. Prior to allocating a device, the AMO LCSM (line configuration service module) must be used to create the line-specific data. Since the device data is allocated to the index 2 (TYPENO = 2), the line data must also be assigned to the same index.

In the 3 subsequent calls, one device type each is allocated to the type-specific and line-specific data and to the logical device name used by the LDU.

In the last call, the device data is allocated to a line which is subsequently activated.

ATCSM - Asynchronous Terminal Configuration, Service Module

Functions of the AMO

1. Create device types

Input:

```
AD-ATCSM : UNIT=A1,TYPE=CFIG,CFIG=TYPE,DEVTYPE=QUOSC;
```

```
AD-ATCSM : UNIT=A1,TYPE=CFIG,CFIG=TYPE,DEVTYPE=QUOPT;
```

```
AD-ATCSM :A1,CFIG,TYPE,PT88,0D0A,0C,,,,,,,,62,80;
```

2. Create device

Input:

```
AD-ATCSM : UNIT=A1,TYPE=CFIG,CFIG=DEV,TYPENO=2,TERMDISC=PRTYPCO,  
ECHOCHAR=C1&F3&EF,CNTRLND=EF,TFOUT=BB&FF&FF&35,  
TFIN=4C&89,DAINT=20,PASSEXCL=A1A2A3A4,PASSRES=B1B2B3B4;
```

3. Create logic devices

Input:

```
AD-ATCSM : UNIT=A1,TYPE=ADD,ALSEL=TYPE,LDEVNAME=CON1,DIAIND=Y,  
DEVTYPE=QUOSC,TYPENO=2;
```

```
AD-ATCSM : UNIT=A1,TYPE=ADD,ALSEL=TYPE,LDEVNAME=CON2,DIAIND=N,  
DEVTYPE=QUOPT,TYPENO=2;
```

```
AD-ATCSM : UNIT=A1,TYPE=ADD,ALSEL=TYPE,LDEVNAME=CON3,DIAIND=Y,  
DEVTYPE=QUCSAPT,TYPENO=2;
```

4. Allocate device to a line

Input:

```
AD-ATCSM : UNIT=A1,TYPE=ADD,ALSEL=TYPE,TYPENO=2,LN=9,OPMODE=Y;
```

21.3.2 CHANGE-ATCSM

Restriction:

In case of a Hipath 4000 v2.0 there don't exist synchrone or asynchrone V24 - Lines.

- An allocation can be changed by means of the functions 'delete' and 'add'.
- The specified device or the devices allocated to a device type can also be activated.
- When the action 'change' is executed, any existing line allocations of the corresponding device or device type are cancelled.

Procedure Overview

Command Code	Parameter
CHANGE-ATCSM	<pre>[UNIT=<param>] ,CFG=TYPE,DEVTYPE=<param>,[CRLF=<hex>] ,[FF=<hex>],[USERGD=<hex>],[STATXBLK=<hex>] ,[STOTXTBL=<hex>],[VATRNORM=<hex>] ,[VATRDARK=<hex>],[CRCHAR=<hex>] ,[LNPERSCR=<decimal>],[CHPERLN=<decimal>]; |,CFG=DEV,TYPENO=<decimal>,[TERMDESC=<param>] ,[CHPERLN=<decimal>],[CNTRLNA=<hex>] ,[T=<decimal>],[ANSLNT=<hex>],[ANSLN=<hex>] ,[ECHOCHAR=<hex>],[FILLWTPR=<hex>] ,[FILLCNT=<decimal>],[CNTRLND=<hex>] ,[TFOUT=<hex>],[TFIN=<hex>],[DISDELN=<hex>] ,[FRAMEFL=<hex>],[PARERR=<hex>] ,[OVERFL=<hex>],[DAOUTT=<decimal>] ,[DAINT=<decimal>],[RSVT=<decimal>] ,[INTOUTT=<decimal>],[DIALT=<decimal>] ,[PASSEXCL=<hex>],[PASSRES=<hex>];</pre>

Example

1. Change the device type.

Input:

```
CHA-ATCSM:UNIT=A1,CFG=TYPE,DEVTYPE=PT88,CRLF=0D0A;
```

21.3.3 DELETE-ATCSM

Note

During the cancellation of an allocation or configuration, the corresponding lines can also be deactivated.

Procedure Overview

Command Code	Parameter
DELETE-ATCSM	<pre>[UNIT=<param>] ,TYPE=CFG,CFG=DEV,TYPENO=<decimal>; |,TYPE=CFG,CFG=TYPE,DEVTYPE=<param>; |,TYPE=ADD,ALSEL=TYPE,CFG=DEV,TYPENO=<decimal>;</pre>

ATCSM - Asynchronous Terminal Configuration, Service Module

Functions of the AMO

Command Code	Parameter
	| ,TYPE=ADD,ALSEL=TYPE,CFIG=TYPE,DEVTYPE=<param>; | ,TYPE=ADD,ALSEL=LN,LN=<decimal>;

Example

1. Cancel the configuration of the device with the number 2 in module A1.

Input:

```
DEL-ATCSM:UNIT=A1,TYPE=CFIG,CFIG=DEV,TYPENO=2;
```

21.3.4 DISPLAY-ATCSM

Procedure Overview

Command Code	Parameter
DISPLAY-ATCSM	[UNIT=<param>], [TYPE=CFIG],[CFIG=DEV],[TYPENO=<decimal>]; | [TYPE=CFIG],[CFIG=TYPE],[DEVTYPE=<param>]; | [TYPE=ADD];

Examples

1. Display the configuration data of one device

Input:

```
DIS-ATCSM:UNIT=A1,TYPE=CFIG,CFIG=DEV,TYPENO=1;
```

2. Display the configuration data of all devices

Input:

```
DIS-ATCSM:UNIT=A1,TYPE=CFIG,CFIG=DEV;
```

3. Display the configuration data of one device type

Input:

```
DIS-ATCSM:UNIT=A1,TYPE=CFIG,CFIG=TYPE,DEVTYPE=PT88;
```

4. Display the configuration data of all device types

Input:

```
DIS-ATCSM:UNIT=A1,TYPE=CFIG,CFIG=TYPE;
```

5. Display the configuration data of all devices and device types

Input:

DIS-ATCSM:UNIT=A1,TYPE=CFG;

6. Display the configuration data of all allocations

Input:

DIS-ATCSM:UNIT=A1,TYPE=ADD;

7. Display the configuration data of all devices, device types and allocations

Input:

DIS-ATCSM:UNIT=A1;

21.3.5 REGENERATE-ATCSM

Procedure Overview

Command Code	Parameter
REGENERATE-ATCSM	[UNIT=<param>;

Example

1. Regenerate all devices in module A1.

Input:

REG-ATCSM:A1;

Output:

ADD-ATCSM:A1,DEV,TYPE,QUOSC,274A,27822784,,,,,1D84,1DC4,,,;

ADD-ATCSM:A1,DEV,DEV,2,,,CD,3,0A,0D,C1&F3&EF,,,EF,20
BB&FF&FF&35,4C&89,BA&DF,,20,,,,,xy37,1248;

ADD-ATCSM:A1,DEV,CON1,TT,Y,QUOSC,,2,17,,;

21.4 Parameter Description

ALSEL Allocation selection (device type or line)
 Branching parameter
Type of Input : Single value, mandatory

ATCSM - Asynchronous Terminal Configuration, Service Module

Parameter Description

	Possible Values	: TYPE	Device type
		LN	Line
ANSLN	State of "answer" line after activation		
	Type of Input	: Single value, optional	
	Possible Values	: 00 - FF	
	Default Value	: 00	
ANSLNT	"Answer" line to be tested		
	Type of Input	: Single value, optional	
	Possible Values	: 00 - FF	
	Default Value	: 04	
CFIG	Configuration selection		
	Branching parameter		
	Type of Input	: Single value, mandatory (ADD, DELETE, CHANGE)	
		Single value, optional (DISPLAY)	
	Possible Values	: DEV	Device
		TYPE	Device type
CHPERLN	Number of characters per line		
	line length (configuration)		
	Type of Input	: Single value, optional	
	Possible Values	: 0 - 132 (for CFIG=TYPE)	
		0 - 999 (for CFIG=DEV)	
	Default Value	: 80	
CNTRLNA	Value of control line when taking in service		
	Type of Input	: Single value, optional	
	Possible Values	: 00 - FF	
	Default Value	: F8	
CNTRLND	Value of control line when taking in service		
	Type of Input	: Single value, optional	

	Possible Values : 00 - FF Default Value : 02
CRCHAR	Command request character Type of Input : Singel value, optional Possible Values : Even number of hexadecimal digits or 0 (0 stands for no control character sequence) Default values, depending on the device type PT880 QUME-ONLY-SCREEN0 QUME-ONLY-PT880 QUME-SCRE-AND-PT880 PC-D-ONLY-SCREEN03(ETX) PC-D-ONLY-PT880 PC-D-SCRE-AND-PT8803(ETX) ASCII-TRANSP0 EBCDIC-TRANSP0
CRLF	Carriage return, line feed Type of Input : Single value, optional Possible Values : Even number of hexadecimal digits or 0 (0 stands for no control character sequence) Default values, depending on the device type PT880D0A QUME-ONLY-SCREEN0D0A QUME-ONLY-PT880D0A QUME-SCRE-AND-PT880D0A PC-D-ONLY-SCREEN0D0A PC-D-ONLY-PT880D0A PC-D-SCRE-AND-PT880D0A ASCII-TRANSP0D0A EBCDIC-TRANSP0D0A
DAINT	Data input supervision time Type of Input : Single value, optional Possible Values : 0 - 1310 seconds

ATCSM - Asynchronous Terminal Configuration, Service Module

Parameter Description

		(0 stands for no monitoring)
	Default Value	: 120
DAOUTT	Data output supervision time	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 1310 seconds
		(0 stands for no monitoring)
	Default Value	: 600
DEVTYPE	Device type designation	
	Type of Input	: Single value, mandatory
	Possible Values	: PT88
		QUOSC (QUME-ONLY-SCREEN)
		QUOPT (QUME-ONLY-PT88)
		QUSCAPT (QUME-SCRE-AND-PT88)
		PCOSC (PC-D-ONLY-PT88)
		PCSCAPT (PC-D-SCRE-AND-PT88)
		ASC (ASCII-TRANSP)
		EBC (EBCDIC-TRANSP)
		RSV1
		RSV2
		RSV3
DIAIND	Dialog mode indicator	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
		Default values, depending on the device type
		PT88N
		QUME-ONLY-SCREENY
		QUME-ONLY-PT88N
		QUME-SCRE-AND-PT88Y
		PC-D-ONLY-SCREENY
		PC-D-ONLY-PT88N
		PC-D-SCRE-AND-PT88Y
		ASCII-TRANSPY
		EBCDIC-TRANSPY

DIALT	Dialog supervision time Type of Input : Single value, optional Possible Values : 0 - 1310 seconds (0 stands for no monitoring) Default Value : 120
DISDELN	Display in del.line when lines empty if no input characters exist Type of Input : Maximum of 2 linked single values, optional Possible Values : 00 - FF Default Value : 0D&0A (definition: CR&LF)
ECHOCHAR	Control character to get terminal out of standby mode Type of Input : maximum of 2 linked single values, optional Possible Values : 00 - FF Default Value : 00&00
FF	Form feed Type of Input : Single value, optional Possible Values : Even number of hexadecimal digits or 0 (0 stands for no control character sequence) Default values, depending on the device type PT880C QUME-ONLY-SCREEN0C QUME-ONLY-PT880C QUME-SCRE-AND-PT880C PC-D-ONLY-SCREEN0C PC-D-ONLY-PT880C PC-D-SCRE-AND-PT880C ASCII-TRANSP0C EBCDIC-TRANSP0C
FILLCNT	Input of how often fill characters are to be sent

ATCSM - Asynchronous Terminal Configuration, Service Module

Parameter Description

	Type of Input : Single value, optional Possible Values : 0 - 99 Default Value : 0
FILLWTPR	Fill character, waiting for printer Type of Input : Single value, optional Possible Values : 00 - FF Default Value : 00
FRAMEFL	Start or stop step fault threshold (frame flutter) Type of Input : Single value, optional Possible Values : 0 - 65535 Default Value : 65535
INOUTT	Supervision time for interruption to data output Type of Input : Single value, optional Possible Values : 0 - 1310 seconds (0 = no supervision) Default Value : 600
LDEVNAME	Logical device name Type of Input : Single value, mandatory Possible Values : CON1 - CON6 Console PR1 - PR4 Lineprinter
LN	Physical line number Type of Input : Single value, mandatory Possible Values : 8, 9, 16, 17, 24, 25 8 - 63 (Line 8 of module A1 cannot be allocated by means of AMOs)
LNPERSCR	Number of lines per screen or page Type of Input : Single value, optional Possible Values : 0 - 64

	Default Value : 24
OPMODE	Operating mode for power supply on switch on Type of Input : Single value, optional Possible Values : Y, N Default Value : N
OVERFL	Threshold value for reporting the loss of characters Type of Input : Single value, optional Possible Values : 0 - 65535 Default Value : 65535
PARERR	Threshold value for reporting parity errors Type of Input : Single value, optional Possible Values : 0 - 65535 Default Value : 65535
PASSEXCL	Password exclusion class - so that protected data outputs are not aborted Type of Input : Single value (ADD) 2 combined single values (CHANGE) 1st single value old password 2nd single value new password optional Possible Values : 00000000 , ... , FFFFFFFF Default Value : Available
PASSRES	Password for the reservation of a TTY device Type of Input : Single value (ADD) 2 combined single values (CHANGE) 1st single value old password 2nd single value new password optional Possible Values : 00000000 , ... , FFFFFFFF Default Value : Available

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Parameter Description

RSVT	Reservation supervision time Type of Input : Single value, optional Possible Values : 0 - 1310 seconds (0 stands for no monitoring) Default Value : 300
STATXBLK	Start text block (control character sequence) Type of Input : Single value, optional Possible Values : Even number of hexadecimal digits or 0 (0 stands for no control character sequence) Default values, depending on the device type PT880 QUME-ONLY-SCREEN0 QUME-ONLY-PT881B60 QUME-SCRE-AND-PT881B40 PC-D-ONLY-SCREEN0 PC-D-ONLY-PT881B60 PC-D-SCRE-AND-PT881B40 ASCII-TRANSP0 EBCDIC-TRANSP0
STATXBLK	Start text block (control character sequence) Type of Input : Single value, optional Possible Values : Even number of hexadecimal digits or 0 (0 stands for no control character sequence) Default values, depending on the device type PT880 QUME-ONLY-SCREEN0 QUME-ONLY-PT881B61 QUME-SCRE-AND-PT881B41 PC-D-ONLY-SCREEN0 PC-D-ONLY-PT881B61 PC-D-SCRE-AND-PT881B41 ASCII-TRANSP0 EBCDIC-TRANSP0

T Indicates the permissible time period during which the message 'activated' must be identified

Type of Input : Single value, optional

Possible Values : 1 - 1310 seconds

Default Value : 1

TERMDESC Terminal description

Type of Input : Single value, maximum of 4 linked single values, optional

Possible Values : **SIMPLEX** (SIMPLEX-TERM)

ECHO (ECHOING-MODE)

ACOL (ACT-CONTR-LEAD)

DEACOL (DEACT-CONTR-LEAD)

ARCVCO (ACT-WITH-RCV-CONTR)

PRTYPCO (PRINT-TYPE-CONTR)

RXBUFTR (RX-BUF-TREAT)

Default Value : ECHO&ARCVCO

The value RXBUFTR (End Device with Receive Buffer Control) is relevant only in the case that a terminal with parallel printer has been configured or the mounted printer has not been configured on XON/XOFF-protocol.

TFIN Type face control for input

Type of Input : Maximum of 4 linked single values, optional

Possible Values : 00 - FF

Default Value : 0D

(definition: no control)

TFOUT Type face control for output

Type of Input : Maximum of 4 linked single values, optional

Possible Values : 00 - FF

Default Value : 0D

(definition: no control)

TYPE Choice of configuration or allocation

Branching parameter

ATCSM - Asynchronous Terminal Configuration, Service Module

Parameter Description

	Type of Input	: Single value, mandatory (DELETE, ADD) Single value, optional (DISPLAY)
	Possible Values	: CFIG Configuration ADD Allocation
TYPENO	Number of logical line type	
	Type of Input	: Single value, mandatory
	Possible Values	: 1 - 8 (device 1 with UNIT A1 cannot be configured with AMOs) (TYPENO 8 = [call charge computer] cannot be allocated to any device type) (TYPENO 7 can be allocated only to device type PT88)
UNIT	Functional system unit ie. server code	
	Type of Input	: Single value, optional
	Possible Values	: A1 (ADMINISTRATION and data server 1)
	Default Value	: A1
USERGD	User guide (control character sequence)	
	Type of Input	: Single value, optional
	Possible Values	: Even number of hexadecimal digits or 0 (0 stands for no control character sequence) Default values, depending on the device type PT880 QUME-ONLY-SCREEN0 QUME-ONLY-PT880 QUME-SCRE-AND-PT880 PC-D-ONLY-SCREEN0 PC-D-ONLY-PT880 PC-D-SCRE-AND-PT880 ASCII-TRANSP0 EBCDIC-TRANSP0
VATRDARK	Invisible characters (visual attribute dark, control character sequence)	

Type of Input : Single value, optional
Possible Values : Even number of hexadecimal digits or 0
(0 stands for no control character sequence)
Default values, depending on the device type
PT880
QUME-ONLY-SCREEN1B4731
QUME-ONLY-PT880
QUME-SCRE-AND-PT881B4731
PC-D-ONLY-SCREEN1B5B386D
PC-D-ONLY-PT880
PC-D-SCRE-AND-PT881B5B386D
ASCII-TRANSP0
EBCDIC-TRANSP0

VATR NORM Visible characters
(visual attribute normal, control character sequence)
Type of Input : Single value, optional
Possible Values : Even number of hexadecimal digits or 0
(0 stands for no control character sequence)
Default values, depending on the device type
PT880
QUME-ONLY-SCREEN1B4730
QUME-ONLY-PT880
QUME-SCRE-AND-PT881B4730
PC-D-ONLY-SCREEN1B5B306D
PC-D-ONLY-PT880
PC-D-SCRE-AND-PT881B5B306D
ASCII-TRANSP0
EBCDIC-TRANSP0

21.5 Error Messages and Advisories

21.5.1 Error Messages

F01: free

ATCSM - Asynchronous Terminal Configuration, Service Module

Error Messages and Advisories

F02: DEVICE <typeno> ALREADY ASSIGNED
F03: IF TERMDESC = ACOL, THEN CNTRLNA MUST BE SPECIFIED TOO
F04: IF TERMDESC = ARCVCO, THEN CNTRLNA MUST BE SPECIFIED TOO
F05: IF TERMDESC = ARCVCO, THEN TIME MUST BE SPECIFIED TOO
F06: IF TERMDESC = ARCVCO, THEN ANSLNT MUST BE SPECIFIED TOO
F07: IF TERMDESC = ARCVCO, THEN ANSLN MUST BE SPECIFIED TOO
F08: IF TERMDESC = DEACOL, THEN CNTRLND MUST BE SPECIFIED TOO
F09: IF TERMDESC = PRTPCO, THEN TFOUT MUST BE SPECIFIED TOO
F10: IF TERMDESC = PRTPCO, THEN TFIN MUST BE SPECIFIED TOO
F11: LINE LENGTH GREATER THAN BUFFER LENGTH
F12: LOGICAL DEVICE <ldevnam> ALREADY ASSIGNED
F13: LINE <ln> ALREADY ASSIGNED
F14: DEVICE <typeno> ALREADY ASSIGNED TO A LINE
F15: free
F16: DEVICE TYPE <devtype> IS NOT ASSIGNED
F17: DEVICE <typeno> IS NOT ASSIGNED
F18: LINE LENGTH OF DEVICE TYPE GREATER THAN LINE LENGTH OF DEVICE
F19: INVALID VALUE
F20: free
F21: NO DEVICE TYPE ASSIGNED
F22: DEVICE <typeno> IS NOT ASSIGNED TO ANY DEVICE TYPE
F23: DEVICE TYPE <devtype> NOT ASSIGNED TO ANY TERMINAL OR
PRINTER WHICH CAN BE CHANGED BY ATCSM
F24: free
F25: free
F26: TYPENO 7 CAN BE ASSIGNED ONLY TO DEVICE TYPE PT88
F27: LINE COULD NOT BE DEACTIVATED
F28: COMBINATION OF PARAMETER VALUES IN TERMDESC NOT VALID
F29: LINE NOT ASSIGNED
F30: DEVICE TYPE IS ASSIGNED TO DEVICE 1
The device type who is allocated to device 1 must not be changed or deleted.
F31: DEVICE 1 NOT PROCESSED BY AMOS
F32: FICTITIOUS DEVICE ASSIGNED
F33: NO DEVICE TYPE ASSIGNED
F34: A DEVICE TYPE ALREADY ASSIGNED TO DEVICE <typnu>
F35: ASSIGNMENTS TO LINE 8 ARE NOT PROCESSED BY AMOS
F36: LINE <ln> IS NOT ASSIGNED FOR AN ASYNCHRONOUS TERMINAL
F37: DEVICE <typeno> IS ALREADY ASSIGNED TO DEVICE TYPE <devtype>
F38: INVALID PASSWORD
F39: NO FREE LIST AVAILABLE
F40: NO INPUT AT PT88 POSSIBLE
F41: DEVICE TYPE PT88 CAN ONLY BE ASSIGNED ONLY TO TYPENO 7
F42: <ldevname> CAN NOT BE ASSIGNED TO A PT88
F43: NO SUITABLE LOADWARE PRESENT
F44: LOGICAL DEVICE <ldevname> IS ASSIGNED IN THE <tbl> TO SYMBOLIC
DEVICE <symdev>
F45: DEVICE TYPE <devtype> HAS TO CONTAIN A VALID CONTROL CHARACTER
F46: LINE NUMBER <ln> IS NOT VALID FOR TYPE <ln type>
ln type = "PSIO" or "TTYBSC"
F47: IT IS NOT POSSIBLE TO DO MORE THAN 6 ALLOCATIONS FOR TYPE LINE
F48: SWU NOT AVAILABLE
F49: LINE <ln> IS NOT RESERVED FOR RMX

F50: REMOVE AN EXISTING LINK BEFORE DOING THE CHANG
F51: THERE DON'T EXIST ASNYCH OR V24 LINES IN A CPCI SHELF

21.5.2 Advisories

H01: NO DEVICE CREATED
H02: NO DEVICE TYPE CREATED
H03: NO ASSIGNMENTS EXIST
H04: NO DEVICE TYPE AND NO DEVICE CREATED
H05: free
H06: free
H07: OVERFLOW OF TABLE OF CONTROL CHARACTER SEQUENCES
H08: ASSIGNMENT TABLE OVERFLOW
H09: DEVICE <typeno> HAS NOT BEEN CREATED
H10: DEVICE TYPE <devtype> HAS NOT BEEN CREATED
H11: LINE <ln> CAN NOT BE SWITCHED ON
H12: ASSIGNMENTS TO THE DEVICE WILL BE DELETED
H13: ASSIGNMENTS TO THE DEVICE TYPE WILL BE DELETED
H14: DEVICE TYPE <devtype> OVERWRITTEN
H15: SWU NOT AVAILABLE
H16: A CONFIGURATION ALREADY EXISTS. (REG-ATCSM:;)

ATCSM - Asynchronous Terminal Configuration, Service Module

Error Messages and Advisories

22 AUN - Call Pickup Groups

The description of this AMO is only available in html format!

23 AUTH - Administration of Exec Permissions

Restrictions	Functions of the AMO	Advisory and Error Messages
Interrelationships	Parameter Descriptions	

AMO AUTH can be used to change, display and regenerate the *exec permission* necessary for the execution of an AMO action.

An AMO action is the combination of an AMO name (noun, e. g. *AMO*=APS, AUTH, SCSU, WABE) and of an action verb (e. g. *ACTION*=ADD, CHANGE, DEACTIVATE, DELETE, DISPLAY), such as DISPLAY-APS, CHANGE-AUTH, DELETE-SCSU, ADD-WABE¹. The *exec permission* itself is an integer number (called class) between 0 and 15².

On the one hand every AMO action has assigned to it a standard value for the *exec permission* which has proven itself more or less adequate in the course of Hicom evolution. In general lower permission classes are assigned to simple harmless actions and higher ones to more complex actions. In order to approach customer specific needs these permissions may now be changed by the new AMO AUTH.

On the other hand every user gets from the system administrator a certain combination of permission classes. The user is then authorized to call up any AMO action whose permission class is present in his or her class combination.

Action CHANGE-AUTH manages a single AMO action whereas actions DISPLAY-AUTH and REGENERATE-AUTH can render information about more than one AMO action in case the AMO name (AMO) and/or the action verb (ACTION) is not specified in the command call. For DISPLAY-AUTH and REGENERATE-AUTH it is also possible to restrict the output to those AMO actions whose permission class differs from their standard setting (TYPE=DELTA). Moreover, instead of the current settings one can let the standard class assignments appear here (TYPE=STD). This should make the resetting of the usual class assignments easier.

The use of AMO AUTH is also helped by letting the action verb (ACTION) be abbreviated to its first 2-4 letters, provided that it can still be uniquely identified within the set of all possible action verbs³.

-
1. the call syntax requires the verb placed before the noun and a hyphen between them
 2. classes 11-15 are reserved
 3. The program takes the first verb found if the abbreviation is too short for unique identification.

23.1 Restrictions

This description is valid from SP300-E V3.0.

23.2 Interrelationships

(none)

23.3 Functions of the AMO

- [CHANGE-AUTH](#) : Changing the exec permission assigned to an AMO action. Class: 10
- [DISPLAY-AUTH](#) : Displaying exec permissions in form of a table. Class: 0
- [REGENERATE-AUTH](#) : Reproducing exec permissions in form of CHANGE-AUTH commands. Class: 2

23.3.1 CHANGE-AUTH

Action CHANGE-AUTH can be used to change the exec permission of an AMO action.

Basically the class assigned to an AMO action may be anywhere between 0 and 15¹ but the change can only be carried out if the user issuing the command is in possession of the class in question (besides of course possessing class 10 which is required anyhow for being able to call up the command CHANGE-AUTH).

By the way the usual (standard) class can be restored by the appropriate CHANGE-AUTH command after obtaining its value with the command DISPLAY-AUTH:<amo>,<aktion>,STD;.

Remark: The exec permissions of the actions CHANGE-AUTH, DISPLAY-AUTH, REGENERATE-AUTH of this AMO can equally be changed.

Procedure Overview

Command Code	Parameter
CHANGE-AUTH	AMO=<string>,ACTION=<string>,CLASS=<number>;

1. as mentioned, classes 11-15 are reserved

Example:

Setting the exec permission for action CHANGE-USER to class 5:

CHANGE-AUTH:USER,CHANGE,5; or simply CH-AUTH:USER,CH,5;

23.3.2 DISPLAY-AUTH

Action DISPLAY-AUTH can be used to display the permission classes assigned to various AMO actions. The output takes the form of a table with the following three columns: AMO name, action verb and permission class.

To control the kind of output produced one has the optional parameter called *TYPE* whose default setting lets the current class assignments be shown on the screen (TYPE=ALL), without restricting the set of AMO actions listed. One can also let the standard class assignments be displayed instead of the current settings (TYPE=STD), without restricting the set of AMO actions listed.

Moreover, the output can be restricted to those AMO actions whose permission class differs from its standard value (TYPE=DELTA). One should not be surprised if no output line appears here — it only means that all affected AMO actions are currently set to their default permission class.

The parameters *AMO* and *ACTION* are also optional. If parameter *AMO* is not specified, all AMOs will be processed and listed with their affected actions. If parameter *ACTION* is not specified, all actions of the affected AMOs will be listed. If both parameters are entered however, one gets exactly one¹ line of output with the AMO name, the action verb and the with the corresponding permission class.

Attention: The reading of hard disk data and their subsequent processing may take up to two minutes.

Procedure Overview

Command Code	Parameter
DISPLAY-AUTH	[AMO=<string>], [ACTION=<string>], [TYPE=<param>];

Examples:

1. Displaying the current permission class for AMO action ADD-USER:

Input:

DISP-AUTH:USER,ADD;

1. with TYPE=DELTA at most one

AUTH - Administration of Exec Permissions

Functions of the AMO

or

```
DISP-AUTH:USER,ADD,ALL;
```

2. Displaying the standard permission class for AMO action ADD-USER:

```
DISP-AUTH:USER,ADD,STD;
```

3. Displaying the current permission classes for all actions of AMO USER:

```
DISP-AUTH:USER;1
```

4. Listing those actions of AMO USER whose current permission class differs from the action's standard permission class:

```
DISP-AUTH:USER,,DELTA;
```

5. Displaying the current permission classes for the ADD actions of all AMOs that possess such an action:

```
DISP-AUTH:,ADD;2
```

6. Listing those ADD actions of all possible AMOs, whose current permission class differs from the action's standard permission class:

```
DISP-AUTH:,ADD,DELTA;
```

7. Displaying the standard permission class of the ADD actions of all possible AMOs that possess such an action:

```
DISP-AUTH:,ADD,STD;
```

8. Displaying the permission classes of all possible AMO actions:

```
DISP-AUTH;3
```

9. Listing those actions of all possible AMOs whose current permission class differs from the action's standard permission class:

```
DISP-AUTH:,,DELTA;
```

10. Displaying all standard permission classes:

```
DISP-AUTH:,,STD;
```

23.3.3 REGENERATE-AUTH

Action REGENERATE-AUTH can be used to reproduce in reusable form the permission classes assigned to various AMO actions. The output consists of CHANGE-AUTH commands for the AMO actions affected.

1. or `DISP-AUTH:USER,,ALL;`
2. or `DISP-AUTH:,ADD,ALL;`
3. or `DISP-AUTH:,,ALL;`

To control the kind of output produced one has an optional parameter called *TYPE* whose default setting for action REGENERATE-AUTH restricts output to those AMO actions whose permission class differs from its standard value (TYPE=DELTA). This is because it is in general sufficient for restoring a previous state after an upgrade or a software transport to regenerate only the permissions which have been changed with respect to their standard value. One should not be surprised if no output line appears here — it only means that all affected AMO actions are currently set to their default permission class.

Here too the symbols ALL and STD are available for parameter TYPE: entering TYPE=ALL lets the current permission class assignments be reproduced without restrictions, whereas TYPE=STD lets the standard permission class settings be reproduced without any consideration for their current state.

The parameters *AMO* and *ACTION* are also optional. If parameter *AMO* is not specified, all AMOs will be processed and the affected actions reproduced. If parameter *ACTION* is not specified, all actions of the affected AMOs will be reproduced. If both parameters are entered however, exactly one¹ line of output is generated in form of a CHANGE-AUTH command containing the AMO name, the action verb and the with the corresponding permission class.

Attention: The reading of hard disk data and their subsequent processing may take up to two minutes.

Procedure Overview

Command Code	Parameter
REGENERATE-AUTH;	[AMO=<string>], [ACTION=<string>], [TYPE=<param>];

Examples

The examples given for DISPLAY-AUTH could well be repeated here. The only difference is that for REGEN-AUTH the default assignment is TYPE=DELTA instead of TYPE=ALL.

1. Reproducing the current permission class for AMO action ADD-USER:

```
REGEN-AUTH:USER,ADD,ALL;
```

2. Reproducing the permission classes for exactly those actions of AMO USER whose permission class differs from the respective standard permission class:

```
REGEN-AUTH:USER;
```

1. with TYPE=DELTA *at most* one

AUTH - Administration of Exec Permissions

Parameter Descriptions

- 3. Reproducing the CHANGE-AUTH commands necessary to set the permission classes to their default settings for the ADD actions of all AMOs that possess such an action:

REGEN-AUTH: , ADD, STD;

- 4. Reproducing all permission class assignments for all AMO actions for which these permissions have been changed with respect to their standard setting:

REGEN-AUTH;

23.4 Parameter Descriptions

AMO	noun: selection of an AMO
Type of Input	single value, mandatory (CHANGE) single value, optional (DISPLAY, REGENERATE)
Possible Values	: 2 to 5 characters
Default Value	if not specified, the affected actions of all AMOs are to be reproduced
ACTION	verb: selection of an action within the AMO
Type of Input	single value, mandatory (CHANGE) single value, optional (DISPLAY, REGENERATE)
Possible Values	: 2 to 16 characters
Default Value	if not specified, all actions of the affected AMOs are to be reproduced
CLASS	new exec permission class
Type of Input	: single value, mandatory (CHANGE)
Possible Values	: Number, 0 bis 15 (11-15 momentan reserviert)
TYPE	kind and extent of output
Type of Input	: single value, optional (DISPLAY, REGENERATE)
Possible Values	: ALL Reproducing the current setting for all AMO actions specified DELTA Reproducing the permission class for those of the specified AMO actions whose current setting differs from the standard permission class for the action STD Reproducing the standard permission class for all AMO actions specified
Default Value	ALL (DISPLAY)

DELTA (REGENERATE)

23.5 Advisory and Error Messages

23.5.1 Error Messages

F01 AMO <noun> DOES NOT EXIST.
F02 NO ACTION <verb> DEFINED FOR AMO <noun>.
F03 YOU MAY NOT ENTER CLASS=<val>. YOU ARE AUTHORIZED TO
ASSIGN AN AMO ONLY A CLASS THAT YOU (AS USER) POSSESS.
F04 CAN NOT EXECUTE, PERMISSION DENIED.
F05 ACCESS ERROR; DMS ERROR CODE: <val>
F06 CAN NOT EXECUTE BECAUSE OF MEMORY SHORTAGE.
F07: FOR THIS AMO ACTION THE CHANGING OF THE PERMISSION CLASS IS PROHIBITED.

23.5.2 Advisories

H01: THE AUTHORIZATION CLASS OF ACTION <verb>-<noun>
HAS BEEN CHANGED FROM <oclass> TO <nclass>.
H02 RETRIEVING THE AMO ACTIONS WITH MODIFIED CLASS ASSIGNMENT
(TYPE=DELTA) MAY TAKE UP TO TWO MINUTES. PLEASE WAIT!

AUTH - Administration of Exec Permissions

Advisory and Error Messages

24 AUTHO - Display Stations with Trunk Access

Restrictions	Functions of the AMO
Interrelationships	Error Messages and Advisories

The AMO AUTHO (authorization for CO calls) is used to provide the user with a simple display option for

- the total number of stations with full or restricted trunk access
- the total number of stations without trunk access

Each station has 2 classes-of-service (COSs): the main class-of-service COS1 and an alternative class-of-service COS2 to which the station user can switch over (e.g. to prevent unauthorized use of special features).

A station is displayed as having full or partial trunk access even if only one COS contains one of the following classmarks:

- Partial toll access_1
- Partial toll access_2
- Partial toll access_3
- Partial toll access_4
- Partial toll access_5
- Partial toll access_6
- Full toll access
- Outward restricted trunk access
- Full trunk access

Otherwise, the station is listed as having no trunk access.

The number of stations with trunk access and without trunk access are displayed in separate columns in the output table, grouped according to the type of device concerned (VCE, FAX, TTX, VTX and DTE).

24.1 Restrictions

This description is valid for SP300-V3.1

24.2 Interrelationships

- AMO COSSU : Classes of Service, Switching Unit

24.3 Functions of the AMO

- **DISPLAY-AUTHO** : Interrogate the number of stations with/without trunk access per communication service

24.3.1 DISPLAY-AUTHO

The number of stations with trunk access (EXT) and without trunk access (INT) are displayed according to the type of device concerned.

Each station has two classes of service defined with the AMO COSSU. A station is listed as having trunk access even if only one COS contains an appropriate classmark, and even if the other one is active at the time.

Procedure Overview

Command Code
DISPLAY-AUTHO

Parameter
;

Example

Display stations with/without trunk access.

Input:

DISP-AUTHO;

Output:

SERVICE	EXT	INT
VCE	151	382
TTX	2	7
VTX	6	13
FAX	3	12
DTE	1	3

24.4 Error Messages and Advisories

None

AUTHO - Display Stations with Trunk Access

Error Messages and Advisories

25 BACK - Automatic Backup of Program Library

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO BACK is used to determine the parameters for executing automatic save runs for the program library.

With AMO BACK, the operator determines which programs are to be saved, specifies files outside the program library which are to be included and sets the intervals between each backup run.

The backup data can be stored on hard disk or on a magneto optical disk (MO).

The AMO can also be used to start immediate backup runs.

NOTE: When writing program systems to backup for the first time, use empty directories only.
When updating program systems, only those program systems may be updated which were originally copied onto the cartridge

25.1 Restrictions

This description is valid from HiPath 4000 V6.0.

25.2 Interrelationships

- AMO APS : Software Load Upgrade
- AMO DLSP : Hard Disc Area Allocation Logical

NOTE: The name "BACKUP" will be used internally by the AMO BACK. Therefore it is not allowed to add the name "BACKUP" by the AMO DLSP.

25.3 Functions of the AMO

- **ADD-BACK** : Add (create) backup parameters
- **CHANGE-BACK** : Change backup parameters
- **DELETE-BACK** : Delete backup parameters
- **ACTIVATE-BACK** : Activate the automatic backup run
- **DEACTIVATE-BACK** : Deactivate the automatic backup run
- **START-BACK** : Start an immediate backup run
- **COPY-BACK** : Copy back all extra files included in the backup run
- **DISPLAY-BACK** : Interrogate the backup parameters
- **REGENERATE-BACK** : Regenerate the backup parameters

25.3.1 ADD-BACK

This action creates the operational parameters for the resident backup task and stores them on hard disk.

The backup parameters can be added (created) even if a specified backup medium or program system is not present at the time. However, the operator must ensure that the missing unit is present when the automatic backup run is carried out.

Date and/or time parameters for the start time of the backup run need only be declared if the values to be specified differ from the current date and/or time.

Procedure Overview

Command Code	Parameter
ADD-BACK	| TYPE=GEN, FILENAME=<string>, [DBNO=<number>] | , [YEAR=<number>], [MONTH=<number>], [DAY=<number> | , HOUR=<number>, MINUTE=<number> | , RTYPE=<param>, RNO=<number>, [TEST=<param>] | , [ASD=<param>], [AROUND =<param>]; | TYPE=PS, SP=<string>; | TYPE=FILE, FILE=<string>;

Examples

1. Create an automatic daily backup to cartridge for the IHS and SWU.

Input:

```
ADD-BACK:PS,"S0-EL0SC"&"D0-EL0DC"&"A0-EL0DC";
```

2. Create automatic backup daily

Input:

```
ADD-BACK:GEN,":SCR:BACKUP/001",2,2001,6,14,23,00,DAYS,1;
```

3. Create automatic backup at 8-hourly intervals

Input:

```
ADD-BACK:GEN,":SCR:BACKUP/001",2,2001,6,14,23,00,HOURS,8;
```

4. Create backup for patch administration

Input:

```
ADD-BACK:FILE,":PDS:PATCH100/";
```

25.3.2 CHANGE-BACK

Change one or more backup parameters.

Procedure Overview

Command Code	Parameter
CHANGE-BACK	FILENAME=<string>,DBNO=<number> ,YEAR=<number>,MONTH=<number>,DAY=<number> ,HOUR=<number>,MINUTE=<number>,RTYPE=<param> ,RNO=<number>,TEST=<param>,ASD=<param> ,AROUND=<param>;

Examples

1. Change the backup to cartridge to a backup to hard disk.

Input:

```
CHANGE-BACK:":SCR:BACKUP/002";
```

2. Change the backup interval to every 30 days.

Input:

```
CHANGE-BACK:,,,,,,DAYS,30;
```

25.3.3 DELETE-BACK

Delete backup parameters.

Procedure Overview

Command Code	Parameter
DELETE-BACK	| [TYPE=GEN] ; | [TYPE=PS], [SP=<string>]; | [TYPE=FILE], [FILE=<string>];

Examples

1. Delete all backup entries

Input:

```
DELETE-BACK;
```

2. Delete all file entries

Input:

```
DELETE-BACK:FILE;
```

3. Delete the the program system IHS from the backup parameters.

Input:

```
DELETE-BACK:PS,D0-EL0DC;
```

25.3.4 ACTIVATE-BACK

Procedure Overview

Command Code	Parameter
ACTIVATE-BACK	;

Example

Input:

```
ACTIVATE-BACK;
```

25.3.5 DEACTIVATE-BACK

Procedure Overview

Command Code	Parameter
DEACTIVATE-BACK	;

Example

Input:

```
DEACTIVATE-BACK;
```

25.3.6 START-BACK

Start an immediate backup run.

The immediate backup run uses the parameters defined in ADD-BACK, but ignores the start time parameters.

Procedure Overview

Command Code	Parameter
START-BACK	[FILENAME=<string>], [DBNO=<number>] , [SP=<string>], [FILE=<string>] , [TEST=<param>], [ASD=<param>;

Examples

1. Start des Backup

Input:

```
START-BACK;
```

2. Start an immediate backup run for several (specified) program systems

Input:

```
START-BACK:,, "S0-EL0SC"&"B0-EL0BC";
```

25.3.7 COPY-BACK

Copy the files saved in addition to the program library back onto the hard disk.

The program system should be restored by means of AMO APS.

BACK - Automatic Backup of Program Library

Functions of the AMO

If no ein FILENAME is specified, the FILENAME used for ADD-BACK is used.

If the data storage medium is not available, an error message is output.

Procedure Overview

Command Code	Parameter
COPY-BACK	[FILENAME=<string>;

Example

Fetch all additional saved files

Input:

```
COPY-BACK:":SCR:BACKUP/002";
```

25.3.8 DISPLAY-BACK

Output the backup parameters at the terminal.

If the backup medium is accessible, then the contents of the data medium are also displayed.

Procedure Overview

Command Code	Parameter
DISPLAY-BACK	| [TYPE=GEN]; | [TYPE=PS], [SP=<string>; | [TYPE=FILE], [FILE=<string>; | [TYPE=DM], [FILENAME=<string>;

Examples

1. Interrogate the general backup parameters

Input:

```
DISPLAY-BACK:GEN;
```

Output:

```
BACKUP-DATA FROM DATABASE:
-----
DATAMEDIUM                : <:SCR:BACKUP/001/>
BACKUP - DATE              : 12.08.1988
```



```

BACKUP - TIME                : 23:00:00
BACKUP-REPETITION            : EVERY 2 MONTHS
NUMBER OF DATABASE-GENERATIONS : 2
ACTUAL SYMBOLIC OUTPUT-DEVICE : DPT1
COMPARE HD AND BACKUP-STATE   : YES
BACKUP ACTIVATED              : NO

```

2. Interrogate all backup parameters**Input:**

```
DISPLAY-BACK;
```

Output:

```

BACKUP-DATA FROM DATABASE:
-----
DATAMEDMUM                : <:SCR:BACKUP/001/>
BACKUP - DATE              : 12.08.2001
BACKUP - TIME              : 23:00:00
BACKUP-REPETITION          : EVERY 2 MONTHS
NUMBER OF DATABASE-GENERATIONS : 2
ACTUAL SYMBOLIC OUTPUT-DEVICE : DPT1
COMPARE HD AND BACKUP-STATE : YES
BACKUP ACTIVATED           : NO

FILES                      : <:PDS:PATCH100/>
PROGRAM-SYSTEMS : S0-EL0SC
                  L0-EL0LC
                  D0-EL0DC

BACKUP-DATA FROM DATAMEDMUM: <:SCR:BACKUP/001/>
-----
LAST BACKUP-DATE          : 12.10.2001
LAST BACKUP-TIME          : 23:00:00
NUMBER OF DATABASE-GENERATIONS : 2

FILES                      : <:PDS:PATCH100/>
PROGRAM-SYSTEMS : S0-EL0SC
                  L0-EL0LC
                  D0-EL0DC

```

3. Interrogate the backup program systems**Input:**

```
DISPLAY-BACK:PS;
```

Output:

```

PROGRAM-SYSTEMS : S0-EL0SC
                  L0-EL0LC
                  D0-EL0DC

```

4. Interrogate a specific backup program system**Input:**

```
DISPLAY-BACK:PS,D6-E60DC;
```

Output:

```
PROGRAM-SYSTEM D6-E60DC IS INSTALLED
```

5. Interrogate the backup files

Input:

DISPLAY-BACK:FILE;

Output:

FILES : <:PDS:PATCH100/>

6. Interrogate a specific data medium

Input:

DISPLAY-BACK:DM," :CT1:BACKUP/001";

Output:

BACKUP-DATA FROM DATAMEDIU: <:SCR:BACKUP/001/>

LAST BACKUP-DATE : 12.10.2001
LAST BACKUP-TIME : 23:00:00
NUMBER OF DATABASE-GENERATIONS : 2

FILES : <:PDS:PATCH100/>
PROGRAM-SYSTEMS : S0-E60SC
 L0-EL0LC
 D0-EL0DC

25.3.9 REGENERATE-BACK

Interrogate the backup data with output in the form of a position-oriented command listing for the "ADD" action.

Procedure Overview

Command Code	Parameter
REGENERATE-BACK	;

Example

Regenerate the backup data

Input:

REGENERATE-BACK;

Output:

ADD-BACK:GEN," :SCR:BACKUP/001/",2,2001,6,14,23,00,DAYS,1;
ADD-BACK:PS,"S0-EL0SC";
ADD-BACK:PS,"L0-EL0LC";
ADD-BACK:PS,"D0-EL0DC";
ADD-BACK:FILE," :PDS:PATCH100/";

25.4 Parameter Description

AROUND	When DAT tape is full, new initialisation *) DAT not longer supported
Type of Input	: Single value optional
Possible Values	: Y ... yes N ... no
Default Value	N
ASD	Actual symbolic device
Type of Input	: Single value optional
Possible Values	: DPT1 ... Dependability terminal AC ... Attendant console AFR ... Automatic Fault Report
Default Value	DPT1
DAY	Date - day
Type of Input	: Single value optional
Possible Values	: 1-31
Default Value	current day
DBNO	Number of database generations to backup
Type of Input	: Single value optional
Possible Values	: 0-3
Default Value	1
FILE	Name of file or file hierarchy
Type of Input	: Single value (DISPLAY) Max. 10 chained (with '&') single values (ADD, START, DELETE) mandatory (ADD) optional (DISPLAY, DELETE, START)

BACK - Automatic Backup of Program Library

Parameter Description

	Possible Values	: Name (max. 32 chars.)
FILENAME	Name of cartridge or name of HD directory	
	Type of Input	: Single value mandatory (ADD) optional (CHANGE, COPY, START, DISPLAY)
	Possible Values	: Name (max. 24 chars.)
HOUR	Time - hour	
	Type of Input	: Single value, mandatory
	Possible Values	: 0-23
MINUTE	Time - minute	
	Type of Input	: Single value mandatory
	Possible Values	: 0-59
MONTH	Date - month	
	Possible Values	: 1-12
	Type of Input	: Single value optional
	Default Value	: current month
RNO	Number of hours/days/months for backup repetition	
	Type of Input	: Single value mandatory (ADD) optional (DISPLAY, CHANGE)
	Possible Values	: 1-99
RTYPE	Type of repetition	
	Type of Input	: Single value mandatory (ADD) optional (DISPLAY, CHANGE)

	Possible Values	: HOURS, DAYS, MONTHS
SP	Name of system program	
	Type of Input	: Single value (DISPLAY) Max. 10 chained (with '&') single values (ADD, START, DELETE) mandatory (ADD) optional (DISPLAY, DELETE, START)
	Possible Values	: Name (8 chars.)
TEST	Automatic comparison between harddisk and backup state	
	Type of Input	: Single value optional
	Possible Values	: YES, NO
	Default Value	: NO
TYPE	Type of backup	
	Type of Input	: Single value mandatory (ADD) optional (DISPLAY, DELETE)
	Possible Values	: (ADD, DELETE, DISPLAY)
		GEN General FILE File PS Program system
	Possible Values	: (DISPLAY)
		DM Data medium
YEAR	Date - year	
	Type of Input	: Single value optional
	Possible Values	: 1988-2099
	Default Values	: current year

25.5 Error Messages and Advisories

25.5.1 Error Messages

F01: HARD-DISK <filename> NOT FOUND
F02: PROGRAM-SYSTEM <ps> NOT FOUND IN PGLIB
F03: FILE <file> NOT FOUND
F04: BACKUP - DATE NOT POSSIBLE
F05: BACKUP - TIME NOT POSSIBLE
F06: FILE <file> NOT WRITTEN TO DATABASE,BECAUSE DATABASE IS OUT OF SPACE
F07: PROGRAM-SYSTEM <ps> NOT WRITTEN TO DATABASE, BECAUSE DATABASE IS OUT OF SPACE
F08: FACTOR OF BACKUP-REPETITION HAS TO BE 8 HOURS AT LEAST
F09: DATABASE ALREADY INSTALLED
F10: BACKUP IS RUNNING, START-BACK CANNOT BE EXECUTED
F11: BACKUP-OVERLAY COULD NOT BE STARTED, STATUS = H'<status>
F12: THERE IS NO DATA IN DATABASE
F13: BACKUP IS NOT INSTALLED
F14: HD-NAME <filename> SYNTACTICAL FALSE
F15: FILE-NAME <file> SYNTACTICAL FALSE
F16: ERROR AT CALL <OD_P_OPEN_BYTE_FILE>, STATUS = H'<status>
F17: ERROR AT CALL <OD_P_READ>, STATUS = H'<status>
F18: ERROR DURING CALL-ATTEMPT TO DATAMEDIUM, STATUS = H'<status>
F19: LOGON-INTERN ABORTED FOR BACKUP-TEXTS
F20: COPY-BACK ABORTED WITH STATUS = H'<status>
F21: PARAMETER "FILENAME" NEITHER SPECIFIED NOR ADDED IN DATABASE
F22: START INTERRUPTED !
NEITHER PARAMETER "SP" NOR PARAMETER "FILE" SPECIFIED RESPECTIVELY ADDED IN
DATABASE.
F23: ERROR DURING CALL-ATTEMPT TO DATAMEDIUM, STATUS = H'@@@
F24: LOGON-INTERN ABORTED FOR BACKUP-TEXTS
F25: COPY-BACK ABORTED WITH STATUS = H'@@@
F26: PARAMETER FILENAME" NEITHER SPECIFIED, NOR ADDED IN DATABASE"
F27: START INTERRUPTED ! NEITHER PARAMETER SP" NOR PARAMETER "FILE" SPECIFIED
RESPECTIVELY ADDED IN DATABASE."

25.5.2 Advisories

H01: HARD-DISK <filename> NOT FOUND
H02: PROGRAM-SYSTEM <ps> NOT FOUND IN PGLIB
H03: FILE <file> NOT FOUND
H04: BACKUP IS RUNNING
H05: PROGRAM-SYSTEM <ps> IS NOT INSTALLED
H06: FILE <file> IS NOT INSTALLED
H07: AMO-BACK IS ALREADY DEACTIVATED
H08: AMO-BACK IS ALREADY ACTIVATED

H09: THERE IS NO GENERAL BACKUP-DATA INSTALLED
H10: PROGRAM-SYSTEM <ps> IS ALREADY INSTALLED
H11: FILE <file> IS ALREADY INSTALLED
H12: BACKUP WILL BE STARTED
H13: NO BACKUP DONE AT DATAMEDIMUM <filename>
TILL NOW
H14: BE CAREFUL! THERE IS NO BACKUP-DATA INSTALLED IN DATABASE WITHOUT THIS DATA NO
BACKUP WILL BE DONE
H15: NO PROGRAM-SYSTEMS INSTALLED YET
H16: NO FILES INSTALLED YET
H17: LINUX PROGRAM SYSTEMS CANT BE SAVED
H18: AROUND = YES VALID FOR DAT ONLY !
H20: @@@@@@@@@@@@@@@@@@@@@@@@@@ PROGRAM SYSTEM CAN NOT BE SAVED
H21: AROUND = Y VALID FOR DAT ONLY !

26 BCSM - Board Configuration, Service Modules

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO BCSM (Board Configuration of Service Modules) is used for allocating the LCXs to the various loadware subsystems, and thus ultimately determines the appropriate buffer requirements for each server. In addition, after checking against existing configurations, the AMO BCSM enters the currently plugged line modules of a server into the database as the current configuration.

Due to the abolishment of line busses in newer hardware platforms the parameter RCONF is not evaluated any longer. Therefore the parameter RCONF has to have the value WITHOUT for "implementation technical reasons" respectively if the parameter is not specified the AMO chooses automatically the value WITHOUT (e.g. in case of CC80F "B5391-X").

26.1 Restrictions

This description is valid from HiPath 4000 - V2.0

26.2 Interrelationships

- AMO UCSM : Unit Configuration of Server Devices
- AMO BSSM : Board Switch, Service Modules
- AMO LCSM : Line Configuration, Service Module
- AMO TCSM : Terminal Configuration, Service Modules
- AMO ATCSM : Asynchronus Terminal Configuration, Service Modules
- AMO LCS0 : S0 Interface Configuration, Service Modules
- AMO BCSU : Board Configuration, Switching Unit

26.3 Functions of the AMO

- [ACT-BCSM](#) : Activate the Start Up of UNIX
- [DEACT-BCSM](#) : Deactivate the Start Up of UNIX
- [ADD-BCSM](#) : Create all line modules in a server or add new loadware

BCSM - Board Configuration, Service Modules

Functions of the AMO

- **DELETE-BCSM** : Delete all line modules from a server or delete redundant loadware
- **DISPLAY-BCSM** : Interrogate all existing line modules of a server or loadware installed
Display of status of Start Up of UNIX
- **REGENERATE-BCSM** : Regenerate the database for the line modules or the loadware

26.3.1 ACT-BCSM

The following command activates the Start Up of UNIX. (A flag of the data base is set to TRUE. The UNIX loader polls this flag and activates the Start Up of UNIX.)

Restriction: According to the Unix Loader Specification,

ACT-BCSM:A1,UNIX;

works **ONLY** on DSCXL. In other cases

ADD-BCSM:A1,DPP,11,YES;

has to be executed.

Kommandocode	Parameter
ACT-BCSM	[UNIT=<param> , SYSTEM=UNIX;

Example:

ACT-BCSM:A1,UNIX;

26.3.2 DEACT-BCSM

The following command deactivates the Start Up of UNIX. (A flag of the data base is set to FALSE. The UNIX loader polls this flag and the Start Up of UNIX is blocked.)

Restriction: According to the Unix Loader Specification,

DEACT-BCSM:A1,UNIX;

works **ONLY** on DSCXL. In other cases

ADD-BCSM:A1,DPP,11,NO;

has to be executed.

Kommandocode	Parameter
ACT-BCSM	[UNIT=<param> , SYSTEM=UNIX;

Example:

DEACT-BCSM:A1,UNIX;

26.3.3 ADD-BCSM

Depending on the value specified for the parameter TYPE, the operator can

1. install in the BC depending on the parameter CONF the type of server shelf, a new loadware or the line modules for a server by declaring the slot and part numbers. Only complete line module configurations can be declared.
2. install in the EC depending on the parameter CONF the type of server shelf, a new loadware or the line modules for a server by declaring the slot and part numbers. Only complete line module configurations can be declared.
3. install in the SWU depending on the parameter CONF a new loadware or the line modules for a server.
The board has to be configured by AMO BSCU in the same HW position (LTG, LTU, SLOT).
An automatic check by the AMO can not be provided.
4. From the version HiPath 4000 V2.0 the hardware and loadware of PSIO board cannot be added any longer (i.e. the PSIO board is not marketed any longer.
5. reserve or block the Data-Processor-Ports for RMX.
A reservation or block of Data-Processor-Ports for RMX is not any longer possible in a cPCI - Shelf all Data-Processor-Ports being reserved permanently for UNIX.

Procedure Overview

Command Code	Parameter	
ADD-BCSM	[UNIT=<param> , TYPE=BC	(1)

BCSM - Board Configuration, Service Modules

Functions of the AMO

	<pre>,CONF=STYPE,SPARTNO=<string> ,[SCONF=<param>]; ,CONF=SW,SLOT=<number>,LW=<param> ,[APPL=<string>]; ,CONF=HW,[INS=<param>] ,[SL01=<number>,PARTNO01=<string> ,[SL02=<number>],[PARTNO02=<string>] ,[SL03=<number>],[PARTNO03=<string>] ,[SL04=<number>],[PARTNO04=<string>] ,[SL05=<number>],[PARTNO05=<string>];</pre>	(2)
	<pre>,TYPE=EC ,CONF=STYPE,SPARTNO=<string> ,[SCONF=<param>]; ,CONF=SW,SLOT=<number>,LW=<param> ,[APPL=<string>]; ,CONF=HW,[INS=<param>] ,[SL01=<number>,PARTNO01=<string> ,[SL02=<number>],[PARTNO02=<string>] ,[SL03=<number>],[PARTNO03=<string>] ,[SL04=<number>],[PARTNO04=<string>] ,[SL05=<number>],[PARTNO05=<string>];</pre>	
|	<pre>,TYPE=SWU ,[CONF=SW,LCXNO=<number>,LW=<param> ,[APPL=<string>]; ,CONF=HW,[INS=<param>] ,[LTG=<number>,LTU=<number> ,[SLOT=<number>,LCXNO=<number> ,[PARTNO=<number>;</pre>	(3)
	<pre>,TYPE=DPP ,[LINE=<number>,RMX=<param>;</pre>	(4)

Examples

1. Install type of server shelf

Input:

```
ADD-BCSM:A1,BC,STYPE,"B5301-X  ";
```

2. Create (add) loadware

Input:

```
ADD-BCSM:A1,BC,SW,1,TTYBSC;
```

3. Block the Line 10 for RMX

Input:

```
ADD-BCSM:A1,DPP,10,NO;
```

Remark:

A reservation or block of Data-Processor-Ports for RMX is not any longer possible in a cPCI - Shelf all Data-Processor-Ports being reserved permanently for UNIX.

26.3.4 DELETE-BCSM

Depending on the value specified for the parameter TYPE, the operator can

1. erase the existing loadware in the BC or cancel the line module entries of a server in the database (first line module in the ADS cannot be canceled).
2. erase the existing loadware in the EC or cancel the line module entries of a server in the database (first line module in the ADS cannot be canceled).
3. erase the existing loadware in the SWU or cancel the line module entries of a server in the database (first line module in the ADS cannot be canceled).

Procedure Overview

Command Code	Parameter	
DELETE-BCSM	[UNIT=<param> ,TYPE=BC ,CONF=SW,SLOT=<number>,LW=<param>; ,CONF=HW,SLOT=<number>;	(1)

	<pre>,TYPE=EC ,CONF=SW,SLOT=<number>,LW=<param>; ,CONF=HW,SLOT=<number>; ,TYPE=SWU ,CONF=SW,LCXNO=<number>,LW=<param>; ,CONF=HW,LCXNO=<number>;</pre>	(2) (3)

Examples

- 1. Cancel the line module at slot 13

Input:

```
DELETE-BCSM:A1,BC,HW,13;
```

- 2. Erase the loadware at slot 13

Input:

```
DELETE-BCSM:A1,BC,SW,13,TTYBSC;
```

26.3.5 DISPLAY-BCSM

Depending on the value specified for the parameter CONF, the operator can

- 1. output a list of the loadware installed in a server
- 2. interrogate the line modules of a server in the database.
- 3. output the present relation of the Data-Processor-Ports.

Procedure Overview

Command Code	Parameter	
DISPLAY-BCSM	<pre>[UNIT=<param>] ,CONF=SW;</pre>	(1)
	<pre>,CONF=HW</pre>	(2)
	<pre>,CONF=DPP;</pre>	(3)

```
| ,CONF=UNIX;
```

Examples

1. Display all the line modules of a server <Format 1>.

Input:

```
DISPLAY-BCSM:A1,HW;
```

Output:

```
      OUTPUT OF SLOTS AND CODE NUMBERS FOR BC B5331-X      AND EC
B5337-X
```

ADDRESS	NOM. MOD.	HW ABB.	ACTUAL MOD.	STATE	FIRMWARE	MOD.STATUS
A1. 38	Q2090-x	LBC	Q2090-X	0	-----	INS
A1. 1	Q2011-x 1	LCU	Q2011-x 1	0	B064-D	INS

|| |
 || +- SLOT
 |+----- HW module number
 +----- HW module designation

2. Display all services of a server

Input:

```
DISPLAY-BCSM:A1,SW;
```

Output:

LCX-NO.	SERVICE	APPLICATION
1	TTYBSC	TTYBSC

3. Display the present relation of the lines 9, 10 and 11.

Input:

```
DISPLAY-BCSM:A1,DPP;
```

Output:

```
DATA-PROCESSOR-PORTS
```

LINE	RMX
9	Y
10	N
11	N

Remark:

A reservation or block of Data-Processor-Ports for RMX and consequently also a display of the present relation of the lines 9, 10 and 11 is not any longer possible in a cPCI - Shelf all Data-Processor-Ports being reserved permanently for UNIX.

4. Display the Status of Start Up of UNIX

Eingabe:

DISPLAY-BCSM:A1,UNIX;

Ausgabe:

```
+=====+
| DISPLAY UNIX: STATE                                |
+=====+
|                                                     |
|                UNIX IST ACTIVATED                  |
|                                                     |
+-----+
```

26.3.6 REGENERATE-BCSM

Regenerate the database entries for the loadware and the line modules of a server.

In case TYPE=DPP the commands will be regenerated only when the Data-Base-Value for the actual line is not equal to the Init-Value.

Procedure Overview

Command Code
REGENERATE-BCSM

Parameter
[UNIT=<param>]

Example

Regenerate the line module entries for the Voice Mail Server A1.

Input:

REGENERATE-BCSM:A1;

Output:

```
ADD-BCSM:A1,BC,STYPE,"B5316-X",WITHOUT;
ADD-BCSM:A1,EC,STYPE,"B5318-X";
ADD-BCSM:A1,BC,SW,13,TTYBSC;
ADD-BCSM:A1,BC,HW,N,13,"Q2011-X 1";
ADD-BCSM:A1,DPP,9,N;
ADD-BCSM:A1,DPP,10,Y;
ADD-BCSM:A1,DPP,11,Y;
```


26.4 Parameter Description

APPL	Application name
	Type of Input : Single value, optional
	Possible Values : Valid name (8 chars.)
	Default values, depending on loadware: TTYBSC, IBM, VMRTCO01, TTX01, FAX01 ISOV24, S0D, UTC, XLWV24, XLWU* PSIODAT
CONF	Type of configuration
	Type of Input : Single value, mandatory
	Possible Values : SW: Software configuration
	HW: Hardware configuration STYPE = shelf configuration DPP = Data-Processor-Ports
INS	Board to be activated
	Type of Input : Single value, optional
	Possible Values : Y,N
	Default Value : N
LCXNO	LCX-Number
	Type of Input : Single value, mandatory
	Possible Values : 1 to 7
LINE	physical Line
	Type of Input : Single value, mandatory
	Possible Values : 9 to 11
LTG	Line Trunk Group
	Type of Input : Single value, mandatory
	Possible Values : 1 to 32

BCSM - Board Configuration, Service Modules

Parameter Description

LTU	Line Trunk Unit Type of Input : Single value, mandatory Possible Values : 1 to 15
LW	Loadware Type of Input : Single value, mandatory Possible Values : TTYBSC, IBM, VOICE, TTX, FAX, ISOV24,UTC, S0D, XLWV24, XLWU*
PARTNO	Part number for a SWU line module (this is marked on the front panel of each module and can thus also be read if the module is already plugged in). Type of Input : Single value, mandatory Possible Values : Valid part number (10 chars.)
PARTNO01	The part number must be entered for each line module and slot (this is marked on the front panel of each module and can thus also be read if the module is already plugged in). Type of Input : Single value, mandatory Possible Values : Valid part number (10 chars.)
PARTNO02	The part number must be entered for each line module and slot (this is marked on the front panel of each module and can thus also be read if the module is already plugged in).
PARTNO05	Type of Input : Single value, optional Possible Values : Valid part number (10 chars.)
RMX	Port assignment for RMX Type of Input : Single value, mandatory Possible Values : Y = Port is for RMC/CMS reserved N = Port is for RMX blocked
SLOT	The slot must be specified for each line module in the SWU shelf. Type of Input : Type of Input Possible Values : 1 to 121

SLOT01	The slot must be specified for each line module of the specified server. The maximum hardware configuration allows for 5 line modules per server.		
	Type of Input	: Single value, mandatory	
	Possible Values	: 1 to 127	
SLOT02	The slot must be specified for each line module of the specified server. The maximum hardware configuration allows for 5 line modules per server.		
SLOT05			
	Type of Input	: Single value, optional	
	Possible Values	: 1 to 127	
SCONF	shelf configuration		
	Type of Input	: Single value, optional	
	Possible Values	: WITH : 1st LBU with LBC and LCU function	
		WITHOUT : 1st LBU with LBC function only	
		MONO : simplex mono running mode	
		MULTI : simplex dual running mode and dual running mode	
	Default Values	: WITHOUT	: "B5301-X "
			"B5316-X "
			"B5317-X "
			"B5318-X "
			"B5325-X "
		WITH	: "B5331-X "
			"B5332-X "
			"B5333-X "
			"B5337-X "
			"B5338-X "
			"B5339-X "
			"B5350-X "
			"B5351-X "
			"B5384-X "
			"B5387-X "
			"B5391-X "
			"B5391-A "
			"Q5361-X "
			"Q5365-X "
			"Q5377-X "
			"Q5380-X "

BCSM - Board Configuration, Service Modules

Error Messages and Advisories

"Q5382-X "

MULTI : "B5350-X "

: "B5384-X "

MONO : "X7659-X "

MULTI : "X7659-X "

In EC there is the same default value as in BC.

SPARTNO Part number of basic or extension shelf (depending on parameter TYPE)
Type of Input : Single value, mandatory
Possible Values : Valid part number (10 chars.)

TYPE Shelf type
Type of Input : Single value, mandatory
Possible Values : BC : Basic shelf
EC : Extension shelf
SWU : Line Board in the SWU
DPP : Data-Processor-Ports

UNIT Functional system unit, i.e. server code
Type of Input : Single value, optional
Possible Values : A1 = Administration and Data Server (ADS)

26.5 Error Messages and Advisories

26.5.1 Error Messages

F01: CONFIGURATION NOT FOUND
F02: MOUNTING SLOT <slot> NOT VALID IN <unit> SERVER
F03: PART NUMBER <partno> NOT VALID IN <unit> SERVER
F04: THE ENTERED ASSIGNMENT (PART NUMBER - MOUNTING SLOT) IS NOT
POSSIBLE FOR <unit> SERVER
F05: NO CONFIGURATION FOUND TO DELETE
F06: NO CONFIGURATION ASSIGNED
F07: SPECIFIED MOUNTING SLOT <slot> NOT IN CONFIGURATION
F08: CONFIGURATION WAS NOT ACTIVATED
F09: CONFIGURATION WAS NOT DEACTIVATED
F10: SPECIFIED MOUNTING SLOT <slot> ALREADY ASSIGNED
F11: ERROR IN LSCR DIALOG (TIME OUT)
F12: HARDWARE STILL ASSIGNED AT SLOT <slot>

F13: BOARDS IN ADS MAY NOT BE DELETED
F14: MOUNTING SLOT <slot> IS NOT ASSIGNED
F15: NO LCU SPECIFIED
F16: NO LBC SPECIFIED
F17: SLOT <slot> SPECIFIED TWICE
F18: NO PART NUMBER WAS SPECIFIED FOR SLOT <slot>
F19: NO SLOT WAS SPECIFIED FOR PART NUMBER <partno>
F20: LINES STILL ASSIGNED (DELETE THEM USING TCSM, ATCSM OR LCS0)
F21: NO SUITABLE LOADWARE ASSIGNED
F22: NOT POSSIBLE TO ASSIGN SINCE OTHER CONFIGURATION ALREADY ASSIGNED
F23: THE LCX NUMBER DERIVED FROM SLOT <slot> IS NOT IN THE ADMISSIBLE RANGE
F24: SERVICE <lw> IS NOT ALLOWED
F25: SERVICE <lw> IS MARKED AS NOT AVAILABLE
F26: SERVICE <lw> CANNOT BE ASSIGNED ON ACCOUNT OF THE KEY VALUE
F27: SERVICE <lw> IS NOT ALLOWED IN <unit> SERVER AT THE
LCX NUMBER DERIVED FROM SLOT <slot> IN SERVER
F28: SLOT <slot> IS NOT SPECIFIED OR NOT VALID
F29: SERVICE <lw> IS NOT SPECIFIED OR NOT VALID
F30: AT SLOT <slot> NO SERVICE <lw> ASSIGNED
F31: NO EXTENSION SHELF POSSIBLE
F32: NO LOADWARE FOUND
F33: THE SPECIFIED LOADWARE DOES NOT EXIST
F34: SHELF PART NUMBER/SHELF CONFIGURATION NOT ALLOWED
F35: SHELF PART NUMBER/SHELF CONFIGURATION NOT VALID
F36: SHELF PART NUMBER/SHELF CONFIGURATION NOT ALLOWED FOR <unit> SERVER
F37: NOT POSSIBLE TO CREATE SINCE BOARDS ARE ALREADY CREATED
F38: NO LOADWARE CREATED FOR THIS SLOT
F39: TYPE=SWU IS ONLY FOR UNIT=A1 POSSIBLE
F40: A LOADWARE IS ALREADY INSTALLED FOR LCXNO <lcxno>
F41: THE SPECIFIED PARTNO IS NOT VALID FOR TYPE=SWU
F42: HARDWARE STILL ASSIGNED ON LCXNO <lcxno>
F43: LINES STILL ASSIGNED, DELETE THEM USING TCSM OR ATCSM
F44: TYPE=DPP IS ONLY FOR UNIT=A1 POSSIBLE
F45: PLEASE DEACTIVATE UNIX BEFORE CONFIGURING LINE 11 FOR RMX
F46: LINE <8> IS RESERVED FOR THE CONSOLE
F47: A RESERVATION OF A LINE FOR RMX IS NOT POSSIBLE IN A CPCI SHELF

26.5.2 Advisories

H01: CONFIGURATION COMPLETED
H02: BOARD ACTIVATION WILL BE ATTEMPTED
H03: NO CONFIGURATION EXISTS
H04: CONFIGURATION WAS ACTIVATED
H05: CONFIGURATION WAS DEACTIVATED
H06: CONFIGURATION WAS NOT ACTIVATED
H07: BOARD DEACTIVATION WILL BE ATTEMPTED
H08: RESTART NECESSARY BEFORE ACTIVATION OF HW
H09: CONFIGURATION NOT ACTIVATED SINCE LBC IS LOCKED

BCSM - Board Configuration, Service Modules

Error Messages and Advisories

H10: CONFIGURATION NOT ACTIVATED SINCE TEST FAILED
H11: CONFIGURATION NOT ACTIVATED SINCE LOAD ERROR OCCURED
H12: CONFIGURATION REJECTED SINCE ANOTHER CONFIGURATION IN PROGRESS
H13: CONFIGURATION NOT ACTIVATED SINCE HW NOT ASSIGNED
H14: CONFIGURATION NOT DEACTIVATED SINCE LBC IS LOCKED
H15: CONFIGURATION REJECTED SINCE ANOTHER DEACTIVATION IN PROGRESS
H16: SWU NOT AVAILABLE
H17: UNIX-REBOOT NECESSARY FOR ACTIVATION OF THE LINE
H18: WARNING! LINE 11 MUST BE SET TO 'RMX=NO' FOR PROPER UNIX FUNCTIONALITY

27 BCSU - Configuring Mounting Locations for Modules in the SWU

This AMO is used to configure peripheral modules, ringing current generator modules, and SIUs in the LTU.
The module is entered in the SWU database (reference configuration) and, if the correct module is plugged in, loaded and put into service.

27.1 Interrelationships

- AMO CONSY : Administration of System Configuration Data
- AMO BFDAT : Configuration of Functional Blocks for CGW boards
- AMO UCSU : Unit configuration of switching unit
- AMO BSSU : Board switch, switching unit
- AMO DIMSU : Dimensioning of features, switching unit
- AMO TACSU : Configuration of analog trunk circuits in the SWU
- AMO TDCSU : Configuration of digital trunk circuits in the SWU
- AMO REFTA : Reference clock pulse table
- AMO VOICO : Administration of voice compression connections
- AMO LWPAR : Configuration of LW parameter blocks
- AMO ZAND / -ZANDE : System Data
- AMO SIPCO : System IP address configuration
- AMO APRT : Access Point Routing Table
- AMO CGWB : Configuration of HG3550 boards

27.2 Functions of the AMO

- [ADD-BCSU](#) : Equip modules in the reference configuration
- [CHANGE-BCSU](#) : Change modules in the reference configuration
- [DELETE-BCSU](#) : Remove modules from the reference configuration
- [DISPLAY-BCSU](#) : Interrogate the modules
- [REGENERATE-BCSU](#) : Regenerate the modules

27.2.1 ADD-BCSU

Assign the desired module type.

The LTU in which the module is to be configured must already be assigned. (AMO UCSU).

Caused by feature IPDA there are two different kind of LTUs from now on. The range for traditional LTUs in HHS (Hicom Host System) are from 1 to HW max. value which depends on the particular platform - and AP shelves (Access Points). The range for these AP shelves starts generally from 17 and goes up to 99.

During the load of a HHS shelf (Shelf Broadcast) no module can be configured in that shelf.

The AMO is canceled, producing an error message in case a configuration is attempted in that state.

Assigning a SIU:

Assigning a SIU requires the actions as follows:

- a) Manually blocking of LTU shelf (AMO USSU)
- b) assigning a SIU
- c) Putting the LTU shelf in service

In "compact" shelves (C, EC, ECX, cPCI) one SIU board per LTU quarter will be able to be assigned.

This rule will not be checked by AMO. Generally a advisory message about this rule will be printed if a SIU board has to be assigned.

One SIU is not taken into operation during installation. Because of time slot allocation, the SIU is taken into operation by means of a hard restart. To prevent a loss of the preinitialized SIU data in those cases where a hard restart escalates into a RELOAD, the data should be written to the hard disk using AMO UPDAT before initiating the hard restart.

Advisory: If a SIUX board is added as peripheral SIU the parameter FCTID will have to be specified. Via this parameter the right function of the board - as SIU type 2 (MFV), SIU type 3 (MFC), type 4 (TDS), SIU type 5 (ANI) , SIU type 6 (MFS) or SIU Type 7 (Line Testing) - will be selected.

Note for SIU type 4:

If such a SIU is added, a TDS port will be configured by the AMO. For the amount of TDS ports (SIU type 4) in the system the following rule exists:

- Only one TDS port may be configured in the whole HHS shelf range (1 - 15). This means, that in this whole range only one SIU type 4 can be configured with AMO BCSU. On some system platforms it is furthermore possible, to configure a central SIU (DSCX/SIUCO) with AMO UCSU. In this case a TDS port will be configured by AMO UCSU for this central SIU. If such a DSCX/SIUCO is configured as central SIU, it is not possible to configure a peripheral SIU type 4.
- In the AP shelf range (17 - 99) one TDS port may be configured per LTU. This Port will be configured by AMO UCSU, when the NCUI board is added. That means: it is not possible, to configured a SIU type 4 in an AP shelf.

The timeslots, which are usually reserved for SIU boards, can be used by a voice compression (VC) connection. In this case a SIU board can only be assigned if the VC connections have been deactivated by AMO-VOICO first. All affected VC connections will be displayed in a corresponding error message.

Assigning a Ringing/Dialing AC Generator:

Any desired number of ringing AC generator or dialing AC generator can be assigned.

However, only one ringing AC generator and one dialing AC generator may be put into service per backup unit (e.g. platform 600ECX: LTU 1-3, LTU 4-6, etc.)

Advisory: For CC80 shelf the wiring connections on back plan must be connected like described in service manual. If this advisory is ignored the ringing AC generator will be destroyed.

For feature message waiting Thailand the US ringing AC generator is used for all hardware platforms. The OPMODE has to be UN20H85V. If an other OPMODE is specified by user for the US ringing AC generator (Q2468-X) the AMO will overwrite the OPMODE with the right value. If the user specifies an other ringing AC generator for OPMODE UN20H85V the AMO will prompt the right value for part number.

Assigning a DIU (digital interface unit):

A DIUC may only be configured for an LTU-half.

When configuring a DIUC in a compact shelf, it should be borne in mind that the slot immediately next to the DIUC remains free, and that the slot immediately following this free slot will be allocated. The free slot next to the DIUC may be freely-assigned, e.g. to another DIUC. In shelves with old HW the DIUC requires 4 adjacent slots.

When configuring a DIUC64 with the loadware variant 6, the feature "line alarm handling for DIUC-France" is activated.

Assigning BOS, MOS or CVN mode for T1 board (TMDN or DIU2U):

The T1 board (TMDN or DIU2U) can be configured in three different working modes:

- In work mode BOS the board works similar to the already existing DIUC board.
 - Trunks on this kind of board can be configured by means of AMO TACSU.
 - If certain loadwareparameters are desired for this BOS board, the user has the possibility, to preconfigure a loadware block with AMO LWPAR as desired, and enter the number of this configured loadware block during the board configuration (ADD-BCSU: parameter = LWPAR). If no value is entered for parameter LWPAR, a default loadware block will be assigned.
- In work mode MOS mode the board works similar to the already existing DIUS2 board.
 - Circuits on this kind of board can be configured by means of AMO TDCSU.
 - The LW parameter block for MOS boards is assigned during the trunk configuration by means of AMO-TDCSU.
- In work mode CVN mode (CorNet VN) the board works similar to the already existing TMDN board.
 - Circuits on this kind of board can be configured by means of AMO TDCSU.
 - The LW parameter block for MOS boards is assigned during the trunk configuration by means of AMO-TDCSU.

Assigning an IP gateway (HG3500 board for IPDA, HFA, SIP, WAML usage):

The IP gateway HG3500 can either cover just one or multiple functions at the same time on one single board. Therefore the information which functions should be covered by the configured board has to be defined before the configuration itself starts.

This information is provided via so called function blocks which have been configured by means of AMO-BFDAT as a prerequisite.

The number of assigned b-channels per configured function (Multiple Feature Support - MFS) can be reduced manually as usual via a bunch of parameters per configurable function.

Furthermore a number of trunk circuits respectively a number of b-channels for subscribers can be pre-reserved in the function blocks and assigned to usable trunks/subscribers later when needed. For this function an own parameter is located in the IPGW branch.

A special handling is needed for configuring the IP address because basically it is configured together with the global by means of AMO-CGWB but when the HG3570 function is used, it is needed to configure it already by means of AMO-BCSU. The address must fit into the LAN segment of SL net table which is configured by means of AMO-SIPCO.

For configuring an IP gateway, the following parameters are used:

- **Parameter FCTBLK:**
Number of function block which is a pre-requisit configuration by means of AMO-BFDAT.
- **Parameter IPADDR:**
Address from the SL net table. This table must previously have been configured by means of AMO-SIPCO and is only configurable by means of AMO-BCSU if the IPDA function is used.
- **Parameter BCHL3530, BCHLSIP, BCHL3550, BCHLWAML, BCHL3570 (number of b-channels per desired function):**
Number of usable b-channels per desired function for each HG3500 board.

The features DMC and/or Signalling & Payload Encryption need to reduce the configured b-channels automatically for some functions to prevent an overload of the board. This calculation is done automatically and is displayed in the configuration output in display table format

Following shelf types require special treatment:

- For feature IPDA a new shelf type "INCH 19" has been introduced. The HW of this 19" shelf consists of one 19" base box and one 19" expansion box.

The 19" base box allows the configuration of three boards and one NCUI board instead of LTUC (AMO-UCSU). The slot numbers are 1 to 3 for peripheral boards and 4 for the NCUI board. The 19" base box can be considered as left shelf half.

BCSU - Configuring Mounting Locations for Modules in the SWU

Functions of the AMO

The 19" expansion box allows the configuration of four peripheral boards. The slot numbers are 9 to 12. The 19" expansion box can be considered as right shelf half.

- Also if the 19" expansion box is not mounted, AMO-BCSU can configure boards in the according slots. The AMO-BCSU considers the 19" base box and 19" expansion box as one shelf unit.
- It is not possible to configure some special boards (e.g. Ringing AC generators or Dialing AC generators, VCM board) on this 19" shelf. AMO-BCSU will check this against restrictions contained in the UBGDAT.
- The 19" shelf is only possible for usage in the AP shelf range.

Following slots require special treatment:

- In compact shelves, slot 19 is usually reserved for configuring an RG, an ACGEN, or a SIU.

Adding signed off PENs for feat. "autoset relocate":

For feat. "autoset relocate" (see also service manual) it is necessary to prepare PENs (Port equipment numbers) (Circuits on boards) in that way, that added and signed off devices on this PEN would be able to signed on by a key number or by AMO-DSSU.

This will be done in two steps:

- Adding the board as before
- Change the PEN with the command `CHANGE-BCSU:TYPE=SIGNOFF,...` to this state

At a signed off PEN can only devices but no line circuits or switch boards be added !

At signing off circuits, a parameter OPS enables the user, to mark circuits on SLMA boards for off premises usage (OPS=YES). If OPS=YES is entered for circuits on other boards than SLMAs, an advisory message will be displayed, that the parameter will be ignored.

With the command `CHANGE-BCSU:TYPE=RELEASE,...` a signed off PEN will be switched to state "free". At this PEN a line circuit can be added.

Sign off is only valid for following board types:

SLMA, SLMB, STMD, SLMO, SLMQ, SLMS, SLMU, SLMQ16 and WAML2 (=SLMPX)

PENs at a WAML2-board are subordinated a PFS-check (Telecommuting). Only as many PENs can be signed off as the PFS-counter allows, depending on the contracted respectively the already assigned value. If the counter is exceeded this is announced by the AMO producing an error message.

At all other boards, the signed off circuits are subordinated a PFS-check too (TEILNEHMER/SUBSCRIBER). In this case, the signed off B-Channels are counted.

For analog boards one signed off circuit represents one B-channel, for digital boards the signed off subscribers on a circuit (up to 8 sign offs possible) will be counted as maximal 2 signed off B-channels. If the counter is exceeded this is announced by the AMO producing an error message.

Adding of base stations:

Via branch PERHW a base station for a SLMC board can be assigned. A base station doesn't have a physical address in the system so it can only be assigned but not deleted.

Special treatments for assigning peripheral boards:

For certain boards the number of circuits, which have to be configured, can be reduced from the UBGDAT value because in a 80CM system the number of available lines is quite low. The parameter CIRCNT will be ignored with a corresponding advisory for all boards with a fixed number of circuits.

Peripheral boards can have more functions like SIUX boards (e.g. WAML, STMA, SLMO24). These functions can be specified by parameter FCTID.

The first used line (Begin Line = circuit 0) of the STMA-board is added to the reference clock - table. The REFTA-entry can therefore only be changed in AMO-REFTA.

Only one Unix-processor-board (DMP5L) can be assigned for each PBX. Two slots are needed. An exception is the PBC 10 (slot 61) in the 80CMX - base-frame. Due to the physical order only one single slot is used. The DMP5L board may be configured in following LTUs (depending on the HICOM type):

SYSTEM	PERMITTED LTU
600ECX	1, 5, 6, 10, 11, 12
600ECS	1, 4, 5, 8, 9, 12, 13
80CMX	1, 2
80CMX-DSC	1, 2

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SYSTEM	PERMITTED LTU
80CXE	1, 2

NOTE:

for HICOM600:

Because the AMO can not distinguish between platform 600ECX and 600ECS the possible user input for parameter LTU are values between 1 and 15. The systemadministrator must ensure that, depending on the HW type, the DMP5L will be configured only in the LTUs described above.

If a 80CMX-DSC is used with the small version power supply (PSDSC), only 4 boards can be configured in LTU 1. The AMO can not check, if the configuration was done with a strong version power supply (PSAFE) and a small power supply is used during the full action. This case can lead up to destruction of the switch.

Feature "Wireless Server":

If the Feature "Wireless Server" is activated, adding of boards is limited to:

Boardtype	Configurable amount
SLMA	1
DIUS2	2
STMD	2
SLMC	2
WAML	1
CDG	2

The attempt, to configure other boards than described above, will be rejected with an error message.

If the amount of configureable boards of a certain type is already reached and the user tries to add such a board, the ADD-command will be rejected with an error-message.

Procedure Overview

Command Code

ADD-BCSU

Parameter

MTYPE=PER, [LTG=<number>], LTU=<number>
 , SLOT=<number>, PARTNO=<string>, [FCTID=<number>]
 , [LWVAR=<string>], [CIRCNT=<number>]
 , [ACTFC=<number>], [STERM=<number>]

Command Code	Parameter
	<pre> , [LTERM=<number>], [PTERM=<number>] , [HWYBDL=<param>], [ALARMNO=<number>] , [MACADDR=<hex>], [TDMLAW=<number>]; |MTYPE=SIUP, [LTG=<number>], LTU=<number> , SLOT=<number>, PARTNO=<string> , [MFCTYPE=<param>], [LWVAR=<string>], [FCTID=<number>], , [ALARMNO=<number>]; |MTYPE=RG, [LTG=<number>], LTU=<number> , SLOT=<number>, PARTNO=<string> , OPMODE=<param>, [FCTID=<number>], {ALARMNO=<number>}; |MTYPE=ACGEN, [LTG=<number>], LTU=<number> , SLOT=<number>, PARTNO=<string> , OPMODE=<param>, [FCTID=<number>], {ALARMNO=<number>}; |MTYPE=DIU, [LTG=<number>], LTU=<number> , SLOT=<number>, PARTNO=<string>, [LWVAR=<string>] , [LWPAR1=<string>], [FIDX1=<string>] , [LWPAR2=<string>], [FIDX2=<string>], [FCTID=<number>] , [ACTFC=<number>], [STERM=<number>] , [LTERM=<number>], [PTERM=<number>] , [HWYBDL=<param>], [ALARMNO=<number>] , [MACADDR=<hex>], [TDMLAW=<number>]; |MTYPE=TMD, [LTG=<number>], LTU=<number> , SLOT=<number>, PARTNO=<string>, [FCTID=<number>] , [LWVAR=<string>], [LWPAR=<number>], [FIDX=<string>] , [ACTFC=<number>], [STERM=<number>] , [LTERM=<number>], [PTERM=<number>] , [HWYBDL=<param>], [ALARMNO=<number>] , [MACADDR=<hex>], [TDMLAW=<number>]; |MTYPE=IPGW, [LTG=<number>], LTU=<number> , SLOT=<number>, PARTNO=<string>, [FCTID=<number>] , [LWVAR=<string>], FCTBLK=<number> , [IPADDR=<number>], [BCHL3530=<number>] , [BCHLSIP=<number>], [BCHL3550=<number>] , [BCHLWAML=<number>], [BCHL3570=<number>] , [ALARMNO=<number>], [IPMODE=<param>] , [DHCPV4=<param>], [DHCPV6=<param>]; </pre>

Command Code

Parameter

```
|MTYPE=PERHW, PARTNO=<string>, [FCTID=<number>]  
|, [LWVAR=<string>];
```

Example

1. Assign the ringing current generator with LTG=1, LTU=1, SLOT=19, part number=Q2258-X and mode of operation=UN50H65V.

Input:

```
ADD-BCSU:RG,1,1,19,"Q2258-X",UN50H65V;
```

27.2.2 CHANGE-BCSU

Modification of module data.

- It is only possible to change code numbers of modules within the same module-line-type (e.g. SLMA).

Exception: The change of some boards with newer HW modules is possible even though the module-line-type is different and is handled AMO internally (e.g. STMD<->STMD2, SLMS<->SLMS2, DIUS2<->DIUN2,...).

If the module is not already blocked, the AMO blocks it. After the change is carried out, the module is put back into service.

- In the case of a DIUC, the parameters FIDX1/2 and LWPAR1/2 of the associated PCM paths can be modified.
- With the new branch "HWYBDL" the access to the upper (F) or lower (A) highwaybundle of a board can be set, to use a previously by AMO UCSU configured overlay configuration. At the moment, bundle "F" can only be used for STMI, DIUN2- and DIUN4 boards.
- With the new branch "HWYBDL" the number of usable b-channels can be reduced and also reset to the original value for each configured function on the HG3500 board, respectively the pre-reserved amount of circuits (for trunks) and/or b-channels (for subscribers) can be re-configured to usable circuits/b-channels.

The calculation of values for automatic b-channel reduction is always done if a value is specified for the according parameter - but it is not possible to configure more than the maximum possible values.

Procedure Overview

Command Code	Parameter
CHANGE-BCSU	<pre> TYPE=PARTNO, [LTG=<number>], [LTU=<number>] , [SLOT=<number>], [PARTNO1=<string>] , PARTNO2=<string>, [FCTID1=<number>] , [FCTID2=<number>], [ALARMNO=<number>]; | TYPE=DIU, [LTG=<number>], LTU=<number> , SLOT=<number>, { (min 1) LWPAR1=<string>, FIDX1=<string> , LWPAR2=<string>, FIDX2=<string>}; | TYPE=SIGNOFF, [LTG=<number>], LTU=<number>, SLOT=<number> , [CCT=<number>], [TSI=<number>], [DEVTYPE=<param>] , [COFIDX=<number>], [OPS=<param>]; | TYPE=RELEASE, [LTG=<number>], LTU=<number>, SLOT=<number> , [CCT=<number>], [TSI=<number>]; | TYPE=FLOWCTRL, [LTG=<number>], [LTU=<number>] , [SLOT=<number>], [ACTFC=<number>], [STERM=<number>] , [LTERM=<number>], [PTERM=<number>]; | TYPE=HPA, [LTG=<number>], LTU=<number> , SLOT=<number>, [MACADDR=<hex>] , [TDMLAW=<number>]; | TYPE=HWYBDL, [LTG=<number>], [LTU=<number>] , [SLOT=<number>], PARTNO=<string> , [FCTID1=<number>], [HWYBDL=<param>]; | TYPE=TMD, [LTG=<number>], LTU=<number> , SLOT=<number>, [LWPAR=<number>], [FIDX=<string>]; | TYPE=IPGW, [LTG=<number>], LTU=<number> , SLOT=<number>, [IPADDR=<number>] , [BCHL3530=<number>], [BCHLSIP=<number>] , [BCHL3550=<number>], [BCHLWAML=<number>] , [BCHL3570=<number>], [CHNGRSL=<number>]; </pre>

BCSU - Configuring Mounting Locations for Modules in the SWU

Functions of the AMO

ADDRESS : LTG 1 LTU 3 SOURCE GROUP 1 ALARMNO-LTU 0										
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----										
			|S|H|AL-|N|							
	ASSIGNED	MODULE	FCT|E|W|ARM|P|	INSERTED		HW-		MODULE		
PEN	MODULE	TYPE	ID |C|Y|NO |R|	MODULE		STATE INFO		STATUS		
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----										
55	Q2324-X510	STMI4	1 * A	0|*|	UNKNOWN				UNACH	
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----										
	| IP ADDRESS : 192.168. 11. 55				B-CHANNELS : 120		BCHLCNT : 120			
	| BLOCK NO : 11				PRERESERVED LINES ASSIGNED : YES					
	| 1. FUNCT : HG3570		1 LINES		B-CHANNELS : 21		BCHLCNT : 21			
	| 2. FUNCT : HG3530		70 LINES		B-CHANNELS : 59		BCHLCNT : 59			
	| 3. FUNCT : HG3550		3 LINES		B-CHANNELS : 30		BCHLCNT : 30			
	| 4. FUNCT : HG3550R		1 LINES		B-CHANNELS : 10		BCHLCNT : 10			
	| SECURITY STATUS: 1:[] 2:[] 3:[] 4:[] 5:[] 6:[] 7:[] 8:[]									
	| (SEE BOTTOM) 9:[] 10:[] 11:[] 12:[] 13:[] 14:[] 15:[] 16:[]									
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----										

5. Manual reduction of b-channels. In this example the number of b-channels is reduced for HG3530 but set to the for each function in maximum possible value for HG3550 and HG3550-WAML (not configured).

Input:

CHA-BCSU:IPGW,1,3,55,,40,,120,120;

Output:

H31: THE AMOUNT OF AVAILABLE B-CHANNELS ON CGW BOARD HAS BEEN CHANGED !
PLEASE CHECK THE RESOURCE MANAGER CONFIGURATION (ALSO AMO-CGWB)
H32: IF THE B-CANNEL PARAMETER IS SPECIFIED, THE AVAILABLE B-CHANNELS ON CGW
FUNCTIONS IS SMALLER/EQUAL AS THE CONFIGURED VALUES FOR CGW FUNCTIONS !
THE RESOURCE MANAGEMENT IS ALSO AFFECTED BY SPECIFYING THIS
PARAMETER, THEREFORE FEWER B-CHANNELS WILL BE CONFIGURED IN TOTAL.
H39: THE PARAMETERS FOR CHANGING THE NUMBER OF B-CHANNELS WILL BE IGNORED IF
THE ACCORDING FUNCTION IS NOT CONFIGURED.
H35: THE PROCESSED CHANGES HAVE NEEDED A DEACTIVATED STMI BOARD.
THE BOARD IS INITIATED TO BE TAKEN IN SERVICE AGAIN RIGHT NOW.

Result:

ADDRESS : LTG 1 LTU 3 SOURCE GROUP 1 ALARMNO-LTU 0									
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----									
			|S|H|AL-|N|						
	ASSIGNED	MODULE	FCT|E|W|ARM|P|	INSERTED		HW-		MODULE	
PEN	MODULE	TYPE	ID |C|Y|NO |R|	MODULE		STATE INFO		STATUS	
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----									
55	Q2324-X510	STMI4	1 * A	0|*|					NPR
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----									
	| IP ADDRESS : 192.168. 11. 55				B-CHANNELS : 120		BCHLCNT : 101		
	| BLOCK NO : 11				PRERESERVED LINES ASSIGNED : YES				
	| 1. FUNCT : HG3570		1 LINES		B-CHANNELS : 21		BCHLCNT : 21		
	| 2. FUNCT : HG3530		70 LINES		B-CHANNELS : 59		BCHLCNT : 40		
	| 3. FUNCT : HG3550		3 LINES		B-CHANNELS : 30		BCHLCNT : 30		
	| 4. FUNCT : HG3550R		1 LINES		B-CHANNELS : 10		BCHLCNT : 10		
	| SECURITY STATUS: 1:[] 2:[] 3:[] 4:[] 5:[] 6:[] 7:[] 8:[]								

27.2.3 DELETE-BCSU

For certain modules the AMO creates a modulespecific memory in the database, where certain modulespecific data are administered. This means that data which for example can be added or changed by means of AMO-CGWB and so on, will be deleted without any warning.

An exception is only the WAML1 board, which can only be deleted if the corresponding data have explicitly been deleted before.

Procedure Overview

Example

1. Remove the RG module having the parameters LTG=1, LTU=1 and SLOT=19.

Input:

```
DELETE-BCSU:RG,1,1,19;
```

27.2.4 DISPLAY-BCSU

The type of output is controlled exclusively by parameter TYPE.

- Interrogate the configuration of an LTU with modules in the following format:
 - a statistics
 - a table
 - a table of modules with variable modes
- Interrogate the operating mode RG, ACGEN, SIU- and DIUC-modules.
- Interrogate the connection status of pens.
- Interrogate base stations.
- Interrogate source groups (see also AMO-UCSU).

Procedure Overview

Command Code

DISPLAY-BCSU

Parameter

```
[TYPE=STAT], [LTG=<number>], [LTU=<number>]
, [CFIG=<number>], [SACHNR<string>];

| [TYPE=TBL], [LTG=<number>], [LTU=<number>]
, [SLOT=<number>];

| [TYPE=MODE], [LTG=<number>], [LTU=<number>]
, [SLOT=<number>];

| [TYPE=PEN], [LTG=<number>], [LTU=<number>]
, [SLOT=<number>], [CCT=<number>];

| [TYPE=PERHW];

| [TYPE]=FLOWCTRL, [LTG=<number>], [LTU=<number>]
, [SLOT=<number>];

| [TYPE=SRCGRP], [SRCGRP=<number>];
```

BCSU - Configuring Mounting Locations for Modules in the SWU

Functions of the AMO

Examples

1. Generate statistics of the reference configuration of the entire system. Parameters (LTG, LTU, SLOT,CFIG and PARTNO) are assigned default values.

Input:

```
DISPLAY-BCSU:STAT;
```

Output:

TOTAL OF THE REFERENCE CONFIGURATION

PARTNO	FID	TYPE	NUMBER
Q2057-X		SLMA	6 => 96 LINE CIRCUITS / PORTS
Q2058-X		RG	1 => 0 LINE CIRCUITS / PORTS
Q2052-X		SLMB	5 => 40 LINE CIRCUITS / PORTS
Q2027-X		TMX21	6 => 12 LINE CIRCUITS / PORTS
Q2032-X		TMBP	2 => 8 LINE CIRCUITS / PORTS
Q2033-X		TMBC	2 => 8 LINE CIRCUITS / PORTS
Q2025-X200		TMBD	11 => 44 LINE CIRCUITS / PORTS
Q2248-X		LTUCE	6
Q2014-X		TMOM	4 => 8 LINE CIRCUITS / PORTS
Q2013-X		TMBM	2 => 4 LINE CIRCUITS / PORTS
Q2233-X	2	SIUX	1 => 8 LINE CIRCUITS / PORTS
Q2065-X1		TMAG	1 => 2 LINE CIRCUITS / PORTS
Q2066-X1		TMAU	4 => 12 LINE CIRCUITS / PORTS
Q2064-X		TLMR	2 => 4 LINE CIRCUITS / PORTS
Q2233-X	7	SIUX	1 => 8 LINE CIRCUITS / PORTS
Q2233-X	4	SIUX	1 => 8 LINE CIRCUITS / PORTS
Q2067-X100		TMASF	1 => 4 LINE CIRCUITS / PORTS
Q2064-X100		TMLR	2 => 4 LINE CIRCUITS / PORTS

2. List the data for all modules in LTG 1 / LTU 1.

Input:

```
DISPLAY-BCSU:TBL,1,1;
```

Output:

LTG 1 LTU 1 SRCGRP 1 ALARMNO-LTU 0

PEN	ASSIGNED MODULE	MODULE TYPE	FCT|E|W|ARM|P| ID|C|Y|NO|R|	INSERTED MODULE	HW- STATE INFO	MODULE STATUS
1	Q2246-X	SLMA24	0|	Q2246-X	1 -E1 -	READY
2	Q2168-X	SIMO24	1 0|	Q2168-X	1 -11 -	READY
3	Q2316-X	STMI2	1 0|	Q2316-X	1 -04 -	READY
+-----+-----+-----+-----+-----+-----+-----+						
| IP ADDRESS : 10. 1. 1. 22 B-CHANNELS : 60 BCHLCNT : 55						
| IP MODE : IPV4 DHCP V4 : NO DHCP V6 : NO						
| BLOCK NO : 13 PRERESERVED LINES ASSIGNED : NO						
| 1. FUNCT : WAML 1 LINES B-CHANNELS : 20 BCHLCNT : 20						
| 2. FUNCT : HG3550 1 LINES B-CHANNELS : 20 BCHLCNT : 15						

BCSU - Configuring Mounting Locations for Modules in the SWU

Functions of the AMO

	| 3. FUNCT : HG3530	120 LINES		B-CHANNELS : 10	BCHLCNT : 10
	| 4. FUNCT : SIP	120 LINES		B-CHANNELS : 10	BCHLCNT : 10
+-----+-----+-----+-----+-----+					
4	| Q2214-X100 TMOM2		0|	| Q2214-X100 | 1 -02 -	| READY
5	| Q2316-X STM12	1 *	0|	| Q2316-X | 1 -04 -	| READY
+-----+-----+-----+-----+-----+					
	| IP ADDRESS : 10.131.	1. 52		B-CHANNELS : 60	BCHLCNT : 45
	| IP MODE : IPV4			DHCP V4 : NO	DHCP V6 : NO
	| BLOCK NO : 1			PRERESERVED LINES ASSIGNED :	NO
	| 1. FUNCT : HG3570	1 LINES		B-CHANNELS : 60	BCHLCNT : 45
+-----+-----+-----+-----+-----+					
6	| AVAILABLE		0|	| AVAILABLE |	|
7	| Q2266-X LTUCA		0|	| Q2266-X | 1 -13 -	| READY
8	| AVAILABLE		0|	| AVAILABLE |	|
9	| AVAILABLE		0|	| AVAILABLE |	|
10	| Q2217-X100 STMD3	1	0|	| Q2217-X100 | 1 -05 -	| READY
11	| Q2343-X STMIX	1	0|	| Q2343-X | 1 -04 -	| READY
+-----+-----+-----+-----+-----+					
	| IP ADDRESS : 10.131.	1. 92		B-CHANNELS : 60	BCHLCNT : 60
	| IP MODE : IPV4			DHCP V4 : NO	DHCP V6 : NO
	| BLOCK NO : 7			PRERESERVED LINES ASSIGNED :	NO
	| 1. FUNCT : SIP	240 LINES		B-CHANNELS : 60	BCHLCNT : 60
+-----+-----+-----+-----+-----+					
12	| Q2193-X200 SLC24		0|*	|	| NPR
13	| Q2196-X DIU-N2	1	0|	| Q2196-X | 1 -07 -	| READY
14	| Q2324-X510 STM14	1 !	0|	| Q2324-X510 | 1 -12 -	| READY
+-----+-----+-----+-----+-----+					
	| IP ADDRESS : 10.131.	1. 22		B-CHANNELS : 120	BCHLCNT : 107
	| IP MODE : IPV4			DHCP V4 : NO	DHCP V6 : NO
	| BLOCK NO : 12			PRERESERVED LINES ASSIGNED :	NO
	| 1. FUNCT : HG3570	1 LINES		B-CHANNELS : 20	BCHLCNT : 17
	| 2. FUNCT : HG3550	1 LINES		B-CHANNELS : 60	BCHLCNT : 50
	| 3. FUNCT : HG3530	120 LINES		B-CHANNELS : 20	BCHLCNT : 20
	| 4. FUNCT : SIP	120 LINES		B-CHANNELS : 20	BCHLCNT : 20
+-----+-----+-----+-----+-----+					

Only one status is output for the dependability and AM module status, which may consist of a combination of states.

Possible output	: NPR	not present
	MAN_AMO	blocked via AMO
	MAN_KEY	blocked via key
	DEFECT	blocked due to module fault
	WBT	incorrect module type
	UNACH	hierarchically blocked
	UNACA	blocked due to interrelationship
	READY	in operation

The SEC column is responsible with the SPE status for HG35x0, vHG35x0 and STMIX boards.

Possible output	: *	secure state
	!	a SPE problem was identified in the SPE state bits

Functions of the AMO

NUMBER	MEANING OF OCCURED SPE STATE BITS
[1]:	SECURE TRACE ACTIVATED
[2]:	ENCRYPTION PROBLEM DETECTED BY HSR
[3]:	NO PKI CERTIFICATE AVAILABLE
[4]:	CERTIFICATE EXPIRED
[5]:	CERTIFICATE REVOCATION LIST EXPIRED
[6]:	LARGE ENTERPRISE GATEKEEPER REGISTRATION FAILED (NO LONGER USED)
[7]:	SIP REGISTRATION FAILED
[8]:	SIP MIKEY CERTIFICATE VERIFICATION FAILED
[9]:	H323 MIKEY CERTIFICATE VERIFICATION FAILED
[10]:	NO TLS CONNECTION ESTABLISHED
[11]:	RESERVED
[12]:	RESERVED
[13]:	RESERVED
[14]:	RESERVED
[15]:	RESERVED
[16]:	RESERVED

The NPR column displays a "*" if the board is not present.

- Output:

PEN		ASSIGNED	MODULE	S|H|A|L-|N|			INSERTED	HW-	MODULE
MODULE		TYPE	ID	C|Y|N|O	R|	MODULE	STATE INFO	STATUS	
1	Q2168-X	SLM024	1	A	0|*	UNKNOWN		UNACH	
2	Q2191-X	SLMA3		A	0|*	UNKNOWN		UNACH	
3	Q2191-X	SLMA3		A	0|*	UNKNOWN		UNACH	
4	Q2324-X10	NCUI4	1		0|*	UNKNOWN		UNACH	
IP ADDRESS : 1. 1. 1.163 B-CHANNELS : 120 BCHLCNT : 120 SECURITY STATUS: 1:[] 2:[] 3:[] 4:[] 5:[] 6:[] 7:[] 8:[] (SEE BOTTOM) 9:[] 10:[] 11:[] 12:[] 13:[] 14:[] 15:[] 16:[]									
5	Q2169-X	STHC	1	A	0|*	UNKNOWN		UNACH	
6	Q2184-X	SLMAB		A	0|*	UNKNOWN		UNACH	
7	Q2187-X	SIUX2	5		0|*	UNKNOWN		UNACH	
8	Q2168-X	SLM024	1	A	0|*	UNKNOWN		UNACH	


```
| NO SECURITY STATUS AVAILABLE, SINCE FEATURE SPE IS NOT ACTIVATED |
+-----+
```

4. Interrogate the module modes in LTG 1.

Input:

```
DISPLAY-BCSU:MODE,1;
```

Output:

ADDRESS	ASSIGNED MDL	TYPE	MODE
1.1. 19	Q2058-X	RG	UN25H65V
1.2. 25	Q2085-X	DIUC	LWPAR1: 3 FIDX1: 10
1.4. 25	Q2185-X	DIUC64	LWPAR1: 3 FIDX1: 10
		2. PCM PATH	LWPAR2: 2 FIDX2: 5
1.5. 31	Q2031-X	SIUP 3	FCT. 1-8
			R2F
			R2B
			R2F
			R2B
			SOCFF
			SOCFB
			SOCFF
			SOCFB
1.5. 85	Q2160-X	STMA	ATMPBB
1.6. 25	Q2160-X	STMA	ATMIW

5. Interrogate a pen for autoset relocate.

Input:

```
DISPLAY-BCSU:PEN,1,1,55;
```

Output:

PEN	STATUS	GERTYPE	COFIDX
1. 1. 55.0	SIGNED OFF		
1. 1. 55.1	NOT CONNECTED		
1. 1. 55.2	CONNECTED		
1. 1. 55.3	CONNECTED		
1. 1. 55.4	SIGNED OFF		
1. 1. 55.5	SIGNED OFF		
1. 1. 55.6	SIGNED OFF		
1. 1. 55.7	NOT CONNECTED		

6. Interrogate base stations.

Input:

```
DISPLAY-BCSU:PERHW;
```

Output:

Functions of the AMO

PARTNO	LOADWARE	FCT-ID
Q5473-X	0	0

Input:

Output:

ADDRESS	ASSIGNED MODULE	FID	FC MODULE	SHORT	LONG	PERM	ACTIVE
1.1 . 19	Q2058-X RG		NO	-	-	-	
1.1 . 25	Q2117-X SLMS		NO	-	-	-	-
1.1 . 31	AVAILABLE						
1.1 . 37	AVAILABLE						
1.1 . 43	Q2246-X SLMA24		NO	-	-	-	-
1.1 . 49	Q2233-X SIUX	2	NO	-	-	-	-
1.1 . 55	AVAILABLE						
1.1 . 61	AVAILABLE						
1.1 . 67	AVAILABLE						
1.1 . 73	Q2248-X LTUCE		NO	-	-	-	-
1.1 . 79	Q2144-X SLMO		YES	300	500	300	NO
1.1 . 85	Q2144-X SLMO		YES	300	500	300	NO
1.1 . 91	Q2115-X SLMU16		YES	500	500	300	NO
1.1 . 97	Q2150-X SLMB		NO	-	-	-	-
1.1 .103	Q2150-X SLMB		NO	-	-	-	-
1.1 .109	Q2141-X SLMA		NO	-	-	-	-
1.1 .115	Q2025-X300 TMBD		NO	-	-	-	-
1.1 .121	Q2121-X TMBCT		NO	-	-	-	-

Input:

Output:

ADDRESS : LTG 1		LTU 25		SOURCE GROUP 20				ALARMNO-LTU 0			
PEN	MODULE	TYPE	ID	C	Y	NO	R	MODULE	STATE	INFO	STATUS
1	Q2168-X	SLMO24	1	A	0	*		UNKNOWN			UNACH
2	Q2191-X	SLMA3		A	0	*		UNKNOWN			UNACH
3	Q2191-X	SLMA3		A	0	*		UNKNOWN			UNACH
4	Q2168-X	SLMO24	1	A	0	*		UNKNOWN			UNACH
5	Q2187-X	SIUX2	5		0	*		UNKNOWN			UNACH
6	Q2324-X10	NCUI4	1		0	*		UNKNOWN			UNACH

IP ADDRESS : 1. 1. 1.163

B-CHANNELS : 120

BCHLCNT : 120

SECURITY STATUS: 1:[] 2:[] 3:[] 4:[] 5:[] 6:[] 7:[] 8:[]

BCSU - Configuring Mounting Locations for Modules in the SWU

Functions of the AMO

		(SEE BOTTOM)		9:[]	10:[]	11:[]	12:[]	13:[]	14:[]	15:[]	16:[]
7	Q2187-X	SIUX2	6	0|*	UNKNOWN						UNACH
8	Q2168-X	SILO24	1	A	0|*	UNKNOWN					UNACH
9	Q2169-X	STHC	1	A	0|*	UNKNOWN					UNACH
10	Q2184-X	SLMAB		A	0|*	UNKNOWN					UNACH

ADDRESS :		LTG	1	LTU	32	SOURCE GROUP		20	ALARMNO-LTU			0

				S|H|AL-							
		ASSIGNED	MODULE	FCT|E|W|ARM|	INSERTED	HW-		MODULE			
PEN	MODULE	TYPE	ID	C|Y|NO	MODULE	STATE INFO		STATUS			

1	Q2168-X	SILO24	1	A	0|*	UNKNOWN					UNACH
2	Q2191-X	SLMA3		A	0|*	UNKNOWN					UNACH
3	Q2191-X	SLMA3		A	0|*	UNKNOWN					UNACH
4	Q2324-X10	NCUI4	1		0|*	UNKNOWN					UNACH

		IP ADDRESS :		1.	1.	1.163	B-CHANNELS :		120	BCHLCNT :		120
		SECURITY STATUS:		1:[]	2:[]	3:[]	4:[]	5:[]	6:[]	7:[]	8:[]	
		(SEE BOTTOM)		9:[]	10:[]	11:[]	12:[]	13:[]	14:[]	15:[]	16:[]	

5	Q2169-X	STHC	1	A	0|*	UNKNOWN					UNACH
6	Q2184-X	SLMAB		A	0|*	UNKNOWN					UNACH
7	Q2187-X	SIUX2	5		0|*	UNKNOWN					UNACH
8	Q2168-X	SILO24	1	A	0|*	UNKNOWN					UNACH

27.2.5 REGENERATE-BCSU

For program technical reasons configured base stations will be regenerated before all regular boards.

Procedure Overview

Command Code
REGENERATE-BCSU

Parameter
[LTG=<number>], [LTU=<number>], [SLOT=<number>];

Example

1. Regenerate all modules in the system.

Input:

```
REGENERATE-BCSU;
```

Output:

```
ADD-BCSU:PER,1,1,61,"Q2144-X",0,0,,NO,300,700,300,A;
ADD-BCSU:PER,1,1,67,"Q2158-X",1,0,,NO,300,700,300,A;
ADD-BCSU:PER,1,1,73,"Q2115-X",0,0,,NO,,,,A;
ADD-BCSU:PER,1,1,79&&85,"Q2150-X",0,0,,,,,A;
ADD-BCSU:PER,1,1,91,"Q2141-X",0,0,,,,,A;
ADD-BCSU:PER,1,1,97,"Q2025-X300",0,0,,,,,A;
ADD-BCSU:PER,1,1,103,"Q2121-X",0,0,,,,,A;
```

BCSU - Configuring Mounting Locations for Modules in the SWU

Parameter Description

```
ADD-BCSU:PER,1,2,31,"Q2117-X",0,0,,,,,A;
ADD-BCSU:PER,1,2,55,"Q2214-X",0,0,,,,,A;
ADD-BCSU:PER,1,2,61,"Q2208-X100",0,0,,,,,A;
ADD-BCSU:DIU,1,2,79,"Q2096-X200",0,,,,0,,,,A;
ADD-BCSU:DIU,1,2,85,"Q2096-X200",0,,,,0,,,,A;
ADD-BCSU:DIU,1,2,91,"Q2096-X200",0,,,,0,,,,A;
ADD-BCSU:DIU,1,2,97,"Q2096-X200",0,,,,0,,,,A;
ADD-BCSU:PER,1,2,103,"Q2235-X",0,0,,,,,A;
ADD-BCSU:PER,1,2,109,"Q2235-X100",0,0,,,,,A;
ADD-BCSU:DIU,1,2,115,"Q2096-X200",0,,,,0,,,,A;
ADD-BCSU:PER,1,2,121,"Q2174-X",0,0,,,,,A;
```

27.3 Parameter Description

ACTFC	Activate Flow Control
Type of Input	: Single value, optional
Possible Values	: YES
	NO
Default Value	: NO
ALARMNO	Alarm number
Type of Inut	: Single value, optional
Possible Values	: numeric, 0, 8-519
BCHL3530	Amount of b-channels for HG3530 function
Type of Inut	: Single value, optional
Possible Values	: numeric, 1-120
BCHL3550	Amount of b-channels for HG3550 function
Type of Inut	: Single value, optional
Possible Values	: numeric, 1-120
BCHL3570	Amount of b-channels for HG3570 function
Type of Inut	: Single value, optional
Possible Values	: numeric, 1-120

BCHLSIP	Amount of b-channels for SIP subscr. (HG3540) function Type of Input : Single value, optional Possible Values : numeric, 1-120
CCT	Circuit/trunk number Type of Input : 1 to 2 Single values or a value range (CHANGE) Possible Values : 0 to 254 Default Value : 0 && max. range of specified board
CFIG	Specifies the configuration to be output Either the reference or the actual configuration with the peripheral modules can be output. The "reference configuration" is the one entered in the database. The "reference configuration" is modified by means of the functions "DELETE", "ADD", or "CHANGE" of this AMO. "Actual configuration" refers to the actual configuration of the system. The actual configuration is modified by pulling or plugging modules. Type of Input : single value, optional Possible Values : CURR : actual configuration EXP : reference configuration Default Value : EXP
CHNGRSLN	Change prereserved HG3530, respectively HG3550 lines Type of Input : Single value, optional Possible Values : numeric, 1-255
CIRCNT	Number of circuits to be configured for boards with changeable number of circuits Type of Input : Single value, optional (ADD) Possible Values : 1 to 255 Default Value : value from UBGDAT
COFIDX	Index of cofi data file to be loaded Type of Input : Single value, optional (CHANGE) Possible Values : 0 to 7

BCSU - Configuring Mounting Locations for Modules in the SWU

Parameter Description

DEVTYPE	Device type
Type of Input	: Single value, optional (CHANGE)
Possible Values	: OPTISET device OPTISET E API OPTISET with workstation protocol
FCTID	Function identification number for boards with more than one functions (e.g. SIUX, STMA, SLMO24)
Type of Input	: Single value, optional (ADD, DELETE)
Possible Values	: 0 to 255
	Valid at present: 2 for SIU type 2 (MFV) 3 for SIU type 3 (MFC) 4 for SIU - RDS functionality 5 for SIU - ANI signalling 6 for SIU - CIS multifrequency (MFS) 7 for SIU - Line Testing peripheral boards see UBGDAT
Default Value	0 ADD-BCSU:DIU 0 ADD-BCSU:PER 0 ADD-BCSU:PERHW 0 ADD-BCSU:RG 0 ADD-BCSU:ACGEN 2 ADD-BCSU:SIUP 1 ADD-BCSU:TMD 1 ADD-BCSU:IPGW 0 DELETE-BCSU:PER
FCTID1	Function identification number for boards with more than one function
Type of Input	: single value, optional (CHANGE)
possible Values	0 - 255
	Valid at present: see UBGDAT
Default Value	0 boards without function identification number
FCTID2	Function identification number for boards with more than one function
Type of Input	: single value, optional (CHANGE)
possible Values	0 - 255
	Valid at present: see UBGDAT

	Default Value	0	boards without function identification number
FIDX	File index of DEP LOCK TBL (1st PCM highway). This contains error code combinations for initiating soft locking/no action/special action treatment of errors on PCM highways of a TMD-BOS. The error code combinations are defined with the ZAND AMO, parameter TYPE=DIUSL Type of Input : Single value, optional Possible : 1 - 10 Values Default Value : 1		
FIDX1	File index of DEP LOCK TBL (1st PCM highway). This contains error code combinations for initiating soft locking/no action/special action treatment of errors on PCM highways of a DIUC or DIUC64. The error code combinations are defined with the ZAND AMO, parameter TYPE=DIUSL Type of Input : Single value, optional Possible : 1 - 10 Values Default Value : 1		
FIDX2	File index of DEP LOCK TBL (2nd PCM highway). This contains error code combinations for initiating soft locking/no action/special action treatment of errors on PCM highways of a DIUC64. The error code combinations are defined with the ZAND AMO, parameter TYPE=DIUSL Type of Input : Single value, optional Possible : 1 - 10 Values Default Value : 1		
HWYBDL	Highwaybundle Type of Input : Single value, optional (ADD/CHANGE) Possible : A Highwaybundle I A Values : F Highwaybundle I F: for overlayconfiguration Default Value : A		
IPADDR	IP gateway address (i.e 198.16.16.78) for payload connections from IP net to HHS Type of Input : 1 to 4 single values, concatenated with "." : mandatory (ADD) : mandatory (CHANGE) Possible : 0 to 255 Values		

BCSU - Configuring Mounting Locations for Modules in the SWU

Parameter Description

LTERM	Threshold value long Type of Input : Single value, optional Possible Values : 100 to 5000 Default Value : see UBGDAT
LTG	Line trunk group specifications Type of Input : Single value, mandatory (ADD, DELETE, CHANGE) Single value, range, optional (DISPLAY, REGENERATE) Type of Input : optional (CHANGE) TYPE=FLOWCTRL :1 single value or 1 value range may be specified. (DISPLAY) TYPE=FLOWCTRL :Up to 2 single values or 1 value range may be specified. Possible Values : 1 to 1 Default Value : 1
LTU	Specification of the LTU of an LTG. The LTU shelves in the cabinet are consecutively numbered from top to bottom. Type of Input : mandatory 1 single values or a range (TYPE=PER) 1 single values or a range, optional (CHANGE) Single value or a range, optional (DISPLAY, REGENERATE) Type of Input : optional (CHANGE) TYPE=FLOWCTRL :1 single value or 1 value range may be specified. (DISPLAY) TYPE=FLOWCTRL :1 single values or 1 value range may be specified. Possible Values : 1 - 15 in HHS (Host Shelf) 16 not defined 17 - 99 in AP (Access Point Shelf) Default Value : 1 && max value of HW platform for shelves in HHS : 17 to 99 for AP shelves (gap between LTU number max and 17 depends on the HW platform)
LWPAR	Index to LW parameter block for TMDN board Type of Input : Single value, optional Possible Values : 1 - 200 Default Value : 1

LWPAR1	Loadware parameterization of DIUC or DIUC64 (1st PCM highway) This parameter assigns a specific parameter block defined by means of the LWPAR AMO, parameter TYPE=DIUC. Type of Input : Single value, optional Possible Values : 1 - 6 Default Value : 1
LWPAR2	Loadware parameterization of DIUC64 (2nd PCM highway) This parameter assigns a specific parameter block defined by means of the LWPAR AMO, parameter TYPE=DIUC. Type of Input : Single value, optional Possible Values : 1 - 6 Default Value : 1
LWVAR	Loadware Variant Type of Input : Single value, optional Possible Values : 0-9, A-Z Default Value : 0 Remark : The parameter LWVAR can only be declared in the initial configuration command for a board type (e.g. SLMA1), if the LWVAR is known to be greater than 0. In subsequent configuration commands for boards of the same type the parameter LWVAR will be ignored. Later changes to the loadware variant must be carried out with the ZAND AMO, TYPE=LOADWARE
MACADDR	MAC address of board Type of Input : 6 single values,concatenated with -, optional Possible Values : hexadecimal, 0-FF Remark : The parameter LWVAR can only be declared in the initial configuration command for a board type (e.g. SLMA1), if the LWVAR is known to be greater than 0. In subsequent configuration commands for boards of the same type the parameter LWVAR will be ignored. Later changes to the loadware variant must be carried out with the ZAND AMO, TYPE=LOADWARE
MFCTYPE	Specification of the working mode for SIU type 3, type 5, type 6 Type of Input : mandatory for SIU type 3, type 5, type 6 8 single values

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Parameter Description

		If fewer values are entered, the last entered value is used to complete the set. If SIU is not type 3, type 5 or type 6 the parameter is not permitted	
Possible Values	:	R2F	CCITT R2 forward
		R2B	CCITT R2 backward
		R1	CCITT R1
		SOCFF	MFCSOCOTEL France forward
		SOCEF	MFCSOCOTEL Spain forward (register signaling 2 out of 5 frequencies)
		SOCE6F	MFCSOCOTEL Spain forward (register signaling 2 out of 6 frequencies)
		SOCFB	MFCSOCOTEL France backward
		SOCEB	MFCSOCOTEL Spain backward (register signaling 2 out of 5 frequencies)
		SOCE6B	MFCSOCOTEL Spain backward (register signaling 2 out of 6 frequencies)
		MFPB	MFP signalling backward
		MFPF	MFP signalling forward
		ANIB	ANI signalling backward
		ANIF	ANI signalling forward
		MFRSB	MFR signalling shuttle backward
		MFRSF	MFR signalling shuttle forward
		MFRPB	MFR signalling packed backward
		MFRPF	MFR signalling packed forward
MTYPE	Type of module to be assigned		
	Type of Input	:	Single value, mandatory
Possible Values	:	PER	Periphery module
		SIUP	Receiver (additional) SIU
		RG	Ringing current generator module
		ACGEN	Dialing ac generator module
		DIU	Digital interface unit
		PERHW	Base stations (peripheral HW)
		TMD	TMD board
		IPGW	IP gateway (STMI board)
	Default Value	:	PER
OPMODE	Mode of operation of the ringing current or dialing ac generator		
	Type of Input	:	single value, required

	Possible Values : for the ringing current generator UN20H85V: ring current:unsymmetric 20 HZ 85 V (message waiting Thailand) UN25H65V: ring current:unsymmetric 25 HZ 65 V UN25H85V: ring current:unsymmetric 25 HZ 85 V UN50H65V: ring current:unsymmetric 50 HZ 65 V UN50H85V: ring current:unsymmetric 50 HZ 85 V for the dialing AC generator SY25H85V: ring current:symmetric 25 HZ 85 V SY50H65V: ring current:symmetric 50 HZ 65 V SY50H85V: ring current:symmetric 50 HZ 85 V
OPS	Mark stations on SLMA boards for off premises usage Type of Input : Single value, optional Possible Values : YES NO Default Value : NO
PARTNO	Specification of the module to be entered (2nd and 3rd block of the code number) Type of Input : single value optional (DISPLAY) required (ADD,DELETE) Possible Values : code number in accordance with the table of permissible module types, e.g., "Q2057-X"
PARTNO1	Specification of the module to be changed (2nd and 3rd block of the code number) Type of Input : Single value optional if SLOT is single value mandatory if SLOT is range Possible Values : Code number in accordance with the table of permissible module types, e.g. "Q2057-X"
PARTNO2	Specification of the new module (2nd and 3rd block of the code number) Type of Input : Single value, mandatory

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Parameter Description

	Possible Values	: Code number in accordance with the table of permissible module types, e.g. "Q2057-X"
PTERM	Threshold value permanent	
	Type of Input	: Single value, optional
	Possible Values	: 100 to 5000
	Default Value	: see UBGDAT
SLOT	Specification of the slot in the LTU. The slots are consecutively numbered corresponding to the labels on the module frame.	
	Type of Input (ADD)	: mandatory, for TYPE=PER Up to 4 single values and/or 1 or 2 value ranges can be entered TYPE=SIUP, RG, ACGEN : single value
	Type of Input (DELETE)	: mandatory, for TYPE=PER TYPE=PER: Up to 4 single values and/or 1 or 2 value ranges can be entered TYPE=SIUP RG, ACGEN : single value
	Type of Input (CHANGE)	: optional, for TYPE=PARTNO :Up to 2 single values or 1 value range may be specified. TYPE=SIUP, RG, ACGEN : single value If PARTNO01 (old code number) is not specified, the parameter SLOT must be entered as a single value.
	Type of Input (CHANGE)	: optional TYPE=FLOWCTRL :1 single value or 1 value range may be specified.
	Type of Input (DISPLAY)	: optional TYPE=FLOWCTRL :Up to 2 single values or 1 value range may be specified.
	Type of Input (DISPLAY, REGENERATE)	: optional, a single value or a value range can be entered If an LTU or an LTG range was entered, only range 1 && 121 is permitted for SLOT.
	Possible Values	: 1, 7, 13, 19, 25, 31, 37, 43,49, 55,67, 73, 79, 85,91, 97, 103, Non compact 109, 115, 121 25, 31, 37, 43,49, 55,61,67, 79, 85,91, 97, 103, 109, 115, C, EC, ECX 121 60,72,78,84,90,96,102,108,114,120 CM80_BAS E 61,73,79, 85,91, 97, 103, 109, 115, 121 CC80X 49,55,61,67,73,79,85,91,97,103 CC80F

		1,2,3,5,6,7,8	INCH19
		1,2,3,4,5,7,8,9,10	AP37009
		1,2,3,4,5,6,8,9,10,11,12,13,14	AP370013
	Default Value	: whole range	
SRCGRP	Source group index		
	Type of Input	: 1 to 2 single values, concatenated with "&" optional	
	Possible Values	: 1 - 255	
STERM	Threshold value short		
	Type of Input	: Single value, optional	
	Possible Values	: 100 to 5000	
	Default Value	: see UBGDAT	
TDMLAW	TDMLAW value of trunking board		
	Type of Input	: Single value, optional	
	Possible Values	: numeric, 0-2	
TSI	Terminal selection identifier		
	Type of Input	: 1 to 4 Single values or a value range (CHANGE)	
	Possible Values	: 1 to 8	
	Default Value	: 1	
TYPE	Type of output (CHANGE)		
	Type of Input	: Single value, mandatory	
	Possible Values	: PARTNO	Code number
		DIU	DIU configuration
		SIGNOFF	Set circuit or tsi to signed off (feat. "autoset relocate")
		RELEASE	Set circuit or tsi from signed off to not connected (feat. "autoset relocate")
		FLOWCTRL	Threshold values for flow control boards
		HWYBDL	Highwaybundlel for overlayconfiguration.
		TMD	TMDN board

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Error Messages and Advisories

	IPGW	IP gateway
Type of Output :		
(DISPLAY)		
Possible output types are:		
Table Output	:	The reference and actual configurations with the peripheral modules are output in table format.
Statistics	:	For the reference or actual configuration of an LTG, the sum of the peripheral modules is output.
Mode	:	For modules with work modes (RG, WGEN, SIU type 3), the work modes are output.
Type of Input	:	single value, optional
	TBL	table output
	STAT	output of system statistics
	MODE	output of work modes
	PEN	port equipment number
	PERHW	display base stations
	FLOWCTRL	Threshold values for flow control boards
	SRCGRP	Source group index

27.4 Error Messages and Advisories

27.4.1 Error Messages

F01: LTG HAS NOT BEEN ASSIGNED
F02: LTU HAS NOT BEEN ASSIGNED
F03: MODULE CODE NUMBER OR FUNCTION ID INVALID !
FOR BOARDS WITH MORE FUNCTIONS THE AMO HAS TO INVESTIGATE THE BOARD DATA BY THE COMBINATION OF PARTNO AND FCTID. IF THE FCTID IS NOT SPECIFIED THE DEFAULT VALUE 0 FOR THIS PARAMETER MIGHT NOT LEAD TO VALID BOARD DATA. PROBABLY THE WRONG CONFIGURATION/DECONFIGURATION BRANCH IS USED !
F04: MOUNTING SLOT n INVALID
F05: MOUNTING SLOT ASSIGNED
F06: MODULE AT THIS MOUNTING SLOT INVALID
F07: ERROR AT ADD/DELETE WAML1 BOARD
A WAML1 BOARD HAS ALREADY BEEN ADDED or
FOR FURTHER WAML1 THE FLEXAMA MEMORY HAS TO BE INCREASED (AMO-DIMSU) or
THE MEMORY FOR WAML1 BOARD HAS TO BE ASSIGNED BY AMO-DIMSU FIRST or
AT SPECIFIED PEN NO DATA FOR WAML1 COULD BE FOUND or
CONFIGURATION ON WAML1 BOARD STILL EXISTS ==> DELETE WITH AMO-LANC
F08: MOUNTING SLOT NOT ASSIGNED
F09: NO DIUC CONNECTED AT SPECIFIED PEN (aa, bb, ccc)
F10: MODULE LINE CIRCUITS NOT DELETED

F11: LOADING SUBSYSTEM "UBGDAT00" NOT POSSIBLE

F12: MOUNTING SLOT INVALID -
MODULE REQUIRES @ FREE MOUNTING LOCATIONS

F13: FOR LTU n (shelftype - SHELF) THE SPECIFIED BOARD IS NOT ALLOWED
TO BE CONFIGURED
shelftype = NORMAL, COMPACT, EXT_COMP_X, 80CM_BASE, CC80X, CC80F,
40CMX_BASE, INCH19, AP37009 or AP370013

F14: IN THIS LTU SHELF NO SIUP BOARD IS ALLOWED TO BE ADDED

F15: DATA BASE INCONSISTENT (NO LOADFILES ENTERED)

F16: IN A MODULAR CABINET SYSTEM SHELF, ONLY RG, ACGEN AND SIUP
MODULES MAY BE CONFIGURED AT SLOT 19

F17: ANOTHER MODULE HAS BEEN ASSIGNED AT THE MOUNTING SLOT

F18: PART NUMBER DOES NOT LEAD TO A PERIPHERAL SIU BOARD

F19: MOUNTING SLOT n WILL NOT BE PROCESSED

F20: MODULE TYPE AT THIS MOUNTING SLOT WILL NOT BE PROCESSED

F21: NOT POSSIBLE TO ASSIGN A SIUP IN THE SPECIFIED LTU QUARTER BECAUSE
THERE IS ALREADY A PERIPHERAL SIU BOARD ASSIGNED.

F22: not applicable anymore

F23: VALUE OUT OF RANGE

F24: IN THIS CASE PARAMETER MUST BE ANSWERED

F25: AMO IS ALREADY RUNNING - FURTHER START NOT PERMITTED

F26: THE PERMITTED NUMBER OF MODULE TYPES HAS ALREADY BEEN ASSIGNED

F27: THE DESIRED BOARD CHANGE IS NOT ALLOWED !
POSSIBLE REASONS :
- BOARD TYPES DON'T MATCH
- BOARD CHANGE EXPLICITELY RESTRICTED (E.G. LAYOUT DIFFERS)
- COMBINATION OF SACHNR1/FCTID1 DOESN'T MATCH CONFIGURED BOARD
- COMBINATION OF SACHNR/FCTID (DEFAULT=0) NOT FOUND IN UBGDAT
- COMBINATION OF SACHNR1/FCTID1 NOT CHANGEABLE AGAINST SACHNR2/FCTID2
(LINE-TYPE DOESN'T MATCH)
- LINE RANGE OF BOTH BOARDS DON'T MATCH
(STMIX DOES NOT SUPPORT WAML FUNCTION)

F28: not applicable anymore

F29: REQUIRED TIMESLOTS FOR SIUP ARE USED BY FOLLOWING ACTIVE
VOICE COMPRESSION CONNECTIONS :
PEN : ltg-ltu-slot VCSU n (message is displayed n times)
DEACTIVATE THESE VC CONNECTIONS WITH AMO-VOICO FIRST

F30: MODULE LINE CIRCUIT IS ENTERED IN THE REFERENCE CLOCK LIST -
DELETE ENTRY WITH AMO "REFTA"

F31: THE BOARD CANNOT BE DELETED BECAUSE IT IS STILL MEMBER OF
HFA BOARD RECONFIGURATION POOL @@@@.
PLEASE REMOVE IT FROM THE POOL BY MEANS OF AMO-BPOOL FIRST.

F32: THE BOARD CHANGE CAUSES ALSO A REDUCTION OF AVAILABLE LINE CIRCUITS.
SOME MODULE LINE CIRCUITS ARE NOT DELETED IN THE OBSOLETE RANGE - THOSE
LINE CIRCUITS HAVE TO BE DELETED FIRST.

F33: LOADWARE WITH SPECIFIED VARIANT NOT PRESENT ON HARDDISK

F34: FOR SIUX BOARD THE PARAMETER FCTID IS MANDATORY
POSSIBLE VALUES ARE : 2 ... SIU_TYPE_2
3 ... SIU_TYPE_3
4 ... SIU WITH TDS FUNCTIONALITY
5 ... ANI SIGNALLING CIS
6 ... CIS MULTIFREQUENCY

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Error Messages and Advisories

7 ... LINE TESTING RURAL

F35: not applicable anymore
F36: FOR SLC24 BOARDS ONLY LWVAR 7 IS VALID.
F37: INSUFFICIENT MEMORY (AMO DIMSU: PARAMETER <param>)
F38: TSI'S ON PEN <ltg.ltu.slot.cct> COULD NOT BE SET TO SIGNED OFF
F39: A DEVICE IS CONFIGURED ON PEN <ltg.ltu.slot.cct> -
SIGNING OFF ONLY POSSIBLE WITH AMO DSSU
F40: NO FREE LINES ARE AVAILABLE IN THE SPECIFIED LTG
F41: NO SIUP MODULES ALLOWED ON RMS
F42: FOR SPECIFIED BOARD THE PARAMETER CIRCNT HAS TO BE WITHIN
THE RANGE <satz> TO <maxsatz>.
F43: OPMODE UN20H85V IS ONLY VALID FOR US RING GENERATOR
F44: CIRCUIT 0 FOR SPECIFIED BOARD MUST NOT BE SIGNED OFF OR RELEASED
BY AMO-BCSU
THIS CIRCUIT WILL BE USED FROM TELECOMMUTING SERVER FOR
ADMINISTRATE PURPOSES (AMO-SBCSU)
F45: NO MORE THAN FOUR TSI'S PER CIRCUIT CAN BE SET TO SIGNED OFF
OR CONNECTED FOR VOICE SERVICE
F46: FOR THE SLMQ MODULE WITH DEVTYPE=OPTISET ONLY ONE TSI PER
CIRCUIT CAN BE SET TO SIGNED OFF OR CONNECTED FOR VOICE SERVICE
F47: not applicable anymore
F48: NO MORE THAN TWO TSI'S PER SLMO CIRCUIT WITH DEVTYPE=OPTISET
CAN BE SET TO SIGNED OFF OR CONNECTED FOR VOICE SERVICE
F49: NO MORE THAN THREE TSI'S PER SLMO/SLMQ CIRCUIT CAN BE SET
TO SIGNED OFF OR CONNECTED FOR VOICE SERVICE
F50: BEFORE SETTING ANY TSI TO SIGNED OFF ON SLMO CIRCUITS ALWAYS
A TSI HAS TO BE SET TO SIGNED OFF FIRST WITH DEVTYPE=OPTISET
F51: SIGNOFF OR RELEASE OF CIRCUITS OR TSI'S IS NOT POSSIBLE ON THE
RESPECTIVE BOARD
F52: PEN <ltg.ltu.slot.cct tsi> IS NOT SET TO SIGNED OFF -
SETTING TO NOT CONNECTED NOT POSSIBLE
F53: INVALID CIRCUIT NUMBER n FOR SPECIFIED BOARD
SPECIFIED BOARD HAS n CIRCUITS, STARTING AT ZERO
F54: CONFIGURATIONS CONCERNING LTUC/NCUI BOARDS MUST BE DONE WITH AMO-UCSU
F55: OPTISET MASTER MUST ALWAYS BE CONFIGURED AT TSI=1
F56: OPTISET MASTER MUST BE THE LAST TSI TO BE RELEASED
F57: THE TELEWORKING STATION CANNOT BE ADDED. THE CONTRACTED NUMBER OF
<contrnr> TELEWORKING STATIONS IS REACHED.
PLEASE USE THE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES
PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO USE
ONE OF THESE FEATURES
F58: NO CONFIGURATIONS CAN BE DONE DURING SHELF BROADCAST
F59: THE SPECIFIED BOARD COULD NOT BE ENTERED INTO REFERENCE CLOCK TABLE
F60: FOR SPECIFIED BOARD THE SPECIFIED MFCTYPE
<mfcerr> IS NOT VALID
F61: FOR SPECIFIED BOARD NO RANGE OF PENS IS PERMITTED
F62: THE SPECIFIED BOARD IS ONLY ALLOWED IN LTU 1 TO <ltu>
F63: IF THE SMALL VERSION OF POWER SUPPLY IS USED (PSDSC) ONLY
@@ BOARDS CAN BE ADDED IN LTU @@
FOR MORE BOARDS USE STRONGER VERSION (PSAFE) OF POWER SUPPLY
F64: FOR BOARD @@-@@@-@@@ IT IS NOT ALLOWED TO CONFIGURE
FLOW CONTROL VALUES

- F65: THE LONG TERM VALUE (LTERM) FOR FLOW CONTROL MUST NOT BE SMALLER THAN THE SHORT TERM VALUE (STERM)
- F66: SPECIFIED HIGHWAY BUNDLE NOT VALID FOR THIS BOARD.
- F67: HIGHWAY BUNDLE @ CAN NOT BE ASSIGNED, BECAUSE STANDARD LTU @@ IS NOT CONFIGURED WITH AN OVERLAY LTU.
- F68: THE BOARD ON @@-@@-@@@ CAN NOT BE CHANGED, BECAUSE THE ASSIGNED HIGHWAY BUNDLE @ IS NOT ALLOWED FOR THE NEW BOARD.
PLEASE DELETE BOARD FIRST AND THEN ADD THE NEW BOARD, OR CHANGE THE ASSIGNED HIGHWAY BUNDLE WITH CHANGE-BCSU:HWYBDL
- F69: BOARDS OF THE ENTERED TYPE MAY NOT BE CONFIGURED
- F70: THE MAXIMUM AMOUNT OF CONFIGURABLE BOARDS OF THE ENTERED TYPE IS ALREADY REACHED.
ANOTHER BOARD MAY NOT BE CONFIGURED.
- F71: NO MORE SUBSCRIBER CAN BE SIGNED OFF, BECAUSE THE CONTRACTED NUMBER OF @@@@ FLEX+TDM LICENSES ARE REACHED.
PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES.
PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO USE ONE OF THESE FEATURES.
- F72: ENTERED MODULE CODE NUMBER IS INVALID
- F73: DEVTYPE=OPTISET IS ONLY ALLOWED FOR SLMO CIRCUITS
- F74: DEVTYPE=API NOT ALLOWED, IF THERE ARE ALREADY CONFIGURED DEVICES FOR SERVICE DATA
- F75: not applicable anymore
- F76: PARAMETER LWPARG (LOADWARE BLOCK INDEX) MAY BE CHANGED WITH AMO BCSU ONLY FOR TMDN-BOS/DIU2U-BOS BOARDS. PLEASE USE AMO TDCSU TO CHANGE THIS PARAMETER FOR THE CONFIGURED BOARD
- F77: THE TDS PORT UPDATE TO THE DATABASE WAS UNSUCCESSFUL
- F78: ON THIS BOARD ONLY THE FOLLOWING TSIS MAY BE SIGNED OFF:
- IF THE ENTERED DEVICETYPE IS OPTISET OR API:
 TSI 1: AS OPTISET
 TSI 2: AS API
- IF NO, OR A DIFFERENT DEVICETYPE THAN OPTISET OR API WAS ENTERED:
 TSI 1: IN THIS CASE THE DEVICETYPE WILL BE IGNORED.
- F79: INSUFFICIENT MEMORY FOR STMI BOARDS. PLEASE INCREASE MEMORY WITH AMO DIMSU (PARAMETER: STMI).
- F80: NO LS NET CONFIGURED
PLEASE CONFIGURE LS NET BY MEANS OF ADD-SIPCO
- F81: ENTERED IP ADDRESS IS INVALID.
POSSIBLE REASONS:
- IP ADDRESS IS NOT WITHIN THE VALID RANGE.
 THE VALID RANGE WITHIN LS NET IS BETWEEN:
 @@@.@@@.@@@.@@@ AND @@@.@@@.@@@.@@@
- F82: BOARDS MAY ONLY BE CONFIGURED IN CERTAIN TYPES OF LTUS. THE VALID LTU TYPES FOR THE ENTERED BOARD DO NOT MATCH THE LTU TYPE OF LTU n.
BOARD MAY NOT BE CONFIGURED.
- F83: ON A SLMQ3 BOARD ONLY TSI 1 MAY BE SIGNED OFF.
POSSIBLE ERROR REASONS:
- YOU DID NOT ENTER A VALUE FOR PARAMETER TSI
- YOU ENTERED A TSI HIGHER THAN 1 OR A TSI RANGE
- TSI 1 IS ALREADY SIGNED OFF OR CONFIGURED
- F84: NO IPGW BOARD (STMI) CONFIGURED ON ENTERED PEN.
ONLY IPGW BOARDS CAN BE CHANGED WITH ENTERED AMO BRANCH.

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F85: A TMD-MOS/DIU2U-BOS BOARD IS CONFIGURED AT ENTERED PEN. WITH CHANGE-BCSU PARAMETERS MAY ONLY BE CHANGED FOR TMD-BOS/DIU2U-MOS BOARDS.

F86: ENTERED SIU BOARD CAN NOT BE CONFIGURED.
REASON:
- ONLY ONE TDS PORT MAY BE CONFIGURED IN THE WHOLE HHS LTU RANGE
- ONLY ONE TDS PORT MAY BE CONFIGURED IN EACH AP LTU
THIS TDS PORT IS ALREADY CONFIGURED:
- IF YOU ENTERED A LTU WITHIN THE HHS RANGE, EITHER THE CENTRAL SIU HAS TDS FUNCTIONALITY (CONFIGURED WITH AMO UCSU), OR A PERIPHERAL SIU WITH TDS FUNCTIONALITY WAS ALREADY ADDED.
- IF YOU ENTERED A LTU WITHIN THE AP RANGE, THIS TDS PORT WAS CONFIGURED, WHEN THE NCUI BOARD (AMO UCSU) WAS ADDED.

F87: GIVEN IP ADDRESS IS ALREADY CONFIGURED IN THE SYSTEM AND CANNOT BE USED

F88: THE DESIRED CONFIGURATION CANNOT BE DONE BECAUSE IN TOTAL THE CONFIGURED VIRTUAL GATEWAYS NEED MORE PORTS THAN THE ACTUAL SOFTGATE TYPE ALLOWS.

F89: THE GIVEN FUNCTION BLOCK IS NOT COMPLETELY CONFIGURED. PLEASE FINISH CONFIGURATION BY MEANS OF AMO-BFDAT FIRST.

F90: THE GIVEN FUNCTION BLOCK IS NOT USABLE FOR THE GIVEN CGW BOARD.
POSSIBLE REASONS ARE :
- THE POSSIBLE FUNCTION BLOCK TYPES DO NOT MATCH
- IN TOTAL LESS B-CHANNELS ARE AVAILABLE ON CGW THAN CONFIGURED
- SOFTGATE CONFIGURATIONS NEED OWN FUNCTION BLOCKS WITH ATTR SOCO
- CGW CONFIGURATIONS NEED OWN FUNCTION BLOCKS WITHOUT ATTR SOCO
- STMIX DOES NOT SUPPORT WAML FUNCTION

F91: THE GIVEN BOARD TYPE IS NOT ALLOWED ON RG8300.

F92: IPV6 AND DHCP FUNCTIONALITY IS SUPPORTED ONLY FOR SOFTGATES.

F93: PARAMETER IPMODE CAN BE CHANGED TO IPV6 OR DUALSTCK FOR SOFTGATE BOARDS CONFIGURED FOR SIP TRUNKING AND SIP SUBSCRIBER.

F94: SAME MAC ADDRESS CANNOT BE USED TWICE. MAC ADDRESS SHOULD BE UNIQUE.

F95: TDMLAW PARAMETER CAN ONLY BE USED FOR HIPATH ACCESS TRUNK BOARDS.

F96: CMIV30 HAS TO BE SET BY MEANS OF CHA-ZANDE:TYPE=ALLDATA,CMIV30=YES;

F97: MAC ADDRESS NOT ALLOWED FOR THIS BOARD TYPE.

F98: SG VIRTUAL BOARDS CANNOT BE CHANGED TO CLASSIC.

F99: ALARM NUMBER CAN BE CHANGED ONLY ON DEACTIVATED BOARDS.
(DEA-BSSU:OFFTYPE=DI,LTG=@@,LTU=@@, SLOT=@@@;)

27.4.2 Advisories

Sample advisories which are output after an ADD, DELETE or CHANGE has been performed:

H01: BD aa.bb. ccc dddddd eeeeeee (ffffff ggggggg)
aa : LTG (1 (HiPath4000)
bb : LTU (1 to 99 (HiPath4000)
ccc : SLOT (1 to 121)
dddddd : ASSIGNED
NOT ASSIGNED
DELETED
NOT DELETED

```

CHANGED
NOT CHANGED
eeeeeee : if dddddd = ASSIGNED OR CHANGED:
          - IN SERVICE
          - OUT OF SERVICE
ffffff : possible additional information
        if dddddd = NOT ASSIGNED
        ORDER ERROR:order error with assing
        MAX. MOD. TYPES: max. no. of mod. types already assigned
        if dddddd = NOT CHANGED
        NOT BLOCKED: Error with blocking of the module
        MAX. MOD. TYPES: max. no. of mod. types already assigned
        - INCREASE PERMDL IN AMO DIMSU
        - NO FREE LINES IN LTG
ffffff : if eeeee = OUT OF SERVICE:
        Combinations of up to 3 states and a load error can be
        output.
        DEFModule defective
        NPRModule not present
        UAModule blocked because of interrelationships
        UHModule hierarchically blocked
        WBTIncorrect module inserted
        ORDER ERROR:Order error with activation following change
        LOADERROR: Load error
ggggggg : if fffffff with LOADERROR:
        HARDWARE load error: Error in module hardware
        FILE load error: no load files for this code
        TRANSFER load error: error with data transmission
    
```

If an LTU is not assigned within a certain LTU range, the following message is output:

```

H02: LTU aa.bb  IS NOT ASSIGNED
      aa       : LTG  (1      (HiPath4000)
      bb       : LTU  (1 to 99 (HiPath4000)
    
```

```

H03: LTG aa  IS NOT ASSIGNED
      aa      : LTG  (1      (HiPath4000)
    
```

When CHANGE is performed, if there is difference in the number of line circuits for the old and new module, the following message is output:

```

H04: NUMBER OF LINE CIRCUITS CHANGED - CHECK LINE CIRCUIT CONFIGURATION
    
```

If no corresponding module is found when the module modes are interrogated, the following message is output:

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H05: NO MODULE WITH MODES WAS FOUND WITHIN THE PROCESSED ADDRESS RANGE

H06: PARAMETER LWVAR WILL BE IGNORED, SIMILAR MODULE TYPE ALREADY ASSIGNED.
VARIANT CAN BE CHANGED USING AMO ZAND.

H07: FOR THE SLMA1, THE PARAMETERS FOR SOME OF THE TIMERS FOR THE TERMINALS
MUST BE SET WITH THE AMO-SCSU, PARAMETER=CCTIDX (SEE AMO-PTIME, TYPE=SLMA1)
ATTENTION: IF DEVICES ARE CONFIGURED WITH DIALING TYPE = VARIABLE ON THE add
SLMA1, THE SLMA BOARD WILL NOT GO IN SERVICE (TYPE VARIABLE NOT on
ALLOWED FOR SLMA).

H08: PARAMETERS FIDX1/2 AND LWPAR1/2 ONLY APPLY TO DIUC, THE INPUT WILL BE IGNORED

H09: PARAMETER TSI WILL BE IGNORED FOR THE CORRESPONDING
MODULE TYPE

H10: PARAMETER DEVTYPE WILL BE IGNORED FOR THE CORRESPONDING
MODULE TYPE

H11: PARAMETER FCTID IS ONLY ALLOWED FOR SIUX BOARDS
PARAMETER FCTID IGNORED

H12: !!! ATTENTION !!!
CONNECTION BRIDGES ON BACK PLAN WIRING MUST BE SWITCHED AS
DESCRIBED IN SERVICE MANUAL TO PREVENT DESTRUCTION OF RG !!

H13: FOR SPECIFIED RG (US-RG) ONLY OPMODE UN20H85V VALID
INPUT HAS BEEN CORRECTED BY AMO

H14: - IF THE SIUP WAS ADDED IN THE HHS, A HARDRESTART IS NECESSARY, TO GET
THE BOARD IN SERVICE
- IF THE SIUP WAS ADDED IN THE AP, A RESTART OF THE AP LTU IS NECESSARY
(AMO USSU).

NUMBER OF POSSIBLE SIUP-BOARDS: ONE PER LTU QUARTER

H15: THE PARAMETER CIRCNT IS NOT ALLOWED FOR THIS BOARD
THE INPUT WILL BE IGNORED

H16: FOR SPECIFIED BOARD ONLY TSI=1 IS ALLOWED TO BE SIGNED OFF OR
RELEASED. TSI GREATER THAN 1 WILL BE IGNORED.

H17: FOR SPECIFIED BOARD THE CIRCUIT 0 HAS TO BE CONFIGURED
(AMO-SSCSU: OPT=TC, DVCFIG=TCLOG)

H18: FLEX LICENSE EXCEEDED.
SIGNED OFF TSIS ARE MARKED AS TRIAL ENTITY.
THEY WILL BE BLOCKED, IF TRIAL MODE EXPIRES WITHOUT SUFFICIENT LICENSES.

H19: FOR SPECIFIED BOARD IT IS NOT ALLOWED TO CONFIGURE
FLOW CONTROL VALUES
THE AMO IGNORES THE INPUT

H20: LTU @@ IS AN OVERLAY LTU FOR LTU @@

H21: THE ALREADY SIGNED OFF TSI(S) WAS (WERE) NOT REPROCESSED.

IF YOU DID NOT ENTER A VALUE FOR PARAMETER TSI, DEFAULT VALUE TSI = 1
WAS USED.

H22: PARAMETER LWPAR WILL BE IGNORED FOR TMD/DIU2U BOARDS IN MOS MODE

H23: YOU DID NOT ENTER A VALID IP ADDRESS.
IP-ADDRESS aaa-bbb-ccc-ddd WAS AUTOMATICALLY RESERVED.

H24: PARAMETER OPS IS ONLY RELEVANT FOR CIRCUITS ON SLMA BOARDS.
BOARD IS NO SLMA, PARAMETER WILL BE IGNORED.

H25: THE DEVICETYPE OF A SIGNED OFF TSI ON A SLMQ3 BOARD CAN ONLY BE OPTISET
(PARAMETER DEVTYPE). YOUR INPUT WAS CORRECTED TO DEVTYPE=OPTISET.

- H26: NO DATA CONFIGURED FOR ENTERED PARAMETER VALUES OR DEFAULT VALUES.
- H27: IP-ADDRESS @@@.@@@.@@@.@@@ WAS CONFIGURED.
- H28: PARAMETER FIDX WILL BE IGNORED FOR TMD/DIU2U BOARDS IN MOS MODE
- H29: ENTERED BOARD IS A MIXED LINE CARD (WITH SLMO AND STMD CIRCUITS).
PARAMETER DEVTYPE IS MANDATORY FOR THIS BOARD, BUT WILL BE EVALUATED ONLY FOR SLMO CIRCUITS.
FOR STMD CIRCUITS, THE ENTERED DEVTYPE WILL BE IGNORED AND THE CIRCUIT WILL BE SIGNED OFF
- H30: THE (POSSIBLY) ALREADY RELEASED TSI(S) WAS (WERE) NOT REPROCESSED.
- H31: THE AMOUNT OF AVAILABLE B-CHANNELS ON CGW BOARD HAS BEEN CHANGED !
PLEASE CHECK THE RESOURCE MANAGER CONFIGURATION (ALSO AMO-CGWB)
- H32: IF THE PARAMETER BCHLCNT IS SPECIFIED, THE AMOUNT OF AVAILABLE B-CHANNELS ON CGW BOARD IS SMALLER AS THE DEFAULT VALUE OF THE BOARD !
THE RESOURCE MANAGEMENT IS ALSO AFFECTED BY SPECIFYING THIS PARAMETER, THEREFORE ONLY ^anzbkan^ B-CHANNELS WILL BE CONFIGURED.
- H33: THE FLAG TO FORCE BOARD LOADING IS SET.
IF YOU WANT TO PREVENT REPEATEDLY BOARD LOADING PROCESSES; THE FLAG SHOULD BE RESET AFTER THE FIRST LOADING OF THE BOARD BY MEANS OF :
CHANGE-FUNSU:FLASH,,,RESET;
- H34: DUE TO ACTIVATED FEATURE SIGNALLING & PAYLOAD ENCRYPTION AND/OR ACTIVATED DMC THE NUMBER OF CONFIGURED B-CHANNELS FOR <function> HAVE BEEN REDUCED BY @@@ B-CHANNELS.
ACTUAL AVAILABLE <function> B-CHANNELS: @@@
- H35: THE PROCESSED CHANGES HAVE NEEDED A DEACTIVATED STMI BOARD.
THE BOARD IS INITIATED TO BE TAKEN IN SERVICE AGAIN RIGHT NOW.
- H36: THE SETTING OF PARAMETER BITRATE HAS BEEN CHANGED TO 100MBFD BECAUSE OF HW RELATED RESTRICTIONS. CHANGE POSSIBLE WITH AMO-CGWB.
- H37: NO (FURTHER) RESERVED LINES AVAILABLE, PARAMETER CHNGRSLN IGNORED.
- H38: LESS RESERVED LINES ARE AVAILABLE AS SPECIFIED VIA PARAMETER CHNGRSLN. THE MAXIMUM POSSIBLE CONFIGURATION WILL BE APPLIED.
- H39: THE PARAMETERS FOR CHANGING THE NUMBER OF B-CHANNELS WILL BE IGNORED IF THE ACCORDING FUNCTION IS NOT CONFIGURED.
- H40: THE DESIRED CONFIGURATION HAS TO BE CUT BECAUSE IN TOTAL THE CONFIGURED VIRTUAL GATEWAYS NEED MORE PORTS THAN THE ACTUAL SOFTGATE TYPE ALLOWS.
- H41: FOR SUBSCRIBER CONFIGURATIONS ON THIS BOARD, NO ENTRIES ARE VALID IN THE REFERENCE CLOCK TABLE. FURTHERMORE LEAD REFERENCE CLOCK ENTRIES WHICH ARE NOT FOLLOWED BY TRUNK CONFIGURATIONS TO HEAVY SYSTEM MALFUNCTIONS.
- H42: UBGDAT ENTRY HAS BEEN MODIFIED INTERNALLY BEFORE FIRST USAGE.
- H43: BOARD DATA HAVE TO BE CONFIGURED WITH AMO CGWB.
- H44: DHCP IS ACTIVATED. LEGK CONFIGURATIONS (AMO-GKREG) ARE SUSPENDED FOR THIS GATEWAY.
- H45: FOR IPMODE SET TO DUAL STACK OR IPV6 MODE, A PROFILE FOR SIPQ TRUNKS HAS TO BE CONFIGURED VIA WBM.
- H46: THE PARAMETERS IPMODE, DHCPV4 UND DHCPV6 ARE NOT RELEVANT FOR TRADITIONAL HG3500 BOARDS AND WILL BE IGNORED.
- H47: DHCP IS ACTIVATED BUT AT LEAST ONE CONFIGURED IP ADDRESS IS NOT VALID ! THE GATEWAY CANNOT BE TAKEN INTO SERVICE.
- H48: Please note that DHCP functionality is not fully supported yet (in Release 0).
- H49: TO COMPLETE THE DELETION OF BOARD RELATED DATA, A MANUAL RESTART OF THE SOFTGATE IS NEEDED: RES-USSU:RESTYPE=LTU,LTU=<LTU>;
- H50: PARAMETER LWVAR WILL BE IGNORED, FOR SLC24 BOARDS ONLY LWVAR 7 IS VALID.
- H51: CLASSICAL BOARD IS CONVERTED TO VIRTUAL, AS THE LTU IS A SOFTGATE.

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Error Messages and Advisories

H52: PARAMETER LWVAR WILL BE IGNORED, FOR SLMC BOARDS ONLY LWVAR 4 IS VALID.
H53: G723 IS NOT SUPPORTED BY STMIX BOARD. IT HAS TO BE DEACTIVATED BY MEANS OF AMO
CGWB: CHA-CGWB:MTYPE=CGW,LTU=<xx>,SLOT=<xxx>,TYPE=ASC,PRIO=PRIO<xxx>,CODEC=NO
H54: G723 HAS BEEN DECTIVATED ON STMIX BOARD. IF NEEDED IT CAN BE ACTIVATED FOR THE
NEW BOARD BY MEANS OF AMO CGWB.
H55: THE BOARD FROM PEN @@-@@-@@@ WILL BE ACTIVATED

27.4.3 Usage of error and advisory messages per action

ADD :	F01, F02, F03, F04, F05, F06, F11, F12, F13, F14, F16, F18, F19, F21, F23, F24, F25, F26, F29, F33, F34, F35, F36, F37, F40, F41, F42, F43, F58, F59, F60, F61, F62, F63, F64, F65, F66, F67, F69, F70, F77, F79, F80, F81, F82, F86, F87, F89, F90 H01, H02, H03, H06, H07, H08, H11, H12, H13, H14, H15, H19, H20, H22, H23, H28, H32, H33, H34, H40
CHANGE :	F01, F02, F03, F04, F06, F08, F09, F11, F13, F19, F23, F24, F25, F27, F32, F33, F37, F38, F39, F44, F45, F46, F48, F49, F50, F51, F52, F54, F55, F56, F57, F58, F64, F65, F66, F67, F68, F71, F73, F74, F76, F78, F83, F84, F85, F87 H01, H02, H03, H04, H06, H07, H08, H09, H10, H17, H20, H21, H24, H25, H27, H29, H30, H31, H32, H34, H35, H36, H37, H38, H39
DELETE :	F01, F02, F03, F04, F07, F08, F10, F11, F15, F17, F19, F20, F23, F25, F30, F31 H01, H02, H03, H18, H20
DISPLAY :	F01, F02, F04, F11, F23, F25, F53, F72, H03, H05, H26
REGENERATE :	F01, F02, F04, F11, F23, F25, H03

28 BDAT - Administration of Module Data

Validity of Variants	Configuration Sequence	Parameter Description
Cross-References	Functions of the AMO	Error messages and advisories

At present the AMO BDAT can be used to administer the data of the STMA¹ and the WAML2² modules. The AMO BDAT is used for adding as well as for modifying, deleting, displaying and regenerating module data and for loading of the data.

The module data are entered in the SWU database and loaded into the module if the correct module is inserted and has been started up.

In scope of feature IPDA (IP Distributed Architecture) the STMA and WAML2 boards can be configured in the Access Points which have the LTU range from 17 to 99 (added by AMO UCSU and BCSU). The Source Group Index (SRCGRP) assigned to the LTU is issued in the header mask at command DISP-LANC.

STMA module

The operating mode of the module to be added is set by means of the parameter FCTID of the AMO BCSU. The FCTID is assigned as follows:

FCTID	Operating mode
4	PSW: Port Switching
5	NW20: Networking 2.0

The operating mode of the STMA module cannot be changed while it is in operation. In order to change the operating mode it is necessary first to deactivate the module (AMO BSSU) and then reconfigure it (delete then add with AMO BCSU).

In operating mode PSW there are global module data that have to be added in branch TYPE=STMA, OPMODE=GLOBAL. The users connected to the STMA module have to be administered by AMO SBCSU.

In operating mode NW20 the global module data and the operating mode related data are configured in the common parameter branch OPMODE=NW20. The circuits of the STMA module have to be administered by AMO TDCSU.

WAML2 module

The WAML2 module is added with the AMO BCSU. It is necessary to specify FCTID=2 .

1. Subscriber Trunk Module for ATM
2. WAML2 = WAML Module with Loadware for Telecommuting

The module-specific configuration data for a LAN communication via the WAML2 module can be administered with the AMO BDAT. The AMO BDAT is also used to initiate loading of the data to the WAML2 module.

The following tables are edited:

- **Global Parameter Table**
All generally valid properties for every WAML2 module and the parameters for communication with the TC server (Telecommuting Server) are contained in this table.
- **Network Interface Table**
This table describes the network interface of the WAML2 module. The network mask describes the network connected to the interface.
- **IP Routing Table**
This table contains routing information for the destination IP address of the data package. The next router needed in the network is ascertained on the basis of this table. Entries can be made for an entire network as well as for individual hosts. The table is IP address- oriented and up to 8 different entries can be created. An entry in the IP routing table is only necessary if the TC server can be reached via a router.
- **Firewall MAC Address Table**
This table contains the assignment of permitted source MAC address to source IP address for packages that are received from the WAML2. The assignment of source IP address to MAC address is IP address-oriented and 4 different entries can be created. If routers are inserted between the WAML2 and the external server, as source MAC address the MAC address of the last router has to be added into the Firewall MAC Address Table.
The MAC address is a worldwide unique hardware address of the Ethernet interface that is permanently encoded on every LAN module during production. The MAC address of the WAML2 can be determined with the verb DISPLAY.

The WAML2 module is not ready for operation with the basic initialization of the tables.

Criteria deciding whether a data transfer is made are the source IP address and the destination IP address of a data package. The MAC firewall function on the WAML2 module is a protection mechanism to prevent the transfer of data packages of unauthorized users and to generate a firewall alarm. The entries in the firewall MAC address table are used for this. The firewall check and the WAML2 network interface are switched on in the Global Parameter Table.

Only one LAN interface can be operated simultaneously at the external LAN. The setting of the desired LAN-HW interface is made in the Global Parameter Table.

The AMO BDAT is not able to check the created tables with the topology of an existing network (e.g. IP addresses) for consistency.

28.1 Validity of Variants

This description applies for HiPath 4000 V1.0. The STMA and WAML2 modules can only be used in system types 80CMX and 600ECX.

28.2 Cross-References

• AMO BCSU	Adding of modules
• AMO BSSU	Activating and deactivating of SWU modules
• AMO BUEND	Adding of trunk groups
• AMO DIMSU	Adding of memory
• AMO SBCSU	Adding of user terminals
• AMO TDCSU	Adding of digital circuits

28.3 Configuration Sequence

AMO DIMSU -> AMO BCSU -> AMO BDAT

28.4 Functions of the AMO

- [ADD-BDAT](#) : Adds the data of a module
- [CHANGE-BDAT](#) : Changes the data of a module
- [EXEC-BDAT](#) : Loads the data to the module
- [DELETE-BDAT](#) : Deletes specific module data
- [DISPLAY-BDAT](#) : Displays the module data
- [REGENERATE-BDAT](#) : Regenerates the module data

28.4.1 ADD-BDAT

28.4.1.1 STMA Module Data

This function (branch TYPE=STMA) is used to add the data of the specified STMA module to the SWU database.

The addition of an STMA module requires the following procedure:

- Sufficient memory space for the STMA to be added must be reserved in the CC Flexama memory with the AMO DIMSU (Parameter STMA und STMACIR).
- An STMA module must be added with the AMO BCSU at the specified position (LTG, LTU, SLOT) on the basis of the UBGDAT data.

The global data of the operating mode PSW can be administered in the joint parameter branch OPMODE=GLOBAL.

The global and the networking related data in operating mode NW20 can be administered only in the common parameter branch OPMODE=NW20.

In **operating mode NW20** (parameter branch OPMODE=NW20) the following checks are performed:

- The ATM address must be unique i.e. the ATM address must not be already assigned to another STMA module having the operating mode NW20.
- all VPCI values (par. VPCI0 .. VPCI7) on one STMA module must be different

The optional parameters that are not entered are assigned a default value. As a consequence the VCIOFS values are in this case set as zero.

After executing the function ADD

- the added VCI offsets and their VCI values are output for every VPI in tabular form within an advisory message and
- the module data are automatically loaded to the PIT (or the module) by calling the EXEC function. If loading is not successful an advisory message to this effect is output.

28.4.1.2 WAML2 module data

The addition of an WAML2 module requires the following procedure:

- Sufficient memory space for the WAML2 to be added must be reserved in the CC Flexama memory with the AMO DIMSU (Parameter WAML2).
- A WAML2 module must be added with the AMO BCSU at the specified position (LTG, LTU, SLOT). It is necessary for FCTID=2 to be specified.

No particular sequence is prescribed for the configuration of the tables. However, the following cross-references exist when adding the Global Parameter Table:

- to the Network Interface Table:
A check is made in this case to ascertain whether the network interface to be activated (parameter ACTNETIF) is added. If it is not added message H13 is output and the command is executed properly.
- to the IP Routing Table:
No network mask is to be entered for host IP addresses because the network mask has no significance in this case. Even if the network mask has been entered the value 255.255.255.255 is written into the database and message H18 is output. If on the other hand the network mask 255.255.255.255 is specified with network IP addresses the input is rejected with message F34.
- to the firewall check:
The entries in the firewall MAC address table are used for this depending on the FIREWALL parameter. If the firewall test is activated but there are no valid entries in the associated table then no data packages are transferred.

In order to ensure that IP addresses are unique an IP address may occur only once in all IP address-oriented tables.

After execution of the function ADD the WAML2 configuration data are not loaded to the module. Loading can only be initiated with the EXEC command.

Procedure overview

Command	Parameter	
ADD-BDAT	[LTG=<number>], LTU=<number>, SLOT=<number> , TYPE=STMA , OPMODE=GLOBAL , [L1MODE=<param>], [REASBUF=<param>], [ATMPROT=<param>] , [VCIOFS0=<number>], [VCIOFS1=<number>] , [VCIOFS2=<number>], [VCIOFS3=<number>] , [VCIOFS4=<number>], [VCIOFS5=<number>] , [VCIOFS6=<number>], [VCIOFS7=<number>];	(1) (1.1)

Command	Parameter	
	,OPMODE=NW20 ,ATMADDR = <number>, [ATMNPI = <param>] ,[L1MODE = <param>], [REASBUF = <number>] ,[ATMPROT = <param>] ,[PATTERN = <number>], [SIGVPI = <number>] ,[VCIOFS0 = <number>], [VCIOFS1 = <number>] ,[VCIOFS2 = <number>], [VCIOFS3 = <number>] ,[VCIOFS4 = <number>], [VCIOFS5 = <number>] ,[VCIOFS6 = <number>], [VCIOFS7 = <number>] ,[VPCI0 = <number>], [VPCI1 = <number>] ,[VPCI2 = <number>], [VPCI3 = <number>] ,[VPCI4 = <number>], [VPCI5 = <number>] ,[VPCI6 = <number>], [VPCI7 = <number>];	(1.2)
	,TYPE=WAML2	(2)
	,TABTYPE=GLOBAL ,LANHW=<param>,ACTNETIF=<param>,FIREWALL=<param> ,[TRACELV=<number>],IPADDR=<string>,PORTTCS=<number> ,PORTBRD=<number>;	(2.1)
	,TABTYPE=NETWORK ,IPADDR=<string>,IPNMASK=<string>, [MAXTU=<number>];	(2.2)
	,TABTYPE=IPROUTE ,IPADDR=<string>,DESTTYPE=<param>, [IPNMASK=<string>] ,NEXTROUT=<string>;	(2.3)
	,TABTYPE=FIREMAC ,IPADDR=<string>,MACADDR=<string>;	(2.4)

Examples

STMA module data

1. Adding of an STMA module at position 1-2-37 with the ATM protocol UNI3.1 and the VCI offset value 15 for VPI1.

Input:

ADD-BDAT:1,2,37,STMA,GLOBAL,, ,UNI31,,15;

Output:

H01: THE VPI'S HAVE BEEN CONFIGURED AS FOLLOWS:

+-----+-----+-----+-----+-----+-----+-----+											
|	VPI	|	VCIOFS	|	VCIOFS	|	VCIOFS	|	VCIOFS	|	VCIOFS
+-----+-----+-----+-----+-----+-----+-----+											
|	0	|	0	|	32 - 511	|	1	|	15	|	7712 - 8191
|	2	|	0	|	32 - 511	|	3	|	0	|	32 - 511
|	4	|	0	|	32 - 511	|	5	|	0	|	32 - 511
|	6	|	0	|	32 - 511	|	7	|	0	|	32 - 511
+-----+-----+-----+-----+-----+-----+-----+											

2. Adding another STMA module at position 1-2-43 with the ATM protocol UNI3.1 and the ATM interface SONET. VCI-offsets are zero.

Input:

```
ADD-BDAT:1,2,43,STMA,GLOBAL,SONET,,UNI31;
```

Output:

H01: THE VPI'S HAVE BEEN CONFIGURED AS FOLLOWS:

VPI | VCIOFS | VCI RANGE				VPI | VCIOFS | VCI RANGE			
0	0	32 - 511		1	0	32 - 511	
2	0	32 - 511		3	0	32 - 511	
4	0	32 - 511		5	0	32 - 511	
6	0	32 - 511		7	0	32 - 511	

- Adding an STMA module on position 1-2-31 in operating mode NW20. Default values are configured except the ATM address.

Input:

```
ADD-BDAT:1,2,31,STMA,NW20,089712654244;
```

WAML2 module data

- Adding of the Global Parameter Table with TC server IP address 128.1.2.0, TC server port number 1000 and WAML2 port number 1010.

Input:

```
ADD-  
BDAT:1,2,25,WAML2,GLOBAL,COAX,EXTLAN1,NONE,,128.1.2.0,1000,10  
10;
```

- Adding of the network interface to the external LAN in the table of network interfaces with IP address 192.168.1.4, network mask 255.255.255.0 and a package size of 512 Byte.

Input:

```
ADD-BDAT:1,2,25,WAML2,NETWORK,192.168.1.4,255.255.255.0,512;
```

- Creation of an entry in the IP routing table for network IP address 198.1.108.3, network mask 255.255.255.0 and IP address of the next router (192.21.2.1).

Input:

```
ADD-  
BDAT:1,2,25,WAML2,IPROUTE,198.1.108.3,NET,255.255.255.0,192.2  
1.2.1;
```

- Adding an entry in the IP routing table for host IP address 192.1.108.103, IP address of the next router (192.21.22.11).

Input:

```
ADD-  
BDAT:1,2,25,WAML2,IPROUTE,198.1.108.103,HOST,,192.21.22.11;
```

8. Adding an entry in the firewall MAC address table for IP address 192.168.5.1 and MAC address CC.00.A0.45.D0.7F.

Input:

```
ADD-BDAT:1,2,25,WAML2,FIREMAC,192.168.5.1,CC.00.A0.45.D0.7F;
```

28.4.2 CHANGE-BDAT

This function can be used to modify the previously added module data.

STMA module data

Only the module data that have been entered as parameters are changed (overwritten) in the DB. Unentered module data remains unchanged.

- The following points apply when changing global module data:
 - The global parameters (L1MODE, ATMPROT, REASBUF and VCIOFS0-7) cannot be changed while the STMA module is activated because this can result in errors in the loadware. The module can be activated and deactivated by means of AMO BSSU.
 - If the circuits of the STMA module have been created earlier a check is made whether the new VCI offsets to be entered match the VCI values of the added circuits¹. In the event of an error an error message is output indicating possible remedial action.
 - When the VCI offsets are changed a check is also made against the VCI values of a PSW user. This means specifically:
In the PSW mode the VPI on which the VCI offset is based must not be assigned to a user. If it is, the VCI offset must not be changed.
- Checks similar to that performed by the action ADD are carried out for operating mode NW20. Moreover, the following rules should be kept in mind:
 - For entries with device type PVC the VPI/VCI values configured by ADD-TDCSU must remain consistent with the (eventually modified) VCI offsets.

1. Formula: VCI value = (VCI Offset * 512) + (32..511)

- The user must be aware that the modification of either the ATM source address or of the numbering plan identifier will effect the whole network configuration. Especially:
 - partner nodes who refer to the given ATM address as a target address must also change their settings;
 - the network administrator may also be concerned.
- The ATM address must be unique within all STMA boards in operating mode NW20

After execution of the CHANGE function

- the added VCI offsets and the associated VCI values for each VPI are output in tabular form within an advisory message and
- the module data are automatically loaded to the PIT (or to the module) by calling the EXEC function. If loading is unsuccessful an advisory message to this effect is output.

WAML2 module data

The same cross-references exist as for the action ADD. In addition, only added table elements may be changed.

Data for entire networks can be changed uniformly by entering a network mask.

The parameter IPADDR (TC server IP address) of the Global Parameter Table cannot be changed while the WAML2 is activated.

The IP address (parameter IPADDR) of an entry is itself changed by specifying the parameter IPADRNEW.

After the CHANGE function has been executed the WAML2 configuration data are not loaded to the module. Loading can be initiated with the EXEC command.

Procedure overview

Command	Parameter	
CHANGE-BDAT	[LTG=<number>], LTU=<number>, SLOT=<number> , TYPE=STMA , OPMODE=GLOBAL , { [L1MODE=<param>], [ATMPROT=<param>], [VCIOFS0=<number>] , [VCIOFS1=<number>], [VCIOFS2=<number>] , [VCIOFS3=<number>], [VCIOFS4=<number>] , [VCIOFS5=<number>], [VCIOFS6=<number>] , [VCIOFS7=<number>] }; , OPMODE=NW20	(1) (1.1) (1.2)

Command	Parameter	
	<pre>,{[ATMADDR = <nummer>], [ATMNPI = <param>] ,[LIMODE = <param>], [REASBUF = <nummer>] ,[ATMPROT = <param>] ,[PATTERN = <nummer>], [SIGVPI = <nummer>] ,[VCIOFS0 = <nummer>], [VCIOFS1 = <nummer>] ,[VCIOFS2 = <nummer>], [VCIOFS3 = <nummer>] ,[VCIOFS4 = <nummer>], [VCIOFS5 = <nummer>] ,[VCIOFS6 = <nummer>], [VCIOFS7 = <nummer>] ,[VPCI0 = <nummer>], [VPCI1 = <nummer>] ,[VPCI2 = <nummer>], [VPCI3 = <nummer>] ,[VPCI4 = <nummer>], [VPCI5 = <nummer>] ,[VPCI6 = <nummer>], [VPCI7 = <nummer>]};</pre>	
	<pre>,TYPE=WAML2</pre>	(2)
	<pre>,TABTYPE=GLOBAL</pre>	(2.1)
	<pre>,{[LANHW=<param>],[ACTNETIF=<param>],[FIREWALL=<param>] ,[TRACELV=<nummer>],[IPADDR=<string>],[PORTTCS=<nummer>] ,[PORTBRD=<nummer>]};</pre>	
	<pre>,TABTYPE=NETWORK</pre>	(2.2)
	<pre>,{[IPADDR=<string>],[IPNMASK=<string>],[MAXTU=<nummer>]};</pre>	
	<pre>,TABTYPE=IPROUTE</pre>	(2.3)
	<pre>,IPADDR=<string>,{[IPADRNEW=<param>],[DESTTYPE=<param>], [IPNMASK=<string>],[NEXTROUT=<string>]};</pre>	
	<pre>,TABTYPE=FIREMAC</pre>	(2.4)
	<pre>,IPADDR=<string>,{[IPADRNEW=<param>],[MACADDR=<string>]};</pre>	

Examples

STMA module data

- 1. Changing the STMA module data at position 1-2-43: VPI0 offset from 0 to 20, VPI1 offset from 15 to 31.
Requirement: the VCI values of VPI0 and VPI1 must match the associated offsets.

Input:

CHANGE-BDAT:1,2,43,STMA,GLOBAL,,,,20,31;

Output:

H01: THE VPI'S HAVE BEEN CONFIGURED AS FOLLOWS:

+-----+-----+-----+-----+-----+-----+													
|	VPI	|	VCIOFS	|	VCI RANGE		|	VPI	|	VCIOFS	|	VCI RANGE	|
+-----+-----+-----+-----+-----+-----+													
|	0	|	20	|	10272 - 10751		|	1	|	31	|	15904 - 16383	|
|	2	|	0	|	32 - 511		|	3	|	0	|	32 - 511	|
|	4	|	0	|	32 - 511		|	5	|	0	|	32 - 511	|
|	6	|	0	|	32 - 511		|	7	|	0	|	32 - 511	|

2. Changing the following NW20 data at position 1-2-31: ATM address, numbering plan identifier, ATM protocol and VCIOFS0.

Input:

```
CHANGE-BDAT:1,2,31,STMA,NW20,0614604128,ISDN,,,UNITEST,,,10;
```

Output:

H24: THE PARAMETER 'ATMADDR' OR 'ATMNPI' HAS BEEN CHANGED.
THE WHOLE NETWORK

CONFIGURATION MIGHT BE AFFECTED. SEE AMO DESCRIPTION.

H23: AFTER CHANGING THE MODULE DATA, REMEMBER TO ACTIVATE THE
MODULE WITH AMO BSSU
AGAIN.

H01: THE VPI'S HAVE BEEN CONFIGURED AS FOLLOWS:

VPI	VCIOFS	VCIOFS	VCI RANGE	VPI	VCIOFS	VCIOFS	VCI RANGE
0	10	5152	5631	1	0	32	511
2	0	32	511	3	0	32	511
4	0	32	511	5	0	32	511
6	0	32	511	7	0	32	511

WAML2 module data

3. Changing HW interface and the TC server IP address in the Global Parameter Table.

Input:

```
CHANGE-BDAT:,2,25,WAML2,GLOBAL,AUI,,,128.1.2.64;
```

4. Changing IP address and package size for the network interface to the external LAN.

Input:

```
CHANGE-BDAT:,2,25,WAML2,NETWORK,192.168.17.4,,1024;
```

5. A new IP address (198.1.108.0) is to be issued in the IP Routing Table for the entry with IP address 198.1.108.3.

Input:

```
CHANGE-BDAT:,2,25,WAML2,IPROUTE,198.1.108.3,198.1.108.0;
```

6. The entry with the IP address 192.168.5.1 is to be changed in the firewall MAC address table.

Input:

```
CHANGE-BDAT:,2,25,WAML2,FIREMAC,192.168.5.1,140.1.0.10;
```

28.4.3 EXEC-BDAT

This command initiates dynamic reloading of the entire configuration data during operation. The configuration data are also loaded to the module:

- when adding with AMO BCSU
- on insertion in the LTU shelf
- when activating with AMO BSSU

The WAML2 does not use the configured data until successful loading.

The timing of the response from PIT is monitored using a timer. If loading of the module data is unsuccessful the corresponding error message is output and the AMO is aborted. Loading may not be successful for the following reasons:

- no module data has been added
- the module is not present
- an acknowledgment was not received from PIT within the 2-minute waiting time
- the dynamic module identifier is not present
- the module is not in the 'ready' state

If the ADD and CHANGE functions are transmitted, the *STMA module data* are automatically loaded if this is possible. If loading is not yet possible at the time of adding/changing of the module data (e.g. module not inserted), they must be loaded later with this command.

Attention: the STMA module data can not be loaded with the EXEC command in operating mode NW20. To do this, the module has to be first deactivated and then activated again (with AMO BSSU).

Procedure overview

Command Code	Parameter
EXEC-BDAT	[LTG=<number>], LTU=<number>, SLOT=<number>;

28.4.4 DELETE-BDAT

STMA module data

Note: the global module data of the STMA module cannot be deleted with this function. In order to delete these data or to change the operating mode the module must first be deactivated (AMO BSSU) and then reconfigured (AMO BCSU).

WAML2 module data

The cross-references between the Global Parameter Table and subsequent tables can result in inconsistencies in the WAML2-specific tables. Deactivation of the corresponding function in the Global Parameter Table is recommended before deleting entire tables.

- **Network Interface Table:**
The AMO checks whether the network interface to be deleted is deactivated. If it is still active message H14 is output although the command is executed as required.
- **Firewall check:**
The entries in the firewall MAC address table are used for this purpose depending on the desired scope (FIREWALL parameter). If the firewall check is activated and the entries are deleted in the associated table then no data packages are transferred.

Individual table elements can be deleted as well as the contents of entire tables. Individual tables can only be deleted if entries have been previously added in the table.

With TABTYPE=ALL all tables are deleted without checking whether they contain added entries!

After the DELETE function has been executed the WAML2 configuration data are not loaded to the module. Loading can be initiated with the EXEC command.

Procedure overview

Command	Parameter
DELETE-BDAT	[LTG=<number>], LTU=<number>, SLOT=<number> , TYPE=WAML2 , TABTYPE=GLOBAL; , TABTYPE=NETWORK; , TABTYPE=IPROUTE, [IPADDR=<string>]; , TABTYPE=FIREMAC, [IPADDR=<string>]; , TABTYPE=ALL;

Examples

WAML2 module data

1. Deletion of the Global Parameter Table.

Input:

```
DEL-BDAT: , 2, 25, WAML2, GLOBAL;
```

2. Deletion of network interfaces.

Input:

```
DEL-BDAT: 1, 2, 25, WAML2, NETWORK;
```

3. Deletion of the entire IP Routing Table.

Input:

```
DEL-BDAT: 1, 2, 25, WAML2, IPROUTE;
```

4. Deletion of the table element with the IP address 93.181.25.47 in the firewall MAC address table.

Input:

```
DEL-BDAT: 1, 2, 25, WAML2, FIREMAC, 93.181.25.47;
```

5. Deletion of all WAML2 configuration tables.

Input:

```
DEL-BDAT: , 2, 25, WAML2, ALL;
```

28.4.5 DISPLAY-BDAT

This function is used to output the module data in tabular form according to the specific position. The module data can be displayed as follows:

- for an addressed position
- per LTU if a SLOT has not been entered
- all positions if neither a SLOT nor an LTU has been entered

STMA module data

Only the Global Parameter Table can be displayed in the PSW operating modes.

In operating mode NW20 the global module data and the network related data are always displayed together.

WAML2 module data

Configured entries can be output individually for each table or jointly for all tables. By default all configured entries are output.

The WAML2 module has an Ethernet interface for which reason there is also a MAC address that can be output (TABTYPE=MACADDR).

If TABTYPE=ALL is specified, all tables including the MAC address are output.

If a table is empty message H16 is output.

Message H12 explicitly draws the user's attention to the fact that WAML2 configuration data have been changed since the last loading job and that reloading of the WAML2 is required in order to make the changes effective.

Procedure overview

Command	Parameter	
DISPLAY-BDAT	[LTG=<number>], [LTU=<number>], [SLOT=<number>] , TYPE=STMA , [OPMODE=GLOBAL]; , [OPMODE=NW20];	(1)
	, TYPE=WAML2 , [TABTYPE=GLOBAL]; , [TABTYPE=NETWORK]; , [TABTYPE=IPROUTE]; , [TABTYPE=FIREMAC]; , [TABTYPE=MACADDR]; , [TABTYPE=ALL];	(2)

Examples

STMA module data

1. Output of the global STMA module data at position 1-2-43.

Input:

```
DISP-BDAT: , 2, 43, STMA, GLOBAL;
```

Output:

```
+-----+
|
|
|          STMA GLOBAL PARAMETERS
|          =====
|
|
+-----+-----+
| STMA:   LTG = 1   LTU = 2   SLOT = 43   FCTID: 4   | SRCGRP: 1 |
+-----+-----+
| OPMODE = PSW   LI MODE = SDH   REASBUF = 16   ATMPROT = UNI31   |
|
```

BDAT - Administration of Module Data
Functions of the AMO

|	VCIOFS0 = 20	VCI RANGE FOR VPI0: 10272 - 10751
|	VCIOFS1 = 31	VCI RANGE FOR VPI1: 15904 - 16383
|	VCIOFS2 = 0	VCI RANGE FOR VPI2: 32 - 511
|	VCIOFS3 = 0	VCI RANGE FOR VPI3: 32 - 511
|	VCIOFS4 = 0	VCI RANGE FOR VPI4: 32 - 511
|	VCIOFS5 = 0	VCI RANGE FOR VPI5: 32 - 511
|	VCIOFS6 = 0	VCI RANGE FOR VPI6: 32 - 511
|	VCIOFS7 = 0	VCI RANGE FOR VPI7: 32 - 511
	+-----+	

2. Output of all STMA module data.

Input:

DISP-BDAT: ,2,31,STMA,NW20;

Output:

+-----+		
|	STMA GLOBAL PARAMETERS	|
	=====	
+-----+-----+		
|	STMA: LTG = 1 LTU = 2 SLOT = 31 FCTID: 5 | SRCGRP: 1	|
+-----+-----+		
|	OPMODE : NW20 L1MODE = SDH REASBUF = 16 ATMPROT = UNITEST	|
|	VCIOFS0 = 10	VCI RANGE FOR VPI0: 5152 - 5631
|	VCIOFS1 = 0	VCI RANGE FOR VPI1: 32 - 511
|	VCIOFS2 = 0	VCI RANGE FOR VPI2: 32 - 511
|	VCIOFS3 = 0	VCI RANGE FOR VPI3: 32 - 511
|	VCIOFS4 = 0	VCI RANGE FOR VPI4: 32 - 511
|	VCIOFS5 = 0	VCI RANGE FOR VPI5: 32 - 511
|	VCIOFS6 = 0	VCI RANGE FOR VPI6: 32 - 511
|	VCIOFS7 = 0	VCI RANGE FOR VPI7: 32 - 511
+-----+		
|	NETWORKING 2.0 RELATED DATA	|
+-----+		
|	ATMADDR : 0614604128	ATMNPI: ISDN

```

| PATTERN :    213  (H'D5)          SIGVPI:  0          |
|
| VPCI0 = 0          VPCI1 = 1          VPCI2 = 2          VPCI3 = 3          |
| VPCI4 = 4          VPCI5 = 5          VPCI6 = 6          VPCI7 = 7          |
+-----+

```

WAML2 module data

3. Output of the Global Parameter Table of the WAML2 module.

Input:

```
DISP-BDAT:1,2,25,WAML2,GLOBAL;
```

Output:

```

+-----+-----+
| WAML2:  LTG = 1    LTU = 2    SLOT = 25    | SRCGRP: 1    |
+-----+-----+
+-----+
|
|                                GLOBAL PARAMETERS
|                                =====
|
|
| LAN HW-INTERFACE: AUI          ACTIVE-FLAG: EXTLAN1
| TRACE-LEVEL: 3                FIREWALL:    NONE
| TC SERVER IP-ADDRESS:  128.001.002.064
| TC SERVER PORT NUMBER: 1000    WAML2 PORT NUMBER: 1010
+-----+

```

H12: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML2 BOARD
WITH COMMAND

'EXEC-BDAT' REQUIRED.

4. Output of the created network interface in the Network Interface Table.

Input:

```
DISP-BDAT:1,2,25,WAML2,NETWORK;
```

Output:

```

+-----+-----+
| WAML2:  LTG = 1    LTU = 2    SLOT = 25    | SRCGRP: 1    |
+-----+-----+
+-----+
|
|                                NETWORK INTERFACE TABLE
|

```

BDAT - Administration of Module Data

Functions of the AMO

```
|          =====          |
|                               |
| INTERFACE NAME | IP-ADDRESS | IP-NETMASK | MTU |
+-----+-----+-----+-----+
| EXTLAN1       | 192.168.017.004 | 255.255.255.000 | 1024 |
+-----+-----+-----+-----+

H12: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML2 BOARD
WITH COMMAND

      'EXEC-BDAT' REQUIRED.
```

5. Output of all entries added in the IP Routing Table.

Input:

DISP-BDAT:1,2,25,WAML2,IPROUTE;

Output:

```
+-----+-----+-----+-----+
| WAML2:  LTG = 1    LTU = 2    SLOT = 25    | SRCGRP: 1    |
+-----+-----+-----+-----+

|                               |
|                               | IP - ROUTING TABLE |
|                               | =====          |
|                               |                               |
|                               |                               |
|                               | DESTI-| IP-ADDRESS OF |
| IP-ADDRESS | NATION| IP-NETMASK | NEXT ROUTER |
+-----+-----+-----+-----+
| 198.001.108.000 | NET | 255.255.255.000 | 192.021.002.001 |
| 198.001.108.103 | HOST | ---          | 192.021.022.011 |
+-----+-----+-----+-----+

H12: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML2 BOARD
WITH COMMAND

      'EXEC-BDAT' REQUIRED.
```

6. Output of the entry from the Firewall MAC address table.

Input:

DISP-BDAT:1,2,25,WAML2,FIREMAC;

Output:

```
+-----+-----+-----+-----+
| WAML2:  LTG = 1    LTU = 2    SLOT = 25    | SRCGRP: 1    |
+-----+-----+-----+-----+
```



```

+-----+
|
|
|          FIREWALL MAC-ADDRESS TABLE
|          =====
|
|
| IP-ADDRESS      | MAC-ADDRESS      | | IP-ADDRESS      | MAC-ADDRESS      |
+-----+-----+-----+-----+
| 140.001.000.010 | CC.00.A0.45.D0.7F | | 000.000.000.000 | 00.00.00.00.00.00 |
| 000.000.000.000 | 00.00.00.00.00.00 | | 000.000.000.000 | 00.00.00.00.00.00 |
+-----+-----+-----+-----+

H12: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML2 BOARD
WITH COMMAND

      'EXEC-BDAT' REQUIRED.

```

7. Displaying the WAML MAC address.

Input:

```
DISP-BDAT:1,2,25,WAML2,MACADDR;
```

Output:

```

+-----+-----+
| WAML2:  LTG = 1      LTU = 2      SLOT = 25      | SRCGRP: 1      |
+-----+-----+
|
|          WAML2 MAC - ADDRESS
|          =====
|
|
|          EXTERNAL LAN: 08.00.06.0A.0F.63
|
+-----+-----+

```

8. Output of all entries in the WAML2 configuration tables.

Input:

```
DISP-BDAT:,2,25,WAML2;
```

Output:

The table contents are output in the following order:

GLOBAL	-	Global Parameter Table
NETWORK	-	Network Interface Table
IPROUTE	-	IP Routing Table
FIREMAC	-	Firewall MAC Address Table

MACADDR - MAC Address of the WAML2 Module

28.4.6 REGENERATE-BDAT

The action REGENERATE outputs the module data in the form of one or more position-oriented "ADD" commands.

With the command `REG-BDAT`; (without parameter TYPE) all STMA and WAML2 module data configured in the switch can be regenerated.

Procedure overview

Command	Parameter	
REGENERATE-BDAT	[LTG=<number>], [LTU=<number>], [SLOT=<number>] , [TYPE=STMA]; , [TYPE=WAML2] , [TABTYPE=GLOBAL]; , [TABTYPE=NETWORK]; , [TABTYPE=IPROUTE]; , [TABTYPE=FIREMAC];	(1) (2)

Examples

1. Regeneration of all STMA module data.

Input:

```
REGEN-BDAT: , 2, 43, STMA;
```

Output:

```
ADD-  
BDAT: 1, 2, 31, STMA, NW20, 0614604128, ISDN, SDH, 16, UNITEST, 213, 0,  
      10, , , , , , , ,  
      0, 1, 2, 3, 4, 5, 6, 7;  
ADD-BDAT: 1, 2, 43, STMA, GLOBAL, SDH, 16, UNI31, 20, 31, , , , , , ;
```

2. Regeneration of all added WAML2 configuration tables.

Input:

```
REGEN-BDAT: TYPE=WAML2;
```

Output:

```
ADD-BDAT: 1, 2, 25, WAML2, GLOBAL, AUI, EXTLAN1, NONE, 3, 128.1.2.64,  
          1000, 1010;  
ADD-  
BDAT: 1, 2, 25, WAML2, NETWORK, 192.168.17.4, 255.255.255.0, 1024;  
ADD-BDAT: 1, 2, 25, WAML2, IPROUTE, 198.1.108.0, NET, 255.255.255.0,  
          192.21.2.1;
```

ADD-

BDAT:1,2,25,WAML2,IROUTE,198.1.108.103,HOST,,192.21.22.11;

ADD-BDAT:1,2,25,WAML2,FIREMAC,140.1.0.10,CC.00.A0.45.D0.7F;

28.5 Parameter Description

ACTNETIF	Activate network interface
Type of input	: Single value, mandatory (ADD) optional (CHANGE)
Possible values	: EXTLAN1 External LAN NONE None
Default value	: -
ATMADDR	ATM source address
Type of Input	: single value, mandatory (ADD) optional (CHANGE)
Possible Values	: 15 digits, 0-9
Default Value	-
ATMNPI	Numbering plan identifier of ATMADDR
Type of input	: Single value, optional Group parameter (CHANGE)
Possible values	: ISDN nsap-e.164 NSAP nsap-e.164
Default value	: NSAP
ATMPROT	ATM protocol
Type of input	: Single value, optional Group parameter (CHANGE)
Possible values	: UNI31 UNI 3.1 protocol UNI40 UNI 4.0 protocol UNITEST "back to back" connection without atm network
Default value	: UNI31
	The value UNITEST is allowed only in operating mode NW20.
DESTTYPE	Type of destination
Type of input	: Single value, mandatory (ADD) optional (CHANGE)

BDAT - Administration of Module Data

Parameter Description

	Possible values : NET HOST	Destination address in the network Host destination address
	Default value : -	
FIREWALL	Firewall check	
	Type of input : Single value, mandatory (ADD) optional (CHANGE)	
	Possible values : MAC NONE	MAC address check None
	Default value : -	
IPADDR	IP address (Ex. 192.168.1.4)	
	Type of input : Single value, mandatory (ADD) optional (CHANGE, DELETE)	
	Possible values : up to 15 characters, 0-9 and '.'	
	Default value : -	
	Form: nnn.nnn.nnn.nnn, nnn=(0..255), leading zeros are not required	
IPADRNEW	IP address (Ex. 192.168.1.4)	
	Type of input : Single value, optional (CHANGE)	
	Possible values : up to 15 characters, 0-9 and '.'	
	Default value : -	
	Form: nnn.nnn.nnn.nnn, nnn=(0..255), leading zeros are not required	
IPNMASK	IP network mask (Ex. 255.255.255.0)	
	Type of input : Single value, mandatory (ADD) optional (CHANGE)	
	Possible values : up to 15 characters, 0-9 and '.'	
	Default value : -	
	Form: nnn.nnn.nnn.nnn, nnn=(0..255), leading zeros are not required	
LANHW	Hardware interface for external LAN port	
	Type of input : Single value, mandatory (ADD) optional (CHANGE)	
	Possible values : WESTERN COAX AUI	Western-PLUG (10BASET) COAX (10BASE2) CANNON
	Default value : -	

L1MODE	Mode of ATM Layer 1 interface Type of input : Single value, optional Group parameter (CHANGE) Possible values : SONET Synchronous Optical Network SDH Synchronous Digital Hierarchy Default value : SDH
LTG	LTG number Type of input : Single value, optional Possible values : 1 Default value : 1
LTU	LTU number Type of input : Single value, mandatory (ADD, CHANGE, EXEC) optional (DISPLAY, REGENERATE) Possible values : 1-15, 17-99 1 to 15 in Hicom Host, 17-99 in AP shelves Default value : -
MACADDR	MAC address (Ex. 00.6B.8C.CC.9B.7F) Type of input : Single value, mandatory (ADD) optional (CHANGE) Possible values : up to 17 characters, 0-9, A-F and '' Default value : - Form: nn.nn.nn.nn.nn.nn, nn=(0..x'FF), 2-digit hexadecimal numbers
MAXTU	Maximum size of a transmission unit Type of input : Single value, optional (ADD, CHANGE) Possible values : 256-1500 Default value : 1500
NEXTROUT	Next router IP address (Ex. 195.4.5.1) Type of input : Single value, mandatory (ADD) optional (CHANGE) Possible values : up to 15 characters, 0-9 and '' Default value : - Form: nnn.nnn.nnn.nnn, nnn=(0..255), leading zeros are not required
OPMODE	Operating mode, branching parameter

BDAT - Administration of Module Data

Parameter Description

	Type of Input	: single value, mandatory (ADD; CHANGE) optional (DISPLAY)	
	Possible Values	: GLOBAL NW20	Global module data Global and networking 2.0 data
	Default Value	-	
PATTERN	Idle bit pattern for the b-channels		
	Type of input	: Single value, optional group parameter (CHANGE)	
	Possible values	: 0-255	
	Default value	: 213	= H'D5
PORTBRD	Port number of the WAML2 module		
	Type of input	: Single value, mandatory (ADD), optional (CHANGE)	
	Possible values	: 0-65535	
	Default value	: -	
PORTTCS	Port number of TC server		
	Type of input	: Single value, mandatory (ADD), optional (CHANGE)	
	Possible values	: 0-65535	
	Default value	: -	
REASBUF	Reassembly buffer size (multiple of 125 microseconds)		
	Type of Input	: single value, optional	
	Possible Values	: 0-128	See text of H26.
	Default Value	16	
	Reassembly Buffer Size defines the total size of a buffer for reassembly of the data stream. The first byte of a new incoming data stream will be processed after the buffer is half full. Thus the Cell Delay Variation Tolerance based on the first incoming cell is $0.5 * \text{Reassembly Buffer Size}$. The worst case CDVT, assuming that the first cell comes with maximum CDV is $0.25 * \text{Reassembly Buffer size}$.		
SIGVPI	Signalling VPI		
	Type of input	: Single value, optional group parameter (CHANGE)	
	Possible values	: 0-7	
	Default value	: 0	

SLOT	Slot number of a LTU
Type of input	: Single value, mandatory (ADD, CHANGE, EXEC) optional (DISPLAY, REGENERATE)
Possible values	: 1-121 A suitable module must be configured for the slot addressed by PEN (AMO BCSU).
SRCGRP	Source group index
Type of input	: 1 to 2 single values, concatenated with "&" optional
Possible values	: 1 - 255
TABTYPE	Type of table
Type of input	: Single value, mandatory (ADD, CHANGE, DELETE) optional (DISPLAY, REGENERATE)
Possible values	: GLOBAL Global parameter table NETWORK Network interface table IPROUTE IP routing table FIREMAC Firewall MAC address table MACADDR Display MAC address of WAML2 ALL All
TRACELV	Trace and logging functions
Type of input	: Single value, optional (ADD, CHANGE)
Possible values	: 0-255
Default value	: 3
TYPE	Board type, branching parameter
Type of input	: Single value, mandatory (ADD, CHANGE, DELETE, DISPLAY) optional (REGENERATE)
Possible values	: STMA STMA module WAML2 WAML2 module
Default value	: -
VCIOFS0	VCI offset for VPI0
Type of input	: Single value, optional Group parameter (CHANGE)
Possible values	: 0 - 127
Default value	: 0
VCIOFS1	VCI offset for VPI1

BDAT - Administration of Module Data

Parameter Description

	Type of input : Single value, optional Group parameter (CHANGE)
	Possible values : 0 - 127
	Default value : 0
VCIOFS2	VCI offset for VPI2
	Type of input : Single value, optional Group parameter (CHANGE)
	Possible values : 0 - 127
	Default value : 0
VCIOFS3	VCI offset for VPI3
	Type of input : Single value, optional Group parameter (CHANGE)
	Possible values : 0 - 127
	Default value : 0
VCIOFS4	VCI offset for VPI4
	Type of input : Single value, optional Group parameter (CHANGE)
	Possible values : 0 - 127
	Default value : 0
VCIOFS5	VCI offset for VPI5
	Type of input : Single value, optional Group parameter (CHANGE)
	Possible values : 0 - 127
	Default value : 0
VCIOFS6	VCI offset for VPI6
	Type of input : Single value, optional Group parameter (CHANGE)
	Possible values : 0 - 127
	Default value : 0
VCIOFS7	VCI offset for VPI7
	Type of input : Single value, optional Group parameter (CHANGE)
	Possible values : 0 - 127
	Default value : 0

VPCI0..7	VPCI for VPI0..7	
Type of Input	: single value, optional	
Possible Values	: 0-65535	
Default Value	0..7	Default value is always the VPI number.

28.6 Error messages and advisories

Explanation of the Error Messages and Advisories:

Fields which output text variables are indicated by two <pointed brackets> in which the possible text variables are entered, separated by diagonal strokes (separatrices).

<xxx>, <yyy>, <zzz> denote number values.

28.6.1 Error messages

- F01: ltu is out of range. allowed range from <xxx> to <yyy>
<xxx> and <yyy> = 1 to 15
- F02: slot does not exist
- F03: global <stma/waml2> module data have <not/already> been configured
- F04: ltu has not been configured
- F05: atmprot=uni31 can not be used in operating mode 'interworking'
- F06: no <stma/waml2> module is configured in this slot
- F07: the circuit <x>-<xx>-<xxx>-<xxx> configured in the module uses vpi/vci values, which are not consistent to vciofs<y>=<zzz>.
help: delete circuit then call amo bdat and configure the circuit again.
<x>-<xx>-<xxx>-<xxx> = ltu-ltu-slot-circuit; <y> = 0 to 7; <zzz> = 0 to 255
- F08: the stma module is not with the required operating mode configured.
(see amo bcsu, parameter fctid)
- F09: slot without ltu, an ltu number must be entered
- F10: data have not been loaded: module is not in state 'ready'
- F11: module data could not be loaded
- F12: the load of module data was not acknowledged
- F13: the dynamic module-id is not available
- F22: the vpi<x> based on vciofs<x> is already assigned to a psw subscriber. vci offset can not be changed.
<x> = 0 to 7
- F24: there are formal errors in the ip-address <nnn.nnn.nnn.nnn>
<nnn> = 0 to 255
- F25: the ip-address 255.255.255.255 in parameter <ipaddr/ipadrnew/nextroute> is not allowed
- F26: the entered network interface has <not/already> been configured
- F27: the entered ip-address has <not/already> been configured

BDAT - Administration of Module Data

Error messages and advisories

F28: table '<iproute/firemac>' is full, no entry possible
F29: there are formal errors in the mac-address <nn.nn.nn.nn.nn>
 <nn> = 00 to FF (hexadecimal)
F30: the ip-address of parameter <ipaddr/ipadrnew> has <not/already> been configured
F31: no data have been configured
F32: to change the global parameters, the stma module has to be deactivated (amo bssu).
F33: to change parameter <fuellgrd/ipaddr>, the <stma/waml2> module has to be deactivated (amo bssu).
F34: the entered network mask can not be used if destination=net
F37: the stma module data for 'nw20' have <not/already> been configured
F39: all vpci values have to be different
F40: the entered atm address is already used by the stma module 1-<ltu>-<slot>
 in operating mode 'nw20'.
 attention: the atm address must be unique networkwide!
F41: atmprot=unittest can be set only in operating mode 'nw20'.
F42: in operating mode 'nw20' the module data can not be loaded with exec-bdat.
 to load these module data, the stma module has to be first deactivated
 and then activated again (amo bssu).

28.6.2 Advisories

H01: the vpi's have been configured as follows:
H02: data have not been loaded: module is not in state 'ready'
H03: module data could not be loaded
H04: the load of module data was not acknowledged
H05: the dynamic module-id is not available
H06: the stma module is not with the required operating mode configured. (see amo bcsu,
 parameter fctid)
H07: global <stma/waml2> module data have <not/already> been configured
H08: no corresponding entry found
H09: no <stma/waml2> module is configured in this slot
H12: changed configuration data available - load waml2 module with command
 'exec-bdat' required.
H13: the network interface extlan1 (parameter 'actnetif') is not configured in the
 network interface table.
H14: the network interface extlan1 (parameter 'actnetif') is still active in the global
 table.
H15: user advisory: this action may result in an inconsistent configuration of the lan.
 for more information read the amo description.
H16: there are no data configured in table '<global/netzwerk/iproute/firemac>'
H18: the ip-address is configured as host, so the network mask (ipnmask)
 is not effective.
H19: it is not possible to read the waml2 mac address, module is not in
 state 'ready'.
H20: it is not possible to read the waml2 mac address, no plausible event from pit.
H21: it is not possible to read the waml2 mac address, no answer from pit.
H22: the stma module data for 'nw20' have <not/already> been configured
H23: after changing the module data, remember to activate the module with amo bssu again.
H24: the parameter 'atmaddr' or 'atmnp' has been changed. the whole network
 configuration might be affected. see amo description.

H25: module data have been loaded successfully to the module

H26: reasbuf values less than 4 may only be used in stma 'back to back' configurations without an atm switch.

BDAT - Administration of Module Data

Error messages and advisories

29 BERUM - Class of Service Switchover

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

Stations are allocated two classes of service (COS1 and COS2) in (COS1 = normal or day COS COS2 = alternative or night COS) in their line tables.

The class of service are maintained by AMO COSSU and assigned to stations with the AMOs SCSU and SBCSU.

An identifier (COS pointer) in the line tables indicates which COS is active.

AMO SCSU and AMO SBCSU subdivides the stations into COS switchover groups (COSX groups). This is performed in order to group stations so that a certain COS can be switched active for all of them. If no specific allocation has been made, a station belongs to COSX group 00. Stations with an active key switch (KEYSTN) are not changed over, but they are still assigned to a COSX group. The COSX groups are independent of other station groups formed on the basis of other features.

Switchover between the two classes of service can be performed from a station, from an attendant console, centrally using the AMO, via data channel and/or by means of a timed switchover.

a) COS Switchover from the Station

A station authorized for this type of switchover can switch over between the COSs using the personal ID number (PIN) and a code for switchover using an active key switch (KEYSTN).

As long as the alternative COS (COS2) is active, the user hears the special dial tone when he lifts the receiver.

The station is assigned the authorization COSXCD (COS switchover by code) by AMO COSSU in order to be able to perform a switchover using the PIN.

The PIN (maximum of 12 digits) is defined by the AMO PERSI.

b) COS Switchover from the Attendant Console (ATND)

Switchover of the normal COS of the COSX groups to an alternative COS can be performed from every attendant console, including the night attendant console (performed with the task BEZUM).

c) COS Switchover by AMO

COS switchover for COSX groups of stations can be performed using the AMO BERUM.

BERUM - Class of Service Switchover

Restrictions

d) COS switchover using a data processing system (DVA) is implemented via a data channel.

e) Automatic COS Switchover

The COS switchover for COSX groups can be carried out automatically at a specific, definable time. This time is defined using the AMO BERUZ (time table for times at which class of service switchover is to occur). Switchover is carried out by the task BEZUM.

Priorities for COS Switchover

The last COS switchover performed for a station is always in effect, regardless of where this change was carried out (from the station, from the attendant console or automatically).

29.1 Restrictions

This description is valid from SP300-V3.4 and R6.3 Atlantic

29.2 Interrelationships

- AMO COSSU : Classes of service, switching unit
Allocation of the classes of service to a COS
- AMO SCSU : Subscriber configuration of switching unit
Configuration of stations and assignment of COSX groups and COS to the stations
- AMO SBCSU : Station and S0-Bus Configuration of SWU
Configuration of stations and assignment of COSX groups and COS to the stations

29.3 Functions of the AMO

- [CHANGE-BERUM](#) : Enter the code indicating which COS is active in the line table.
- [DISPLAY-BERUM](#) : Interrogate the code indicating which COS is active.

29.3.1 CHANGE-BERUM

Enter the code indicating which COS is active.

1. For stations (TYPE=STN)
Activate a selected or alternative COS.
2. for COSX groups (TYPE=COSX)
Activate a selected COS.

For stations associated with a DCI, the code (COS pointer) is also changed in the line tables of the DCI.

If the active state of at least one COSX group is changed, the AMO initiates updating of the instant display buffers of all attendant consoles.

Note

Switchover is not possible for stations with key-lock (COS KEYSTN).

Procedure Overview

Command Code	Parameter
CHANGE-BERUM	TYPE=STN, STNO=<number>, [COSACT=<param>] ; | TYPE=COSX, COSX=<number>, COSACT=<param>;

Examples

1. Switch COS2 to active for stations 2100, 2106, and 2121-2139.

Input:

```
CHANGE-BERUM:TYPE=STN,STNO=2100&2106&2121&&2139,COSACT=2;
```

Output:

```
F02 : 2123    IS NOT A STATION NUMBER
CHANGE PARTIALLY COMPLETED;
```

2. Switch COS2 to active for COSX group 1-2

Input:

```
CHANGE-BERUM:BUM,1&2,2;
```

3. Change the active state for station 2109 to the alternative COS

Input:

```
CHANGE-BERUM:STN,2109;
```

29.3.2 DISPLAY-BERUM

Interrogate the active COS state, output the code (COS pointer) indicating which COS is active

- 1. For specific stations (TYPE=STN)
- 2. For specific COS switchover groups (TYPE=COSX)
- 3. For all stations (TYPE=ALLSTN)
- 4. For all COS switchover groups (TYPE=ALLCOSX)

Procedure Overview

Command Code	Parameter
DISPLAY-BERUM	TYPE=STN,STNO=<number>; | TYPE=COSX,COSX=<number>; | TYPE=ALLSTN; | TYPE=ALLCOSX;

Example

- 1. Interrogate the active states of stations 2100, 2105, and 2121 through 2140.

Input:

DISPLAY-BERUM:TYPE=STN,STNO=2100&2105&2121&&2140;

Output:

+=====+											
| CLASS OF SERVICE SWITCHOVER FOR S T A T I O N S |											
+=====+											
| CA : COS POINTER (=1 : COS1 IS ACTIVE, =2 : COS2 IS ACTIVE ) |											
| CD=A : STATION WITH KEY-LOCK (KEYSTN) - NO SWITCHOVER |											
+-----+-----+-----+-----+-----+											
| STNO COS A D | STNO COS A D | STNO COS A D | STNO COS A D |											
+-----+-----+-----+-----+-----+											
| 2100	1	1	|	2105	3	1	|	2121	11	1	|
| 2124	11	1	|	2125	11	1	|	2126	11	1	|
| 2128	11	1	|	2129	11	1	|	2130	11	1	|
| 2132	13	1	|	2133	13	1	|	2134	13	1	|
| 2136	13	1	|	2137	13	1	|	2138	13	1	|
| 2139	13	1	|				|				|
+=====+											

- 2. Interrogate the active states of COS switchover groups 4 to 9.

Input:

DISPLAY-BERUM:TYPE=COSX,COSX=4&&9;

BERUM - Class of Service Switchover

Parameter Description

Output:

+=====+											
| CLASS OF SERVICE SWITCHOVER FOR CLASS OF SERVICE SWITCHOVER GROUPS |											
+=====+											
| CA : COS POINTER (=1 : COS1 IS ACTIVE , =2 : COS2 IS ACTIVE ) |											
| CD=A : STATION WITH KEY-LOCK (KEYSTN) - NO SWITCHOVER |											
| COS1/COS2 : ACTIVE COS OF COSX |											
+-----+											
| C C | C C | C C | C C |											
| STNO COS A D | STNO COS A D | STNO COS A D | STNO COS A D |											
+-----+											
+-COSX 4 (COS2)-----+											
| 2109 1 2 | 2110 1 2 | 3122 5 2 A | 3125 6 1 A |											
| 3131 7 1 A | 3133 7 1 A | 3135 7 1 A |											
+-COSX 5 (COS1)-----+											
| 2111 1 1 | 2112 1 1 | 3110 6 1 A | 3123 5 1 A |											
| 3132 7 1 A | 3134 7 1 A | 3136 7 1 A | 3137 6 1 A |											
+=====+											

29.4 Parameter Description

COSACT	Active class of service (ie. one to be switched active) Type of Input : Single value mandatory (CHANGE in branch TYPE=COSX) optional (CHANGE in branch TYPE=STN) Possible Values : 0 = alternative COS active (for TYPE=STN only) 1 = COS1 active 2 = COS2 active Default Value : 0
COSX	Class of service switchover group Type of Input : Single value, chained single values, range, mandatory Possible Values : 0 bis 15
STNO	Station number Type of Input : Single value, chained single values, range, mandatory Possible Values : max. 6-digit internal station number which must be present
TYPE	Desired class of service switchover options Type of Input : Single value, mandatory

Possible	: STN	= station
Values	COSX	= specific COSX groups
	ALLSTN	= all STNOs (DISPLAY)
	ALLCOSX	= all COSXs (DISPLAY)

29.5 Error Messages and Advisories

29.5.1 Error Messages

F01: <stno> IS STATION WITH KEY-LOCK (KEYSTN), NO SWITCHOVER
 F02: <stno> IS NOT A STATION NUMBER
 F03: THERE IS NO STATION NUMBER IN THE RANGE FROM <stno> TO <stno>
 F04: THE FOLLOWING CLASS OF SERVICE SWITCHOVER GROUPS ARE NOT ASSIGNED: @@ @@ @@ @@
 @@ @@ @@ @@ @@ @@ @@ @@ @@ @@ @@ @@ @@ @@

29.5.2 Advisories

H01: THE FOLLOWING CLASS OF SERVICE SWITCHOVER GROUPS ARE EMPTY OR DO NOT EXIST: <cosx-1> <cosx-2> ... <cosx-n>
 H02: <stno> IS NOT A STATION NUMBER
 H03: THERE IS NO STATION NUMBER IN THE RANGE FROM <stno> TO <stno>
 H04: NO STATION NUMBERS ASSIGNED
 H05: COSX GROUP(S) DOES NOT EXIST OR IS EMPTY

List of Abbreviations

<stno >	: STATION NUMBER
<cocx-n>	: CLASS OF SERVICE SWITCHOVER GROUPS

29.5.3 Use of the Output Messages for Each Action

CHANGE	: F01,	F02,	F03,	H01,
DISPLAY	: H02,	H03,	H04,	H05

30 BERUZ - Times at which Class of Service Switchover is to occur

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

Stations (configured by AMO SCSU and AMO SBSCU) are allocated two classes of service COS1 and COS2) in their line tables. A class of service contains the authorizations of a station. An identifier (COS pointer) in the line tables indicates which COS is active, i.e. which of the station's authorizations are currently activated; this is usually COS1.

AMO SCSU and AMO SBSCU subdivides stations into COS switchover groups. This is performed in order to group stations so that a certain COS can be switched active for all of them. The COSX groups are independant of other station groups formed by other features.

If no specific allocation has been made, a station belongs to COSX group 0. Stations with an active key switch (KEYSTN) are not switched over, but they are still assigned to a COSX group.

The classes of service can be switched over from a station, from an attendant console, y means of AMO BERUM, via data channel, and/or by means of a timed switchover.

Switchover at a fixed Time (timed Switchover)

A table is created in the database, in which the following data is entered for each day of the week and for each COS switchover group:

- A time at which COS1 is switched to active (COS1T),
- A time at which COS2 is switched to active (COS2T),
- A program switch indicating whether the displayed switchover to COS1 is to be carried out on that day (COS1),
- A program switch indicating whether the displayed switchover to COS2 is to be carried out on that day (COS2).

AMO BERUZ administrates this table. (The switchover is carried out with the task BEZUM.)

	MON (1)	TUE (2)	WED (3)	THU (4)	FRI (5)	SAT (6)	SUN (7)
COSX 0	06.55 15.40 off/on	06.55 15.40 off/on	06.55 15.40 on/on	06.55 15.40 on/on	06.55 15.40 on/on	00.00 00.00 off/off	00.00 00.00 off/off
COSX 1	06.55 15.40 on/on	06.55 15.40 on/on	06.55 15.40 on/on	06.55 15.40 on/on	06.55 15.40 on/on	00.00 00.00 off/off	00.00 00.00 off/off

Table 3 Layout of the time table

BERUZ - Times at which Class of Service Switchover is to occur
Restrictions

	MON (1)	TUE (2)	WED (3)	THU (4)	FRI (5)	SAT (6)	SUN (7)
COSX 2	06.55 15.40 on/on	06.55 15.40 on/on	06.55 15.40 on/on	06.55 15.40 on/on	06.55 15.40 on/on	00.00 12.00 on/on	00.00 12.00 off/off
.							
COSX15	00.00 00.00 off/off	00.00 00.00 off/off	00.00 00.00 off/off	00.00 00.00 off/off	00.00 00.00 off/off	00.00 00.00 off/off	00.00 00.00 off/off

(COSX = Class of service switchover group)
Table 3 Layout of the time table

This table is implemented as a static FIXAMA table.

30.1 Restrictions

This description is valid from SP300-V3.4, R6.3.

30.2 Interrelationships

- AMO COSSU : Classes of service, switching unit
 Allocation of the classes of service to a COS
- AMO FEASU : Customer features list

30.3 Functions of the AMO

- [ADD-BERUZ](#) : Enter times and switch settings for each COS switchover group (COSX) and day of the week (DAY). Existing entries are overwritten without a check.
- [DISPLAY-BERUZ](#) : Interrogate the entries for specific COSXs or all COSXs.
- [REGENERATE-BERUZ](#) : Interrogate the entries for specific COSXs or all COSXs in order to regenerate the table

30.3.1 ADD-BERUZ

Assign switchover times
The following is entered in the table:

- Two time entries which determine the switchover time (COS1T, COS2T).
- A pair of program switches (COS1, COS2).
- One or more COS switchover groups and one or more days of the week.

Values already contained in the table are overwritten.

Procedure Overview

Command Code	Parameter
ADD-BERUZ	COSX=<number>, DAY=<number>, {COS1T=<hh-mm> , COS1=<param>, COS2T=<hh-mm>, COS2=<param>} ;

Examples

1. For COS switchover groups 0 to 2, entries are to be made for Monday to Friday and the times 6:55 each day for switchover to COS1 and 15:40 each day for switchover to COS2. The switchovers are to be carried out.

Input:

```
ADD-BERUZ: COSX=0&&2, DAY=1&&5, COS1T=06-55, COS1=ON, COS2T=15-40, COS2=ON;
```

2. No switchover is to be made for groups 0 and 1 on the weekend, and the times 00.00 and 12.00 are to be entered for group 2, where switchover is to be carried initially only on Saturday.

a) Input:

```
ADD-BERUZ: COSX=0&1, DAY=6&7, COS1=OFF, COS2=OFF;
```

b) Input:

```
ADD-BERUZ: COSX=2, DAY=6&7, COS1T=00-00, COS1=ON, COS2T=12-00, COS2=ON;
```

c) Input:

```
ADD-BERUZ: COSX=2, DAY=7, COS1=OFF, COS2=OFF;
```

30.3.2 DISPLAY-BERUZ

Interrogate the entries for one, several, or all of the COS switchover groups. The output is generated in a tabular form.

Procedure Overview

Command Code	Parameter
DISPLAY-BERUZ	[COSX=<number>];

Example
Interrogate all COSX groups
Input:
DISPLAY-BERUZ:0&&2;

Output:

TIME ENTRIES FOR AUTOMATIC TIMED CLASS OF SERVICE SWITCHOVER								
UPPER TIME : COS1 IS ACTIVATED								
LOWER TIME : COS2 IS ACTIVATED								
(HH.MM) : SWITCHOVER AT SPECIFIED TIME IS SUPPRESSED								
COSX = CLASS OF SERVICE SWITCHOVER GROUP								
C = ACTIVE COS OF GROUP (1=COS1, 2=COS2, OTHERWISE:NONEXST)								
COSX	C	MON(1)	TUE(2)	WED(3)	THU(4)	FRI(5)	SAT(6)	SUN(7)
1	0	(06.55)	06.55	06.55	06.55	06.55	(00.00)	(00.00)
		15.40	(15.40)	15.40	15.40	15.40	(00.00)	(00.00)
2	1	06.55	06.55	06.55	06.55	06.55	(00.00)	(00.00)
	2	15.40	15.40	15.40	15.40	15.40	(00.00)	(00.00)
3	1	06.55	06.55	06.55	06.55	06.55	00.00	(00.00)
	2	15.40	15.40	15.40	15.40	15.40	12.00	(12.00)

30.3.3 REGENERATE-BERUZ

Interrogate the entries for one, several, or all COS switchover groups. The output is generated as a command listing for the ADD action of the AMO.

Procedure Overview

Command Code	Parameter
REGENERATE-BERUZ	[COSX=<number>];

Example

Regenerate COSX groups 0-2.

Input:

REGENERATE-BERUZ: COSX=0&&2;

Output:

```
ADD-BERUZ: 0, 7, 0-00, OFF, 0-00, OFF;
ADD-BERUZ: 0, 1, 6-55, OFF, 15-40, ON;
ADD-BERUZ: 0, 2, 6-55, ON, 15-40, OFF;
ADD-BERUZ: 0, 3, 6-55, ON, 15-40, ON;
ADD-BERUZ: 0, 4, 6-55, ON, 15-40, ON;
ADD-BERUZ: 0, 5, 6-55, ON, 15-40, ON;
ADD-BERUZ: 0, 6, 0-00, ON, 0-00, OFF;
ADD-BERUZ: 1, 7, 0-00, OFF, 0-00, ON;
ADD-BERUZ: 1, 1, 6-55, ON, 15-40, ON;
ADD-BERUZ: 1, 2, 6-55, ON, 15-40, ON;
ADD-BERUZ: 1, 3, 6-55, ON, 15-40, ON;
ADD-BERUZ: 1, 4, 6-55, ON, 15-40, ON;
ADD-BERUZ: 1, 5, 6-55, ON, 15-40, ON;
ADD-BERUZ: 1, 6, 0-00, OFF, 0-00, OFF;
ADD-BERUZ: 2, 7, 0-00, OFF, 12-00, OFF;
ADD-BERUZ: 2, 1, 6-55, ON, 15-40, ON;
ADD-BERUZ: 2, 2, 6-55, ON, 15-40, ON;
ADD-BERUZ: 2, 3, 6-55, ON, 15-40, ON;
ADD-BERUZ: 2, 4, 6-55, ON, 15-40, ON;
ADD-BERUZ: 2, 5, 6-55, ON, 15-40, ON;
ADD-BERUZ: 2, 6, 0-00, ON, 12-00, ON;
```

30.4 Parameter Description

COS1	Class of service switchover to COS1 Type of Input : single value, group parameter Possible : ON, OFF Values
COS1T	COS1 switchover time Type of Input : composite single value, group parameter Possible : hh-mm Values hh (00 - 23) mm (00 - 59) Minute entries that are divisible by 5 are recommended because switchovers can only be carried out after each full 5 minutes.
COS2	Class of service switchover to COS2

BERUZ - Times at which Class of Service Switchover is to occur

Error Messages and Advisories

	Type of Input : single value, group parameter
	Possible Values : ON, OFF
COS2T	COS2 switchover time
	Type of Input : composite single value, group parameter
	Possible Values : hh-mm
	hh (00 - 23)
	mm (00 - 59)
	Minute entries that are divisible by 5 are recommended because switchovers can only be carried out after each full 5 minutes.
COSX	Class of service switchover group
	Type of Input : single value, ranges, chained single values required (ADD)
	optional (DISPLAY, REGENERATE)
	Possible Values : 0 to 15
	Default Value : 0 to 15 (DISPLAY, REGENERATE)
DAY	Day of the week
	Type of Input : single value, ranges, chained single values required
	Possible Values : 1 to 7
	(1=Mon, 2=Tue, 3=Wed, 4=Thu, 5=Fri, 6=Sat, 7=Sun)

30.5 Error Messages and Advisories

30.5.1 Error Messages

F01: PARAMETER COS<x>T: NOT A VALID TIME
F02: NO AUTHORIZATION FOR AUTOMATIC SWITCHOVER

30.5.2 Advisories

H01: COS1T AND COS2T ARE IN THE SAME TIME PERIOD;
COS2 WILL ALWAYS BE ACTIVATED IF COS2=ON
H02: FOR TABLE ELEMENT (COSX=<cosx>,DAY=<day>) COS1T AND COS2T ARE IN THE SAME TIME
INTERVAL; COS2 WILL ALWAYS BE ACTIVATED

Output Texts

<x> Distinction between COSX1T, COSX2T
<cosx> Class of service switchover group
<day> Day of the week

30.5.3 Use of the Output Messages for Each Action

ADD	: F01, F02, H01, H02,
DISPLAY	: F02,
REGENERATE	: None

BERUZ - Times at which Class of Service Switchover is to occur
Error Messages and Advisories

31 BFDAT - Configuration of Functional Blocks for CGW Boards

The description of this AMO is only available in html format!

32 BGDAT - Display the Board Table

The description of this AMO is only available in html format!

33 BPOOL - Board Reconfiguration pool assignment and data for STMIHFA2 type boards

The description of this AMO is only available in html format!

34 BSSM - Board Switch of Service Module

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO BSSM (*Board Switch of Service Module*) is used to activate or deactivate the module specified.

Messages:

The messages from dependability that are the results of a check are output via AMO BSSM and appear directly on the dependability output device.

34.1 Restrictions

This description is valid from SP300-Rel6.3.

34.2 Interrelationships

- AMO UCSM : Configure Server
- AMO BCSM : Configure Mounting Location for Module in the Server

34.3 Functions of the AMO

- [ACTIVATE-BSSM](#) : Activate modules, either with or without a prior test.
- [DEACTIVATE-BSSM](#) : Deactivate modules, either with or without prior blocking.
- [TEST-BSSM](#) : Check modules (module must be deactivated)

34.3.1 ACTIVATE-BSSM

Before it is activated, the status of the module is determined. If the module is in a state that does not permit activation, no activate job is assigned and the AMO is terminated with a corresponding message to the operator.

The following can be activated:

BSSM - Board Switch of Service Module

Functions of the AMO

- basic shelf of IS
- extension shelf of IS
- SWU shelf (PSIO)

Procedure Overview

Command Code	Parameter
ACTIVATE-BSSM	[UNIT=<param>]
	, TYPE=BC, SLOT=<number>, [KIND=<param>]
	|, TYPE=EC, SLOT=<number>, [KIND=<param>];
	|, TYPE=SWU, LCXNO=<number>, [KIND=<param>];

Example

Activate the LBC module without test

Input:

```
ACTIVATE-BSSM:A1,BC,38,ANT;
```

34.3.2 DEACTIVATE-BSSM

Individual modules are deactivated. When a module is deactivated, all hierarchically subordinate units are also deactivated.

The following can be deactivated:

- basic shelf of IS
- extension shelf of IS
- SWU shelf (PSIO)

Procedure Overview

Command Code	Parameter
DEACTIVATE-BSSM	[UNIT=<param>]
	, TYPE=BC, SLOT=<number>, [KIND=<param>];
	|, TYPE=EC, SLOT=<number>, [KIND=<param>];
	|, TYPE=SWU, LCXNO=<number>, [KIND=<param>];

Example

Deactivate the LBC module without prior blocking.

Input:

```
DEACT-BSSM:A1,BC,38,DI;
```

34.3.3 TEST-BSSM**Procedure Overview**

Command Code	Parameter
TEST-BSSM	[UNIT=<param>]
	,TYPE=BC,SLOT=<number>;
	|,TYPE=EC,SLOT=<number>;
	|,TYPE=SWU,LCXNO=<number>;

Example

Check the LBC module.

Input:

```
TEST-BSSM:A1,BC,38;
```

34.4 Parameter Description

KIND	Service change type
	Type of activate/deactivate order
Type of Input	: Single value, optional
Possible Values	: AT (Activate test)
	ANT (Activate without test)
	DC (Deactivate with prior blocking)
	DI (Deactivate without prior blocking)
Default Value	: AT (ACTIVATE) (activate)
	DC (DEACTIVATE) (deactivate)
LCXNO	LCX-number

BSSM - Board Switch of Service Module
Error Messages and Advisories

	Type of Input : Single value, mandatory Possible Values : 1 to 7
SLOT	Slot The mounting location must be specified for each line module of the addressed server module. Type of Input : Single value, mandatory Possible Values : see shelf descriptions
TYPE	Options for configuration Type of line periphery configuration Type of Input : Single value, mandatory Possible Values : BC (basic shelf) EC (extension shelf) SWU (board in the SWU shelf)
UNIT	Functional system unit i.e. server code Processor name of the server module to be addressed Type of Input : Single value, optional Possible Values : A1 = Administration and data server Default Value : A1
SLOT	Slot The mounting location must be specified for each line module of the addressed server module. Type of Input : Single value, mandatory Possible Values : see shelf descriptions

34.5 Error Messages and Advisories

34.5.1 Error Messages

F01: THE SPECIFIED BOARD <slot> IS INVALID
F02: free

F03: BOARD <slot> NOT ACTIVATED SINCE LBC IS BLOCKED
F04: BOARD <slot> ALREADY IN SERVICE
F05: BOARD <slot> NOT ACTIVATED SINCE TEST FAILED
F06: BOARD <slot> NOT DEACTIVATED SINCE LBC IS BLOCKED
F07: BOARD <slot> IS ALREADY DEACTIVATED
F08: BOARD <slot> NOT TESTED SINCE LBC IS BLOCKED
F09: BOARD <slot> NOT TESTED SINCE IT IS STILL IN SERVICE
F10: free
F11: free
F12: free
F13: BOARD <slot> NOT ACTIVATED SINCE NO HW IS ASSIGNED
F14: BOARD <slot> NOT TESTED SINCE LOAD ERROR OCCURED
F15: BOARD <slot> NOT TESTED SINCE NO HW IS CREATED
F16: BOARD <slot> NOT ACTIVATED SINCE LOAD ERROR OCCURED
F17: ORDER REJECTED SINCE DEACTIVATION IS ALREADY IN PROGRESS
F18: ORDER REJECTED SINCE ANOTHER ORDER IS IN PROGRESS
F19: TYPE = SWU CAN ONLY BE EXECUTED BY UNIT = A1
F20: THE SPECIFIED BOARD IS NOT CONFIGURED
F21: SWU NOT AVAILABLE

34.5.2 Advisories

H01: ACTIVATION OF BOARD <slot> STARTED
H02: DEACTIVATION OF BOARD <slot> STARTED
H03: TESTING OF BOARD <slot> STARTED

35 BSSU - Board Switch, Switching Unit

This AMO is used to process modules of the switching unit (SWU).

- **Activate:**
Modules can be activated either with conditional or with unconditional loading.
- **Deactivate:**
It is possible to deactivate the module with or without being pre-blocked.
- **Restart:** Deactivate without pre-blocking and Activate with unconditional loading has been combined in one action.
- **Display:**
The statistic counters of the specified module(s) can be displayed and reset.

35.1 Interrelationships

None

35.2 Functions of the AMO

- [ACTIVATE-BSSU](#) : Activate modules
- [DEACTIVATE-BSSU](#) : Deactivate modules
- [RESTART-BSSU](#) : Reset (Deactivate/activate) modules
- [DISPLAY-BSSU](#) : Display module statistic counters

35.2.1 ACTIVATE-BSSU

Individual modules are activated, i.e. any 'manual blocking' status is removed. Hierarchically subordinate trunks and terminals are also activated.

Before a module is activated, its status is checked. If it is manually blocked, the block is removed.

If a pre-blocking is in effect for the module to be activated, the activate job removes the pre-blocking.

BSSU - Board Switch, Switching Unit

Functions of the AMO

Activation can be carried out:

- with conditional loading
- with unconditional loading
- without loading

In the case of an activate job with conditional loading, the trunk circuit data is only loaded when necessary.

After the activate job is executed, a message is output supplying information regarding the switching state achieved. The message does not specify whether or not the deactivated module had been manually blocked before the deactivate job.

Voice Compression

If the board to be activated is partner of a voice compression connection, the according VCM board will be activated automatically and the message H30 will be displayed.

STMI2-HFA boards

The AMO performs the activation (bring-into-service) action of a STMI2-HFA board from which IP terminals have been automatically switched from. Because of a board error, either

- without switching back the IP terminals
- with switching back the IP terminals

This command is called after the defective board has been replaced by a board which is expected to be O.K.

HFASW = IPSTNBCK : AMO switchs (reconfigures) back the IP terminals which had been originally configured at the specified board and activates the specified board. The DC state of the specified (standby) board must be MAN_AMO/DEF, where the destination board (from which the IP terminals are switched from) must be DEF or READY.

HFASW = STBYRDY : AMO activates the specified board and changes its Standby Mode from ...STDBY_DEF to ...STDBY_READY.

HFASW = NONE : AMO just activates the STMI2-HFA board .

HFASW parameter is only valid for STMI2-HFA board, for the rest of the boards this parameter is ignored.

Procedure Overview

Command Code	Parameter
ACTIVATE-BSSU	[ONTYPE=<param>], [LTG=<number>], LTU=<number> , SLOT=<number>, [HFASW=<param>];

The following system responses to ACTIVATE-BSSU are possible

- State 'OPERATIONAL'

H2: MODULE <pen> ACTIVATED

- State 'NOT OPERATIONAL'

Hnn: MODULE <pen> ACTIVATED - NOT OPERATIONAL
<state>:<loaderror>

- State remains unchanged

F11: MODULE <pen> NOT ACTIVATED (JOB ERROR)

Description <pen>:

<pen> = <LTG number>.<LTU number>.<Slot>

Description of <state>:

DEF	Module defect
NPR	Module not present
UNACA	Module blocked due to interrelationship
UNACH	Module hierarchically blocked (superordinate unit blocked)
UA/UH	Module blocked hierarchically and due to interrelationships
WBT	Wrong board type found

Description of <loaderror>:

1	No load files for this module
2	Error occurred during data transmission
3	Fault in module hardware

Example

The module at LTG 1, LTU 2, SLOT 25 is to be activated with conditional loading.

Input:

ACTIVATE-BSSU:AT,1,2,25;

Output:

H02: MODULE 1.2.25 ACTIVATED

or

H12: MODULE 1.2.25 ACTIVATED - NOT OPERATIONAL (UNACH-NPR)

(The module is not operational since it is hierarchically blocked (UNACH) and not present (NPR). Any existing manual block was removed.)

35.2.2 DEACTIVATE-BSSU

Individual modules are deactivated, i.e., the status 'manual blocking' or 'pre-blocking' is set.

When a module is deactivated, all the hierarchical blocks for subordinate units are also set.

Before a module is deactivated, its status is checked. If the module is in a state that does not permit deactivation, a deactivate job is not issued and, after a corresponding message is sent to the operator, the AMO is terminated.

Two types of deactivate jobs are possible:

Deactivate jobs with pre-blocking, i.e. existing connections are not released.

Deactivate jobs without pre-blocking, i.e., without regard for existing connections.

The operator receives an advisory message to say that the switching job is executed. The message does not specify whether or not the deactivated module had been manually blocked.

If the current reference clock generator is on the module(s) to be deactivated, and there are other reference clock generators available outside the specified range, the optional parameter REFOFF is prompted with the advisory H26.

The advisory H27 is prompted if the job affects all reference clock generators. In this case, a prompt is also given if the value YES was specified when the AMO was started.

The operator can determine what the AMO is supposed to do using the values YES or NO for the new parameter REFOFF.

The value YES means that if applicable, the module with the current reference clock generator should also be deactivated.

The value NO means that the module with the current reference clock generator should not be deactivated. In this case, the AMO responds with the advisory H28.

The value PROMPT (default value) means that the parameter should be prompted if the current reference clock generator is within the specified range.

Voice Compression

If the board to be deactivated with OFFTYPE=DC is partner of a voice compression connection, the according VCM board will be deactivated automatically and the message H30 will be displayed.

Procedure Overview

Command Code	Parameter
DEACTIVATE-BSSU	[OFFTYPE=<param>], [LTG=<number>], LTU=<number> , SLOT=<number>[, REFOFF=<param>];

The following system responses to DEACTIVATE-BSSU are possible:

- State 'Manual block'

H23: MODULE <pen> DEACTIVATED

- State 'Pre-blocking'

H24: MODULE <pen> PRE-BLOCKED

- State remains unchanged

F14: MODULE <pen> NOT DEACTIVATED (JOB ERROR)

Description <pen>:

<pen> = <LTG number>.<LTU number>.<Slot>

35.2.3 RESTART-BSSU

This function resets boards; that means the commands DEACTIVATE and ACTIVATE are combined in one order. For ranges all devices will be deactivated first and activated afterwards. All deactivations will be done with OFFTYPE= DI, all activations will be done with ONTYPE=AUL. The last reference clock generator can not be reset by means of this function, the message H28 will be displayed.

WTIME parameter is used to have a pause time between activation and deactivation process.

HFASW parameter is only valid for STM12-HFA board, for the rest of the boards this parameter is ignored.

BSSU - Board Switch, Switching Unit

Functions of the AMO

STMI2-HFA boards

HFASW parameter is ignored for the boards different from STMI2-HFA . Possible values and the functionalities behind are as follows :

HFASW = IPSTNBCK : After deactivation of the STMI2-HFA , AMO switchs (reconfigures) back the IP terminals which had been originally configured at the specified board and activates the specified board. The DC state of the specified (standby) board must be MAN_AMO/DEF, where the destination board (from which the IP terminals are switchced from) must be DEF or READY.

HFASW = STBYRDY : After deactivation of the board, AMO activates the specified board and changes its Standby Mode from ...STDBY_DEF to ...STDBY_READY.

HFASW = NONE : AMO just deactivates and activates the STMI2-HFA board .

HFASW parameter is only valid for STMI2-HFA board, for the rest of the boards this parameter is ignored.

HFASW = SWITCH: Manually switches the IP terminals from the specified board (LTG-LTU-SLOT) to the destination board (LTG2-LTU2-SLOT2). If the destination board is not entered by the user then AMO searches for an appropriate standby board (Standby Ready Mode) in the reconfiguration pool which the specified board is a member of.

Standby Mode of the destination board must be STBYRDY,

Procedure Overview

Command Code	Parameter
RESTART-BSSU	<pre>ADDRTYPE=ALL,WTIME=<number>; | ADDRTYPE=PARTNO,PARTNO=<string>,[FCTID=<number>], WTIME=<number>; | ADDRTYPE=PEN,[LTG=<number>],LTU=<number>,SLOT=<number>, | [WTIME=<number>], | [HFASW=NONE]; | [HFASW=IPSTNBCK]; | [HFASW=STBYRDY]; | [HFASW=SWITCH],[LTG2=<number>], | [LTU2=<number>],[SLOT2=<number>;</pre>

Example

The module at LTG 1, LTU 2, SLOT 25 is to be activated with conditional loading.

Input:

```
RESTART-BSSU:1,2,25;
```

Output:

```
H23: MODULE 1.2.25 DEACTIVATED  
H02: MODULE 1.2.25 ACTIVATED
```

35.2.4 DISPLAY-BSSU

Display and reset the statistic counters of modules in the LTU.

Only modules with statistic counter (see table below) can be interrogated.

For the specified module(s), a job is sent to PP (preprocessing) for each module to interrogate and to reset the statistic counters. For the modules STMD, SLMU, SLMU16, SLMQ and SLMS one job is sent to PP for each trunk circuit.

In the case of STMD modules, the circuits without S0 bus are processed first, followed by those with S0 bus.

In the case of STMA modules, depending on the operating mode the statistic counters will be displayed per board (IW Interworking / TFA Telephone Feature Access) or per port (PBB PBX Backboning / PSW Port Switching).

In the case of SLMAR modules, no statistic counters will be displayed but rather the feeding voltage modes for each port of the module.

If the specified module has the status "not equipped" or "not present" or an incorrect module type, no statistic counters are available. The AMO outputs error message F33.

If PP is processing a different job at the time, or if the expected statistic do not arrive within a certain time period (10 seconds), the AMO issues a corresponding error message. If there is another module to be processed, the AMO continues. Otherwise, the AMO terminates at this point.

Parameters DISTYPE and RESET are only valid for TMDN 64 board. If any of these parameters is entered for a different board, then advisory message H39 is displayed. Because all statistical board data is displayed for TMDN 64 board, if the parameter CIR is entered, then advisory message H40 is displayed. (CIR value ignored.)

BSSU - Board Switch, Switching Unit
Functions of the AMO

Module Type
STMD
STMA
DIU-S2
SLMS
SLMU
SLMU16
SLMQ
SLMQ3
SLMN
SLMAR
TMDN

Table 4 List of Module Types with Statistic Counter

Procedure Overview

Command Code	Parameter
DISPLAY-BSSU	[LTG=<number>], LTU=<number>, SLOT=<number> [, CIR=<number>], [DISTYPE=<param>], [RESET=<param>];

Examples

1. The statistic counters of the DIUS2 module for LTG 1, LTU 4 and SLOT 103 are to be displayed.

Input:

DISPLAY-BSSU:1,4,103;

Output:

F28: MODULE 1.4.103 DISPLAY OF STATISTICAL DATA CURRENTLY NOT POSSIBLE

(Preprocessing (PP) is processing a different job at this time)

or

F29: MODULE 1.4.103 TIME EXPIRED FOR DISPLAY OF STATISTICAL DATA

or

F33: MODULE 1.4.103 DISPLAY NOT POSSIBLE

(The module has the status NOGEN, NPR or WBT)

or output of the statistic counter data

STATISTICAL DATA FOR MODULE DIUS2 PEN 1- 4-103							
CIR NO.	TOTAL MESSAGES	PARTNER NOT READY	REPEATS	CHECK SUM	DATA OVERFLOW	DATA MISSING	ADAPTER LINE
0	1100	4	20	11	5	25	
1	4433	7	12	11	5	35	

2. The statistic counters for a SLMU module for LTG 1, LTU 4, SLOT 79 and CIR 5 are to be displayed.

Input:

DISPLAY-BSSU:1,4,79,5;

Output:

F28: MODULE 1-4-79-5 DISPLAY OF STATISTICAL DATA CURRENTLY NOT POSSIBLE

(Preprocessing (PP) is processing a different job at this time)

or

F29: MODULE 1-4-79-5 TIME EXPIRED FOR DISPLAY OF STATISTICAL DATA

or output of the statistic counter data

STATISTICAL DATA FOR MODULE					SLMU	PEN	1- 4- 79- 5	
STNO	TSI	SERVICE	TOTAL MESSAGES	PARTNER NOT READY	REPEATS	CHECK SUM	DATA OVERFLOW	DATA MISSING
3505	1	VCE	0	0	0	0	0	0
3505	2	DTE	0	0	0	0	0	0
2103	0	DTE	0	0	0	0	0	0
3113	0	DTE	0	0	0	0	0	0

Explanations:

TOTAL MESSAGES:	Number of messages sent
PARTNER NOT READY:	Partner could not receive (NOT READY)
REPEATS:	Message had to be repeated
CHECKSUM:	Number of CRC errors (checksum comparison)
DATA OVERFLOW:	Data block could not recorded (partner had to repeat)
DATA UNDERFLOW:	Board circuit was too slow when transmitting
ADAPTER LINE:	Additional information to adapter/partner line for SLMN

BSSU - Board Switch, Switching Unit

Functions of the AMO

3. The statistic counters for a STMA module (TFA) for LTG 1, LTU 4, SLOT 79 are to be displayed.

Input:

DISPLAY-BSSU:1,4,79;

Output:

STATISTICAL DATA FOR MODULE STMA-TFA							PEN	1- 4-79
ATM-CELLS SENT	ATM-CELLS RECEIVED	DATA SENT	DATA RECEIVED	HEADER CORRECTION	CYCLIC CHECK	TIME STAMP ADJUSTABLE		
11	11	5	3	0	0	0		

SARE-Quality-Data:

ATM-CELLS SENT: Number of all ATM Cells sent,inclusive empty cells
ATM-CELLS RECEIVED: Number of all ATM Cells received,inclusive empty cells
DATA SENT: Number of all ATM Cells sent with data
DATA RECEIVED: Number of all ATM Cells received with data
HEADER CORRECTION: Number of "Header Error Correction" was not successful
CYCLIC CHECK: Number of Cyclic Redundancy check-32 errors
TIME STAMP ADJUSTABLE: SARE time stamp

4. The statistic counters for a SLMU module (PSW) for LTG 1, LTU 4, SLOT 79 and CIR 1 are to be displayed.

Input:

DISPLAY-BSSU:1,4,79,1;

Output:

STATISTICAL DATA FOR MODULE STMA-PSW										PEN	1- 4- 79
CIR	RES-I FRAME	CHECK SUM	PRNR	REJ	RDO	XDU	XMR	DELETE CELLS	INSERT CELLS	SEQ-NO ERROR	STRUCT TRANS
1	1	0	0	0	0	0	0	0	0	0	0

CIR: Circuit number

LAPD-Quality-Data:

RES-I FRAME: Number of received I-Frames
CHECKSUM: Number of CRC errors (checksum comparison)
PRNR: Partner could not receive (NOT READY)
REJ: Data block could not recorded (partner had to repeat)
RDO: Receive Data Overflow
XDU: Transmit Data Underflow, board circuit was too slow

XMR: - No value supported -

PADACK-Quality-Data:

DELETE CELLS: Number of deleted cells due to depacketising buffer overflow
 INSERT CELLS: Number of inserted cells due to depacketising buffer overflow
 SEQ-NO ERROR: Number of cells that are in any way erroneous in context with sequence number checking
 STRUCT TRANS: Number of times something has gone wrong in context with structure data transfer

5. The feeding voltage for a SLMAR module for LTG 1, LTU 5, SLOT 79 are to be displayed.

Input:

DISPLAY-BSSU:1,5,79;

Output:

FEEDING VOLTAGE DATA FOR MODULE SLMAR PEN 1- 5- 79	
CIR NO.	EXTENDED SUBSCRIBER LOOP (BATTERY BOOST)
0	YES
1	NO
2	YES
3	UNDEF
4	YES
5	YES
6	YES
7	YES

YES = Battery boost

NO = No battery boost

UNDEF = Loadware with initialized value, there is no knowledge what battery boost has to be used.

6. Statistical Data of TMDN Board

1. 24 Hours total statistics

24 HOURS TOTAL STATISTICS FOR TMDN				LTG.LTU.EBT : 1- 4- 79
ESF	xxxxxx	FS	xxxxxx	
ES	xxxxxx	OES	xxxxxx	
BES	xxxxxx	FS	xxxxxx	
ES	xxxxxx	DS	xxxxxx	
US	xxxxxx			
LOOPBACK STATUS				
LOCAL	xxxxxx	PAYLOAD	xxxxxx	
REMOTE REQUEST	xxxxxx			

2. Current 15 Min. statistics

=====									
CURRENT 15 MIN. STATISTICS FOR TMDN					LTG.LTU.EBT : 1- 4- 79				
ESF		xxxxxx							
ES		CURR		xxxxxx		PREV		xxxxxx	
FS		CURR		xxxxxx		PREV		xxxxxx	
BES		CURR		xxxxxx		PREV		xxxxxx	
OES		CURR		xxxxxx		PREV		xxxxxx	
US		CURR		xxxxxx		PREV		xxxxxx	
DS		CURR		xxxxxx		PREV		xxxxxx	
xx MINUTES xx SECONDS INTO CURRENT INTERVAL.									
=====									

3. 24 Hours interval statistics.

An example for ES. (Same mask is used for FS,OES,BES,US,DS)

24 HOURS INTERVAL STATISTICS FOR TMDN					LTG.LTU.EBT : 1- 4- 79			
ES-ERRORED SECONDS.								
CURRENT 15 MIN		[PAST 15 MIN INTERVALS->]						
\ /								
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	
ALARM STATUS : NO ERRORS (GREEN)								

35.3 Parameter Description

ADDRTYPE	Type of board addressing		
Type of input	single value, mandatory		
Possible values	ALL	all boards/modules	
	PARTNO	board/module part number	
	PEN	physical board/module address	

CIR	Specification of circuit number		
	Type of input	: 1 - 2 Single values, chained with &&, optional	
	Possible values	: numeric, 0-63	
	With DIUS2 and SLMN modules, the statistic counters of the entire module are processed.		
	In this case, the specified circuit number is ignored and advisory H29 issued.		
DIA1	dia1		
	Type of input	single value, mandatory	
	Possible values	IW	
		NW20	
		PBB	
		PSW	
		TFA	
DIA2	dia2		
	Type of input	single value, mandatory	
	Possible values	DTE	
		FAX	
		TTX	
		VCE	
		VTX	
DISTYPE	Type of statistic to be displayed for TMDN board.		
	Type of input	Single value, optional	
	Possible Values	TOTAL	24 Hours total statistics.
		CURR	Current 15 min. statistics.
		ES	Errored seconds 24 hours interval statistics.
		FS	Failed seconds 24 hours interval statistics.
		BES	Bipolar errored seconds 24 hours interval statistics
		OES	Out of frame errored seconds 24 hours interval statistics
		US	Up-slips 24 hours interval statistics
		DS	Down-slips 24 hours interval statistics
FCTID	Function Id		
	Type of input	Single value, optional	
	Possible Values	numeric, 0-255	

BSSU - Board Switch, Switching Unit

Parameter Description

HFASW	HFA switching activities.		
	Type of input	single value,optional	
	Possible Values	NONE	No HFA specific activities.
		IPSTNBCK	Switch IP stations back.
		STBYRDY	Act as HFA standby board.
		SWITCH	Switchover ip stations to another board
LTG	Specification of the line trunk group		
	Type of input	: Single value, optional	
	Possible value	: 1-32	
	Default value	: 1	
LTU	Specification of the line trunk unit		
	Type of input	: Single value, mandatory	
	Possible values	: numeric, 1-15, 17-99	
OFFTYPE	Specifies the type of deactivate job		
	Type of Input	: Single value, optional	
	Possible Values	DC	Deactivate Conditionally
		DI	Deactivate immediately
	Default Value	: DC	
ONTYPE	Specifies type of activate job		
	Type of input	: Single value, optional	
	Possible Values	ACL	Activation with conditional loading
		AUL	Activation with unconditional loading
		ANL	Activation with no loading
	Default value	: ACL	
PARTNO	Part Number		
	Type of input	single value, mandatory	
	Possible Values	text, up to 10 characters	
REFOFF	Switch reference clock generator		
	Type of input	: Single value	

		optional	
Possible Values	Y		switch ref. clock generator off if applicable
	N		do not switch off ref. clock generator
	PROMPT		prompt parameter if ref. clock generator found
	Default value		PROMPT
RESET	Reset statistic option indicator for the TMDN board		
Type of input	Single value, optional		
Possible Values	YES		Reset all statistic counters and timers
	NO		Do not reset the counters.
	DEFAULT		NO
SLOT	Specification of the slot in the LTU.		
	The slots are consecutively numbered from left to right. Of the slots occupied by the module, the lowest number must be specified. (Each 6 slots form a mounting location; therefore, the only slots that are valid here are 1, 7, 13, 19, etc. Restriction: some modules, e.g., SLMA, occupy two mounting locations, so that some elements in this sequence are not valid slots; slot for LTUC: cannot be switched in this case!)		
	Type of input	: 1 to 2 single values, concatenated wit &&, mandatory	
	Possible values	: 1-121	A suitable module must be configured for the slot addressed by PEN (AMO BCSU).
WTIME	Wait time between switching off and switching on in seconds.		
Type of input	Single value, optional		
Possible values	0-20		
	DEFAULT		1

35.4 Error Messages and Advisories

Note:

'<pen>' stands for '<LTG number>.<LTU number>.<SLOT-number>'. or '<LTG number>.<LTU number>.<SLOT number>.<CIR number>'.

35.4.1 Error Messages

F01: LOADING OF MODULE DIRECTORY FILE (UBGDAT) IS NOT POSSIBLE

F02: LTG NOT ASSIGNED

F03: LTU NOT ASSIGNED

F04: LTU NOT PRESENT

F05: MODULE NOT ASSIGNED

F11: MODULE <pen> NOT ACTIVATED (JOB ERROR)
(Activate not executed since an activate or deactivate job is currently being processed.)

F12: MODULE <pen> NOT DEACTIVATED (NEQ)
(The module has not been deactivated since it is not assigned.)

F13: MODULE <pen> NOT DEACTIVATED (WBT)
(The module has not been deactivated, since an incorrect module type is plugged.)

F14: MODULE <pen> NOT DEACTIVATED (JOB ERROR)
(Deactivate not executed since an activate or deactivate job is currently being processed.)

F15: MODULE <pen> IMPLAUSIBLE STATE
(GENNR,TRS,DEFIL AND/OR SIGNED_OFF)
(The module is in a state that cannot be evaluated.)

F16: LTG NUMBER DOES NOT HAVE ADMISSIBLE VALUE
(The LTG with the specified LTG number does not exist.)

F17: LTU NUMBER DOES NOT HAVE ADMISSIBLE VALUE
(The LG with the specified LTG number does not exist.)

F18: INVALID SLOT NUMBER SPECIFIED FOR PARAMETER SLOT
(Invalid SLOT number specified. A mounting location is made up of six SLOTS; thus, valid SLOTS are 1, 7, 13 etc. except SLOT 65. this SLOT contains the LTUC and is not switchable!)

F20: LTG NOT PRESENT

F21: MODULE <pen> NOT ACTIVATED - MODULE TYPE IS RG
THE MODULE CAN BE HANDLED WITH BCSU ONLY.

F22: MODULE <pen> NOT ACTIVATED - MODULE TYPE IS ACGEN
THE MODULE CAN BE HANDLED WITH BCSU ONLY.

F23: MODULE <pen> NOT DEACTIVATED - MODULE TYPE IS RG
THE MODULE CAN BE HANDLED WITH BCSU ONLY.

F24: MODULE <pen> NOT DEACTIVATED - MODULE TYPE IS ACGEN
THE MODULE CAN BE HANDLED WITH BCSU ONLY.

F26: MODULE <pen> IF LTC MODULE SWITCH ASSOCIATED MODULE
(The LTC module is switched along with the associated module.)

F27: MODULE <pen> MODULE HAS NO STATISTICAL DATA
(Display not executed because this module has no statistic counter.)

F28: MODULE <pen> DISPLAY OF STATISTICAL DATA CURRENTLY NOT POSSIBLE
(Display not executed since PP (pre-processing) is processing a different job at this time.)

F29: MODULE <pen> TIME EXPIRED FOR DISPLAY OF STATISTICAL DATA

F33: MODULE <pen> DISPLAY NOT POSSIBLE
(Display not executed since the module is in the state 'not present' or 'not equipped' or has an incorrect module type.)

- F34: MODULE <lage> NOT SWITCHED - MODULE TYPE IS PSIO
BOARD CAN BE SWITCHED ONLY BY MEANS OF AMO BSSM. CHECK LCXNO:
DISP-BCSM:A1,SW; THEN SWITCH: ACT/DEACT-BSSM:UNIT=A1,TYPE=SWU,LCXNO=<?>;
- F35: OFFTYPE=DC NOT POSSIBLE FOR MODULE SLC16.
SWITCH OFF BY MEANS OF:
DEACT-BSSU:DI,^ltg^,^ltu^,^ebt^;
- F36: MODULE PART NUMBER OR FUNCTION IDENTIFICATION IS INVALID.
VALID VALUES CAN BE INVESTIGATED WITH THE DATA OF A CORRESPONDING BOARD BY
USING AMO BCSU:
DISP-BCSU:TYPE=TBL,LTG=,LTU=,SLOT=;
- F37: MODULE ^ltg^,^ltu^,^ebt^ NOT ACTIVATED.
MODULE TYPE IS STMA2. THE MODULE CAN ONLY BE
ACTIVATED WITH ONTYPE BOARD BY AUL.
(UNCONDITIONAL LOADING)
- F38: BOARD @@.@@.@@@ TIMER EXPIRED FOR INTERROGATION OF STATISTICAL DATA.
- F39 SPECIFIED BOARD IS NOT IN STANDBY DEFECT MODE.(STBYDEF, SEE DISPLAY-HFAB)
- F40 SPECIFIED BOARD IS ALREADY ACTIVATED.SWITCHING BACK OF THE IP TERMINALS NOT
POSSIBLE.
- F41 SWITCHING BACK OF IP TERMINALS IS NOT POSSIBLE, SINCE THE BOARD TO WHICH THE
IP TERMINALS HAVE BEEN SWITCHED (^ltg^.^ltu^.^ebt^) IS NOT IN NORMAL
MODE.(SEE DISPLAY-HFAB).
- F42 SWITCHING BACK OF IP TERMINALS IS NOT POSSIBLE, SINCE THE BOARD TO WHICH THE
IP TERMINALS HAVE BEEN SWITCHED (^ltg^.^ltu^.^ebt^) IS LOCKED BY AMO.
- F43 SWITCHING BACK OF IP TERMINALS IS NOT POSSIBLE, SINCE THE SPECIFIED BOARD IS
NOT IN DC STATE DEFECTIVE OR NL.
- F44 SWITCHING BACK OF IP TERMINALS IS NOT POSSIBLE, SINCE THE SPECIFIED BOARD IS
NOT A MEMBER OF A RECONFIGURATION POOL.(SEE DISPLAY-BPOOL)
- F45 SWITCHING BACK NOT POSSIBLE, SINCE THE RECONFIGURATION POOL ^poolno^ IS
CONFIGURED WITH THE INVALID ATTRIBUTE HOPAUT=MULTI.(SEE DISPLAY-BPOOL).
- F46 SWITCHING BACK OF IP TERMINALS IS NOT POSSIBLE, SINCE THE HISTORY INFO OF THE
SPECIFIED BOARD DOES NOT CONTAIN THE LINK (SWITCHED AUTO BRD: AND SWITCHED
AUTFR BRD:) TO THE BOARD WHERE THE IP TERMINALS HAVE BEEN SWITCHED TO.(SEE
AMO-BPOOL;)
- F47 THE BOARD, FROM WHICH IP TERMINALS HAVE BEEN SWITCHED TO ^ltg^.^ltu^.^ebt^, IS
NO LONGER MEMBER OF THE RECONFIGURATION POOL ^poolno^. (SEE AMO-BPOOL).
- F48 SWITCHING BACK OF IP TERMINALS IS NOT POSSIBLE, SINCE THE ALLOWED AUTOMATICAL
HOP COUNT ^hopcnt^ IS EXCEEDED. (SEE DISP-BPOOL)
- F49 SWITCHING BACK OF IP TERMINALS IS NOT POSSIBLE, SINCE THE HISTORY INFO OF THE
BOARD WHERE THE IP TERMINALS HAVE BEEN SWITCHED TO, IS INCONSISTENT.(SEE DISP-
BPOOL)
- F50 TIMER EXPIRED WHILE WAITING FOR THE ACKNOWLEDGEMENT MESSAGE FROM DC (^acktime^
sec).
- F51 SWITCHING ^swtype^ OF IP TERMINALS IS NOT POSSIBLE, SINCE THE LINES FROM THE
BOARD ^ltg^-^ltu^-^ebt^ COULD NOT BE RELOCATED. ORIGINAL CONFIGURATION AND
STANDBY MODES ARE MAINTAINED.
- F52 SWITCHOVER OF IP TERMINALS IS NOT POSSIBLE SINCE THE DESTINATION BOARD (OR LAN
CONN.) ^ltg^-^ltu^-^ebt^ IS NOT IN READY STATE.
- F53 SWITCHOVER OF IP TERMINALS IS NOT POSSIBLE SINCE THE DESTINATION BOARD ^ltg^-
^ltu^-^ebt^ IS NOT A STMI2-HFA BOARD.
- F54 SWITCHOVER OF IP TERMINALS IS NOT POSSIBLE SINCE THERE IS NO APPROPRIATE BOARD
IN RECONFIGURATION POOL ^poolno^.
- F55 SWITCHOVER OF IP TERMINALS IS NOT POSSIBLE SINCE THE BOARD ^ltg^-^ltu^-^ebt^
IS NOT MEMBER OF A RECONFIGURATION POOL(SEE DISPLAY-BPOOL).
- F56 SWITCHOVER OF IP TERMINALS IS NOT POSSIBLE SINCE THE ^bdtype^ BOARD ^ltg^-
^ltu^-^ebt^ IS NOT IN THE SMODE = ^stdmode^ (SEE DISPLAY-HFAB).
- F57 SWITCHOVER OF IP TERMINALS IS NOT POSSIBLE SINCE THE <ziel> BOARD ^ltg^-^ltu^-
^ebt^ IS NOT IN ^state^ STATE.

BSSU - Board Switch, Switching Unit

Error Messages and Advisories

F58 BOARD DATA SEGMENT AND NON LW DATA READ/WRITE ERROR.
F59 THE BOARD ^ltg^-^ltu^-^ebt^ IS IN INVALID STANDBY MODE.(SEE DISPLAY-HFAB).
F60: RES-BSSU:CGWSW=CGWSWBCK&STBYRDY&SWITCH; CAN NOT BE USED, IF THE BOARD IS CONFIGURED FOR SOFTGATE REDUNDANCY BY BPOOL.

35.4.2 Advisories

H01: PLEASE SPECIFY LTG NUMBER
(For SP 390 an LTG number must be specified.)
H02: MODULE <pen> ACTIVATED
(Module activated and operational.)
H03: MODULE <pen> ACTIVATED - NOT OPERATIONAL (NEQ)
(Module is not operational, since it is 'not equipped'.)
H04: MODULE <pen> ACTIVATED - NOT OPERATIONAL (DEF)
(Module not operational, status = 'defective'.)
H05: MODULE <pen> ACTIVATED - NOT OPERATIONAL (NPR)
(Module not operational, state = 'not present'.)
H06: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACA)
(Module not operational, status = 'blocked due to interrelationship'.)
H07: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACH)
(Module not operational, status = 'hierarchically blocked'.)
H08: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACA-DEF)
(Module not operational, status = 'blocked due to interrelationship' and 'defective'.)
H09: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACA-NPR)
(Module not operational, status = 'blocked due to interrelationship' and 'not present'.)
H10: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACA-UNACH)
(Module not operational, status = 'blocked due to interrelationship' and 'hierarchically blocked'.)
H11: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACH-DEF)
(Module not operational, status = 'hierarchically blocked' and 'defective'.)
H12: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACH-NPR)
(Module not operational, status = 'hierarchically blocked' and 'not present'.)
H13: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACA-UNACH-DEF)
(Module not operational, status = 'blocked due to interrelationship','hierarchically blocked' and 'defective'.)
H14: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACA-UNACH-NPR)
(Module not operational, status = 'blocked due to interrelationship', 'hierarchically blocked' and 'not present'.)
H15: MODULE <pen> ACTIVATED - NOT OPERATIONAL (WBT)
(Module not operational, status = 'wrong board type'.)
H16: MODULE <pen> ACTIVATED - NOT OPERATIONAL (WBT-UNACA)
(Module not operational, status = 'wrong board type' and 'blocked due to interrelationship'.)
H17: MODULE <pen> ACTIVATED - NOT OPERATIONAL (WBT-UNACH)

(Module not operational, status = 'Wrong board type' and 'hierarchically blocked'.)

H18: MODULE <pen> ACTIVATED - NOT OPERATIONAL (WBT-UNACA-UNACH)
(Module not operational, status = 'wrong board type', blocked due to interrelationship' and 'hierarchically blocked'.)

H19: MODULE <pen> ACTIVATED - NOT OPERATIONAL (DEF-LOADERROR:n)
(Module not operational, status = defective, load error has occurred. 'n' denotes the type of error.)

H20: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACA-DEF-LOADERROR:n)
(In addition to error pattern H19 shown, the module is further 'blocked due to interrelationship'.)

H21: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UNACH-DEF-LOADERROR:n)
(In addition to error pattern H19 shown, the module is further 'hierarchically blocked'.)

H22: MODULE <pen> ACTIVATED - NOT OPERATIONAL (UA/UH-DEF-LOADERROR:n)
(In addition to error pattern H19 shown, the module is further 'blocked due to interrelationship' and 'hierarchically blocked'.)

H23: MODULE <pen> DEACTIVATED
(Module has been manually blocked)

H24: MODULE <pen> PRE-BLOCKED
(Module has been pre-blocked and is still operational.)

H25: MODULE <lage> ACTIVATION WITH UNCONDITIONAL LOADING NOT POSSIBLE
BECAUSE MODULE STATUS WAS SOFT-LOCKED. ACTIVATION WITH CONDITIONAL LOADING
INSTEAD.

H26: THE DEACTIVATE JOB AFFECTS THE CURRENT REFERENCE CLOCK GENERATOR
PLEASE ANSWER PARAMETER REFOFF
Y . . . DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
N . . . DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
(If Y is specified, the dependability system switches to another reference
clock generator.)

H27: THE DEACTIVATE JOB AFFECTS THE LAST POSSIBLE REFERENCE CLOCK GENERATOR
***** THE SYSTEM CANNOT ADOPT A REFERENCE CLOCK *****
PLEASE ANSWER PARAMETER REFOFF
Y . . . DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
N . . . DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
(If Y is answered, all reference clock generators are deactivated)

H28: MODULE <pen> NOT DEACTIVATED (REFERENCE CLOCK GENERATOR)
(NO has been specified for REFOFF. As specified by the operator, the line
module is not deactivated.)

H29: MODULE <pen> PARAMETER CIR HAS BEEN IGNORED.

H30: MODULE <pen> IS VOICE COMPRESSION PARTNER, THEREFORE THE VCM BOARDS WILL BE
SWITCHED FIRST.

H31: NO LOADING OF MODULE POSSIBLE, BECAUSE MODULE IS ONLY PRE-BLOCKED. FOR RESET
OF MODULE USE
RESTART-BSSU:<pen>;

H32: MODULE <pen> NO STATISTICAL DATA AVAILABLE.

H33: NO MODULE FOUND TO BE SWITCHED.

H34: MODULE <pen> WAS ALREADY ACTIVATED.
LOADING OF MODULE NOT INITIATED. LOADING CAN BE REACHED BY FOLLOWING COMMAND:
RESTART-BSSU:PEN;<pen>

H35: MODULE <pen> ACTIVATION AND LOADING INITIATED.

H36: MODULE <pen> ACTIVATION INITIATED.
LOADING OF MODULE NOT INITIATED. LOADING CAN BE REACHED BY FOLLOWING COMMAND:
RESTART-BSSU:PEN;<pen>

BSSU - Board Switch, Switching Unit

Error Messages and Advisories

H37: MODULE TYPE IS STMA2. THE EXISTING SUB_FEATURES @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ WILL BE DISTURBED.

H38: MODULE TYPE IS STMA2. THE EXISTING SUB_FEATURES @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ WILL NOT BE DISTURBED.

H39: PARAMETER(S) DISTYPE AND/OR RESET IGNORED FOR THE BOARD MOUNTED AT ^ltg^.^ltu^.^ebt^, BECAUSE THEY ARE ONLY VALID FOR THE TMDN BOARD.

H40: PARAMETER CIR IGNORED . FOR TMDN BOARD :
DATA OF WHOLE BOARD WILL BE DISPLAYED: ^ltg^.^ltu^.^ebt^

H41: STATISTIC COUNTERS AND TIMERS HAVE BEEN RESET.

H42: MODULE ^ltg^.^ltu^.^ebt^ ACTIVATED - NOT OPERATIONAL.(SOFT LOCKED)

H43: MODULE ^ltg^.^ltu^.^ebt^ ACTIVATED - NOT OPERATIONAL.(LOCKED)

H44: MODULE ^ltg^.^ltu^.^ebt^ ACTIVATED - NOT OPERATIONAL.(BUSY)

H45: MODULE ^ltg^.^ltu^.^ebt^ ACTIVATED - NOT OPERATIONAL.(GENNR)

H46: MODULE ^ltg^.^ltu^.^ebt^ ACTIVATED - NOT OPERATIONAL.(TRS)

H47: MODULE ^ltg^.^ltu^.^ebt^ ACTIVATED - NOT OPERATIONAL.(DEFIL)

H48: MODULE ^ltg^.^ltu^.^ebt^ ACTIVATED - NOT OPERATIONAL.(SIGNED_OFF)

H49: MODULE ^ltg^.^ltu^.^ebt^ ACTIVATED - NOT OPERATIONAL.
(EXTERNAL LOADING FOR THE BOARD MAY TAKE SOME SECONDS)

H50 IP TERMINALS WERE MOVED SUCCESSFULLY FROM THE BOARD ^ltg^-^ltu^-^ebt^
(RECONFIGURATION POOL ^poolno^) TO THE BOARD ^ltg^-^ltu^-^ebt^
(RECONFIGURATION POOL ^poolno^)

H51 THE BOARD ^ltg^-^ltu^-^ebt^ IS ACTIVATED IN STANDBY ^stdmode^ MODE. (EXTERNAL LOADING FOR THE BOARD MAY TAKE SOME SECONDS)

H52 PARAMETER HFASW IGNORED FOR THE BOARD MOUNTED AT ^ltg^.^ltu^.^ebt^, BECAUSE IT IS ONLY VALID FOR THE STMIHFA2 BOARD.

36 BST - Background Signalling Task

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO BST can be used to start and to stop the Background Signalling Task. Moreover at any point of time the state of the BST can be examined.

The BST is a Backgroundtask, which will take over the display function of the Signalling Task (SIT) in HICOM 3x3. In HICOM 3x3 there is no longer an administration terminal, therefore the system messages are written to a cyclic file by SIT.

The BST reads the messages from the cyclic file block by block and sends them block by block to the Terminal Task (TT).

The AMO BST can be used to start explicitly the BST. The user has to specify, which symbolic device the cyclic file is assigned. The logical output device the messages will be sent can also be specified. Further the user has the possibility to insert a framemark (the framemark can be used for additional processing on MF300 side.).

36.1 Restrictions

This description is valid from SP300-R6.3

36.2 Interrelationships

None

36.3 Functions of the AMO

- [ACTIVATE-BST](#) : Activate the BST
- [DEACTIVATE-BST](#) : Deactivate the BST.
- [DISPLAY-BST](#) : Display the state and the working parameter of the BST.

36.3.1 ACTIVATE-BST

The function ACTIVATE starts the BST. The parameter SOURCE specifies the symbolic input device the cyclic file will be found.

If the parameter DEST is not supplied, the output will be displayed on the logical output device the BST was started from. If parameter MARK is supplied with N, no framemark for further processing of the messages will be added. In the other case (the default value for the parameter MARK is Y.) a framemark will be added to every message. The AMO expects a response from BST, therefore time delays can occur.

If there are any problems, starting BST (e.g. gets no logon, file access error, ...), the AMO gets a negative response with additional information about the error reason.

Procedure Overview

Command Code	Parameter
ACTIVATE-BST	SOURCE=<param>, [DEST=<param>], [MARK=<param>];

Examples

1. Activate the Background Signalling Task with output device different the device, the AMO was started from and without framemark.

Input:

```
ACTIVATE-BST:SOURCE=DPT4,DEST=LP1,MARK=N;
```

Output:

```
H01: BST SWITCHED ON.  
SOURCE-FILE IS C-HIST1.
```

2. Activate the Background Signalling Task with the same output device, as used to start the AMO and with framemark.

Input:

```
ACTIVATE-BST:SOURCE=DPT3;
```

Output:

```
H01: BST SWITCHED ON.  
SOURCE-FILE IS C-HIST2.
```

36.3.2 DEACTIVATE-BST

This function causes the deactivation of the BST. First BST finishes its running process, then it will get inactive. Time delays between the end of the AMO and the real end of the BST can occur, because of this running process from BST.

Procedure Overview

Command Code	Parameter
DEACTIVATE-BST	;

Examples

Deactivation of the BST.

Input:

DEACTIVATE-BST;

Output:

H02: SWITCH OFF OF BST INITIATED.

36.3.3 DISPLAY-BST

This function displays the Input-/Output devices for BST, the flag if framemark is switched on/off and the state of the BST. If the BST is deactivated, this function will display the deactivation reason too.

Procedure Overview

Command Code	Parameter
DISPLAY-BST	;

Examples

1. Display of the BST.

Input:

DISPLAY-BST;

Output:

```

+----- BACKGROUND SIGNALLING TASK -----+
| SOURCE      : ---- FILENAME: ----- |
| OUTPUT DEVICE : ---- |
| FRAMEMARKER : ---- |

```

BST - Background Signalling Task

Functions of the AMO

```
|
| STATE: DEACTIVATED - BECAUSE OF RELOAD OR POWER ON
|
+-----+
|
```

After every RELOAD or POWER ON the BST is deactivated and doesn't know anything about the devices or the framemark.

2. Display of the BST.

Input:

```
DISPLAY-BST;
```

Output:

```
+----- BACKGROUND SIGNALLING TASK -----+
|
| SOURCE          : DPT4                      FILENAME : C-HIST1
|
| OUTPUT DEVICE   : CON1
|
| FRAMEMARKER     : NO
|
| STATE : DEACTIVATED - BECAUSE OF FILE ACCESS ERROR
|
| ACCESS : OPEN OF THE FILE                      EXCEPTION-CODE : H'21
|
+-----+
|
```

BST is deactivated.

The BST did read the cyclic file (C-HIST1), currently assigned to the Dependability Terminal 4 (DPT4). The output messages were sent to the Output Terminal 1 (CON1). The messages weren't signed with a framemark.

Due to a file access error the BST was deactivated. An error occurred while opening the file. The DMS Exception Code was H'21 (the file didn't exist.).

3. Display of the BST.

Input:

```
DISPLAY-BST;
```

Output:

```
+----- BACKGROUND SIGNALLING TASK -----+
|
| SOURCE          : DPT3                      FILENAME : C-HIST2
|
| OUTPUT DEVICE   : CON1
|
| FRAMEMARKER     : YES
|
|
```



```
| STATE : ACTIVATED |
|                   |
+-----+
|
```

BST is activated.

The BST reads from the cyclic file (C-HIST2), currently assigned to the Dependability Terminal 3 (DPT3). The output messages are sent to the Output Terminal 1 (CON1). The messages are signed with a framemark.

Output overview for activated BST

```
| STATE : ACTIVATED |
|                   |
+-----+
|
```

Output overview for deactivated BST

```
| STATE : DEACTIVATED - BECAUSE OF RELOAD OR POWER ON |
|                                                       |
+-----+
|
```

```
| STATE : DEACTIVATED - BECAUSE OF STOP-ORDER FROM AMO |
|                                                       |
+-----+
|
```

```
| STATE : DEACTIVATED - BECAUSE BST DIDN'T GET A SESSION FOR |
|                               OUTPUT OF THE SYSTEM MESSAGES |
|                                                       |
+-----+
|
```

```
| STATE : DEACTIVATED - BECAUSE THE DISPLAYED SYSTEM MESSAGES |
|                               WERE NOT ACKNOWLEDGED           |
|                                                       |
+-----+
|
```

```
| STATE : DEACTIVATED - BECAUSE BST DIDN'T FIND A SYSTEM MESSAGE |
|                                                       |
+-----+
|
```

```
| STATE : DEACTIVATED - BECAUSE BST DIDN'T SEND A SYSTEM MESSAGE |
|                                                       |
+-----+
|
```

```
| STATE : DEACTIVATED - BECAUSE TOO MANY NEGATIVE RESPONSES |
|                               WERE RECEIVED                 |
|                                                       |
+-----+
|
```

```
| STATE : DEACTIVATED - BECAUSE THE SOURCE DEVICE HAS BEEN CHANGED |
|                               WITHOUT STOP-ORDER                |
|                                                       |
+-----+
|
```

```
| STATE : DEACTIVATED - BECAUSE THE FILE HAS BEEN DELETED AND |
|                                                       |
+-----+
|
```

BST - Background Signalling Task
Parameter Description

NEW CONFIGURED	
STATE : DEACTIVATED - BECAUSE OF FILE ACCESS ERROR	
ACCESS : OPEN OF THE FILE	EXCEPTION-CODE : H'xx
STATE : DEACTIVATED - BECAUSE OF FILE ACCESS ERROR	
ACCESS : SEEKING THE READ POINTER	EXCEPTION-CODE : H'xx
STATE : DEACTIVATED - BECAUSE OF FILE ACCESS ERROR	
ACCESS : READING THE FILE	EXCEPTION-CODE : H'xx
STATE : DEACTIVATED - BECAUSE OF FILE ACCESS ERROR	
ACCESS : CLOSING THE FILE	EXCEPTION-CODE : H'xx

36.4 Parameter Description

DEST	Output media of the system messages as logical device
Type of input	: Single value, optional
Possible values	: CON1 - CON6 = Outputterminal 1 - 6 LP1 - LP4 = Lineprinter 1 - 4
Default value	: Logical device, the AMO has been started from
MARK	Mark system messages with start/stop signs
Type of input	: Single value, optional
Possible values	: Y = Insert message start/stop signs N = Do not insert message start/stop signs
Default value	: Y
SOURCE	Source of the system messages as symbolical device
Type of input	: Single value, mandatory
Possible values	: DPT1 = Dependability Terminal 1

DPT2 = Dependability Terminal 2

DPT3 = Dependability Terminal 3

DPT4 = Dependability Terminal 4

36.5 Error Messages and Advisories

36.5.1 Error Messages

F01: BST NOT SWITCHED ON.
NO C-FILE IS ASSIGNED TO DPTx.
F02: BST ALREADY SWITCHED ON.
SOURCE FILE IS <filename>.
F03: BST NOT SWITCHED ON.
BST DIDN'T GET LOGON.
F04: BST NOT SWITCHED ON.
ERROR WHILE OPENING (H'xxxx) THE FILE <filename>.
F05: BST NOT SWITCHED ON.
RESIDENT PART OF BST NOT AVAILABLE.

36.5.2 Advisories

H01: BST SWITCHED ON.
SOURCE FILE IS <filename>.
H02: SWITCH OFF OF BST INITIATED.

36.5.3 Usage of the Error Messages and Advisories per Action

ACTIVATE	: F01, F02, F03, F04, H01
DEACTIVATE	: H02
DISPLAY	: none

37 BUEND - Trunk Groups

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

A trunk group consists of a variable number of equivalent trunks and is unambiguously identified in the system by means of a trunk group number.

37.1 Interrelationships

- AMO TACSU : Analog trunk circuits
- AMO TDCSU : Digital trunk circuits
- AMO TSCSU : Special trunk circuits
- AMO RICHT : Routes
- AMO LDAT : LCR Routes

Relationship to Trunks

Trunks are allocated to trunk groups by means of AMO TACSU, TDCSU or TSCSU. A trunk can be allocated to exactly one trunk group.

Relationship to Routes

Trunk groups are allocated to routes and LCR routes by means of AMO RICHT respectively AMO LDAT. A trunk group can be allocated to many routes and LCR routes.

Priority Classes

When a trunk is assigned to a trunk group with priority class 0, the priority class of the trunk group is changed to a device specific default value (1 for CO, 2 any other trunk). The value may be changed later on, but priority class 0 is allowed for empty trunk groups only.

Generation Sequence

```

BUEND  --> TACSU  --> RICHT  --> LDAT  -->
      |           |
      +--> TDCSU  --+
      |           |
      +--> TSCSU  --+

```

37.2 Functions of the AMO

- [ADD-BUEND](#) : Create new trunk group
- [CHANGE-BUEND](#) : Change trunk group characteristics
- [DELETE-BUEND](#) : Delete trunk groups
- [DISPLAY-BUEND](#) : Interrogate trunk groups
- [REGENERATE-BUEND](#) : Regenerate trunk groups

37.2.1 ADD-BUEND

This action creates a new empty trunk group, that means makes memory available and initializes this memory.

Procedure Overview

Command Code	Parameter
ADD-BUEND	[TGRP=<number>] , [NAME=<string> , NO=<number> , [TRACENO=<number>] , [ACDTHRH=<number> or *] , [PRIONUM=<number>] , [GDTRRULE=<number>] , [TDDRFLAG=<param>] , [ACDPMGRP=<number>];

If no number is entered for TGRP, the new trunk group is assigned to the first free trunk group number (the number of possible trunk groups is limited to 512).

The size of the memory for a trunk group is determined by parameter NO, which specifies the maximum number of trunks that can be allocated to the trunk group.

During creation, the name associated with the trunk group (parameter NAME) is entered into the name table and also the maximum number of trunks in a trunk group that can be call traced (parameter TRACENO), the number of trunks that can handle ACD calls (parameter ACDTHRH) the priority class (PRIONUM) , general digit translation rule (GDTRRULE), traffic dependent dynamic routing (TDDRFLAG) and the ACD phone mail group number are set.

Existence of the entered GDTRRULE is checked before assigning it to the trunk group. GDTRRULE is added by means of AMO-DNIT.

Validity of ACDPMGRP is also checked before assigning it to the trunk group.

Example

Create a new trunk group for two DIU-S2 trunks (60 B-channels) with the name "CO". The next available free trunk group has to be searched by AMO.

Input:

```
ADD-BUEND:NAME="CO",NO=60;
```

Output:

```
H01: ADD TGRP 47 COMPLETED
```

37.2.2 CHANGE-BUEND

This action changes one or more attributes of an existing trunk group.

Procedure Overview

Command Code	Parameter
CHANGE-BUEND	TGRP=<number>, { NAME=<string> , NO=<number> , TRACENO=<number>, ACSTHRH=<number> or * , PRIONUM=<number>, TDDRFLAG=<param> , GDTRRULE=<number>;

The attributes that can be changed are the trunk group name (NAME), the maximum number of trunks to be allocated (NO), the maximum number of trunks in a trunk group that can be call traced (TRACENO), the number of trunks that can handle ACD calls (parameter ACDTHRH), the priority class (PRIONUM), traffic dependent dynamic routing flag (TDDRFLAG) and the general digit translation rule(GDTRRULE). At least one the parameters must be entered for a change to be performed.

There are no restrictions for changing the name . However, if only blanks are specified in a NAME, the AMO enters NULL for the number of specified characters into the name table, deleting the name. When changing the maximum number of trunks to be allocated (parameter NO):

- If the change will result in an increase in the memory allocation, then sufficient memory must be available.
- If the change will result in a reduction in the memory allocation, then the number of trunks that are already allocated must not exceed the newly entered number.

BUEND - Trunk Groups

Functions of the AMO

The value entered for TRACENO should be less than the total number of trunks assigned to the trunk group. The value entered for ACDTHRH should not be greater than the value of parameter NO.

There is another restriction on changing GDTRRULE value. Existence of the entered value of GDTRRULE and number of trunks in the group are checked before changing it. (AMO-DNIT adds this rule number.) If the trunk group is not empty then it is not allowed to change the GDTRRULE value.

Example

Change the name of trunk group 47 to "ISDN CO".

Input:

```
CHANGE-BUEND:TGRP=47,NAME="ISDN CO";
```

Output:

```
H01: CHANGE TGRP 47 COMPLETED
```

37.2.3 DELETE-BUEND

This action deletes an existing trunk group.

Procedure Overview

Command Code	Parameter
DELETE-BUEND	TGRP=<number>;

Trunk groups to be deleted must no longer be allocated to a route (trunk group are removed from a route by means of AMO RICHT). Trunk groups with allocated trunks can be deleted, in this case, the allocations of the trunks are released.

An exception is given by S2 and modem pool trunks, who have to be first deleted or put into an other trunk group by means of AMO TDCSU.

37.2.4 DISPLAY-BUEND

This action displays information about one or more existing trunk groups.

Procedure Overview

Command Code	Parameter
DISPLAY-BUEND	[TGRP=<number>], [FORMAT=<param>];

If no number or range of numbers is entered for TGRP, all existing trunk groups will be displayed.

For each trunk group, the trunk group number, trunk group name, maximum number of allocated trunks, device type, subgroup index, the number of trunks to be traced without blocking the trunk group, the number of trunks that can handle ACD calls and the allocated port locations will be displayed.

If identical ports appear in the display for a trunk group, i.e. the same trunk appears more than once, then a corresponding number of devices is connected to the trunk.

By means of FORMAT parameter (B) , the B-channel status of a trunk group can be interrogated.

Examples

Input:

DISPLAY-BUEND:42,B;

Output:

NO.	MAX	ACT	BUSY	FREE	OTHER
42	20	0	0	0	0

Interrogate trunk group 47.

Input:

DISPLAY-BUEND:47,L;

Output:

```

+-----+
| TRUNK GROUP NO.: 47   TRUNK GROUP NAME: ISDN CO           MAX.NO.: 60 |
| SUBGROUP NO.: 52     DEVICE TYPE: S2COD                   TRACENO: 0 |
| SEARCH MODE : CIRCULAR                                     ACD THRESHOLD : * |
| ASSIGNED TO AT LEAST ONE ROUTE                             PRIORITY: 1 |
| TDDRFLAG : ON      TDDRTHRESHOLD:                          SOURCEGROUPIDX : 1 |
| GDTRRULE : 140     ACDPMGRP : 20                           |
| THE FOLLOWING TRUNKS (LTG-LTU-SLOT-CCT) HAVE BEEN ALLOCATED: |
+-----+
| 1- 1-115- 0 B-CHL: 1 | 1- 1-115- 0 B-CHL: 2 | 1- 1-115- 0 B-CHL: 3 |
| 1- 1-115- 0 B-CHL: 4 | 1- 1-115- 0 B-CHL: 5 | 1- 1-115- 0 B-CHL: 6 |
| 1- 1-115- 0 B-CHL: 7 | 1- 1-115- 0 B-CHL: 8 | 1- 1-115- 0 B-CHL: 9 |
| 1- 1-115- 0 B-CHL: 10 | 1- 1-115- 0 B-CHL: 11 | 1- 1-115- 0 B-CHL: 12 |
| 1- 1-115- 0 B-CHL: 13 | 1- 1-115- 0 B-CHL: 14 | 1- 1-115- 0 B-CHL: 15 |
| 1- 1-115- 0 B-CHL: 16 | 1- 1-115- 0 B-CHL: 17 | 1- 1-115- 0 B-CHL: 18 |
| 1- 1-115- 0 B-CHL: 19 | 1- 1-115- 0 B-CHL: 20 | 1- 1-115- 0 B-CHL: 21 |
| 1- 1-115- 0 B-CHL: 22 | 1- 1-115- 0 B-CHL: 23 | 1- 1-115- 0 B-CHL: 24 |
| 1- 1-115- 0 B-CHL: 25 | 1- 1-115- 0 B-CHL: 26 | 1- 1-115- 0 B-CHL: 27 |
| 1- 1-115- 0 B-CHL: 28 | 1- 1-115- 0 B-CHL: 29 | 1- 1-115- 0 B-CHL: 30 |
+-----+
    
```

37.2.5 REGENERATE-BUEND

This action outputs existing trunk groups in the form of ADD commands.

Procedure Overview

Command Code	Parameter
REGENERATE-BUEND	[TGRP=<number>];

If no number or range of numbers is entered for TGRP, all existing trunk groups will be regenerated.

Example

Regenerate all trunk groups.

Input:

REGENERATE-BUEND;

Output:

ADD-BUEND: 1 , "SATELLITE " , 20 , N , 0 , * , 1 , OFF , 138 , 20 ;
ADD-BUEND: 2 , "SATELLITE " , 60 , N , 0 , * , 1 , ON , 38 , 0 ;
ADD-BUEND: 3 , "SATELLITE " , 20 , N , 0 , * , 1 , OFF , 230 , 2 ;
ADD-BUEND: 4 , "MAINLP " , 20 , N , 0 , * , 1 , ON , 14 , 140 ;
ADD-BUEND: 5 , "XX " , 12 , Y , 0 , * , 8 , ON , 22 , 21 ;
ADD-BUEND: 6 , "XX " , 12 , Y , 0 , * , 16 , OFF , 140 , 20 ;
ADD-BUEND: 7 , "TSAC " , 20 , N , 0 , * , 1 , OFF , 0 , 225 ;
ADD-BUEND: 8 , "TSSIM " , 30 , N , 0 , * , 1 , ON , 0 , 0 ;
ADD-BUEND: 9 , "TCOM-DICT " , 20 , N , 0 , * , 2 , OFF , 0 , 0 ;
ADD-BUEND: 10 , "TCOM-CCE " , 20 , N , 0 , * , 2 , OFF , 0 , 0 ;
ADD-BUEND: 11 , "VOICEMAIL " , 20 , N , 0 , * , 2 , ON , 1 , 0 ;
ADD-BUEND: 12 , "TCOM-NWS " , 5 , N , 0 , * , 1 , ON , 0 , 0 ;
ADD-BUEND: 13 , "TCOM-RA " , 20 , N , 0 , * , 1 , OFF , 0 , 0 ;

37.3 Parameter Description

ACDTHR	ACD threshold (number of trunks that can handle ACD calls) Type of Input : single value, optional Possible Values : 0-2000 * all trunks (no limit) Default Value : *

ACDPMGRP	ACD Phone mail group.

	Type of Input	single value, optional
	Possible Values	0-255
	Default Value	0
CHARCON	Character Conversion of Name	
	Type of Input	single value, optional
	Possible Values	NEUTRAL no character conversion
		RUSSCYR character conversion of name to cyrillic
	Default Value	NEUTRAL
FORMAT	Display format	
	Type of Input	: single value, optional
	Possible value	: S (Short) only TRGRP and NAME
		M (Medium) all data in compressed form
		L (Long) ale data in table form
		B b-channel summary (ready/busy/locked)
	Default Value	S (If no Trunk group is entered)
		L (If a Trunk group is entered)
		M (If Trunk group is entered with &&)
GDTRRULE	General digit translation rule.	
	Type of Input	single value, optional
	Possible Value	0-255
	Default Value	0
NAME	Trunk group name	
	Type of Input	: text string, optional
	Possible Values	: max. 18 alphanumerical characters,upper and lower case letters
	Default Value	: blanks
	While entering only blanks during action CHANGE, an existing name is deleted.	
NO	Maximum number of trunks to be allocated	
	Type of Input	: single value, mandatory
	Possible Values	: 1 to 2000

BUEND - Trunk Groups

Error Messages and Advisories

PRIONUM	Priority class
	Type of Input : single value, optional
	Possible Values : 0-48
	Default Value : 0(ADD) / no change(CHANGE)
Type of Input : single value, optional	
TDDRFLAG	Traffic dependent dynamic routing flag
	Type of Input : Single value, optional
	Possible Values : ON
	OFF
Default Value : ON	
TRACENO	Maximum number of trunks in a trunk group that can be call traced (without blocking the group)
	Type of Input : single value, optional
	Possible Values : 0 to 2000
	Default Value : 0
The AMO does not check, whether the inserted value causes a blocking of the trunk group.	
TGRP	Trunk group number
	Type of Input : single value or range, mandatory resp. optional
	Possible Values : 1 to 512
If no trunk group number is entered, the AMO tries to find a free trunk group number (CREATE) or outputs all trunk groups of the system (DISPLAY and REGENERATE).	

37.4 Error Messages and Advisories

37.4.1 Error Messages

F01: TGRP <xxx> ALREADY EXISTS
F02: NO MORE FREE TRUNK GROUPS ARE AVAILABLE

F03: NO MORE FREE SUBGROUPS ARE AVAILABLE
 F04: NO MEMORY IS AVAILABLE FOR CREATING THE TRUNK GROUP
 F06: CANNOT DELETE TGRP <xxx> SINCE IT IS ALLOCATED TO AT LEAST ONE ROUTE
 F07: TGRP <xxx> DOES NOT EXIST
 F08: CANNOT CHANGE TGRP <xxx> SINCE NOT ENOUGH MEMORY IS AVAILABLE TO EXTENT NUMBER OF TRUNKS (PARAMETER NO)
 F09: CANNOT CHANGE TGRP <xxx> SINCE IT IS ALLOCATED TO MORE TRUNKS THAN THE NUMBER ENTERED FOR PARAMETER NO
 F10: NO TRUNK GROUP FOUND
 F11: CANNOT DELETE TGRP <xxx> SINCE IT IS ALLOCATED TO S2-TRUNKS (REMOVE THE ALLOCATED S2-TRUNKS WITH AMO TDCSU)
 F13: CANNOT ADD/CHANGE TGRP <xxx> SINCE PARAMETER NO CAN NOT BE GREATER THAN MAXIMUM ALLOWED LODEN (AMO DIMSU)
 F14: not used
 F15: CANNOT ADD/CHANGE TGRP <xxx> SINCE NO MEMORY IS AVAILABLE FOR CC-DB
 F17: ACDTHRH <xxx> INVALID (NOT A NUMBER OR *)
 F18: ACDTHRH <xxx> NOT IN PERMISSIBLE RANGE FROM <xxx> TO <xxx>
 F19: CHANGING PRIONUM TO 0 IS ALLOWED FOR EMPTY TRUNK GROUPS ONLY
 F20: TRUNK NOT CONTAINED IN @@@@ @@@
 F21: CANNOT @@@@@@@@@@ A PRIMARY RATE ACCESS TRUNK FROM @@@@@ @@@
 F23: CANNOT @@@@@@@@@@ LAST TRUNK FROM @@@@@ @@@, SINCE THE TRUNK GROUP IS ALLOCATED TO AT LEAST ONE ROUTE
 F30: TRUNK DOES NOT EXIST
 F31: TRUNK IS ALREADY IN A TRUNK GROUP
 F32: @@@@@ @@@ IS NOT EMPTY, PLEASE USE TRUNK AMO
 F33: GDTRRULE DOES NOT EXIST.(AMO-DNIT)
 F34: CAN NOT CHANGE GDTRRULE, SINCE TRUNK EXIST IN THE TRUNK GROUP.
 (AMO-TACSU/TDCSU)
 F35: ACD PHONE MAIL GROUP NUMBER IS NOT VALID. CONFIGURED BY AMO-ACDGP
 F36: CAN NOT DELETE TRUNK GROUP , SINCE IT IS STILL REFERENCED BY AMO-DNIT. REMOVE THE ALLOCATED TRUNKS WITH AMO TACSU/TDCSU.

37.4.2 Advisories

H01: <action> TGRP <xxx> COMPLETED
 H02: PARAMETER NAME HAS MORE THAN 15 CHARACTERS.
 THE LAST CHARACTER WILL BE IGNORED FOR USAGE OF PARAMETER CHARCON.

37.4.3 Use of the Error Messages and Advisories for Each AMO Action

ADD H02	: F01, F02, F03, F04, F13, F15, F17, F18, F33, F35, H01,
DELETE	: F06, F07, F10, F11, F16, F36, H01
CHANGE H01	: F07, F08, F09, F10, F13, F15, F17, F18, F19, F33, F34,

BUEND - Trunk Groups

Error Messages and Advisories

DISPLAY : F07, F10

38 BWLST - Configuration of lists of "locked=black" or "unlocked=white" numbers

The description of this AMO is only available in html format!

39 CABA - Callback-Function of LDU FAMOS

Validity for Variants	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO CABA controls the *callback function of the LDU FAMOS* with the help of the CABA table.

This table contains passwords, symbolic processor names (description of the connection path) and the parameter CABA_ALLOWED. The AMO CABA is used to add, change, delete and display this CABA table. Input of the data is carried using the parameters:

- CABAPSW :

This password is used by the LDU FAMOS to ascertain the partner which desires a callback. It must be transferred to the LDU FAMOS upon request. FAMOS requests a CABA password from all connections initiated via a dial circuit as soon as there is at least one valid entry in the CABA table.

- PROCID :

PROCID contains a symbolic processor name which must be added to the CMS database. This symbolic processor name is used for the callback from Hicom to the SZ.

- CABA :

This parameter specifies whether the added partner may access the CABA table to write in it.

39.1 Validity for Variants

This AMO description is valid from ATLANTIC-R6.3

39.2 Interrelationships

AMO CPSM

The symbolic processor name set with the AMO CABA should be known in the CMS database (add using the AMO CPSM).

39.3 Functions of the AMO

- [ADD-CABA](#) : Add the CABA table
- [CHANGE-CABA](#) : Change single entries in the CABA table
- [DELETE-CABA](#) : Delete single entries or the entire CABA table
- [DISPLAY-CABA](#) : Display the CABA table
- [REGENERATE-CABA](#) : Regenerate the CABA table

39.3.1 ADD-CABA

CABAPSW, PROCID and CABA must be given. Following this, an entry is set up in the CABA table. If the specified password (CABAPSW) already exists in the CABA table, an error message is output. An error message also results when the maximum number of entries in the CABA table has been exceeded.

Procedure Overview

Command Code	Parameter
ADD-CABA	CABAPSW=<string>, PROCID=<string>, CABA=<param>;

Example

Add an entry in the CABA table with the password SZMCH and the symbolic processor name DVAPROC1 and callback class of service.

Input:

ADD-CABA:SZMCH,DVAPROC1,Y;

Output:

ADD-CABA:SZMCH,DVAPROC1,Y;
H500: AMO CABA STARTED
AMO CABA -... CALL - BACK
ADD COMPLETED;

39.3.2 CHANGE-CABA

Changes entries in the CABA table. At least the password and one other paramater must be given.

Procedure Overview

Command Code	Parameter
CHANGE-CABA	CABAPSW=<string>, {PROCID=<string>, CABA=<param>}

Examples

1. Deactivate callback class of service for an entry in the CABA table with the password SZMCH.

Input:

```
CHANGE-CABA:SZMCH,,N;
```

Output:

```
CHANGE-CABA:SZMCH,,N;
H500: AMO CABA STARTED
AMO CABA -... CALL - BACK
CHANGE COMPLETED;
```

2. Change the symbolic process name to DVAPROC2 for an entry in the CABA table with the password SZMCH.

Input:

```
CHANGE-CABA:SZMCH,DVAPROC2;
```

Output:

```
CHANGE-CABA:SZMCH,DVAPROC2;
H500: AMO CABA STARTED
AMO CABA -... CALL - BACK
CHANGE COMPLETED;
```

39.3.3 DELETE-CABA

Deletes an entry in the CABA table or deletes the entire table.

Procedure Overview

Command Code	Parameter
DELETE-CABA	TYPE=PSWD, CABAPSW=<string>;
	| TYPE=ALL;

Examples

1. Delete the entry with the password SZMCH from the CABA table.

Input:

```
DELETE-CABA:PSWD, SZMCH;
```

Output:

CABA - Callback-Function of LDU FAMOS

Functions of the AMO

```
DELETE-CABA:PSWD,SZMCH;
H500: AMO CABA STARTED
AMO CABA -... CALL - BACK
DELETE COMPLETED;
```

2. Delete the entire CABA table.

Input:

```
DELETE-CABA:ALL;
```

Output:

```
DELETE-CABA:ALL;
H500: AMO CABA STARTED
AMO CABA -... CALL - BACK
DELETE COMPLETED;
```

39.3.4 DISPLAY-CABA

Display is used to output the entire contents of the current CABA table.

Procedure Overview

Command Code	Parameter
DISPLAY-CABA	;

Example

Output all entries from the current CABA table.

Input:

```
DISPLAY-CABA;
```

Output:

```
DISPLAY-CABA;
H500: AMO CABA STARTED

CALL-BACK-TABLE FOR REMOTE-AMO-START ( LDU FAMOS )
=====
+=====+=====+=====+
| CABAPSW | PROCID | CABA |
| (CABAPASSWORD) | (PARTNERPROC.) | (AMO CALLUP ALLOWED) |
+=====+=====+=====+
| SZMCH | DVAPROC2 | N |
+-----+-----+-----+
| SZZUE | DVAPROC1 | Y |
+-----+-----+-----+

AMO CABA -... CALL - BACK
DISPLAY COMPLETED;
```

39.3.5 REGENERATE-CABA

Displays the entire contents of the current CABA table with output in command form for regeneration. Output is in the form of position-oriented commands. The first command is a delete command which deletes the entire CABA table.

Procedure Overview

Command Code	Parameter
REGENERATE-CABA	;

Example

Regenerate the entire CABA table

Input:

```
REGENERATE-CABA;
```

Output:

```
REGENERATE-CABA;
H500: AMO CABA STARTED
DELETE-CABA:ALL ;
ADD-CABA: "SZMCH" , "DVAPROC2" , N ;
ADD-CABA: "SZZUE" , "DVAPROC1" , Y ;
AMO CABA -... CALL - BACK
DISPLAY COMPLETED;
```

39.4 Parameter Description

CABA	AMO CABA callup allowed
Type of Input	: Single value mandatory (ADD) group parameter (CHANGE)
Possible Values	: Y, N
PROCID	identification of EDP processor
Type of Input	: Single value mandatory (ADD) group parameter (CHANGE)
Possible Values	: alphanumeric (max. 8 characters)
TYPE	delete/display option

CABA - Callback-Function of LDU FAMOS

Error Messages and Advisories

	Type of Input	: Single value	
		mandatory	(DELETE)
	Possible Values	: PSWD, ALL	
CABAPSW	password for call-back function		
	Type of Input	: Single value	
		mandatory	(ADD, CHANGE)
		group parameter	(DELETE)
	Possible Values	: alphanumeric (max. 8 characters)	

39.5 Error Messages and Advisories

39.5.1 Error Messages

F01: PASSWORD @@@@@@@@ ALREADY IN CABA TABLE
F02: PASSWORD @@@@@@@@ NOT IN CABA TABLE
F03: CABA TABLE FULL, NO MORE SPACE FOR NEW ENTRIES

39.5.2 Advisories

H01: HOST PROCESSOR @@@@@@@@ NOT KNOWN IN CMS - DB
H02: NO VALID ENTRIES IN CABA TABLE

40 CDBR - Customer Data Backup and Restore

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelations	Parameter Description	

The function of AMO CDBR is to save the configured customer data to a Hicom storage device, like hard disk, cartridge (CT), digital audio tape (DAT) or flash memory (FM). The BS2000 magnetic tape (MT) is not supported. This backup can be done periodically (routine backup) or with an explicit AMO order.

The internal function of the AMO is in that way, that it starts AMO REGEN to save the configuration data to the harddisk. In the next step this resultfile is compressed (when compression type is not none) and copied to the desired device by using AMO COPY. In case of device :NULL: only AMO REGEN will be executed.

The function of parameter 'restore' is to regain the saved data out of the compressed backup file back to the REGEN resultfile. To generate a new customer database, you have to use AMO GENDB.

Following items can be changed using AMO CDBR:

- Filename including directory path
- Data compression type
- Date/time and repetition intervall for routine backup
- Routine backup activated or deactivated

After first time installation of a Hicom APS the routine backup is deactivated and must be configured with the CHANGE command of AMO CDBR.

Because of the internal execution of AMO-VEGAS during a CDBR backup, all processors must be configured with an identical and valid system number.

For explicit backup you have the option to select a specific Hicom module, while at routine backup always the complete system is saved.

An explicit backup or restore can be cancelled via system logon by using the BREAK command.

In case of a restart during routine backup the routine backup is started again after restart is finished. A explicit backup is not started again in case of a restart.

This description is valid from SP300 E V 3.0.

- AMO REGEN : Regenerate customer data from the database
- AMO GENDB : Generation of database
- AMO VEGAS : Administration of database generation runs on support system

- EXEC-CDBR : Explicit start of backup or restore
- CHANGE-CDBR : configuration, change, activation and deactivation of routine backup
- DISPLAY-CDBR : Display current status of CDBR
- REGENERATE-CDBR : Regenerate AMO-CDBR command out of the configured CDBR parameters

Explicit start of backup or restore function.

If an optional parameter is not entered, the backup or restore is executed with the pre-configured values of this parameter. You can abort the started backup or restore by using the BREAK command.

Command Code	Parameter
EXEC-CDBR	|ACTION=BACKUP, [MODULE=<param>], [COMP=<param>] , [DFILE=<string>]; |ACTION=RESTORE, [SFILE=<string>];

Examples

1. Backup of SWU customer data in uncompressed format.

Input:

```
EXEC-CDBR:BACKUP,SWU,NONE;
```

< Output messages of AMO VEGAS, AMO REGEN und AMO COPY >

2. Restore of the saved customer data

Input:

```
EXEC-CDBR:RESTORE,";PAS:TESTFILE";
```

```
H01: INPUTFILE FOR AMO-GENDB: ";PAS:CDBR/R/RESULT"
```

40.3.2 CHANGE-CDBR

Configuration or change of the CDBR parameters. This is activation or deactivation of the routine backup, backupfile, compression type, date and time for routine backup and repetition interval.

Procedure Overview

Command Code	Parameter
CHANGE-CDBR	ACTIVE=<param>, DFILE=<param>, COMP=<param> , YEAR=<param>, MONTH=<param>, DAY=<param> , HOUR=<param>, MIN=<param> , REPTYPE=<param>, REPINT=<param>;

Examples

1. Configuration and activation of a weekly routine backup.

Input:

```
CHANGE-CDBR:Y,";PAS:TESTFILE",BINARY,1992,11,1,17,30,DAY,7;
```

2. Deactivation of the routine backup

Input:

```
CHANGE-CDBR:N;
```

40.3.3 DISPLAY-CDBR

Display of the current CDBR status.

Procedure Overview

Command Code	Parameter
DISPLAY-CDBR	;

Example

Display of the configured CDBR parameters

Input:

DISPLAY-CDBR;

Output:

```
+----- Customer Data Backup & Restore -----+
| ROUTINE BACKUP      :  DEACTIVATED - BY STATISTIC-ORDER  |
| DESTINATION-FILE    :  :AMD:TESTFILE                     |
| COMPRESSION         :  BINARY                             |
| DATE: 11/01/1992    TIME: 17-30-00  REP-TYPE: DAY        REP-INTERVAL: 7 |
| CURRENT PHASE       :  EXPLICIT RESTORE                   - DECOMPRESSION PHASE |
+-----+
| LAST ACTION        :  CDBR_EXPLICIT_BACKUP                |
| LAST PHASE         :  CDBR_COMPRESS_PHASE                 |
| DATE & TIME        :  1997-05-22 17:24:34                 |
+-----+
```

Overview Over Outputtexts

STATE	:	ACTIVATED	
		DEACTIVATED	- AFTER INSTALLATION
			- BY AMO-ORDER
			- BY STATISTIC-ORDER
CURRENT PHASE	:	NONE	
		EXPLICIT BACKUP	- REGENERATION PHASE
			- COMPRESSION PHASE
			- BACKUP PHASE
		ROUTINE BACKUP	- REGENERATION PHASE
			- COMPRESSION PHASE
			- BACKUP PHASE
		EXPLICIT RESTORE	- RESTORE PHASE
			- DECOMPRESSION PHASE

40.3.4 REGENERATE-CDBR

Regeneration of the AMO command out of the configured CDBR parameters.

The configuration of the routine backup is displayed in form of an CHANGE-CDBR command with the current parameters.

These configuration data are read from the CDBR table.

Procedure Overview

Command Code	Parameter
REGENERATE-CDBR	;

Example

Regeneration of the CDBR data

Input:

REGENERATE-CDBR;

Output:

CHANGE-CDBR:Y," :PAS:TESTFILE",BINARY,1992,11,1,17,30,DAY,7;

40.4 Parameter Description

ACTION	CDBR-action to be executed		
	Type of input	: Single value, mandatory	
	Possible values	: BACKUP	= Customer-data backup
		RESTORE	= Customer-data restore
ACTIVE	Activation-switch for routine backup		
	Type of input	: Single value, optional	
	Possible values	: Y	= Yes, activate routine backup
		N	= No, do not activate routine backup
COMP	Type of data compression		
	Type of input	: Single value, optional	
	Possible values	: NONE	= Data-compression off
		ASCII	= Data-compression of character level
		BINARY	= Data-compression binary

CDBR - Customer Data Backup and Restore

Parameter Description

	Default value	: Value of CDBR table
DAY	Date-day	
	Type of input	: Single value, optional
	Possible values	: 1-31
	Default value	: Current day
DFILE	Destination-file including directory-path	
	Type of input	: Single value, optional
	Possible values	: Valid DMS filename
	Default value	: Filename configured in CDBR table
HOURL	Time-hour	
	Type of input	: Single value, optional
	Possible values	: 0-23
	Default value	: 2
MIN	Time-minute	
	Type of input	: Single value, optional
	Possible values	: 0-59
	Default value	: 0
MODULE	System Unit	
	Type of input	: Single value, optional
	Possible values	: ADS = Administration and data server SWU = Switching unit ALL = All modules
	Default value	: ALL
MONTH	Date-month	
	Type of input	: Single value, optional
	Possible values	: 1-12
	Default value	: Current month
REPINT	Repetition interval	
	Type of input	: Single value, optional
	Possible values	: 1-99
	Default value	: 1

REPTYPE	Unit of repetition
Type of input	: Single value, optional
Possible values	: HOUR = Repetition-unit hour DAY = Repetition-unit day MONTH = Repetition-unit month
Default value	: DAY
SFILE	Source-file including directory-path
Type of input	: Single value, optional
Possible values	: Valid DMS filename, max. of 32 positions
Default value	: Filename configured in CDBR table
YEAR	Date-year
Type of input	: Single value, optional
Possible values	: 1992-2099
Default value	: Current year

40.5 Error Messages and Advisories

40.5.1 Error Messages

F01: OVERLAY IS IN USE
F02: OVERLAY LOAD ERROR
F03: OVERLAY INIT ERROR
F04: USER-TASK LOGON FAILURE
F05: AMC LOGON FAILURE
F06: START OF AMO-VEGAS NOT SUCCESSFUL
F07: ERROR AT DATA REGENERATION
F08: ERROR AT DATA COMPRESSION
F09: ERROR AT DATA DECOMPRESSION
F10: RESERVE TAPE ERROR
F11: RELEASE TAPE ERROR
F12: DMS ERROR
F13: ERROR WHILE COPYING DATA
F14: DEVICE <device> DOES NOT EXIST
F15: NAME <device> IS SYNTACTICALLY NOT CORRECT
F16: INVALID FILENAME
F17: INVALID SYSTEM-NO
F18: INVALID SET-VALUE

Explanations:

<device> Devicename of the parameter DFILE or SFILE

40.5.2 Advisories

H01: INPUTFILE FOR AMO-GENDB: ":PAS:CDBR/R/RESULT"
H02: CDBR BREAK-ORDER PENDING
H03: CDBR-FUNCTION ABORTED
H04: CDBR-FUNCTION NOT ABORTED

40.5.3 Usage of the Output Messages for Each Action

EXEC	:	F01,	F02,	F03,	F04,	F05,	F06,	F07,	F08,	F09,	F10,	F11,	F12,	F13,	F14,	F15,	F16,	F17,	F18,	H01,	H02,	H03,	H04
CHANGE	:	F01,	F02,	F03,	F04,	F05,	F06,	F07,	F08,	F09,	F10,	F11,	F12,	F13,	F15,	F16,	F18,	H01,	H02,	H03,	H04		
DISPLAY	:	F18																					
REGENERATE	:	F18																					

41 CDSM - Cabinet Configuration Display of System Server

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

This AMO is used to to output the cabinet configuration of a system - cabinet data, module frame data, and data of the server modules in the form of a table.

The cabinet is addressed by means of its cabinet address.

Description of the cabinet address:

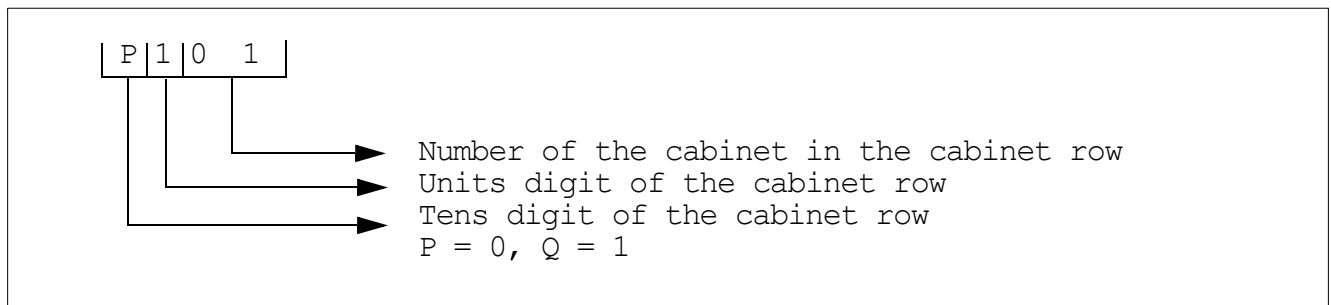


Figure 1 Cabinet Address

Output form

```

CABINET ADDRESS      : aaaa
CABINET TYPE         : bbbbbbbb
CODE NUMBER          : ccccccccc

SHELF                : d
FRAME TYPE           : eeeeeeee      ff
CODE NUMBER          : gggggggggg

```

PEN	CURR. MOD.	HW ABB	STATUS	FIRMWARE	
jjj	kkkk	1111	m	nnnn	resp

HW ADDRESS	CURR. MOD.	HW ABB	STATUS	FIRMWARE
[hh.ii.]jjj	kkkk	1111	m	nnnn

Figure 2 Output Form

Description of the variables:

aaaa:	Cabinet row, cabinet number (e.g. P101)
bbbb:	cabinet type examples for Hicom 370: CABB Basic cabinet CABE Expansion cabinet CABIS Server cabinet CABM1 Main distribution frame cabinet 1 CAB600C Basic cabinet CAB600C1 Expansion Cabinet CaB600C2 Expansion Cabinet CABCS Server cabinet examples for Hicom 390: CABC Central cabinet CABC1 Central cabinet 1 CABC2 Central cabinet 2 CABP Periphery cabinet CABIS Server cabinet CABM1 Main distribution frame cabinet 1 CABM2 MDF cabinet CABD Device cabinet CABCS Server cabinet
cccc:	2nd, 3rd and 4th block of the cabinet part code number
d:	Shelves 1 - 7
eeee:	shelf types for example: LTUS Line trunk unit PS Power supply CC600 Common control FUSE Fuse panel CCM Common control multiprocessing IOC-CSN Central switching network GP Group processor

DAE Remote data transmission
 ISE Integrated server expansion
 MH Remote data transmission
 DS Hard disk
 AD AD server
 VM Voice mail server
 TD Text data module

ff: for LTU : 1 - 15 LTU number
 for IOC-CSN : 1 - 4 CSN number
 for CC : half (A or B)
 for server module : server id (A1, V1-V3, T1-T3)
 gggg: 2nd, 3rd and 4th block of the shelf part code number

 hh: LTG number 1 - 32 (output only for PSIO)

 i: LTU number 1 - 8 (output only for PSIO)

 jjj: Port equipment number 1 - 127

 kkkk: Module in expected configuration, 2nd and 3rd block of code number

 llll: Module abbreviation (e.g. SLMA)

 m: Module status 1 - 16

 nnnn: Firmware designation

41.1 Restrictions

This description is valid from SP300-V3.4

41.2 Interrelationships

- AMO BCSM : Configuration of server modules
- AMO CDSU : Interrogate cabinet conf. and CC conf.

- AMO CONSY : Cabinet and Frame Configuration of System

41.3 Functions of the AMO

- DISPLAY-CDSM : Interrogate the cabinet configuration

41.3.1 DISPLAY-CDSM

Interrogate cabinet configuration and module configuration of the servers

Output is done in form of a table

Note

The AMO CDSM has the function DISPLAY-CDSU only.

Procedure Overview

Command Code	Parameter
DISPLAY-CDSM	[ADR=<string>], [SHELF=<number>];

Examples

1. Interrogate shelf 2 in cabinet P205

Input:

DISPLAY-CDSM:P205,2;

Output:

```
CABINET ADDRESS: P205
CABINET TYPE    : CABB
CODE NUMBER     : G5208-X

SHELF           : 2
FRAME TYPE      : LTU      1
CODE NUMBER     : B5307-X
```

2. Display shelf 7 in cabinet P205

Input:

DISPLAY-CDSM:P205,7;

Output:

CDSM - Cabinet Configuration Display of System Server

Functions of the AMO

CABINET ADDRESS: P205
CABINET TYPE : CABB
CODE NUMBER : G5208-X

SHELF : 7
FRAME TYPE : AD A1
CODE NUMBER : B5301-X

PEN	CURR. MOD.	HW ABB	STATUS	FIRMWARE
1	Q2011-X	1 LCU	1	B064-C
13	Q2011-X	1 LCU	1	B064-C
25	Q2011-X	1 LCU	1	B064-C
31				
38	Q2090-X	LBC	1	0000-0
44	Q2020-X	MAC	1	-----
50	Q2006-X	M2M	1	
56				
62	Q2149-X	DPML	1	0000-0
71	Q2103-X	IP	1	B062-E
80	Q2055-X	IOPS	1	0000-0
87				
101				
112				

3. Interrogate CAB80CM with PSIO at PEN 60 on CC80 base shelf

Input:

DISPLAY-CDSM:P101;

Output:

CABINET ADDRESS: P101
CABINET TYPE : CAB80CM
CODE NUMBER : G5283-X

SHELF : 1
FRAME TYPE : CC80 A1
CODE NUMBER : B5338-X

HW ADDRESS	CURR. MOD.	HW ABB	STATUS	FIRMWARE
33	Q2210-X100	DM80M24	1	0000-0
1. 1. 60	Q2139-X	PSIO	0	B047-D

SHELF : 2
FRAME TYPE : LTUSC 2
CODE NUMBER : B5328-X

4. Interrogate CAB80CM with PSIO at PEN 19 on extension shelf

Input:

DISPLAY-CDSM:P101;

Output:

CABINET ADDRESS: P101
CABINET TYPE : CAB80CM
CODE NUMBER : G5283-X

CDSM - Cabinet Configuration Display of System Server

Parameter Description

SHELF	: 1				
FRAME TYPE	: CC80		A1		
CODE NUMBER	: B5338-X				
| HW ADDRESS |	CURR. MOD.	HW ABB	| STATUS |	FIRMWARE |	
+-----+-----+-----+-----+-----+					
| 33 |	Q2210-X100	DM80M24	| 1 |	0000-0 |	
SHELF	: 2				
FRAME TYPE	: LTUSC		2		
CODE NUMBER	: B5328-X				
| HW ADDRESS |	CURR. MOD.	HW ABB	| STATUS |	FIRMWARE |	
+-----+-----+-----+-----+-----+					
| 1. 2. 19 |	Q2139-X	PSIO	| 0 |	B047-D |	

41.4 Parameter Description

ADR	Cabinet address
Type of Input	: Single value, optional
Possible Values	: Cabinet addresses (4-digit, alphanumeric)
Default Value	: all cabinets in the system
SHELF	Specification of the shelf
Type of Input	: Single value, optional
Possible Values	: 1 - 7
Default Value	: 1&&7

41.5 Error Messages and Advisories

41.5.1 Error Messages

- F01: LOADING OF SUBSYSTEM "UBGDAT00" NOT POSSIBLE
- F02: CABINET ADDRESS FORMAT INVALID
- F03: DATA FOR CABINET: @@@@ NOT AVAILABLE IN CABINET TYPE FILE
- F04: DATA FOR FRAME: @@@@ NOT AVAILABLE IN FRAME TYPE FILE
- F05: CABINET TYPE FILE ":PDS:APSU/CBDAT00" NOT EXISTING
- F06: F06: FRAME TYPE FILE ":PDS:APSU/FRDAT00" NOT EXISTING

41.5.2 Advisories

H01: NO CABINET ASSIGNED
H02: CABINET ADDRESS NOT AVAILABLE
H03: SHELF @ NOT ASSIGNED
H04: MODULE DATA NOT READABLE - SERVER NOT READY FOR OPERATION

42 CDSU - Cabinet Display System

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

This AMO is used to output the cabinet configuration of a system - cabinet data, module frame data, and data of the SWU-CC modules - in the form of a table or position-oriented commands for compiling a diagram by means of a PC program.
The cabinet is addressed by means of its cabinet address.

Description of the Cabinet Address

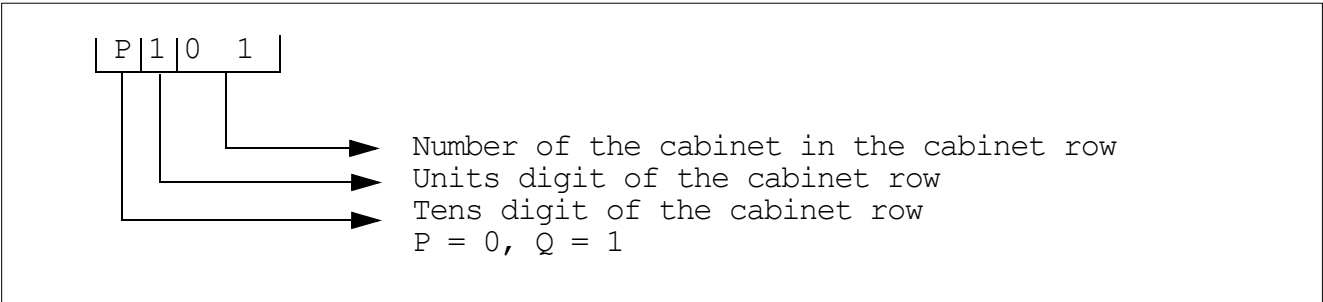


Figure 3 Cabinet Address

Output Form

CABINET ADDRESS	:	aaaa
CABINET TYPE	:	bbbbbbbbb
CODE NUMBER	:	cccccccccc
SHELF	:	d
FRAME TYPE	:	eeeeeeeeee f
CODE NUMBER	:	ggggggggggg

PEN	CURR. MOD.	HW ABB	STATUS	FIRMWARE
hhh	iiii	jjjj	k	llll

Figure 4 Output Form

Description of the variables:

aaaa:	Cabinet row, cabinet number (e.g. P101)
bbbb:	cabinet type examples for Hicom 370: CABB Basic cabinet CABE Expansion cabinet CABIS Server cabinet CABM1 Main distribution frame cabinet 1 CAB600C Basic cabinet CAB600C1 Expansion cabinet 1 CAB600C2 Expansion cabinet 2 CABCS Server cabinet examples for Hicom 390: CABC Central cabinet CABC1 Central cabinet 1 CABC2 Central cabinet 2 CABP Periphery cabinet CABS Server cabinet CABM1 Main distribution frame cabinet 1 CABM2 MDF cabinet CABD Device cabinet CABCS Server cabinet
cccc:	2nd, 3rd and 4th block of the Cabinet part code number
d:	Shelves 1 - 7
eeee:	shelf types for example: LTUS Line trunk unit PS Power supply CC600 Common control FUSE Fuse panel CCM Common control multiprocessing IOC-CSN Central switching network GP Group processor

DAE Remote data transmission
ISE Integrated server expansion
MH Remote data transmission
DS Hard disk
AD AD server
VM Voice mail server
TD Text data module

f: for LTU : 1 - 6 LTU number
for IOC-CSN : 1 - 4 CSN number
for CC : half (A or B)
for server module : server slice (A1, V1-V3, T1-T3)
gggg: 2nd, 3rd and 4th block of the Shelf part code number

hhh: Port equipment number 1 - 127

iiii: Module in expected configuration, 2nd and 3rd block of code number

jjjj: Module abbreviation (e.g. SLMA)

k: Module status 1 - 16

llll: Firmware designation

42.1 Restrictions

This description is valid from SP300-V3.1

42.2 Interrelationships

- AMO BCSU : Board Configuration, Switching Unit
- AMO CDSM : Cabinet Configuration Display of System Server
- AMO CONSY : Cabinet and Frame Configuration of System

42.3 Functions of the AMO

- **DISPLAY-CDSU** : Interrogate the cabinet configuration

42.3.1 DISPLAY-CDSU

Interrogate the cabinet configuration and module configuration of the CC

Output is done in form of a table

Note

- The AMO CDSU has the function DISPLAY-CDSU only.

Procedure Overview

Command Code	Parameter
DISPLAY-CDSU	[ADR=<string>], [SHELF=<number>];

Examples

1. Interrogate shelf 2 in cabinet P205

Input:

DISPLAY-CDSU:P205,2;

Output:

```
DISPLAY-CDSU:P205,2;
H500: AMO CDSU  STARTED

CABINET ADDRESS: P205
CABINET TYPE    : CABB
CODE NUMBER     : G5208-X

SHELF           : 2
FRAME TYPE      : LTU      1
CODE NUMBER     : B5307-X

AMO-CDSU -... CABINET DISPLAY SYSTEM
DISPLAY COMPLETED;

Display shelf 5 in cabinet P205

Input:

DISPLAY-CDSU:P205,5;

Output:
```

DISPLAY-CDSU:P205,5;
H500: AMO CDSU STARTED

CABINET ADDRESS: P205
CABINET TYPE : CABCl
CODE NUMBER : G5204-X

SHELF : 5
FRAME TYPE : CCM (A)
CODE NUMBER : B5315-X

PEN	CURR. MOD.	HW ABB	STATUS	FIRMWARE
1	Q2004-X	MBU	1	ABCD-F
7	Q2149-X	DPML	2	B014-D
13				
19	Q2004-X	MBU	1	ABCD-F
25				
31				
37	Q2103-X	IP	1	A123-4
43				
49	Q2103-X	IP	1	A123-4
55				
61				
67				
73	Q2106-X	M8M		-
79				
85				
91				
97				
103				
109	Q2004-X	MBU	1	ABCD-F
115				
121	Q2004-X	MBU	1	ABCD-F

AMO-CDSU -... CABINET DISPLAY SYSTEM
DISPLAY COMPLETED;

42.4 Parameter Description

ADR	Cabinet address
Type of Input	: Single value, optional
Possible Values	: Cabinet addresses (4-digit, alphanumeric)
Default Value	: all cabinets in the system
SHELF	Specification of the shelf
Type of Input	: Single value, optional
Possible Values	: 1 - 7
Default Value	: 1&&7

42.5 Error Messages and Advisories

42.5.1 Error Messages

F01: LOADING OF SUBSYSTEM "UBGDAT00" NOT POSSIBLE
F02: CABINET ADDRESS FORMAT INVALID
F03: DATA FOR CABINET: @@@@@@@@ NOT AVAILABLE IN CABINET TYPE FILE
F04: DATA FOR FRAME: @@@@@@@@ NOT AVAILABLE IN FRAME TYPE FILE

42.5.2 Advisories

H01: NO CABINET ASSIGNED
H02: CABINET ADDRESS NOT AVAILABLE
H03: SHELF @ NOT ASSIGNED

42.5.3 Use of the Output Messages for Each Action

DISPLAY : F1, F2, F3, F4, H1, H2, H3

43 CGWB - Configuration of HG 3500 (CGW) Board

The description of this AMO is only available in html format!

44 CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The integrated executive/secretary arrangement is a special group configuration of system stations as executive, secretary stations and maybe some more representative stations. In one integrated arrangement are 4 executive, 2 secretary and for each secretary two more stations allowed. Only digital terminals e.g. Optiset E can be users of an integrated arrangement. Executive and secretary stations must not be configured as "DIGITE with no display" (*1).

Every integrated arrangement has a special group code, which can be 1 to 1000. The level will be fixed by AMO DIMSU.

Each executive and secretary station can only belong to one group. The stations with representative function can belong to more than one group. Secretary stations can also be used as representative stations. Secretary stations can also belong to one group without relation to an executive.

Secretary stations have to be signed as such by AMO SBCSU (SECR = Y).

Executive and secretary stations have to have special function key:

- Executive station
 - PU (call pickup) key for each executive
 - DSS (direct station select) key for the secretary
 - (and possibly for representative stations)
- Secretary station
 - PU key for each executive
 - DSS key for each executive
 - RNGXFER key (deactivation of secretarial intercept)
 - REP (secretarial transfer) key for each executive

In the database there are some standard key functions for executive and secretary stations for different terminals specified. With AMO SBCSU these function keys are configured for the terminals.

The standard function keys can be changed with AMO TAPRO and also can some new function keys be created.

The special function keys for integrated arrangements can not be programmed by the terminals.

Tone Ringing

The Hicom terminal (DIGITE) usually has a single tone ringing (one frequency). Ring discrimination for calls between the executive and the secretary is implemented by means of special ring cadences which are administerable. (parameter MULTN)

Delayed Notification Ringing

Where calls are signalled simultaneously e.g. to executive and secretary, an acoustic notification is normally applied after a predetermined (AMO parameter) delay. The notification to be applied can be a single or multiple burst, the burst being applied either only when the station is in the idle state, in all states, or not at all.

Additional Features

Additional special features are created by means of other AMOs:

- An executive station has a secrete directcall phonenummer. Calls on these second number, will not be transfered to the secretary station. This is managed by AMO SA with a code, which is the same as the secrete phonenummer.
- Secondary stations are possible. AMO AUN defines these secondary telephones for executive and secretary stations.
- Call Forwarding (FWD) and Ring No Answer (RNA): The call is routed to a Voice Mailbox specified by AMO CHESE. Possible values are:
 - NONE: The call for the appropriate executive is not routed for FWD and RNA to any mailbox.
 - EXEC: The call for the appropriate executive is routed for FWD and RNA into the executive's mailbox.
 - SECR: The call for the appropriate executive is routed for FWD and RNA into the secretary's mailbox.

The setting is assigned to a specific executive and becomes effective if

- the intercept key is not activated (executive is not intercept destination) and
- the Voice Mailbox is activated as FWD/RNA-destination for the executive

An activated deputy secretary does not affect this feature. An activated FWD-All-Calls is given preference.

44.1 Interrelationships

- AMO DIMSU : Dimensioning of features, Switching Unit
- AMO TAPRO : Key programming
- AMO SA : Hunting arrangements
- AMO AUN : Call pickup groups
- AMO ZIEL : Destinations for various station features
- AMO SBCSU : Creation of stations. Secretary stations have to be marked separately.
- AMO SSCSU : Creation of special subscribers
- AMO KCSU : Creation of keyset subscribers
- AMO SDAT : Subscriber data and attributes

44.2 Functions of the AMO

- **ADD-CHESE** : Create an integrated executive/secretary arrangement
- **CHANGE-CHESE** : Change an integrated executive/secretary arrangement
- **DELETE-CHESE** : Cancel an integrated executive/secretary arrangement
- **DISPLAY-CHESE** : Interrogate an integrated executive/secretary arrangement
- **REGENERATE-CHESE** : Regenerate an integrated executive/secretary arrangement

44.2.1 ADD-CHESE

This function allows to create a complete integrated arrangement consisting 1 to 4 executive, 2 secretary and 2 more stations with representative function.

The sequence of executive and secretary station phonenumbers and the parameter ALLOC fixes the relations between executive and secretary stations.

For all station numbers (executive, secretary, representative) dummy numbers (000000) may be entered. The meaning of these numbers is to reserve space, i.e. the affected spot in the integrated arrangement remains free. So any configuration can be generated by one ADD command.

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Functions of the AMO

The sequence of the numbers of representative stations is important to find the relations to the first and second secretary phonenumbers. If it is necessary to give the second secretary a representative station, then one must enter a dummy-number (000000) for the first representative station.

It is rejected, if a number of a hunting group master is entered as executive or representative station number.

Radio connected stations (CMI, AMO SBCSU)) and special subscribers configured by AMO SCSU, are rejected as members of executive/secretary arrangements.

Keyset subscribers are rejected as executive or secretary but allowed as representative.

Subscribers with "Automatic Call Distribution" attribute AGENT are rejected as executive. Subscribers with at least one of the ACD attributes AGENT, SUPER, AUTOLOG or CAF are rejected as secretary.

The parameters MBOX1 to MBOX4 are correlated to the executive station numbers defined in parameter EXEC.

Subscribers that are ONS members can not be assigned as a CHESE member.

Procedure Overview

Command Code	Parameter
ADD-CHESE	[GRNO=<number>], EXEC=<number>, SECR=<number>
	, [ALLOC=<param>], [MULTN=<param>], [REP=<number>]
	, [NOTRNG=<param>], [MBOX1=<param>], [MBOX2=<param>]
	, [MBOX3=<param>], [MBOX4=<param>;

Example

Create an integrated executive/secretary arrangement belonging to groupnumber 20 and with two executives, two secretaries, and with multi-tone ringing. Each executive is assigned to a separate secretary. Secretary 2 is assigned a deputy secretary. The executives are added as executive 1 and executive 3.

Input:

```
ADD-  
CHESE:GRNO=20,EXEC=4700&000000&4710,SECR=4705&4715,ALLOC=E1S1&E3  
S2 ,MULTN=Y,REP=000000&6115,MBOX1=SECR,MBOX3=NONE;
```

It is not necessary to specify MBOX3 in this example because NONE is the default value.

44.2.2 CHANGE-CHESE

The following changes are possible:

1. Add station (executive, secretary, deputy secretary), or change the allocation/assignment of secretaries to executives
2. Executive number
3. Secretary number
4. Executive SLK Label
5. Secretary SLK Label
6. Multi-tone ringing
7. Notification burst after preset delay
8. Voice Mailbox

Depending on the requirements, case 1 above results in the following actions being necessary:

	Secretary already entered in the executive/secretary arrangement	Secretary not yet entered in the executive secretary arrangement
Executive already entered in the exec/secr system	1. Executive is not yet assigned to the secretary: delete old allocation enter new allocation 2. Executive is already assigned to the secretary: no change	Enter secretary Delete old allocation Enter new allocation Possible error messages: Number of secretaries > 2
Executive not yet entered in the exec/secr system	Enter executive Enter allocation Possible error messages: Number of executives > 4	Enter executive Enter secretary Enter allocation Possible error messages: Number of executives > 4 Number of secretaries > 2
Executive not specified in command	No change	Enter secretary Possible error messages: Number of secretaries > 2

- When a deputy secretary is specified, old entries are overwritten only if the secretary already entered is not active.
Changes in the hierarchical relationships are not permitted (e.g., an executive cannot become a secretary).
- If one of the specified stations is already a member of another executive/ secretary arrangements, the job is rejected (with the exception of deputy secretaries).

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Functions of the AMO

- When stations are changed (OLD ---> NEW), the existing activations of the old station (RNGXFER for executive or REP for secretary) are reset.
- As a NEWEXEC or Representative station number it is not allowed to enter a number of a hunting group master.
- Radio connected stations (CMI, AMO SBCSU)) and special subscribers configured by AMO SSCSU, are rejected as EXEC, NEWEXEC, SECR, NEWSECR and REP.
- Keypad subscribers are rejected as EXEC, NEWEXEC, SECR, NEWSECR.
- Subscribers with "Automatic Call Distribution" attribute AGENT are rejected as EXEC and NEWEXEC. Subscribers with at least one of the ACD attributes AGENT, SUPER, AUTOLOG or CAF are rejected as SECR and NEWSECR.
- Subscribers that are ONS members can not be assigned as a CHESE member.

Procedure Overview

Command Code	Parameter
CHANGE-CHESE	GRNO=<number>
	,TYPE=ADDSTN,[EXEC=<number>],SECR=<number>
	,[REP=<number>]; (1)
	|,TYPE=EXEC,OLDEXEC=<number>
	,NEWEXEC=<number>; (2)
	|,TYPE=SECR,OLDSECR=<number>
	,NEWSECR=<number>; (3)
	|,TYPE=EXECSLK,EXEC=<number>,KEY=RU1
	|,[SLKTYPE=SLKSTNO];
	|,[SLKTYPE=SLKNAME];
	|,[SLKTYPE=SLKTEXT,SLKTEXT=<param>; (4)
	|,TYPE=SECRSLK,SECR=<number>,KEY=<param>
	|,[SLKTYPE=SLKSTNO];
	|,[SLKTYPE=SLKNAME];
	|,[SLKTYPE=SLKTEXT,SLKTEXT=<param>; (5)

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Functions of the AMO

Command Code	Parameter
	|,TYPE=MULTN,MULTN=<param>; (6)
	|,TYPE=NOTRNG,NOTRNG=<param>; (7)
	|,TYP=EXECATTR,EXEC=<number>,MBOX=<param>; (8)

Examples

Following integrated arrangement is configured:

GROUP NO.	:	1		
MULTITONE RING	:	Y		
NOTIFICATION RING	:	ON3		
EXEC	SECR	REP	MBOX	
3101	3103	3106	EXEC	
3110	3104	3103	NONE	
STNNO	KEY	SLKTYPE	SLKTXT	
3101	RNGXFER1	SLKSTNO		
3103	RNGXFER1	SLKSTNO		
3103	PUS1	SLKSTNO		

1. Executive 2 should also have secretary 1

Input:

CHANGE-CHESE:GRNO=1,TYPE=ADDSTN,EXEC=3110,SECR=3103;

Secretary 2 is after this change a second secretary:

GROUP NO.	:	1		
MULTITONE RING	:	Y		
NOTIFICATION RING	:	ON3		
EXEC	SECR	REP	MBOX	
3101	3103	3106	EXEC	
3110			NONE	
	3104	3103		
STNNO	KEY	SLKTYPE	SLKTXT	
3101	RNGXFER1	SLKSTNO		
3103	RNGXFER1	SLKSTNO		
3103	PUS1	SLKSTNO		

2. Secretary 2 now is to be related to an executive

Input:

CHANGE-CHESE:GRNO=1,TYPE=ADDSTN,EXEC=3112,SECR=3104;

following picture is now to see:

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Functions of the AMO

GROUP NO. : 1			
MULTITONE RING : Y			
NOTIFICATION RING : ON3			
EXEC	SECR	REP	MBOX
3101	3103	3106	EXEC
3110			NONE
3112	3104	3103	NONE
STNNO	KEY	SLKTYPE	SLKTXT
3101	RNGXFER1	SLKSTNO	
3103	RNGXFER1	SLKSTNO	
3103	PUS1	SLKSTNO	

3. the secretary phonenummer 3103 will be changed into 3105

Because this number also is entered as representative for secretary 2, one has to create two commands (the sequence is not important).

Input:

```
CHANGE-CHESE:GRNO=1,TYPE=SECR,OLDSECR=3103,NEWSECR=3105;  
CHANGE-CHESE:GRNO=1,TYPE=ADDSTN,SECR=3104,REP=3105;
```

new configuration:

GROUP NO. : 1			
MULTITONE RING : Y			
NOTIFICATION RING : ON3			
EXEC	SECR	REP	MBOX
3101	3105	3106	EXEC
3110			NONE
3112	3104	3105	NONE
STNNO	KEY	SLKTYPE	SLKTXT
3101	RNGXFER1	SLKSTNO	
3105	RNGXFER1	SLKSTNO	
3105	PUS1	SLKSTNO	

4. For FWD/RNA, the executives 3101 und 3110 want to assign the mailboxes of their secretaries.

Input:

```
CHANGE-CHESE:GRNO=1,TYPE=EXECATTR,EXEC=3101,MBOX=SECR;  
CHANGE-CHESE:GRNO=1,TYPE=EXECATTR,EXEC=3110,MBOX=SECR;
```

new configuration:

GROUP NO. : 1			
MULTITONE RING : Y			
NOTIFICATION RING : ON3			
EXEC	SECR	REP	MBOX
3101	3105	3106	SECR
3110			SECR

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Functions of the AMO

	3112	3104	3105	NONE
STNNO	KEY	SLKTYPE	SLKTEXT	
3101	RNGXFER1	SLKSTNO		
3105	RNGXFER1	SLKSTNO		
3105	PUS1	SLKSTNO		

5. Secretary is assigned to executive 3103.

Input:

```
CHANGE-
CHESE:GRNO=4,TYPE=EXEC SLK,EXEC=3101,KEY=RNGXFER1,SLKTYPE=SLKT
EXT,SLKTEXT= Secretary;
CHANGE-
CHESE:GRNO=4,TYPE=SECR SLK,EXEC=3103,KEY=RNGXFER1,SLKTYPE=SLKT
EXT,SLKTEXT= boss;
```

new configuration:

GROUP NO.	:	1		
MULTITONE RING	:	Y		
NOTIFICATION RING	:	ON3		
EXEC	SECR	REP	MBOX	
3101	3103	3104	EXEC	
3112			SECR	
3110	3104	3103	NONE	
STNNO	KEY	SLKTYPE	SLKTEXT	
3101	RNGXFER1	SLKTEXT	Secretary	
3103	RNGXFER1	SLKTEXT	boss	
3103	PUS1	SLKSTNO		

44.2.3 DELETE-CHESE

The following options exist for cancellations:

1. all integrated executive/secretary arrangements in a system
2. one integrated executive/secretary arrangements or individual station

Parameter EXEC, SECR or REP	AMO-Action
none	the whole group with GRNO will be deleted.
EXEC	executive will be deleted.
SECR	a secretary will be deleted, if no executive is in relation. A related representative secretary also will be deleted.
EXEC and SECR	executive and secretary will be deleted, if the secretary is related only to one executive A representative related to the secretary also will be deleted.

Table 5 Cancel integrated arrangements

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Functions of the AMO

Parameter EXEC, SECR or REP	AMO-Action
REP	rep. secretary will be deleted in those groups, where entered (max. two deletes possible).
REP and SECR or EXEC	rep. secretary will be deleted, where related to SECR (or to the secretary of EXEC)

Table 5 Cancel integrated arrangements

- If there is more than the minimum configuration (one EXEC and one SECR) in a group deleted, the whole group will be cancelled.
- A message is output where an implicit deletion has occurred.
- A representative secretary will only be cancelled, if it is deactivated.
- When an executive or a secretary is cancelled, the existing activations are reset.
- To cancel an integrated arrangement the users of an executive and the secretary stations have to be locked and afterwards unlocked.
- Mailbox assignments cannot be deleted. This function can be performed by a CHANGE-command with parameter MBOX=NONE.

Procedure Overview

Command Code	Parameter
DELETE-CHESE	TYPE=SYS; (1)
	| TYPE=GR, GRNO=<number>, [EXEC=<number>], [SECR=<number>]
	, [REP=<number>]; (2)

Examples

following arrangement exists:

+-----+ | GROUP NO. : 1 | MULTITONE RING : Y | NOTIFICATION RING : ON3 | | EXEC SECR REP MBOX | 3101 3103 3106 EXEC | 3110 3104 3106 NONE +-----+			
| STNNO	| KEY	| SLKTYPE	| SLKTXT
| 3101	| RNGXFER1	| SLKSTNO	|
| 3103	| RNGXFER1	| SLKSTNO	|
| 3103	| PUS1	| SLKSTNO	|
+-----+			

1. The representative station has to be deleted.

Input:

```
DELETE-CHESE:TYPE=GR,GRNO=1,REP=3106;
```

2. The representative station of secretary 3104 has to be deleted.

Input:

```
DELETE-CHESE:TYPE=GR,GRNO=1,SECR=3104,REP=3106;
```

or

```
DELETE-CHESE:TYPE=GR,GRNO=1,EXEC=3110,REP=3106;
```

44.2.4 DISPLAY-CHESE

1. Interrogate all integrated executive/secretary arrangements in a system
2. Interrogate one integrated executive/secretary arrangements
3. Interrogate individual stations to determine if they are members of an integrated executive/secretary arrangements

Because a station can simultaneously be a member of one executive/secretary system (secretary) and a representative secretary for another executive/secretary system, several different types of output are possible for (3).

When the system is interrogated, only created executive/secretary arrangements are output, i.e., negative acknowledgements are not output for executive/secretary systems that are not assigned. When individual stations are interrogated, all the data of the associated executive/secretary arrangements is output.

Procedure Overview

Command Code	Parameter
DISPLAY-CHESE	TYPE=SYS; (1)
	| TYPE=GR, GRNO=<number>; (2)
	| TYPE=STN, STNO=<number>; (3)

Example

Interrogate the integrated executive/secretary arrangements having group number 1.

Input:

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Parameter Description

```
DISPLAY-CHESE:TYPE=GR,GRNO=1;
```

Output:

+-----+-----+-----+-----+-----+				
|	GROUP NO.	:	1	|
|	MULTITONE RING	:	Y	|
|	NOTIFICATION RING	:	ON3	|
+-----+-----+-----+-----+-----+				
|	EXEC	SECR	REP	MBOX
|	3101	3103	3104	EXEC
|	3112			SECR
|	3110	3104	3103	NONE
+-----+-----+-----+-----+-----+				
|	STNNO	KEY	SLKTYPE	SLKTXT
|	3101	RNGXFER1	SLKSTNO	
|	3103	RNGXFER1	SLKSTNO	
|	3103	PUS1	SLKSTNO	
+-----+-----+-----+-----+-----+				

44.2.5 REGENERATE-CHESE

Procedure Overview

Command Code	Parameter
REGENERATE-CHESE	TYPE=SYS;
	| TYPE=GR,GRNO=<number> ;
	| TYPE=STN,STNO=<number>;

44.3 Parameter Description

- ALLOC

Allocation/assignment EXEC <-> SECR.

If no allocation is made in the parameter, that executive is assigned to the first secretary (or to the second, if a dummy number was entered for the first).

Type of Input : linked single values

maximum of 4 values permitted

optional

Possible Values : E1S1, E2S1, E3S1, E4S1, E1S2, E2S2, E3S2, E4S2
- EXEC

Executive station number

The sequence in which the values are entered is important for the allocation EXEC <-> SECR and EXEC <-> MBOX1 to MBOX4

CHESSE - Executive/Secretary Arrangements (Integrated arrangements)

Parameter Description

	Type of Input	: single values, optional (CHANGE, DELETE) single values, required (CHANGE, TYPE=EXECATTR) maximum of 4 linked single values, required (ADD)
	Possible Values	: 1-6 positions, decimal
GRNO	Number of the executive/secretary arrangements	
	Type of Input	: single value optional (ADD) required (CHANGE, DELETE, DISPLAY, REGENERATE)
	Possible Values	: 1 up to 1000
KEY	type of the key on the device	
	Type of Input	: single value required (CHANGE)
	Possible Values	RNGXFER1 for EXECCLK RNGXFER1, for SECRCLK RNGXFER2, RNGXFER3, RNGXFER4, PUS1, PUS2, PUS3, PUS4
MBOX	Mailbox for active FWD/RNA	
	Type of Input	single value required (CHANGE)
	Possible Values	NONE no mailbox assignment EXEC call routed into executive's mailbox SECR call routed into secretary's mailbox
MBOX1	Mailbox for active FWD/RNA for Executive 1 to 4	
MBOX2	Type of Input	single value
MBOX3		optional (ADD)
MBOX4	Possible Values	NONE no mailbox assignment EXEC call routed into executive's mailbox SECR call routed into secretary's mailbox
	Default Value	NONE
MULTN	Multi-tone ring for calls between the executive and the secretary	
	Type of Input	: single value optional (ADD)

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Parameter Description

		required (CHANGE)
	Possible Values	: Y, N
NEWEXEC	New executive station number	
	Type of Input	: single value, required
	Possible Values	: 1-06 positions, decimal
NEWSECR	New secretary station number	
	Type of Input	: single value, required
	Possible Values	: 1-06 positions, decimal
NOTRNG	Delayed notification tone ring	
	Type of Input	: single value, optional
	Possible Values	: NONE = no notification ON3 = with multiple burst notification in all states ONIDLE3 = multiple burst notification in idle state only ON1 = single burst notification in all states ONIDLE1 = single burst notification in idle state only
	Default Value	: ON3
OLDEXEC	Old executive station number	
	Type of Input	: single value, required
	Possible Values	: 1-6 positions, decimal
OLDSECR	Old secretary station number	
	Type of Input	: single value, required
	Possible Values	: 1-6 positions, decimal
REP	Representative or deputy secretary station number.	
	The sequence in which the values are entered is important for the allocation SECR <-> REP (ADD).	
	Type of Input	: single value, optional (CHANGE, DELETE) 1-2 linked single values, optional (ADD)
	Possible Values	: 1-6 positions, decimal
SECR	Secretary station number	
	The sequence in which the values are entered is important for the allocation EXEC <-> SECR.	
	Type of Input	: 1-2 linked single values, required (ADD)

		single value, required (CHANGE)
		single value, optional (DELETE)
	Possible Values	: 1-6 positions, decimal
SLKTEXT	SLK Text	
	Type of Input	: single value, mandatory
	Possible Values	: text string upto 12 characters = individual text
SLKTYPE	type of SLK	
	Type of Input	: single value, mandatory
	Possible Values	: SLKSTNO = display of subscriber number
		SLKNAME = display of subscriber name (from amo persi)
		SLKTEXT = display of individual text
STNO	Station number	
	Type of Input	: single value, required
	Possible Values	: 1-6 positions, decimal
TYPE	Branching parameter	
	Type of Input	: single value, required
	Possible Values	: ADDSTN, EXEC, SECR, EXEC SLK, SECR SLK, MULTN, EXECATTR (CHANGE)
		SYS, GR, STN (DISPLAY, REGENERATE)
		SYS, GR (DELETE)

44.4 Error Messages and Advisories

44.4.1 Error Messages

F01: FEATURE INTEGRATED EXECUTIVE/SECRETARY SYSTEM NOT RELEASED

F02: ADMISSIBLE GROUP NOS.: <xxxx> TO <xxxx>

F03: ALL EXECUTIVE/SECRETARY SYSTEMS ASSIGNED: MAX. <xxxx> GROUPS ADMISSIBLE

F04: NO EXECUTIVE/SECRETARY SYSTEMS ASSIGNED

F05: EXECUTIVE/SECRETARY SYSTEM ALREADY ASSIGNED

F06: EXECUTIVE/SECRETARY SYSTEM NOT ASSIGNED

F07: USER ADDRESSED IN PARAMETER ALLOC NOT SPECIFIED

F08: EXECUTIVE <xxxxxx> IS DOUBLY ASSIGNED

CHESE - Executive/Secretary Arrangements (Integrated arrangements)

Error Messages and Advisories

F09: SECR NOT SPECIFIED BY REP <xxxxxxx>

F10: REP <xxxxxxx> IS INCORRECTLY ALLOCATED

F11: EXECUTIVE <xxxxxxx> IS NOT ALLOCATED TO SECR <xxxxxxx>

F12: SECR <xxxxxxx> ALLOCATED TO SEVERAL EXECUTIVES

F13: SECR <xxxxxxx> IS ALLOCATED TO ONE OR MORE EXECUTIVES

F14: HUNTING GROUP: ONLY ONE SECRETARY ADMISSIBLE

F15: MAXIMUM OF <x> EXECUTIVES ADMISSIBLE

F16: MAXIMUM OF <x> SECRETARIES ADMISSIBLE

F17: STNO <stn1> IDENTICAL TO STNO <stn2>

F18: <stn> STATION NUMBERS SAME

F19: <stn> <xxxxxxx> NOT ENTERED IN EXECUTIVE/SECRETARY SYSTEM

F20: <stn> <xxxxxxx> ENTERED IN EXECUTIVE/SECRETARY SYSTEM

F21: <stn> <xxxxxxx> ENTERED IN OTHER EXECUTIVE/SECRETARY SYSTEM

F22: <stn> <xxxxxxx> NOT ENTERED AS EXECUTIVE

F23: <stn> <xxxxxxx> ENTERED AS EXECUTIVE

F24: <stn> <xxxxxxx> NOT ENTERED AS SECRETARY

F25: <stn> <xxxxxxx> NOT ENTERED AS REPRESENTATIVE

F26: <stn> <xxxxxxx> NOT PRESENT

F27: <stn> <xxxxxxx> NOT A STATION NUMBER

F28: <stn> <xxxxxxx> IS NOT A SUITABLE DIGITE

F29: INTERNAL TRAFFIC IS RESTRICTED BETWEEN <stn1> <xxxxxxx> AND <stn2>
<xxxxxxx>

F30: REP <xxxxxxx> NOT DEACTIVATED

F31: <stn> <xxxxxxx> INADMISSIBLE AS HUNTING GROUP MASTER

F32: <stn> <xxxxxxx> NO DEVICE ON THIS PORT

F33: <stn> <xxxxxxx> IS THE CURRENT ACTIVE REPRESENTATIVE OF ES SYSTEM:
<xxxx>

F34: ALL STN DATA MEMORIES FOR ES SYSTEM ALREADY OCCUPIED

F35: EXECUTIVE <xxxxxxx> AND SECR <xxxxxxx> MAY NOT BE MEMBERS OF SAME PU GROUP

F36: NUMBER OF ES GROUPS OR NUMBER OF ES STATIONS IS SET TO 0

F37: THERE ARE USERS CONCERNED BY THE DESIRED ACTION, WHICH ARE SECRETARY AS WELL AS REPRESENTATIVE OF THE SAME EXECUTIVE/SECRETARY SYSTEM. PLEASE DELETE ES SYSTEM AND CREATE IT AGAIN WITH MODIFIED CONFIGURATION.

F38: FOR <stn> AT LEAST ONE VALID ENTRY HAS TO BE MADE

F39: <stn> <xxxxxxx>: DIGITE WITH NO DISPLAY NOT ALLOWED
(PARAMETER DIGNODIS OF AMO SCSU/SBCSU)

F40: <xxxxxxx> IS A <amo> SPECIAL SUBSCRIBER WHICH IS NOT ALLOWED IN AN EXECUTIVE/SECRETARY ARRANGEMENT

F41: <stn> <xxxxxx> HAS SET THE ACD-ATTRIBUTE AGENT (AMO SDAT)
F42: <stn> <xxxxxx> HAS SET ONE OF THE ACD-ATTRIBUTES
AGENT, SUPER, AUTOLOG OR CAF (AMO SDAT)
F44: <stn> <xxxxxx> IS A KEYSSET STATION WHICH IS NOT ALLOWED AS EXECUTIVE
OR SECRETARY
F45: DIMSU PARAMETER FOR SLKTEXT MUST BE INCREASED
F46: ^tln^ ^tlnnu^ : RNGXFER KEY(S) WITH NO FUNCTION
F47: ^tln^ ^tlnnu^ IS NOT A MEMBER OF ES SYSTEM: ^grunu^
F48: ^tln^ ^tlnnu^ : RNGXFER KEY(S) WITH NO FUNCTION
F49: ^tln^ ^tlnnu^ : PUS KEY(S) WITH NO FUNCTION
F50: ONS GROUP MEMBERS CAN NOT BE ASSIGNED AS CHESE MEMBER.
F51: EXECUTIVE OR SECRETARY CAN NOT HAVE DOUBLE ENTRY.
F52: <xxxxxxxx> <xxxxxxxxxxxx> IS NOT SUITABLE DIGITE
F53: DEVICE <xxxxxxxxxxxx> CANNOT BE CONFIGURED AS EXECUTIVE BECAUSE IT IS UFIP.

44.4.2 Advisories

H01: <stn> <xxxxxx> : RNGXFER KEY(S) WITH NO FUNCTION
H02: <stn> <xxxxxx> : PUS KEY(S) WITH NO FUNCTION
H03: EXECUTIVE/SECRETARY SYSTEM ASSIGNED WITH GRNO: <xxxx>
H04: NO FURTHER EXECUTIVE ENTERED: EXECUTIVE/SECRETARY SYSTEM DELETED
H05: REPRESENTATIVE <xxxxxx> FOR SECR <xxxxxx> DELETED
H06: NO EXECUTIVE/SECRETARY SYSTEMS ASSIGNED
H07: <parameter>=<value> IGNORED, BECAUSE EXECUTIVE IS
NOT CONFIGURED
H08: ^tlnnu^ DEFAULT VALUE SLKTYPE=SLKSTNO HAS BEEN SET FOR ANY PUS RESP. RNGXFER
KEY AND CAN BE MODIFIED BY
CHANGE-CHESE:GRNO=^grunu^,TYPE=EXECSLK,... RESP.
CHANGE-CHESE:GRNO=^grunu^,TYPE=SECRSLK,...
H09: ^tln^ ^tlnnu^: ALTHOUGH SLKTYPE=SLKNAME IS SET, THE STATION NUMBER WILL BE
DISPLAYED ON THE LABEL INSTEAD AS LONG AS THE RESPECTIVE PERSI NAME ENTRY IS
NOT WELL DEFINED (E.G. NAME ENTRY DOES NOT EXIST YET/ANYMORE, NON-LATIN
CHARACTER CONVERSION USED, ETC.)
H10: ^tln^ ^tlnnu^ NO TERMINAL PLUGGED (YET) WITH SELF-LABELLING KEYS SUPPORT
H11: ^tlnnu^ DEFAULT VALUE SLKTYPE=SLKSTNO HAS BEEN SET FOR ANY RNGXFER KEY AND
CAN BE MODIFIED BY
CHANGE-CHESE:GRNO=^grunu^,TYPE=EXECSLK,... RESP.

Output Texts

<stn>,<stn1>,<stn2>	Station: EXEC, OLDEXEC, NEWEXEC, SECR, OLDSECR,
	NEWSECR, REP, STN
<xxxxxx>	Internal station number
<xxxx>	Group number
<x>	Number of executives or secretaries
<parameter>	MBOX1, MBOX2, MBOX3, MBOX4
<value>	NONE, EXEC, SECR
<amo>	SSCSU, SCSU or SBCSU
<limit>	Number of contracted executive/secretary stations

44.4.3 Use of Output Messages for Each Action

ADD	: F02, F03, F05, F07, F08, F09, F14, F17, F18 , F20, F21, F23, F26, F27, F28, F29, F31, F32, F33, F34, F35, F36, F38, F39, F40, F41, F42, F44, F50 H01, H02, H03, H07
CHANGE	: F06, F14, F15, F16, F17, F19, F20, F21, F22, F23, F24, F25, F26, F27, F28, F29, F30, F31, F32, F33, F34, F35, F36, F37, F39, F40, F41, F42, F44, F45, F46, F47, F48, F49, F50 H01, H02, H09 ,H10
DISPLAY	: F06, F19, F25, F26, F27, F40 H06
REGENERATE	: F06, F19, F25, F26, F27, F40 H07, H08
DELETE	: F04, F06, F10, F11, F12, F13, F19, F22, F24, F25, F30, F37, H04, H05

45 CLIMA - CLI Manipulation

The description of this AMO is only available in html format!

45.1 Configuration

Calls to a Domain will be routed to a specific trunk based on the configuration via AMO CLIMA.

With AMO CLIMA, a mapping table can be configured with a DOMAIN-NUMBER, where NUMBER represents a preconfigured trunk access code.

AMO LDPLN

- For the new DOMAIN table, a DOMAIN NUMBERING PLAN has to be configured.
- The 790 numbering plan in the LCR pool 8 will be reserved for the DOMAIN table.

```
ADD-LDPLN:LCRADM,790,8,20,"DOMAIN PATTERN PLAN";
```

NOTE: The 790 numbering plan in the LCR pool 8 is reserved for the DOMAIN table, therefore it must not be included by UPLOL in LDPLNS and LDPLN objects.

AMO CLIMA

- A new TABLE named DOMAIN has been added for domain mapping.
- The domain is mapped to a number which is a preconfigured trunk access code.
- The calls to a specific domain will be routed to the configured trunk according to the DOMAIN-NUMBER pair configured with AMO CLIMA.

```
ADD-CLIMA:DOMAIN,ATOS.NET,101;
```

```
// the Domain ATOS.NET will be routed to preconfigured trunk  
access code 101
```

```
<ADD-CLIMA
```

```
TABLE = ?
```

```
TABLE : TABLE TYPE
```

```
CHARACTERISTIC : REQUIRED CONDITIONAL
```

CLIMA - CLI Manipulation
Configuration

POSS. VALUES : DDI DDI TABLE
CLI CLI TABLE
DOMAIN DOMAIN TABLE

TABLE = DOMAIN

DOMAIN = ?

DOMAIN : DOMAIN; ALLOWED: 0..9,A-Z,A-Z,_,.,,

CHARACTERISTIC : REQUIRED

POSSIBLE VALUES : MAX. OF 63 POSITIONS

DOMAIN = ATOS.NET

NUMBER = ?

NUMBER : TRUNK ACCESS CODE

CHARACTERISTIC : REQUIRED

POSSIBLE VALUES : MAX. OF 22 POSITIONS

NUMBER = 101;

ADD-CLIMA:DOMAIN,ATOS.NET,101;

H500: AMO CLIMA STARTED

H04: DOMAIN HAS BEEN ADDED FOR DOMAINNO 6.

AMO-CLIMA-111 CLI MANIPULATION

ADD COMPLETED;

DIS-CLIMA:DOMAIN;

H500: AMO CLIMA STARTED

DOMAIN TABLE

DOMAINNO : 1
DOMAIN : ABA.COM
NUMBER : 100

DOMAINNO : 6
DOMAIN : ATOS.NET
NUMBER : 101

DOMAINNO : 7
DOMAIN : SIEMENS.COM
NUMBER : 102

AMO-CLIMA-111 CLI MANIPULATION

DISPLAY COMPLETED

NOTE: For more information regarding the configuration of SIP URI, please see OpenScape Solution Set V10, OpenScape SIP URI Configuration Guide, Administrator Documentation.

46 CLIST - List cyclic files

Restriction	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO CLIST serves to output files written cyclically by the FILE TASK.

Cyclic files are configured with AMO ASSGN. The difference between cyclic files and other files is the special file header structure. Cyclic organization means that when writing a file of limited length, the system returns to the beginning of file as soon as the file end is reached.

The old contents are then overwritten from the beginning.

In the Hicom system, C-files are filled with texts. These texts may be fault reports generated by the dependability system, text output from resident tasks (freerunning messages) or text output by AMOs. The AMO output function is confined initially to fault reports already processed by the MMI.

The main task of the AMO is to read text output from resident tasks (freerunning messages) and text output from AMOs.

The AMO HISTO is used to read the HTS-Histo file.

The name of the C-file must begin with "C-". The AMO assumes that the cyclic files are found on the :AMD: area (Configured by AMO ASSGN).

The AMO displays the text stored in the cyclic file line by line. Either the entire cyclic file or a specified number of lines can be displayed.

There is a paging function (forward) similar to that of the AMO LIST. After outputting a complete screen page, the AMO requests confirmation indicating whether output is to be continued or terminated, or whether all the remaining lines are to be output at once.

The oldest line may be incomplete. This is caused by the overwrite function of cyclic files. This line will be displayed too, but there is no guarantee that the line is complete.

46.1 Restriction

This description is valid from SP300-V3.3

46.2 Interrelationships

- AMO-ASSGN : Device Assignment
- AMO-HISTO : Read HTS History File

46.3 Functions of the AMO

- [START-CLIST](#) : Outputting cyclic files

46.3.1 START-CLIST

The Start action outputs the entire cyclic file.

If the parameter ADR is specified, output begins with this line. (If ADR=5 the output begins with the fifth oldest line.)

If the parameter LEN is specified, the number of lines specified by LEN will be displayed, beginning with the very oldest line in the cyclic file or after the number of lines defined by ADR.

Procedure Overview

Command Code	Parameter
START-CLIST	FILENAME=<string>, [ADR=<number>], [LEN=<number>] , [ANS=<PARAM>];

Examples

1. From the cyclic file C-File, display the 5 oldest lines.

Input:

START-CLIST:"C-FILE",,5,N;

Output:

```
+----- CUSTOMER DATA BACKUP & RESTORE -----+
|
| ROUTINE BACKUP      :  DEACTIVATED - BY AMO-ORDER
|
```

2. Display the entire cyclic file C-FILE.

Input:

START-CLIST:"C-FILE";

Output:

```
+-----+-----+
|
| ROUTINE BACKUP      :  DEACTIVATED - BY AMO-ORDER
|
| DESTINATION-FILE    :  :PAS:TESTFILE
|
| COMPRESSION         :  NONE
|
| DATE: 01/01/1993    TIME: 16-55-00  REP-TYPE: HOUR    REP-INTERVAL: 1
|
| CURRENT PHASE       :  NONE
|
+-----+-----+

F05: BST NOT SWITCHED ON.
      RESIDENT PART OF BST NOT AVAILABLE.
AMO-BST  -125          BACKGROUND SIGNALLING TASK
DISPLAY NOT COMPLETED;
H500: AMO DATE STARTED
      +-----+

CONTINUE (Y/N/C) ?

<y
| DATE:          TIME : |
| 1993-04-07    11:06:01 |
+-----+
```

46.4 Parameter Description

ADR	First line to read
	Type of Input : Single value, optional
	Possible Values : 1 to 9999999
	Default value : 1 (means the oldest line)
ANS	Answer
	Display after every screen page output
	Type of Input : Single value, optional
	Possible Values : Y = Continue file output N = Don't continue file output C = Continue file output without new answer
	Default value : Y = Continue file output
FILENAME	Name of the cyclic file

CLIST - List cyclic files

Error Messages and Advisories

	Type of Input	: Single value, mandatory
	Possible Values	: 12 places max.; begin with "C-" The AMO places :AMD: in front
LEN	Number of lines to read	
	Type of Input	: Single value, optional
	Possible Values	: 0 to 9999999
	Default value	: 0 (means the entire file)

46.5 Error Messages and Advisories

46.5.1 Error Messages

F01: FILENAME MUST BEGIN WITH "C-".
F02: FILE <FILENAME> DOESN'T EXIST.
F03: FILE <FILENAME> IS NOT A CYCLIC FILE.
F04: FILE ACCESS ERROR.
CALLCODE <H'XXXX> - EXCEPTIONCODE <H'XXXX>.

46.5.2 Advisories

H01: CYCLIC FILE IS EMPTY.
H02: NEW DATA ARRIVED, READING PROCESS WILL BE SYNCHRONIZED.

46.5.3 Usage of the Error Messages and Advisories per Action

START : F01, F02, F03, F04, H01, H02

47 CMP - Compare of Files or PS's

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO CMP is used to compare individual files and entire program systems.

If a program system is compiled and tested on a reference system for the technical support staff, it may also be faster to get some subsystems to the system by means of private production. Subsystems are patched in the same way. The AMO CMP can be used to determine whether a hard disk functioning in the reference system is identical to a production delivery with imported, patched subsystems. This saves loading the production in the system, booting and matching the features.

It is necessary to give the fully qualified file names when comparing two individual files.

47.1 Restrictions

This description is valid from HiPath 4000 V6.0.

47.2 Interrelationships

None

47.3 Functions of the AMO

- [START-CMP](#) : Start the compare of two files

47.3.1 START-CMP

Starts the compare; either two files are compared or two entire program systems, with one program system being on the load area :PDS: on the hard disk and the other on a delivery directory on the hard disk coming from the production.

CMP - Compare of Files or PS's
Parameter Description

A direct compare of two load areas with TYPE=PS is not supported.

Delivery directorys on the hard disk could be generated by means of the AMOs DUMP-APS or START-BACK, or by means of PCHI or FT.

The name of the delivery directory is freely optional and in this description „:SCR:DD/" is used as name of the delivery directory.

In the event that there are two DIR files on the delivery directory, both program systems are compared.

The parameter VOLNAME is not necessary for delivery directorys on the hard disk.

Procedure Overview

Command Code	Parameter
START-CMP	[ANS=<string>], [VOLNAME=<string>] |, [TYPE=SGL], FILENA1=<string>, FILENA2=<string> |, [TYPE=PS];

Examples

- 1. Compare two program systems

Input:

```
START-CMP:," :SCR:DD/",PS;
```

- 2. Compare two files

Input:

```
START-CMP:,,SGL," :SCR:DD/ZODBIOS0.02.017"," :PDS:APSZ/ADM/DP/ABS/ZODBIOS0";
```

47.4 Parameter Description

ANS	User-answer necessary
Type of Input	: Single value optional
Possible Values	: Y = Yes N = No C = Continue I = Interrupt

TYPE	Type of compare		
	Type of Input	: Single value mandatory	
	Possible Values	: PS	= Compare program system
		SGL	= Compare two files
FILENA1	Name of the 1st file, which is compared		
	Type of Input	: Single value mandatory	
	Possible Values	: file name (max. 32 chars.)	
FILENA2	Name of the 2nd file, which is compared		
	Type of Input	: Single value mandatory	
	Possible Values	: file name (max. 32 chars.)	
VOLNAME	Name of reserved volume (CT/TAPE) *) not longer supported		
	Type of Input	: Single value optional	
	Possible Values	: Name of a reserved cartridge/tape	
	Default Value	: " "	

47.5 Error Messages and Advisories

47.5.1 Error Messages

F01: HARD BREAK
 F02: ERROR ON SEEK
 F03: ERROR ON READ
 F04: ERROR ON WRITE
 F05: INVALID NAME
 F06: ERROR ON READ DIR: H'<status>
 F07: ERROR ON GET FILE STATUS <datnam>
 F08: ERROR ON OPEN <datnam>
 F09: ERROR ON CLOSE <datnam>
 F10: PQUAL WITH INVALID FILE TYPE CALLED
 F11: ERROR ON OPEN BYTE FILE <datam>
 F12: ERROR ON READ DIR <datnam>
 F13: FILENAME LIST OVERFLOW

CMP - Compare of Files or PS's

Error Messages and Advisories

F14: ERROR ON SEEK DIR FILE <datnam>
F15: ERROR ON WRITE DIR FILE <datnam>
F16: ERROR ON READ DIR FILE : H'<status>
F17: ERROR ON OPEN DIR FILE <datnam>
F18: ERROR ON CLOSE DIR FILE <datnam>
F19: <datnam> NOT UNAMBIGUOUS !
F20: THE RECORD LENGTH COULD NOT BE PROCESSED
F21: ERROR ON COPYING <datnam>
F22: ERROR ON DELETE FILE <datnam>

47.5.2 Advisories

H01: <device> MOUNTED (Y/N)
H02: COPY READY
H03: <datnam> COPIED TO
H04: COPY FINISHED
H05: <volnam> IN DEVICE
H06: - - LIST OF MISSING SUBSYSTEMS - -
H07: - - <datnam> - -
H08: FILE TYPE UNKNOWN
H09: <datnam1> IS H'<anz> - BYTES LONGER THAN <datnam2>
H10: <datnam1> FROM BYTE: H'<byte> DIFFERENT TO <datnam2>
H11: COMPARE STARTED
H12: SHOULD THIS PROGRAM SYSTEM BE COMPARED ?
H13: <datnam> IS NOT A DIR FILE
H14: <datnam> IS NOT CONTAINED IN HD DIR FILE
H15: <datnam> NOT FOUND ON HD
H16: <datnam> IS NOT CONTAINED IN FD DIR FILE
H17: <datnam> NOT FOUND ON FD
H18: NOTE! NOT ALL FILES ARE THE SAME ->COMPARE FINISHED
H19: COMPARE FINISHED
H20: <Linux> PROGRAM SYSTEMS CAN'T BE COMPARED

48 CMUID - Registration of the CM User ID

The description of this AMO is only available in html format!

49 CODEW - Codeword for administration lock in SWU

The description of this AMO is only available in html format!

CODEW - Codeword for administration lock in SWU

49.1 License Counting

Starting with OpenScape V8 R1 all trunks are license free and separate port licensing is possible for IP and TDM ports. The license model change was to aid a more competitive offering to customers (whereby TDM licenses have a lower cost than FLEX ones.). The two types of license now offered are:

1. OpenScape 4000 FLEX (Valid for IP and TDM)
2. OpenScape 4000 TDM (Valid for TDM only)

The sum of contracted/used FLEX and TDM licenses cannot exceed 12000.

FLEX License counting

Flex licenses are intended to primarily cover IP subscribers.

If no TDM licenses are available then FLEX licenses will also be consumed by TDM devices.

- each ADD-SBCSU, device type: OPTIP, UFIP or connection type: SIP increments FLEX counter by 1, except UFIP used as Circuit CLIENT (parameter CLNTDESK=CLIENT) which is license free.
- each ADD-ACSU, ACTYPE=ACWMQIP or ACW2QIP increments FLEX counter by 1

TDM License counting

TDM licenses cover Analog, Up0E, ISDN and Cordless, PSM, PSE V8 devices which used FLEX licenses in previous versions.

TDM licenses can be used only for the previous mentioned devices, while FLEX licenses can be used for all device types.

Once all TDM contracted licenses are used, next analog/TDM device added will use FLEX licenses.

The counting of used TDMs from will be done in following way:

- each ADD-SCSU entry increment TDM counter by 1 (except ACL stations - virtual help devices "INS=ACLSTN" and SIGNOFF devices)
- each CMI BASE station (configured via ADD-SBCSU) increment TDM counter by 4
- the following digital devices (configured via ADD-SBCSU) increment the TDM counter by 1 (qualified by the "device type" parameter in the AMO command): KEY300, SET500, SET600,

SET700, OPTISET, S0PP. Furthermore, extension boards (CBUSEXP, MBUSEXP, OPTIEXP) increment the TDM counter by 1 likewise.

- the following digital devices (configured via ADD-SBCSU) increment the TDM counter by 2 (qualified by the "device type" parameter in the AMO command): SET500&, SET600&, SET700&, OPTISET&
- a primary rate interface (configured via ADD-SBCSU, "device type" parameter "S2PP") increments the TDM counter by 30
- the virtual devices (VIRTDTE configured via ADD-SBCSU) and SIGNOFF devices (changed on BCSU or SBCSU level) are license free
- each ADD-RCSU entry increment the TDM counter by 1
- each ADD-ACSU where ACTYPE is AC4 or ACW2Q or ACWMQ increment the TDM counter by 1
- each ADD-TSCSU entry increment the TDM counter by 1.
- each ADD-SSC entry increment the TDM counter by 1 (the list of ADD-SSC entries for same PEN on different LTUs are counted as 1 entry).

50 COMGR - Communication Group Calling

Interrelationships	Parameter Description
AMO Functions	Error Messages and Advisories

Com group calling allows the user to call another station in a COM group via a COM group access code, followed by a COM group member number.

It also allows for two way communication through the speaker phone of member of a COM group, by use of the Intercom feature.

A device may access a COM Group call/COM Group speaker call without being a member of any COM Group. In addition, a device may be a member of a COM Group, and yet not have access to any COM Group calling.

Only Optiset- and Optipoint -devices can get an index two access a ComGroup call (AMO SBCSU). The same is with the classmarks (AMO SDAT).

Only digital stations are members of COM Groups. These may be optsets, vision2000, functional devices. Analog devices may not be members of COM Groups.

AMO COMGR makes it possible to add, display, delete and regenerate COM group data.

50.1 Interrelationships

- AMO DIMSU Dimensioning of features, switching unit
- AMO SDAT Administration of subscriber attributes and data
- AMO ZAND System data
- AMO SBCSU Station and s0-bus configuration, switching unit
- AMO TAPRO Programmable key definition for digital terminals
- AMO WABE Dialing plan, feature access codes

50.2 AMO Functions

- [ADD-COMGR](#) : Create (members of) COM groups

COMGR - Communication Group Calling

AMO Functions

- [DELETE-COMGR](#) : Delete (members of) COM groups
- [DISPLAY-COMGR](#) : Display (members of) COM groups
- [REGENERATE-COMGR](#) : Regenerate (members of) COM groups

50.2.1 ADD-COMGR

The definition of the function depends on whether there is an existing COM group, or if a new one is to be created.

If a specified COM group (GRNO) does not exist, or if no COM group is specified, one is created with the specified station, member numbers, and size.

If no COM group (GRNO) is specified, then the first available group number is automatically selected.

If the COM group already exists, it is expanded to include the specified stations.

There are two different sizes of COM groups:

- Small, which has a maximum of ten members, and which requires a one digit (0-9) member number.
- Large, which has a maximum of one hundred members, and which has a two digit (00-99) member number.

Extensions which are members of a COM group may either be local extensions, or they may reside on another node within the private network.

STNOs with leading zeroes can be entered as a member of a COM group.

The maximum total number of COM groups allowed per system is 1024.

A station number may be a member of more than one COM group, but may not be in a COM group more than once.

Each member of a COM group must be a digital device with a speaker or a functional device.

To change the size from large to small is not possible with the add comand. All the members of the group has to be first deleted. However, changing the size from from small to large in the add command is a legal operation.

Station numbers are assigned to the corresponding members in the add command. There must be the same number of station numbers as member numbers. When chained ranges and single values are entered, the STNOs and MBNOs are checked for one to one correspondence (i.e.). Ranges and the single values in MBNO parameter should be in the same order as it is in the STNO parameter

It is possible to assign each COM group a name (Info string).

Procedure Overview

Command Code	Parameters
ADD-COMGR	STNO=<number>, MBNO=<number>, GRNO=<number> , [SIZE=<param>], [INFO=<string>];

Examples:

1. Create a small COM group with stations 2100-2109 and member numbers 0-9.

Input:

```
ADD-COMGR:STNO=2100&&2109,MBNO=0&&9;
```

Output:

```
H01: COM GROUP 1 HAS 10 MEMBERS
```

2. Add Station numbers 2231-2235 to COM group number 1 with member numbers 31-35, which makes it necessary to change the size from small to large.

Input:

```
ADD-COMGR:STNO=2231&&2235,MBNO=31&&35,GRNO=1,SIZE=L;
```

Output:

```
H01: COM GROUP 1 HAS 15 MEMBERS
```

50.2.2 DELETE-COMGR

Delete (members of) COM group(s) can perform the following functions:

1. delete all the station in a specific group
2. delete specific station(s) in specific group
3. delete a range of stations in the system

A GROUP is AUTOMATICALLY deleted when the last member of the group is deleted.

COMGR - Communication Group Calling

AMO Functions

To delete all the station numbers from a specific COM group, use, GRNO=the group number you want all the stations deleted from, and STNO=0&&999999999999. If you enter incorrect values in this command, error message is output.

Procedure Overview

Command Code	Parameter
DELETE-COMGR	STNO=<number>, [GRNO=<number>];

Example:

1. To remove station 2105 from COM group1.

Input:

```
DELETE-COMGR:STNO=2105,GRNO=1;
```

Output:

```
DELETE COMPLETED;
```

2. To remove station 2000 - 3000 and 3100 from the System and only stations 2101 && 2200 exists in the system.

Input:

```
DELETE-COMGR:STNO=2000&&3000&3100;
```

Output:

```
F18: THE RANGE 2000 && 2100 IS NOT IN ANY COM GROUP
```

```
F18: THE RANGE 2201 && 3000 IS NOT IN ANY COM GROUP
```

```
F17: STATION NUMBER 3100 IS NOT A MEMBER OF ANY COM GROUP
```

3. To remove station 2109 in the COM group 1 and the COM group 1 is empty.

Input:

```
DELETE-COMGR:STNO=2109,GRNO=1;
```

Output:

```
F08: COM GROUP 1 DOES NOT EXIST
```

50.2.3 DISPLAY-COMGR

COM group(s) (and their members) can be displayed in the following ways:

1. all the COM groups of a system
2. a specific COM group
3. specific station(s) in COM group(s).

The entire member list of the COM group is always output (even if only one station is specified). If several stations belonging to the same COM group are specified in the command (TYPE=STN). the COM group is output only once.

If all (or several COM groups in the system, or stations in a COM group are to be displayed, only the created COM groups or stations are displayed. If no COM groups exist when ALL COM groups are to be displayed, error message is output.

Procedure Overview

Command Code	Parameters
DISPLAY-COMGR	TYPE=ALL, [INFOPAT=<string>]; (1)
	| TYPE=GR, GRNO=<number>; (2)
	| TYPE=STN, STNO=<number>; (3)

Examples:

1. Display members of COM group 1

Input:

DISPLAY-COMGR:TYPE=GR,GRNO=1;

Output:

```

+-----+
|          GROUP NUMBER   : 1          |
|          SIZE           :  SMALL      |
|          SERVICE INFORMATION:         |
|  MEMBER NUMBER          STATION NUMBER |
|          |              |            |
|          1              3500          |
|          2              3101          |
+-----+
```

2. Display the COM group that station number 2598 is a member of COM group 23

Input:

DISPLAY-COMGR:TYPE=STN,STNO=2598;

Output:

```

+-----+
|          GROUP NUMBER   : 23          |
|          SIZE           :  SMALL      |
+-----+
```

COMGR - Communication Group Calling
AMO Functions

SEVICE INFORMATION:	
MEMBER NUMBER	STATION NUMBER
1	2567
2	2598
3	2578
4	2568

3. Display the COM group for the station number 2000 && 2250
Input:

DISPLAY-COMGR:TYPE=STN,STNO=2000 &&2250;

Output:

GROUP NUMBER : 3										
SEIZE : LARGE										
SERVICE INFORMATION:										
FIRST DIGIT OF MEMBER NUMBER IS ON THE VERTICAL										
SECOND DIGIT OF MEMBER NUMBER IS ON THE HORIZONTAL										
0	1	2	3	4	5	6	7	8	9	
0	3500	3501	3502	2104	2105	2106	2107	2108	2109	2100
1	2132	2133								
2										
3										
4										
5										
6										
7										
8										
9										

50.2.4 REGENERATE-COMGR

Regenerate the existing COM groups in the following ways:

- 1. all the COM groups of a system
- 2. a specific COM group

3. specific station(s) in COM group(s).

Procedure Overview

Command Code	Parameters
REGENERATE-COMGR	TYPE=ALL; | TYPE=GR, GRNO=<number>; | TYPE=STN, STNO=<number>;

Examples

1. Regenerate COM group 1.

Input:

```
REGENERATE-COMGR:TYPE=GR,GRNO= 1;
```

Output:

```
ADD-COMGR:3500&&3501,1&2,1,s,;
```

2. Regenerate all COM groups of a switch

Input:

```
REGENERATE-COMGR:TYPE=ALL;
```

Output:

```
ADD-COMGR:3500&&3501,1&2,1,S,;
```

```
ADD-COMGR:3502&&3504,1&&3,2,L,;
```

50.3 Parameter Description

GRNO	Number of the com group
Type of Input	: Single value : optional (DELETE, ADD) : required (DISPLAY, REGENERATE)
Possible Value	: 1-1024 (requested number of a group)
Default value	: First available group number (ADD) group number of which specified STNO is a member (DELETE).

MBNO	Member number of the station in the COM group
	Used only in the ADD command
Type of Input	: Single value, optional

COMGR - Communication Group Calling

Parameter Description

		: chained single values, range(s), chained range(s)
	Possible values	: 0 -99
	Default value	: --
SIZE	Size of the com Group Used only in the ADD command	
	Type of Input	: Single value, optional
	Possible values	: S small (0 - 9 members of a communication group) L large (00 - 99 members of a communication group)
	Default value	: S small
INFO	Service informations, it is possible to assign a name to the COM group	
	Type of Input	: Single value, optional
	Possible values	: SText, max. 20 digits
	Default value	: No entry
INFOPAT	Pattern for search of Service Information	
	Type of Input	: Single value, optional
	Possible values	: SText, max. 20 digits
	Default value	: No entry
STNO	Station number	
	Type of Input	: Single value,&, &&, max. 50 singel value
	Possible values	: 1 - 6 digit
	Default value	: --
TYPE	Branch parameter for all COM groups, a specific COM group or a specific station	
	Type of Input	: Single value,required
	Possible values	: ALL (All COM groups on a system) GR (a specific COM group) STN (a specific station)
	Default value	:

50.4 Error Messages and Advisories

50.4.1 Error Messages

F01: STATION NUMBER <xxxx> NOT PRESENT
F02 THE SYSTEM MEMORY HAS BEEN EXCEEDED
F03: MAXIMUM NUMBER OF COM GROUPS REACHED, NUMBER HAS TO BE INCREASED BY MEANS OF
ADD-DIMSU:COMGR=<xxx>;
F04: STION NUMBER <stno> ALREDY A MEMBER OF COM GROUP <grno>
F05: STATION NUMBER <stno> IS EITHER NOT A OPTISET NOR A OPTIP500 NOR A SET600
F06: MEMBER NUMBER <stno> IS INVALID FOR A SMALL COM GROUP
F07: NUMBER OF STATION NUMBERS AND NUMBER OF MEMBER NUMBERS DO NOT MATCH
F08: COM GROUP <grno> DOES NOT EXIST
F11: INCORRECT VALUES FOR DELETE WERE ENTERED
F12: COM GROUP NUMBER TOO LARGE - REFER TO COMGR ALLOC IN AMO DIMEN
F13: <xxxx> THE SPECIFIED CLASS OF SERVICE NUMBER IS LARGER THAN THE
F14: GROUP SIZE CANNOT BE CHANGED FROM LARGE TO SMALL IN AN ADD OPERATION
F15: STNO NUMBER <stno> IS NOT A MEMBER OF COM GROUP <grno>
F16: THE RANGE <stn1> && <stn2> IS NOT IN THE COM GROUP <grno>
F17: STATION NUMBER <stno> IS NOT A MEMBER OF ANY COM GROUP
F18: THE RANGE <stn1> && <stn2> IS NOT IN ANY COM GROUP
F19: THE LOWER AND UPPER LIMITS OF A STNO RANGE SHOULD HAVE SAME NUMBER OF DIGITS
F20: CCIDXS OR CCIDXD HAS REACHED ITS CRITICAL LIMIT NUMBER HAS TO BE INCREASED BY
MEANS OF ADD-DIMSU:CCIDXS=<xxx>; OR ADD-DIMSU:CCIDXD=<xxx>;
F21: MAXIMUM NUMBER OF INFO FIELDS ARE USED, NUMBER HAS TO BE INCREASED BY MEANS OF
ADD-DIMSU:INFO=<xxx>;
F22: INDEX IS OUT OF RANGE
F23: ENTERED STNO RANGE IS TOO LARGE .

50.4.2 Advisories

H01: COM GROUP <grno> HAS <nomen> MEMBERS
H02: STNO <stno> IN COM GROUP <grno> WILL BE OVERWRITTEN
H03: THE INFO FIELD OF THE GROUP WILL BE CHANGED
H04: A STNO CAN BE STILL ASSIGNED TO A DIFFERED MBNO
H10: THERE ARE NO COM GROUPS IN THE SYSTEM

Abbreviations Used

<grno>	corresponds to the group number
<mbo>	corresponds to the member number
<stnx>	corresponds to the station number
<xxx>	corresponds to a digit

50.4.3 Use of the Output Messages for Each Action

ADD	: F01, F02, F03, F04, F05, F06, F07, F12, F13, F14, F19, H01, H02
DISPLAY	: F08, F10
DELETE	: F08, F10, F15, F16, F17, F18, F19

51 CONSY - Administration of System Configuration Data

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

This AMO is used for the administration of the data for cabinet and frame configuration of a system. This data describes the physical layout and terminal configuration of the system.

System Configuration Table

The system configuration data is stored in the system configuration table. It contains the following information:

per cabinet:

- cabinet name
- cabinet address

per shelf:

- frame name
- perhaps the LTU number (for frames of the SWU periphery)
- perhaps the processor identification for central shelves

Mounting levels which are not occupied are indicated by a dummy character. Each cabinet name or frame name stored in the table must have been previously defined in the appropriate type files.

Cabinet name	Address			
Frame name	LTU	PID1	PID2	PID3
Frame name	LTU	PID1	PID2	PID3

7 records

Table 6 System configuration table

Cabinet type and frame type files

The cabinet type and frame type files are produced as non-resident subsystems (similar to the UBGDAT). They must be explicitly loaded into the RAM with LOAD_OVERLAY if the user wishes to access them directly; usually, however, they are accessed indirectly on the hard disk. They contain all valid cabinet type and frame type names. This data can only be changed with a patch during operation; administration of the files with the aid of AMOs is not provided for, since changes to the contents are rarely necessary (i.e. only when a new frame type or cabinet type is implemented). The two subsystems are updated by updating the CHILL source code.

Cabinet name (e.g. "CAB600C") Part number (e.g. "G5228-X") Code of Variant (e.g. H600) Assembly (e.g. COMPACT)	
Frame name	Shelf
Frame name	Shelf

Table 7 Cabinet type file

Frame name (e.g. "CCS") Part number (e.g. "B5331-X") Code of Variant (e.g. H600) Assembly (e.g. COMPACT) Type (e.g. CC-ADS Shelf) Unit (e.g. PROC MIXED) Processor type (e.g. BP and ADM)				
Board Type	SLOT	CS Type	Doubled Element	Board Index
Board Type	SLOT	CS Type	Doubled Element	Board Index

Table 8 Frame type file

The division of the cabinets into shelves is illustrated in the Service Manual in the "Hardware Survey" chapter. This chapter also contains a list of possible shelves.

From the variant HICOM Unity 1.0 the handling of cabinets and shelves have a particularity. The LTU range is divided in two parts: HHS (HICOM Host System) and AP (Access Point). The available values of the ranges

are: HHS 1-15 and AP 17-99. The LTU 16 is forbidden. There are existing shelves which are allowed only in HHS and others which are allowed only in the AP range.

The actions ADD and CHANGE internally test the validity of the entered LTU number (examples see later).

The names of cabs and frames are also used in the AMO specific files. Differences are just there:

- where different frames or cabinets have one official name (e.g. LTUS-Compact = LTUSC)
- where the same frames are configured in different system variants (e.g. CCM-frame in HICOM 3000E = CCME)
- where the official name is longer than 8 characters (e.g. CAB300EC1 = C3000EC1).

Which cabinet- and frame types are possible in a system? The classification of a switch (H80, H180, H600, ...) and the type of HW (noncompact, compact, ...) restricted the possible types of cabinets and frames.

The function DISPLAY-CONSY is helpful to get information about the permitted cabinet- and frame types.

Examples about that in the chapter 'DISPLAY-CONSY'.

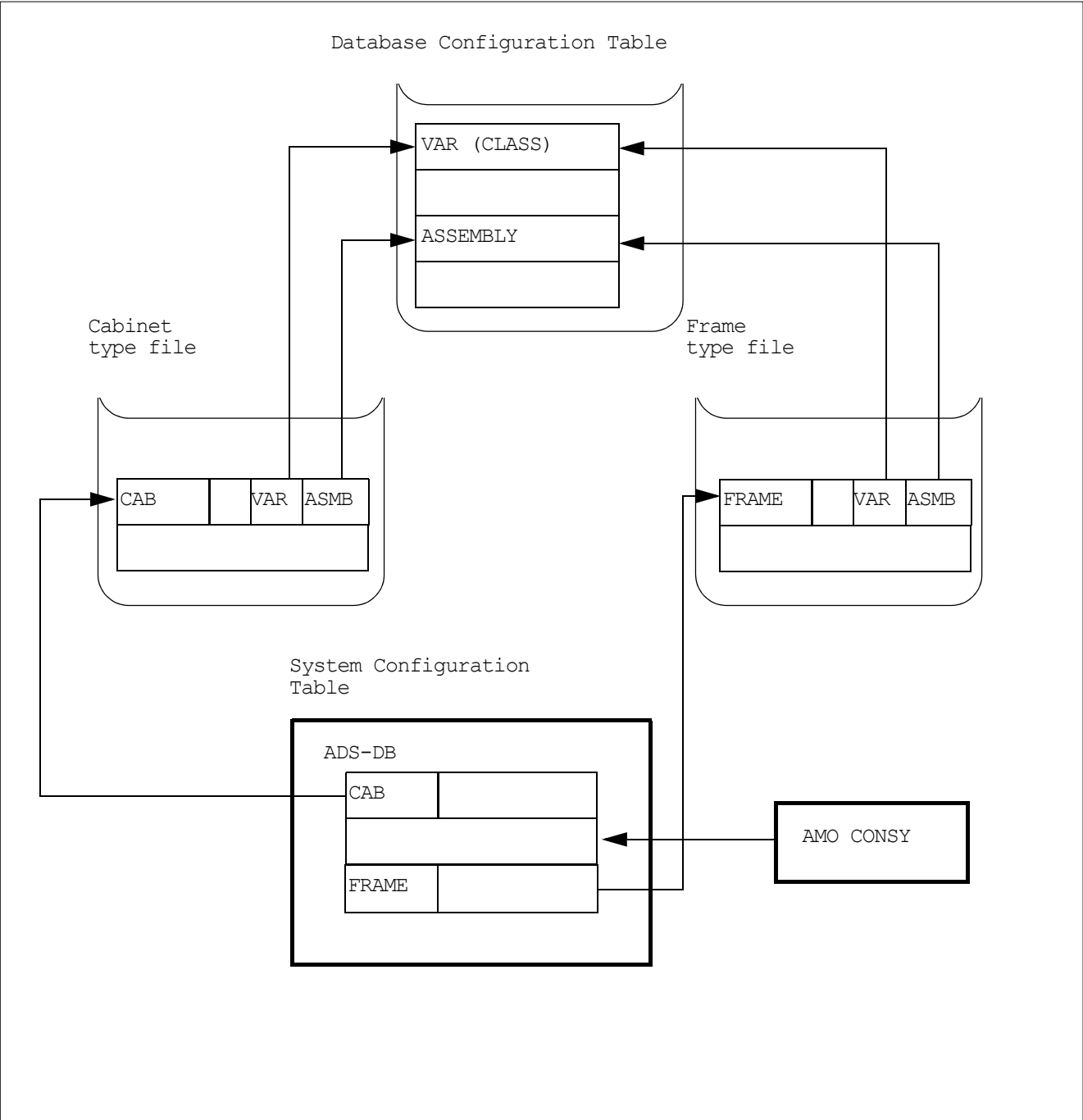


Figure 5 Overview

Structure of a cabinet address

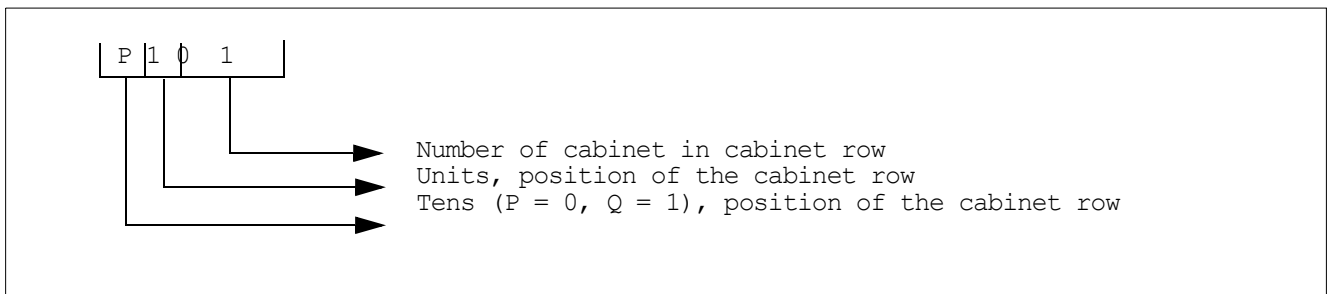


Figure 6 Cabinet Address

51.1 Restrictions

This description is valid for HiPath 4000 V1.0.

51.2 Interrelationships

- AMO DBC : Database Configuration

51.3 Functions of the AMO

- [ADD-CONSY](#) : Add system configuration data.
- [CHANGE-CONSY](#) : Change the system configuration data.
- [DELETE-CONSY](#) : Delete the system configuration data.
- [COPY-CONSY](#) : Copy the system configuration data.
- [DISPLAY-CONSY](#) : Display the system configuration data.
- [REGENERATE-CONSY](#) : Regenerate the system configuration data.

51.3.1 ADD-CONSY

This function is used to add data to the system configuration table. This data is used for outputs of system layout plan and for physical error messages.

1. OPT=CAB: Add cabinet data.
2. OPT=FRAME: Add frame (=module frame) data.

Frame data may only be entered if the cabinet data has already been added (OPT = CAB).

FlexPack- construction (600ECS):

To distinguish the FlexPack -construction from the ordinary 600ECX- construction following pseudo-cabinets have been established:

basic-cabinet	C600ECS	partnumber: G5298-X
expansion-cabinet	C600ECS1	partnumber: G5285-X
power-control-cabinet	C600PC	partnumber: G5401-X

These cabinets are fictive, therefore the partnumber which have been "borrowed" by the cabinets of the 600ECX- resp. the 80DSC- construction is also just a pseudo-partnumber.

For the 600ECS-configuration only the frames LTUW and L80XF are possible, whereas for the 600ECX-configuration only LTUW, resp. for the 80CXE the frames CC80F and L80XF are allowed.

Example for ECS-configuration see DISPLAY-CONSY.

Except the ECS-pseudo cabinets also a pseudo-cabinet has been introduced for the 80CXE-configuration. The cabinet has been defined als follows:

C80CXE	partnumber: G5284-X

Procedure Overview

Command Code	Parameter	
ADD-CONSY	ADDR=<string>,OPT=CAB\FRAME	
	|,OPT=CAB,CAB=<string>;	(1)
	|,OPT=FRAME,SHELFNO=<number>,FRAME=<string> , [LTU=<number>], [PID=<param>];	(2)

Example

1. Add cabinet C1 under address P205.

Input:

ADD-CONSY: P205,CAB,C1;

2. Add 600ECS (Flex Pack-configuration)

Input:

```
ADD-CONSY: "P101",CAB,"C600PC ";
ADD-CONSY:"P101",FRAME,1,"PSD ",,;
ADD-CONSY:"P101",FRAME,2,"PSD ",,;
ADD-CONSY:"P102",CAB,"C600ECS ";
ADD-CONSY:"P102",FRAME,1,"CCDAXD1 ",,"BPA"&"BPB"&"A1";
ADD-CONSY:"P102",FRAME,2,"L80XF ",1,;
ADD-CONSY:"P102",FRAME,3,"LTUW ",2,;
ADD-CONSY:"P102",FRAME,4,"L80XF ",3,;
ADD-CONSY:"P103",CAB,"C600ECS1";
ADD-CONSY:"P103",FRAME,1,"LTUW ",4,;
ADD-CONSY:"P103",FRAME,2,"LTUW ",5,;
ADD-CONSY:"P103",FRAME,3,"LTUW ",6,;
ADD-CONSY:"P103",FRAME,4,"L80XF ",7,;
ADD-CONSY:"P104",CAB,"C600ECS1";
ADD-CONSY:"P104",FRAME,1,"L80XF ",8,;
ADD-CONSY:"P104",FRAME,2,"L80XF ",9,;
ADD-CONSY:"P104",FRAME,3,"L80XF ",10,;
ADD-CONSY:"P104",FRAME,4,"L80XF ",11,;
ADD-CONSY:"P105",CAB,"C600ECS1";
ADD-CONSY:"P105",FRAME,1,"L80XF ",12,;
ADD-CONSY:"P105",FRAME,2,"L80XF ",13,;
ADD-CONSY:"P105",FRAME,3,"L80XF ",14,;
ADD-CONSY:"P105",FRAME,4,"L80XF ",15,;
```

3. Add cabinet CAB-NBB under address P106 and the shelf BP-NBB, AP-range.

```
ADD-CONSY:"P106",CAB,"CAB-NBB ";
ADD-CONSY:"P106",FRAME,1,"BP-NBB ",34;
```

51.3.2 CHANGE-CONSY

This function is used for changing cabinet type or frame type data in the system configuration table or changing boards in the frame data table. It also is possible to delete boards in setting CS=NOTDEF. In this case the inserts of BOARD and PEN will be ignored.

The type of data to be changed is specified with the parameter OPT.

1. OPT=CAB: Change the cabinet address.
2. OPT=FRAME: Change the frame data.
3. OPT=BOARD: Change a board in frame data table.

Procedure Overview

Command Code	Parameter
CHANGE-CONSY	<pre>OPT=CAB\FRAME\BOARD |,OPT=CAB,ADDR=<string>,ADDRNEW=<string>; |,OPT=FRAME,ADDR=<string>,SHELFNO=<number>, { [SHELFNEW=<number>], [FRAME=<string>], [PID=<param>], [LTU=<number>] }; |,OPT=BOARD,FRAME=<string>,IDX=<number>, { [CS=<param>], [BOARD=<string>], [PEN=<number>], [HALF=<param>], [BDIDX=<number>] };</pre>

Examples

1. The name of the frame at shelf 7 in cabinet P205 is to be changed.

Input:

```
CHA-CONSY:FRAME,P205,7,,LTU,,;
```

2. The board DPM in frame GP-GSN has to be deleted.

Input:

```
CHA-CONSY:BOARD,GPGSN,6,NOTDEF,DPM,37;
```

51.3.3 DELETE-CONSY

This function is used to delete cabinet or frame entries in the system configuration table.

Procedure Overview

Command Code	Parameter
DELETE-CONSY	<pre>ADDR=<string>,[SHELFNO=<number>];</pre>

51.3.4 COPY-CONSY

This function is used for copying cabinet type entries from one address to another address.

Procedure Overview

Command Code	Parameter
COPY-CONSY	ADDR=<string>,ADDRNEW=<string>;

51.3.5 DISPLAY-CONSY

The data output is in tabular form depending of the option.

There are 3 Possibilities:

1. OPT=CAB: Display of data of a special or of all cabinets
2. OPT=CABTYPE: Display of data of all cabinets with a special name, a special type and/or which belong to a special class of HICOM
3. OPT=FRAMTYPE: Display of data of all frames with a special name, a special type and/or which belong to a special class of HICOM

If no value is explicitly specified for the parameter ADDR, the data for all cabinets are output.

Procedure Overview

Command Code	Parameter
DISPLAY-CONSY	|OPT=CAB, [ADDR=<string>]; |OPT=CABTYPE, [CAB=<string>], [CLASS=<param>] , [ASSEMBLY=<param>]; |OPT=FRAMETYPE, [FRAME=<string>], [CLASS=<param>], {ASSEMBLY=<param>};

Examples

1. Display the data for the cabinet P205.

Input:

DIS-CONSY:CAB,P205;

Output:

| CAB: B		ADDR: P205			

| SHELFNO	| FRAME	| PID1	| PID2	| PID3	| LTU

| 1	| FP	|	|	|	|
| 2	| LTU	|	|	|	| 1
| 3	| LTU	|	|	|	| 2

CONSY - Administration of System Configuration Data

Functions of the AMO

4	LTU			3
5	CC	BPA		
6	PS			
7	ADS	A1		

2. Display of all permitted cabinet types which belong to a H600 NONCOMPACT system.

Input:

DIS-CONSY:CABTYPE,,H600,NONCOMP;

Output:

CABINET	PRODUCTNO.
CABB	G5208-X
CABE	G5209-X
CABD1	G5216-X
CABIS	G5218-X
CABM1	G5210-X

3. Display of all permitted frame types, which belong to systems with COMPACT hardware.

Input:

DIS-CONSY:FRAMTYPE,,,COMP;

Output:

FRAME	PRODUCTNO.
CCS	B5331-X
ISEC	B5332-X
LTUSC	B5328-X

4. Display the data of a CABB cabinet.

Input:

DIS-CONSY:CABTYPE,CABB;

Output:

CABINET:	CABB
PRODUCTNO.:	G5208-X
CLASS:	H600
ASSEMBLY:	NONCOMP
FRAME	SHELFNO
FP-MAP1	1
LTUS	2

|	LTUS	|	3	|
|	LTUS	|	4	|
|	CC600	|	5	|
|	PS	|	6	|
|	AD	|	7	|
+-----+				

5. Display of all permitted cabinet types.

Input:

AB-CONSY:CABTYPE;

Output:

+-----+	
CABINET	PRODUCTNO
+-----+	
CAB80XW	G5272-X
CAB80XW1	G5273-X
C600XW	G5274-X
C600XW1	G5275-X
C600XW2	G5276-X
C80DSC	G5284-X
C80DSC1	G5285-X
C40CMX	G5289-X
CABPSD	G5401-X
CABPR	G5299-X
CABCCD	G5298-X
CAB-NBB	U6619-X
UPR	G5404-X
CSCPCI	U6625-X
UPR1	G5404-A
UCPS	G5402-X
UCPS1	G5402-A
UP	G5408-X
UP1	G5408-A
UCPM	G5407-X
UCPM1	G5407-A
UCD	G5403-X
UACD	G5405-X
UDCD	G5406-A
AP37009	G5412-X
AP370013	G5413-X
+-----+	

6. Display of all permitted frame types.

Input:

AB-CONSY:FRAMTYPE;

Output:

+-----+	
FRAME	PRODUCTNO
+-----+	
CCDAX-D	B5350-X
CCDAX-SD	B5350-X
CCDAX-SM	B5350-X
CCDAXD1	B5384-X

CONSY - Administration of System Configuration Data

Functions of the AMO

CCDAXSD1	B5384-X
CCDAXSM1	B5384-X
CCDAXD2	B5384-X1
CCDAXSD2	B5384-X1
CCDAXSM2	B5384-X1
CCDAXD3	B5350-X100
CCDAXSD3	B5350-X100
CCDAXSM3	B5350-X100
CC80W	Q5365-X
CSCPCID	X7659-X
CSCPCISD	X7659-X
CSCPCISM	X7659-X
LTUW	B5367-X
LTUW1	B5388-X
LTUW2	B5388-A
LTUW3	B5385-X
LTUW4	B5388-X1
L80XW	Q5366-X
PSD	B5427-X
CC80F	B5377-X
L80XF	B5379-X
L80XF1	B5389-X
L80XF2	B5389-A
CC80F1	B5391-X
CC80F2	B5391-A
CC80F3	B5386-X
CC40F	B5382-X
CC40F1	B5387-X
BP-NBB	Q6619-X
AP37009	Q6627-X
AP370013	Q6628-X

7. Display the data of a LTUS frame.

Input:

DIS-CONSY:FRAMTYPE,LTUS;

Output:

FRAME: LTUS					
PRODUCTNO.: B5307-X					
CLASS: H600					
ASSEMBLY: NONCOMP					
FRAMETYPE: LTU					
UNITTYP: LTU					
PROCTYP:					
LTU NO: YES					
IDX	BOARD	PEN	CSTYPE	DD	BDIDX
1	LTUBG	1	LTUBG	A	
2	LTUBG	7	LTUBG	A	
3	LTUBG	13	LTUBG	A	
4	LTUBG	19	LTUBG	A	
5	LTUBG	25	LTUBG	A	
6	LTUBG	31	LTUBG	A	
7	LTUBG	37	LTUBG	A	
8	LTUBG	43	LTUBG	A	

9	LTUBG	49	LTUBG	A	
10	LTUBG	55	LTUBG	A	
11	LTUBG	67	LTUBG	A	
12	LTUBG	73	LTUBG	A	
13	LTUBG	79	LTUBG	A	
14	LTUBG	85	LTUBG	A	
15	LTUBG	91	LTUBG	A	
16	LTUBG	97	LTUBG	A	
17	LTUBG	103	LTUBG	A	
18	LTUBG	109	LTUBG	A	
19	LTUBG	115	LTUBG	A	
20	LTUBG	121	LTUBG	A	
21	LTUC	61	LTUC	A	

8. Display 600ECS (FlexPack-configuration) and the cab and frame configured in the AP range.

Input:

DIS-CONSY: CAB;

Output:

CAB: C600PC						ADDR: P101		
SHELFNO	FRAME	PID1	PID2	PID3	LTU			
2	PSD							
1	PSD							
CAB: C600ECS						ADDR: P102		
SHELFNO	FRAME	PID1	PID2	PID3	LTU			
4	L80XF						3	
3	LTUW						2	
2	L80XF						1	
1	CCDAXD1	BPA	BPB	A1				
CAB: C600ECS1						ADDR: P103		
SHELFNO	FRAME	PID1	PID2	PID3	LTU			
4	L80XF						7	
3	LTUW						6	
2	LTUW						5	
1	LTUW						4	
CAB: C600ECS1						ADDR: P104		
SHELFNO	FRAME	PID1	PID2	PID3	LTU			
4	L80XF						11	
3	L80XF						10	
2	L80XF						9	
1	L80XF						8	

| CAB: C600ECS1 ADDR: P105 |						
| SHELFNO |	FRAME	| PID1 |	PID2	| PID3 |	LTU	|
| 4 |	L80XF	|		|		15 |
| 3 |	L80XF	|		|		14 |
| 2 |	L80XF	|		|		13 |
| 1 |	L80XF	|		|		12 |
| CAB: CAB-NBB ADDR: P106 |						
| SHELFNO |	FRAME	| PID1 |	PID2	| PID3 |	LTU	|
| 1 |	BP-NBB	|		|		34 |

51.3.6 REGENERATE-CONSY

Unless a specific value is entered for the parameter ADDR, the data for all cabinets are output.

Procedure Overview

Command Code	Parameter
REGENERATE-CONSY	[ADDR=<string>;

Example

Regenerate the system configuration table entries for cabinet P205.

Input:

REG-CONSY:P205;

Output:

ADD-CONSY: P205,CAB,B;
ADD-CONSY: P205,FRAME,1,FP;
ADD-CONSY: P205,FRAME,2,LTU,1;
ADD-CONSY: P205,FRAME,3,LTU,2;
ADD-CONSY: P205,FRAME,4,LTU,3;
ADD-CONSY: P205,FRAME,5,CC,,BPA;
ADD-CONSY: P205,FRAME,6,PS;
ADD-CONSY: P205,FRAME,7,ADS,,A1;
CHANGE-CONSY:BOARD,GPGSN,6,NOTDEF,"DPM",37;

51.4 Parameter Description

ADDR	Cabinet address Type of Input : Single value, mandatory (ADD, CHANGE, COPY, DELETE) optional (DISPLAY, REGENERATE) Possible Values : 4 chars., alphanumeric
ADDRNEW	New cabinet address Type of Input : Single value, mandatory Possible Values : 4 chars., alphanumeric
ASSEMBLY	HW type Type of Input : Single value, optional Possible Values : NONCOMP, COMPACT, EXTCOMP, ECX, ECDSC, ECCXE
BDIDX	Rel. board index This index is important, if the same boards are used more than once in central SWU-Frames (e.g. MTS-, MBU- or MEM-boards) and signs the sequence of their use within the frame. Processes, which use the HW-data (e.g. AMO SDSU, SIT), need this index to address the different data bases. Type of Input : Single value, optional Possible Values : 0 - 255
BOARD	Name of the board Type of Input : Single value, optional Possible Values : maximum 8 alphanumeric characters
CAB	Cabinet name Type of Input : Single value

CONSY - Administration of System Configuration Data

Parameter Description

		mandatory (ADD, CHANGE, COPY, DELETE, REGENERATE) optional (DISPLAY)
	Possible Values	: maximum 8 alphanumeric characters (possible cabs are in SHB, Volume 1, Reg.2, Chapter 4)
CLASS	Classification of HICOM	
	Type of Input	: Single value, optional
	Possible Values	: H40, H80, (beginning at SP300-V3.3) H180, H600, H3000, H3000E
CS	Board type	
	Type of Input	: Single value optional
	Possible Values	: CCD, CCG, CCH, DPCC, GP, IOCC, IOCG, IPCC, LTGCONF, LTGDCL, LTGMEM, LTGMTS, LTGSIU, LTUBG, LTUC, LTUR, MBU, MD, MEMCOM, MEMLOC, MTSGSCS, NOTDEF, PCG, PSCC, PSCSN, PSLTG, PSLTU
FRAME	Frame name	
	Type of Input	: Single value mandatory (ADD, CHANGE: OPT=BOARD) optional (CHANGE: OPT=FRAME)
	Possible Values	: maximum 8 alphanumeric characters (possible frames see Service Manual in the "Hardware Survey" chapter)
HALF	Half of system unit	
	Type of Input	: Single value optional

	Possible Values	: A, B	
IDX	Index of board on the shelf (look at mask of display)		
	Type of Input	: Single value mandatory	
	Possible Values	: 1 - 30	
LTU	LTU number		
	Type of Input	: Single value optional	
	Possible Values	: 1 - 99	
OPT	Branching parameter (ADD,CHANGE)		
	With the aid of this parameter, the user can specify the type of data to be accessed (cabinet type data or frame type data).		
	Type of Input	: Single value mandatory	
	Possible Values	: CAB = Cabinet type data FRAME = Frame type data BOARD = Board data	
	Branching parameter (DISPLAY)		
	With the aid of this parameter, the user can specify the type of data to be accessed		
	Type of Input	: Single value mandatory	
	Possible Values	: CAB = data of a complete HICOM CABTYPE = Cabinet-type-data FRAMTYPE = Frame-type-data	
PEN	Port equipment number		
	Type of Input	: Single value optional	
	Possible Values	: 1 - 121	

A suitable module must be configured for the slot addressed by PEN (AMO BCSU).

The possible Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description.

CONSY - Administration of System Configuration Data

Error Messages and Advisories

PID	Processor ID
	In the case of GP or IOC processors, the IDs of both halves are added.
Type of Input	: maximum 3 linked single values optional
Possible Values	: BPA,BPB CC half GP1A - GP32A LTG half GP1B - GP32B LTG half IOC1A - IOC4A CSN half IOC1B - IOC4B CSN half A1 Administration and Data Server

SHELFNO	Shelf number
Type of Input	: Single value mandatory (ADD, CHANGE) optional (DELETE)
Possible Values	: 1 - 14

SHELFNEW	New shelf number
Type of Input	: Single value optional
Possible Values	: 1 - 14

The parameters CS, BOARD, PEN, HALF and BDIDX form a parameter group of which at least 1 must be entered.

51.5 Error Messages and Advisories

51.5.1 Error Messages

F01: CABINET NOT PRESENT
F02: CABINET ALREADY PRESENT
F03: NEW CABINET ALREADY PRESENT
F04: WRONG CABINET ADDRESS
F05: CABINET TYPE NOT PRESENT
F06: CABINET TYPE NOT ALLOWED IN SYSTEM
F07: NO CABINET ENTERED

F08: SHELF ALREADY EXISTS
F09: SHELF DOES NOT EXIST
F10: SHELF LOCKED
F11: FRAME CANNOT BE CONFIGURED AT SPECIFIED SHELF
F12: FRAME WITH SPECIFIED LTUNO ALREADY ENTERED FOR SPECIFIED CABINET
F13: FRAME WITH SPECIFIED LTUNO ALREADY EXISTS
F14: NEW FRAME ALREADY EXISTS
F15: MAXIMUM OF @@@ CABINETS MAY BE ENTERED
F16: FRAME TYPE NOT PRESENT
F17: LTU NUMBER REQUIRED FOR SPECIFIED FRAME TYPE
F18: LTU NUMBER NOT ALLOWED IN SYSTEM
F19: FRAME TYPE NOT ALLOWED IN SYSTEM
F20: PID REQUIRED FOR SPECIFIED FRAME TYPE
F21: PID @@@@ NOT ALLOWED IN SYSTEM
F22: ONLY ONE PID ALLOWED FOR SPECIFIED FRAME
F23: PID FOR @@@@@ OR @@@@@ MISSING
F24: ONLY PIDS OF ASSOCIATED SYSTEM HALVES ARE ALLOWED
F25: PID @@@@ NOT ALLOWED FOR SPECIFIED FRAME TYPE
F26: ONLY PIDS OF THE SAME SYSTEMHALF CAN BE ENTERED
F27: COMBINATION OF CLASS AND ASSEMBLY IS NOT ALLOWED
F28: FOR SYSTEMS RUNNING IN SIMPLEX MODE ONLY THE PID OF AN A HALF IS ALLOWED
F29: COMBINATION OF PIDS NOT VALID FOR SPECIFIED FRAME
F30: ONLY TWO PIDS ALLOWED FOR SPECIFIED FRAME
F31: CABINET TYPE FILE "@@@@@@@@@@@@@@@@@@@@@@@@@@@@@" NOT EXISTING
F32: FRAME TYPE FILE "@@@@@@@@@@@@@@@@@@@@@@@@@@@@@" NOT EXISTING
F33: ERROR DURING "LOAD OVERLAY"
ERRORCODE: H'@@@ FILE: @@@@@@@@@@@@@@@@@@@@@@@@@@
F34: FOR THE GIVEN FRAME "@@@@@@@@@" THE VALID LTU RANGE IS FROM @@ TO @@.

51.5.2 Advisories

H01: CABINET NOT PRESENT
H02: NO CABINETS EXIST
H03: ENTERED OR ASSIGNED LTU NUMBER NOT ALLOWED FOR SPECIFIED FRAME TYPE
H04: ENTERED OR ASSIGNED PID NOT ALLOWED FOR SPECIFIED FRAME TYPE
H05: FRAME NOT PRESENT
H06: IN CASE OF ENTERED CAB ALL FOLLOWING PARAMETERS WILL BE IGNORED
H07: IN CASE OF ENTERED FRAME ALL FOLLOWING PARAMETERS WILL BE IGNORED
H08: TEST WITH AMO UCSU, WHETHER LTG @@ IS ASSIGNED AND DELETE
IF NECESSARY
H09: THE CENTRAL SHELF OF LTG @@ WAS DELETED. PLEASE DELETE THE ACCOMPANYING
LTU SHELVES WITH AMO CONSY/UCSU
H10: TEST WITH AMO UCSU, WHETHER LTU @@ IS ASSIGNED AND DELETE
IF NECESSARY
H11: TEST WITH AMO UCSU, WHETHER LTU @@ OF THE BELONGING LTG IS ASSIGNED
AND DELETE IF NECESSARY
H12: THE ACCOMPANYING CENTRAL LTG SHELF IS NOT ASSIGNED

CONSY - Administration of System Configuration Data

Error Messages and Advisories

H13: THE COPY BRANCH OF THE AMO IS OBSOLETE AND WILL BE REMOVED IN A FUTURE VERSION. PLEASE CONTACT GVS SHOULD THE AMO BRANCH STILL BE REQUIRED FOR ANY REASON.

52 CONV - Convert File: SAM <-> ASCII

The description of this AMO is only available in html format!

53 COP - Class of Parameter for Device Handler

The description of this AMO is only available in html format!

54 COPY - Copy Files

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO COPY enables the copying of files and hard-disk areas to and from hard-disk, tape and cartridge. File names may be partially qualified.

- Copying SAM-files:

SAM-files exist on hard-disk, tape and cartridge. They are copied with the aid of the DMS-commands PUT and GET. When SAM-files are overwritten, they are first deleted and then newly created.

- Conversion of file-types:

By declaring the parameter DESTTYPE, SAM-files can be copied to byte-files and vice-versa. For this action, the record-length-fields are removed or added as necessary. When copying byte-files to SAM-files, the record-length of the destination-file can be defined by declaring the parameter RECLLEN.

- Copying hard-disk-files:

When a byte-file on the hard-disk is overwritten, the file is not deleted and then newly created, but physically overwritten byte for byte and shortened or lengthened as necessary. This means that the directory-files remain unchanged. However, the more often the byte-files are extended (i.e. overwritten with larger files), the longer the access-time to the files becomes. For this reason, the user has the option of deleting a file to be overwritten using the AMO DEL (Delete Files).

54.1 Restrictions

This description is valid from SP300 E V3.0

54.2 Interrelationships

- AMO-complex FIDES : File and device service
(see System AMO Section 'ISY startup system')
- AMO RTAPE : Reservation of Tape

COPY - Copy Files
AMO Functions

- AMO DSSM : Disk Switchover
- AMO DDSM : Disk Status

54.3 AMO Functions

- **START-COPY** : Copying of files

54.3.1 START-COPY

Procedure Overview

Command Code	Parameter
START-COPY	SRCFILE=<string>,DESTFILE=<string>, [UNIT=<param>] , [DESTTYPE=<param>], [RECLEN=<number>] , [BLOCKLEN=<number>], [SRCADR=<number>] , [DESTADR=<number>], [LEN=<number>], [BUF=<number>] , [SRCVOL=<string>], [DESTVOL=<string>], [SEL=<param>] , [WARN=<param>], [ANS=<param>], [DIALOG=<param>;

Example

Copy files on a magnetic tape.The magnetic tape must be reserved with ACT-RTAPE.

Input:

START-COPY:":DBD:L31615/S0123X00100/RE/ADS",":M:RE.ADS";

Output:

COPY READY
<:DBD:L31516/S0123X00100/RE/ADS> COPIED TO
<:M:RE.ADS>

COPY FINISHED
STATUS = H'0000

Note:

If an error occurs after entering a START-COPY command, the device must be switched off with command DEACT-DSSM. The copy action will be executed after entering ACT-DSSM.

54.4 Parameter Description

ANS	Answer/response Answer requested, when parameter SEL=Y. Type of Input : Single value optional Possible Values : Y = copy file N = do not copy file I = interrupt the action C = copy all additionally specified files Default Value : none
BLOCKLEN	Size of blocks at destination device Type of Input : Single value optional Possible Values : 128 - 65535 Default Value : 4096
BUF	Buffer size Size of the copy buffer in bytes. Type of Input : Single value optional Possible Values : 256 - 12000 Default Value : 4096
DESTADR	Destination address Byte position at which writing is to start. Type of Input : Single value optional Possible Values : address with a maximum of 9 positions Default Value : 0
DESTFILE	Destination file Type of Input : Single value

COPY - Copy Files

Parameter Description

		mandatory	
	Possible Values	: :PDS:tname2	fully or partially qualified hard disk file name
		:C:tname2	fully or partially qualified cartridge file name
		max. length 32	
DESTTYPE	Type of destination file		
	Type of Input	: Single value	
		optional	
	Possible Values	: BYTE = Byte	
		SAMF = SAM file with fixed record length	
		SAMV = SAM file with variable record length	
	Default Value	: same as source file	
DESTVOL	Destination volume name (only if FD)		
	Type of Input	: Single value	
		optional	
	Possible Values	: volume name with a maximum of 6 positions	
	Default Value	: ''	
DIALOG	Dialog mode		
	Text to be output on the terminal by programs if the AMO is called?		
	Type of Input	: Single value	
		optional	
	Possible Value	: Y = yes	
	Default Value	: Y	
LEN	Number of bytes to be copied, length of a file		
	Type of Input	: Single value	
		optional	
	Possible Values	: max. 9 positions (numeric)	
	Default Value	: Entire file	
RECLLEN	Record length of SAM-files		
	Length of records in the destination file, if source file is from type byte		
	Type of Input	: Single value	

	optional	
	Possible Values	: 1 - 1020
	Default Value	: 128
SEL	Configuration of partially qualified names via ans./response Selection mode. Specifies whether entries are to be requested for each file with the prompt parameter ANS or whether the files are to be copied directly.	
	Type of Input	: Single value
		optional
	Possible Values	: Y = yes, inquiry by parameter ANS
		N = no, no inquiry
	Default Value	: Y
SRCADR	Source address.	
	Byte position at which reading is to start.	
	Type of Input	: Single value
		optional
	Possible Values	: address with a maximum of 9 positions
	Default Value	: 0
SRCFILE	Source file, sending file	
	Type of Input	: Single value
		mandatory
	Possible Values	: :PDS:tname fully or partially qualified hard disk file name
		: :C:tname fully or partially qualified cartridge file name
		max. length 32
SRCVOL	Source volume name (only if FD)	
	Type of Input	: Single value
		optional
	Possible Values	: volume name with a maximum of 6 positions
	Default Value	: ''
UNIT	Functional system unit code i.e. swu or server	

COPY - Copy Files

Error Messages and Advisories

Module into which the AMO is to be loaded.

Type of Input : Single value
optional

Possible : A1 = Administration and Data Server (ADS)
Values

Default Value : A1

WARN

Warning

Inquiry, when overwriting files

Type of Input : Single value
optional

Possible : Y = overwrite file
Values

N = do not overwrite file

Default Value : Y

54.5 Error Messages and Advisories

54.5.1 Error Messages

F01: SOURCE FILE <srcfile>
WITH THE FILE TYPE SAM VARIABLE, CAN'T BE COPIED TO DESTINATION FILE
<destfile> WITH THE FILE TYPE SAM-FIX
F02: SRC ADDR GREATER THAN SIZE OF SRC FILE
F03: SRCADR + LEN ARE GREATER THAN SIZE OF SRCFILE LEN:= H'new-len
F04: DEST. FILE ADDRESS TOO LONG
F05: DEST ADDR + LEN ARE LARGER THAN SIZE OF DEST. DEVICE LEN:=H'len
F06: DEVICE <device> CANNOT BE RESERVED AS IT IS ALREADY ACTIVATED
F07: DESTINATION FILE IS DIRECTORY FILE
F08: HARD BREAK
F09: BOTH FILENAMES MUST BE WITH OR WITHOUT WILDCARDS
F10: FILE AND AREA NOT ALLOWED ON THE SAME DEVICE
F11: NO VOLUME IN DEVICE <devname>
F12: VOLUME IN DEVICE <devname> IS WRITE PROTECTED

54.5.2 Advisories

H01: DEST. FILE <destfile> EXISTS: OVERWRITE ?

H02: <datnam> IS PHYSICALLY OPENED FOR WRITING !
EXISTING FILE STRUCTURES MAY BE CORRUPTED; CONTINUE ?
H03: BACKUP/RESTORE TERMINATED WITH ERROR :H'status ; NORMAL COPY (Y/N)
H04: COPY STARTED
H05: COPY ?
H06: NUMBER OF COPIED BYTES: H'bytes
H07: COPY FINISHED
H08: NOTE: NOT ALL FILES COPIED
H09: <srcfile> COPIED TO"
<destfile>
H10: <srcfile> COPIED TO"
<destfile> FROM BYTE H'destadr
H11: <srcfile> COPIED FROM BYTE H'srcadr TO
<destfile>
H12: <srcfile> COPIED FROM BYTE H'srcadr TO
<destfile> FROM BYTE H'destadr

COPY - Copy Files

Error Messages and Advisories

55 COSSU - Classes of Service

The description of this AMO is only available in html format!

56 COT - Class of Trunk for Call Processing

The description of this AMO is only available in html format!

57 CPCI - Configuration for System Startup and Adjusting LAN Interface Settings

The description of this AMO is only available in html format!

58 CPTP - Communication parameters for TCP/IP-Connection

Restrictions	Functions of the AMO	Error- and Advisories
Interrelationships	Parameter Description	

The AMO CPTP (Communication parameters for TCP/IP-Connection) processes the parameters in the database for TCP/IP-Connection.

58.1 Restrictions

This description is valid from SP300-Rel.6.3

58.2 Interrelationships

There is no dependence on other AMOs.

58.3 Functions of the AMO

- [ADD-CPTP](#) : Create the communication parameters
- [DELETE-CPTP](#) : Delete the communication parameters
- [DISPLAY-CPTP](#) : Interrogate the communication parameters
- [REGENERATE-CPTP](#) : Regenerate the database for the communication parameters

58.3.1 Dependency on CPTP

- TYPE=DPCON must be started before TYPE=APPL.
- The combination (EMSAPPL,DPPROC,DPAPPI) may only be used once.
- For stream oriented use a LOCPORT must not be assigned to different EMSAPPL.

58.3.2 ADD-CPTP

Depending on the values for the branch parameter TYPE, the following parameters can be added:

- 1. DP-Connections
- 2. Applications

Procedure Overview

Command Code	Parameter
ADD-CPTP	TYPE=DPCON (1) , [NO=<number>], DPPROC=<string> , IPNO=<number>;
	TYPE=APPL (2) , [NO=<number>], EMSAPPL=<string> , DPPROC=<string>, DPAPPL=<string> , MSGBASED=YES , LOCPORT=<number>, FARPORT=<number> , LOCTSAP=<string>, FARTSAP=<string>; | , MSGBASED=NO , LOCPORT=<number>, FARPORT=<number>;

Examples

- 1. Create the parameters of a DP connection.

Input:

ADD-CPTP:DPCON,1,DPEXAMPL,"180.1.5.99";

- 2. Create the parameters for an application.

Input:

ADD-CPTP:APPL,2,APPL1,DPEXAMPL,APPLFAR,YES,102,102,IDAPPL1,IDAPPLFAR;
;

58.3.3 DELETE-CPTP

Depending on the values for the branch parameter TYPE, the parameters of DP-connection or application can be deleted. Entering two chained values of parameter NO, a range of entries will be deleted.

Procedure Overview

Command Code

DELETE-CPTP

Parameter

TYPE=<param>,NO=<number>;

Examples

1. Delete the DP connection 1.

Input:

DELETE-CPTP:DPCON,1;

2. Delete the applications 3 till 5.

Input:

DELETE-CPTP:APPL,3-5;

58.3.4 DISPLAY-CPTP

Depending on the values for the branch parameter TYPE, the following parameters can be interrogated:

1. one (all) DP-Connection(s)
2. one (all) Application(s)
3. all DP-connections and all applications

Procedure Overview

Command Code

DISPLAY-CPTP

Parameter

[TYPE=<param>],[NO=<number>;]

Examples

1. Display all communication parameters.

Input:

DISPLAY-CPTP;

Output:

```
DP-CONNECTION :
+-----+-----+-----+
| DP NO | DPPROC | IP NUMBER |
+-----+-----+-----+
|  1    | DPPROC1 | 180.1.5.99 |
+-----+-----+-----+
```

APPLICATION :

CPTP - Communication parameters for TCP/IP-Connection

Parameter Description

APPL	EMSAPPL	DPPROC	DPAPPL	MSG	LOC	FAR	LOCAL	FAR
NO				BASED	PORT	PORT	TSAP	TSAP
__1	EMSAPPL1	DPPROC1_	DPAPPL1_	YES	102	102__	IDAPPL1__	IDAPPLFAR_

58.3.5 REGENERATE-CPTP

Procedure Overview

Command Code	Parameter
REGENERATE-CPTP	;

Examples

Output all data as position-oriented ADD commands.

Input:

REG-CPTP;

Output:

ADD-CPTP:DPCON,1,"DPEXAMPL","180.1.5.99";
ADD-CPTP:APPL,2,"APPL1","DPEXAMPL","APPLFAR",YES,102,102,"IDAPPL1","IDAPPLFAR";

58.4 Parameter Description

DPAPPL	Name of the farend application; name need only be known to the local application and CMS, not to the far end application. Type of Input : Single value, mandatory Possible Values : 1 - 8 chars; 1st char /= ' '
DPPROC	Name of the farend host; name need only be known to the local application and CMS, not to the far end application. Type of Input : Single value, mandatory Possible Values : 1 - 8 chars; 1st char /= ' '
EMSAPPL	Name of the local application; name need only be known to the local application and CMS, not to the far end application. Type of Input : Single value, mandatory

CPTP - Communication parameters for TCP/IP-Connection

Parameter Description

	Possible Values : 1 - 8 chars; 1st char /= ' '
FARPORT	A well known server port number to which an application can connect via CMS. This port number must be identical with that in the far end host. Type of Input : Single value, mandatory Possible Values : 1 - 65535 (except 102 for stream based)
FARTSAP	Identification of the far end application according ISO-8073. Type of Input : Single value, mandatory Possible Values : 1 - 10 chars; 1st char /= ' '
IPNO	THE IP address of the far end application. This address must also be set on the far end host. Type of Input : Single value, mandatory Possible Values : 7 - 15 chars; (0-255.0-255.0-255)
LOCPORT	A well known port number to which a far end application can connect. It is up to the client to know what application is associated with this well known CMS port. Type of Input : Single value, mandatory Possible Values : 712 - 811 (stream based) : 102 (message based)
LOCTSAP	Identification of the own application according ISO-8073. The host has to know this identification. Type of Input : Single value, mandatory Possible Values : 1 - 10 chars; 1st char /= ' '
MSGBASED	Specific type of data transmission to application. Type of Input : Single value, mandatory Possible Values : YES: application gets the data message based (protocol ISO-8073 is used) NO: application gets the data stream based
NO	Using ADD-CPTP NO is a free number in the table of DPCON or APPL (according TYPE). If NO is not entered, then the AMO looks for a free place in the table. If there is no free place, then an error message will be displayed.

CPTP - Communication parameters for TCP/IP-Connection

Error- and Advisories

Type of Input : Single value,
optional
mandatory (DELETE)

Possible : 1 - 255
Values two chained values are allowed with DELETE

TYPE

Type of Configuration

Type of Input : Single value,
optional
mandatory (ADD)

Possible : DPCON = DP Connection
Values APPL = Application

58.5 Error- and Advisories

58.5.1 Error Messages

F01: A CONFIGURATION ALREADY EXISTS FOR THE DP-CONNECTION <no>.
F02: A CONFIGURATION ALREADY EXISTS FOR THE APPLICATION <no>.
F03: THE PARAMETER <param> CONTAINS INVALID CHARACTER.
F04: THE COMBINATION EMS-APPLICATION <emsappl>, DP-PROCID <dpproc>
AND DP-APPLICATION <dpappl> MAY ONLY BE USED ONCE.
F05: FOR THE DP-CONNECTION <no> IS ALREADY AN APPLICATION ADDED.
F06: THE MAXIMUM NUMBER OF DP-CONNECTIONS IS ALREADY REACHED.
F07: THE MAXIMUM NUMBER OF APPLICATIONS IS ALREADY REACHED.
F08: THE DP-CONNECTION <dpproc> IS NOT CONFIGURED.
F09: A LOCPORT MUST NOT BE ASSIGNED TO DIFFERENT EMSAPPL.
F10: FARPORT 102 IS NOT ALLOWED.
F11: WRONG FORMAT OF IP-NUMBER.
F12: DP-CONNECTION FOR <dpproc> ALREADY EXISTS.
F13: NOT PERMITTED NUMBER OF DOTS IN IP-ADDR.
F14: NUMBERS OCCURING IN AN IP-ADDR MUST NOT BE LARGER THAN 255.

58.5.2 Advisories

H01: THE DP-CONNECTION IS ADDED WITH THE CONNECTION NUMBER <no>.
H02: THE APPLICATION IS ADDED WITH THE CONNECTION NUMBER <no>.
H03: NO CONFIGURATION EXISTS FOR DP-CONNECTION.
H04: NO CONFIGURATION EXISTS FOR APPLICATION
H05: FOR SEVERAL DP-CONNECTIONS ARE APPLICATIONS STILL ADDED.
H06: A CONFIGURATION ALREADY EXISTS FOR THE DP-CONNECTION <@@@>.

59 CRON - Timed command execution

Restrictions	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO CRON is used to execute MML-commands at specified times, either only once or periodical (every ten minutes, hourly, daily, weekly or monthly). The AMO is based on a scheduling mechanism in the system which is activated in time-intervals of ten minutes. The MML-commands which are to be executed are stored in a time-schedule table which resides on hard disk.

An entry of the time-schedule table contains the following information:

- the MML-command which is to be executed
- a time specification when the MML-command should be executed
- an option that specifies, how often a MML-command is to be executed (O=once or P=periodical)

The time specification consists of five parameter entries that specify the minute (0, 10, 20, 30, 40 or 50), hour (0-23), day of the month (1-31), month of the year (1-12) and day of the week (0-6, with 0=Sunday). Each of these parameters may contain:

- a number in the range indicated above
- an asterisk (*) meaning all legal values

Time specifications can be made in any combination. Parameters which are not specified or contain asterisks will be interpreted as "don't care", meaning all legal values (every ten minutes, hourly, daily, weekly or monthly respectively). The specification of days may be made by two parameters (DAY and WEEKDAY). If both are specified, both are adhered. For example WEEKDAY=5, DAY=13 would run a MML-command on every Friday the thirteenth.

All executed MML-commands are recorded in the MML-Logbook (see AMO LOGBK). The result can be displayed using AMO-LOGBK. If however the MMI checking the command detects an error, there are not prompted parameters like in dialogue but the job will be discarded. There will be no entry to the AMO-LOGBK.

Attention: The user has to check the correctness of the MML-command.

MML-commands which are to be executed only once are removed automatically from the time-schedule table when they are (successfully or unsuccessfully) executed. MML-commands which are to be executed periodically remain in the time-schedule table.

59.1 Restrictions

- Since the MML-command contains hyphens (punctuation marks), it has to be set between double quotation marks. Therefore the MML-command itself occurring in an ADD-command of AMO CRON **must not contain double quotation marks !**

- The length of the MML-command is **max. 78 characters.**

Remark: Up to version HiPath 4000 V1.0 inclusively the length of the MML-command is **max. 48 characters**

- On principle AMO's residently loaded **cannot** be executed via AMO CRON at specified times.

AMO DSSM is the only residently loaded AMO. Therefore **AMO DSSM cannot be executed via AMO CRON.**

- All 'dialog - AMO's cannot be executed via AMO CRON.

To these belong e.g.:

- AMO TRACS
- AMO TRACA
- AMO DEBUG
- AMO DISPA

Remark:

A 'dialog - AMO' has the following characteristic properties:

1. The AMO must be started using a command (e.g.: EXEC-DISPA:A1;)
2. Only after the start commands can be entered (dialog - modus). The entering of commands is prompted.
3. The AMO must be terminated using a command.

- By the following reasons the AMO CRON should only be used by EXPERTS:

1. The correctness of parameter values **is not checked in any way** by AMO CRON. Therefore the **user is exclusively responsible** for the correctness and executability of the entered commands.
2. The application of many AMO's requires **special system know how.**

3. Loss of data, falsification of data or a restart of the system can be the **result of an improper use** of AMO's.

59.2 Functions of the AMO

- **ADD-CRON** : Add a new entry to the time-schedule table
- **CHANGE-CRON** : Change an existing time-schedule table entry
- **DELETE-CRON** : Delete one or more enties from the time-schedule table
- **DISPLAY-CRON** : List one or more (all) time-schedule table entries
- **REGENERATE-CRON** : Regenerate commands from the time-schedule table

59.2.1 ADD-CRON

This action adds a new entry to the time-schedule table.

Procedure Overview

Command Code	Parameter
ADD-CRON	[POS =<number>],
	[EXEC =<param>],
	[MINUTE =<number> or *],
	[HOUR =<number> or *],
	[DAY =<number> or *],
	[MONTH =<number> or *],
	[WEEKDAY =<number> or *],
	COMMAND =<string>;

Examples

Installation of a weekly database backup (every Sunday at 23:30).

Input:

```
ADD-CRON: , 30, 23, , , 0, "EXEC-UPDAT:BP;" ;
```

Installation of a class of service switchover during Christmas (from 12:00 Dec 24 to 6:00 Dec 27 for class of service switchover group number 7).

Input:

```
ADD-CRON: , 00, 12, 24, 12, , "CHANGE-BERUM: COSX, 7, 2;" ;
ADD-CRON: , 00, 06, 27, 12, , "CHANGE-BERUM: COSX, 7, 1;" ;
```

59.2.2 CHANGE-CRON

This action changes one or more existing entries of the time-schedule table.

Procedure Overview

Command Code	Parameter
CHANGE-CRON	POS =<number> ,
	{EXEC =<param> ,
	MINUTE =<number> or * ,
	HOURL =<number> or * ,
	DAY =<number> or * ,
	MONTH =<number> or * ,
	WEEKDAY =<number> or * ,
	COMMAND =<string>;

Example

Change the weekly database back-up from Sunday into Saturday (first position in the table).

Input:

```
CHANGE-CRON:POS=1,WEEKDAY=6;
```

Remark:

In entries originating from the **JOB Task** the parameters '**EXE**' and '**COMMAND**' **cannot be changed**. For these entries one has JOB /= 0.

59.2.3 DELETE-CRON

This action deletes one or more entries from the time-schedule table.

Procedure Overview

Command Code	Parameter
DELETE-CRON	POS=<number>;

Example

Delete all entries from the time-schedule table (incl. the file with the time-schedule table).

Input:

DEL-CRON:1&&32;

REMARK:

CRON Table entries having JOB /= 0 cannot be deleted with AMO CRON.
Use AMO JOB to delete such entries.

59.2.4 DISPLAY-CRON

This action lists one or more (all) time-schedule table entries.

Procedure Overview

Command Code	Parameter
DISPLAY-CRON	[POS=<number>];

Example

List all entries of the time-schedule table.

Input:

DISPLAY-CRON;

Output:

```

                                TIME-SCHEDULE TABLE
| POS | JOB | EXE | MIN | H | DAY | MNT | WDY | COMMAND |
+----+-----+-----+-----+---+-----+-----+-----+-----+
| 1 | 19 | R | 30 | 23 | 2 | 3 | 2 | |
| :DMS:BATCH/C009AN160094.C |
| 2 | 0 | R | 0 | 11 | 13 | * | 5 | |
| EXEC-REST:SYSTEM; |
| 3 | 20 | R | 0 | 12 | 24 | 12 | 3 | |
| :DMS:BATCH/C009AN160094.C |
| 4 | 0 | R | 0 | 6 | 27 | 12 | * | |
| CHANGE-BERUM:COSEX,7,1; |
| 5 | 0 | R | 20 | 13 | 10 | 6 | 5 | |
|
| ADD-ATCSM:A1,KO,TYPE,PCS-
CAPT,0D0A,0C,0,1B40,1B41,1B5B306D,1B5B386D,03,62,80; |
| 5 | 21 | R | 30 | 23 | 1 | 4 | 6 | |
| :DMS:BATCH/C009AN160094.C |

```

REMARK:

Entries with JOB /= 0 were inserted by the JOB Task.

59.2.5 REGENERATE-CRON

This action regenerates one or more (all) time-schedule table entries.

Parameter Description

Command Code	Parameter
REGENERATE-CRON	[POS=<number>];

```
ADD-CRON:1,P,30,23,**,6,"EXEC-UPDAT:BP;";
ADD-CRON:2,P,0,11,13,**,5,"EXEC-REST:SYSTEM;";
ADD-CRON:3,P,0,12,24,12,**, "CHANGE-BERUM:COSEX,7,2;";
ADD-CRON:4,P,0,6,27,12,**, "CHANGE-BERUM:COSEX,7,1;";
```

COMMAND	MML-command to be executed
	Type of Input : text string, mandatory
	Possible Values : 1-78 characters
DAY	Day of the month
	Type of Input : single value, optional
	Possible Values : 1-31
	* daily (or on the day of the week)
	Default Value : *
EXEC	Execution
	Type of Input : single value, optional
	Possible Values : O once
	P periodical
	Default Value : P
HOUR	Hour
	Type of Input : single value, optional
	Possible Values : 0-23

		*	hourly
	Default Value	: *	
MINUTE	Minute		
	Type of Input	: single value, optional	
	Possible Values	: 0, 10, 20, 30, 40 and 50	
		*	every ten minutes
	Default Value	: *	
MONTH	Month of the year		
	Type of Input	: single value, optional	
	Possible Values	: 1-12	
		*	monthly
	Default Value	: *	
POS	Position in the time-schedule table		
	Type of Input	: single value or range,	
		mandatory	(CHANGE and DELETE)
		optional	(ADD, DISPLAY and REGENERATE)
	Possible Values	: 1-32	
	Default Value	: n	first free position (ADD)
		: 1&&32	all entries (DISPLAY and REGENERATE)
	If no position is entered, the AMO tries to find a free position (ADD) or outputs all entries of the table (DISPLAY and REGENERATE).		
WEEKDAY	Day of the week (0-6, with 0=Sunday)		
	Type of Input	: single value, optional	
	Possible Values	: 0-6	0=Sunday, ... , 6=Saturday
		*	weekly (or on the day of the month)
	Default Value	: *	

59.4 Error Messages and Advisories

59.4.1 Error Messages

F01: NO FREE POSITION FOUND
F02: NO ENTRY FOUND
F03: POS. <xxx> ALREADY USED
F04: POS. <xxx> IS NOT USED
F05: <param> <value> INVALID
F06: <MINUTE> <value> INVALID (NOT 0, 10, 20, 30, 40, 50)
F07: ACCESS ERROR: DMS ERROR CODE: <xxxxxx>
F08: COMMAND SYNTACTICAL INCORRECT
F09: AMO <noun> DOES NOT EXIST
F10: ACTION <verb>-<noun> DOES NOT EXIST
F11: COMMAND DENIED - SECURITY LEVEL INSUFFICIENT
F12: BATCH FILE DOES NOT EXIST
F13: JOB AT POS. <xxx> CANNOT BE DELETED (USE AMO JOB)
F14: FIELDS EXE OR COMMAND OF JOB AT POS. <xxx> CANNOT BE CHANGED

59.4.2 Advisories

H01: TIME-SCHEDULE COMMAND HAS BEEN STORED AT POS. <x>
H02: POS. <x> CHANGED
H03: POS. <x> DELETED
H04: JOB AT POS. @@@ CANNOT BE DELETED (USE AMO JOB)
H05: NO ENTRY FOUND

60 CTIME - Call Processing Timers

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

By means of AMO CTIME, the customer-specific timers can be changed, interrogated, and regenerated.

The customer-specific timers are divided into the following groups to give a better overview:.

- ATND : Timers for the attendant console
- CCM : Timers for the multiple search code calling
- CPTIME1(*) : Timers for call processing part 1 -MURAT
- CPTIME2(*) : Timer for call processing part 2- MURAT
- TRK : Timers for trunks
- VECOTIME : Timers for VECOTIME

(*)The branch for the timers for call processing, CP, has been divided into two parts named CP1 and CP2 at the version L2.003.

All tables that are processed by this AMO are initialized by the database. As a result, the creation branch of this AMO is omitted. The data is merely changed, interrogated and regenerated.

All the parameters for this AMO are optional and are not cross-checked.

60.1 Interrelationships

- AMO TACSU : Configuration of Analog Trunk Circuits
- AMO TDCSU : Configuration of Digital Trunk Circuits
- AMO TSCSU : Configuration of Special Circuits in the SWU

60.2 Functions of the AMO

- [CHANGE-CTIME](#) : Change customer-specific timers for CP
- [DISPLAY-CTIME](#) : Interrogate customer-specific timers for CP
- [REGENERATE-CTIME](#) : Regenerate customer-specific timers for CP

60.2.1 CHANGE-CTIME

Procedure Overview

Command Code	Parameter
CHANGE-CTIME	TYPESWU=ATND, {ATNDCALL=<number>, ATNDCQ=<number>, ATNDHOLD=<number> , ATNDDIS=<number>, CQPRI0=<number>, CQOFL=<number> , ATNDTNSR=<number>} ; | TYPESWU=CCM, {NOTRDY1=<number>, NOTRDY2=<number>, WAIT1=<number> , WAIT2=<number>, CLRANS1=<number>, CLRANS2=<number> , CLRANS3=<number>, CLRANS4=<number>} ; | TYPESWU=CP1, {USERGD2=<number>, USERGD5=<number>, LONGPATH=<number> , CBK=<number>, ANSADV=<number>, PARK=<number> , SPDPD=<number>, RECALL=<number>, CDRDISDE=<number> , ECCSSUPV=<number>, FAXCD=<number>, DCIEOD=<number> , AUTOTONE=<number>, RELREC=<number>, TSUPVCB=<number> , ONHOOK=<number>, TSUPVAUT=<number>, CBRLLEN=<number> , KNLEN=<number>, RELCON=<number>, LCREOD=<number> , RECNIIGHT=<number>, RECPARK=<number>, PINVO1=<number> , PINVO2=<number>, PINVO3=<number>, PINVO4=<number> , PINVO5=<number>, PINVO6=<number>, PINVO7=<number> , PINNV1=<number>, PINNV2=<number>, PINNV3=<number> , PINNV4=<number>, PINNV5=<number>, PINNV6=<number> , PINNV7=<number>, DISPCH=<number>, OFLPM=<number> , ATDLYANN=<number>, DANNDIAL=<number>, ANNDIAL=<number> , LCRET=<number>, NOTRNG=<number>, FAXOFLPM=<number>} ; , ROUTEREQ=<number>, CTHLDREC=<number>, UUS3T1=<number> , UUS3T2=<number>, UUS3T3=<number>, QDELESTA=<number>} ; | TYPESWU=CP2, {CCBS5=<number> , AOCT1=<number>, AOCT2=<number>, CTLS1=<number>; , CTLS2=<number>, GPUNST=<number>, DCPA1=<number> , DCPA2=<number>, DCPA3=<number>, RTAD=<number>, PINVO10=<number>, PINNV10=<number>, T400=<number>,

Command Code	Parameter
	<pre> PREDCALL=<number>,NIRECALL=<number>,TRKTOTRK=<number>, REPAUSE=<number>,SYSRCPAR=<number>,AUTCMPON=<number>, PINVO11=<number>,PINVO12=<number>,PINVO13=<number>, PINVO14=<number>,PINVO15=<number>,PINNV11=<number>, PINNV12=<number>,PINNV13=<number>,PINNV14=<number>, PINNV15=<number>,VARDIALT=<number>,FTRQTOUT=<number>, FTWOTOUT=<number>,GWNAVAIL=<number>,SMPFTIME=<number>,}; EARLYDMC=<number>, AGTFWD=<number>, FWDDESK=<number>, FWDCELL=<number>, FWDVM=<number>, FWD CFNR=<number>; | TYPESWU=TRK, | {PREEMT=<number>,NOANSCON=<number>,NOCALLTR=<number> | ,ATNDTRNS=<number>,RPTSZ=<number>,RPTSZEND=<number> | ,PRREQI=<number>,PRREQC=<number>,NEWCONN=<number> | ,RELJOIN=<number>}; | TYPESWU=VECOTIME, | {CBMNXTBD=<number>,CBMBDANS=<number>}; </pre>

60.2.2 DISPLAY-CTIME

Procedure Overview

Command Code	Parameter
DISPLAY-CTIME	TYPESWU=<param>;

Example

Interrogate the customer-specific timers for call processing part 1:

Input:

```
DISPLAY-CTIME:CP1;
```

Output:

CALL PROCESSING TIMERS 1:

```

+-----+-----+-----+-----+-----+
| USERGD2 = 2 SEC. | USERGD5 = 5 SEC. | LONGPATH = 2 SEC. |
| CBK = 20 SEC. | ANSADV = 20 SEC. | PARK = 30 SEC. |
| SPDPD = 5 SEC. | RECALL = 30 SEC. | CDRDISDE = 10 SEC. |
| ECCSSUPV = 15 SEC. | FAXCD = 5 SEC. | DCIEOD = 5 SEC. |
| AUTOTONE = 200 MS. | RELREC = 90 SEC. | TSUPVCB = 2 SEC. |
| ONHOOK = 15 MIN. | TSUPVAUT = 30 SEC. | CBRLN = 40 SEC. |
| KNLEN = 30 SEC. | RELCON = 90 SEC. | LCREOD = 10 SEC. |
| RECNIGHT = 180 SEC. | RECPARK = 120 SEC. | PINVO1 = 300 SEC. |
| PINVO2 = 300 SEC. | PINVO3 = 300 SEC. | PINVO4 = 300 SEC. |
| PINVO5 = 300 SEC. | PINVO6 = 300 SEC. | PINVO7 = 300 SEC. |

```

CTIME - Call Processing Timers

Functions of the AMO

```
| PINNV1  = 1800 SEC. | PINNV2  = 1800 SEC. | PINNV3  = 1800 SEC. |
| PINNV4  = 1800 SEC. | PINNV5  = 1800 SEC. | PINNV6  = 1800 SEC. |
| PINNV7  = 1800 SEC. | DISPCH  = 20 SEC. | OFLPM   = 20 SEC. |
| ATDLYANN = 12 SEC. | DANNDIAL = 15 SEC. | ANNDIAL  = 5 SEC. |
| LCRET   = 5 SEC. | NOTRNG  = 5 SEC. | FAXOFLPM = 30 SEC. |
| ROUTEREQ = 5 SEC. | CTHLDREC = 300 SEC. | UUS3T1   = 10 SEC. |
| UUS3T2   = 10 SEC. | UUS3T3   = 10 SEC. | QDELESTA = 1 SEC. |
+-----+-----+-----+
```

Example

Interrogate the customer-specific timers for call processing part 2:

Input:

```
DISPLAY-CTIME:CP2;
```

Output:

```
CALL PROCESSING TIMERS 2:
+-----+-----+-----+
| CCBS5   = 3600 SEC. | AOCT1   = 15 SEC. | AOCT2   = 15 SEC. |
| CTLS1   = 2 SEC.   | CTLS2   = 2 SEC. | GPUNST  = 1800 SEC. |
| DCPA1   = 10 SEC.  | DCPA2   = 15 SEC. | DCPA3   = 10 SEC. |
| RTAD    = 0 SEC.   | PINVO10 = 300 SEC. | PINNV10 = 1800 SEC. |
| T400    = 20 SEC.  | PREDCALL= 20 SEC. | NIRECALL= 900 SEC. |
| TRKTOTRK= 120 SEC. | REPAUSE = 3 SEC.  | SYSRCPAR= 30 SEC. |
| AUTCMPON= 60 SEC.  | PINVO11 = 300 SEC. | PINNV11 = 1800 SEC. |
| PINVO12 = 300 SEC. | PINNV12 = 1800 SEC. | PINVO13 = 300 SEC. |
| PINNV13 = 1800 SEC. | PINVO14 = 300 SEC. | PINNV14 = 1800 SEC. |
| PINVO15 = 300 SEC. | PINNV15 = 1800 SEC. | VARDIALT= 20 SEC. |
| FTRQTOUT= 10 SEC. | FTWOTOUT= 180 SEC. | GWNAAVAIL= 60 SEC. |
| SMPFTIME= 8 SEC.   |              |              |
+-----+-----+-----+
```

Example

Interrogate the customer-specific timers for trunks:

Input:

```
DISPLAY-CTIME:TRK;
```

Output:

```
CCT/SET TIMERS:
+-----+-----+-----+
| PREEMT   = 90 SEC. | NOANSCON = 30 SEC. | NOCALLTR = 30 SEC. |
| ATNDTRNS = 30 SEC. | RPTSZ    = 5 SEC.  | RPTSZEND = 40 SEC. |
+-----+-----+-----+
```

CTIME - Call Processing Timers

Functions of the AMO

```
| PRREQI   =    30 SEC. | PRREQC   =    15 SEC. | NEWCONN  =   110 SEC. |
+-----+-----+-----+
```

Example

Interrogate the customer-specific timers for the attendant console:

Input:

```
DISPLAY-CTIME:ATND;
```

Output:

```
ATTENDANT CONSOLE TIMERS:
```

```
+-----+-----+-----+
| ATNDCALL =    60 SEC. | ATNDCQ   =     2 SEC. | ATNDHOLD =     5 SEC. |
| ATNDDIS  =    20 SEC. | CQPRIO   =    15 SEC. | CQOFL    =    30 SEC. |
| ATNDTNSR =     7 SEC. |              |              |
+-----+-----+-----+
```

Example

Interrogate the customer-specific timers for the multiple search code calling:

Input:

```
DISPLAY-CTIME:CCM;
```

Output:

```
MULTIPLE-CC TIMERS:
```

```
+-----+-----+-----+
| NOTRDY1  =     3 SEC. | NOTRDY2  =     6 SEC. | WAIT1    = 1000 MS. |
| WAIT2    = 2000 MS. | CLRANS1  =    20 SEC. | CLRANS2  =    30 SEC. |
| CLRANS3  =    50 SEC. | CLRANS4  =   120 SEC. |              |
+-----+-----+-----+
```

Example

Interrogate the timers for the VECOTIME

Input:

```
DISPLAY-CTIME:VECOTIME;
```

Output:

```
VECO TIMERS:
```

```
+-----+-----+-----+
| CBMNXTBD =    20 MIN. | CBMBDANS =    30 SEC. |              |
+-----+-----+-----+
```

60.2.3 REGENERATE-CTIME

All the values in the database are output with this function.

Procedure Overview

Command Code	Parameter
REGENERATE-CTIME	;

Example

Regenerate timers for call processing.

Input:

REG-CTIME;

Output:

CHANGE-CTIME:CP1,2,5,2,20,20,30,5,30,10,3,5,5,200,90,2,15,
30,40,30,90,10,180,120,300,300,300,
300,300,300,300,1800,1800,1800,1800,
1800,1800,1800,20,20,12,15,15,5,5,30,5,300,
10,10,10,1;

CHANGE-CTIME:CP2,3600,15,15,2,2,1800,10,15,10,0,300,1800,
20,20,900,120,3,30,60,300,1800,300,1800,300,1800,300,1800,300,1800,20,10,180,60,
8;
CHANGE-CTIME:TRK, 90,30,30,30,5,40,30,15,110,900;
CHANGE-CTIME:ATND,60,2,5,60,15,30,7;
CHANGE-CTIME:CCM, 3,6,1000,2000,20,30,50,120;
CHANGE-CTIME:VECTIME, 30,20;

60.3 Parameter Description

ANNDIAL	Time until announcement for dial. Type of Input : single value, optional Possible Values : 5 - 120 sec Default Value : 5 sec
ANSADV	No answer advance: Timer for call forwarding - no answer Type of Input : single value, optional Possible Values : 3 - 3600 sec Default Value : 20 sec
AOCT1	Answer supevision of charge request Type of Input : single value, optional Possible Values : 2 - 99 sec

AOCT2	Default Value	: 15 sec
	Answer supervision of get final charge	
	Type of Input	: single value, optional
	Possible Values	: 2 - 99 sec
ATDLYANN	Default Value	: 15 sec
	Synchronous announcement on attendant console:	
	The timer controls the internal tone switches within a announcement cycle.	
	Type of Input	: single value, optional
ATNDCALL	Possible Values	: 1 - 60 sec
	Default Value	: 12 sec
	Attendant call:	
	If a call is not answered by an attendant within this time period, it is automatically night-switched and the call is returned to the call queuer. The timer is started only if the station is not in the conversation state.	
ATNDCQ	Type of Input	: single value, optional
	Possible Values	: 10 - 90 sec
	Default Value	: 60 sec
	Attendant call queue:	
ATNDDIS	Timer for periodically updating the display of waiting calls on the screen at the attendant position. Call is returned to the general attendant.	
	Type of Input	: single value, optional
	Possible Values	: 1 - 10 sec
	Default Value	: 2 sec
ATNDHOLD	Attendant display:	
	Warm-up time for the screen at the attendant position after it is turned on/or headset jack is inserted. The attendant position can only be seized outgoing during this time.	
	Type of Input	: single value, optional
	Possible Values	: 5 - 60 sec
ATNDTNSR	Default Value	: 20 sec
	Attendant hold:	
	Time period after unplugging the attendant position jack for which on-hold/parked calls at the attendant position are retained for re-interrogation after plugging the jack back in. If the timer expires and the jack is not plugged back in, these calls are lost.	
	Type of Input	: single value, optional
ATNDTNSR	Possible Values	: 3 - 10 sec
	Default Value	: 5 sec
	Frequency of setup message (busy trunk night service):	
	This timer is used to control the repeat frequency of the SETUP messagees sent to a busy individual night service destination.	
ATNDTNSR	Type of Input	: single value, optional
	Possible Values	: 3 - 100 sec

CTIME - Call Processing Timers

Parameter Description

	Default Value : 7 sec
ATNDTRNS	Transfer to attendant: This timer is used for the following two functions: 1. Time after which a parallel call to the attendant position is to be made after ringing has been sent to an idle station which does not answer. 2. Time after which trunk calls in the call queuer will be indicated by rapid flashing of the overload LED. The overload indicator must have been activated using AMO ZAND (TYPE=ALLDATA, ACOVLT=YES). Type of Input : single value, optional Possible Values : 5 - 3600 sec Default Value : 30 sec
AUTOTONE	"ON" time for answer tone on SLMA (answering device for comp.-controlled call setup). Type of Input : single value, optional Possible Values : 100 - 999 ms Default Value : 200 ms
AUTCMPON	auto camp on timer. Type of Input : single value, optional Possible Values : 1- 60 sec Default Value : 5 sec
CBK	Time after which a recall is to be stopped (Call back). This timer will be used even for Recall Time T-CCBS3.. Type of Input : single value, optional Possible Values : 10 - 100 sec Default Value : 20 sec
CBMBDANS	response time of the particular LTUCC board. Type of Input : single value, optional Possible Values : 1 - 300 sec Default Value : 30 sec
CBMNXTBD	control timer for checking the LTUCC boards. Type of Input : single value, optional Possible Values : 2 - 30 min Default Value : 20 min
CBRLEN	Ringing time for callback notification: Only applies, if the parameter RRGBKTN is declared in the TYPE=ALLDATA branch of the AMO ZAND, if called party is free but does not answer. Type of Input : single value, optional Possible Values : 10 - 120 sec Default Value : 40 sec
CCBS5	Supervision Timer for callback TSC; Controlling of receipt UUS3 messages per time unit (Congestion_Control_Timer)

	Type of Input : Single value, optional
	Possible Values : 1 - 7200 sec.
	Default Value : 3600 sec.
CDRDISDE	Cancel display of call charges for CDISP (call detail display at DIGITE): The timer regulates the time which the display remains on the digite screen after the station becomes idle.
	Type of Input : single value, optional
	Possible Values : 3 - 300 sec
	Default Value : 10 sec
CLRANS1	Clear-answer time 1 allowed before cancelling search: If mode of operation DELANS (cancel the job only when answered) for the code calling system the search job is cancelled after the timer has expired, at the latest. Four timers, each with differing default values, are provided. These default values are assigned by means of AMO TSCSU (parameter DELANS2).
	Type of Input : single value, optional
	Possible Values : 20 - 600 sec
	Default Value : 20 sec
CLRANS2	Clear-answer time 2 allowed before cancelling search: If mode of operation DELANS (cancel the job only when answered) for the code calling system the search job is cancelled after the timer has expired, at the latest. Four timers, each with differing default values, are provided. These default values are assigned by means of AMO TSCSU (parameter DELANS2).
	Type of Input : single value, optional
	Possible Values : 20 - 600 sec
	Default Value : 30 sec
CLRANS3	Clear-answer time 3 allowed before cancelling search: If mode of operation DELANS (cancel the job only when answered) for the code calling system the search job is cancelled after the timer has expired, at the latest. Four timers, each with differing default values, are provided. These default values are assigned by means of AMO TSCSU (parameter DELANS2).
	Type of Input : single value, optional
	Possible Values : 20 - 600 sec
	Default Value : 50 sec
CLRANS4	Clear-answer time 4 allowed before cancelling search: If mode of operation DELANS (cancel the job only when answered) for the code calling system the search job is cancelled after the timer has expired, at the latest. Four timers, each with differing default values, are provided. These default values are assigned by means of AMO TSCSU (parameter DELANS2).
	Type of Input : single value, optional
	Possible Values : 20 - 600 sec
	Default Value : 120 sec
CQOFL	Overflow Timer; when this timer has expired, the call shall overflow to the overflow destination.
	Type of Input : Single value, optional

CTIME - Call Processing Timers

Parameter Description

	Possible Values	: 5 - 240 sec.
	Default Value	: 30 sec.
CQPRIO	Priority Timer; when this timer has expired, the priority level of the concerned call has to be increased.	
	Type of Input	: Single value, optional
	Possible Values	: 5 - 240 sec.
	Default Value	: 15 sec.
CTHLDREC	Timer to control the duration of a Manual Hold of a call	
	Type of Input	: Single value, optional
	Possible Values	: 10 - 3600 sec.
	Default Value	: 300 sec.
CTLS1	Controlled trunk and line selection timer 1	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 300 sec.
	Default Value	: 2 sec.
CTLS2	Controlled trunk and line selection timer 2	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 300 sec.
	Default Value	: 2 sec.
DANNDIAL	Duration of announcement for dial.	
	Type of Input	: single value, optional
	Possible Values	: 5 - 180 sec
	Default Value	: 15 sec
DCIEOD	End-of-dial supervision when setting up a trunk call or a tie-trunk call for a DCI from an associated ANATE or DIGITE.	
	Type of Input	: single value, optional
	Possible Values	: 3 - 9 sec
	Default Value	: 5 sec
DCPA1	Directed call park - park destination is idle.	
	Type of Input	: single value, optional
	Possible Values	: 1 - 999 sec
	Default Value	: 10 sec
DCPA2	Directed call park - recall timer of the parked party.	
	Type of Input	: single value, optional
	Possible Values	: 1 - 999 sec
	Default Value	: 15 sec
DCPA3	Directed call park - park destination is busy.	
	Type of Input	: single value, optional
	Possible Values	: 1 - 999 sec

	Default Value : 10 sec
DISPCH	Time between actualization of charge display: Actualization of charge display at station by desired interval. The adjusted value is only an approximate value which can be exceeded when the switching unit is hardly working to capacity by processes of high priority. The parameter is only effective if charges will really be displayed. Type of Input : single value, optional Possible Values : 10 - 300 sec Default Value : 20 sec
ECCSSUPV	External computer controlled call setup (ECCS) supervision time. Type of Input : single value, optional Possible Values : 1 - 255 sec Default Value : 15 sec
FAXCD	After the code FAX is dialed from a digite, the timer starts during a call (while in the call state). If no DN is dialed, a FAX call is set up to the other party after the timer expires if the other party has a FAX device. Type of Input : single value, optional Possible Values : 1 - 9 sec Default Value : 5 sec
FAXOFLPM	Fax overflow time to PhoneMail: The time before the overflow to PhoneMail takes place in the case "no answer" Type of Input : single value, optional Possible Values : 1 - 999 sec Default Value : 30 sec
FTRQTOUT	Final Tones: i.e busy, reorder etc. that require timeout Type of Input : single value, optional Possible Values : 5 - 3600 sec Default Value : 10 sec
FTWOTOUT	Final Tones that do not require timeout Type of Input : single value, optional Possible Values : 5 - 3600 sec Default Value : 180 sec
FWDDISK	NO ANSWER ADVANCE TIMER FROM CLIENT TO DESKPHONE CIRCUIT Type of Input : single value, group member Possible Values : numeric, 1-30
FWDCELL	NO ANSWER ADVANCE TIMER FROM DESK TO MOBILE FOR OSMO&CIRCUIT Type of Input : single value, group member Possible Values : numeric, 1-30
FWDVM	NO ANS ADV TIMER TO VM FOR OSMO & TO CFNR DEST FOR CIRCUIT

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Parameter Description

FWDCFNR	Type of Input	single value, group member
	Possible Values	numeric, 1-30
GPUNST	NO ANSWER ADVANCE TIMER FOR OSMO ONLY	
	Type of Input	single value, group member
GUNAVAL	Possible Values	numeric, 1-30
	Network-wide group pick-up tsc teardown timer	
GUNAVAL	Type of Input	: single value, optional
	Possible Values	: 60 - 64800 sec
GUNAVAL	Default Value	180 sec
	Time during a gateway is marked as not reachable	
KNLEN	Type of Input	: single value, optional
	Possible Values	: 1 - 300 sec
KNLEN	Default Value	60 sec
	Length of knocking signal for DID calls from CO.	
LCREOD	Type of Input	: single value, optional
	Possible Values	: 10 - 120 sec
LCREOD	Default Value	: 30 sec
	LCR (least cost routing) end-of-dial timer:	
LCREOD	This timer is restarted after each digit dialed. Upon expiry of the timer, it is assumed that dialing has been completed.	
	Type of Input	: single value, optional
LCRET	Possible Values	: 3 - 30 sec
	Default Value	: 10 sec
LCRET	Expensive route tone supervision.	
	Type of Input	: single value, optional
LONGPATH	Possible Values	: 2 - 10 sec
	Default Value	: 5 sec
LONGPATH	Reserve long path (multi-mts (stage) system only):	
	Timer for delayed release of the long route via CSN (for systems with a 3-stage switching network).	
NEWCONN	Type of Input	: single value, optional
	Possible Values	: 1 - 5 sec
NEWCONN	Default Value	: 2 sec
	Supervision time for new connection request:	
NIRECALL	supervision of a new connection setup.	
	Type of Input	: single value, optional
NIRECALL	Possible Values	: 0 - 300 sec
	Default Value	110 sec
NIRECALL	night recall timer	
	Type of Input	: single value, optional

	Possible Values : 60 - 1800 sec
	Default Value 900 sec
NOANSCON	No answer consultation: The timer is set for a trunk which recalls to the initiator when the transfer was not successful. If the initiator does not answer, the call is forwarded on to the attendant after the timer expires.
	Type of Input : single value, optional
	Possible Value : 5 - 3600 sec
	Default Value : 30 sec
NOCALLTR	No call transfer: Ringing time in the case of a transfer to an available subscriber, or checking time in the case of a transfer to a busy subscriber. After the timer expires, the initiator is recalled and timer "NOANSCON" is started.
	Type of Input : single value, optional
	Possible Values : 5 - 3600 sec
	Default Value : 30 sec
NOTRDY1	Time after which the the input of search jobs is negatively acknowledged if the TCOM (multi-purpose outgoing trunk circuit for special equipment) is "out of service".
	Type of Input : single value, optional
	Possible Values : 1 - 5 sec
	Default Value : 3 sec
NOTRDY2	Time after which the the input of search jobs is negatively acknowledged if the TCOM (multi-purpose outgoing trunk circuit for special equipment) is "out of service".
	Type of Input : single value, optional
	Possible Values : 5 - 10 sec
	Default Value : 6 sec
NOTRNG	Periodical repeated notification ring
	Type of Input : single value, optional
	Possible Values : 5 - 30 sec
	Default Value : 5 sec
OFLPM	AC queue overflow to phonemail: The timer will be started on entering the incoming CO trunk call into the AC queue if this function is activated.
	Type of Input : single value, optional
	Possible Values : 1 - 999 sec
	Default Value : 20 sec
ONHOOK	Time between deactivation and B-station going on-hook (1TR6).
	Type of Input : single value, optional
	Possible Values : 10 - 60 min
	Default Value : 15 min
PARK	Time for callback in the case of a parked subscriber, park unit/location is released.

CTIME - Call Processing Timers

Parameter Description

	Type of Input	: single value, optional
	Possible Values	: 10 - 3600 sec
	Default Value	: 30 sec
PINNV1	Time for validation of the pin, of COPIN 1 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=1,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 1800 sec
PINNV2	Time for validation of the pin, of COPIN 2 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=2,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 1800 sec
PINNV3	Time for validation of the pin, of COPIN 3 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=3,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 1800 sec
PINNV4	Time for validation of the pin, of COPIN 1 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=4,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 1800 sec
PINNV5	Time for validation of the pin, of COPIN 1 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=5,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 1800 sec
PINNV6	Time for validation of the pin, of COPIN 1 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=6,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 1800 sec
PINNV7	Time for validation of the pin, of COPIN 7 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=7,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 1800 sec
PINNV10	Time for validation of the pin, of COPIN 10 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=10,PINDUR=TIME).	
	Type of Input	: single value, optional

	Possible Values : 0 - 64800 sec
	Default Value : 1800 sec
PINNV11	Time for validation of the pin, of COPIN 11 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=11,PINDUR=TIME). Type of Input : single value, optional Possible Values : 0 - 64800 sec Default Value : 1800 sec
PINNV12	Time for validation of the pin, of COPIN 12 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=12,PINDUR=TIME). Type of Input : single value, optional Possible Values : 0 - 64800 sec Default Value : 1800 sec
PINNV13	Time for validation of the pin, of COPIN 13 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=13,PINDUR=TIME). Type of Input : single value, optional Possible Values : 0 - 64800 sec Default Value : 1800 sec
PINNV14	Time for validation of the pin, of COPIN 14 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=14,PINDUR=TIME). Type of Input : single value, optional Possible Values : 0 - 64800 sec Default Value : 1800 sec
PINNV15	Time for validation of the pin, of COPIN 15 for non-voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=15,PINDUR=TIME). Type of Input : single value, optional Possible Values : 0 - 64800 sec Default Value : 1800 sec
PINVO1	Time for validation of the pin, of COPIN 1 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=1,PINDUR=TIME). Type of Input : single value, optional Possible Values : 1 - 64800 sec Default Value : 300 sec
PINVO2	Time for validation of the pin, of COPIN 2 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=2,PINDUR=TIME). Type of Input : single value, optional Possible Values : 1 - 64800 sec

CTIME - Call Processing Timers

Parameter Description

	Default Value	: 300 sec
PINVO3	Time for validation of the pin, of COPIN 3 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=3,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 300 sec
PINVO4	Time for validation of the pin, of COPIN 4 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=4,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 300 sec
PINVO5	Time for validation of the pin, of COPIN 5 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=5,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 300 sec
PINVO6	Time for validation of the pin, of COPIN 6 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=6,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 300 sec
PINVO7	Time for validation of the pin, of COPIN 7 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=7,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 1 - 64800 sec
	Default Value	: 300 sec
PINVO10	Time for validation of the pin, of COPIN 10 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=10,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 0 - 64800 sec
	Default Value	: 300 sec
PINVO11	Time for validation of the pin, of COPIN 11 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=11,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 0 - 64800 sec
	Default Value	: 300 sec
PINVO12	Time for validation of the pin, of COPIN 12 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=12,PINDUR=TIME).	
	Type of Input	: single value, optional
	Possible Values	: 0 - 64800 sec

	Default Value : 300 sec
PINVO13	Time for validation of the pin, of COPIN 13 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=13,PINDUR=TIME). Type of Input : single value, optional Possible Values : 0 - 64800 sec Default Value : 300 sec
PINVO14	Time for validation of the pin, of COPIN 14 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=14,PINDUR=TIME). Type of Input : single value, optional Possible Values : 0 - 64800 sec Default Value : 300 sec
PINVO15	Time for validation of the pin, of COPIN 15 for voice, if pin has not been deactivated (see AMO PERSI, CHANGE TYPE=COPIN,COPIN=15,PINDUR=TIME). Type of Input : single value, optional Possible Values : 0 - 64800 sec Default Value : 300 sec
PREDCALL	timer for making predictive call attempt. Type of Input : single value, optional Possible Values : 3-255 sec Default Value : 20 sec
PREEMT	Preemption: Higher-order deactivation timer for releasing outgoing calls if no-one answers a callback (due to call charge pulses). Type of Input : single value, optional Possible Values : 90 - 240 sec Default Value : 90 sec
PRREQC	Supervision time of state PR-REQ-COMPLETING: supervision, if the old way will be released without errors. Type of Input : single value, optional Possible Values : 0 - 300 sec Default Value : 15 sec
PRREQI	Supervision time of state PR-REQ-INITIATED: supervision, if there is an answer from Cooperating PTNX. Type of Input : single value, optional Possible Values : 0 - 300 sec Default Value : 30 sec
RECALL	Recall transferring party: Timer for recall if a subscriber is transferred and and subscriber does not answer after the transfer (or checking time if the transfer is to a busy subscriber).

CTIME - Call Processing Timers

Parameter Description

	Type of Input : single value, optional
	Possible Values : 5 - 3600 sec
	Default Value : 30 sec
REC NIGHT	Max. automatic recall time for night station: the timer will be started if there is a call-back for incoming co and if the waiting co trunk will be set for call state. The timer is also used for maximum duration of the calls in ringing state that are not queued to ACD. If the release destination doesn't answer the connection will be released after timing. Remark: for analog trunk boards (e.g. TMANI, TMANIN), the connection release will depend on either the Central Office or on the caller.
	Type of Input : single value, optional
	Possible Values : 10 - 64800 sec
	Default Value : 180 sec
RECPARK	Max. park time of trunk calls before recall to attendant.
	Type of Input : single value, optional
	Possible Values : 10 - 64800 sec
	Default Value : 120 sec
RELCON	Release Timeout, if the feature RELEASE CONTROL is implemented (e.g. China): This is the time before a connection is released after an user has gone on-hook. During this time the remaining user can dial a suffix code (RERING) in order to keep the connection.
	Type of Input : single value, optional
	Possible Values : 5 - 300 sec
	Default Value : 90 sec
RELREC	Release timer after incoming traffic recall (e.g. Austria): Whether the parameter is used by CP is determined by the COT, parameter BRAR (back release after recall).
	Type of Input : single value, optional
	Possible Values : 90 - 340 sec
	Default Value : 90 sec
RELJOIN	release trunks after join.
	Type of Input : single value, optional
	Possible Values : 1 - 999 sec
	Default Value : 900 sec
REPAUSE	redial pause timer.
	Type of Input : single value, optional
	Possible Values : 1 - 60 sec
	Default Value : 3 sec
ROUTEREQ	Wait for ACL route request: In ACD-ACL if a route request is sent to the application, then the application response timer is set unless the Delay Ringback timer is of equal or shorter duration. Any response received from the application or the expiration of the Delay Ringback timer will clear the application response timer (if it is running).

	Type of Input	: single value, optional
	Possible Values	: 5 - 35 sec
	Default Value	: 5 sec
RPTSZ	Repeat seizure: If, in the case of an external call, the general attendant is seized, a new seizure message is sent after the timer expires.	
	Type of Input	: single value, optional
	Possible Values	: 3 - 10 sec
	Default Value	: 5 sec
RPTSZEND	Repeat seizure end: If an external party calls the attendant via CAC EXTERNAL and if this call has not arrived at the destination station after timeout, the call will be forwarded to the highest configured AC group.	
	Type of Input	: single value, optional
	Possible Values	: 1 - 300 sec
	Default Value	: 40 sec
RTAD	time for validation of LCR route advanced	
	Type of Input	: single value, optional
	Possible Values	: 0-15 sec
	Default Value	: 0 sec
SMPFTIME	Waiting Time For	Mobile Phone Response
	Type of Input	Single Value, Optional
	Possible Value	2-30 sec
	Default Value	8 sec
SPDPD	Speed call post dialing: Timer for manual suffix dialing when the speed dialer is used. After the timer expires, the stored suffix dialing code (parameter SUPDIAL in AMO ZRNGZ) is automatically sent.	
	Type of Input	: single value, optional
	Possible Values	: 3 - 10 sec
	Default Value	: 5 sec
	The value of SPDPD must be smaller than the value of parameter EOD1A of AMO DTIM2 The value of SPDPD must be smaller than the value of LCREOD if SPEED DIALING with AUTOMATIC SUFFIX DIALING is used.	
SYSRCPAR	system park recall timer	
	Type of Input	: single value, optional
	Possible Values	: 10-3600 sec
	Default Value	: 30 sec
T400	timer for national ISDN bridge.	
	Type of Input	: single value, optional
	Possible Values	: 16-24 sec
	Default Value	: 20 sec

CTIME - Call Processing Timers

Parameter Description

TRKTOTRK	Trunk to trunk supervision timer. Type of Input : single value, optional Possible Values : 60-1800 sec Default Value : 120 sec
TSUPVAUT	After timeout, callback will be automatically initiated. Type of Input : single value, optional Possible Values : 5 - 60 sec Default Value : 30 sec
TSUPVCB	Timeout supervision for callback to A-station: Timer only applies within the network. Type of Input : single value, optional Possible Values : 1 - 25 sec Default Value : 2 sec
TYPESWU	Branch parameter, desired timer category. Type of Input : single value, required Possible Values : ATND (ATTENDANT TIMERS) CCM (MULTIPLE SEARCH CODE CALLING TIMERS) CP (CALL PROCESSING TIMERS) TRK (TRUNK TIMERS) VECODETIME (VECODE TIMERS)
USERGD2	User guide for check and store displays on digite: Timer for the duration of additional displays on the screen. Type of Input : single value, optional Possible Values : 1 - 5 sec Default Value : 2 sec
USERGD5	User guide for check and store displays on digite: Timer for the duration of additional displays on the screen. Type of Input : single value, optional Possible Values : 3 - 15 sec Default Value : 5 sec
UUS3T1	Timer for UUS3 Request started on called network; the timer will be started on reception of FACILITY message. Type of Input : Single value, optional Possible Values : 1 - 60 sec. Default Value : 10 sec.
UUS3T2	Timer for UUS3 Info message started on net side; period of time for number of user messages Type of Input : Single value, optional Possible Values : 1 - 60 sec. Default Value : 10 sec.

UUS3T3	Timer for UUS3 Request started on calling USER; the timer will be started on reception of FACILITY message. Type of Input : Single value, optional Possible Values : 1 - 60 sec. Default Value : 10 sec.
UUS3T3N	Timer for UUS3 Request started on calling USER national depending; the timer will be started on reception of FACILITY message. Type of Input : Single value, optional Possible Values : 1 - 60 sec. Default Value : 10 sec.
VARDIALT	Various Dial Times. Type of Input : single value, optional Possible Values : 5 - 3600 sec.. Default Value : 20 sec.
WAIT1	Time for dummy task 1 (enhanced code calling): This time will be assigned by the AMO TSCSU when TCOM (mult.-purpose outgoing trunk circuit for special equipment) is created for PSM (multiple code calling system). Type of Input : single value, optional Possible Values : 500 - 30000 ms.. Default Value : 1000 ms.
WAIT2	Time for dummy task 2 (enhanced code calling): This time will be assigned by the AMO TSCSU when TCOM (mult.-purpose outgoing trunk circuit for special equipment) is created for PSM (multiple code calling system). Type of Input : single value, optional Possible Values : 500 - 30000 ms.. Default Value : 2000 ms.

60.4 Error Messages and Advisories

H01: IF SPEED DIALING WITH AUTOMATIC SUFFIX DIALING IS USED, THEN THE VALUE OF SPDPD TIMER <xx> MUST BE LOWER THAN THE VALUE OF LCREOD TIMER <xx>.

61 DAGR - Administration of File parameters in CDR

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

This AMO can be used to change the file parameters for the output files in CDR (Call Detail Recording).

With this AMO the file sizes for the CDRC files and the FT-file (File for file-transfer) are administrated. For the FT-file there are additional parameters for the administration.

These file sizes at first have a maximum of 65535 data records for each of the CDRC files (CDRC-FILE1, CDRC-FILE2) and for the FT-file.

As a rule, the file sizes are initialized in the database as follows:

CDRC file1: with 65000 data records

CDRC file2: with 0 data records

FT file: with 0 data records

The abbreviation FT file means: File for File Transfer

The files are generated with these file sizes with output the first data record to the repective file. If a different size is desired, it can be changed during generation of the database.

If a different file size is desired at a later time, the new file size must be created using AMO-DAGR and the old file must be deleted on the HARD DISK. The new file with the new size is generated automatically when the first data record is stored.

Note:

The standard value of file size for CDRC files and FT file (parameter NO) has the range between 30000 and 40000 data records.

61.1 Interrelationships

None

61.2 Functions of the AMO

- **ADD-DAGR** : Add the file parameters
- **CHANGE-DAGR** : Change the file parameters
- **DELETE-DAGR** : Delete the file parameters
- **COPY-DAGR** : Start the copy of the file
- **DISPLAY-DAGR / REGENERATE-DAGR** : Interrogate the file parameters
Regenerate the file parameters

61.2.1 ADD-DAGR

Add the parameters for the output files of CDR. The output files are the CDRC-files (CDRC1 and CDRC2) and the FT-file.

For the CDRC-files there are only the file-sizes which can be added. The maximum size for each file is 65535 data records.

For the FT-file is the file size not a fixed limit. This file size ensures that the file will be created with this sizes.

For the FT-file the parameters for controlling the copy of the file (Copy time and Copy period) as well as the customer specific file name and the output code of the data records can be added.

For the copy time the day and the hour of the first copy time will be entered. At this it will be checked if the day is possible for the actual or the next month. If this is not a possible date, then the AMO gives an error message and the value is interrogated again. The copy period is the time after which the next copy will be started. The value 0 means that there is no copy period (only the first copy).

Is the end of file reached during the storage of the data records, the copy of the file to the customer specific filename is started. Is the customer specific file not picked up, then the FT-file will be added to this file. With this action it is possible that the file size of the FT-file will be exceeded. In this case it is possible that the data records are added to the file as long there is no more space on the CDR-Area (":CGD:-Area") of the Hard disk.

With the parameter output code it will be defined in which code (ASCII or EBCDIC) the data record is formatted. If the output code is changed (from ASCII to EBCDIC or reverse) the AMO gives an advisory that the file has to be copied and transferred. In this case a manually copy of the file must be started that the file can be transferred. This avoids that there are different formatted data record in the file.

Is the output code changed and the customer specific FT-file is not picked up, then the change will not be done. The change must be done in the following way:

1. Switch the corresponding selection group to COLLECT (AMO-SELS).
2. Start copy of the FT-file with action COPY.
3. Pick up the customer specific FT-file with the file transfer.
4. Change the file parameter output code.
5. Switch on the corresponding selection group (AMO-SELS).

Procedure Overview

Command Code	Parameter	
ADD-DAGR	| FILE=CDRC1,NO=<number>;	(1)
	| FILE=CDRC2,NO=<number>;	(2)
	| FILE=FT,NO=<number>,CODE=<name>,TIME=<number>, PERIOD=<number>,NAME=<string>;	(3)

Examples

1. Add the file size for FILE CDRC1 with 9000 data records

Input:

```
ADD-DAGR:CDRC1,9000;
```

2. Add the parameters for the FT-file with 40000 data records, Output code ASCII, first copy time on the 20th of the actual month at 23 o'clock with period 48 hours. Name of the customer specific file is "FILETRANSFER1".

Input:

```
ADD-DAGR:FT,40000,ASC,20-23,48,"FILETRANSFER1";
```

61.2.2 CHANGE-DAGR

Change the file parameters. For the CDRC-files there can be only the file sizes be changed.

For the FT-file the parameters for the file size, the copy time, the copy period, the output code and the customer specific file name can be changed. The AMO checks if the output code is changed (from ASCII to EBCDIC or reverse). In this case, the AMO outputs an advisory

message. A manually copy of the file must be performed that the file can be transferred. Is the file not yet picked up, then the same actions must be performed as at the action ADD.

The copy time will be checked in the same way as at the action add.

The parameters in the branch for the FT-file are a group of parameters where at least on e parameter has to be entered.

Procedure Overview

Command Code	Parameter	
CHANGE-DAGR	| FILE=CDRC1, NO=<number>;	(1)
	| FILE=CDRC2, NO=<number>;	(2)
	| FILE=FT, { (min 1) NO=<number>, CODE=<name>, TIME=<number>, PERIOD=<number>, NAME=<string>;	(3)

Examples

1. Change FILE CDRC1 to 30000 data records
Input:
CHANGE-DAGR:CDRC1, 9000;
2. Change the file size for the FT-file to 30000 data records and the copy period to 36 hours.
Input:
CHANGE-DAGR:FT, 30000, , , 36;

61.2.3 DELETE-DAGR

Delete the file parameters. The values for the file sizes will be set to 0. The values for the FT-file will be set to the initial values (copy time 0, copy period 0, output code ASCII, customer specific file name "FT_FILE_INTERN").

Procedure Overview

Command Code	Parameter	
DELETE-DAGR	FILE=<name>;	

Example

1. Delete the number of data records for FILE CDRC1

Input:

```
DELETE-DAGR:CDRC1;
```

61.2.4 COPY-DAGR

Manually copy of the FT-file to the customer specific file name for file transfer.

Procedure Overview

Command Code	Parameter
COPY-DAGR	;

Example

1. Start the copy of the FT-file.

Input:

```
COPY-DAGR;
```

61.2.5 DISPLAY-DAGR / REGENERATE-DAGR

1. Interrogate the file parameters for CDR in list format (DISPLAY).
2. Interrogate the file parameters for CDR with output in position-related commands for regeneration (REGEN).

Procedure Overview

Command Code	Parameter
DISPLAY-DAGR	;
REGENERATE-DAGR	(1) (2)

Examples

1. Output of the file parameters for CDR in list format.

Input:

DISPLAY-DAGR;

Output:

```
FILE-PARAMETERS OF DMS-FILES OF CALL CHARGE REGISTRATION

FILE NAME                NUMBER OF RECORDS IN THE FILE
CDRC1                     30000
CDRC2                     0
FT                        30000

PARAMETERS FOR THE FILE FOR FILE-TRANSFER:

OUTPUT-CODE              : ASC
COPY TIME (DD-HH)        : 20-23
COPY PERIOD (HOURS)      : 036
NAME OF THE TRANSFER FILE : FILETRANSFER1
```

2. Regenerate the file parameters

Input:

REG-DAGR;

Output:

```
ADD-DAGR:CDRC1,30000;
ADD-DAGR:CDRC2,0;
ADD-DAGR:FT,30000,ASC,20-23,36,"FILETRANSFER1";
```

61.3 Parameter Description

CODE	Output code of the data records
Type of Input	: single value, mandatory (ADD) single value, optional, 2. parameter of a min-1-group (branch FT, CHANGE)
Possible Values	: ASC ASCII-code EBC EBCDIC-code
FILE	Designation of a call charge registration file
Type of Input	: single value, mandatory
Possible Values	: CDRC1 CDRC file 1 (Name on the HD :CGD:GEZSFILE1)

	CDRC2	CDRC file 2 (Name on the HD :CGD:GEZSFILE2)
	FT	File for file transfer (Name on the HD :CGD:FT_FILE_INTERN)
NAME	Name of the customer specific file for file transfer	
	Type of Input	: single value, mandatory (ADD) single value, optional, 5. parameter of a min-1-group (branch FT, CHANGE)
	Possible Values	: textstring with max. 22 positions (name FT_FILE_INTERN is not allowed, because this filename is used for internal purposes.) The special characters ":", "/", ", " and "." are not allowed.
NO	Number of possible data records in file	
	Type of Input	: single value, mandatory single value, optional, 1. parameter of a min-1-group (branch FT, CHANGE)
	Possible Values	: 0 to 65535
PERIOD	Copy period (time to the next copy)	
	Type of Input	: single value, mandatory (ADD) single value, optional, 4. parameter of a min-1-group (branch FT, CHANGE)
	Possible Values	: 0 to 168 hours
TIME	Time of the firts copy of the FT-file	
	Type of Input	: two values, mandatory (ADD) two values, 3. parameter of a min-1-group (branch FT, CHANGE)
	Possible Values	: 00-00 day-hour of the copy time 31-23

61.4 Error Messages and Advisories

61.4.1 Error Messages

F01: DAY @@ IS NOT VALID FOR THE MONTH @@

DAGR - Administration of File parameters in CDR

Error Messages and Advisories

F02: HOUR MUST BE WITHIN THE RANGE FROM 0 TO 23

F03: THE NAME FT_FILE_INTERN IS NOT ALLOWED

F04: THE SPECIAL CHARACTERS ":", "/", ", " AND "." ARE NOT ALLOWED FOR THE NAME

61.4.2 Advisory Messages

H01: ATTENTION! OUTPUT CODE IS NOT CHANGED: PLEASE START COPY.

62 DASM - Hard disk area allocation - physical

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

A physical device (hard disk) can be subdivided into fixed *memory areas*.

In the mnemonic name, areas are denoted by the letters 'A' and 'E' to 'K'.

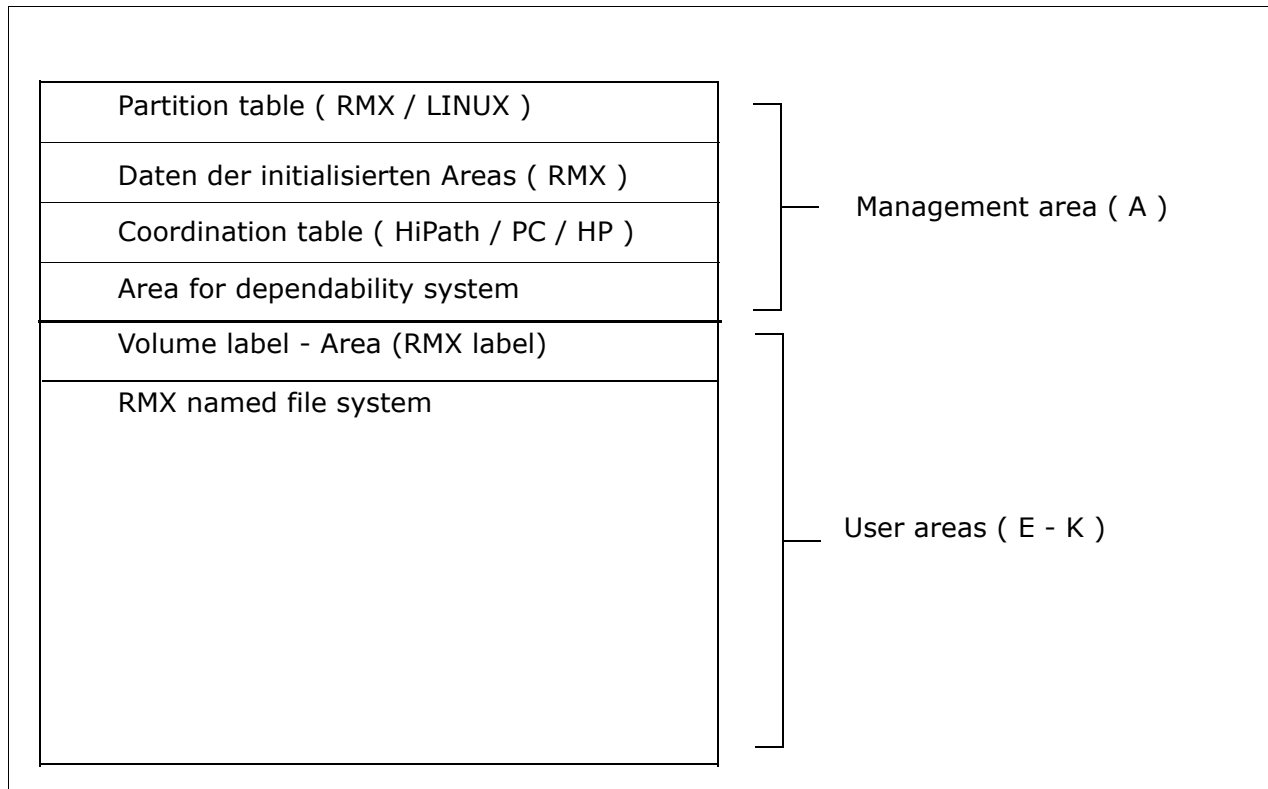


Figure 7 Disk area allocation

Every physical device has a *management area* which contains the following data beginning at sector 1:

- Partition table to distribute the physical device between RMX and LINUX
- Data over that on the physical device initialized areas
- Coordination table if more than one controller is connected at the SCSI bus
- Dependability data

DASM - Hard disk area allocation - physical

Restrictions

The entries into the data base occur with the AMO DASM.

The areas are arranged and initialized on the physical device with the AMO INIT.

NOTE: The management area is a protected area. A device contains up to 7 user areas. **Flash Memory** have only one management area which, however, covers the entire range. No areas will be added/deleted to/from an external device. An attempt to **add/delete areas on a controller** to which an external device has been assigned will be rejected with an error message.

62.1 Restrictions

This description is valid from HiPath 4000 V6.0.

62.2 Interrelationships

- AMO DCSM : Disk configuration
- AMO DDSM : Disk status

62.3 Functions of the AMO

- [ADD-DASM](#) : Add memory areas (device areas) in the DB
- [DELETE-DASM](#) : Delete memory areas from the DB

62.3.1 ADD-DASM

The areas are so configured that, beginning with the last block of any area already present in the DB, they cover the entire disk. If the specified area sizes are insufficient, the AMO can append another one. In addition, an obligatory management area is installed for each hard disk.

The mnemonic name of the area is announced when the disk area has been successfully installed.

Procedure Overview

Command Code	Parameter
ADD-DASM	[UNIT=<param>], CNO=<number>, [ALEN=<number>] , [AGRAN=<number>];

Examples

1. Installing two user areas of length 250 and 500 on device 1.

Input:

```
ADD-DASM: ,1,250&500,2048&4096;
```

62.3.2 DELETE-DASM

All areas of the specified device, starting with that area which is defined by FROMAREA, are erased from the database with this function.

Example: FROMAREA = G ; G, H, I,J and K will be errased.

If no area is entered (independent from device type) , all installed areas will be deleted.

NOTE: When areas are only deleted without following [ADD-DASM](#), a REGEN with following GENDB will add an area with the free space. (siehe [ADD-DASM](#)).

Procedure Overview

Command Code	Parameter
DELETE-DASM	[UNIT=<param>], CNO=<number>, [FROMAREA=<param>];

Examples

1. All areas of the device on controller 1, starting with area F, are to be deleted on the administration and data server.

Input:

```
DELETE-DASM:A1,1,F;
```

2. Delete all areas of device on controller 7

Input:

```
DEL-DASM:A1,7;
```

62.4 Parameter Description

AGRAN	Area granularity	
	Type of Input	: max. 8 chained (with '&') single values optional
	Possible Values	: 2048, 4096
	Default Value	: 2048
ALEN	Area size (in units of 64kByte)	
	(Area size = length of user-area)	
	(1 MByte corresponds to 16 64kByte units)	
	Type of Input	: max. 8 chained (with '&') single values optional
	Possible Values	: 1 - 32767
CNO	Controller number	
	Type of Input	: Single value mandatory
	Possible Values	: 1 - 8
FROMAREA	Area number (to be deleted from)	
	Type of Input	: Single value optional
	Possible Values	: E - K
UNIT	Functional system unit, i.e. server code	
	Type of Input	: Single value optional
	Possible Values	: A1 = Administration and data server (ADS)
	Default Value	: A1

62.5 Error Messages and Advisories

62.5.1 Error Messages

F01: AREAS ON CONTROLLER <cn> HAVE ALREADY BEEN CREATED
F02: DEVICE DOES NOT EXIST
F03: CONTROLLER <cn> DOES NOT EXIST
F05: AREAS ON CONTROLLER <cn> HAVE NOT BEEN CREATED
F06: DEVICE IS IN TEST STATUS
F07: DEVICE IS BLOCKED DUE TO A DEFECT
F08: AREA <:area:> IS BLOCKED DUE TO A DEFECT
F09: FOR THE AREA <:area:> A DUPLICATE RECORDING IS STILL ADDED
F10: AREA <:area:> IS IN SERVICE
F11: AREA <:area:> IS RESERVED EXCLUSIVELY
F12: AMO CANNOT EXECUTE AT THE MOMENT
F13: DEVICE <:devnam:> IS A HD, PARAMETER ALN MUST BE SPECIFIED
F14: AREA GRANULARITY MUST BE A MULTIPLE OF DEVICE GRANULARITY
F15: DEVICE <:devnam:> IS NOT A HD, PARAMETER ALN OR AGRAN MUST NOT BE SPECIFIED
F16: ALL AREAS AVAILABLE ARE ASSIGNED
F17: ALL BLOCKS OF THE HD ARE USED BY AREAS
F18: THE SPECIFIED AREA HAS NOT BEEN CREATED
F19: IT IS NOT PERMISSIBLE TO CONFIGURE/DELETE AREAS ON EXTERNAL DEVICES

62.5.2 Advisories

H01: AREA <aereakz> HAS BEEN CREATED WITH areasize MBYTE (blonum 64K-BLOCKS)
H03: CAUTION! SIZE OF LAST AREA DIFFERS FROM REQUIRED SIZE
H04: AREA <aereakz> HAS MORE BLOCKS AS THE ERROR ANALYSING TOOL CAN HANDLE.
IF YOU USE AGRAN=agran THE ERROR ANALYSIS IS POSSIBLE.
H05: THE ERROR ANALYSING TOOL CAN NOT HANDLE AREAS WITH AGRAN > 7680
H06: ALL AREAS AVAILABLE ARE ASSIGNED

DASM - Hard disk area allocation - physical

Error Messages and Advisories

63 DATE - Date/Time of Day

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO DATE can be used to change and display the date and time of day in the system and to display it.

63.1 Restrictions

This description is valid from SP300-V3.4

63.2 Interrelationships

- AMO-SONUS : Resident SONUS-Task

63.3 Functions of the AMO

- [CHANGE-DATE](#) : Changing the date and/or time of day
- [DISPLAY-DATE](#) : Displaying the date/time of day
- [REGE-DATE](#) : Regenerate of GMTDIR and TIMEOFFS parameter

63.3.1 CHANGE-DATE

The parameters: YEAR, MONTH, DAY, HOUR, MINUTE, and SECOND are optional; however, they form a group. Thus, at least one parameter of this group must be specified. Only the parameters entered in the CHANGE-command will be changed in the system time / date, the remaining values stay unchanged.

If the date is changed, a check is made to determine whether or not the date is valid. If the value of this date is invalid (e.g. 1985-02-31), the date parameters will be prompted.

The parameter MODE specifies if the configured time is the normal time or DST.

DATE - Date/Time of Day

Functions of the AMO

The parameter **GMTDIR** defines the direction of the time shift related to GMT and the parameter **TIMEOFFS** defines the time gap from GMT in minutes. It makes only sense to specify both parameters, so if a direction is given without an configured (zero) or given offset zero the AMO generates an advisory H04.

On compact systems, the value NOSYNC for parameter SYNC will be refused and an error-message (F3) will be output.

Procedure Overview

Command Code	Parameter
CHANGE-DATE	{YEAR=<number>,MONTH=<number>,DAY=<number> ,HOUR=<number>,MINUTE=<number>,SECOND=<number> , [GMTDIR=<string>] , [TIMEOFFS=<number>] , [MODE=<string>]} ,[SYNC=<string>;

Note:

To prevent unintentional changes of the system time by the SONUS-task, it is recommended to switch off the task before entering the first CHANGE-DATE command and to switch it on to the previous working mode after the last alteration to the system time / -date by AMO DATE.

Before first change:
SWITCHOVER-SONUS:OFF;

After last change:
SWITCHOVER-SONUS:EC or HD; (depending on previous working mode)

Example

Setting the date to 18 October 1985 and the time of day to 11:15:00.

Input:

```
CHANGE-DATE:1985,10,18,11,15,00,EAST,60,NT;
```

63.3.2 DISPLAY-DATE

Displaying the actual date and time of day in the system.

Procedure Overview

Command Code	Parameter
DISPLAY-DATE	;

Example

Displaying date and time of day.

Input:

DISPLAY-DATE;

Output:

```
+-----+
| FRIDAY                                |
| DATE:          TIME :                 |
| 2005-04-22      17:18:30              |
|                                           |
| NUMBER OF DAY : 112                   |
| NORMAL TIME                                           |
| GMTDIR: EAST  TIMEOFFS:60             |
+-----+
```

63.3.3 REGE-DATE

Regenerating of the actual GMTDIR and TIMEOFFS parameters.

Procedure Overview

Command Code	Parameter
REGE-DATE	;

Example

Regenerating of the actual GMTDIR and TIMEOFFS parameters.

Input:

REGE-DATE;

Output:

CHANGE-DATE:GMTDIR=WEST,TIMEOFFS=30;

63.4 Parameter Description

DAY Day input
Type of Input : Single value, optional

DATE - Date/Time of Day

Parameter Description

	Possible Values	: 01 - 31	
GMTDIR	Direction related to GMT		
	Type of Input	: Single value, optional	
	Possible Values	: EAST	Time offset will be added
		WEST	Time offset will be subtracted
	Default Value	: EAST	Time offset will be added
HOUR	Time of day - hour		
	Type of Input	: Single value, optional	
	Possible Values	: 00 - 23	
MINUTE	Time of day - minutes		
	Type of Input	: Single value, optional	
	Possible Values	: 00 - 59	
MODE	Mode of Time		
	Type of Input	: Single value, optional	
	Possible Values	: DST	Daylight Saving Time
		NT	Normal Time
	Default Value	: NT	Normal Time
MONTH	Input of month		
	Type of Input	: Single value, optional	
	Possible Values	: 01 - 12	
SECOND	Time of day - seconds		
	Type of Input	: Single value, optional	
	Possible Values	: 00 - 59	
SYNC	Means of synchronization		
	Type of Input	: Single value, optional	
	Possible Values	: MAC	Synchronization by hardware clock

		(MAC Module)
	NOSYNC	No synchronization
	Default Value	: MAC
TIMEOFFS	Time offset in Minutes	
	Type of Input	: Single value, optional
	Possible Values	: 0,1440
	Default Value	: 0
YEAR	Entry of year	
	Type of Input	: Single value, optional
	Possible Values	: 1989 - 2078

63.5 Error Messages and Advisories

63.5.1 Error Messages

F01: DATE INADMISSIBLE
F02: DATE / TIME IN SYSTEM INVALID: PLEASE ENTER IN FULL
F03: FOR PARAMETER "SYNC", THE VALUE "NOSYNC" IS NOT ALLOWED ON A COMPACT SYSTEM.
F04: COMMAND IS ONLY ALLOWED IN TEST LABS.

63.5.2 Advisories

H01: NO VALID TIME SET IN SYSTEM. INITIATE SOFT RESTART.
H02: NO VALID ENTRY FOR DATE / TIME IN SYSTEM
H03: EXCEPTION ^ec^ WHEN CHANGING TIME / DATE:
POSSIBLE REASON: BATTERY BUFFERING OF THE HW-CLOCK.
H04: COMBINATION OF GMTDIR AND TIMEOFFS ZERO DOESN'T MAKE SENSE - ADJUST ALSO PARAMETER TIMEOFFS.
H05: If parameter MODE is not specified properly, the switching time and device display are wrong !! In any case the feature Different Time Zones does not work properly.

DATE - Date/Time of Day

Error Messages and Advisories

- H06: The relative time difference to GMT was re-calculated because of changed parameters TIMEOFFS and/or MODE and/or DSTOFFS.
- H07: The change of parameters GMTRTG, TIMEOFFS and/or MODE needs an initialization of SONUS in case of automatical DST switching (EU standard) Call SWITCHOVER-SONUS:AUTO; unconditional.
- H08: COMMAND IS ONLY ALLOWED IN TEST LABS.
- H09: IF MODE IS SET TO NT, DSTOFFS WILL BE RESET TO 0.

64 DAVF - Display Characteristics for Call Charge Output

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO-DAVF administers the display characteristics for the call charge display on the Hicom attendant terminal and the display.

These characteristics are as follows:

- the decimal point of the output and
- the designation of the currency unit

The default value for the decimal point is '2'.

The default value for the currency unit is 'DM '.

64.1 Interrelationships

- AMO TTBL : Administration of tariff tables

64.2 Functions of the AMO

- [CHANGE-DAVF](#) : Changing the decimal point or the currency unit for display on the Hicom attendant terminal
- [DISPLAY-DAVF / REGENERATE-DAVF](#) : Displaying the decimal point or the currency unit for display on the Hicom attendant terminal
Regenerating the decimal point and the currency unit for display on the Hicom attendant terminal

64.2.1 CHANGE-DAVF

Changing the decimal point or the currency unit for the display of call charges on the Hicom attendant terminal and the display.

A value between -3 and +3 and 2T, 3T can be entered for this purpose. (0 = no decimal point). The decimal point has the following meaning (see also AMO-TTBL):

DAVF - Display Characteristics for Call Charge Output

Functions of the AMO

- 1. Examples:
Decimal point: +3 value: 30558 Output: 305,580
Decimal point: +2 value: 30558 Output: 305,58
Decimal point: +1 (Rounded upwards)value: 30558 Output: 305,6
Decimal point: 0 (Rounded upwards)value: 30558 Output: 306
Decimal point: -1 (Rounded upwards)value: 30558 Output: 3056
Decimal point: -2 value: 30558 Output: 30558
Decimal point: -3 value: 30558 Output: 305580
Comma position: 2T (Rounded upwards)Value: 30558 Output: 30,56
Comma position: 3T Value: 30558 Output: 30,558

A character string with 3 characters (e.g., 'DM', 'OES') can be entered for the currency unit.

Procedure Overview

Command Code	Parameter
CHANGE-DAVF	COMPOS=<string>,NAME=<string>;
	1. Example
	Changing the currency unit to DM and to 2 decimal points
	Input
	CHA-DAVF:2,DM;

64.2.2 DISPLAY-DAVF / REGENERATE-DAVF

- 1. Displaying the decimal point and the currency unit for the display on the Hicom attendant terminal and on the display with output in list format (DISPLAY).
- 2. Displaying the decimal point and the currency unit for the display on the Hicom attendant terminal and on the display with output in position-oriented commands for regeneration (SAVDB).

Procedure Overview

Command Code	Parameter
DISPLAY-DAVF	(1)
REGENERATE-DAVF	(2)

Example

1. Example of list output of the display characteristics for the call charge display on the Hicom attendant terminal (decimal point and currency unit):

Input:

DIS-DAVF;

Output:

PRESENTATION PROPERTIES FOR THE CALL CHARGE DISPLAY ON ATND/
DISPLAY

DECIMAL POSITION : +2

CURRENCY : DM

2. Displaying the display characteristics for the call charge display on the Hicom attendant terminal and the display.

Input:

REG-DAVF;

Output:

CHANGE-DAVF:+2,"DM ";

64.3 Parameter Description

COMPOS	Position of decimal point in the call charge display on the Hicom attendant terminal
Type of Input	: Single value, mandatory
Possible Values	: -3 to +3 and 2T, 3T
NAME	Designation of the currency unit in the call charge display on the Hicom attendant terminal
Type of Input	: Single value, mandatory
Possible Values	: 3 characters (without restriction)
	If the currency unit consists of less than 3 characters, blanks are to be inserted.

64.4 Error Messages and Advisories

64.4.1 Error Messages

None

64.5 Advisories

H01: FOR THE DECIMAL POINT IS ONLY THE RANGE FROM -3 TO +3 AND 2T, 3T VALID

65 DBC - Database Configuration

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

AMO DBC (*Administration of DB configuration file*) is used to administer the database configuration data on the HD and in the processors. This data is used to give an exact definition of the type of system (e.g. 350E.35)

This data can be changed, interrogated or regenerated.

The database configuration file exists already on the HD for the start-up of the switch.

65.1 Interrelationships

- AMO APC : Parameter APPL,SERVER=SWU
: EXEC

65.2 Functions of the AMO

- [CHANGE-DBC](#) : Change the database configuration data
- [DISPLAY-DBC](#) : Interrogate the database configuration data
- [REGENERATE-DBC](#) : Regenerate the database configuration data
- [EXEC-DBC](#) : Change the database configuration data taking into account the data from the hardware configuration table
- [ADD-DBC](#) : Change the architecture type and location taking into account the data from the hardware configuration table for generating customer databases on a support switch

65.2.1 CHANGE-DBC

Change the database configuration data on the hard disk.

NOTE: As the AMO DBC obtains its information from the application table on the hard disk, it does not check for the existence of the individual subsystem files or their load status, nor does it check the available hardware.
Any check for the available hardware is not possible because the hardware connected to the support processors differs from the customer’s hardware.

Procedure Overview

Command Code	Parameter
CHANGE-DBC	<pre>{ (min 1) BAPPL=<text>, DBAPPL=<text>, ASSEMBLY=<param> , CLASS=<param>, OPMODE=<param>, SYSTEM=<text> , DIMEN=<text>, RESSWUDB=<param>, LOCATION=<param> , ADPSLOT=<number>, SWUSLOT=<number>, MONOSLOT=<number> , ADPMEM=<number>, SWUMEM=<number>, MONOMEM=<number>;</pre>

Note

A check of inconsistency between the parameters (error message F01) is done with parameter ASSEMBLY, CLASS and OPMODE.
Trying to generate the System with the same parameters several times will stop the AMO with error message F09.
If only one value for the overlay area of a processor type (Slot or Mem) is set to zero, the AMO will set the second value to zero, too. The AMO stops with the advisory message H05.
Trying to change only slots or memory for the overlay area of a processor type, if the values were set to zero before, the AMO will stop with error message F20.
Due to possible frequent changes of the values of the parameter DIMEN, there are no restrictions to them. For valid inputs see advisory message H02. The valid inputs for this parameter are taken from the DBC dimensioning table on hard disk. This table can be read with the following command:
STA-LIST:":PDS:APSU/DBCDIM0",,,M,N;
The DBC dimensioning table should not be modified.

Examples

1. Changing the database configuration table for a HICOM 600, EXTENDED-COMPACT-EXTENDED, DUPLEX, subsystem names from basic application DUAL128, database application DUAL128, system-identification Hicom, DB-dimensioning name DUAL128:

Input:

```
CHANGE-DBC:DUAL128,DUAL128,ECX,H600,DUPLEX,HICOM,DUAL128;
```

Output:

```
CHANGE-DBC:DUAL128,DUAL128,ECX,H600,DUPLEX,HICOM,DUAL128;
H500: AMO DBC STARTED
H01: IN ORDER TO LOAD THE CHANGES IN THE CONFIGURATION TABLE,
INITIATE
      RELOAD AND GENERATE THE SWU-DATABASE.
AMO-DBC -...      DATABASE CONFIGURATION
CHANGE COMPLETED;
```

2. Changing the System-Identification:

Input:

```
CHANGE-DBC:SYSTEM=TEST-ANL;
```

Output:

```
CHANGE-DBC:SYSTEM=TEST-ANL;
H500: AMO DBC STARTED

AMO-DBC -...      DATABASE CONFIGURATION
CHANGE COMPLETED;
```

Note

This call causes the data of the DB configuration table on the HD and in all available processors to be updated (synchronous state).

Special case: While in split operation, the configuration tables of the SWU which is in call-processing state, of the ADS, and of the LTG must not be overwritten. In this case the configuration table will not be distributed to the above listed processors.

There is a version counter in DB configuration table which guarantees the synchronization of all memories even if there is a breakdown of the System. This counter is increased with all important changes.

The version counter can also be incremented with the command CHANGE-DBC:RESSWUDB=Y; The input must be confirmed if changing this parameter. With any change of the version counter, however, the system must be regenerated.

Caution

The AMO modifies the version counter whenever important data of the DB configuration table is changed. This means that any generated customer data will be lost and need to be REGENERATED.

The next table shows in which cases customer data will be lost:

Changes of:	Regeneration necessary:	
	YES	NO
BAPPL	X	
DBAPPL	X	
ASSEMBLY	X	
CLASS	X	
DEVLINE	X	
OPMODE	X	
SYSTEM		X
DIMEN	X	
RESSWUDB	X	
LOCATION		X
ADPSLOT		X
SWUSLOT		X
MONOSLOT		X
ADPMEM		X
SWUMEM		X
MONOMEM		X

Table 9 parameter table

65.2.2 DISPLAY-DBC

Procedure Overview

Command Code	Parameter	
DISPLAY-DBC	[VERBOSE=<param>];	
	Example	
	Input:	
	DISPLAY-DBC;	

Output:

```

DISPLAY-DBC;
H500: AMO DBC STARTED
-----+-----
| SYSTEM CLASSIFICATION   : SYSTEM 600          (H600 )          |
| HARDWARE ASSEMBLY       : EXTENDED COMPACT X   (ECX  )          |
| OPERATING MODE          : DUPLEX               |
| RESTART TYPE            : SYM                  |
| HW-ARCHITECTURE         : 350E                 |
| HW-ARCHITECTURE TYPE    : 35                   |
|                           |                     |
| 'NO OF' HW VALUES      |                     |
|   LTG'S      :      1   LTU'S      : 15   LOG.LINES : 32000   MTS BD /GSN:  2 |
|   SIUP'S/LTU:      4   TMD24'S PER LTU: 4   PHYS.PORTS: 16000   HWY /MTS BD: 64 |
|   HDLC /DCL :     16   PBC /DCL      :  6   PBC'S      :    17   |
| LOG. SIU LINE           :      81              |
| LOG. CONF LINE          :      89              |
| LOG. DCL LINE           :      90              |
| DB DIMENSIONING-NAME    : DUAL128              CONF-TABLE VERSION:  4 |
| DB SUSY'S:              |                     |
|   SWITCH NUMBER : NO SWITCH NUMBER              |
| LOCATION        : CUSTOMER                      |
| BAPPL           : DUAL128                        |
| DBAPPL          : DUAL128                        |
| SYSTEM_ID       : HICOM                          |
|                           |                     |
| OVERLAY RESOURCES IN ADP:                        |
|   SLOTS         :   200   MEMORY SPACE : 1000 KB |
| OVERLAY RESOURCES IN SWU:                        |
|   SLOTS         :   200   MEMORY SPACE : 1000 KB |
| OVERLAY RESOURCES FOR MONO PROCESSING:           |
|   SLOTS         :   200   MEMORY SPACE : 1000 KB |
|                           |                     |
+-----+-----

AMO-DBC -109      DATABASE CONFIGURATION
DISPLAY COMPLETED;
  
```

NOTE: If the CONFIGURATION DATA cannot be loaded, the AMO is terminated and error message F04 is displayed. If the DBC dimensioning data cannot be loaded or the table contains invalid data, the AMO is terminated and the error message F16 or F17 respectively is displayed.

Short-explanation of used abbreviations

LOG. SIU LINE	: Logical Line of SIGNALING-UNIT
LOG. CONF LINE	: Logical Line of CONFERENCE-UNIT
LOG. DCL LINE	: Logical Line of Data-Communication-Line Unit

65.2.3 REGENERATE-DBC

Regenerate the database configuration data on the hard disk.

Procedure Overview

Command Code	Parameter
REGENERATE-DBC	;

Example

Regenerate the database configuration file:

Input:

REGENERATE-DBC;

Output:

```
REGENERATE-DBC;  
H500: AMO DBC STARTED  
  
EXEC-DBC:"350E          ",35;  
CHANGE-DBC:SYSTEM=HICOM      ;  
  
AMO-DBC -109          DATABASE CONFIGURATION  
REGENERATE COMPLETED;
```

Note

If the CONFIGURATION DATA cannot be loaded, the AMO is terminated and error message F04 issued.

If the hardware architecture table cannot be loaded, the AMO is terminated and error message F12 issued.

A ADD-DBC command can not be regenerated. This command is regenerated as a EXEC-DBC command and if necessary a CHANGE-DBC command.

65.2.4 EXEC-DBC

Change the database configuration data taking into account the data from the hardware configuration table.

NOTE: This AMO action was introduced to facilitate system generation. After the parameters ARCH and ARCHTYPE have been entered, a table is checked on the hard disk. All the necessary values are then

taken from this table. The table can be read with the following command:

```
STA-LIST:"PDS:APSU/HWARCH0",,,M,N;
```

This table is generated by STARTUP and should not be modified.

Procedure Overview

Command Code

EXEC-DBC

Parameter

ARCH=<param>, ARCHTYPE=<param>

Example

Generate the following system: SYSTEM 600, EXTENDED-COMPACT-EXTENDED, DUPLEX

Input:

```
EXEC-DBC:350E,35;
```

Output:

```
EXEC-DBC:350E,35;
H500: AMO DBC STARTED
H01: IN ORDER TO LOAD THE CHANGES IN THE CONFIGURATION TABLE,
INITIATE
      RELOAD AND GENERATE THE SWU-DATABASE.
H04: EXEC-APC TASK MUST BE CARRIED OUT.
AMO-DBC -109      DATABASE CONFIGURATION
EXEC COMPLETED;
```

Note

If the CONFIGURATION DATA cannot be loaded, the AMO is terminated and error message F04 issued.

If the hardware architecture table cannot be loaded, the AMO is terminated and error message F12 issued.

If the hardware architecture table contains incomplete and/or invalid values, the AMO is terminated with error message F14.

Caution

Each time the command EXEC-DBC is applied to the configuration table, the version counter is incremented by the AMO. As a result of this, the customer database is reset, i.e. the customer data is deleted.

In such a case, the customer database must be REGENERATED !

65.2.5 ADD-DBC

Change the architecture type and location taking into account the data from the hardware configuration table for generating customer databases on a support switch.

Note

This AMO action was introduced to facilitate system generation on a support switch. After the parameter ARCHTYPE has been entered, a table is checked on the hard disk. All the necessary values are then taken from this table. The table can be read with the following command:

```
STA-LIST:":PDS:APSU/HWARCH0",,,M,N;
```

This table is generated by STARTUP and should not be modified.

A ADD-DBC command can only be executed after a EXEC-DBC command.

Only the decimal place of the architecture type can differ from the previous architecture type. Architecture types of one architecture with the same digit on the second place of the architecture type (e.g. 01, 11, 21, 31) have the same applications.

Between a EXEC-DBC command and ADD-DBC command, the following parameters must not be changed: BAPPL, DBAPPL, ASSEMBLY, CLASS and DIMEN. The parameter OPMODE can be changed between EXEC-DBC and ADD-DBC command.

The version counter is not increased for a ADD-DBC command.

Procedure Overview

Command Code

ADD-DBC

Parameter

ARCHTYPE=<param>

Example

Generate the following system: SYSTEM 600, EXTENDED-COMPACT-EXTENDED, DUPLEX on a 40CMX support switch

Input:

```
EXEC-DBC:350E,35;  
ADD-DBC:85;
```

Output:

```
ADD-DBC:85;  
H500: AMO DBC STARTED  
H04: EXEC-APC TASK MUST BE CARRIED OUT.  
AMO-DBC -109      DATABASE CONFIGURATION  
ADD COMPLETED;
```


Note

If the CONFIGURATION DATA cannot be loaded, the AMO is terminated and error message F04 issued.

If the hardware architecture table cannot be loaded, the AMO is terminated and error message F12 issued.

If the hardware architecture table contains incomplete and/or invalid values, the AMO is terminated with error message F14.

If the second place of the architecture type is not the same as the previous one, the AMO will be terminated with error message F18.

If one of the following parameters was changed after the EXEC-DBC command, the AMO will be terminated with error message F19:
BAPPL, DBAPPL, ASSEMBLY, CLASS, DIMEN.

65.3 Parameter Description

ADPMEM	Size of the overlay area in the ADP in multiples of 100KB	
	Type of Input	Single value, optional
	Possible Values	0, 10-30
ADPSLOT	Number of slots in the overlay area for ADP	
	Type of Input	Single value, optional
	Possible Values	0, 200-1000
ARCH	Hardware Architecture	
	Type of Input	: Single value, mandatory
	Possible Values	: String, 10-digit
ARCHTYPE	Hardware Architecture Type	
	Type of Input	: Single value, mandatory
	Possible Values	: 0-255
ASSEMBLY	Hardware assembly	
	Type of Input	: Single value, optional
	Possible Values	: ECX, ECDSC, CXE
BAPPL	Basic application	
	Type of Input	: Single value, optional

DBC - Database Configuration

Parameter Description

	Possible Values	: String, 8-digit
CLASS	Configuration level	
	Type of Input	: Single value, optional
	Possible Values	: H40, H80, H600
DBAPPL	Database application	
	Type of Input	: Single value, optional
	Possible Values	: String, 8-digit
DIMEN	Customer and Application oriented Memory Dimensioning	
	Type of Input	: Single value, optional
	Possible Values	: String, 8-digit
	Valid Inputs	: e.g. MONO64, MONO128, DUAL128 (The valid values are taken from the dimension table on hard disk)
LOCATION	System location	
	Type of Input	: Single value, optional
	Possible Values	: TESTLAB, CUSTOMER, SUPPORT
	Default Value	: CUSTOMER
MONOMEM	Size of the overlay area at monoprocessing in multiples of 100KB	
	Type of Input	Single value, optional
	Possible Values	0, 10-40
MONOSLOT	Number of slots in the overlay area at monoprocessing	
	Type of Input	Single value, optional
	Possible Values	0, 200-500
OPMODE	Operating mode	
	Type of Input	: Single value, optional
	Possible Values	: SIMPLEX, DUPLEX
RESSWUDB	Reset of SWU-Database	
	Type of Input	: Single value, optional
	Possible Values	: Y,N
SWUMEM	Size of the overlay area in the SWU in multiples of 100KB	
	Type of Input	Single value, optional

	Possible Values	0, 10-30
SWUSLOT	Number of slots in the overlay area for SWU	
	Type of Input	Single value, optional
	Possible Values	0, 200-1000
SYSTEM	System Identification	
	Type of Input	: Single value, optional
	Possible Values	: String, 10-digit
VERBOSE	Output of activ DB-Subsystems	
	Type of Input	: Single value, optional
	Possible Values	: Y,N
	Default Value	: N

65.4 Error Messages and Advisories

65.4.1 Error Messages

F01: INVALID PARAMETER COMBINATION <bappl>,<dbappl>,<assembly>,<class>,<opmode>,<system>,<location>.

F02: APPLICATION TABLE CANNOT BE LOADED FROM HARD DISK.

F03: APPLICATION <appl> IS UNKNOWN.

F04: DB CONFIGURATION DATA CANNOT BE LOADED.

F05: DB CONFIGURATION DATA CANNOT BE WRITTEN.

F09: DB CONFIGURATION DATA HAVE ALREADY BEEN GENERATED WITH THOSE PARAMETERS.

F10: DIMENNAME <dimen> IS UNKNOWN.

F11: THE DB CONFIGURATION DATABASE CONTAINS INVALID DATA (RUN EXEC-DBC).

F12: THE HARDWARE ARCHITECTURE TABLE CANNOT BE LOADED.
ERRORCODE (errnumb) - REFER TO SERVICE MANUAL.

F13: VALUE <value> FOR PARAMETER <param> IN HW-ARCHITECTURE TABLE IS NOT VALID.

F14: HARDWARE ARCHITECTURE TABLE CONTAINS INVALID OR INCOMPLETE INFORMATION ON SPECIFIED ARCHITECTURE OR ARCHITECTURE TYPE.
ERRORCODE (errnumb) - REFER TO SERVICE MANUAL.

F15: DETECTION OF SPLIT OPERATION NOT POSSIBLE.

F16: THE DIMEN TABLE CANNOT BE LOADED.

F17: THE DIMEN TABLE CONTAINS INVALID OR INCOMPLETE DATA.

F18: VALUE FOR HARDWARE ARCHITECTURE TYPE IS NOT ALLOWED.
(RUN EXEC-DBC)

F19: THE DB CONFIGURATION TABLE AND THE HARDWARE ARCHITECTURE TABLE CONTAIN DIFFERENT VALUES FOR PARAMETER <param>.
(RUN EXEC-DBC)

F20: VALUE FOR PARAMETER <param> IS NOT ALLOWED.

Description of possible values for (errnumb)

- 1111: Parameter occurs more than once in architecture table
- 1112: Not all DBC parameters contained in architecture table
- 1113: Structural error in architecture table
- 1115: Architecture type not found
- 1118: Incomplete DBC data in architecture table

65.4.2 Advisories

- H01: IN ORDER TO LOAD THE CHANGES IN THE CONFIGURATION TABLE, INITIATE RELOAD AND GENERATE THE SWU-DATABASE.
- H02: AT THIS TIME VALID LAYOUT-NAMES ARE:
<dimen> ... <text>
Note: These values are taken from the DBC dimensioning table on hard disk.
- H03: ARE YOU SURE ?
- H04: EXEC-APC TASK MUST BE CARRIED OUT.
- H05: VALUE OF PARAMETER <param> IS SET TO ZERO, TOO.
- H06: IN ORDER TO LOAD THE CHANGES IN THE CONFIGURATION TABLE, INITIATE A RELOAD.
- H07: PARAMETER MONO (AMO-CPCI) IS SET TO ^mono^ TO AVOID INCONSISTENCY WITH AMO-DBC (PLEASE SEE 'Note on Parameter MONO' IN AMO DESCRIPTION OF AMO-CPCI FOR FURTHER INFORMATION).
- H08: FOR DASIST FUNCTIONALITY TO WORK A SWU RESTART IS NOW REQUIRED FOR EACH SWU PROCESSOR.
- H09: DB CONFIGURATION DATA HAVE ALREADY BEEN GENERATED WITH THOSE PARAMETERS.

65.4.3 Actions and Associated Error Messages

CHANGE	: F01, F02, F03, F04, F05, F09, F10, F15, F16, F17, F20 H01, H02, H03, H04 ,H05, H06 ,H08
DISPLAY	: F04, F11, F16, F17
REGENERATE	: F04, F11, F12, F14, F16, F17
EXEC	: F01, F02, F03, F04, F05, F09, F10, F11, F12, F13, F14, F15, F16, F17, H01, H02, H03, H04, H06, H07, H09
ADD	: F02, F03, F04, F05, F09, F10, F11, F12, F13, F14, F15, F16, F17, F18, F19, H04

66 DCIC - Configuration of DCI

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

AMO DCIC makes it possible to create the static *database for DCIs* (data communication interface) and to display, change, delete, and regenerate the same. The DCI can be assigned on a standard SLMB or a SLMB_16 module.

The DCI is assigned any terminal that is created by means of AMO SCSU (AUXDIGI) as an associated station. The associated station can also be a station without hardware (virtual station, AMO SCSU, INS=FLOAT).

The ADD function also allows activation of the DCIs immediately. Already assigned DCIs can be activated or deactivated only by means of the switch AMO DSSU.

The AMO will add the Parameters for the DCI when needed.

These data are for basic parameter set:

0A,0A,00,00,00,04,21,11,0D,02,0F,04,1F,31,01,
02,28,07,0F,7F,11,03,11,3D,38,01,27,08,01,0A,
17,01,00,00,00,00,00,00,00,00,00

and for the supplementary set:

03,14,50,03,08,04,08,50,03,08,04,08,50,03,08,
04,08,50,00,00,00,00,00,00,00,00,00,00,00,00,
00,00,00,00,00,00,00,00,00,00,00,00,00,00,00,
00,00,00,00,00,00,00,00,00,00,00,00,00,00,00

66.1 Interrelationships

The AMOs below must be called in the sequence given:

- AMO SCSU : Subscriber configuration of switching unit Configuration of stations to be associated with the DCI

66.2 Functions of the AMO

- **ADD-DCIC** : Assign the static DB for DCIs
- **CHANGE-DCIC** : Change the static DB for DCIs
- **DELETE-DCIC** : Cancel the static DB for DCIs
- **DISPLAY-DCIC / REGENERATE-DCIC** : Interrogate the static DB for DCIs
Regenerate the static DB for DCIs

66.2.1 ADD-DCIC

The ADD-DCIC function is used to assign a new DCI.

The parameter PEN describes the physical port of the DCI. If PEN is not specified, a compatible available port is searched for and displayed.

The parameter STNO is used to make a terminal device previously created by means of SCSU an associated station. A DTE (data terminal equipment) must not be assigned for this STNO, nor may a DTE be allocated by means of AMO TGER.

The parameter INS can be used to activate the DCI at the same time the static data are written. The DCI is activated by means of an order to the device control (DC)

Procedure Overview

Command Code	Parameter
ADD-DCIC	[PEN=<gg-uu-sss-cc>], STNO=<number>, [INS=<param>];

Examples

1. Create a DCI with associated telephone 2101, a predefined PEN, and activate immediately.

Input:

```
AD-DCIC:1-1-1-0,2101,Y;
```

Output:

```
ADD-DCIC:1-1-1-0,2101,Y;
```

```
H1 : DCI ASSIGNED AT PEN 1-1-1-0
```

```
H4 : DCI RELEASED FOR CALL PROCESSING
```

2. Create a DCI with associated telephone 2101, an available PEN, but do not activate.

Input:

```
AD-DCIC:,2101,N;
```

Output:

```
H1 : DCI ASSIGNED AT PEN 1-1-1-1
```

66.2.2 CHANGE-DCIC

The function CHANGE-DCIC can be used to change the STNO of DCIs.

If the PEN is to be changed, the DCI must first be deleted and then reassigned at the new port.

Only DCIs that were previously deactivated by means of the switch-AMO DSSU can be changed. After the change is completed, the DCI can be activated again by the switch AMO using "activation with loading".

Procedure Overview

Command Code	Parameter
CHANGE-DCIC	PEN=<gg-uu-sss-cc>,STNO=<number>;

Example

Change the associated telephone of the DCI at PEN 1-1-1-0 from 2101 to 2110.

Input:

```
CHA-DCIC:1-1-1-0,2110;
```

Output:

```
CHANGE-DCIC:1-1-1-0,2110;
```

```
H06: DCI CHANGED AT PEN 01-01-001-00
```

66.2.3 DELETE-DCIC

Using the function DELETE, the static data from assigned DCIs are cancelled and the device table memory is returned to the system. Only DCIs that were previously deactivated by means of AMO DSSU can be deleted.

Only the PEN of the DCI need be specified to cancel this DCI. If a PEN range is specified, a search is made for DCIs. The PENs of the cancelled DCIs and the DCIs that cannot be cancelled are output.

DCIC - Configuration of DCI

Functions of the AMO

Procedure Overview

Command Code	Parameter
DELETE-DCIC	PEN1=<gg-uu-sss-cc>, [PEN2=<gg-uu-sss-cc>];

Example

Cancel all DCIs at PENs 1-1-1-0 to 1-4-1-0.

Input:

```
DEL-DCIC:1-1-1-0,1-4-1-0
```

Output:

```
DELETE-DCIC:1-1-1-0,1-4-1-0
```

```
H05 : DCI AT PEN 1-1-1-3 COULD NOT BE DELETED BECAUSE IT MUST BE  
DEACTIVATED
```

66.2.4 DISPLAY-DCIC / REGENERATE-DCIC

Using the function DISPLAY-DCIC, the parameters from one or more DCIs can be output. For this purpose, only the PEN need be specified. If a PEN range is specified, a search is made for assigned DCIs. If the PEN is not specified, the entire PEN range is searched.

The function REGENERATE can be used to output the parameters of one or more DCIs when they are interrogated, but in the form of position-oriented commands. The parameter INS is generated at this time in dependency on the current DC state of the DCI (if the DC state is = "NEQ", then INS = "N" , otherwise INS = "Y").

Procedure Overview

Command Code	Parameter
DISPLAY-DCIC	[PEN1=<gg-uu-sss-cc>], [PEN2=<gg-uu-sss-cc>];
REGENERATE-DCIC	[PEN1=<gg-uu-sss-cc>], [PEN2=<gg-uu-sss-cc>];

Examples

1. Interrogate the parameters of the DCI at PEN 1-1-1-0.

Input:

```
DIS-DCIC:1-1-1-0;
```

Output in format 1:

```
DISPLAY-DCIC:1-1-1-0;
```

```
+-----+-----+
```


PEN	STNO
01-01-001-00	2101

Explanation:

PEN = Port equipment number of DCI
STNO = Station number of the associated telephone
Regenerate the DCIs in the range from 1-1-1-0 to 1-1-1-1.

Input:

REG-DCIC: 1-1-1-0,1-1-1-1;

Output in format 2:

ADD-DCIC:1- 1-1-0,2101,Y;

66.3 Parameter Description

INS	DCI to be placed in service ?
Type of Input	: single value, optional
Possible Values	: Y [yes] activate the DCI
	N [no] do not activate the DCI
Default Value	: Y
	The DCI is activated by means of a message to the CDC.
PEN	Port equipment number of DCI: LTG-LTU-SLOT-CCT
Type of Input	: 4 concatenated single values optional (ADD) mandatory (CHANGE)
Possible Values	: gg-u-sss-cc
	gg = LTG, 1-32
	uu = LTU, 1 - HW-MAX-VALUE
	sss = Slot
	for none compact shelves:
	1 - 121 in increments of 6, except for 61
	for compact shelves:
	25 - 121 in increments of 6, except for 73
	cc = Circuit number, 0-7 for SLMB modules
	0-15 for SLMB_16 modules

DCIC - Configuration of DCI

Error Messages and Advisories

If this parameter is not specified, the AMO searches for an available port at which a suitable module (SLMB or SLMB_16) has been configured (AMO BCSU). The available ports of a partially assigned SLMB module are always considered before new unassigned modules. If PEN is specified, the AMO checks to determine if a compatible module has been configured for the port.

PEN1	Port equipment number of DCI (start PEN): LTG-LTU-SLOT-CCT This parameter defines the start of the search range for the actions DISPLAY, REGENERATE, and DELETE. Type of Input : 4 concatenated single values optional (DISPLAY, REGENERATE) mandatory (DELETE) Possible Values : see parameter PEN Default Value : PEN1=1-1-1-0
PEN2	Port equipment number of DCI (stop PEN): LTG-LTU-SLOT-CCT This parameter defines the end of the search range for the actions DISPLAY, REGENERATE, and DELETE. Type of Input : 4 concatenated single values, optional Possible Values : see parameter PEN Default Value : PEN2=32-4-121-7 If PEN2 is specified, PEN1 must be smaller than PEN2.
STNO	Station number for associated telephone Type of Input : single value, mandatory Possible Values : internal DN

66.4 Error Messages and Advisories

66.4.1 Error Messages

F01: PEN<x> ERROR; PERMISSIBLE RANGE FOR LTG: 1 - <ltg_max>
F02: PEN<x> ERROR; PERMISSIBLE RANGE FOR LTU: 1 - <ltu_max>
F03: PEN<x> ERROR; SLOT FORMALLY INCORRECT
F04: PEN<x> ERROR; PERMISSIBLE RANGE FOR CIRCUIT NUMBER: 0 - <cct_max>
F05: NO MORE PEN'S FREE AT SLMB

F06: PEN<x> ERROR; LTG NOT ASSIGNED
F07: PEN<x> ERROR; LTU NOT ASSIGNED
F08: THE DCI MUST BE DEACTIVATED (AMO DSSU)
F09: THE DCI IS CAMP-ON BLOCKED. REPEAT COMMAND LATER OR
DEACTIVATE IMMEDIATELY (AMO DSSU)
F10: PEN SPECIFIED ALREADY OCCUPIED
F11: NO DCI ASSIGNED AT PEN SPECIFIED
F12: DCI AT PEN SPECIFIED STILL ASSIGNED TO A HUNTING GROUP
F13: NO MATCHING MODULE (SLMB) CONFIGURED FOR THE SPECIFIED PEN
F16: INSUFFICIENT DEVICE MEMORY SPACE (AMO DIMSU: PARAMETER LODEN)
F17: IF PEN2 IS SPECIFIED, PEN1 MUST ALSO BE SPECIFIED
F18: PEN1 MUST BE SMALLER THAN PEN2
F19: STNO TO BE ASSOCIATED NOT ASSIGNED
F20: STNO TO BE ASSOCIATED ALREADY ASSIGNED TO A DATA TERMINAL EQUIPMENT
F21: STNO TO BE ASSOCIATED HAS AN INADMISSIBLE DEVICE TYPE
F22: PEN<x> NOT SPECIFIED AT THE PHYSICAL MODULE LOCATION
F25: SPECIFIED PEN CURENTLY SIGNED OFF.
USE AMO BCSU TO SIGN ON OR ENTER OTHER PEN

66.4.2 Advisories

H01: DCI ASSIGNED AT PEN <gg-uu-sss-cc>
H02: NO DCI ASSIGNED IN AREA SPECIFIED
H03: CHANGE TAKES EFFECT AFTER "ACTIVATION WITH LOADING" (AMO DSSU)
H04: DCI RELEASED FOR CALL PROCESSING
H05: DCI AT PEN <gg-uu-sss-cc> COULD NOT BE DELETED BECAUSE IT MUST BE DEACTIVATED
H06: DCI AT PEN <gg-uu-sss-cc> CHANGED
H07: DCI AT PEN <gg-uu-sss-cc> COULD ONLY BE DELETED PARTLY
H08: NO DCI ASSIGNED AT PEN SPECIFIED
H09: DCI AT PEN <gg-uu-sss-cc> STILL ASSIGNED TO A HUNTING GROUP

<x>= { 1 | 2 | NIL }

67 DCSM - Device Configuration of the Servers

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO DCSM configures the *device periphery of the servers* , i.e. hard disk, flash memory or an external device are marked as logically existent in the operating system.

67.1 Restrictions

This description is valid from HiPath 4000 V1.0.

67.2 Interrelationships

- AMO DASM : Hard disk area allocation - physical
- AMO DDSM : Device display of a server
- AMO DSSM : Disk switchover

67.3 AMO Functions

- [ADD-DCSM](#) : Create or add a server device
- [DELETE-DCSM](#) : Cancel a server device
- [CHANGE-DCSM](#) : Change a server device

67.3.1 ADD-DCSM

This call is used to configure a physical storage/nonstorage medium or an external device on a given controller. The storage medium can be a Hard Disk, a Flash-Memory or an external device.

Because a Flash-Memory can be configured only on controller 8 of the database, an attempt to configure Flash-Memory not on controller 8, or to configure any other device on controller 8, will be rejected with an error message.

DCSM - Device Configuration of the Servers

AMO Functions

External devices are devices that are connected to the SCSI-Bus and are not used by RMX.

Procedure Overview

Command Code	Parameter
ADD-DCSM	[UNIT=<param>],CNO=<number> ,DEVTYPE=HD,PNO=<text>; ,DEVTYPE=FM,PNO=<text>; ,DEVTYPE=EXT,[INFO=<text>];

Examples

1. Configure a hard disk

Input:

```
ADD-DCSM:A1,2,HD,2GIGA;
```

2. Configure a flash memory

Input:

```
ADD-DCSM:A1,8,FM,FM128;
```

3. Configure an external device

Input:

```
ADD-DCSM:A1,4,EXT,BACKUP;
```

67.3.2 DELETE-DCSM

Cancelling a device from the system configuration.

NOTE: The device areas must first be cancelled explicitly.
The device to be cancelled must be deactivated.

Procedure Overview

Command Code	Parameter
DELETE-DCSM	[UNIT=<param>],CNO=<number>;

Examples

1. The device on controller 2 of the ADS is cancelled.

Input:

```
DELETE-DCSM:,2;
```

2. The device on controller 4 (external device) of the ADS is canceled

Input:

```
DELETE-DCSM:A1,4;
```

67.3.3 CHANGE-DCSM

This action is used to change the part number or the information of an external device in an existing area configuration.

The following restrictions must be observed:

1. The device granularity must not be changed
2. The device size must be greater than that of the device to be change
3. The device types (HD, EXT, FM) must not be changed

Procedure Overview

Command Code	Parameter
CHANGE-DCSM	[UNIT=<param>],CNO=<number> ,DEVTYPE=HD,PNO=<text>; ,DEVTYPE=FM,PNO=<text>; ,DEVTYPE=EXT,INFO=<text>;

Example

1. Controller 2 is assigned a Hard disk with the part number HD001 in place of an already existing Hard disk.

Input:

```
ADD-DCSM:,2,HD,2GIGA;  
CHANGE-DCSM:A1,2,HD,HD001;
```

67.4 Parameter Description

CNO	Controller number
Type of Input	: Single value mandatory
Possible Values	: 1 - 8
Note	: The controller number 1 corresponds to the physical controller ID 0 on the SCSI bus.

DCSM - Device Configuration of the Servers

Error Messages and Advisories

DEVTYPE	Device type designation
Type of Input	: Single value mandatory
Possible Values	: HD = Hard Disk FM = Flash Memory EXT = External Device
INFO	Information for the external device
Type of Input	: Single value optional (ADD) mandatory (CHANGE)
Possible Values	: max. 22 positions
PNO	Part number of the device
Type of Input	: Single value mandatory
Possible Values	: 5 positions
UNIT	Functional system unit i.e. server code (corresponds to the processor ID).
Type of Input	: Single value optional
Possible Values	: A1 = Administration and Data Server (ADS)
Default value	: A1

67.5 Error Messages and Advisories

67.5.1 Error Messages

F02: PART NUMBER <pno> OF DEVICE NOT ALLOWED ACCORDING TO DEVICE-TYPE-LIST
F03: CONTROLLER <cno> IS NOT YET ASSIGNED
F05: DEVICE HAS ALREADY BEEN SET UP
F06: AMO CANNOT BE EXECUTED
F07: THERE IS NO DEVICE ASSIGNED TO CONTROLLER <cno>

F08: DEVICE <devno> OF CONTROLLER <cn> CANNOT BE DELETED AT THE MOMENT;
DEVICE STATUS: <status>
F09: THERE ARE STILL AREAS SET UP ON DEVICE <devno> OF CONTROLLER <cn>
F10: DEVICE GRANULARITY MUST NOT BE CANGED
F11: INSTALLED AREAS EXCEED MAXIMUM CAPACITY OF NEW DEVICE
F12: THE DEVICE TYPE MUST NOT BE CHANGED
F14: CNO=8 IS VALID ONLY FOR DEVTYPE=FM
F15: DEVTYPE=FM CAN BE CONFIGURED ONLY ON CNO=8

67.5.2 Advisories

H01: DEVICE <devno> (MN-NAME: <mnemonam>) ON CONTROLLER <cn> ASSIGNED
H02: DEVICE HAS ALREADY BEEN SET UP

68 DDRSM - Device Double Recording Server Modul

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO DDRSM configures and controls the double recording.

AMO DDRSM can activate or deactivate a double recording and can copy the contents of master area(s)/device to slave one(s). 'PHY'-areas used by UNIX in previous variants will not be handled by AMO DDRSM, either.

The state of the double recording can be checked with the function DISPLAY-DDSM.

The states `PRESENT` or `BLOCKED BY AMO` for master and `SYNCHRON` for slave mean, that the synchronization of the slave with the master will take place after master is activated.

The states `IN SERVICE` for master and `PRESENT` or `BLOCKED BY AMO` for slave mean, that the synchronization will take place after slave is activated.

The states `IN SERVICE` for master and `SYNCHRON` for slave mean, that the synchronization is in progress.

The states `IN SERVICE` for master and `IN SERVICE` for slave mean, that synchronization has been completed and the double recording is active.

68.1 Restrictions

This description is valid from HiPath 4000 V6.0.

68.2 Interrelationships

- AMO-DTSM : Device Type Service Module
- AMO-DCSM : Device Configuration Service Module
- AMO-DASM : Device Area Service Module
- AMO-DPSM : Device Pair Allocation Server Module
- AMO-DSSM : Device Switch Server Module

- AMO-DDSM : Display Device Server Module
- AMO-DLSM : Device Logical Service Module

68.3 Functions of the AMO

- [ACTIVATE-DDRSM](#) : Activate Double Recording
- [DEACTIVATE-DDRSM](#) : Deactivate Double Recording
- [COPY-DDRSM](#) : Copy Master Area/Device to the Slave one

68.3.1 ACTIVATE-DDRSM

With the function ACTIVATE-DDRSM for area(s) it is possible to configure the pair allocation and activate the double recording between the master and slave area(s), with the exception of 'PHY'-areas.

With ACTIVATE-DDRSM for devices the pair allocation will be configured and double recording will be activated between all areas of both devices, with the exception of 'PHY'-areas.

Procedure Overview

Command Code	Parameter
ACTIVATE-DDRSM	[UNIT=<param>], MASTERID=<number>, [MASTERAR=<param>] , SLAVEID=<number>, [SLAVEAR=<param>], [REPLY=<param>];

Examples

1. Configure pair allocation between devices on controller 2 (master) and 3 (slave) and activate the double recording.
 Input:
 ACT-DDRSM: , 2, , 3;
2. Configure pair allocation between area F on controller 2 (master) and area G on controller 3 (slave) and activate the double recording.
 Input:
 ACT-DDRSM:A1, 2, F, 3, G;
3. Configure pair allocations between areas E and G on controller 2 (master) and areas F and E on controller 3 (slave) and activate the double recording.

Input:

ACT-DDRSM: , 2, E&G, 3, F&E;

68.3.2 DEACTIVATE-DDRSM

With the function DEACTIVATE-DDRSM for area(s) (an) existing double recording(s) between the master and slave areas will be deactivated, pair allocation(s) will be deleted, and the defined area(s) will be deactivated.

With the function DEACTIVATE-DDRSM for a device (always all areas of the device are affected!) all existing double recordings of the device will be deactivated, the pair allocations will be deleted and the specified device will be deactivated.

If the function DEACTIVATE-DDRSM is executed during a synchronization process, the state of the corresponding areas will be set to `INCONSISTENT`.

'PHY'-areas cannot be deactivated.

Procedure Overview

Command Code	Parameter
DEACTIVATE-DDRSM	[UNIT=<param>], ID=<number>, [AREA=<param>] , [REPLY=<param>];

Examples

1. Deactivate device on controller 2 and delete pair allocations of all areas on this device.

Input:

DEACT-DDRSM: , 2;

2. Deactivate area E on controller 2 and delete pair allocation of this area.

Input:

DEACT-DDRSM: A1, 2, E;

3. Deactivate areas F and G on controller 2 and delete pair allocations of these areas.

Input:

DEACT-DDRSM: , 2, F&G;

68.3.3 COPY-DDRSM

With the function COPY-DDRSM for area(s) it is possible to copy the contents of (a) master area(s) to (a) slave one(s) (with the exception of 'PHY'-areas).

With the function COPY-DDRSM for devices it is possible to copy the contents of all areas of a master device to the corresponding slave ones (with the exception of 'PHY'-areas).

The copy process **cannot** be stopped by breaking off the AMO with the aid of the system command **CANCEL!** Only the AMO execution will be aborted that way. At the end of the copy process an **OS CALL FAULT** will be displayed, since the mailbox of the AMO is no more accessible for the end message.

Procedure Overview

Command Code	Parameter
COPY-DDRSM	[UNIT=<param>], MASTERID=<number>, [MASTERAR=<param>] , SLAVEID=<number>, [SLAVEAR=<param>], [REPLY=<param>];

Examples

1. Copy contents of device on controller 2 (master) to device on controller 3 (slave).

Input:

```
COPY-DDRSM: , 2, , 3, , N;
```

2. Copy contents of area F on controller 1(master) to area G on controller 4 (slave).

Input:

```
COPY-DDRSM: A1, 1, F, 4, G, N;
```

3. Copy contents of areas E and G on controller 6 (master) to areas E and H on controller 1 (slave).

Input:

```
COPY-DDRSM: , 6, E&G, 1, E&H;
```

4. Creating the "Gold Load Area" with the contents of the actual PDS area.

Input:

```
COPY-DDRSM: A1, 1, E, 6, J, N;
```

68.4 Parameter Description

AREA	Area		
	Type of Input	: max. 7 with '&' chained single values optional	
	Possible Values	: E - K no input = all areas on a device	
	Default Value	: all areas on a device	
ID	Controller ID		
	Type of Input	: Single value mandatory	
	Possible Values	: 1-7	
MASTERAR	Master Area		
	Type of Input	: max. 7 with '&' chained single values optional	
	Possible Values	: E - K no input = all areas on a device	
	Default Value	: all areas on a device	
MASTERID	Master Device		
	Type of Input	: Single value mandatory	
	Possible Values	: 1-7	
REPLY	Should security prompt be displayed?		
	Type of Input	: Single value optional	
	Possible Values	: Y	= yes
		N	= no
	Default Value	: Y	
SLAVEAR	Slave Area		

DDRSM - Device Double Recording Server Modul

Error Messages and Advisories

	Type of Input	: max. 7 with '&' chained single values optional
	Possible Values	: E - K no input = all areas on a device
	Default Value	: all areas on a device
SLAVEID	Slave Device	
	Type of Input	: Single value mandatory
	Default Value	: 1-7
UNIT	Processor ID	
	Type of Input	: Single value optional
	Possible Values	: A1 = Administration and Data Server (ADS)
	Default Value	: A1

68.5 Error Messages and Advisories

68.5.1 Error Messages

F01: MASTER AREA ENTERED BUT SLAVE AREA WAS NOT ENTERED
F02: MASTER AREA NOT ENTERED BUT SLAVE AREA WAS ENTERED
F03: MASTERID AND SLAVEID MUST BE DIFFERENT
F04: DEVICE <:string:> MUST BE CONFIGURED IN THE DATABASE (WITH AMO DCSM)
F05: AREA <:string:> MUST BE CONFIGURED IN THE DATABASE
(WITH AMO DCSM AND AMO DASM)
F06: AREA <:string:> IS INCONSISTENT
F07: MASTER AND SLAVE AREA SIZES IN DATABASE ARE NOT EQUAL
F08: AREA OR AT LEAST ONE AREA ON DEVICE IS PART OF ANOTHER PAIR ALLOCATION. THE
DESIRED PAIR ALLOCATION CANNOT BE CONFIGURED
F09: AREA/DEVICE <:string:> IS DEFECTIVE
F10: A SYNCHRONIZATION PROCESS IS ACTIVE: AT THIS MOMENT A NEW
DOUBLE RECORDING CANNOT BE DONE FOR AREA <:string:>
F11: AREA/DEVICE <:string:> HAS THE STATE <state>
AND CANNOT BE ACCESSED
F13: SLAVE DEVICE IS DEACTIVATED, MASTER DEVICE WILL NOT BE DEACTIVATED
F14: AT LEAST ONE AREA ON DEVICE <:string:> IS IN AN INADMISSIBLE
STATE <state>
F15: THERE IS NO AREA CONFIGURED FOR THE GIVEN DEVICE

F16: DEVICE <:string:> IS ALREADY DEACTIVATED
F18: THERE IS NO PAIR ALLOCATION CONFIGURED; DEACTIVATION WILL NOT BE PERFORMED
F19: SLAVE AREA/DEVICE <:string:> IS ACTIVE
F20: MASTER AND SLAVE AREA SIZES IN MANAGEMENT AREA ARE NOT EQUAL
F21: AT LEAST ONE AREA ON DEVICE <:string:> IS CONFIGURED FOR PAIR ALLOCATION AND THE SYNCHRONIZATION PROCESS IS ACTIVE
F23: THE PHYSICAL SLAVE DEVICE SIZE IS SMALLER THAN THE SUM OF USED MASTER AREAS
F25: AT THIS MOMENT DEACTIVATION IS NOT POSSIBLE (ERROR IN DETACH DEVICE)
F26: MASTER OR SLAVE DEVICE IS USED BY ANOTHER AMO
F27: DEVICE <:string:> IS, PHYSICALLY, NOT A HARD DISK
F29: MASTER AND SLAVE SECTOR SIZES IN DATABASE ARE NOT EQUAL
F30: AREA <:string:> IS AN IX AREA
F31: SLAVE AREA <:string:> IS ALREADY IN A DOUBLE RECORDING
F32: ADMISSIBLE VALUES FOR AREA ARE E..K
F35: IO ERROR
F36: INITIALIZATION OF DEVICE <:string:> DOES NOT MATCH THE DATABASE. PLEASE REINITIALIZE IT!
F37: THE NUMBER OF MASTER AND SLAVE AREAS ARE NOT EQUAL !
F38: AREA <string> WAS ENTERED TWO TIMES !
F39: DEVICE <:string:> IS CONFIGURED WITH DEVTYPE = EXT !
F40: CONTROLLER <string> IS NOT CONFIGURED !
F41: REJECTED BECAUSE THE AREA <:area:> IS USED BY THE EXTERNAL APPLICATION <appl>; verb-DDRSM NOT POSSIBLE UNTIL AREA IS DEACTIVATED BY THE EXTERNAL APPLICATION
F42: ERROR IN READING THE PARTITION TABLE
F43: DEVICE <:string:> IS WRITE PROTECTED
F44: NO DATA MEDIA IN DEVICE <:string:>
F45: DEVICE <:@@@@@:> NOT CONNECTED

68.5.2 Advisories

H01: WARNING: YOU ARE GOING TO OVERWRITE THE AREA/DEVICE <:string:>
DO YOU REALLY WANT THIS (Y/N)?
H02: THE ACTIVE LOAD AREA <:string:> IS DEACTIVATED
H03: WARNING: SYNCHRONIZATION PROCESS IS ACTIVE.
BREAKING IT, THE FOLLOWING SLAVE AREAS WILL BE INCONSISTENT:
slaves
THESE CAN BE USED ONLY AFTER EXECUTING START-INIT!
DO YOU REALLY WANT TO BREAK IT (Y/N)?
H04: DOUBLE RECORDING WAS NOT ACTIVATED FOR THE LINUX AREA <:string:>,
SINCE UNIX AREAS ARE NOT SUPPORTED.
H05: THE LINUX AREA <:string:> WAS NOT COPIED, SINCE LINUX AREAS ARE NOT SUPPORTED.
H06: WARNING: YOU ARE GOING TO OVERWRITE THE AREAS
slaves
DO YOU REALLY WANT THIS (Y/N)?

68.5.3 Settings

appl	HP
	PC
	LINUX
verb	ACTIVATE
	COPY
state	C_NOT_PRESENT
	D_BLOCKED_BY_AMO
	D_BLOCKED_BY_DEF
	D_TEST
	A_NOT_PRESENT
	A_BLOCKED_BY_AMO
	A_BLOCKED_BY_DEF
	A_SYNCHR
	IN_SERVICE
	EXKL_TEST
	AREA_CHANGING

69 DDSM - Device Display of the Server

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO DDSM is used to *DISPLAY the device configuration*

- from the database
- from the administration area
- or directly from the SCSI devices.

Both specific (e.g.: the device periphery of a server) and complete queries can be initiated.

With the aid of the action REGENERATE, a file is generated for the system configuration regeneration, that contain position-oriented AMO commands in the order they are required to configure the device periphery (DCSM, DASM, DLSP, DPSM).

69.1 Restrictions

This description is valid from HiPath 4000 V6.0.

69.2 Interrelationships

- AMO DASM : Device Areas, Server Modules
- AMO DCSM : Device Configuration, Server Modules
- AMO DLSP : Device logical areas, Server Modules
- AMO DPSM : Device Pair Allocation, Server Modules
- AMO DSSM : Device Switch for Server Modules
- AMO INIT : Hard Disk Area Initializing

69.3 AMO Functions

- [DISPLAY-DDSM](#) : Interrogate the device configuration
- [REGENERATE-DDSM](#) : Regenerate the device configuration

Display the device periphery of the servers in list format.

The following queries can be initiated:

- all configuration data of a server
- controller data including the devices
- data from the partition table (if exists)
- area data
- area name data
- active load device / load area
- data from SCSI Inquiry

Advisory: Sum of FNODES (TYPE=HD) corresponds to the parameter MAXFILES in AMO INIT.

Procedure Overview

Command Code	Parameter
DISPLAY-DDSM	[UNIT=<param>] |, [TYPE=C], [CNO=<number>]; |, [TYPE=B], [CNO=<number>], [ANO=<param>]; |, [TYPE=HD], [CNO=<number>]; |, [TYPE=SCSI], [CNO=<number>], [INFTYPE=<param>];

Output Scheme

1. TYPE = C or B

```
CONTROLLER: x      xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxx  
TYPE: xx SS-NO: <xxxxx> SIZE : xxxxx MB (xxxxxx*64KB) GRAN : xxxxxx  
AREA: x NAME       : xxxxx STATUS        : xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
AREA DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL  
CONFIGURED LOGICAL NAMES:  
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
ACTIVATED LOGICAL NAMES:  
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
AREA-SZ: xxxxx MB (xxxxxx*64KB) A-GRAN: xxxxxx
```

```
CONTROLLER: x      xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxx  
TYPE: xx SS-NO: <xxxxx> SIZE : xxxxx MB (xxxxxx*64KB) GRAN : xxxxxx  
AREA: x NAME       : xxxxx STATUS        : xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

```

CONFIGURED LOGICAL NAMES:
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
NO LOGICAL NAMES ACTIVATED
AREA-SZ: xxxxx MB (xxxxx*64KB)          A-GRAN: xxxxx

CONTROLLER: x  XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
TYPE: xx  SS-NO: <xxxxx> SIZE : xxxxx MB (xxxxx*64KB)  GRAN : xxxxx
AREA: x  NAME      : xxxxx          STATUS      : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
NO LOGICAL NAMES CONFIGURED
AREA-SZ: xxxxx MB (xxxxx*64KB)          A-GRAN: xxxxx

CONTROLLER: x  XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
TYPE: HD  SS-NO: <xxxxx> SIZE : xxxxx MB (xxxxx*64KB)  GRAN : xxxxx
NON-RMX PARTITIONS:
SYSTEM ID SYSTEM NAME BEGIN / NO OF SECTOR(S)  SIZE
H'xx      XXXXXXXXXXXXXXX H'XXXXXXXXX  H'XXXXXXXXX  xxxxx MB (xxxxx*64KB)
AREA: x  NAME      : xxxxx          STATUS      : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
AREA DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
NO LOGICAL NAMES ACTIVATED
AREA-SZ: xxxxx MB (xxxxx*64KB)          A-GRAN: xxxxx
PAIRED ALLOC          FUNCTION: xxxxxx  ALLOC.AREA: xxxxx
AREA: x  NAME      : xxxxx          STATUS      : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
NO LOGICAL NAMES CONFIGURED
AREA-SZ: xxxxx MB (xxxxx*64KB)          A-GRAN: xxxxx
CONFIGURATION FROM HARD DISK (ACTIVATED):
NO LOGICAL NAMES CONFIGURED
AREA-SZ: xxxxx MB (xxxxx*64KB)          A-GRAN: xxxxx

CONTROLLER: x
TYPE: EXT  INFO: XXXXXXXXXXXXXXXXXXXXXXX

```

possible field settings:

for the CONTROLLER there are the following additional infos:

IS ACTIVE LOAD DEVICE, LOAD AREA IS:
, RESCUE MODE

STATUS is one of:

```

B L O C K E D   B Y   A M O
D E F E C T
S Y N C H R O N
I N   S E R V I C E
P R E S E N T
N O T   P R E S E N T
A R E A   C H A N G I N G
T E S T
RESERVED BY HP
RESERVED BY PC

```

FUNCTION is one of:

```

MASTER
SLAVE

```

SYSTEM NAME is one of:

```

RMX BOOT
RMX DATA
UNKNOWN

```

2. TYPE = HD

CONTROLLER: <x>

PARTITION TABLE:

SYSTEM	SYSTEM NAME	FIRST	LAST	NUMBER OF	SIZE
ID		SECTOR	SECTOR	SECTORS	(MB) (64kB)
H'xx	xxxxxxxxxxxxxxxx	H'xxxxxxxx	H'xxxxxxxx	H'xxxxxxxx	xxxxx xxxxxx

ADMINISTRATION AREA DATA:

MNEMO	LOGICAL	FIRST	LAST	AREA	SIZE	PAIR	INCONS	USED
NAME	NAME	SECTOR	SECTOR	GRAN	(MB) (64kB)	ALLOC.		BY
xxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxx	xxxxx	xxxxx	xxxxxx	xxxx

NAMED-FILE-STRUCTURE DATA:

xxxxx : IS NOT A NAMED-FILE AREA	and / or
xxxxx : DATA CANNOT BE DETERMINED	and / or
xxxxx NOT ACTIVE: DATA CANNOT BE DETERMINED	and / or
xxxxx : FOR SLAVE DATA CANNOT BE DETERMINED	and / or
xxxxx	
FREE	USED
SUM	
FNODES	xxxxx
SPACE (MB)	xxxxx
SPACE (64kB)	xxxxx

possible field settings:

SYSTEM NAME is one of:

- RMX BOOT
- RMX DATA
- UNBEKANNTES

PAIR ALLOC. is one of:

- NO
- MASTER
- SLAVE

INCONS is one of:

YES
NO

USED BY is one of:

NONE
RMX
HP
PC

3. TYPE = SCSI

CONTROLLER: <x>
VENDOR: xxxxxxxx PRODUCT: xxxxxxxxxxxxxxxxx REVISION: xxxx
DEVICE TYPE: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
SIZE : xxxxxx MB (xxxxxx*64KB, xxxxxxxx SECTORS) GRAN
: xxxxxx
WRITE PROTECTED : x
MEDIUM IS REMOVABLE

CONTROLLER: <x>
VENDOR: xxxxxxxx PRODUCT: xxxxxxxxxxxxxxxxx REVISION: xxxx
DEVICE TYPE: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
DEVICE NOT READY OR NO MEDIUM INSERTED

CONTROLLER: <x>
VENDOR: xxxxxxxx PRODUCT: xxxxxxxxxxxxxxxxx REVISION: xxxx
DEVICE TYPE: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
SIZE: xxxxxx MB (xxxxxx*64KB, xxxxxxxx SECTORS) GRAN: xxxxxx
WRITE PROTECTED: x
DEVICE CONFORMS TO STANDARD(S) :
xxxxxx
RESPONSE DATA FORMAT CONFORMS TO:
xxxxxx
DEVICE SUPPORTS:
xxxxxx

CONTROLLER: <x>
OWN SCSI PROCESSOR

possible field values:

DEVICE TYPE is one of:

DIRECT-ACCESS DEVICE
SEQUENTIAL-ACCESS DEVICE
PRINTER DEVICE
PROCESSOR DEVICE
WRITE ONCE DEVICE
CD-ROM DEVICE
SCANNER DEVICE
OPTICAL MEMORY DEVICE
MEDIUM CHANGER DEVICE
COMMUNICATIONS DEVICE
UNKNOWN DEVICE TYPE

WRITE PROTECTED is one from:

Y
N

DEVICE CONFORMS TO STANDARD(S) is one or more from:

DDSM - Device Display of the Server

AMO Functions

NONE
SCSI-1
SCSI-2
ECMA-111
ISO 9316

RESPONSE DATA FORMAT CONFORMS TO is one from:

SCSI-1
PRE-SCSI-2
SCSI-2

DEVICE SUPPORTS is none or one or more from:

TERMINATE I/O PROCESS MESSAGE
ASYNCHRONOUS EVENT NOTIFICATION
COMMAND QUEUING
LINKED COMMAND
SYNCHRONOUS TRANSFER
32-BIT WIDE DATA TRANSFER
16-BIT WIDE DATA TRANSFER
RELATIVE ADDRESSING

and one from:

RESPONSE TO RESET CONDITIONS: HARD RESET
RESPONSE TO RESET CONDITIONS: SOFT RESET

Example:

1. Display the device configuration in the administration and data server

Input:

DISPLAY-DDSM;

Output:

```
CONTROLLER: 1      IS ACTIVE LOAD DEVICE, LOAD AREA IS:      :PDS: ,RESCUE MODE
              TYPE: HD  SS-NO : <M1300>  SIZE : 1300 MB ( 20800*64KB)  GRAN : 512
AREA: A  NAME      : A1H1A      STATUS      : I N S E R V I C E
              AREA-SZ: 0      MB  (2      *64KB)      A-GRAN: 512
AREA: E  NAME      : A1H1E      STATUS      : I N S E R V I C E
              AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
              CONFIGURED LOGICAL NAMES:
              :PDS:
              ACTIVATED LOGICAL NAMES:
              :PDS:
              AREA-SZ: 200      MB  (3200 *64KB)      A-GRAN: 4096
AREA: F  NAME      : A1H1F      STATUS      : I N S E R V I C E
              AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
              CONFIGURED LOGICAL NAMES:
              :DBDA:, :DBD:, :TMD:, :PAS:, :AMD:, :DMP:
              ACTIVATED LOGICAL NAMES:
              :DBDA:, :DBD:, :TMD:, :PAS:, :AMD:, :DMP:
              AREA-SZ: 62      MB  (992 *64KB)      A-GRAN: 4096
              PAIRED ALLOC      FUNCTION: MASTER      ALLOC.AREA: A1H6F
AREA: G  NAME      : A1H1G      STATUS      : I N S E R V I C E
              AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
              CONFIGURED LOGICAL NAMES:
              :CGD:
              ACTIVATED LOGICAL NAMES:
              :CGD:
```



```

AREA-SZ: 35    MB (560 *64KB)          A-GRAN: 4096
AREA: H NAME   : A1H1H      STATUS   : I N S E R V I C E
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
:DMS:
ACTIVATED LOGICAL NAMES:
:DMS:
AREA-SZ: 60    MB (960 *64KB)          A-GRAN: 4096
AREA: I NAME   : A1H1I      STATUS   : I N S E R V I C E
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
:DSY:
ACTIVATED LOGICAL NAMES:
:DSY:
AREA-SZ: 10    MB (160 *64KB)          A-GRAN: 4096
AREA: J NAME   : A1H1J      STATUS   : I N S E R V I C E
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
:GLA:
ACTIVATED LOGICAL NAMES:
:GLA:
AREA-SZ: 200   MB (3200 *64KB)         A-GRAN: 4096
AREA: K NAME   : A1H1K      STATUS   : I N S E R V I C E
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
:SCR:
ACTIVATED LOGICAL NAMES:
:SCR:
AREA-SZ: 732   MB (11725*64KB)         A-GRAN: 4096
CONTROLLER: 2
TYPE: EXT INFO: LINUX BACKUP
CONTROLLER: 6
TYPE: HD SS-NO : <MO640> SIZE : 606 MB ( 9698*64KB) GRAN : 2048
AREA: A NAME   : A1H6A      STATUS   : I N S E R V I C E
AREA-SZ: 0     MB (2 *64KB)           A-GRAN: 2048
AREA: E NAME   : A1H6E      STATUS   : I N S E R V I C E
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
:PDS:
NO LOGICAL NAMES ACTIVATED
AREA-SZ: 200   MB (3200 *64KB)         A-GRAN: 4096
AREA: F NAME   : A1H6F      STATUS   : S Y N C H R O N
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
:DBDA:, :DBD:, :TMD:, :PAS:, :AMD:, :DMP:
NO LOGICAL NAMES ACTIVATED
AREA-SZ: 62    MB (992 *64KB)          A-GRAN: 4096
PAIRED ALLOC FUNCTION: SLAVE ALLOC.AREA: A1H1F
AREA: G NAME   : A1H6G      STATUS   : I N S E R V I C E
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
:CGD:
NO LOGICAL NAMES ACTIVATED
AREA-SZ: 35    MB (560 *64KB)          A-GRAN: 4096
AREA: H NAME   : A1H6H      STATUS   : I N S E R V I C E
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL
CONFIGURED LOGICAL NAMES:
:DMS:
NO LOGICAL NAMES ACTIVATED
AREA-SZ: 60    MB (960 *64KB)          A-GRAN: 4096
AREA: I NAME   : A1H6I      STATUS   : RESERVED BY HP
AREA-DATA IN DATABASE AND ADMINISTRATION AREA ARE EQUAL

```

DDSM - Device Display of the Server

AMO Functions

```
CONFIGURED LOGICAL NAMES:
:DSY:
NO LOGICAL NAMES ACTIVATED
AREA-SZ: 10 MB (160 *64KB) A-GRAN: 4096
AREA: J NAME : A1H6J STATUS : A R E A C H A N G I N G
NO LOGICAL NAMES CONFIGURED
AREA-SZ: 238 MB (3823 *64KB) A-GRAN: 2048
CONFIGURATION FROM HARD DISK (ACTIVATED):
NO LOGICAL NAMES CONFIGURED
AREA-SZ: 238 MB (3823 *64KB) A-GRAN: 2048
CONTROLLER: 8
TYPE: FM SS-NO : <FM128> SIZE : 0 MB ( 2*64KB) GRAN : 8192
AREA: A NAME : A1M8A STATUS : I N S E R V I C E
AREA-SZ: 0 MB (2 *64KB) A-GRAN: 8192
AMO-DDSM -15 DISK STATUS
DISPLAY COMPLETED;
```

2. Display the configuration on controller 1 with TYPE = HD.

Input:

DISP-DDSM:A1,HD,1;

Output:

```
CONTROLLER: <1>
PARTITION TABLE:

+-----+-----+-----+-----+-----+-----+
|SYSTEM| SYSTEM NAME | FIRST | LAST |NUMBER OF | SIZE |
| ID | | SECTOR | SECTOR | SECTORS | (MB) | (64KB) |
+-----+-----+-----+-----+-----+-----+
| H'62 |RMX BOOT |H' 0|H' 289FBF|H' 289FC0| 1299| 20799|
+-----+-----+-----+-----+-----+-----+

ADMINISTRATION AREA DATA:

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|MNEMO| LOGICAL | FIRST | LAST |AREA | SIZE | PAIR |INCONS| USED |
|NAME | NAME | SECTOR | SECTOR |GRAN | (MB) | (64KB) |ALLOC. | BY |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
|A1H1A| :H' 0|H' 13F| 512| 0| 2| NO| NO | NONE |
|A1H1E| :PDS:|H' 140|H' 6413F| 4096| 200| 3200| NO| NO | RMX |
|A1H1F| :DBDA:|H' 64140|H' 8313F| 4096| 62| 992|MASTER| NO | RMX |
|A1H1G| :CGD:|H' 83140|H' 9493F| 4096| 35| 560| NO| NO | RMX |
|A1H1H| :DMS:|H' 94940|H' B293F| 4096| 60| 960| NO| NO | RMX |
|A1H1I| :DSY:|H' B2940|H' B793F| 4096| 10| 160| NO| NO | RMX |
|A1H1J| :GLA:|H' B7940|H' 11B93F| 4096| 200| 3200| NO| NO | RMX |
|A1H1K| :SCR:|H' 11B940|H' 289FBF| 4096| 732| 11725| NO| NO | RMX |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+

NAMED-FILE-STRUCTURE DATA:

+-----+
| A1H1A : IS NOT NAMED-FILE AREA |
+-----+
+-----+-----+-----+-----+
| A1H1E | FREE | USED | SUM |
+-----+-----+-----+-----+
| FNODES | 11000 | 1800 | 12800 |
| SPACE (MB) | 93 | 106 | 200 |
| SPACE (64KB) | 1496 | 1703 | 3200 |
+-----+-----+-----+-----+
```

A1H1F	FREE	USED	SUM
FNODES	3934	34	3968
SPACE (MB)	59	2	62
SPACE (64KB)	955	36	992
A1H1G	FREE	USED	SUM
FNODES	2230	10	2240
SPACE (MB)	34	0	35
SPACE (64KB)	555	4	560
A1H1H	FREE	USED	SUM
FNODES	3834	6	3840
SPACE (MB)	59	0	60
SPACE (64KB)	954	5	960
A1H1I	FREE	USED	SUM
FNODES	634	6	640
SPACE (MB)	9	0	10
SPACE (64KB)	158	1	160
A1H1J	FREE	USED	SUM
FNODES	12794	6	12800
SPACE (MB)	198	1	200
SPACE (64KB)	3182	17	3200
A1H1K	FREE	USED	SUM
FNODES	46894	10	46904
SPACE (MB)	728	4	732
SPACE (64KB)	11659	65	11725

3. Display the configuration with TYPE = SCSI.

Input:

DISP-DDSM:A1,SCSI;

Output:

```

CONTROLLER: <1>
  VENDOR: IBM          PRODUCT: DDRS-34560          REVISION: S97B
  DEVICE TYPE: DIRECT-ACCESS DEVICE
  SIZE : 4357 MB ( 69726*64KB,    8925000 SECTORS) GRAN : 5
12
  WRITE PROTECTED : N
H04: NO DEVICE ON CONTROLLER <2> AVAILABLE OR PRESENT
H04: NO DEVICE ON CONTROLLER <3> AVAILABLE OR PRESENT
H04: NO DEVICE ON CONTROLLER <4> AVAILABLE OR PRESENT
H04: NO DEVICE ON CONTROLLER <5> AVAILABLE OR PRESENT
CONTROLLER: <6>
  VENDOR: FUJITSU      PRODUCT: MCE3130SS          REVISION: 0030
  DEVICE TYPE: DIRECT-ACCESS DEVICE
  SIZE : 606 MB ( 9698*64KB,    310352 SECTORS) GRAN : 20
48
  WRITE PROTECTED : N
  MEDIUM IS REMOVABLE

```

DDSM - Device Display of the Server

AMO Functions

```
CONTROLLER: <7>
  VENDOR: ADAPTEC  PRODUCT: AHA1740AENHANCED REVISION: I
  DEVICE TYPE: PROCESSOR DEVICE
CONTROLLER: <8>
  OWN SCSI PROCESSOR
AMO-DDSM -42      DISK STATUS
DISPLAY COMPLETED;
```

4. Display the configuration with TYPE = SCSI, in long format.

Input:

```
DISP-DDSM:A1, SCSI,,L;
```

Output:

```
CONTROLLER: <1>
  VENDOR: IBM      PRODUCT: DDRS-34560      REVISION: S97B
  DEVICE TYPE: DIRECT-ACCESS DEVICE
  SIZE : 4357 MB ( 69726*64KB, 8925000 SECTORS) GRAN : 5
12
  WRITE PROTECTED : N
  DEVICE CONFORMS TO STANDARD(S) :
    SCSI-2
  RESPONSE DATA FORMAT CONFORMS TO:
    SCSI-2
  DEVICE SUPPORTS:
    RESPONSE TO RESET CONDITIONS: HARD RESET
    COMMAND QUEUING
    LINKED COMMAND
    SYNCHRONOUS TRANSFER
H04: NO DEVICE ON CONTROLLER <2> AVAILABLE OR PRESENT
H04: NO DEVICE ON CONTROLLER <3> AVAILABLE OR PRESENT
H04: NO DEVICE ON CONTROLLER <4> AVAILABLE OR PRESENT
H04: NO DEVICE ON CONTROLLER <5> AVAILABLE OR PRESENT
CONTROLLER: <6>
  VENDOR: FUJITSU  PRODUCT: MCE3130SS      REVISION: 0030
  DEVICE TYPE: DIRECT-ACCESS DEVICE
  SIZE : 606 MB ( 9698*64KB, 310352 SECTORS) GRAN : 20
48
  WRITE PROTECTED : N
  MEDIUM IS REMOVABLE
  DEVICE CONFORMS TO STANDARD(S) :
    SCSI-2
  RESPONSE DATA FORMAT CONFORMS TO:
    SCSI-2
  DEVICE SUPPORTS:
    RESPONSE TO RESET CONDITIONS: HARD RESET
    SYNCHRONOUS TRANSFER
CONTROLLER: <7>
  VENDOR: ADAPTEC  PRODUCT: AHA1740AENHANCED REVISION: I
  DEVICE TYPE: PROCESSOR DEVICE
  DEVICE CONFORMS TO STANDARD(S) :
    SCSI-2
  RESPONSE DATA FORMAT CONFORMS TO:
    SCSI-1
  DEVICE SUPPORTS:
    RESPONSE TO RESET CONDITIONS: HARD RESET
    LINKED COMMAND
    SYNCHRONOUS TRANSFER
CONTROLLER: <8>
```

```
OWN SCSI PROCESSOR
AMO-DDSM -42      DISK STATUS
DISPLAY COMPLETED;
```

69.3.2 REGENERATE-DDSM

This action is used to generate a file which contains position-oriented commands (AMOs).

The regeneration is then executed with a new database and by means of the generated file.

The following AMOs will be regenerated:

ADD-DCSM	Device Configuration Server Modules
ADD-DASM	Device Areas, Server Modules
ADD-DLSM	Device Logical Areas, Server Modules
ADD-DPSM	Device Pair Allocation, Server Modules

Procedure Overview:

Command Code	Parameter
REGENERATE-DDSM	[UNIT=<param>];

Example:

Regenerate the device configuration in the administration and data server A1.

Input:

```
REGENERATE-DDSM;
```

Output:

```
ADD-DCSM:A1,1,HD,"M1300";
ADD-
DASM:A1,1,3200&992&560&960&160&3200&11725,4096&4096&4096&4096&40
96&4096&4096;
ADD-DLSM:A1,1,E,"PDS:";
ADD-
DLSM:A1,1,F,"DBDA:"&"DBD:"&"TMD:"&"PAS:"&"AMD:"&"DMP:";
ADD-DLSM:A1,1,G,"CGD:";
ADD-DLSM:A1,1,H,"DMS:";
ADD-DLSM:A1,1,I,"DSY:";
ADD-DLSM:A1,1,J,"GLA:";
ADD-DLSM:A1,1,K,"SCR:";
ADD-DCSM:A1,2,EXT,"LINUX BACKUP";
ADD-DCSM:A1,6,HD,"MO640";
ADD-DASM:A1,6,3200&992&560&960&160,4096&4096&4096&4096&4096;
ADD-DLSM:A1,6,E,"PDS:";
ADD-
DLSM:A1,6,F,"DBDA:"&"DBD:"&"TMD:"&"PAS:"&"AMD:"&"DMP:";
```

DDSM - Device Display of the Server

Parameter Description

```
ADD-DLSM:A1,6,G," :CGD:";  
ADD-DLSM:A1,6,H," :DMS:";  
ADD-DLSM:A1,6,I," :DSY:";  
ADD-DCSM:A1,8,FM,"FM128";  
ADD-DASM:A1,8,,;  
ADD-DPSM:A1,1-6,F-F;
```

69.4 Parameter Description

ANO	Area number
	Type of Input : Single value optional
	Possible Values : A - K
CNO	Controller number
	Type of Input : Single value optional
	Possible Values : 1 - 8
INFTYPE	Amount of information to be displayed
	Type of Input : Single value optional
	Possible Values : S = short form (basic information)
	: L = long form (exhaustive information)
	Default Value : S
TYPE	Type of disk status to be displayed
	Type of Input : Single value optional
	Possible Values : B = block/area
	C = controller
	HD = hard disk data
	SCSI = SCSI inquiry data
UNIT	Functional system unit i.e. server code
	Type of Input : Single value

optional

Possible Values : A1 = Administration and data server (ADS)

Default Value : A1

Name conventions for mnemonic device names:

1. Unit - type:	A	(ADS)
2. Module number:	1	
3. Device type:	H	(HD/MO)
	M	(Flash Memory)
	E	(external device)
4. Controller number:	1....8	
5. Device number:	1	
or		
Area code:	A....K	
e.g.: device name of the hard disc (HD) on the first controller in ADS (A1H1A)		

List of most used logical device names:

:PDS:	Program disk
:DBD:	Debug disk
:AMD:	Administration and maintenance disk
:CGD:	Call charge disk
:TMD:	Traffic metering disk
:PAS:	Miscellaneous usage
:DBDA:	Debug disk for ADINIT
:DMP:	HiPath Dump Area
:DMS:	Domain Management System Area
:DSY:	Database Synchronization
:GLA:	Gold Load Area
:SCR:	Scratch Area
:DIAG:	Diagnosis area (save traces, Backup medium for AMOs, loadware files and text sub systems in case of activating a RMX hot fix)

69.5 Error Messages and Advisories

69.5.1 Error Messages

F01: DEVICE INFORMATION CANNOT BE DETERMINED
(E.G. BECAUSE OF COPY-DDRSM).
PLEASE REPEAT THE COMMAND LATER!

69.5.2 Advisories

H01: CONTROLLER <cno> NOT YET ASSIGNED
H02: AREA <areakz> ON CONTROLLER <cno> NOT YET ASSIGNED
H03: DEVICE ON CONTROLLER <cno> IS NOT HD
H04: NO DEVICE ON CONTROLLER <cno> IS AVAILABLE OR PRESENT

70 DEBUG - Access to the System DEBUG Facility

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

Using this AMO, the Hicom debugger can be operated from the administration and maintenance terminal (AMT) via a DPS connection (remote maintenance).

Note

Throughout this description, the term DEBUG has been used to denote the Hicom-Debugger, and the term AMO to denote the AMO DEBUG.

The various DEBUG commands are not explained in this AMO - description, but can be found in the DEBUG User Manual.

70.1 Interrelationships

DEBUG: The AMO serves as an I/O interface for DEBUG.

70.2 Functions of the AMO

- [EXEC-DEBUG](#) : Starting AMO DEBUG and entering the DIALOG

70.2.1 EXEC-DEBUG

When starting the AMO, the user specifies which DEBUG is to be accessed via the parameter PROCID. The AMO itself runs exclusively in the ADS.

Input data is requested in dialog mode. Once started, the AMO remains in dialog mode for approximately 15 minutes. If no entry is made during this time, or if it is not terminated by the user (with the command 'DEND'), the AMO is automatically terminated.

Like any other AMO, it can also be terminated by pressing the keys <CTRL>+<X> on the AMT.

Procedure Overview

Command Code	Parameter	
EXEC-DEBUG	PROCID=<param>;	

Example

Input:

<EXEC-DEBUG: BPA;

Output (see also text below):

EXEC-DEBUG:BPA;
H500: AMO DEBUG STARTED
*

70.2.2 Command Description (Dialog Input)

When entering DEBUG commands, the following points should be noted:

Immediately after starting the AMO, the user receives a DEBUG output which shows the DEBUG status.:

Status: "*" DEBUG is in command request mode
 "***" DEBUG is in comment mode

There then follows the following output, which shows the user that an input is requested:

DEBUG INPUT FOR <processor name> PLEASE :
*

This AMO output is simultaneously an indication that the previously entered DEBUG command was processed by Hicom DEBUG.

When this prompt appears, the user may enter the desired DEBUG command string (see parameter CMDSYS).

Example

Start AMO DEBUG.

Input:

EX-DEBUG:BPA;

Output:

*
DEBUG INPUT FOR BPA PLEASE :
The following four commands are input in order to output a

memory area using the Hicom DEBUG. The debug input should be sent to the Hicom DEBUG in processor BPA (= SWU). Because the input is mainly DEBUG texts, please refer to the User Manual for Hicom DEBUG for explanations.

Hicom DEBUG indicates that it is in the command mode by outputting an asterisk "*", and that it is in the statement mode by outputting a double asterisk "**".

Input:

*START

Output:

```
304I START      :DEBUG V2.3 KV2: SESSION STARTED AT:
19:12:48 20/10/1986
*
DEBUG INPUT FOR BPA PLEASE:
```

Entry into Direct Dialog with Hicom DEBUG

Input:

*IN

Output:

```
**
DEBUG INPUT FOR BPA PLEASE :
```

Output a Memory Area;

Input:

*"TRACE C:1:123:456 (10);!"

Output:

```
0615T TRACE      :TRACE INSTRUCTION EXECUTED
01:0123:0456 = 50 8E 46 06 B8 00 00 06 50 E8 17 E7 E9 3D 01
8E
**
DEBUG INPUT FOR BPA PLEASE :
```

Terminate the Input

Input:

*END

Output:

```
*
DEBUG INPUT FOR BPA PLEASE :
```

Terminate the Hicom DEBUG

Input:

*DEND

Output:

DEBUG - Access to the System DEBUG Facility

Functions of the AMO

```
AMO-DEBUG -...    ACCESS TO THE SYSTEM DEBUG FACILITY  
EXEC COMPLETED;
```

70.3 Parameter Description

CMDSYS	Input of a system DEBUG command
	Type of Input : Single value, mandatory
Possible Values	: DEBUG command string (see DEBUG User Manual).
	If the string contains special characters such as ":" or ";", it must be entered in inverted commas. The input "DEND" terminates the dialog with DEBUG and the AMO.
PROCID	Entry of processor ID
	Specifies the ID of the processor with the HICOM DEBUG to be accessed.
Type of Input	: Single value, required
	Possible Values and associated processor numbers:
	A1 ADS
	BP Base processor active (CC)
	BPA Base processor A (CC)
	BPB Base processor B (CC)
	BPS Base processor standby (CC)

70.4 Error Messages and Advisories

70.4.1 Error Messages

F01: COMMUNICATION WITH HICOM-DEBUG IN @@@@ NOT POSSIBLE
F02: INPUT FOR HICOM-DEBUG TOO LONG

70.4.2 Advisories

None

DEBUG messages: see DEBUG User Manual

DEBUG - Access to the System DEBUG Facility

Error Messages and Advisories

71 DEFPP - Define Paying Party

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

This AMO is used for add and administration of the paying party assignment table.

By means of AMO DEFPP the chargee (paying party) of an outgoing or incoming connection from the stations / lines (trunks) taken part with the connection can be selected. The selected chargee is answered to the call processing and transferred during network connection in the further process of the connection over the network.

For internal connections the chargee cannot be selected freely.

The chargee (paying party) of a connection is selected now central in the call charge recording from the station taken part with a connection and answered to the call processing.

The paying party assignment table is divided according to the connection type (CONNTYPE) into three areas for internal connections (INT), for outgoing connections (OUTG) and for incoming connections (INCO).

Each of these partial tables consists again of three sections:

- user definitions
- special system definitions
- system default

With this AMO only the user defined entries can be changed.

For internal connections no entries can be made.

The user definition entries outvote the special system definition entries and the system default value. If a user defined entry for the actual situation is found, this is first taken.

If no user defined entry is available, the applicable special system definition entry is taken. Even if none of the special system definition entries is applicable, the system default value is finally used.

The special system definition entries and the system default value are preallocated. Only the user defined entries must be made, if other stations / lines (trunks) involved of a connection, than in the instruction manual *call record structure* described, which costs are to take over.

The user can make maximal 512 table entries. The following entries are already preallocated by the system:

- 2 special system definitions (at present)
- 3 system defaults

Therefore 507 user-defined table entries remain.

General description

Determination of the paying party parameters

In each entry of the paying party assignment table a call processing oriented situation is represented in each case.

In order to find the optimum entry of a processing oriented situation in the paying party assignment table, the following parameters are needed:

CONNTYPE ... type of connection,
SUPLSERV supplementary service,
SUBSID subscriber identification,
TRANSTYP call transfer situation and
TRUNK description see further below

The chargee CHARGE 1 to 6 (parameter CHARGEEn) can be assigned to these call processing oriented situations in six columns, whereby the sequence of the chargee is determining in the actual situation. If no entries of the chargee are available, the default values (special system definitions or system default) determined previously are taken.

During each call or change of call status it is possible to try to find a as well as possible entry with the informations available at this time in the paying party assignment table.

With the found entry a list is, also after priority to graduated possible stations which the costs of this call section to take over is, at the disposal.

The first station also in the available call information is available, as payment is selected.

Parameter description for TRUNK

A trunk area TRUNK has a lower and upper limit value, whereby each limit value is structured as follows:

LTU-SLOT-CCT-BCHAN

If the entire possible trunk area is taken off, the value ANY is output.

The default value of parameters BCHAN, CCT, LTU and SLOT is set to ANY.

If only a subrange is covered for example by parameter CCT, then the entire area must be indicated for parameter BCHAN (see error messages F05, F06 and F07 in [Section 71.4.1, "Error Messages"](#))

The complete description of parameters BCHAN, CCT, LTU and SLOT see [Section 71.3, "Parameter Description"](#).

Parameter description for SUBSID (subscriber identification)

The following values for the subscriber identification (SUBSID) are entered into the paying party assignment table:

ANY any identification
 ATTEND attendant
 HAS PBX set
 NIGHT night server
 SECR secretary und
 SUBSCR ... subscriber

There are two different cases (for the determination of the chargee (paying party)) with the selection of the values of the subscriber identification:

- normal case:
 - For internal connections (CONNTYPE=INT) the values for subscriber identification are taken from the *calling party* (calling station (caller)).
 - For outgoing connections (CONNTYPE=OUTG) the values for subscriber identification are taken from the *calling party* (calling station (caller)).
 - For incoming connections (CONNTYPE=INCO) the values for subscriber identification are taken from the *connected party* (station with that a connection came).
- special cases:
 - With a call forwarding (SUPPLSERV=CALLFOR) the subscriber identification is taken from the *last redirecting party* (last rerouted subscriber).
 - With a call pickup (SUPPLSERV=PICKUP) the subscriber identification is taken from the *connected party* (station with that a connection came).
 - With a call transfer (SUPPLSERV=TRANSFER) the subscriber identification is taken from the *transferring party* (attendant subscriber with a transfer call).

If at this time the station (party), from which in the special case the subscriber identification is taken is not available, the subscriber identification is determined in accordance with the normal case.

The special cases are independent of the connection type (CONNTYPE).

Definitions for internal connections

For the *system default* for internal calls

the call pays the used homeland station of a mobile calling station with a personal identification number (PIN) on an other terminal identified (*paying party selection 1: Number of the homeland station of the calling station, that identifies itself with a personal identification number (PIN) on an other terminal*) or

the used key line with the calling station (*paying party selection 2: Number of the other line on use of a key set, which is used for the call*) or

the caller (*paying party selection 3: Calling station (caller)*).

In each case the number first available of this sequence is selected.

```
CHRGEE1=MOUCALL,  
CHRGEE2=KEYCALL,  
CHRGEE3=CALLING;
```

Definitions for outgoing connections

For the *special system definitions* with outgoing connections two entries are created:

1. An internal station builds up two outgoing calls (*call transfer situation: Both partners are in the public network*) and transfers the call (*supplementary service: Call transfer*).

In case of a call forwarding of a consultation hold to an external station (FWD) the first rerouted (internal) station has to pay the cost (*paying party selection 1: First rerouted subscriber*) or

the attend station is chargee of both connections (*paying party selection 2: Attendant subscriber with a transfer call*).

```
SUPLSERV=TRANSFER,  
TRANSTYP=BOPPUB,  
CHRGEE1=FIRSTRED,  
CHRGEE2=TRANSPTY;
```

2. A station is called, with a call forwarding (FWD) to external (*supplementary service: Call forwarding*),

in this case the last rerouted station has to pay the costs of the connection (*paying party selection 1: Last rerouted subscriber*).

```
SUPLSERV=CALLFOR,
CHRGEE1=LASTRED;
```

For the *system default* for outgoing calls

the call pays the chargee who is determined in a other system of the network and transferred (*paying party selection 1: Chargee was determinated before in the network and transferred*) or

the used homeland station of a mobile calling station with a personal identification number (PIN) on an other terminal identified (*paying party selection 2: Number of the homeland station of the calling station, that identifies itself with a personal identification number (PIN) on an other terminal*) or

the used key line with the calling station (*paying party selection 3: Number of the other line on use of a key set, which is used for the call*) or

the caller (*paying party selection 4: Calling station (caller)*) or

if the call number is unknown, the calling trunk or its virtual number (AMO-TLZO) (*paying party selection 5: number of calling (incoming/outgoing) trunk determinated with the help of AMO-TLZO*).

In each case the number first available of this sequence is selected.

```
CHRGEE1=BILLING,
CHRGEE2=MOUCALL,
CHRGEE3=KEYCALL,
CHRGEE4=CALLING,
CHRGEE5=TRUNK;
```

Definitions for incoming connections

For the *special system definitions* with outgoing connections two entries are created:

1. A station is called by external (*supplementary service: Call transfer*) and transfers the call to a external station again (*call transfer situation: Both partners are in the public network*).

In the case of a call forwarding (FWD) of a consultation hold to an external station, the first rerouted (internal) subscriber has to pay the cost (*paying party selection 1: First rerouted subscriber*) or

the attend station remains is chargee of both connections (*paying party selection 2: Attendant subscriber with a transfer call*).

```
SUPLSERV=TRANSFER,
TRANSTYP=BOPPUB,
CHRGEE1=FIRSTRED,
CHRGEE2=TRANSPY;
```

2. If an incoming call is forwarded (*supplementary service: Call forwarding*),

in this case the originally called station has to pay the costs of the connection (*paying party selection 1: Dialed number (called)*).

If the number of the called station should not be available yet, then the calling (coming) trunk has to pay the connection (*paying party selection 2: Number of calling (incoming/outgoing) trunk determined with the help of AMO-TLZO*).

```
SUPLSERV=CALLFOR,  
CHRGEE1=FIRSTRED,  
CHRGEE2=CALLED,  
CHRGEE3=TRUNK;
```

For the *system default* for outgoing calls

the call pays the chargee who is determined in a other system of the network and transferred (*paying party selection 1: Chargee was determined before in the network and transferred*) or

the used key line of the reached station (*paying party selection 2: Number of the other line on use of a key set, which is used for the receiving of the call.*) or

the station with that a connection came (*paying party selection 3: Station with that a connection came.*) or

the called station (*paying party selection 4: Dialed number (called)*) or

if the call number is unknown, the calling trunk or its virtual number (AMO-TLZO) (*paying party selection 5: number of calling (incoming/outgoing) trunk determined with the help of AMO-TLZO*).

In each case the number first available of this sequence is selected.

```
CHRGEE1=BILLING,  
CHRGEE2=KEYCONN,  
CHRGEE3=CONNECT,  
CHRGEE4=CALLED,  
CHRGEE5=TRUNK;
```

Interrelationships to AMO-GEFE

This AMO influences the paying party allocation.

The allocation of the costs (that is the chargee) is influenced by the AMO GEFE with connecting transfer by the attendant terminal or by secretary on executive.

More detailed informations see description of AMO-GEFE (ATTNDINT, ATTNDINC and ATTNDOUT).

Interrelationships to AMO-PERSI

This AMO influences the paying party allocation also.

If in branch COPIN (class of pin) the parameter value COPIN (adjustable per pin) the parameter DISPRSTN (displaying the remote station number to the call partner) is set to YES, then the fields CALLING and MOBILE USER before the determination of the chargee are exchanged (The visited station is to be selected as chargee).

More detailed informations see description of AMO-PERSI.

71.1 Interrelationships

There are no direct dependencies, however logical interrelationships with the following AMOs:

- AMO-TLZO : Administration of the station assignment table
- AMO-GEFE ; Administering the charge registration parameters
- AMO-PERSI : Personal identification data

71.2 Functions of the AMO

- [ADD-DEFPP](#) : Create an entry in the paying party assignment table
- [CHANGE-DEFPP](#) : Change an entry of the paying party assignment table
- [DELETE-DEFPP](#) : Delete the entries in the paying party assignment table
- [DISPLAY-DEFPP / REGENERATE-DEFPP](#) : Interrogate of the entries of the paying party assignment table
Regenerate the entries of the paying party assignment table

71.2.1 ADD-DEFPP

When creating an entry with the appropriate call processing oriented data is entered in each case into the paying party assignment table.

DEFPP - Define Paying Party

Functions of the AMO

Procedure Overview

Command Code	Parameter
ADD-DEFPP	CONNTYPE=<param>, [SUPLSERV=<param>], [SUBSID=<param>] , [TRANSTYP=<param>], [LTU=<number>], [SLOT=<number>] , [CCT=<number>], [BCHAN=<number>], CHRGE1=<param> , [CHRGE2=<param>], [CHRGE3=<param>], [CHRGE4=<param>] , [CHRGE5=<param>], [CHRGE6=<param>];

Examples:

1. Creating of outgoing connections.

Two outgoing connections (CONNTYPE=OUTG) with the following parameters are created:

User defined entry outgoing 1:

A station is called, with a call forwarding (FWD) to external (*supplementary service: call forwarding*).

The costs of the call has to pay the first rerouted subscriber (*paying party selection 1: first rerouted subscriber*).

```
SUPLSERV=CALLFOR,  
CHRGE1=FIRSTRED;
```

Without this entry the default values (special system definitions or system default) are used. The entered values you can find in [Section , "Definitions for outgoing connections"](#).

User defined entry outgoing 2:

An external call will pass through by several systems and transferred from attendant to external (*supplementary service: call transfer, subscriber identification: attendant (AC), call transfer situation: both partners are in the public network*).

The costs of the call has to pay the chargee who is determined in a other system of the network and transferred (*paying party selection 1: chargee was determinated before in the network and transferred*) or

the caller (*paying party selection 2: calling station (caller)*) or

if this does not admit the incoming trunk (AMO-TLZO) (*paying party selection 3: number of calling (incoming) trunk determinated with the help of AMO-TLZO*).

```
SUPLSERV=TRANSFER,  
SUBSID=ATTEND,  
TRANSTYP=BOPUB,  
CHRGE1=BILLING,  
CHRGE2=CALLING,  
CHRGE3=TRUNK;
```

Without this entry the default values (special system definitions or system default) are used. The entered values you can find in [Section , "Definitions for outgoing connections"](#).

Input:

```
ADD-DEFPP:CONNTYPE=OUTG,SUPLSERV=CALLFOR,CHRGEE1=FIRSTRED;
ADD-
DEFPP:CONNTYPE=OUTG,SUPLSERV=TRANSFER,SUBSID=ATTEND,TRANSTYP=
BOPPUB
,CHRGEE1=BILLING,CHRGEE2=CALLING,CHRGEE3=TRUNK;
```

2. Creating of incoming connections.

Two incoming connections (CONNTYPE=INCO) with the following parameters are created:

User defined entry incoming 1:

The attendant console (AC) is called by external station (*supplementary service: call transfer, subscriber identification: attendant, call transfer situation: both partners are in the public network*).

The costs of the call has to pay the external station, which is attend from the attendant console (AC) (*paying party selection 1: station, with that a connection came*) or

if no call number was given from OFFICE, the incoming trunk (*paying party selection 2: number of calling (incoming) trunk determinated with the help of AMO-TLZO*).

```
SUPLSERV=TRANSFER,
SUBSID=ATTEND,
TRANSTYP=BOPPUB,
CHRGEE1=CONNECT,
CHRGEE2=TRUNK;
```

Without this entry the default values (special system definitions or system default) are used. The entered values you can find in [Section , "Definitions for incoming connections"](#).

User defined entry incoming 2:

An incoming call from trunk 1-91-3-1 (*line trunk unit (LTU): 1, specification of the mounting pitch in the LTU (SLOT): 91, circuit number: 3, number of ISDN B-channel: 1*)

is to be paid by the incoming trunk (AMO-TLZO) (*paying party selection 1: number of calling (incoming/outgoing) trunk determinated with the help of AMO-TLZO*).

```
LTU=1,
SLOT=91,
CCT=3,
BCHAN=1,
CHRGEE1=TRUNK;
```

Without this entry the default values (special system definitions or system default) are used. The entered values you can find in [Section , "Definitions for incoming connections"](#).

Input:

```
ADD-
DEFPP:CONNTYPE=INCO, SUPLSERV=TRANSFER, SUBSID=ATTEND, TRANSTYP=
BOPUPB
      , CHRGEE1=CONNECT, CHRGEE2=TRUNK;
ADD-
DEFPP:CONNTYPE=INCO, LTU=1, SLOT=91, CCT=3, BCHAN=1, CHRGEE1=TRUNK
;
```

71.2.2 CHANGE-DEFPP

Modifying entries from the paying party assignment tables can be executed only for user defined entries.

The following parameters are used for the identification of an entry and remain unchanged therefore:

- CONNTYPE ... selection according to type of connection
- SUPLSERV specification of supplementary service
- SUBSID subscriber identification
- TRANSTYP call transfer situation
- LTU line trunk unit
- SLOT mounting pitch in the LTU)
- CCT circuit number and
- BCHAN number of ISDN B-channel.

At least the value CHRGEE1, i.e. the first value of the paying party assignment tables (PAYPART1 to PAYPART6) must be entered in the list. The entire list is always modified.

Procedure Overview

Command Code	Parameter
CHANGE-DEFPP	CONNTYPE=<param>, [SUPLSERV=<param>], [SUBSID=<param>] , [TRANSTYP=<param>], [LTU=<number>], [SLOT=<number>] , [CCT=<number>], [BCHAN=<number>], CHRGEE1=<param> , [CHRGEE2=<param>], [CHRGEE3=<param>], [CHRGEE4=<param>] , [CHRGEE5=<param>], [CHRGEE6=<param>];

Examples

1. Change of parameters of outgoing connections.
The following parameters of the outgoing connection (CONNTYPE=OUTG) are changed:
User defined entry outgoing 1:

A station is called, with a call forwarding (FWD) to external
(*supplementary service: call forwarding*).

The costs of the call has to pay the caller (*paying party selection 1: calling station (caller)*).

```
SUPLSERV=CALLFOR,
CHRGEE1=CALLING;
```

Input:

```
CHANGE-DEFPP:CONNTYPE=OUTG, SUPLSERV=CALLFOR, CHRGEE1=CALLING;
```

2. Change of parameters of incoming connections.

The following parameters of the incoming connection
(CONNTYPE=INCO) are changed:

User defined entry incoming 1:

The attendant console (AC) is called by external station
(*supplementary service: call transfer, subscriber identification: attendant, call transfer situation: both partners are in the public network*).

The costs of the call are assigned now to the virtual number
(*paying party selection 1: number of calling (incoming) trunk determined with the help of AMO-TLZO*).

```
SUPLSERV=TRANSFER,
SUBSID=ATTEND,
TRANSTYP=BOPUB,
CHRGEE1=TRUNK;
```

Input:

```
CHANGE-
DEFPP:CONNTYPE=INCO, SUPLSERV=TRANSFER, SUBSID=ATTEND, TRANSTYP=
BOPUB, CHRGEE1=TRUNK;
```

71.2.3 DELETE-DEFPP

Deleting entries from the paying party assignment tables can be executed only for user defined entries.

For the deletion of an entry of a connection from the paying party assignment table must all parameters when creating were used, to be indicated.

For the deletion of all entries of a connecting type from the paying party assignment tables the type of the connection (CONNTYPE) must be indicated.

DEFPP - Define Paying Party

Functions of the AMO

Procedure Overview

Command Code

```
DELETE-DEFPP
```

Parameter

```
CONNTYPE=<param>, [SUPLSERV=<param>], [SUBSID=<param>]  
, [TRANSTYP=<param>], [LTU=<number>], [SLOT=<number>]  
, [CCT=<number>], [BCHAN=<number>];
```

Example

1. Delete a certain user defined entry for outgoing connections (CONNTYPE=OUTG) from the paying party assignment table.

Input:

```
DEL-DEFPP:CONNTYPE=OUTG,SUPLSERV=CALLFOR;
```

2. Delete all user defined entries for outgoing connections (CONNTYPE=OUTG) from the paying party assignment table.

Input:

```
DEL-DEFPP:CONNTYPE=OUTG;
```

71.2.4 DISPLAY-DEFPP / REGENERATE-DEFPP

Interrogate the paying party assignment table all entries are output in list format.

The output can according to the type of the connection (internal:

CONNTYPE=INCO, outgoing: CONNTYPE=OUTG or incoming:

CONNTYPE=INCO) to be selected.

If no value for parameter CONNTYPE will be indicated, all connections (internal, outgoing and incoming) are output in list format. The default value of parameter CONNTYPE is set to ALL.

With the REGEN command only the entries are generated from the area of the *user defined entries*, not however the entries from the table of *special system definitions*.

With regenerating no parameter is input.

1. Interrogate the paying party assignment table with output in list format (DISPLAY).
2. Interrogate the paying party assignment table with output in position oriented commands for regeneration (REGENERATE).

Procedure Overview

Command Code	Parameter	
DISPLAY-DEFPP	[CONNTYPE=<param>];	(1)
REGENERATE-DEFPP	;	(2)

Examples

1. Interrogate the paying party assignment table for all (internal / outgoing / incoming) connections (CONNTYPE=ALL) with output in list format.

Input:

DISP-DEFPP:CONNTYPE=ALL;

or

DISP-DEFPP;

Output:

CONNECTION TYPE: INT

SYSTEM DEFAULT:

```

      CHRSEE
      -----
      MOUCALL
      KEYCALL
      CALLING

```

CONNECTION TYPE: OUTG

SYSTEM DEFAULT:

```

      CHRSEE
      -----
      BILLING
      MOUCALL
      KEYCALL
      CALLING
      TRUNK

```

SPECIAL SYSTEM DEFINITIONS:

+	+	+	+	+	+	+	+	+	+
|	SUPLSERV	|	SUBSID	|	TRANST	|		TRUNK	|
+	+	+	+	+	+	+	+	+	+
|	TRANSFER	|	ANY	|	BOPPUB	|		ANY	|
+	+	+	+	+	+	+	+	+	+
|	CALLFOR	|	ANY	|	ANY	|		ANY	|
+	+	+	+	+	+	+	+	+	+

USER DEFINITIONS:

DEFPP - Define Paying Party

Functions of the AMO

|	SUPLSERV	|	SUBSID	|	TRANST	|	TRUNK	|	CHRGEE	|
|	TRANSFER	|	ATTEND	|	BOPPUB	|	ANY	|	BILLING	|
|		|		|		|		|	CALLING	|
|		|		|		|		|	TRUNK	|
|	CALLFOR	|	ANY	|	ANY	|	ANY	|	CALLING	|

CONNECTION TYPE: INCO

SYSTEM DEFAULT:

CHRGEE

BILLING
KEYCONN
CONNECT
CALLED
TRUNK

SPECIAL SYSTEM DEFINITIONS:

|	SUPLSERV	|	SUBSID	|	TRANST	|	TRUNK	|	CHRGEE	|
|	TRANSFER	|	ANY	|	BOPPUB	|	ANY	|	FIRSTRED	|
|		|		|		|		|	TRANSPTY	|
|	CALLFOR	|	ANY	|	ANY	|	ANY	|	FIRSTRED	|
|		|		|		|		|	CALLED	|
|		|		|		|		|	TRUNK	|

USER DEFINITIONS:

|	SUPLSERV	|	SUBSID	|	TRANST	|	TRUNK	|	CHRGEE	|
|	ANY	|	ANY	|	ANY	|	1-91-3-1	|	TRUNK	|
|	ANY	|	ANY	|	ANY	|	5-67-4-0	TO 5-67-8-30	|	TRUNK
|	TRANSFER	|	ATTEND	|	BOPPUB	|	ANY	|	TRUNK	|

- Interrogate the paying party assignment table for outgoing connections (CONNTYPE=OUTG) with output in list format.

Input:

DISP-DEFPP:CONNTYPE=OUTG;

Output:

CONNECTION TYPE: OUTG

SYSTEM DEFAULT:

DEFPP - Define Paying Party

Functions of the AMO

CHRGEE

BILLING

MOUCALL

KEYCALL

CALLING

TRUNK

SPECIAL SYSTEM DEFINITIONS:

+-----+		+-----+		+-----+		+-----+			
|	SUPLSERV	|	SUBSID	|	TRANST	|	TRUNK	|	CHRGEE
+-----+		+-----+		+-----+		+-----+			
|	TRANSFER	|	ANY	|	BOPPUB	|	ANY	|	FIRSTRED
|		|		|		|		|	TRANSPTY
+-----+		+-----+		+-----+		+-----+			
|	CALLFOR	|	ANY	|	ANY	|	ANY	|	LASTRED
+-----+		+-----+		+-----+		+-----+			

USER DEFINITIONS:

|	SUPLSERV	|	SUBSID	|	TRANST	|	TRUNK	|	CHRGEE	|
|	TRANSFER	|	ATTEND	|	BOPPUB	|	ANY	|	BILLING	|
|		|		|		|		|	CALLING	|
|		|		|		|		|	TRUNK	|
|	CALLFOR	|	ANY	|	ANY	|	ANY	|	CALLING	|

- Interrogate the paying party assignment table for incoming connections (CONNTYPE=INCO) with output in list format.

Input:

DISP-DEFPP:CONNTYPE=INCO;

Output:

CONNECTION TYPE: INCO

SYSTEM DEFAULT:

CHRGEE

BILLING

KEYCONN

CONNECT

CALLED

TRUNK

SPECIAL SYSTEM DEFINITIONS:

-----+

DEFPP - Define Paying Party

Functions of the AMO

|	SUPLSERV	|	SUBSID	|	TRANST	|	TRUNK	|	CHRGEE	|
+	-----	+	-----	+	-----	+	-----	+	-----	+
|	TRANSFER	|	ANY	|	BOPPUB	|	ANY	|	FIRSTRED	|
|		|		|		|		|	TRANSPTY	|
+	-----	+	-----	+	-----	+	-----	+	-----	+
|	CALLFOR	|	ANY	|	ANY	|	ANY	|	FIRSTRED	|
|		|		|		|		|	CALLED	|
|		|		|		|		|	TRUNK	|
+	-----	+	-----	+	-----	+	-----	+	-----	+

USER DEFINITIONS:

+	-----	+	-----	+	-----	+	-----	+	-----	+
|	SUPLSERV	|	SUBSID	|	TRANST	|	TRUNK	|	CHRGEE	|
+	-----	+	-----	+	-----	+	-----	+	-----	+
|	ANY	|	ANY	|	ANY	|	1-91-3-1	|	TRUNK	|
+	-----	+	-----	+	-----	+	-----	+	-----	+
|	ANY	|	ANY	|	ANY	|	5-67-4-0	|	TO 5-67-8-30	|
+	-----	+	-----	+	-----	+	-----	+	-----	+
|	TRANSFER	|	ATTEND	|	BOPPUB	|	ANY	|	TRUNK	|
+	-----	+	-----	+	-----	+	-----	+	-----	+

4. Regenerate the paying party assignment table with output in position oriented commands.

Input:

REG-DEFPP;

Output:

```
ADD-DEFPP: INCO, ANY, ANY, ANY, 1, 91, 3, 1, TRUNK;
ADD-DEFPP: INCO, ANY, ANY, ANY, 5, 67, 4&&8, 0&&30, TRUNK;
ADD-
DEFPP: INCO, TRANSFER, ATTEND, BOPPUB, 1&&99, 1&&121, 0&&255, 0&&30, T
RUNK;
ADD-
DEFPP: OUTG, TRANSFER, ATTEND, BOPPUB, 1&&99, 1&&121, 0&&255, 0&&30, B
ILLING
, CALLING, TRUNK;
ADD-
DEFPP: OUTG, CALLFOR, ANY, ANY, 1&&99, 1&&121, 0&&255, 0&&30, CALLING;
```

71.3 Parameter Description

BCHAN	Number of the ISDN B-channel
Type of Input	: Single value, range, optional
Possible Values	: 0 to 30 (Value 0: only for analog circuits)
CCT	Circuit number
Type of Input	: Single value, range, optional
Possible Values	: 0 to 255
CHRGEE _n	Paying party selection
Type of Input	: Single value, optional
	: Mandatory CHRGEE1 (ADD, CHANGE, DELETE)
Possible Values	: BILLING = Billing: The chargee information was determined previously in the network and transferred.
	CALLED = called party: Dialed number (called). Note: Is to be always used as one of the last alternatives in the order of determination (better CHRGEE _n = CONNECT), the paying party id (SUBSID=SUBSCR) and the paying party node number (PPLV0=0 / PPLV1=0 / PPLV2=0) are belonging to the called party, is only filled out with the default value.
	CALLING = calling party: Calling station (caller).
	CONNECT = connected party: Station with that a connection came.
	FIRSTRED = first redirecting party: First rerouted subscriber.
	KEYCALL = key line of calling: Number of the other line on use of a key set, which is used for the call. Calling contains the number of the terminal in this case.
	KEYCONN = key line of connected: Number of the other line on use of a key set, which is used for the receiving of the call. Connected contains the number of the terminal in this case.
	LASTRED = last redirecting party: Last rerouted sub-scriber.
	MOUCALL = mobile user number of calling: Number of the homeland station of the calling station, who identifies himself with a personal identification number (PIN) on an other terminal. Calling contains the number of the terminal in this case.
	TRANSPTY = transferring party: Attendent subscriber with a transfer call.

DEFPP - Define Paying Party

Parameter Description

	TRUNK	= virtual number: Number of calling (incoming / outgoing) trunk determined with the help of the AMO-TLZO.
CONNTYPE	Selection according to type of the connection	
	Type of Input	: Single value, optional Mandatory (ADD, CHANGE, DELETE)
	Possible Values	: ALL = For branch DISPLAY only: All connections of the paying party assignment tables (connection type: internal / outgoing / incoming) are output.
	INCO	= The entries of the paying party assignment tables for incoming connections are pro-cessed.
	INT	= For branch DISPLAY only: The entries of the paying party assignment tables for internal connections are output.
	OUTG	= The entries of the paying party assignment tables for outgoing connections are processed.
LTU	Line Trunk Unit	
	Type of Input	: Single value, range, optional
	Possible Values	: 1 to 99
	Note	: LTU 16 is used Hicom internal.
SLOT	Specification of the mounting pitch in the LTU	
	Type of Input	: Single value, range, optional
	Possible Values	: 1 to 121 A suitable module must be configured for the slot addressed by PEN (AMO BCSU).
SUBSID	Specification of subscriber identification	
	Type of Input	: Single value, optional
	Possible Values	: ANY = Any identification
	ATTEND	= Attendant
	HAS	= PBX set
	NIGHT	= Night server
	SECR	= Secretary
	SUBSCR	= Subscriber To the value SUBSCR the following identifications are illustrated: Service module, Special charging, Maintenance equipment and Public phone.

SUPLSERV	Specification of the supplementary service		
	Type of Input	: Single value, optional	
	Possible Values	: ANY	= To the value ANY the following supplementary services are illustrated, for which a paying party selection is executed. All identifications not stated explicitly at the following values are covered however anyhow by the value ANY.
		CALLBACK	= Call back
		CALLFOR	= To the value CALLFOR the following supplementary services are illustrated: CFB: call forwarding busy, CFNR: call forwarding no reply, CFU: call forwarding unconditional.
		CONSULT	= Consultation call
		HUNTGRP	= Hunting group
		NORMAL	= Normal call, To the value NORMAL the following identifications are illustrated: Conference and Not defined.
		OVERRIDE	= Override
		PICKUP	= Call pickup
		SPECENV	= For the special equipment the following identifications are illustrated: Mail box, Paging, Dictation, Credit card charging, Reverse charging and Door opening system.
		TRANSFER	= Call transfer
		TRANSIT	= Transit call
		REROUTE	= Rerouting
TRANSTYP	Call-Transfer situation		
	Type of Input	: Single value, optional	
	Possible Values	: ANY	= Any transfer
		APTYPUB	= A-side from public network.
		BOPINT	= Both partners are internal.
		BOPUB	= Both partners are in the public network.
		BPTYPUB	= B-side from public network.

71.4 Error Messages and Advisories

71.4.1 Error Messages

F01: PARAMETER TRANSTYP IS ALLOWED ONLY, IF PARAMETER SUPLSERV = TRANSFER OR NORMAL.
F02: PARAMETER LTU IS MISSING.
F03: PARAMETER SLOT IS MISSING.
F04: PARAMETER CCT IS MISSING.
F05: RANGE IN PARAMETER LTU IS ONLY ALLOWED, IF PARAMETERS SLOT, CCT AND BCHAN COVER THEIR WHOLE RANGE.
F06: RANGE IN PARAMETER SLOT IS ONLY ALLOWED, IF PARAMETERS CCT AND BCHAN COVER THEIR WHOLE RANGE.
F07: RANGE IN PARAMETER CCT IS ONLY ALLOWED, IF PARAMETER BCHAN COVERS IT'S WHOLE RANGE.
F08: ENTRY ALREADY EXISTS.
F09: TRUNK RANGE OVERLAPPING WITH EXISTING ENTRY.
F10: TABLE IS FULL.
F11: ENTRY NOT FOUND.
F12: AN ELEMENT OF THE PAYING PARTY LIST IS MULTIPLE AVAILABLE.
F13: ENTRIES FOR CONNECTION TYPE INTERNAL ARE NOT POSSIBLE.
F14: THE AREA IS EMPTY.

71.4.2 Advisories

H01: ATTENTION! ENTRIES ARE PERFORMED WITHIN THE TABLE SPECIAL SYSTEM DEFINITIONS.
H02: THE PAYING PARTY ENTRY IS ALWAYS SET ON THE FIRST FREE SPACE.
H03: ATTENTION! POSSIBLE CHANGES ARE PERFORMED AT PRESENT WITHIN THE TABLE SPECIAL SYSTEM DEFINITIONS.
H04: SPECIAL SYSTEM DEFINITIONS DOES NOT REGENERATE.

72 DEFTM - Define Traffic Measurement

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

This AMO is used for

- set up and administration of the DB table "list of measurement objects".
- Starting and stopping of the measurement. In addition a switch (PMON) in the database of the ADP is used.
- Determining the measurement range by the created parameters from the measurement object file.

The table "measurement objects" consists of two fields. These both fields together determine a range of objects:

- lower boundary of the range of objects
- upper boundary of the range of objects

The object area is described by its lower and upper boundary.

The switch ALLON states the fact that all objects, except processor load and the attendant console activity, are recorded by the measurement.

If no measurement objects are defined in the list of measurement objects, and the switch ALLON is set to N(o), no measurement takes place.

If measurement objects are defined in the list of measurement objects, and the switch ALLON is set to N(o), then the measurement of measurement objects of the list of measurement objects takes place.

Is the switch ALLON set to Y(es), all measurement objects are recorded. All entries of the list of measurement objects have no effect, are preserved however for a new measurement.

The user can make max. 500 entries into the list of measurement objects.

Measurement objects are:

- subscriber number (range)
- trunk number (range)
- trunk group number (range)
- attendant number (range)

DEFTM - Define Traffic Measurement

Interrelationships

- attendant group number (range)
- pilot number of a hunt group

General description

Parameter description for TRUNK

A trunk range TRUNK has a lower and upper limit value, whereby each limit value is structured as follows:

LTU-SLOT-CCT

If the entire possible trunk range is taken off, the value ANY is output.

The default value of parameters CCT, LTU and SLOT is set to ANY.

If only a subrange is covered for example by parameter LTU, then the entire area must be indicated for parameter CCT (see error messages F05 and F06 in [Section 72.4.1, "Error Messages"](#))

The complete description of parameters CCT, LTU and SLOT see [Section 72.3, "Parameter Description"](#).

72.1 Interrelationships

There are no direct dependencies to other AMOs:

72.2 Functions of the AMO

- [ADD-DEFTM](#) : Create an entry or a range in the measurement object table
- [CHANGE DEFTM](#) : Starting and stopping of the measurement and the definition of the parameters of the measurement
- [DELETE DEFTM](#) : Delete of entries in the measurement object table
- [DISPLAY-DEFTM / REGENERATE-DEFTM](#) : Interrogate of the parameters and entries of the measurement object table
Regenerate of entries of the measurement object table

72.2.1 ADD-DEFTM

When creating an entry with the appropriate data of the measurement object (measurement object types) is entered in each case into the measurement object table.

Procedure Overview

Command Code	Parameter	
ADD-DEFTM	OBJECT=SUBSCR,NUMBER=<number>;	(1)
	| OBJECT=TRUNK,LTU=<number>, [SLOT=<number>] | , [CCT=<number>];	(2)
	| OBJECT=ATTND,NUMBER=<number>;	(3)
	| OBJECT=TRUNKGRP,TRUNKGRNO=<number>;	(4)
	| OBJECT=ATTNDGRP,ATNDGRNO=<number>;	(5)
	| OBJECT=HUNTHEAD,NUMBER=<number>;	(6)

Examples:

1. Creating of a subscriber with the number 3444.

Input:

```
ADD-DEFTM:OBJECT=SUBSCR,NUMBER=3444;
```

2. Creating of the trunk 1-79-4.

Line trunk unit: 1

specification of the mounting pitch in the LTU: 79 and
circuit number: 4

Input:

```
ADD-DEFTM:OBJECT=TRUNK,LTU=1,SLOT=79,CCT=4;
```

3. Creating of an attendant with the number 4402.

Input:

```
ADD-DEFTM:OBJECT=ATTND,NUMBER=4402;
```

4. Creating of a trunk group with the number 75.

Input:

```
ADD-DEFTM:OBJECT=TRUNKGRP,TRUNKGRNO=75;
```

5. Creating of an attendant group with the number 0.

Input:

```
ADD-DEFTM:OBJECT=ATTNDGRP,ATNDGRNO=0;
```

6. Creating of a hunt group with the pilot number 2404.

Input:

```
ADD-DEFTM:OBJECT=HUNTHEAD,NUMBER=2404;
```

72.2.2 CHANGE DEFTM

When changing the measurement is started or stopped.

The following switches are used:

- **PMON:**
Central switch for performance management (PM), needed to start/stop PM.
If this switch is off, all installed measurement objects of AMO-DEFTM have no effect.
The recording of measurement data begins only with the activating of this switch.
- **ALLON:**
All objects, except processor load and the attendant console activity, are recorded by the measurement.
Is this switch set, all entries in the list of measurement objects have no effect.
Is this switch not set, then the measurement of measurement objects of the list of measurement objects takes place.
- **LOADON:**
A special CDR record is generated every 10 seconds, containing processor load (SWU and ADP)
- **ACACTON:**
Events of the attendant console (AC) will be monitored:
 - AC activates/deactivates nightservice,
 - AC pulls/reconnect the jack,
 - AC is out of/in service.

Procedure Overview

Command Code

CHANGE-DEFTM

Parameter

{ (min 1) PMON=<param>, ALLON=<param>, LOADON=<param>
, ACACTON=<param>};

Examples:

1. Switch on the central switch for performance management (PM).

Input:

CHANGE-DEFTM:PMON=Y;

2. Switch on all measurement objects.

Input:

CHANGE-DEFTM:ALLON=Y;

3. Switch on of the measurement objects (from measurement object table).

Input:

```
CHANGE-DEFTM:ALLON=N;
```

4. A special CDR record is generated every 10 seconds, containing processor load (SWU and ADP).

Input:

```
CHANGE-DEFTM:LOADON=Y;
```

5. Activation/deactivation of night service at attendant console (AC).

Input:

```
CHANGE-DEFTM:ACACTON=Y;
```

72.2.3 DELETE DEFTM

For the deletion of entries from the measurement object tables, the appropriate measurement object type must be indicated.

Are all entries to be deleted, the parameter `OBJECT=ALL` must be indicated.

If a range of objects is created, only the whole created range of objects can be deleted again.

Procedure Overview

Command Code	Parameter	
DELETE-DEFTM	OBJECT=ALL;	(1)
	| OBJECT=SUBSCR, [NUMBER=<number>];	(2)
	| OBJECT=TRUNK, [LTU=<number>], [SLOT=<number>], [CCT=<number>];	(3)
	| OBJECT=ATTND, [NUMBER=<number>];	(4)
	| OBJECT=TRUNKGRP, [TRUNKGRNO=<number>];	(5)
	| OBJECT=ATTNDGRP, [ATTNDGRNO=<number>];	(6)
	| OBJECT=HUNTHEAD, [NUMBER=<number>];	(7)

Examples:

- 1. Delete a certain entry (attendant with the number 4402) from the measurement object table.

Input:

DEL-DEFTM:OBJECT=ATTND,NUMBER=4402;

- 2. Delete all entries from the measurement object table.

Input:

DEL-DEFTM:OBJECT=ALL;

72.2.4 DISPLAY-DEFTM / REGENERATE-DEFTM

Interrogate the measurement object table all entries are output in list format.

The output can according to the type of measurement objects, i. e. OBJECT=SUBSCR, be selected.

The output mask consists of 7 sections:

- Switch PMON (PM), ALLON (ALL), LOADON (LOAD) and ACACTON (AC)
- Subscriber number (OBJECT=SUBSCR)
- Trunk number (OBJECT=TRUNK)
- Trunk group number (OBJECT=TRUNKGRP)
- Attendant number (OBJECT=ATTND)
- Attendant group number (OBJECT=ATTNDGRP)
- Pilot number of a hunt group (OBJECT=HUNTHEAD)

With regenerating no parameter is input.

- 1. Interrogation of measurement object table with output in list format (DISPLAY).
- 2. Interrogation of measurement object table with output in position oriented commands for regeneration (REGENERATE).

Procedure Overview

Command Code	Parameter	
DISPLAY-DEFTM	[OBJECT=<param>];	(1)

Command Code	Parameter	
REGENERATE-DEFTM	;	(2)

Examples:

1. Interrogation of measurement object table for all measurement objects.

Input:

DISP-DEFTM;

Output:

H500: AMO DEFTM STARTED

PM: ACTIVE
 ALL: DEACTIVATED
 LOAD: ACTIVE
 AC: ACTIVE

OBJECT: SUBSCRIBERS (RANGE)

3444;

OBJECT: TRUNK (RANGE)

1-79-4

OBJECT: TRUNK NUMBER GROUP (RANGES)

75

OBJECT: ATTENDANT NUMBER (RANGES)

4402;

OBJECT: ATTENDANT GROUP NUMBERS (RANGES)

0

OBJECT: SUBSCRIBERS (RANGE) OF HEADS OF HUNTGROUPS
 2404;

AMO-DEFTM-111 SET UP AND ADMINISTRATION OF TRAFFIC
 MEASUREMENT TABLE
 DISPLAY COMPLETED;

2. Regenerate the measurement object table with output in position oriented commands.

Input:

DEFTM - Define Traffic Measurement

Parameter Description

```
REG-DEFTM;

Output:

H500:  AMO DEFTM STARTED
ADD-DEFTM:SUBSCR,3444;
ADD-DEFTM:TRUNK,1,79,4;
ADD-DEFTM:TRUNKGRP,75;
ADD-DEFTM:ATTND,4402;
ADD-DEFTM:ATTNDGRP,0;
ADD-DEFTM:HUNTHEAD,2404;
AMO-DEFTM-111      SET UP AND ADMINISTRATION OF TRAFFIC
MEASUREMENT TABLE
REGENERATE COMPLETED;
```

72.3 Parameter Description

ACACTON	Events of attendant console (AC) will be monitored: AC activates/deactivates night service, AC pulls/reconnect the jack, AC is out of/in service. Type of Input : Single value, optional, 4. parameter of a min-1-group (CHANGE) Possible Values : Y = Yes N = No Default Value : N
ALLON	All objects will be monitored, except processor load and attendant console activity. If this switch is on, all settings in the list of measurement objects of AMO_DEFTM have no effect. Is this switch not set, then the measurement of measurement objects of the list of measurement objects takes place. Type of Input : Single value, optional, 2. parameter of a min-1-group (CHANGE) Possible Values : Y = Yes N = No Default Value : N
ATNDGRNO	Attendant group number (AMO-VFGR) Type of Input : Single value, required (ADD) single value, optional (DELETE) range, optional Possible Values : 0 to 15
CCT	Circuit number Type of Input : Single value, optional range, optional

Possible Values : 0 to 255

LOADON A special CDR record is generated every 10 seconds, containing processor load (SWU and ADP)

Type of Input : Single value, optional, 3. parameter of a min-1-group (CHANGE)

Possible Values : Y = Yes
N = No

Default Value : N

LTU Line Trunk Unit

Type of Input : Single value, required (ADD)
single value, optional (DELETE)
range, optional

Possible Values : 1 to 99

Note : LTU 16 is used Hicom internal.

NUMBER Station number

Type of Input : Single value, required (ADD)
single value, optional (DELETE)
range, optional

Possible Values : max. 22 digits, digits 0 to 9

OBJECT Add, delete and display of measurement object types

Type of Input : Single value, required (ADD, DELETE)
single value, optional (DISPLAY)
range, optional

Possible Values : ALL = All objects (DELETE and DISPLAY only)
ATTND = Attendant number
ATTNDGRP = Attendant group number
HUNTHEAD = Pilot number of a hunt group
TRUNK = Trunk number
TRUNKGRP = Trunk group number
SUBSCR = Subscriber number

Default Value : ALL = All objects (DISPLAY only)

PMON Central switch for performance management (PM), needed to start/stop PM.
If this switch is off, all other settings of AMO-DEFTM have no effect.

Type of Input : Single value, optional, 1. parameter of a min-1-group (CHANGE)

DEFTM - Define Traffic Measurement

Error Messages and Advisories

	Possible Values	: Y	= Yes
		N	= No
	Default Value	: N	
SLOT	Specification of the mounting pitch in the LTU		
	Type of Input	: Single value, optional range, optional	
	Possible Values	: 1 to 121	
TRKGRNO	Trunk group number (AMO-BUEND)		
	Type of Input	: Single value, required (ADD) single value, optional (DELETE) range, optional	
	Possible Values	: 1 to 512	

72.4 Error Messages and Advisories

72.4.1 Error Messages

F01: SUBSCRIBER, ATTENDANT, TRUNK GROUP, ATTENDANT GROUP OR NUMBER OF HUNT GROUP OVERLAPPING WITH EXISTING ENTRY.

F02: not used

F03: PARAMETER SLOT IS MISSING.

F04: ENTRY ALREADY EXISTS.

F05: RANGE IN PARAMETER LTU IS ONLY ALLOWED, IF PARAMETERS SLOT AND CCT COVER THEIR WHOLE RANGE.

F06: RANGE IN PARAMETER SLOT IS ONLY ALLOWED, IF PARAMETER CCT COVERS ITS WHOLE RANGE.

F07: ENTRY ALREADY EXISTS, WHERE TRUNK RANGE OVERLAPS.

F08: TABLE IS FULL.

F09: ENTRY NOT FOUND.

F10: ONLY THE WHOLE RANGE CAN BE DELETED.

F11: AREA LIMITS MUST BE OF THE SAME LENGTH.

F12: SUBSCRIBER, ATTENDANT OR NUMBER OF HUNT GROUP INCLUDING EXISTING ENTRY.

F13: THE AREA IS EMPTY.

F14: THE VALUE OF PARAMETER ACTLEV IS ONLY TO BE ALLOWED TO BE SMALLER OR EQUAL THE VALUE OF DEACTLEV.

72.4.2 Advisories

H01: CONSECUTIVE RANGES WITHOUT ELEMENTS INBETWEEN HAVE BEEN JOINED.

73 DEL - Delete Files

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

This call is used to delete one or several files by specifying a partly qualified file name.

The names of those files that could not be deleted (e.g., directory file not empty, file does not exist in catalog) are output on the console.

73.1 Restrictions

This description is valid from SP300 E V3.0.

73.2 Interrelationships

- AMO-complex FIDES : File and device service
(see System AMO Section 'ISY startup system')

73.3 AMO Functions

- [START-DEL](#) : Deletion of Files

73.3.1 START-DEL

Note

By specifying an SEL parameter, an inquiry as to whether or not to delete is displayed on the operating terminal prior to the deletion.

By specifying the WARN parameter, the question before deleting an open file can be suppressed.

Parameter Description

Procedure Overview

Command Code	Parameter
START-DEL	FILENAME=<string>, [SEL=<param>], [WARN=<param>] , [ANS=<param>], [DIALOG=<param>], [UNIT=<param>];

Example

Deleting file AAA/BBB/CCC on area PDS.

Input:

```
START-DEL:" :PDS:AAA/BBB/CCC";
```

73.4 Parameter Description

ANS

Answer

Will be requested if user reply is required

Type of Input : Single value
optional

Possible Values : Y = file is deleted

N = file is not deleted

I = action is interrupted

C = all additional files specified are deleted

DIALOG

Dialog code

Dialog. Text to be output on the terminal by programs if the 'fides' function is called.

Type of Input : Single value
optional

Possible Values : Y = yes

Default Value : N

FILENAME

Name of file to be deleted

Type of Input : Single value
mandatory

Possible Values : fully qualified or partly qualified hard disk or floppy disk file name (maximum of 32 positions)

SEL

Configuration of partially qualified file names

Selection mode when partly qualified file names are specified

Type of Input : Single value
optional

Possible : Y = yes, execute function
Values
N = no, do not execute function

UNIT Functional system unit i.e. server code

Type of Input : Single value
optional

Possible : A1 = Administration and Data Server
Values

Default Value : A1

WARN Ask question if file to be deleted is open

Type of Input : Single value
optional

Possible : Y = yes, ask if file is open
Values
N = no, don't ask if file is open

Default Value : Y

73.5 Error Messages and Advisories

73.5.1 Error Messages

None

73.5.2 Advisories

```
H01: DELETE ?
H02: <filename> NOT DELETED
H03: <filename> DELETED
H04: DIR : <filename> DELETED
H05: DELETE FINISHED
H06: FILE <filename>
      HAS OPEN FILE CONNECTIONS; DELETE FILE? (Y/N)
```

DEL - Delete Files

Error Messages and Advisories

74 DIAGS - Administration of diagnostic switches, switching unit

The description of this AMO is only available in html format!

75 DIDCR - Direct Inward Dial Conversion Table

Interrelationships	Parameter Description
AMO Functions	Error and Advisory Messages

The DIDCR (DID Digit Conversion Rule) AMO sets up the Digit Conversion Rule tables (DIDCR tables) for the E&M and the DID trunks. The E&M and the DID trunks will receive up to 16 dial pulse digits. The received digits may be converted to another digit string prior to digit translation. The DID digit conversion resulting string will be selected from a DIDCR table according to the E&M and DID trunk they arrive on. Each DIDCR table has a header consisting of two entries. The first entry indicates the total number of incoming digits and the second entry indicates the number of digits to be deleted from the total number of incoming digits. The field entry in the DIDCR table consists of a maximum of six digits.

For Primary Rate Interface (PRI) channels the number of digits supplied in the called party number IE (Information Element) may differ based on several factors including the Network Service which is used for that channel. Therefore the PRI channels access the DID Rule Tables through a Service Rule table (SRT table) which is indexed based on the Network Service provided for incoming calls. It is possible to enter a DID RULEIDX for up to 9 ~~11~~ Network Services in each Service Rule table.

The first (4) services of the Service Rule table are reserved for Megacom/MCI-800 (INWATS), Software Defined Networks (VPN), Accunet (SDS) and Multiquest (PPC900). These Network Services have the capability of specifying whether or not to request SID (Station Identification) or ANI (Automatic Number Identification) information. SID is also known as CPN (Calling Party Number) and ANI is also known as BN (Billing Number). The RULEIDX entered for each of these particular Network Services will index into the DIDCR table and to its SID/ANI table. If one of these three Network Services should specify a preference for SID or ANI information, then the CHANGE command can be used to update the request from its initial value of "NOREQU".

- DID digit translation

- . on trunks that support DID translation, the system can receive a maximum of 16 digits from the Central Office
- . the system is able to delete a maximum of 14 digits of the received number insuring a minimum of 2 digits remaining
- . the system uses the leading 2 digits of the remaining digits

DIDCR - Direct Inward Dial Conversion Table

- . digit conversion occurs as follows:
 - 2 digits remaining:
 - . converted to internal number (maximum 16 digits)
 - greater than 2 digits remaining:
 - . leading 2 digits are removed from the digit string and are used as the index into a table to retrieve the prefix digits which are prefixed to the remaining digit string. (The prefix and remaining digits must not exceed 16 digits)
 - EXAMPLE:
 - using element 20 in table 1 of the display example. 766209 comes in on a trunk, the leading 3 digits are deleted, the next 2 digits are used as an index into the table which gives us the prefix 12345 and the 9 from the original number is appended resulting in 123459.
- . the resulting extension/feature access number conforms to the rules for extension/feature numbers and is used by the system to route the call
- . to provide DNIS or SID/ANI displays, SID/ANI routing, or routing to a Route Control Group (RCG) the resulting number will need to be defined as an internal routing number. Refer to the AMO DNIT for further details.
- . the parameters for the DID digit translation are defined for each trunk individually
- The system supports a maximum of 16 SRT tables and a maximum of 20 DID translation tables each table with:
 - . 100 numbers and
 - . for 4 Network Services (INWATS,VPN,SDS,PPC900) each 100 SID/ANI data information.

The administration of DIDCR tables is performed by AMO DIDCR which has the following functions :

The ability to

- add or delete one or more (up to 20) Digit Conversion Rule tables.
- delete one or more (up to 16) SRT tables.
- modify or delete a single element within a DIDCR table.
- modify or delete SID/ANI data information.
- modify or delete a single element within a SRT table.
- display a DIDCR table with all trunks associated with it.

DIDCR - Direct Inward Dial Conversion Table

- display a SRT table.
- display SID/ANI data request information.
- regenerate the customer data of DIDCR tables, and the SID/ANI data.
- regenerate the customer data of SRT table.

The RULEIDX or the SRTIDX (Service Rule table index) parameter is set in AMO TDCSU when a DID, E&M or PRI trunk is created. The SRTIDX in AMO TDCSU is the same as the SRTABLE in DIDCR. The AMO should do a cross check if the RULEIDX to a DIDCR table, or the SRTIDX to a SRT table has been created or not. Therefore AMO DIDCR must run before running AMO TDCSU.

The AMO DIDCR has to ensure the following conditions:

1. the AMO should do a cross check to see if the modified RULEIDX in a SRT table is pointing to an existing DIDCR table.
2. the AMO should do a cross check to see if a DIDCR table or a SRT table is being accessed by an INDEX in the Static Line tablea before they can be deleted.
3. the total number of incoming expected DID digits minus the number of digits to be deleted should be greater or equal to two.
4. the total number of digits created by the translation and the remaining digits is not > 16.

KEYWORD DESCRIPTION (Valid for all actions)

The set of MML (Man Machine Language) keyword parameters for DID Digit Conversion Rule description is listed in the following table:

+*****+*****+	
* Keyword *	* Meaning of the parameter *
* TERSE *	
+*****+*****+	
* *	* *
* DELDIG *	* Number of digits to be deleted from *
* *	* the total number of digits assigned *
* *	* to a DID trunk. *
* *	* *
* DIGITS *	* Digits to be entered in the selected *
* *	* DIDCR table. *
* *	* *
* NETSVC *	* Network Service used in the SRTABLE *
* *	* and index to the SID/ANI data *
* *	* *

DIDCR - Direct Inward Dial Conversion Table

Interrelationships

* RULEIDX	* Index to a DIDCR table of the 20	*
*	* rule tables maximum.	*
*	*	*
* SRTABLE	* Number of the used SRT table	*
*	* (maximum 16).	*
*	*	*
* SVCDATA	* SID/ANI data information to be	*
*	* entered for INWATS,VPN,SDS,PPC900	*
*	* ~~MEG8~~ , ~~SDN~~ , and ~~ACCU~~ .	*
*	*	*
* SVCIDX	* Index to the SID/ANI data in a	*
*	* DIDCR table.	*
*	*	*
* TBLIDX	* Index to the digit string elements	*
*	* in the DIDCR table.	*
*	*	*
* TOTDIG	* Total number of expected DID digits	*
*	* assigned to a DID trunk which is	*
*	* associated to a DIDCR table.	*
*	*	*
* TYPE	* determines which display will be	*
*	* shown.	*
*	*	*
+*****+*****+*****+*****+*****+*****+*****+		

75.1 Interrelationships

The interrelationship between this AMO and other AMOs in the generation sequence is fully described in the Administration document AMO SEQUENCE.

75.2 AMO Functions

● ADD-DIDCR	Add a DIDCR table
● CHANGE-DIDCR	Modify elements within a DIDCR table (SID/ANI data or Digit String elements) or a SRT table.
● DELETE-DIDCR	Delete one or more selected DIDCR tables or or elements within the table (SID/ANI data or Digit String elements). Delete one or more selected SRT tables or elements within the table.
● DISPLAY-DIDCR	Display DIDCR table information. Display SRT table information. Display SID/ANI data information.
● REGENERATE-DIDCR	Create a list of commands generated for this AMO.

75.2.1 ADD-DIDCR

To add a DIDCR table ,the craftsperson enters the rule table number, the total number of incoming digits, the number of digits to be deleted and the actual digits which are part of the resulting digit conversion string. The number of DIDCR tables to be created is limited to 20 tables maximum. Before the table is created all empty entries will be initialized to H'FFFF plus the index. The DIDCR table will not be created until the total number of incoming digits and the number of digits to be deleted are entered.

Parameter RULEIDX may not be a range in ADD command.

When initiating this verb the following checks are performed. Each check produces a reaction and a prompt or end.

Table 10: ADD-DIDCR Error Messages

Check Performed	Reaction	Prompt or End
A CHARACTER OTHER THAN (0:9),*,# WAS USED IN THE VALUE FOR DIGITS	F1	DIGITS
THE TOTAL NUMBER OF RECEIVER DIGITS MUST BE AT LEAST TWO MORE THAN THE NUMBER OF DIGITS TO BE DELETED	F2	DELDIG
THE ENTERED DID RULE TABLE HAS ALREADY BEEN CREATED	F4	End
THE ENTERED DIGIT STRING FOR TBLIDX IS AN INVALID LENGTH	F5	DIGITS
TOO MANY VALUES FOR PARAMETER DIGITS HAS BEEN ENTERED (UP TO 9 DIGITS CAN BE ENTERED AT ONE TIME)	F10	End
THE NUMBER OF VALUES ENTERED FOR TBLIDX AND DIGITS MUST BE THE SAME	F15	DIGITS
TOO MANY TABLE INDICES ENTERED (NO MORE THAN 9 MAY BE ENTERED)	F16	TBLIDX

DIDCR - Direct Inward Dial Conversion Table

AMO Functions

Table 11: ADD-DIDCR Advisory Messages

Check Performed	Reaction	Prompt or End
THE DIDCR TABLE REFERENCED BY THE ENTERED RULEIDX DOES NOT EXIST (TOTDIG = 0)	H8	End

Procedure Overview

Command Code	Parameters
ADD-DIDCR	RULEIDX=<number>,TOTDIG=<number>, DELDIG=<number>,[TBLIDX=<number>], [DIGITS=<number>;

Example 1:

Set up only the DID Rule tables 1 and 4.

Input:

ADD-DIDCR:1,5,3;

Output:

```
ADD-DIDCR:1,5,3;
H500: AMO DIDCR STARTED
AMO-DIDCR-...    DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
ADD EXECUTED;
```

Input:

ADD-DIDCR:4,16,14;

Output:

```
ADD-DIDCR:4,16,14;
H500: AMO DIDCR STARTED
AMO-DIDCR-...    DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
ADD EXECUTED;
```

Example 2:

Set up the DID Rule table and the Conversion-data at the same time.

Input:

```
ADD-DIDCR:2,6,3,01&&04,1&22&333&4444;
```

Output:

```
ADD-DIDCR:2,6,3,01&&04,1&22&333&4444;
H500: AMO DIDCR STARTED
AMO-DIDCR-...      DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
ADD EXECUTED;
```

75.2.2 CHANGE-DIDCR

The elements within the SRT table, or a DIDCR table can be changed by using the function CHANGE-DIDCR.

The craftsperson can change

- the actual digit string for single or multiple field entries in the selected DIDCR table. Parameter RULEIDX may not be a range in CHANGE command.
- the actual SID/ANI data for a single field entry or for a range of field entries for a Network Service and a specified RULEIDX.
- the actual RULEIDX in a SRT table.

When initiating this verb the following checks are performed. Each check produces a reaction and a prompt or end.

Table 12: CHANGE-DIDCR Error Messages

Check Performed	Reaction	Prompt or End
A CHARACTER OTHER THAN (0:9),*,# WAS USED IN THE VALUE FOR DIGITS	F1	DIGITS
THE ENTERED DIDTAB DOES NOT EXIST	F3	End
THE ENTERED DIGIT STRING FOR TBLIDX IS AN INVALID LENGH	F5	DIGITS
THE ENTERED SERVICE RULE TABLE IS CONFIGURED BY PRI SERVICE TRUNKS	F6	End
TOO MANY VALUES FOR PARAMETER DIGITS HAS BEEN ENTERED (UP TO 9 DIGITS CAN BE ENTERED AT ONE TIME)	F10	End

DIDCR - Direct Inward Dial Conversion Table

AMO Functions

Table 12: CHANGE-DIDCR Error Messages

Check Performed	Reaction	Prompt or End
NO CHANGE WAS MADE ALL DATA ENTERED IS THE SAME AS THE ACTUAL DATA	F13	End
SID/ANI DATA CAN ONLY BE USED WITH THE SERVICES INWATS,VPN,SDS,PPC900	F14	End
THE NUMBER OF VALUES ENTERED FOR TBLIDX AND DIGITS MUST BE THE SAME	F15	DIGITS
TOO MANY TABLE INDICES ENTERED (NO MORE THAN 9 MAY BE ENTERED)	F16	TBLIDX

If the craftsperson changes the RULEIDX in a SRT table, a check will be made to ensure that the entered RULEIDX points to a DIDCR table which is initialized. The same check will be made for the SID/ANI data information which belongs to this RULEIDX. If one of these tables is not initialized, the corresponding advisory message is displayed: CHANGE-DIDCR Advisory table

Table 13: CHANGE-DIDCR Advisory Messages

Check Performed	Reaction	Prompt or End
SID/ANI REQUEST DATA ASSOCIATED WITH THE SERVICE RULE TABLE AND SERVICE TYPE HAS BEEN INITIALIZED TO "NOREQU"	H6	End
THE DIDCR TABLE REFERENCED BY THE ENTERED RULEIDX DOES NOT EXIST (TOTDIG = 0)	H8	End

Procedure Overview

|Command Code|Parameters	|
+-----+-----	+
|CHANGE-DIDCR|	|TYPE=DID, RULEIDX=<NUMBER>, TBLIDX=<NUMBER>, DIGITS=<number>;
|	|TYPE=SRT, SRTABLE=<number>, NETSVC=<param>, RULEIDX=<number>;
|	|TYPE=SVC, NETSVC=<param>, RULEIDX=<number>, SVCIDX=<number>, SVCDATA=<string>;

Example 1:

Change elements in the DIDCR table 2.

Input:

```
CHANGE-DIDCR:DID,2,91&&99,101&102&103&104&105&106&107&108&109;
```

Output:

```
CHANGE-DIDCR:DID,2,91&&99,101&102&103&104&105&106&107&108&109;
```

```
H500: AMO DIDCR STARTED
```

```
AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
```

```
CHANGE EXECUTED;
```

Input:

```
CHANGE-DIDCR:DID,2,52&&55,25&355&4555&55555;
```

Output:

```
CHANGE-DIDCR:DID,2,52&&55,25&355&4555&55555;
```

```
H500: AMO DIDCR STARTED
```

```
AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
```

```
CHANGE EXECUTED;
```

Example 2:

Change the RULEIDX in the SRT table 1 for Network Service VPN and INTLWATS.

Input:

```
CHANGE-DIDCR:SRT,1,VPN,2;
```

Output:

```
CHANGE-DIDCR:SRT,1,VPN,2;
```

```
H500: AMO DIDCR STARTED
```

```
H6: SID/ANI DATA ACCESSED BY SERVICE SDN IS INITIALIZED TO  
"NOREQU".
```

```
AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
```

```
CHANGE EXECUTED;
```

Input:

```
CHANGE-DIDCR:SRT,1,INTLWATS,2;
```

Output:

```
CHANGE-DIDCR:SRT,1,INTLWATS,2;
```

```
H500: AMO DIDCR STARTED
```

```
AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
```

```
CHANGE EXECUTED;
```

Example 3:

Change the SID/ANI Data for RULEIDX 1 and Network Service

DIDCR - Direct Inward Dial Conversion Table

AMO Functions

INWATS.

Input:

CHANGE-DIDCR:SVC, INWATS, 1, 0&&15, ANI;

Output:

CHANGE-DIDCR:SVC, INWATS, 1, 0&&15, ANI;

H500: AMO DIDCR STARTED

AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
CHANGE EXECUTED;

Input:

CHANGE-DIDCR:SVC, INWATS, 1, 16&&21, SID;

Output:

CHANGE-DIDCR:SVC, INWATS, 1, 16&&21, SID;

H500: AMO DIDCR STARTED

AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
CHANGE EXECUTED;

Input:

CHANGE-DIDCR:SVC, INWATS, 1, 33, SIDPREF;

Output:

CHANGE-DIDCR:SVC, INWATS, 1, 33, SIDPREF;

H500: AMO DIDCR STARTED

AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
CHANGE EXECUTED;

75.2.3 DELETE-DIDCR

Allocation of DIDCR tables can be cancelled by means of the function DELETE-DIDCR. The execution of the function is limited to the tables with entry values (i.e. The table should be created before it can be deleted). The craftsperson can delete a DIDCR table, a SRT table or SID/ANI data information not referenced by a trunk defined by TDCSU.

If TBLIDX elements in a DIDCR table are deleted, then each TBLIDX element will be reinitialized to H'FFFF plus its own TBLIDX.

If SID/ANI data is requested to be deleted for a Network Service from a DIDCR table then each deleted SVCIDX will be reinitialized to "NOREQU". This action could also be accomplished by using the change verb to change each SVCIDX to "NOREQU".

When initiating this verb the following checks are performed. Each check produces a reaction and a prompt or end.

Table 14: DELETE-DIDCR Error Messages

Check Performed	Reaction	Prompt or End
THE ENTERED DIDTAB DOES NOT EXIST	F3	End
COULD NOT DELETE BECAUSE PRI SERVICE RULE TABLE IS ACCESSED BY PRI TRUNKS	F6	End
TBLIDX NOT ALLOWED IF RULEIDX IS A RANGE	F8	End
THE ENTERED SERVICE RULE TABLE DOES NOT EXIST	F12	End
NO CHANGE WAS MADE ALL DATA ENTERED IS THE SAME AS THE ACTUAL DATA	F13	End
SID/ANI DATA CAN ONLY BE USED WITH THE SERVICES INWATS,VPN,SDS,PPC900	F14	End
THE ENTERED DID TABLE WAS NOT DELETED BECAUSE IT IS ACCESSED BY DID OR E&M TRUNKS	F17	End
THE ENTERED DID TABLE WAS NOT DELETED BECAUSE IT IS ACCESSED BY PRI SERVICE RULE TABLE	F18	End

Table 15: DELETE-DIDCR Advisory Messages

Check Performed	Reaction	Prompt or End
THERE ARE NO VALUES TO DELETE IN THE ENTERED RANGE	H9	End

Procedure Overview

Command Code	Parameters
DELETE-DIDCR	|| TYPE=DID, RULEIDX=<NUMBER>, [TBLIDX=<NUMBER>]; |
	|| TYPE=SRT, SRTABLE=<number>, |
	| [NETSVC=<param>]; |
	|| TYPE=SVC, NETSVC=<param>, RULEIDX=<number>, |
	| [SVCIDX=<number>]; |

DIDCR - Direct Inward Dial Conversion Table

AMO Functions

Example 1:

Delete the entries from 55-93 in the DIDCR table 2.

Input:

```
DELETE-DIDCR:DID,2,55&&93;
```

Output:

```
DELETE-DIDCR:DID,2,55&&93;
H500: AMO DIDCR STARTED
AMO-DIDCR-...    DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
DELETE EXECUTED;
```

Example 2:

Delete the DIDCR tables 3-5.

Input:

```
DELETE-DIDCR:DID,3&&5;
```

Output:

```
DELETE-DIDCR:DID,3&&5;
H500: AMO DIDCR STARTED
F3: DID RULE TABLE 3 DOES NOT EXIST.
F3: DID RULE TABLE 5 DOES NOT EXIST.
AMO-DIDCR-...    DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
DELETE EXECUTED;
```

Example 3:

Delete Network Service INTLWATS in the SRT table 1.

Input:

```
DELETE-DIDCR:SRT,1,INTLWATS;
```

Output:

```
DELETE-DIDCR:SRT,1,INTLWATS;
H500: AMO DIDCR STARTED
AMO-DIDCR-...    DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
DELETE EXECUTED;
```

Example 4:

Delete the SRT table 2.

Input:

```
DELETE-DIDCR:SRT,2;
```

Output:


```
DELETE-DIDCR:SRT,2;
H500: AMO DIDCR STARTED
AMO-DIDCR-...      DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
DELETE EXECUTED;
```

Example 5:

Delete the SID/ANI data information 14-17 for Network Service INWATS from the DIDCR table.

Input:

```
DELETE-DIDCR:SVC,INWATS,1,14&&17;
```

Output:

```
DELETE-DIDCR:SVC,INWATS,1,14&&17;
H500: AMO DIDCR STARTED
AMO-DIDCR-...      DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
DELETE EXECUTED;
```

75.2.4 DISPLAY-DIDCR

The elements of a DIDCR table or a Service Rule Rule can be output on a terminal by means of function DISPLAY-DIDCR. The craftsperson has the option to display

- all or a specific number of the DIDCR tables
- all the DID trunks associated with a table.
- all the PRI trunks associated with a table.
- all or a specific number of the SRT tables.
- all SID/ANI data information depending on a RULEIDX and a Network Service.

If the display action " TYPE=RULETBL " is used then the display is a screen showing the RULEIDX, the total number of expected DID digits, the number of digits to be deleted and the Digit Conversion Rule String elements.

If in the display action " TYPE=DIDTRUNK" is used then the DID trunks associated with the entered RULEIDX will be displayed.

If in the display action " TYPE=PRITRUNK" is used then the PRI trunks associated with the entered RULEIDX will be displayed.

DIDCR - Direct Inward Dial Conversion Table

AMO Functions

If in the display action " TYPE=SPECTBL " is used then the display is a screen showing the RULEIDX, the total number of expected DID digits and the number of digits to be deleted for all created DIDCR tables.

If in the display action " TYPE=SRT " is used without any parameters then all existing SRT tables will be displayed.

When initiating this verb the following checks are performed. Each check produces a reaction and a prompt or end.

Table 16: DISPLAY-DIDCR Error Messages

Check Performed	Reaction	Prompt or End
THE ENTERED SERVICE RULE TABLE HAS NOT BEEN CREATED	F12	End

Table 17: DISPLAY-DIDCR Advisory Messages

Check Performed	Reaction	Prompt or End
THERE IS NO CONFIGURATION DATA TO DISPLAY FOR THE ENTERED DISPLAY COMMAND	H1	End
THERE ARE NONE OF THE REQUESTED TYPE OF TRUNKS WHICH REFERENCE THE DID TABLE ASSOCIATED WITH THE ENTERED RULEIDX PARAMETER	H2	End
THE DID TABLE REFERENCED BY THE RULEIDX PARAMETER HAS NOT BEEN CONFIGURED (TOTDIG = 0)	H3	End
THERE IS NO DATA TO DISPLAY FOR THE ENTERED PARAMETERS	H5	End

Procedure Overview

Command Code	Parameters
DISPLAY-DIDCR	TYPE=RULETBL, RULEIDX=<NUMBER>;
	TYPE=DIDTRUNK, RULEIDX=<NUMBER>;
	TYPE=PRITRUNK, RULEIDX=<NUMBER>;

DIDCR - Direct Inward Dial Conversion Table

AMO Functions

```

|                                     |
|                                     | TYPE=SPECTBL;
|                                     |
|                                     | TYPE=SRT, [SRTABLE=<number>];
|                                     |
|                                     | TYPE=SVC, NETSVC=<param>,
|                                     | [RULEIDX=<number>];
|                                     |

```

Example 1:

Display DID DIGIT_CONVERSION_RULE table 2.

Input:

DISPLAY-DIDCR:RULETBL,2;

Output:

DISPLAY-DIDCR:RULETBL,2;

H500: AMO DIDCR STARTED

DID DIGIT_CONVERSION_RULE TABLE NO: 2 ELEMENTS DISPLAY

TOTAL NUMBER OF INCOMING EXPECTED DID DIGITS : 06

NUMBER OF DIGITS TO BE DELETED : 03

TBL_ IDX	DIGITS	TBL_ IDX	DIGITS	TBL_ IDX	DIGITS	TBL_ IDX	DIGITS	TBL_ IDX	DIGITS
00		20	12345	40	64887	60		80	
01	1	21		41	64532	61		81	
02	22	22		42	97654	62		82	
03	333	23		43	65443	63		83	
04		24		44	97641	64		84	
05	4444	25		45	08765	65		85	
06		26		46		66		86	
07		27		47		67		87	
08		28		48		68		88	
09		29		49		69		89	
10		30		50		70		90	
11		31		51		71		91	
12		32		52	25	72		92	
13		33		53	355	73		93	
14		34		54	4555	74		94	2104
15		35		55		75		95	2105
16		36		56		76		96	2106
17		37		57		77		97	2107
18		38		58		78		98	2108
19		39		59		79		99	2109

AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
DISPLAY EXECUTED;

NOTE: The DID Conversion Rule uses the first two DIGITS of the incoming expected DIGITS as an index into the DIDCR table.

The remaining DIGITS and the table entry build the new number

DIDCR - Direct Inward Dial Conversion Table
AMO Functions

for the System to route the Call. If no conversion is wanted, the table entry defaults to its own TBLIDX value (0-99) and this will be displayed as empty spaces in the table. So if for TBLIDX 12 the value 12 is entered, the display will not show this entry.

Example 2:

Display trunks supporting DID which reference rule index 2.

Input:

DISPLAY-DIDCR:DIDTRUNK,2;

Output:

DISPLAY-DIDCR:DIDTRUNK,2;
H500: AMO DIDCR STARTED
H2: NO LTG-LTU-BOARD NO.-CIRCUIT NO. ACCESSES THIS
RULE TABLE.
AMO-DIDCR-... DIRECT INWARD DIAL
DIGIT CONVERSION RULE
DISPLAY EXECUTED;

Example 3:

Display PRI trunks which reference rule index 2.

Input:

DISPLAY-DIDCR:PRITRUNK,2;

Output:

DISPLAY-DIDCR:PRITRUNK,2;
H500: AMO DIDCR STARTED
PRI TRUNKS ASSOCIATED WITH RULE TABLE 2

LTG-LTU-BOARD NO.-CIRCUIT NO.

1- 2- 63- 5 1- 4- 101- 7
1- 4- 103- 7
AMO-DIDCR-... DIRECT INWARD DIAL
DIGIT CONVERSION RULE
DISPLAY EXECUTED;

Example 4:

Display for each rule index the number of expected and deleted digits.

Input:

DISPLAY-DIDCR:SPECTBL;

Output:

```

DISPLAY-DIDCR:SPECTBL;
H500: AMO DIDCR STARTED
      RULEIDX OF CREATED DID      TOTAL NUMBER OF      NUMBER OF DIGITS
      DIGIT_CONVERSION_RULE TABLES EXPECTED DID DIGITS      TO BE DELETED
-----
              1                      5                      3
              2                      6                      3
AMO-DIDCR-...  DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
DISPLAY EXECUTED;

```

Example 5:

Display service rule table 1.

Input:

```
DISPLAY-DIDCR:SRT,1;
```

Output:

```

DISPLAY-DIDCR:SRT,1;
H500: AMO DIDCR STARTED
PRI DID SERVICE RULE TABLE 1

```

```

NETWORK SERVICE  RULEIDX
-----
FX                1
INTLWATS          0
INWATS            1
LDS               2
NONE              0
PPC900            2
SDS               0
TTA               0
VPN               0
AMO-DIDCR-...    DIRECT INWARD DIAL
DIGIT CONVERSION RULE
DISPLAY EXECUTED;

```

Example 6:

Display SID/ANI-data for Network Service INWATS of rule index 1.

Input:

```
DISPLAY-DIDCR:SVC,INWATS,1;
```

Output:

```

DISPLAY-DIDCR:SVC,INWATS,1;
H500: AMO DIDCR STARTED
SID/ANI-DATA FOR INWATS AND RULEIDX 1

```

```

      SVC      SVC      SVC      SVC      SVC
      IDX_ REQUEST  IDX_ REQUEST  IDX_ REQUEST  IDX_ REQUEST  IDX_
REQUEST

```

DIDCR - Direct Inward Dial Conversion Table

AMO Functions

00	ANI	20	SID	40	60	80
01	ANI	21	SID	41	61	81
02	ANI	22		42	62	82
03	ANI	23		43	63	83
04	ANI	24		44	64	84
05	ANI	25		45	65	85
06	ANI	26		46	66	86
07	ANI	27		47	67	87
08	ANI	28		48	68	88
09	ANI	29		49	69	89
10	ANI	30		50	70	90
11	ANI	31		51	71	91
12	ANI	32		52	72	92
13	ANI	33	SIDPREF	53	73	93
14		34		54	74	94
15		35		55	75	95
16		36		56	76	96
17		37		57	77	97
18	SID	38		58	78	98
19	SID	39		59	79	99

THE EMPTY SPACES ARE INITIALIZED WITH NO_REQUEST.
 AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
 DISPLAY EXECUTED;

Example 7:

Display SID/ANI-data for Network Service INWATS
 MEG8.

Input:

DISPLAY-DIDCR:SVC,INWATS;

Output:

DISPLAY-DIDCR:SVC,INWATS;
 H500: AMO DIDCR STARTED
 SID/ANI-DATA FOR INWATS AND RULEIDX 1

SVC_	REQUEST	SVC_	REQUEST	SVC_	REQUEST	SVC_	REQUEST	SVC_	REQUEST
IDX	REQUEST	IDX	REQUEST	IDX	REQUEST	IDX	REQUEST	IDX	REQUEST
00	ANI	20	SID	40	60	80			
01	ANI	21	SID	41	61	81			
02	ANI	22		42	62	82			
03	ANI	23		43	63	83			
04	ANI	24		44	64	84			
05	ANI	25		45	65	85			
06	ANI	26		46	66	86			
07	ANI	27		47	67	87			
08	ANI	28		48	68	88			
09	ANI	29		49	69	89			
10	ANI	30		50	70	90			
11	ANI	31		51	71	91			
12	ANI	32		52	72	92			
13	ANI	33	SIDPREF	53	73	93			
14		34		54	74	94			
15		35		55	75	95			
16		36		56	76	96			
17		37		57	77	97			

```

18  SID      38      58      78      98
19  SID      39      59      79      99

```

THE EMPTY SPACES ARE INITIALIZED WITH NO_REQUEST.

```

H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 2
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 3
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 4
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 5
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 6
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 7
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 8
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 9
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 10
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 11
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 12
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 13.
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 14.
H5: NO SID/ANI DATA FOR SERVICE INWATS AND RULEIDX 15.
AMO-DIDCR-... DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
DISPLAY EXECUTED;

```

75.2.5 REGENERATE-DIDCR

The action Regenerate will create a list of commands generated for this AMO which permits the data in the SWU to be transferred to positioned oriented commands. Thus all current customer data can be saved before any changes made and brought back into the SWU during a future generating run.

There are no error/advisory messages associated with the verb REGENERATE-DIDCR.

Procedure Overview

Command Code	Parameters
REGENERATE-DIDCR	| TYPE=DID, [RULEIDX=<NUMBER>];
	| | TYPE=SRT, [SRTABLE=<number>];
	| | TYPE=SVC, NETSVC=<param>,
	| | [RULEIDX=<number>];

Example 1:

Output regeneration commands for rule index 1 and 2.

Input:

```
REGENERATE-DIDCR:DID,1&&2;
```

Output:

```

REGENERATE-DIDCR:DID,1&&2;
H500: AMO DIDCR STARTED

```

DIDCR - Direct Inward Dial Conversion Table

AMO Functions

```
ADD-DIDCR:1,5,3;
ADD-DIDCR:2,6,3;
CHANGE-DIDCR:DID,2,1,1;
CHANGE-DIDCR:DID,2,2,22;
CHANGE-DIDCR:DID,2,3,333;
CHANGE-DIDCR:DID,2,4,4444;
CHANGE-DIDCR:DID,2,10,2;
CHANGE-DIDCR:DID,2,52,25;
CHANGE-DIDCR:DID,2,53,355;
CHANGE-DIDCR:DID,2,54,4555;
CHANGE-DIDCR:DID,2,94,2104;
CHANGE-DIDCR:DID,2,95,2105;
CHANGE-DIDCR:DID,2,96,2106;
CHANGE-DIDCR:DID,2,97,2107;
CHANGE-DIDCR:DID,2,98,2108;
CHANGE-DIDCR:DID,2,99,2109;
AMO-DIDCR-...    DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
REGENERATE EXECUTED;
```

Example 2:

Output regeneration commands for service rule table 1.

Input:

```
REGENERATE-DIDCR:SRT,1;
```

Output:

```
REGENERATE-DIDCR:SRT,1;
H500: AMO DIDCR STARTED
CHANGE-DIDCR:SRT,1,INWATS,1;
CHANGE-DIDCR:SRT,1,VDN,2;
CHANGE-DIDCR:SRT,1,INTLWATS,2;
AMO-DIDCR-...    DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
REGENERATE EXECUTED;
```

Example 3:

Output regeneration commands for Network Service INWATS ~~MEG8~~, RULEIDX 1.

Input:

```
REGENERATE-DIDCR:SVC,INWATS,1;
```

Output:

```
REGENERATE-DIDCR:SVC,INWATS,1;
H500: AMO DIDCR STARTED
CHANGE-DIDCR:SVC,INWATS,1,0&&13,ANI;
CHANGE-DIDCR:SVC,INWATS,1,18&&21,SID;
CHANGE-DIDCR:SVC,INWATS,1,33,SIDPREF;
AMO-DIDCR-...    DIRECT INWARD DIAL DIGIT_CONVERSION_RULE
REGENERATE EXECUTED;
```


75.3 Parameter Description

DELDIG	Number of digits to be deleted
	INPUT RANGE: 1 or 2 digit
	CLASS OF VALUE: numeric
	PARAMETER CLASS: required (add)
	INPUT TYPE: single value (add)
	POSSIBLE VALUES: 0 to 14 (Valid for both ISDN and analog trunks)
DIGITS	Digits in theDIDCR table
	INPUT RANGE: 1 to 6 digits
	CLASS OF VALUE: alphanumeric
	PARAMETER CLASS: required (change) optional (add)
	INPUT TYPE: single value (add, change) chained single values (add, change)
	POSSIBLE VALUES: range(0:9),*,#
	NOTE: Up to 9 DIGITS can be entered at one time.
NETSVC	The Network Service used in the SRTABLE and index to the SID/ANI-data.
	INPUT RANGE: 2-7 chars
	CLASS OF VALUE: identifier
	PARAMETER CLASS: required (change, del=svc, disp, reg) optional (del=srt)
	INPUT TYPE: single value required (change, del, disp, reg)
	POSSIBLE VALUES:
	FX FOREIGN EXCHANGE ACCESS SERVICE
	INTLWATS INTERNATIONAL LONG DISTANCE
	INWATS MEGACOM/MCI 800,INCOMING WATS
	LDS LONG DISTANCE SERVICE
	NONE NOT A SPECIAL DEVICE
	PPC900 MULTIQUEST, MCI 900
	SDS ACCU
	TTA TIE TRUNK ACCESS
	VPN SDN, MCI VNET, PRIVATE NW SVC
	NOTE: Only the Network Services INWATS/VPN/SDS/ PPC900 can request SID or ANI information.
	DEFAULT VALUE: Not entered (del=svc)
RULEIDX	Index toDIDCR table
	INPUT RANGE: 1 to 2 digits
	CLASS OF VALUE: numeric
	PARAMETER CLASS: required (add, change, del, disp, reg=did) optional (disp=svc, reg=svc)
	INPUT TYPE: single value (add, change, del, disp, reg) range (del, disp, reg) chained single values (del)

DIDCR - Direct Inward Dial Conversion Table

Parameter Description

	POSSIBLE VALUES:	1 to 20
	DEFAULT VALUE:	all (disp=svc, reg=svc)
SRTABLE	Number of the used SRT table	
	INPUT RANGE:	1 to 2 digits
	CLASS OF VALUE:	numeric
	PARAMETER CLASS:	required (add, change, del) optional (disp, reg)
	INPUT TYPE:	single value (add, change, del, disp, reg)
	POSSIBLE VALUES:	range(0:15)
	DEFAULT VALUE:	all (disp, reg)
SVCDATA	SID/ANI-data to be entered for a Service	
	INPUT RANGE:	3 to 7 chars
	CLASS OF VALUE:	string,validation
	PARAMETER CLASS:	required (change)
	INPUT TYPE:	single value (change)
	POSSIBLE VALUES:	ANI (ani-only) ANIPREF (ani-preferred) SID (sid-only) SIDPREF (sid-preferred) NOREQU (no request)
SVCIDX	Index to the SID/ANI-data information in the DIDCR table	
	INPUT RANGE:	1 to 2 digits
	CLASS OF VALUE:	numeric
	PARAMETER CLASS:	required (change) optional (del)
	INPUT TYPE:	single value (change, del) range (change, del)
	POSSIBLE VALUES:	range(0:99)
	DEFAULT VALUE:	not entered
TBLIDX	Index to a digit string in a DIDCR table.	
	INPUT RANGE:	1 to 2 digits
	CLASS OF VALUE:	numeric
	PARAMETER CLASS:	required (change) optional (add, del)
	INPUT TYPE:	single value (add, change, del) range (add, change, del) (up to 9)
	POSSIBLE VALUES:	range(0:99)
	DEFAULT VALUE:	not entered (add, del)
TOTDIG	Total number of digits assigned to a DID- or PRI- trunk.	
	INPUT RANGE:	1 or 2 digits
	CLASS OF VALUE:	numeric
	PARAMETER CLASS:	required (add)
	INPUT TYPE:	single value (add)
	POSSIBLE VALUES:	2 to 16 (Valid for both ISDN and analog trunks)

DIDCR - Direct Inward Dial Conversion Table

Error and Advisory Messages

TYPE	Determine which display will be shown or action to take.	
INPUT RANGE:	3 to 8 chars	
CLASS OF VALUE:	string, validation	
PARAMETER CLASS:	required (add, change)	
INPUT TYPE:	single value (add, change)	
POSSIBLE VALUES:	SPECTBL	(disp)
	DIDTRUNK	(disp-DID and E&M trunks)
	PRITRUNK	(disp-PRI trunks)
	RULETBL	(disp)
	DID	(add, change, del, reg)
	SRT	(add, change, del, disp, reg)
	SVC	(change, del, disp, reg)

75.4 Error and Advisory Messages

75.4.1 ERROR MESSAGES

F1: INVALID CHARACTERS IN THE INPUT FOR 'DIGITS'.

F2: TOTAL NUMBER OF RECEIVED DIGITS MUST BE AT LEAST TWO MORE THAN NUMBER OF DIGITS TO BE DELETED.

F3: NO DIGIT CONVERSION TABLE WITH RULEIDX=@@ AVAILABLE.

F4: DIGIT CONVERSION TABLE RULEIDX=@@ IS ALREADY CREATED.

F5: INVALID LENGTH FOR 'DIGITS' AT TBLIDX=@@.
THE SPECIFIED PREFIX TOGETHER WITH THE DIGITS REMAINING FROM ORIGINAL DIALED NUMBER MUST NOT EXCEED THE LENGTH
16.

F6: SERVICE RULE TABLE SRTABLE=@@ IS REFERENCED BY PRI TRUNKS
(SEE AMO TDCSU, SRTIDX).

F7: NO VALUES ENTERED FOR 'TBLIDX'.

F8: NO 'TBLIDX' ALLOWED FOR CHAINED INPUT FOR 'RULEIDX'.

F9: NO VALUES ENTERED FOR 'DIGITS'.

F10: TOO MANY VALUES CHAINED FOR 'DIGITS'.

F11: UNUSED

F12: NO SERVICE RULE TABLE WITH SRTABLE=@@ AVAILABLE.

F13: NO VALUES CHANGED IN EXISTING DATA.

F14: SID/ANI DATA AVAILABLE ONLY FOR NETSVC=INWATS/VPN/SDS/PPC900.

DIDCR - Direct Inward Dial Conversion Table

Error and Advisory Messages

F15: UNEQUAL NUMBERS OF VALUES CHAINED FOR 'TBLIDX' AND 'DIGITS'.

F16: MORE THAN 9 CHAINED VALUES ENTERED FOR 'DIGITS'.

F17: DIGIT CONVERSION TABLE RULEIDX=@@ NOT DELETED:
STILL REFERENCED BY DID OR E&M TRUNKS.
(SEE AMO TACSU, RULEIDX)

F18: DIGIT CONVERSION TABLE RULEIDX=@@ NOT DELETED:
STILL REFERENCED BY A SERVICE RULE TABLE.

75.4.2 ADVISORY MESSAGES

H1: NO DIGIT CONVERSION DATA CONFIGURED.

H2: DIGIT CONVERSION TABLE RULEIDX=@@ IS NOT REFERENCED BY
PORTS.
NO PEN=LTG-LTU-SLOT-CIRCUIT WILL THEREFORE BE LISTED.

H3: NO DIGIT CONVERSION TABLE WITH RULEIDX=@@ EXISTS.

H4: UNUSED

H5: NO SID/ANI DATA AVAILABLE FOR NETSVC=@@@@ AND RULEIDX=@@.

H6: THE SID/ANI DATA FOR NETSVC=@@@@ ARE INITIALIZED TO
'NOREQU'.

H7: UNUSED.

H8: NO DIGIT CONVERSION TABLE WITH RULEIDX=@@ EXISTS.

H9: NO VALUES TO BE DELETED IN THE RANGE ENTERED.

76 DIMSU - Feature Capacities

The AMO DIMSU allows an administrator to create and change database memory allocations to satisfy the requirements of a particular customer.

This flexible memory administration facility is known as FLEXAMA.

The limits for memory partitioning are set at the theoretical maximum for extreme capacity configurations. Standards (standard layouts) should be determined for the allocation procedure, and the default values in the database should be used.

The variant specific maximum values of each parameter will be taken from the database.

76.1 Interrelationships

Interrelationships exist to all AMOs used for configuring terminals or features in the SWU.

- AMO-DIAGS : The DB-switch S07 can be used for database generation on support switches. This switch activates a test whether LTG memory is sufficient, only.

76.2 Functions of the AMO

- [ADD-DIMSU](#) : Create feature capacities
- [DISPLAY-DIMSU](#) : Interrogate feature capacities, default and max. values for the parameters (system-specific).
- [REGENERATE-DIMSU](#) : Regenerate feature capacities
- [TEST-DIMSU](#) : Test if required memory-capacities are admissible.
- [EXEC-DIMSU](#) : Assign memory according to the database default values.

76.2.1 ADD-DIMSU

This action allocates or changes the memory entries. The AMO verifies the input parameters and displays an advisory message showing the value update (ACTUAL) in case of a valid input.

The value ACTUAL determines the number of storage elements to be assigned.

The memory allocations are processed in the sequence of the parameters in the parameter tree.

If the requested memory space is insufficient for a specified parameter value, then an error message is output. The memory allocations processed before the error message are correct. The memory allocations processed for subsequent parameters after the error message are also correct if the memory space is sufficient.

If some of the assigned storage elements are no longer required for a parameter, the ACTUAL value can be reduced to the highest used element (MAX_USED). If no assigned storage element is used, the ACTUAL value can be reset to 0.

NOTE: Exception, parameters CCIDX and CCIDX: These parameters can only be increased.

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CAUTION

The following parameters use only dynamic memory. The default value should be used for these parameters (if necessary, the value can be increased).
ACDCQ, ACDLOGON, ATNDCQ, CBK, CFWHIST, COSTI, CPB, CPDBUF, DTITMD, GENBUF, HGMEMB, HT, HTCQB, LODS0, LODTMD, PINBUF, SILI, SYNAN

Procedure Overview

Command Code	Parameter
ADD-DIMSU	[TYPE=ADMCC] , {CCIDX=<number>,CCIDX=<number>} ; | [TYPE=ADMLTG] , GPIDX=<number>; | [TYPE=BASIC] , { (min 1) STN=<number>, BUS=<number> , OPTCC=<number>, OPTEXP=<number>, ATND=<number> , ES=<number>, ESSTN=<number>, S2PP=<number>

Command Code	Parameter
	<pre>,AUXDIGI=<number>, PRI=<number>, TRK=<number> ,CRCP=<number>, DPLNCD=<number>, DPLNGR=<number> ,RTE=<number>, MG=<number>, SG=<number> ,ATNDGR=<number>, HT=<number>, HTCQB=<number> ,CPB=<number>, SILI=<number>, COSTI=<number> ,LODEN=<number>, SU=<number>, NWBCHL=<number> ,LODS0=<number>, LODTMD=<number>, CPDBUF=<number> ,DTILTG=<number>, DTITMD=<number>; | [TYPE=USER],{(min 1) NAME=<number>, EXTNAME=<number> ,ORG=<number>, COS=<number>, SPDI=<number> ,SPDCL=<number>, SPDCLD=<number>, CBK=<number> ,REMIND=<number>, PUGR=<number>, ID=<number> ,PINBUF=<number>, CFWDEST=<number>, CFWHIST=<number> ,HGMEMB=<number>, CUGPROF=<number>, LIN=<number> ,COMGR=<number>, DSS=<number>, DSSNA=<number> ,KEYSYS=<number>, CALLOG=<number>, ATNDQC=<number> ,NSTN=<number>, ALTROUT=<number>, LCRCOS=<number> ,SLKTEXT=<number>, CALLOGS=<number>, HOTDEST=<number>; | [TYPE=NETWORK],{(min 1) MFCVAR=<number> ,DSPMOD=<number>, DPDSMOD=<number>, LODR=<number> ,LROUT=<number>, LRTPROF=<number>, LCRDSR=<number> ,SYNAN=<number>, FORMTAB=<number>, VOICO=<number> ,BLK100=<number>, RSTCON=<number>, TEAMCONN=<number> ,DSS1SDRD=<number>, DSS1SCRP=<number>, REMPUGR=<number> ,PARTNODE=<number>, LDPLN1=<number>, LDPLN2=<number> ,LDPLN3=<number>, LDPLN4=<number>, LDPLN5=<number> ,LDPLN6=<number>, LDPLN7=<number>, LDPLN8=<number> ,LDPLNC1=<number>, LDPLNC2=<number>, LDPLNC3=<number> ,LDPLNC4=<number>, LDPLNC5=<number>, LDPLNC6=<number> ,LDPLNC7=<number>, LDPLNC8=<number>; | [TYPE=APPLICAT],{(min 1) APPL=<number>, ECCS=<number> ,DCIPAR=<number>, WSPROT=<number>, INFO=<number> ,ACDAGT=<number>, ACDGRP=<number>, ACDLOGON=<number> ,ACDPRIM=<number>, ACDCQ=<number>, ACDRCG=<number> ,ACDRT=<number>, ACDRTX=<number>, ACDSHIFT=<number> ,ACDMONID=<number>, ACDCALEN=<number>, GDTR=<number> ,DNI=<number>, DPDNI=<number>, GENBUF=<number>; | [TYPE=SYSTEM],{(min 1) PERMDL=<number>, CRICC=<number> ,WAML1=<number>, WAML2=<number>, STMA=<number></pre>

Command Code	Parameter
	,STMACIR=<number>, STMI=<number>, STMIHFA=<number> ,STMIHFA2<number>, STMI2IGW=<number>, SLC24=<number> ,AP=<number>, GWREG<number>, SCTPATH=<number> ,CCAP=<number>, APEGRP=<number>;

The branch-off parameter is optional. Only parameters of the same branch can be used in one ADD-command.

Example

Input:

ADD-DIMSU:OPTCC=1000;

Output:

ADD-DIMSU:OPTCC=1000;
H500: AMO DIMSU STARTED
H00: +-----+
| OPTCC.ACTUAL : 1000 |
| .PREVIOUS: 500 |
+-----+
AMO-DIMSU-170 DIMENSIONING OF FEATURES, SWITCHING UNIT
ADD COMPLETED;

76.2.2 DISPLAY-DIMSU

Each parameter has three status values. These are as follows:

- ACTUAL
- USED
- MAX-USED

The value ACTUAL defines the number of storage elements allocated and is changed using the action ADD.

NOTE: Exception, parameter COS, LODR, LROUT and LRTPROF: The number of the created class of service, the outdial rule for least cost routing, the LCR route element or the routing profile is equivalent to the index of the memory location. (e.g. If creating COS 1, 200 and 400 with AMO COSSU, the ACTUAL value of the DIMSU parameter COS must be at least 400.)

The value USED describes the number of used memory elements. A comparison with the ACTUAL value shows how much of the allocated memory is still unused and can be used for creating devices and/or features.

The value MAX-USED describes the index of largest storage elements used. A comparison with the ACTUAL value shows how much of the allocated memory is still free, and can be reallocated.

The reduction of the memory entries to MAX-USED can be carried out in the case of a memory shortage, if, during operation, it is seen that ACTUAL > MAX-USED. The reduction of the memory entries to a value lower than MAX-USED is only possible if the USED value is 0.

Each further AMO which configures elements from the allocated memory pool, changes the administration data USED and MAX-USED.

When deleting devices or features, MAX-USED is not changed.

The database contains the maximum values and default values for each parameter depending on the capacity configuration of the system. These values can be interrogated using the DISPLAY branch of the AMO.

Procedure Overview

Command Code	Parameter
DISPLAY-DIMSU	[TYPE=ALL] , [PARAM=<param>] ; | [TYPE=BASIC] ; | [TYPE=USER] ; | [TYPE=NETWORK] ; | [TYPE=APPLICAT] ; | [TYPE=SYSTEM] ;

The branch-off parameter is optional.

Examples of different display outputs:

1. Display all parameters arranged in groups.

Input:

```
DISPLAY-DIMSU;
```

Output:

DIMSU - Feature Capacities

Functions of the AMO

DISPLAY-DIMSU;
H500: AMO DIMSU STARTED

	USED	MAX- USED	ACTUAL	STD	SYS- MAX
CCIDXS : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
CCIDXD : .....	.....	.....	.....	.....	.....
GPIDX : .....	.....	.....	.....	.....	.....
LINES : .....	.....	.....	.....	.....	.....
PORTS : .....	.....	.....	.....	.....	.....
STATIONS:					
STN : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
TERMINALS:					
BUS : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
OPTCC : .....	.....	.....	.....	.....	.....
OPTEXP : .....	.....	.....	.....	.....	.....
ATND : .....	.....	.....	.....	.....	.....
ES : .....	.....	.....	.....	.....	.....
ESSTN : .....	.....	.....	.....	.....	.....
S2PP : .....	.....	.....	.....	.....	.....
AUXDIGI : .....	.....	.....	.....	.....	.....
TRUNK AND TIE-LINE CIRCUITS:					
PRI : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
TRK : .....	.....	.....	.....	.....	.....
CRCP : .....	.....	.....	.....	.....	.....
DIAL PLAN:					
DPLNCD : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
DPLNGR : .....	.....	.....	.....	.....	.....
DEVICE SEARCH:					
RTE : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
MG : .....	.....	.....	.....	.....	.....
SG : .....	.....	.....	.....	.....	.....
ATNDGR : .....	.....	.....	.....	.....	.....
HT : .....	.....	.....	.....	.....	.....
HTCQB : .....	.....	.....	.....	.....	.....
CALL PROCESSING:					
CPB : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
SILI : .....	.....	.....	.....	.....	.....
COSTI : .....	.....	.....	.....	.....	.....
DERIVED PARAMETERS:					
LODEN : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
SU : .....	.....	.....	.....	.....	.....
NWBCHL : .....	.....	.....	.....	.....	.....
LODS0 : .....	.....	.....	.....	.....	.....
LODTMD : .....	.....	.....	.....	.....	.....
CPDBUF : .....	.....	.....	.....	.....	.....
DTILTG : .....	.....	.....	.....	.....	.....
DTITMD : .....	.....	.....	.....	.....	.....
SUBSCRIBER FEATURES:					
NAME : zzzzz	yyyyy	xxxxx	sssss	mmmmmm	
EXTNAME : .....	.....	.....	.....	.....	.....
ORG : .....	.....	.....	.....	.....	.....
COS : .....	.....	.....	.....	.....	.....
SPDI : .....	.....	.....	.....	.....	.....

DIMSU - Feature Capacities

Functions of the AMO

SPDCL	:	.....	.....	.....	.....	.....
SPDCD	:	.....	.....	.....	.....	.....
CBK	:	.....	.....	.....	.....	.....
REMIN	:	.....	.....	.....	.....	.....
PUGR	:	.....	.....	.....	.....	.....
ID	:	.....	.....	.....	.....	.....
PINBUF	:	.....	.....	.....	.....	.....
CFWDEST	:	.....	.....	.....	.....	.....
CFWHIST	:	.....	.....	.....	.....	.....
HGMEMB	:	.....	.....	.....	.....	.....
CUGPROF	:	.....	.....	.....	.....	.....
LIN	:	.....	.....	.....	.....	.....
ALTROUT	:	.....	.....	.....	.....	.....
LCRCOS	:	.....	.....	.....	.....	.....
HOTDEST	:	.....	.....	.....	.....	.....
DIGITE FEATURES:						
DSS	:	zzzzz	yyyyy	xxxxx	sssss	mmmmm
DSSNA	:	.....	.....	.....	.....	.....
KEYSYS	:	.....	.....	.....	.....	.....
CALOG	:	.....	.....	.....	.....	.....
COMGR	:	.....	.....	.....	.....	.....
SLKTEXT	:	.....	.....	.....	.....	.....
CALLOGS	:	.....	.....	.....	.....	.....
ATTENDANT CONSOLE FEATURES:						
ATNDCQ	:	zzzzz	yyyyy	xxxxx	sssss	mmmmm
NSTN	:	.....	.....	.....	.....	.....
TRUNK FEATURES:						
MFCVAR	:	zzzzz	yyyyy	xxxxx	sssss	mmmmm
DSPMOD	:	.....	.....	.....	.....	.....
DPDSPMOD	:	.....	.....	.....	.....	.....
LDPLN	:	.....	.....	.....	.....	.....
LDPLNC	:	.....	.....	.....	.....	.....
LODR	:	.....	.....	.....	.....	.....
LROUT	:	.....	.....	.....	.....	.....
LRTPROF	:	.....	.....	.....	.....	.....
LCRDSR	:	.....	.....	.....	.....	.....
SYNAN	:	.....	.....	.....	.....	.....
FORMTAB	:	.....	.....	.....	.....	.....
VOICO	:	.....	.....	.....	.....	.....
NETWORK FEATURES:						
BLK100	:	zzzzz	yyyyy	xxxxx	sssss	mmmmm
RSTCON	:	.....	.....	.....	.....	.....
TEAMCONN	:	.....	.....	.....	.....	.....
DSS1SCRD	:	.....	.....	.....	.....	.....
DSS1SCR	:	.....	.....	.....	.....	.....
REMPUGR	:	.....	.....	.....	.....	.....
PARTNODE	:	.....	.....	.....	.....	.....
LDPLN1	:	.....	.....	.....	.....	.....
LDPLN2	:	.....	.....	.....	.....	.....
LDPLN3	:	.....	.....	.....	.....	.....
LDPLN4	:	.....	.....	.....	.....	.....
LDPLN5	:	.....	.....	.....	.....	.....
LDPLN6	:	.....	.....	.....	.....	.....
LDPLN7	:	.....	.....	.....	.....	.....
LDPLN8	:	.....	.....	.....	.....	.....
LDPLNC1	:	.....	.....	.....	.....	.....
LDPLNC2	:	.....	.....	.....	.....	.....
LDPLNC3	:	.....	.....	.....	.....	.....

DIMSU - Feature Capacities

Functions of the AMO

LDPLNC4	:	.....	.....	.....	|	.....	.....
LDPLNC5	:	.....	.....	.....	|	.....	.....
LDPLNC6	:	.....	.....	.....	|	.....	.....
LDPLNC7	:	.....	.....	.....	|	.....	.....
LDPLNC8	:	.....	.....	.....	|	.....	.....
DATA FEATURES:							
APPL	:	zzzzz	yyyyy	xxxxx	|	sssss	mmmmm
ECCS	:	.....	.....	.....	|	.....	.....
DCIPAR	:	.....	.....	.....	|	.....	.....
WSPROT	:	.....	.....	.....	|	.....	.....
INFO	:	.....	.....	.....	|	.....	.....
ACD FEATURES:							
ACDAGT	:	zzzzz	yyyyy	xxxxx	|	sssss	mmmmm
ACDGRP	:	.....	.....	.....	|	.....	.....
ACDLOGON	:	.....	.....	.....	|	.....	.....
ACDPRIM	:	.....	.....	.....	|	.....	.....
ACDCQ	:	.....	.....	.....	|	.....	.....
ACDRCG	:	.....	.....	.....	|	.....	.....
ACDRT	:	.....	.....	.....	|	.....	.....
ACDRTX	:	.....	.....	.....	|	.....	.....
ACDSHIFT	:	.....	.....	.....	|	.....	.....
ACDMONID	:	.....	.....	.....	|	.....	.....
ACDCALEN	:	.....	.....	.....	|	.....	.....
GDTR	:	.....	.....	.....	|	.....	.....
DNI	:	.....	.....	.....	|	.....	.....
DPDNI	:	.....	.....	.....	|	.....	.....
GENBUF	:	.....	.....	.....	|	.....	.....
CAPACITY STAGE CONFIGURATION:							
PERMDL	:	zzzzz	yyyyy	xxxxx	|	sssss	mmmmm
CRICC	:	.....	.....	.....	|	.....	.....
WAML1	:	.....	.....	.....	|	.....	.....
WAML2	:	.....	.....	.....	|	.....	.....
STMA	:	.....	.....	.....	|	.....	.....
STMACIR	:	.....	.....	.....	|	.....	.....
STMI	:	.....	.....	.....	|	.....	.....
STMIHFA	:	.....	.....	.....	|	.....	.....
STMIHFA2	:	.....	.....	.....	|	.....	.....
STMI2IGW	:	.....	.....	.....	|	.....	.....
SLC24	:	.....	.....	.....	|	.....	.....
AP	:	.....	.....	.....	|	.....	.....
GWREG	:	.....	.....	.....	|	.....	.....
SCTPATH	:	.....	.....	.....	|	.....	.....
CCAP	:	.....	.....	.....	|	.....	.....
APEGRP	:	.....	.....	.....	|	.....	.....

AMO-DIMSUS-170 DIMENSIONING OF FEATURES, SWITCHING UNIT
DISPLAY COMPLETED;

2. Display all parameters of branch SYSTEM.

Input:

DISPLAY-DIMSUS:SYSTEM;

Output:

DISPLAY-DIMSUSYSTEM;
H500: AMO DIMSU STARTED

	USED	MAX- USED	ACTUAL	STD	SYS- MAX
CCIDXS : zzzzz	yyyyy	xxxxx	sssss	mmmmm	
CCIDX :					
GPIDX :					
LINES :					
PORTS :					
CAPACITY STAGE CONFIGURATION:					
PERMDL : zzzzz	yyyyy	xxxxx	sssss	mmmmm	
CRICC :					
WAML1 :					
WAML2 :					
STMA :					
STMACIR :					
STMI :					
STMIHFA :					
STMIHFA2 :					
STMI2IGW :					
SLC24 :					
AP :					
GWREG :					
SCTPATH :					
CCAP :					
APEGRP :					

AMO-DIMSUS-170 DIMENSIONING OF FEATURES, SWITCHING UNIT
DISPLAY COMPLETED;

3. Display a single parameter.

Input:

DISPLAY-DIMSUSPARAM=STN;

Output:

DISPLAY-DIMSUSPARAM=STN;
H500: AMO DIMSU STARTED

	USED	MAX- USED	ACTUAL	STD	SYS- MAX
STN : zzzzz	yyyyy	xxxxx	sssss	mmmmm	

AMO-DIMSUS-170 DIMENSIONING OF FEATURES, SWITCHING UNIT
DISPLAY COMPLETED;

76.2.3 REGENERATE-DIMSUS

Procedure Overview

Command Code	Parameter
REGENERATE-DIMSUS	;

Example

Input:

REGENERATE-DIMSU;

Output:

REGENERATE-DIMSU;
H500: AMO DIMSU STARTED
ADD-DIMSU:ADMCC,1500,1500;
ADD-DIMSU:ADMLTG,400;
ADD-DIMSU:APPLICAT,98,5,20,600,3000,256,128,256,128,
1500,512,300,900,300,256,3200,2000,2000,2000,256;
ADD-DIMSU:BASIC,12000,12600,12000,6000,32,300,1800,2,0,
40,2400,600,800,275,1450,850,818,10,600,
3000,6000,13500,6000,55000,12042,1200,1920,1800,6000,
16000,2700;
ADD-DIMSU:NETWORK,3,400,400,200,20,512,1024,200,1000,
500,1000,60,200,50,180,0,0,1500,600;
ADD-DIMSU:SYSTEM,1980,1600,1,15,15,480,40,40,83;
ADD-DIMSU:USER,18000,2400,6000,600,1200,16,1000,2400,12000,
500,18000,1200,12000,24000,1200,20,3200,400,18000,
24000,3600,3600,63,30;
AMO-DIMSU-170 DIMENSIONING OF FEATURES, SWITCHING UNIT
REGENERATE COMPLETED;

76.2.4 TEST-DIMSU

This action can be used to verify that the memory capacity of a particular system is sufficient for assigning the required feature memory dimensions. After the function ADD the TEST command has been executed. As a result advisory message H01 is given out.

Additional Flexama memory for device search (MASTERGROUPS and SUBGROUPS) is necessary for adding routes (AMO RICHT), trunk groups (AMO BUEND), hunt groups (AMO SA), night variants (AMO NAVAR) and attendant console groups (AMO VFGR). AMO LRNGZ allocates speed dialing lists. This has to be considered for TEST-DIMSU in case the database is not completely generated.

Procedure Overview

Command Code	Parameter
TEST-DIMSU	LIST=<param>;

Examples

- 1. Determine percentage values of the currently allocated memory.

Input:

TEST-DIMSU;

Output:

```

TEST-DIMSU;
H500: AMO DIMSU STARTED
H01: CC: 65 % OF THE TOTAL STATIC MEMORY AREAS AND 41 % OF THE
TOTAL
      DYNAMIC MEMORY AREAS RESERVED FOR THE FLEXAMA ARE USED.
      (UP TO 20% OF THE MEMORY MAY NOT BE AVAILABLE IF IT IS
HEAVILY
      FRAGMENTED) .
H01: LTG: 51 % OF THE TOTAL STATIC MEMORY AREAS AND 48 % OF THE
TOTAL
      DYNAMIC MEMORY AREAS RESERVED FOR THE FLEXAMA ARE USED.
      (UP TO 20% OF THE MEMORY MAY NOT BE AVAILABLE IF IT IS
HEAVILY
      FRAGMENTED) .
AMO-DIMSU-170      DIMENSIONING OF FEATURES, SWITCHING UNIT
TEST COMPLETED;
  
```

2. Determine allocated memory for all parameters separately. Output in list format.

Input:

```
TEST-DIMSU:LIST=y;
```

Output:

```

TEST-DIMSU:LIST=Y;
H500: AMO DIMSU STARTED
+-----+-----+-----+-----+
+-----+
|  CC      |          | S T A T I C |          | D Y N A M I C |
|  ASSIGNED | BYTES/ELEMENT | TOTAL | BYTES/ELEMENT | TOTAL |
+-----+-----+-----+-----+
+-----+
| CCIDXD  : 1600 |          16 | 25616 |          0 |          0 |
| CCIDXS  : 1600 |          16 | 25616 |          0 |          0 |
+-----+-----+-----+-----+
+-----+
| ACDAGT  : 256  |          29 | 7453  |          5 |       1285 |
| ACDAQ   : 1500 |           0 |    0  |         10 |       15010 |
| ACDGRP  : 128  |          36 | 4644  |        2574 |      332046 |
| ACDCALEN: 3200 |          10 | 32010 |           0 |           0 |
| ACDLOGON: 256  |           0 |    0  |          21 |        5397 |
| ACDMONID: 256  |           7 | 1799  |           0 |           0 |
. . .
| WAML1   : 1    |        26177 | 26177 |           0 |           0 |
| WAML2   : 16   |         455  | 7280  |           0 |           0 |
| WSDATEN : 800  |           0  |    0  |          56 |       44856 |
| WSPROT  : 200  |           2  |   402 |         554 |      111354 |
+-----+-----+-----+-----+
|          |          TOTAL: 8754553 |          TOTAL: 19536662 |
+-----+-----+-----+-----+
|          | S T A T I C |          | D Y N A M I C |
|          | K-BYTES     | %       | K-BYTES       | %       |
| TOTAL MEMORY |
| OF FLEXAMA CC : 10304 | 33.5 | 20479 | 66.6 |
|
| THEREOF ALLOCATED: 8549 | 27.8 | 19079 | 62.0 |
|
| AVAILABLE: 1851 | 6.0 | 1633 | 5.4 |
+-----+-----+-----+-----+
  
```

DIMSU - Feature Capacities

Functions of the AMO

L T G			S T A T I C			D Y N A M I C		
ASSIGNED			BYTES/ELEMENT			BYTES/ELEMENT		
			TOTAL			TOTAL		
GPIDX	:	800	16	12816		0	0	
AP	:	40	950	38000		2689	107560	
API	:	200	2	402		98	19698	
CCAP	:	0	256	0		256	0	
CRDH	:	120	93	11253		2717	328757	
CRIGP	:	300	3	903		848	255248	
DCIPAR	:	1	46	46		0	0	
...								
TEAMconn:		120	12	1440		0	0	
TMPDTI	:	900	0	0		496	446896	
VOICO	:	16	13	208		0	0	
WAML1	:	1	26177	26177		0	0	
WAML2	:	16	455	7280		0	0	
			TOTAL:			TOTAL:		
			1378276			8918143		
			S T A T I C			D Y N A M I C		
			K-BYTES			K-BYTES		
			%			%		
TOTAL MEMORY								
OF FLEXAMA LTG	:	2112	17.1			10240	83.0	
THEREOF ALLOCATED:		1346	10.9			8709	70.6	
AVAILABLE:		766	6.3			1531	12.4	

DIMENSIONING OF FEATURES, SWITCHING UNIT
TEST COMPLETED;

76.2.5 EXEC-DIMSU

This action assigns memory according to the database default values. It is intended to simplify the setup of a system with default feature capacities. Customer-specific variations from the default values can be done afterwards with the command ADD-DIMSU.

The memory entries which will be allocated are the same as in the action ADD-DIMSU. The AMO checks for each memory, whether the default value is larger than the highest element currently used (MAX-USED-value).

Error message F01 is issued for all parameters where the default value is smaller than the corresponding MAX-USED value. This can occur only in an already created database. In this case, the action will be executed partially. Starting with an empty database it is guaranteed that all memory entries can be assigned with their respective default values.

Procedure Overview

Command Code	Parameter
EXEC-DIMSU	[FEASET=DEFAULT] ;

76.3 Parameter Description

PARAM	DIMSU Parameter		
	Type of Input	:	Single value, linked single values, optional
	Possible Values	:	CCIDX, CCIDX, GPID, STN, BUS, OPTCC, OPTEXP, ATND, ES, ESSTN, S2PP, AUXDIGI, PRI, TRK, CRCP, DPLNCD, DPLNGR, RTE, MG, SG, ATNDGR, HT, HTCQB, CPB, SILI, COSTI, LODEN, SU, NWBCHL, LODS0, LODTMD, CPDBUF, DTILT, DTITMD, NAME, EXTNAME, ORG, COS, SPDI, SPDCL, SPDCL, CBK, REMIND, PUGR, ID, PINBUF, CFWDEST, CFWHIST, HGMEMB, CUGPROF, LIN, COMGR, DSS, DSSNA, KEYSYS, CALLOG, ATNDQC, NSTN, ALTROUT, LCRCO SLKTEXT, CALLOGS, HOTDEST MFCVAR, DSPMOD, DPDSMOD, LODR, LROUT, LDPLN1, LDPLN2, LDPLN3, LDPLN4, LDPLN5, LDPLN6, LDPLN7, LDPLN8, LDPLNC1, LDPLNC2, LDPLNC3, LDPLNC4, LDPLNC5, LDPLNC6, LDPLNC7, LDPLNC8, LRTPROF, LCRDSR, SYNAN, FORMTAB, VOICO, BLK100, RSTCON, TEAMCONN, DSS1SCRD, DSS1SCR, REMPUGR, PARTNODE, APPL, ECCS, DCIPAR, WSPROT, INFO, ACDAGT, ACDGRP, ACDLOGON, ACDPRIM, ACDQC, ACDRCG, ACDRT, ACDRTX, ACDSHIFT, ACDMONID, ACDCALEN, GDTR, DNI, DPDNI, GENBUF, PERMDL, CRICC, WAML1, WAML2, STMA, STMACIR, STMI, STMIHFA, STMIHFA2, STMI2IGW, SLC24, AP, GWREG, SCTPATH, CCAP, APEGRP
	(only function EXEC)		
	Type of Input	:	Single value, optional
	Possible Values	:	DEFAULT Database default values
LIST	Display memory usage for one entry of each parameter		
	(only function TEST)		
	Type of Input	:	Single value, optional

DIMSU - Feature Capacities

Parameter Description

	Possible Values	:	Y,N
	Default Value:	:	N
TYPE	Branch-off parameter		
	Type of Input	:	Single value, optional
	Possible Values	:	ADMCC, ADMLTG (ADD)
			APPLICAT, BASIC, NETWORK, SYSTEM, USER (ADD / DISPLAY)
			ALL (DISPLAY)
	Default Value:		ALL (DISPLAY)

Parameters for Database Administration

All memory entries belonging to a parameter are administered in the FLEXAMA lists. By means of the action ADD, the administration lists can be enlarged if required, using the parameters CCIDXS, CCIDXD and GPIDX respectively.

Conditions for the following parameters:

- Default Value: pre-initialized
- Type of input: Single value, optional
- Possible Values: Default value - MAX-Value (variant specific, can be determined with DISPLAY-DIMSU)

CCIDXD	DBMA-INDEX for dynamic CC-DB (Database Admin. Data)		
CCIDXS	DBMA-INDEX for static CC-DB (Database Admin. Data)		
GPIDX	DBMA-INDEX for GP-DB (Database LTG Admin. Data)		

Parameters for the Database

Conditions for the following parameters:

- Type of input: Single value, optional
- Possible Values: 0 - MAX-Value (variant specific, can be determined with DISPLAY-DIMSU)

ACDAGT	Number of ACD agents Refer to Service Manual FlexRouting
ACDCALEN	Number of calendar routing entries Refer to Service Manual FlexRouting
ACDCQ	Number of dynamically assignable ACD call-queuing pool elements (Number of calls waiting for the next free agent.) Refer to Service Manual FlexRouting

ACDGRP	Number of ACD groups Refer to Service Manual FlexRouting
ACDLOGON	Number of ACD agents logged on at once (dynamically assignable entries) Refer to Service Manual FlexRouting
ACDMONID	Number of monitored ID sets (e.g. ACD agents, route control groups (RCG), trunk groups, circuits, stations - only for ACD-G) Refer to Service Manual FlexRouting
ACDPRIM	Number of primary ACD agent positions (Number of devices which can be used to log on by an ACD-Agent.) Refer to Service Manual FlexRouting
ACDRCG	Number of ACD route-control groups Refer to Service Manual FlexRouting
ACDRT	Number of ACD routing step tables for FlexRouting ACD routing step tables contain the commands for controlling an ACD call step-by-step. An ACDRT entry contains a maximum of 16 routing steps; an ART can comprise up to 64 routing steps. Refer to Service Manual FlexRouting
ACDRTX	Number of auxiliary ACD routing step tables Contains additional information for some route commands, like route to extension and route to offsite number. Refer to Service Manual FlexRouting
ACDSHIFT	Number of ACD shifts Refer to Service Manual FlexRouting
AP	Number of Access Points
APEGRP	Number of Access Point emergency groups
APPL	Number of DP applications Used for ACL-C applications.
ALTROUT	Number of subscriber/SC individual alternate routing numbers for Out of Service or AP emergency state
ATND	Number of attendant consoles
ATNDCQ	Number of dynamically assignable call-queuing pool elements for attendant groups (Number of calls waiting for the next free attendant console.) This value can be set to 0 in systems without any attendant console. But then there are no calls possible to a central attendant in the network.
ATNDGR	Number of attendant console groups
AUXDIGI	Number of auxiliary digits for HICOM Trading Classic and ViNet
BLK100	Number of 100-blocks with dialing numbers for all stations in the network A block contains 100 dialing numbers without gaps.
BUS	Number of Optiset/optiPoint-busses, S0-busses and S0-trunks
CALLOG	Number of Optiset and optiPoint devices with call log Refer to AMO Usage Example Call log for optiset E
CALLOGS	Number of Optipoint devices in scrolling mode of Call Log
CBK	Number of dynamically assignable pool elements for callback and trunk queuing requests Each callback and queued trunk, which is saved in the system, needs an element. Refer to AMO Usage Example Features Available Throughout the Network
CCAP	Number of access-point emergency processors

DIMSU - Feature Capacities

Parameter Description

CFWDEST	Number of call forwarding destinations
CFWHIST	Number of elements for call forwarding history
COMGR	Number of COM groups (Communication Group Calling) (refer to AMO COMGR)
COS	Number of classes of service
COSTI	Number of dynamically assignable connection buffers for connections with charge data recording Advice for dimensioning: $COSTI = CPB$. This is adequate for call data recording of all outgoing trunk and tie-line connections. The number of buffers must be increased if, in addition, call data recording is required for incoming calls and/or internal connections Refer to AMO Usage Example Central Configuration of Call Data Recording
CPB	Number of dynamically assignable CP connection buffers One CPB is required per connection. If this value is changed, the values CPBLOWL and CPBUPPL of AMO ZAND must be checked.
CPDBUF	Number of dynamically assignable CP data buffers (used for DSS1 services, networkwide PIN, Least Cost Routing, Callback, CHESE, Call Pickup Groups, Conference, Call Data Recording)
CRCP	Number of call reference tables in CP (Size = number of S0 + S2 trunks)
CRICC	Number of S0-busses (also with Optiset and optiPoint) plus number of S0/S2 point-to-point connections
CUGPROF	Number of user profiles for Closed User Groups
DCIPAR	Number of parameter sets for the DCI
DNI	Number of Directory Number Information Table indices (refer to AMO DNIT) Contains routing and display information concerning source and called party. (DNI: Directory Number Information) Refer to Service Manual FlexRouting
DPDNI	Number of datapool elements reserved for DIMSU parameter DNI (refer to AMO DNIT) Contains strings to be displayed on the called device. (DNIS: Dialed Number Identification Service) Refer to Service Manual FlexRouting
DPDSPMOD	Number of datapool elements reserved for DIMSU parameter DSPMOD (Refer to AMO KNMAT) Contains the rules for display modification.
DPINFO	Number of datapool elements reserved for DIMSU parameter INFO About 8 info fields can be stored in a datapool element. Refer to AMO Usage Example Improved AMO Interface
DPLNCD	Number of dial plan blocks for access codes
DPLNGR	Number of dial plan blocks for dial plan group branches
DSPMOD	Number of display modifications between network nodes (refer to AMO KNMAT) Refer to AMO Usage Example INS Info Number Signalling (STNM)
DSS	Number of blocks of 5 DSS (direct station select) partners for storing DSS partner information If a station is a DSS destination, one entry block will be allocated, it contains those station numbers for which the station is a DSS destination. If a station is more than 5 times destination, additional 5-blocks will be linked.

DSSNA	Number of blocks of 5 keys for DSS (direct station select) and name keys The number of DSS/name keys per station is not limited. Blocks of 5 destination entries are allocated for the corresponding DIGITE. Advice for dimensioning: The min. number must be the same as the number of digits in the system.
DSS1SCRD	Number of screening data records for incoming E-DSS1 connections for HICOM as carrier access node This number corresponds to the number of used nodes where screening is performed. Refer to AMO Usage Example EDSS1 System Interface / Trunk Interface and Screening on the EDSS1 Trunk Interface
DSS1SCRP	Number of screening patterns for E-DSS1 connections This number corresponds to the number of E.164 numbers checked during the number screening. Refer to AMO Usage Example EDSS1 System Interface / Trunk Interface and Screening on the EDSS1 Trunk Interface
DTILTG	Number of device table entries (DTI) for trunks and terminal devices (one each) (DH - device table)
DTITMD	Number of dynamically assignable device table entries reserved for B- and D-channel connections of all S0/S2 trunk interfaces (Maximum number = $S0 * 2 + S2 * 60$ (or instead off 60, number of configured B-channel * 2))
ECCS	Number of external computer controlled call setups Used for ACL-C applications. (e.g. Call Bridge, ACD Monitoring)
ES	Number of integrated executive/secretary systems (refer to AMO CHESE) Refer to AMO Usage Example CHESE Integrated Exec./Sec. System
ESSTN	Number of stations (executive, secretary, substitute) in integrated executive/secretary systems (refer to AMO CHESE) Refer to AMO Usage Example CHESE Integrated Exec./Sec. System
EXTNAME	Number of subscriber names for external call forwarding destinations
FORMTAB	Number of entries in the format table for subscriber numbers (refer to AMO KNFOR) Refer to AMO Usage Example INS Info Number Signalling (STNM)
GDTR	Number of entries in the GDTR table for routing depending on the source and/or destination number (refer to AMO DNIT) (GDTR: General Digit Translation Rule) Refer to Service Manual FlexRouting
GENBUF	Number of additional dynamically assignable connection buffers for ACD-G One element is needed per ACD call and per entry in the ACD call queue. Refer to Service Manual FlexRouting
GWREG	Number of internal and external gateways
HGMEMB	Number of stations, which are member of a hunt group (also network-wide hunt groups)
HOTDEST	Number of HOTLINE destinations
HT	Number of hunt groups (voice and non-voice)
HTCQB	Number of dynamically assignable buffers for hunt call queue (Number of calls waiting for a free hunt group member.)
ID	Number of personal identification numbers (PIN)
INFO	Number of info fields for AMO's (e.g. COT, COP, TAPRO) Refer to AMO Usage Example Improved AMO Interface

DIMSU - Feature Capacities

Parameter Description

KEYSYS	Number of Key System subscribers (also logged-off subscribers) Refer to AMO Usage Example Integrated Key Functionality Multiline access
LCRCOS	Number of LCR class of service
LCRDSR	Number of blocked digit strings for specific Least Cost Routing route elements (refer to AMO LDSRT for Least Cost Routing digit string restriction)
LDPLNx	Number of dial plan entries for least cost routing in dial plan x (refer to AMO LDPLN) Refer to AMO Usage Example LCR (Least Cost Routing)
LDPLNCx	Number of entries in the LCR dial plan cache x (refer to AMO LDPLN) (used for optimizing the dial plan x) Refer to AMO Usage Example LCR (Least Cost Routing)
LIN	Number of location identifications for emergency calls (location identification number) (refer to AMO SDAT)
LODEN	Number of permanently configured device table entries (call-processing device memory CC)
LODR	Number of outdial rules for least cost routing (refer to AMO LODR) Refer to AMO Usage Example LCR (Least Cost Routing)
LODS0	Number of dynamically assignable device table entries (used for S0-busses, S0/S2 point-to-point connections)
LODTMD	Number of dynamically assignable device table entries for D-channel connections of all S0/ S2 trunk interfaces (used for networkwide features, e.g. callback callforwarding, callpickup)
LROUT	Number of route elements for least cost routing (refer to AMO LDAT) Refer to AMO Usage Example LCR (Least Cost Routing)
LRTPROF	Number of profiles for source group dependent routing in LCR (refer to AMO LPROF)
MFCVAR	Number of MFC variants for analog trunks and tie-lines
MG	Number of master groups for device search Master groups are needed for routes, hunt groups per service and attendant groups.
NAME	Number of subscriber names (refer to AMO PERSI) Refer to AMO Usage Example Name and Organization to a Number (ORG Assigning)
NSTN	Number of night stations for special night answer position (refer to AMO NAVAR)
NWBCHL	Number of B-channels for trunks + analog trunks and tie-lines Value must be set to: S0, S2 and analog trunks (Size = number of S0 * 2 + number of S2 * 30 + number of analog trunks)
OPTCC	Number of Optiset and optiPoint devices (also logged-off subscribers with Optiset or optiPoint devices)
OPTEXP	Number of Optiset/optiPoint key modules, Optiset/optiPoint signature modules and Optiset E control adapters
ORG	Number of organizational units (refer to AMO PERSI) Refer to AMO Usage Example Name and Organization to a Number (ORG Assigning)
PARTNODE	Number of lines to partner nodes Plus number of partner nodes, which are connected via a multiplexer and cannot be reached via a separate B-Channel-Group.
PERMDL	Number of peripheral hardware modules

PINBUF	Number of dynamically assignable PIN buffers for networkwide identification Refer to AMO Usage Example Personal Identification Number
PRI	Number of primary rate interfaces
PUGR	Number of call pickup groups Refer to AMO Usage Example Call Pickup
REMIND	Number of timed reminder entries
REMPUGR	Number of links to pickup groups in remote nodes Refer to AMO Usage Example Call Pickup
RSTCON	Number of restricted connections from originating nodes (refer to AMO KNMAT)
RTE	Number of routes (one route per trunk access code, attendant group access code and hunt group access code)
SCTPATH	Number of IP sectorpaths
SG	Number of subgroups for device search One subgroup is needed for each attendant group, night service variant, trunk group and hunt group.
SILI	Number of dynamically assignable entries in the list for saved connections (all connections which are recovered after a soft restart) Advice for dimensioning: At least 2 * CPB
SPDCD	Number of destinations for central speed dialing feature
SLKTEXT	Number of self-labeling keys with individual text (This parameter does not allocate memory - only limit for AMO LRNGZ)
SPDCL	Number of lists for central speed dialing feature (This parameter does not allocate memory - only limit for AMO LRNGZ)
SPDI	Number of users with individual speed dialing
STMA	Number of spans on STMA boards Refer to Service Manual ATM Connectivity
STMACIR	Number of logical circuits of all STMA boards (S2 or Ports for Optiset or optiPoint) Refer to Service Manual ATM Connectivity
STMI	Number of STMI boards for Access Point connection
STMIHFA	Number of STMI boards for IP device connection
STMIHFA2	Number of STMI2 boards for IP device connection
STMI2IGW	Number of STMI2 boards for IP Trunking
SLC24	Number of SLC24 boards for CMI
STN	Number of subscribers (also attendant consoles and logged-off subscribers)
SU	Number of devices with subunits (SU) Advice for dimensioning: all Digite's + ATND + ATNDGR
SYNAN	Number of dynamically assignable announcement buffers for synchronous announcement Refer to AMO Usage Example Announcement Unit, Synchronized Announcements
S2PP	Number of S2 point-to-point connections (e.g. IVR-Unit, Fax-Server, Cordless-Server, LAN-Router)
TEAMCONN	Number of connections to/from external team members for HICOM Trading (extended connections in home node and from foreign nodes)

DIMSU - Feature Capacities

Parameter Description

TRK	Number of analog trunks, number of digital trunks (S0/S2) and number of B-channel groups for S2
VOICO	Number of compressed B-channels for voice connections Refer to AMO Usage Example Voice Compression
WAML1	Number of WAML boards for routing Refer to AMO Usage Example Example of use for LAN Connectivity
WAML2	Number of WAML boards for telecommuting Refer to Service Manual Teleworking
WSPROT	Integrated voice/data application using Workstation Protocol Number of Optiset and optiPoint devices using Workstation Protocol. Plus number of Optiset and optiPoint devices without Workstation Protocol which are assigned to a line key of a Keysystem with Workstation Protocol.

Parameter Interrelationships

The following conditions are taken into account by AMO, and are reported in F03 and F04 if not observed.

- SPDI <= STN
- ECCS <= APPL

The following condition is taken into account by AMO, and is reported in H02 if not observed.

- COSTI >= CPB(If the ACTUAL value of parameter COSTI is set to 0, then only internal voice calls are possible.)

The following condition is valid but not checked in AMO DIMSU. When reducing the value of parameter CPB of AMO DIMSU the relation to parameter CPBUPPL of AMO ZAND must be watched.

- CPB (AMO DIMSU) > CPBUPPL (AMO ZAND)

Values for both of the following parameters have to be assigned. Otherwise the error message F02 will be displayed.

- SPDCL / SPDCLD
- ATNDGR / ATND
- ES / ESSTN

Parameter Maximum Values and Default Values

The maximum values for the parameters are contained in the database, and can be interrogated with this AMO. When assigning memory entries, all DIMSU entries are checked against the database entries.

The value range of the parameters is 0 to maximum.

The default values are set so that no memory shortage can occur if the system is generated without declaring parameters. The default values are based on the premise that the configuration requirements of most customer systems will be satisfied.

76.4 Error Messages and Advisories

76.4.1 Error Messages

F01: PARAMETER <pppppppp> MUST BE GREATER THAN OR EQUAL TO THE MAX. USED VALUE (For parameters CCIDXS, CCIDXD and GPIDX, the max. used value must be greater by a factor of 3 than the value output for DISPLAY).

F02: ENTER PARAMETERS <pppppppp> and <pppppppp>.

F03: PARAMETER <pppppppp> MUST BE GREATER THAN OR EQUAL TO THE MAX. USED VALUE AND LESS THAN OR EQUAL TO THE ACTUAL VALUE OF <pppppppp>.

F04: PARAMETER <pppppppp> MUST BE GREATER THAN OR EQUAL TO THE MAX. USED VALUE AND GREATER THAN OR EQUAL TO THE ACTUAL VALUE OF <pppppppp>.

F05: <pppppppp> IS TOO LOW.

F06: PARAMETER <pppppppp> CAN ONLY BE INCREASED.

F07: VALUE FOR PARAMETER <pppppppp> IS GREATER THAN MAXIMUM PERMISSIBLE VALUE.

F08: THE RESULT OF VALUES FOR PARAMETER <pppppp + ppppppp> MUST BE < THAN <dddddd>.

F09: INSUFFICIENT MEMORY ALLOCATED FOR <pppppppp>.

F10: MEMORY REQUIRED FOR PARAMETER <pppppp>.

F20: THE VALUE FOR PARAMETER <pppppp> MUST BE >= 256.

F21: PARAMETER <HTCQB> MUST BE >= <dddddd> WHICH IS THE SUM OF ALL CURRENTLY CONFIGURED CQMAX PARAMETERS (AMO SA).

76.4.2 Advisories

H00: +-----+
| ppppppp.ACTUAL : nnnnn |
| .PREVIOUS: vvvvv |
+-----+

H01: <ttt>: <ddd>% OF THE TOTAL STATIC MEMORY AREAS AND <ddd>% OF THE TOTAL DYNAMIC MEMORY AREAS RESERVED FOR THE FLEXAMA WILL BE USED.
(UP TO 20% OF THE MEMORY MAY NOT BE AVAILABLE IF IT IS HEAVILY FRAGMENTED).

H02: PARAMETER <pppppp> AND PARAMETER <pppppp> SHOULD HAVE THE SAME VALUE.

H03: THE MEMORY DIMENSIONS FOR THE LTG ARE NOT AVAILABLE.

76.4.3 Actions and Associated Error Messages

ADD	:	F01,	F02,	F03,	F04,	F05,	F06,	F07,	F08,
F09,	F10								
	:	F20,	F21,	H00,	H02				
TEST	:	F03,	F04,	F07,	F08,	H01			
EXEC	:	F01,	F05,	F09					

76.4.4 Explanation of Output Format

<ppppp>	=	Parameter name
<xxxxx>	=	Number of memory elements assigned (ACTUAL)
<nnnnn>	=	Parameter value after changing the ACTUAL value
<vvvvv>	=	Parameter value before changing the ACTUAL value
<yyyyy>	=	Number of the highest memory element in use (MAX-USED)
<zzzzz>	=	Number of used memory elements (USED)
<sssss>	=	Default value (STD)
<mmmmm>	=	Maximum value (SYSMAX)
<dddddd>	=	Decimal number
<ttt>	=	memory type CC or LTG

77 DISPA - Operation of the Displayer in the IS

Restrictions	Functions of the AMO	Parameter Tree
Interrelationships	Working with Memory Definitions: DEF & COPY & DEL & LST,DEF & FILE	Parameter Description
General	Displaying and Modifying of Memory Contents: LST & SET	Error Messages and Advisories
Functional Overview	Displaying and Modifying of File Contents: E & DUMP & PATCH	

77.1 Restrictions

77.2 Interrelationships

AMO DISPA communicates with the Displayer task resident in the main memory. The resident Displayer task and the message tracer task are contained in the same subsystem.

77.3 General

The Memory Displayer is a tool which allows the system specialist to read and also to modify the contents of various predefined and/or specified memories at the service terminal.

The AMO DISPA controls the communication to the terminal. Without the AMO, the Displayer cannot execute its tasks, since the AMO is used for displaying the memory contents read by the Displayer at the service terminal, and the Displayer tasks themselves are started via the terminal.

The Displayer is an online test tool which can be used for component integration and system tests, by field technicians and customers.

The AMO DISPA contains the following features:

- Output of memory contents as a hexadecimal dump in a logical level operation (e.g. for all memories specified in the AMO with name, address and array dimensions).
- Creation of user-specific, logical memory definitions for any given memory address, even as a table.

- Optional storage of the addresses and array dimensions for further memories defined by the user either in the AMO work area (available only during AMO execution), in the save area of the resident Displayer task in each processor (restart-safe), or in a hard disk save area (reload-safe).
- Changing the memory contents in a logical level operation (contents of memories, whose names, addresses and array dimensions must be specified by the user in the AMO).
- Displaying and changing memory contents in a logical level operation (core image of a memory whose name, offset address and array dimensions have been defined in the AMO).

Limits of the Memory Displayer

The Displayer cannot and should not replace the functions of the debugger. It should rather be considered as an addition geared towards pin-point and problem-oriented diagnosis.

Note

For the SWU memories, the DISPS tool is available, which functions analogously to this AMO (see DISPS AMO-description).

77.4 Functional Overview

The following functions are realized by the AMO:

a.	CHAR	On/off switch for character display of hexadecimal dump format. The hexadecimal dump format can be displayed with hexadecimal characters only or together with the corresponding ASCII characters. Default Value: ON.
b.	COPY	Copying memory addresses
c.	DEF	Creating memory addresses
d.	DEL	Deleting memory definitions
e.	DIST	Determining the number of empty lines to be inserted between the lines output in a hexadecimal dump format. Default Value: 0.
f.	DUMP	Listing file contents
g.	E	Assigning a file in order to edit file contents
h.	END	Terminating the AMO
i.	EV	Converting decimal to hexadecimal and vice versa also binary output
j.	FILE	Assigning a file as hard disk save area
k.	LST	Listing memory contents
l.	P	Switching to the Displayer task in another processor The user sees which processor he is currently accessing with the aid of the input request message

- m. PATCH Changing file contents
- n. SET Changing memory contents

77.5 Functions of the AMO

- EXEC-DISP : Start of AMO DISPA
- INPUT-DISPA : Data input request in dialog mode

77.5.1 EXEC-DISP

Procedure Overview

Command Code	Parameter
EXEC-DISPA	[PROCID=<param>;

Notes

- a) The AMO DISPA controls the Displayer installed in the processor specified. The AMO itself runs in the ADS.
- b) The AMO will remain in dialog mode for several minutes awaiting input. If no input is made, the AMO terminates automatically.

Example

Input:

```
EXEC-DISP:ALL;
```

Output:

```
H500: AMO DISPA STARTED
AMO DISPA VARIANT/VERSION F2/003 OF 1993-02-25
DISPLAYER VARIANT/VERSION G1/006 OF 1994-09-27
DISPLAYER-INPUT IN A1 PLEASE:
```

Input:

```
*END;
```

* = Request for command input

77.5.2 INPUT-DISPA

The action INPUT-DISPA is only used for WRITE-READ access, and cannot be entered by the user at the administration and maintenance terminal (AMT). Only the text below is displayed at the AMT as an input request to the user (the asterisk which follows the text indicates the ready state):

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DISPLAYER-INPUT IN <processor name> PLEASE:
*

This output text also indicates that the AMO has successfully executed the preceding command.

The following commands are possible:

CMD=	CHAR,CTYPE=<param>;
CMD=	COPY,CTYPE=DEF,[NAME=<string>],[AREA=<param>-<param>;
CMD=	COPY,CTYPE=DBL,[NAME=<string>;
CMD=	DEF,CTYPE=ADR,NAME=<string>,TYPE=ADR,ADR=<hex>-<hex>;
CMD=	DEF,CTYPE=ADR,NAME=<string>,TYPE=TBL,TBL=<string> ,IDX=<number>,DISPLACE=<number>;
CMD=	DEF,CTYPE=LOGNAME,NAME=<string>,AREA=<param> ,LEN=<number>,IDX=<number>&&<number>;
CMD=	DEL,CTYPE=DEF,[NAME=<string>],AREA=<param>;
CMD=	DIST,NO=<number>;
CMD=	DUMP,CTYPE=ADR,NAME=<string>,UNIT=<param>,NO=<number>;
CMD=	DUMP,CTYPE=DA,ADR=<hex>-<hex>,UNIT=<param>,NO=<number>;
CMD=	DUMP,CTYPE=LOGNAME,NAME=<string>,IDX=<number>;
CMD=	E,FILE=<string>;
CMD=	END;
CMD=	EV,CTYPE=D,NO=<number>;
CMD=	EV,CTYPE=H,VAL=<hex>;
CMD=	FILE,FILE=<string>,[NO=<number>;
CMD=	LST,CTYPE=ADR,NAME=<string>,UNIT=<param>,NO=<number>;
CMD=	LST,CTYPE=DA,ADR=<hex>-<hex>,UNIT=<param>,NO=<number>;
CMD=	LST,CTYPE=DEF,[NAME=<string>],AREA=<param>;
CMD=	LST,CTYPE=INT,TYPE=<param>;
CMD=	LST,CTYPE=INT,TYPE=BCA;
CMD=	LST,CTYPE=INT,TYPE=BCASA,SEL=HD,FILE=<string>;
CMD=	LST,CTYPE=INT,TYPE=BCASA,SEL=SCREEN,[DISPLACE=<number>], ,[LEN=<number>],[CONTINUE=<param>;
CMD=	LST,CTYPE=LOGNAME,NAME=<string>,IDX=<number>;
CMD=	P,[PROCID=<param>;
CMD=	PATCH,CTYPE=ADR,NAME=<string>,UNIT=<param> ,NO=<number>,VAL=<hex>;

CMD=	PATCH, CTYPE=DA, ADR=<hex>, UNIT=<param>
	, NO=<number>, VAL=<hex>;
CMD=	PATCH, CTYPE=LOGNAME, NAME=<string>, UNIT=<param>,
	, NO=<number>, VAL=<hex>, IDX=<number>, DISPLACE=<number>;
CMD=	SET, CTYPE=ADR, NAME=<string>, UNIT=<param>
	, NO=<number>, VAL=<hex>;
CMD=	SET, CTYPE=DA, ADR=<hex>-<hex>, UNIT=<param>
	, NO=<number>, VAL=<hex>;
CMD=	SET, CTYPE=LOGNAME, NAME=<string>, UNIT=<param>,
	, NO=<number>, VAL=<hex>, IDX=<number>, DISPLACE=<number>;

Notes

1. The default setting of numbers by the AMO is 'H' (hexadeximal), in other cases, the numbers are explicitly assigned the suffix 'T' for decimal.
2. Until otherwise specified after the AMO has been started, hexadecimal dump format is always displayed with the correspondig ASCII charakters (branch CHAR) and not interspersed with empty lines (branch DIST).
3. The memory address has the same fomate for the commands LST, SET and DEF (ADR=<selektor>-<offset>).

77.6 Working with Memory Definitions: DEF & COPY & DEL & LST, DEF & FILE

By creating memory definitions it is possible to assign meaningful names to memory locations. This makes the Displaying and Modifying of these memory locations a lot easier.

Basically memory definitions can only be used if they are stored in the AMO Work Area, which is always empty after the AMO-DISPA is started. In order to save the definitions permanent they have to be copied to other storage areas. When creating and storing memory definitions, the higher-level storage includes the lower-level storage (i.e. if AREA=HD is specified, the memory definitions are also entered in the save area of the resident Displayer task and in the AMO work area).

Memory definitions are always created for the processor whose Displayer is currently being controlled by the AMO. Any memory definitions with the same name for other processors in the AMO work area or the hard disk save area are overwritten.

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Working with Memory Definitions: DEF & COPY & DEL & LST,DEF & FILE

Blanks in memory definition names are always removed. Thus, no distinction is made between "DB_D_ CPB_TBL" and "DB_D_CPB_TBL". However, if the name consists entirely of blanks, one blank remains. An asterisk at the beginning or end of an entry of a memory definition name is regarded as a 'wildcard' character, whenever a complete, unambiguous name is not required (e.g. for the DEF command). Thus, "LST,DEF,DB_D_DH*" would list the memory contents for both DB_D_DH_DEV_TBL and DB_D_DH_LINE_TBL.

The memory address has the same format for the commands LST, SET, and DEF (ADR=<selector>-<offset>).

77.6.1 Types of Memory Definitions

1. Physical memory definitions
These are simply predefined symbolic names (symbolic addresses), for predefined physical memory addresses.
2. Logical memory definitions
These define the array dimensions with the start address of the table, the length of the element mode and the index range.

77.6.2 Storage of the Memory Definitions

1. AMO Work Area
The AMO work area contains the necessary data for processing memory contents as hexadecimal files. When the AMO is started, the work area buffer is empty. Up to 400 memory definitions can be buffered.
For processing memory contents as hexadecimal dump files, only data in the AMO work area is accessed. If necessary, the user must copy the required data from other storage areas into the work area. The AMO work area buffer can be filled by:
 1. creating memory definitions
 2. copying memory definitions
 - a) from the save area of the resident Displayer task in the main memory of the processor accessed
 - b) from the hard disk save area
2. Resident Task Area
A resident task area is installed in the main memory of each processor in which a resident Displayer task is installed. It allows

restart-safe storing of memory definitions. Up to 50 memory definitions can be saved.

The resident task area buffer can be filled by:

1. creating memory definitions
2. copying memory definitions
 - a) from the AMO work area
 - b) from the hard disk save area
3. Hard Disk Backup Area

The user can assign a file on the hard disk as a save area for reload-safe storage of memory definitions.

The hard disk save area can be filled by:

 1. creating memory definitions
 2. copying memory definitions
 - a) from the AMO work area
 - b) from the save area of the resident Displayer task in the main memory of the processor accessed

77.6.3 DEF: Creating Memory Definitions

Users can create physical and logical memory definitions. The main difference is that for logical memory definitions an array structure must also be defined in addition to the storage address.

Physical memory definitions are used as descriptive symbols for storage addresses, and are intended for repeated use. They are assigned a Dummy Array structure (index range 0 to 0, element length 65535 Bytes), and are entered in the AMO administration area.

Logical memory definitions are used for addressing a storage location as an array, and accessing individual elements.

A created logical memory address can be stored in the AMO work area (available only during AMO execution), or in the save area of the resident task, or in a hard disk save area. Created physical memory addresses can only be stored in the AMO work area.

Command Syntax

- Defining the Address by specifying the Selector and Offset

```
DEF,ADR,name,ADR,selector-offset;
```

The selector and offset must be entered as hexadecimal.

- Defining the Address by specifying the Memory Location

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Working with Memory Definitions: DEF & COPY & DEL & LST,DEF & FILE

```
DEF,ADR,name,TBL,table name,index,offset;
```

The "pointer offset" is the position of the read pointer relative to the beginning of the array element.

- Defining the Array Structure and the Storage Locations

```
DEF,LOGNAME,name,area,element  
length,minimalindex&&maximalindex;
```

The following entries are permitted for the storage locations: AMO, HD and RES

Examples

The user wants to create an address symbol for the initial entry in the trace buffer of the message tracer. In accordance with the structure of the entries in the trace buffer, the address of the second entry can be found four bytes further on.

Input:

```
*def,adr,entry1,adr,3cf0-099c;
```

Output:

```
DISPLAYER-INPUT IN A1 PLEASE:
```

Input:

```
*def,adr,entry2,tbl,entry1,0,4;
```

Output:

```
DISPLAYER-INPUT IN A1 PLEASE:
```

The following command creates a logical memory definitions from an address symbol. In the example an array structure has been assigned to the trace buffer of the message tracer from the second entry on, with the range of elements numbered from 1 to 25. One element is 30 Bytes long (=length of a standard entry for OS messages).

Input:

```
*def,logname,entry2,amo,30,1&&25;
```

Output:

```
DISPLAYER-INPUT IN A1 PLEASE:
```

77.6.4 LST,DEF: Listing Memory Definitions

Command Syntax

```
LST,DEF,[name],area;
```

The name may also be partially qualified by entering an asterisk at the beginning and/or the end of the text string. This is interpreted as a wildcard symbol. If no name or partial name is entered all memory definitions are listed.

The following storage areas can be specified: AMO, HD and RES.

Example

In connection with the example given above the user wants to display all memory definitions in the AMO Work Area.

Input:

```
*lst,def,,amo;
```

Output:

```
DEFINITIONS IN AMO DISPA

NAME                SEL      OFF      ELEM_L  MIN_I  MAX_I
PID
ENTRY1              3CF0H  099CH   FFFFH   0H     0H   A1
ENTRY2              3CF0H  09BAH   1EH     1H     19H  A1
DISPLAY-INPUT IN A1 PLEASE:
```

Description of the Headers:

NAME	Name of the defined memory
SEL	Selector of the defined memory
OFF	Offset of the defined memory
ELEM_L	Element length of the defined memory
MIN_I	Minimum index of the defined memory
MAX_I	Maximum index of the defined memory
PID	Processor identification of the defined memory

77.6.5 COPY: Copying Memory Definitions

The memory addresses can be copied from their respective storage locations into the AMO work area during AMO execution, into the save area of the resident Displayer task, or into the hard disk save area.

Command Syntax

- General Procedure for Copying between Storage Areas

```
COPY,DEF,[name],[source area-target area];
```

The default setting is for copying from the resident task backup area to the AMO work area (RES-AMO).

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Working with Memory Definitions: DEF & COPY & DEL & LST,DEF & FILE

- Copying the Layout Data Module into the AMO Work Area

```
COPY,DBL,[name];
```

Since there are no layout data modules in the IHS, this command is rejected with the advisory „H3: REQUESTED FUNCTION NOT AVAILABLE“.

Example

The user wants to copy all memory definitions, which start with the string "ENT", from resident Task Area to the AMO Work Area.

Input:

```
*copy,def,ent*,res-amo;
```

Output:

```
DISPLAYER-INPUT IN A1 PLEASE:
```

Input:

```
*lst,def,,amo;
```

Output:

```
DEFINITIONS IN AMO DISPA
```

NAME	SEL	OFF	ELEM_L	MIN_I	MAX_I	PID
ENTRY1	3CF0H	099CH	FFFFH	0H	0H	A1
ENTRY2	3CF0H	09BAH	1EH	1H	19H	A1

```
DISPLAY-INPUT IN A1 PLEASE:
```

77.6.6 DEL: Deleting Memory Definitions

Memory definitions are deleted in order to create free storage space in the corresponding storage location.

The AMO work area is automatically cleared when the AMO DISPA is terminated.

Command Syntax

```
DEL,DEF,[name],area;
```

77.6.7 FILE: Assigning a File as a Hard Disk Backup Area

This file is used to store the memory definitions transferred to the hard disk backup area with COPY command or the DEF command.

Using the hard disk backup area not only ensures that the memory definitions are reload-safe, but also has the advantage of enabling memory definitions to be copied onto a portable data medium (e.g. cartridge) for use in other systems, by simply copying the file.

Command Syntax

```
FILE,filename,[number];
```

The specified filename must be valid within the system.

If the number of memory definitions to be stored is specified in this command, the AMO assumes that the file does not yet exist, and attempts to create it with the specified size. The number of memory definitions to be stored does not need to be exact, since the file is dynamically expanded if necessary.

If no number is entered, the AMO assumes that the file already exists. In this case the AMO opens the file and the number of memory definitions it contains is listed.

If a file with the same name is already assigned for processing (with the DUMP or PATCH command), it cannot be opened a second time. In this case the AMO will respond with the error message F16. However users are permitted to use the FILE-command to repeatedly open different files for subsequent processing during the same displayer dialog.

Example

Input:

```
*file,:dbd:els/defsavl;
```

Output:

```
DISPLAYER-INPUT IN A1 PLEASE:
```

The specified file already exists. Otherwise an error message would have been displayed.

77.7 Displaying and Modifying of Memory Contents: LST & SET

77.7.1 LST,ADR/DA/LOGNAME: Listing Memory Contents without High-Level Access

When using logical memory definitions, the output is always in bytes. In all other cases, the user can choose between output in bytes (BYTE), word output (WORD) or double-length (double-precision) word output (DWORD).

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Displaying and Modifying of Memory Contents: LST & SET

Command Syntax

- Output using an Address Symbol

`LST,ADR,name,outputstyle,number;`

The number of memory units to be displayed must be entered in decimal form.

- Output using a Direct Address

`LST,DA,selector-offset,outputstyle,number;`

Selector and Offset must be entered as hexadecimal numbers, separated by a hyphen.

The number of memory units to be displayed must be entered in decimal form.

- Output using a logical Memory Definition

`LST,LOGNAME,name,indices;`

The indices must be entered in decimal form; either linked single values or index ranges are permitted.

Examples

The address of the Static Task Table is entered as 0F38:0265 in the linkage listing of the ADS database. In the Prolib Listing, the element length is defined as 7.

Input:

```
*lst,da,f38-265,byte,140;
```

Output:

```
                                ADDRESS: 0F38H:0265H
CONTENTS  HEX                                (ASCII)
  0(   0)  0D55542000000814  4654200000021B46  .UT ...FT ...F
 10(  16)  54200000020B4143  541400020C414652  T ...ACT...AFR
 20(  32)  0001021846415300  0102194655500001  ...FAS...FUP..
 30(  48)  0201545420010105  1520202000000215  ..TT ....
 40(  64)  2020200000021520  2020000002152020  ....
 50(  80)  2000000215202020  0000021520202000  ....
 60(  96)  0002152020200000  0215202020000002  ...
 70( 112)  1520202000000215  2020200000021520  .
 80( 128)  2020000002152020  20000002          ....
DISPLAYER-INPUT IN A1 PLEASE:
```

The user wants to create a logical memory definition for the Static Task Table. This memory definition is also stored in the backup area of the resident displayer task for later use.

Input:

```
*def,adr,static_task_tbl,adr,0f38-0265;
```

Output:

DISPA - Operation of the Displayer in the IS

Displaying and Modifying of Memory Contents: LST & SET

```
DISPLAYER-INPUT IN A1 PLEASE:
```

Input:

```
*def,logname,static_task_tbl,res,7,1&&20;
```

Output:

```
DISPLAYER-INPUT IN A1 PLEASE:
```

Now the elements 1, 2, 3 and 8 of the Static Task Table should be displayed.

Input:

```
*lst,logname,static_task-tbl,1&&3&8;
```

Output:

```
TABLE: STATIC_TASK_TBL
INDEX: 0001H ADDRESS: 0F38H:0265H
CONTENTS HEX (ASCII)
0( 0) 0D555420000008 .UT ...
TABLE: STATIC_TASK_TBL
INDEX: 0002H ADDRESS: 0F38H:026CH
CONTENTS HEX (ASCII)
0( 0) 14465420000002 .FT ...
TABLE: STATIC_TASK_TBL
INDEX: 0003H ADDRESS: 0F38H:0273H
CONTENTS HEX (ASCII)
0( 0) 1B465420000002 .FT ...
TABLE: STATIC_TASK_TBL
INDEX: 0008H ADDRESS: 0F38H:0296H
CONTENTS HEX (ASCII)
0( 0) 01545420010105 .TT ...
DISPLAYER-INPUT IN A1 PLEASE:
```

77.7.2 LST,INT: Displaying of Memory Contents with High-Level Access

In the high-level access mode, the user defines various output types (pre-defined in the MML interface) for memory definitions, or specifies groups of related memory contents.

When displaying the save area of the boot communication area (BCASA) on the operator console (SEL=SCREEN) is requested, the AMO interrupts the output after every 2000 bytes, giving the operator the opportunity to abort the function. The reason is the large size of the BCA, with approximate 48 kbyte. The output order to a hard disk file takes the full size of the BCASA. Each command needs a new file name. This prevents inadvertant overwriting of data, in a file that already exists (see message F29).

Command Syntax

```
LST,INT,output_type;
```

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Displaying and Modifying of Memory Contents: LST & SET

The permitted values for output_type can be seen in Section 77.10 (parameter TYPE).

Example

Input:

```
*lst,int,dchs;
```

Output:

```
TABLE: DASS_HW_CHAN_D_STATE_TBL
CONTENTS HEX                                     (ASCII)
 0 (   0) 4242424242424242 0102424242424242 BBBBBBBB..BBBBBB
10 (  16) 4242424242424242 4242424242424242 BBBBBBBBBBBBBBBBBB
20 (  32) 4242424242424242 4242424242424242 BBBBBBBBBBBBBBBBBB
30 (  48) 4242424242424242 4242424242424242 BBBBBBBBBBBBBBBBBB
40 (  64) 42                                     B
DISPLAYER-INPUT IN A1 PLEASE:
```

The user wants to copy BCA save area into a hard disk file.

Input:

```
*lst,int,bcasa,hd,:pds:cer/bcafile;
```

Output:

```
H6: 49152T BYTES COPIED INTO FILE :PDS:CER/BCAFILE
DISPLAYER-INPUT IN A1 PLEASE:
```

77.7.3 SET: Modifying Memory Contents

In order to help avoid typing errors, the number of new values entered must correspond to the number of memory units to be changed. In addition the length of the new values must exactly correspond to the memory output option selected (e.g. a 2-digit hexadecimal number if BYTE was selected).

Command Syntax

The number of memory units to be changed must be entered in decimal form.

The new values must be entered as hexadecimal numbers and separated by hyphens.

The input can be made in BYTE-, WORD- oder DWORD-format.

- Modification using an Address Symbol

```
SET,ADR,name,input_style,number,values;
```

- Modification using a Direct Address

```
SET,DA,selector-offset,input_style,number,values;
```


DISPA - Operation of the Displayer in the IS

Displaying and Modifying of Memory Contents: LST & SET

The selector and offset must be entered as hexadecimal numbers and separated by hyphens.

- Modification using a logical Memory Definition

```
SET,LOGNAME,name,input_style,number,values,indices,offset;
```

The indices of the array elements concerned must be entered in decimal form; either linked single values or index ranges are permitted.

The offset of the memory area to be changed must be entered in decimal form; it is the displacement of the pointer relative to the beginning of the array element.

Example

For the purpose of this example we will assume that the device type for the terminal task is to be changed from 02 to 05.

The address of the Static Task Table is entered as 0F38:0265 in the linkage listing of the ADS database. In the Prolib listing, the element length is defined as 7 and the offset of the device type relative to the beginning of the element is 6.

In most cases the element 3 is the element for the terminal task.

Input:

```
*def,adr,tt_elem,adr,0f38-0273;
```

Output:

```
DISPLAYER-INPUT IN A1 PLEASE:
```

Input:

```
*lst,adr,tt_elem,byte,7;
```

Output:

```
TABLE: TT_ELEM                ADDRESS: 0F38H:0273H
CONTENTS HEX                      (ASCII)
0(      0) 01545420010102        .TT ...
DISPLAYER-INPUT IN A1 PLEASE:
```

Input:

```
*set,adr,tt_elem,byte,7,01-54-54-20-01-01-05;
```

Output:

```
DISPLAYER-INPUT IN A1 PLEASE:
```

Input:

```
*lst,adr,tt_elem,byte,7;
```

Output:

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Displaying and Modifying of File Contents: E & DUMP & PATCH

```
TABLE: TT_ELEM                                ADDRESS: 3E20H:00FBH
CONTENTS HEX                                (ASCII)
      0 (      0) 01545420010105          .TT ...
DISPLAYER-INPUT IN A1 PLEASE:
```

77.8 Displaying and Modifying of File Contents: E & DUMP & PATCH

77.8.1 E: Assigning a File for processing the File Contents

Files which are to be processed with the DUMP command or PATCH command have to be assigned first by using this command.

If a file with the same name has already been assigned as a hard disk backup area, it cannot be opened a second time. In this case the displayer AMO will respond with the error message F16. However users are permitted to use the E-command to repeatedly open different files for subsequent processing during the same displayer dialog session.

Command Syntax

```
E, filename;
```

The specified file must already exist.

77.8.2 DUMP: Listing File Contents

The file whose contents are to be listed must first be assigned with the E command.

The addresses, which are implemented in the memory definitions are interpreted as 4-Byte Integers, which define the displacement of the data to be output relative to the beginning of the file. The same applies to the addresses output with the LST command.

When using logical memory definitions, the output is always in bytes. In all other cases the user can choose between output in bytes (BYTE), word output (WORD) or double-length (double-precision) word output.

Command Syntax

- Output using an Address Symbol

```
DUMP, ADR, name, output, number;
```

The number of memory units to be output must be entered in decimal form.

DISPA - Operation of the Displayer in the IS

Displaying and Modifying of File Contents: E & DUMP & PATCH

- Output using a Direct Address (Pointer Offset/Displacement)

`DUMP,DA,offset,output,number;`

The pointer offset must be entered in hexadecimal form, whereas the number of memory units to be output must be entered in decimal form.

- Output using a logical Memory Definition

`DUMP,LOGNAME,name,indices;`

The indices must be entered in decimal form; either linked single values or index ranges are permitted.

Example

It is assumed that the HD saved memory definitions are stored in the file defsav1. The user wants to list the fist two memory definitions.

Input:

`*e,:dbdb:els/defsav1;`

Output:

DISPLAYER-INPUT IN A1 PLEASE:

Input:

`*def,adr,entry_tbl,adr,0-0;`

Output:

DISPLAYER-INPUT IN A1 PLEASE:

Input:

`*def,logname,entry_tbl,amo,37,1&&2;`

Output:

DISPLAYER-INPUT IN A1 PLEASE:

Input:

`*dump,logname,entry_tbl,1&&2;`

Output:

```
TABLE: ENTRY_TBL
INDEX: 0000H          ADDRESS: 0000H:0000H
CONTENTS HEX
  0(  0) 44425F445F43505F 4445565F53544154 DB_D_CP_DEV_STAT
 10( 16) 4520202020202020 2020DADEA0340100 E      ...4..
 20( 32) 0000FF0700      .....
INDEX: 0001H          ADDRESS: 0000H:0025H
CONTENTS HEX
  0(  0) 44425F445F43505F 4445565F53544154 DB_S_CP_DEV_STAT
 10( 16) 5553202020202020 20207051C0340200 US      pQ.4..
 20( 32) 0000FF0700      .....
DISPLAYER INPUT IN A1 PLEASE:
```

77.8.3 PATCH: Changing File Contents

This feature is not intended to replace the functions of the AMO PATCH. The displayer does not use memory address in order to change the appropriate memory area on the hard disk; in fact for the purpose of this displayer function it is irrelevant whether the file to be processed corresponds to any memory locations on the hard disk at all.

The file whose contents are to be modified must first be assigned with the E command.

In order to help avoid typing errors, the number of new values entered must correspond to the number of memory units to be changed. In addition the length of the new values must exactly correspond to the memory output option selected (e.g. a 2-digit hexadecimal number if BYTE was selected).

Command Syntax

The number of memory units to be changed must be entered in decimal form. The new values must be entered as hexadecimal numbers and separated by hyphens.

- Modification using an Address Symbol

```
PATCH,ADR,name,input,number,values;
```

- Modification using a Direct Address

```
PATCH,DA,offset,input,number,values;
```

The offset must be entered as hexadecimal numbers.

- Modification using a logical Memory Definition

```
PATCH,LOGNAME,name,input,number,values,indices,offset;
```

The indices of the array elements concerned must be entered in decimal form; either linked single values or index ranges are permitted.

The offset of the memory area to be changed must be entered in decimal form; it is the displacement of the pointer relative to the beginning of the array element.

Example

In connection with the DUMP-example given above the user wants to correct the address of the second memory from 34C0:5170 to 34A0:CEDA.

Input:

```
*patch,logname,entry_tbl,dword,1,34a0ceda,1,1a;
```

Output:

DISPA - Operation of the Displayer in the IS

Displaying and Modifying of File Contents: E & DUMP & PATCH

DISPLAYER-INPUT IN A1 PLEASE:

Input:

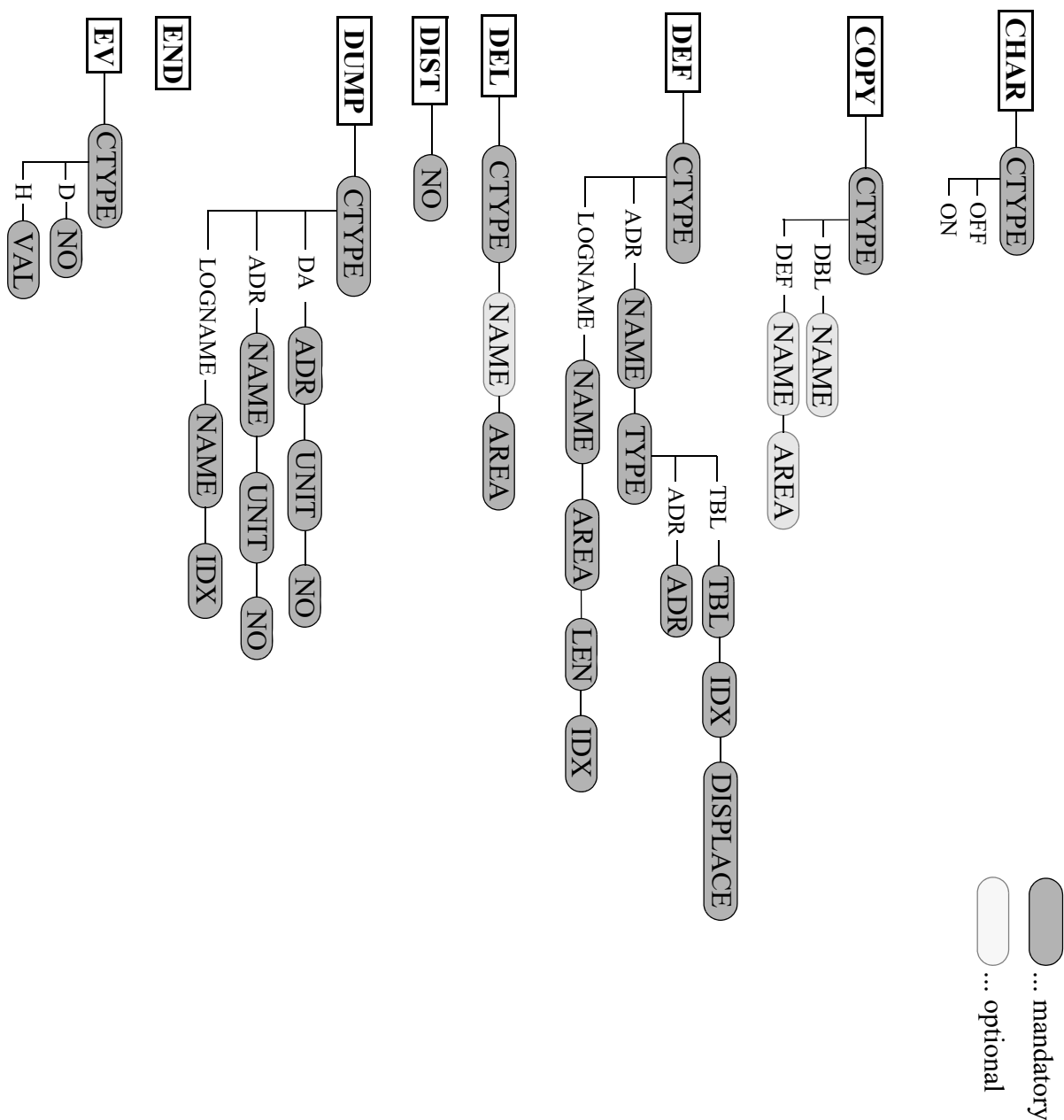
*dump,logname,entry_tbl,1&&2;

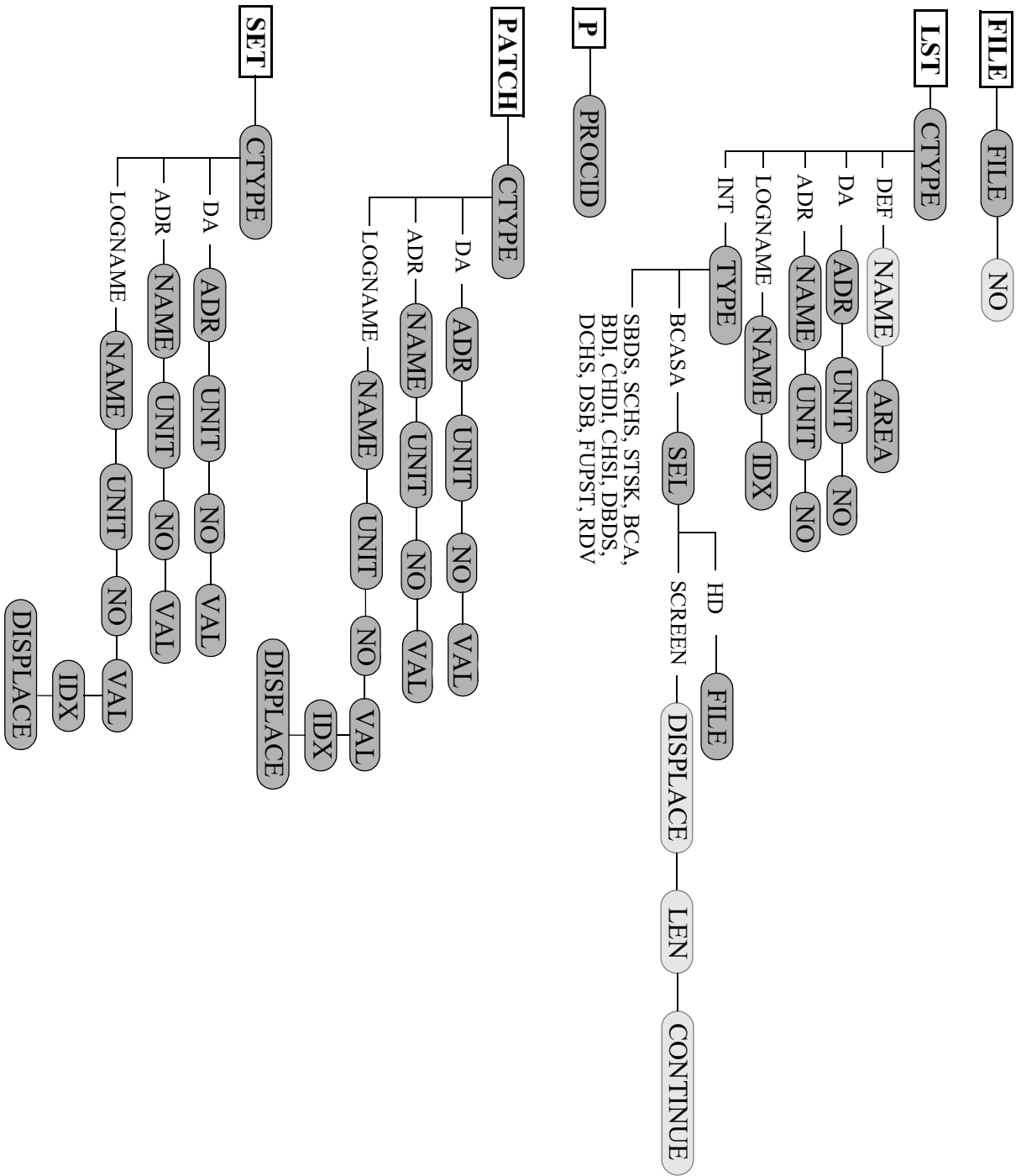
Output:

```
TABLE: ENTRY_TBL
INDEX: 0000H          ADDRESS: 0000H:0000H
CONTENTS HEX
  0(   0) 44425F445F43505F 4445565F53544154 DB_D_CP_DEV_STAT
 10(  16) 4520202020202020 2020DADEA0340100 E      ...4..
 20(  32) 0000FF0700                                .....
INDEX: 0001H          ADDRESS: 0000H:0025H
CONTENTS HEX
  0(   0) 44425F445F43505F 4445565F53544154 DB_S_CP_DEV_STAT
 10(  16) 5553202020202020 2020DACEA0340200 US      pQ.4..
 20(  32) 0000FF0700                                .....
DISPLAYER INPUT IN A1  PLEASE:
```

The correction was successfully completed.

77.9 Parameter Tree





77.10 Parameter Description

ADR	Used in commands: DEF, DUMP, LST, PATCH, SET; address (selector and offset) or required distance with regard to beginning of file	
Type of Input	: For DEF, LST, SET: 2 linked single values, mandatory For DUMP, PATCH: Single value, mandatory	
Possible Values	: For DEF, LST, SET: Hexadecimals, 0000 - FFFF (e.g. 3BF0-387) For DUMP, PATCH: Hexadecimals 00000000 - FFFFFFFF	
AREA	Used in commands: COPY, DEF, DEL, LST. area for which the command is valid	
Type of Input	: For DEF, DEL, LST: Single value, mandatory For COPY: 2 linked single values, optional (default value: RES-AMO)	
Possible Values	: ALL	all areas (DEL only)
	AMO	AMO work area
	HD	hard disk save area
	RES	resident task area
CMD	Branch parameter, defines the Displayer commands	
Type of Input	: Single value, mandatory	
Possible Values	: CHAR	character output
	COPY	copy
	DEF	define
	DEL	delete
	DIST	distance between lines
	DUMP	dump file contents
	E	file for editing
	END	end
	EV	evaluate
	FILE	file for saving definitions
	LST	list memory contents
	P	processor
	PATCH	patch file contents
	SET	set memory contents
	(See Functional Overview for explanation)	
CONTINUE	Used in command: LST; defines whether or not output is to be continued after 2000 byte	
Type of Input	: Single value, optional	

	Possible Values	: Y N	YES - Continue output NO - Abort output
	Default Value	: Y	
CTYPE	Used in commands: CHAR, COPY, DEF, DEL, DUMP, EV, LST, PATCH, SET; defines the command interpretation more precisely		
	Type of Input	: Single value, mandatory	
	Possible Values	: For CHAR:	
		OFF	ASCII characters off
		ON	ASCII characters on
		For COPY:	
		DBL	Copy the database layout data Not permitted for tracer in IS; input will be rejected and advisory H3 output
		DEF	Copy the memory definitions from the storage location specified
		For DEF:	
		ADR	The definition is executed with a symbolic address
		LOGNAME	The definition is executed with a logical memory definition
		For DEL:	
		DEF	Delete memory definitions in the storage location specified
		For DUMP:	
		ADR	The dump is executed with a symbolic address (combined selector and offset shows position with respect to beginning of file)
		DA	The dump is executed with a direct address (Position in file)
		LOGNAME	The dump is executed with a logical memory definition (combined selector and offset shows position in file)
		For EV:	
		D	The decimals entered are converted to hexadecimals
		H	The hexadecimals entered are converted to decimals
		For LST:	
		ADR	Listing is executed with a symbolic address
		DA	Listing is executed with a direct address (combined selector and offset)
		DEF	Listing of table structures of memory definitions
		INT	High-level listing for integration
		LOGNAME	Listing is executed with a logical memory definition
		SW	High-level listing for switch processing
		For PATCH:	

DISPA - Operation of the Displayer in the IS

Parameter Description

	ADR	Output is executed with a symbolic address (combined selector and offset shows position with respect to beginning of file)
	DA	Output is executed with a direct address (Position in file)
	LOGNAME	Output is executed with a logical memory definition (combined selector and offset shows position in file)
	For SET:	
	ADR	Output is executed with a symbolic address
	DA	Output is executed with a direct address
	LOGNAME	Change is executed with a logical memory definition
DISPLACE	Used in commands: DEF, PATCH, SET; defines the position of the area in the array element which is to be changed or used as a relative address (=DISPLACEMENT)	
	Type of Input	: Single value, mandatory
	Possible Values	: 0 - 65535
FILE	Used in commands: E, FILE; file name of file to be edited or hard disk save area.	
	Type of Input	: Single value, mandatory
	Possible Values	: valid filename (z.B. ":PDS:TEST" oder ":DBD:TEST")
IDX	Used in commands: DEF, DUMP, LST, PATCH, SET; defines either the index at which data is to be changed or output, or the index range of the specified array.	
	Type of Input	: For DEF with CTYPE=ADR: Single value, mandatory For DEF with CTYPE=LOGNAME: Range, mandatory For DUMP, PATCH, SET: Single value, linked single values and/or range(s), mandatory For LST with CTYPE=LOGNAME: Single value, linked single values and/or range(s), mandatory
	Possible Values	: 0 - 65535 else
LEN	Used in commands: DEF, LST; length of an array element in a logical memory definition	
	Type of Input	: Single value, mandatory for DEF and optional for LST
	Possible Values	: For DEF: 1 - 6000 For LST: 0 - 65535

NAME	Used in commands: COPY, DEF, DEL, DUMP, LST, PATCH, SET; name of various elements used.
Type of Input	: Single value, optional for COPY and LST, DEF mandatory
Possible Values	: text string (e.g. "DASS_AM_STATIC_TASK_TBL")
NO	Used in commands: DIST, DUMP, EV, FILE, LST, PATCH, SET; number of empty lines to be inserted in hexadecimal dump output, or number of decimal numbers to be converted to binary or hexadecimal for output, or number of memory definitions to be saved, or number of memory units to be changed or listed
Type of Input	: Single value, optional for FILE; mandatory else
Possible Values	: For DIST: 0 - 4 For EV: 0 - 2147483647 : For FILE: 0 - 65535 For DUMP, LST: 1 - 1500 For PATCH, SET: 1 - 10
PROCID	Used in command P Processor which contains the Displayer task to be accessed
Type of Input	: Single value, optional
Possible Values	: A1 Administration and Data Server
SEL	Used in command: LST; selection criterion to be used (=SElection)
Type of Input	: Single value, mandatory
Possible Values	: HD output as file to hard disk SCREEN output to screen
TBL	Used in command: DEF; name of table which contains the address.
Type of Input	: Single value, mandatory
Possible Values	: text string (e.g. "DASS_AM_STATIC_TASK_TBL")
TYPE	Used in commands: DEF, LST; defines the type of address definition or the type of memory output.
Type of Input	: Single value, mandatory

DISPA - Operation of the Displayer in the IS

Parameter Description

Possible Values	: For DEF:	
	ADR	The address is to be held in the storage location specified
	TBL	The address is to be held in the table specified at the location specified
	For LST:	
	BCA	basic data of boot communication area
	BCASA	save area of BCA
	BDI	DAAS_HW_BOARD_INF_TBL
	CHDI	DAAS_HW_CH_DEVICE_INF_TBL
	CHSI	DAAS_HW_CH_SERVICE_INF_TBL
	DBDS	DAAS_HW_BOARD_D_STATE_TBL
	DCHS	DASS_HW_CHAN_D_STATE_TBL
	DSB	DAAS_DMS_SWITCH_BOARD
	FUPST	DASV_FBT_FAMUP_STATUS
	RDV	DASS_TY_C_ROUTE_DIV_TBL
	SBDS	DAAS_HW_BOARD_S_STATE_TBL
	SCHS	DASS_HW_CHAN_S_STATE_TBL
	STSK	DASS_AM_STATIC_TASK_TBL
UNIT	Used in commands: DUMP, LST, PATCH, SET; unit of memory to be used	
	Type of Input	: Single value, mandatory
Possible Values	: BYTE	Byte
	DWORD	Double Word
	WORD	Word
VAL	Used in commands: EV, PATCH, SET; hexadecimal value to be displayed in decimals, binary and hexadecimal (=VALue), or value to be stored at specified storage location (=VALue).	
	Type of Input	: For EV: Single value, mandatory
		For PATCH, SET: Single value, linked single values, mandatory
Possible Values	: For EV:	Hexadecimals 0 - 7FFFFFFF
		For PATCH, SET: Hexadecimals 00 - FF, Hexadecimals 0000 - FFFF, Hexadecimals 00000000 - FFFFFFFF

77.11 Error Messages and Advisories

77.11.1 Error Messages

F01: COMMUNICATION WITH DISPLAYER IN <xxxxx> IMPOSSIBLE

F02: WRITING ACCESS FAILED (START ADDRESS = <xxxx>H:<xxxx>H)

F03: NO TABLE DEFINITION EXISTS WITH THIS NAME

F04: OVERFLOW OF DEFINITION TABLE IN AMO

F05: OVERFLOW OF RESIDENT DEFINITION TABLE

F06: INDEX ILLEGAL

F07: DATABASE ACCESS FAILED

F08: DEFINITION REJECTED

F09: ADDRESS TABLE NOT FOUND

F10: DISPLACEMENT ILLEGAL

F11: INPUT FOR "UNIT", "NO", "VAL" INCONSISTENT

The number of values specified for "VAL" must be entered in the parameter "NO"; this helps detect input errors.

The values specified for "VAL" may not exceed the maximum length defined by the parameter "UNIT".

F12: DATABASE TABLE DOES NOT EXIST

F13: LTG NUMBER EXCEEDS <xx>H

F14: LTU NUMBER EXCEEDS <xx>H

F15: INPUT FOR "TYPE" AND "SEL" INCONSISTENT

For example, the input TYPE=CPB is inconsistent with SEL=DTI

F16: FILE "<xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>" ALREADY ASSIGNED

In order to assign a file, the AMO must be terminated and restarted.

F17: CREATION OF FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F18: OPENING OF FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F19: SEEKING IN FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F20: READING FROM FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F21: WRITING TO FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F22: CLOSING OF FILE FAILED WITH STATUS <xxxx>H

DISPA - Operation of the Displayer in the IS

Error Messages and Advisories

Status output is the same as FAM call.

F23: NO FILE ASSIGNED

...therefore no hard disk backup area can be used.

F24: NECESSARY PARAMETER VALUE MISSING

F29: FILE "<xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>" ALREADY EXISTS

A file with the same name already exists on the hard disk and will NOT be overwritten. Enter a new name.

F30: ALLOCATION OF TEMPORARY SEGMENT FAILED; NOT ENOUGH MEMORY AVAILABLE

The temporary segment for intermediate storage of the BCASA-data could not be created in the system. There is not enough free main storage available.

77.11.2 Advisories

H01: ONLY <xxxx>H BYTES CAN BE ACCESSED

This messages explains the reason for a failed attempt at read or write access.

H02: NO DATA FOUND

This message explains the reason for a failed attempt at data output.

H03: REQUESTED FUNCTION NOT AVAILABLE

This messages means that the input function or command is not available on the processor accessed, or is not applicable.

78 DISPS - Operation of the Displayer in the SWU

Restrictions	Working with Memory Definitions: DEF & LST, DEF & COPY & DEL & FILE	Parameter Description
Interrelationships	Displaying and Modifying of Memory Contents: LST & SET	Error Messages and Advisories
General	Displaying and Modifying of File Contents: E & DUMP & PATCH	
Functions of the AMO	Parameter Tree	

78.1 Restrictions

78.2 Interrelationships

AMO DISPS communicates with the Displayer task resident in the main memory of the SWU processor to be accessed. The resident Displayer task and the message tracer task are contained in the same subsystem.

78.3 General

The Memory Displayer is a tool which allows the system specialist to read and also to modify the contents of various predefined and/or specified memories at the service terminal.

The AMO DISPS controls the communication to the terminal. Without the AMO, the Displayer cannot execute its tasks, since the AMO is used for displaying the memory contents read by the Displayer at the service terminal, and the Displayer tasks themselves are started via the terminal.

The Displayer is an online test tool which can be used for component integration and system tests, by field technicians and customers. The Displayer can operate in all processors (base processors and group processors) in which the administration and maintenance system is loaded.

The AMO DISPS contains the following features:

- Output of memory contents as a hexadecimal dump, both in a high-level operation (e.g. for all call processing memories maintaining an established connection) and in a logical level operation (e.g. for all memories specified in the AMO with name, address and array dimensions).
- Creation of user-specific, logical memory definitions for any given memory address, even as a table.
- Determining the addresses and array dimensions for the most important SWU database memories.
- Optional storage of the addresses and array dimensions for further memories defined by the user either in the AMO work area (available only during AMO execution), in the save area of the resident Displayer task in each processor (restart-safe), or in a hard disk save area (reload-safe).
- Changing the memory contents in a logical level operation (contents of memories, whose names, addresses and array dimensions must be specified by the user in the AMO).
- Displaying and changing memory contents in a logical level operation (core image of a memory whose name, address offset and array dimensions must be specified by the user in the AMO).
- Switching between processor units with memories to be displayed in a logical level operation.

Limits of the Memory Displayer

The Displayer cannot and should not replace the functions of the debugger. It should rather be considered as an addition geared towards pin-point and problem-oriented diagnosis.

Note

For the IS memories, the DISPA tool is available, which functions analogously to this AMO (see DISPA AMO-description).

78.3.1 Functional Overview

The following functions are realized by the AMO:

a.	CHAR	On/off switch for character display of hexadecimal dump format. The hexadecimal dump format can be displayed with hexadecimal characters only or together with the corresponding ASCII characters. Default Value: ON.
b.	COPY	Copying memory addresses
c.	DEF	Creating memory addresses

- d. DEL Deleting memory definitions
- e. DIST Determining the number of empty lines to be inserted between the lines output in a hexadecimal dump format. Default Value: 0.
- f. DUMP Listing file contents
- g. E Assigning a file in order to edit file contents
- h. END Terminating the AMO
- i. EV Converting decimal to hexadecimal and vice versa, also binary output
- j. FILE Assigning a file as hard disk save area
- k. LST Listing the memory contents
- l. P Switching to the Displayer task in another processor
The user sees which processor his currently accessing with the aid of the input request message
- m. PATCH Changing file contents
- n. SET Changing memory contents

78.4 Functions of the AMO

- EXEC-DISPS : Start of AMO DISPS
- DISPLAY-DISPS Displays logical device number of a station
- INPUT-DISPS : Data input request in dialog mode

78.4.1 EXEC-DISPS

Procedure Overview

Commandcode	Parameter
EXEC-DISPS	PROCID=<param>;

Notes

- a) The AMO DISPS controls the Displayer installed in the processor specified. The AMO itself runs in the ADS.
- b) The AMO will remain in dialog mode for several minutes awaiting input. If no input is made, the AMO terminates automatically.

Example

Input:

DISPS - Operation of the Displayer in the SWU

Functions of the AMO

<EXEC-DISPS:BPA;

Output:

```
H500: AMO DISPS STARTED
AMO DISPS VARIANT/VERSION G1/002 OF 1994-09-29
DISPLAYER VARIANT/VERSION G1/007 OF 1994-09-29
DISPLAYER-INPUT IN BPA    PLEASE:
```

Input:

*END; * = Request for command input

78.0.1 78.4.3 DISPLAY-DISPS

Procedure Overview

To ease up service actions, the new DISPLAY action was introduced for a quick call of DISPS data, with three options:

1.Station number

Input:

DISPLAY-DISPS:STN,<stno>;

is the equivalent of:

EXEC-DISPS:BP;

LST, SW, LODEN, STNO, <stno>, VCE;

2.Line (physical / logical) in hexadecimal

Input:

DISPLAY-DISPS:LINE,<LINE>;

is the equivalent of (LINE in decimal):

EXEC-DISPS:BP;

LST, SW, LODEN, LN, <LTG>, <LINE>;

3.Circuit

Input:

DISPLAY-DISPS:CIRC,<LTG>,<LTU>,<SLOT>,<CCT>;

is the equivalent of:

EXEC-DISPS:BP;

LST, SW, LODEN, CIR, <LTG>, <LTU>, <SLOT>, <CCT>;

Output:

```

H500:  AMO DISPS STARTED
        AMO DISPS VARIANT/VERSION 4A/001 OF 2014-03-07
        DISPLAYER VARIANT/VERSION 5E/001 OF 2016-05-26
        STATION NUMBER: 12100

LTG   LTU   PBC/SLOT   CCT   L I N E       PHYS_LINE   SU   DI/TSI   SI   LODEN
  1T   1T   2T   2T   0T  4293T 10C5H  1481T 5C9H   0H   1H   0H   6DH
  1T   1T   2T   2T   0T  4293T 10C5H  1481T 5C9H   1H   1H   0H   6EH
  1T   1T   2T   2T   0T  4293T 10C5H  1481T 5C9H   2H   1H   0H   6FH
  1T   1T   2T   2T   0T  4293T 10C5H  1481T 5C9H   3H   1H   0H   70H
AMO-DISPS-111      OPERATING THE DISPLAYER
DISPLAY COMPLETED;

```

Displaying a range of station numbers with the help of "&" or "&&":

Input:

```
DISPLAY-DISPS:STN,12100&&12102;
```

Output:

```

H500:  AMO DISPS STARTED
        AMO DISPS VARIANT/VERSION 4A/001 OF 2014-03-07
        DISPLAYER VARIANT/VERSION 5E/001 OF 2016-05-26
        STATION NUMBER: 12100

LTG   LTU   PBC/SLOT   CCT   L I N E       PHYS_LINE   SU   DI/TSI   SI   LODEN
  1T   1T   2T   2T   0T  4293T 10C5H  1481T 5C9H   0H   1H   0H   6DH
  1T   1T   2T   2T   0T  4293T 10C5H  1481T 5C9H   1H   1H   0H   6EH
  1T   1T   2T   2T   0T  4293T 10C5H  1481T 5C9H   2H   1H   0H   6FH
  1T   1T   2T   2T   0T  4293T 10C5H  1481T 5C9H   3H   1H   0H   70H
STATION NUMBER: 12101
LTG   LTU   PBC/SLOT   CCT   L I N E       PHYS_LINE   SU   DI/TSI   SI   LODEN
  1T   1T   2T   2T   1T  4294T 10C6H  1482T 5CAH   0H   1H   0H   71H
  1T   1T   2T   2T   1T  4294T 10C6H  1482T 5CAH   1H   1H   0H   72H
  1T   1T   2T   2T   1T  4294T 10C6H  1482T 5CAH   2H   1H   0H   73H
  1T   1T   2T   2T   1T  4294T 10C6H  1482T 5CAH   3H   1H   0H   74H
STATION NUMBER: 12102
LTG   LTU   PBC/SLOT   CCT   L I N E       PHYS_LINE   SU   DI/TSI   SI   LODEN
  1T   1T   2T   2T   2T  4295T 10C7H  1483T 5CBH   0H   1H   0H   75H
  1T   1T   2T   2T   2T  4295T 10C7H  1483T 5CBH   1H   1H   0H   76H
  1T   1T   2T   2T   2T  4295T 10C7H  1483T 5CBH   2H   1H   0H   77H
  1T   1T   2T   2T   2T  4295T 10C7H  1483T 5CBH   3H   1H   0H   78H
AMO-DISPS-111      OPERATING THE DISPLAYER
DISPLAY COMPLETED;

```

DISPS - Operation of the Displayer in the SWU

Functions of the AMO

Displaying a range of lines (physical / logical) in hexadecimal:

Input:

```
DISPLAY-DISPS:LINE,5C9&&5CB;
```

Output:

```
H500:  AMO DISPS STARTED
      AMO DISPS VARIANT/VERSION 4A/001 OF 2014-03-07
      DISPLAYER VARIANT/VERSION 5E/001 OF 2016-05-26
      STATION NUMBER: 12100
      LTG  LTU  PBC/SLOT  CCT   L I N E      PHYS_LINE  SU  DI/TSI  SI  LODEN
      1T   1T   2T   2T   0T  4293T 10C5H  1481T  5C9H  0H   1H  0H   6DH
      1T   1T   2T   2T   0T  4293T 10C5H  1481T  5C9H  1H   1H  0H   6EH
      1T   1T   2T   2T   0T  4293T 10C5H  1481T  5C9H  2H   1H  0H   6FH
      1T   1T   2T   2T   0T  4293T 10C5H  1481T  5C9H  3H   1H  0H   70H
      STATION NUMBER: 12101
      LTG  LTU  PBC/SLOT  CCT   L I N E      PHYS_LINE  SU  DI/TSI  SI  LODEN
      1T   1T   2T   2T   1T  4294T 10C6H  1482T  5CAH  0H   1H  0H   71H
      1T   1T   2T   2T   1T  4294T 10C6H  1482T  5CAH  1H   1H  0H   72H
      1T   1T   2T   2T   1T  4294T 10C6H  1482T  5CAH  2H   1H  0H   73H
      1T   1T   2T   2T   1T  4294T 10C6H  1482T  5CAH  3H   1H  0H   74H
      STATION NUMBER: 12102
      LTG  LTU  PBC/SLOT  CCT   L I N E      PHYS_LINE  SU  DI/TSI  SI  LODEN
      1T   1T   2T   2T   2T  4295T 10C7H  1483T  5CBH  0H   1H  0H   75H
      1T   1T   2T   2T   2T  4295T 10C7H  1483T  5CBH  1H   1H  0H   76H
      1T   1T   2T   2T   2T  4295T 10C7H  1483T  5CBH  2H   1H  0H   77H
      1T   1T   2T   2T   2T  4295T 10C7H  1483T  5CBH  3H   1H  0H   78H
      AMO-DISPS-111      OPERATING THE DISPLAYER
      DISPLAY COMPLETED;
```

Displaying a range of circuits:

Input:

```
DISPLAY-DISPS:CIRC,1,1,2,0&&2;
```

Output:

```
H500:  AMO DISPS STARTED
      AMO DISPS VARIANT/VERSION 4A/001 OF 2014-03-07
      DISPLAYER VARIANT/VERSION 5E/001 OF 2016-05-26
      STATION NUMBER: 12100
      LTG  LTU  PBC/SLOT  CCT   L I N E      PHYS_LINE  SU  DI/TSI  SI  LODEN
      1T   1T   2T   2T   0T  4293T 10C5H  1481T  5C9H  0H   1H  0H   6DH
      1T   1T   2T   2T   0T  4293T 10C5H  1481T  5C9H  1H   1H  0H   6EH
      1T   1T   2T   2T   0T  4293T 10C5H  1481T  5C9H  2H   1H  0H   6FH
```

```

1T    1T    2T    2T    0T  4293T 10C5H  1481T  5C9H  3H    1H    0H    70H
STATION NUMBER: 12101
LTG   LTU   PBC/SLOT  CCT    L I N E      PHYS_LINE  SU  DI/TSI  SI  LODEN
1T    1T    2T    2T    1T  4294T 10C6H  1482T  5CAH  0H    1H    0H    71H
1T    1T    2T    2T    1T  4294T 10C6H  1482T  5CAH  1H    1H    0H    72H
1T    1T    2T    2T    1T  4294T 10C6H  1482T  5CAH  2H    1H    0H    73H
1T    1T    2T    2T    1T  4294T 10C6H  1482T  5CAH  3H    1H    0H    74H
STATION NUMBER: 12102
LTG   LTU   PBC/SLOT  CCT    L I N E      PHYS_LINE  SU  DI/TSI  SI  LODEN
1T    1T    2T    2T    2T  4295T 10C7H  1483T  5CBH  0H    1H    0H    75H
1T    1T    2T    2T    2T  4295T 10C7H  1483T  5CBH  1H    1H    0H    76H
1T    1T    2T    2T    2T  4295T 10C7H  1483T  5CBH  2H    1H    0H    77H
1T    1T    2T    2T    2T  4295T 10C7H  1483T  5CBH  3H    1H    0H    78H
AMO-DISPS-111

```

78.4.2 INPUT-DISPS

The action INPUT-DISPS is only used for WRITE-READ access, and cannot be entered by the user at the administration and maintenance terminal (AMT). Only the text below is displayed at the AMT as an input request to the user (the asterisk which follows the text indicates the ready state):

```

DISPLAYER-INPUT IN <processor name> PLEASE:
*

```

This output text also indicates that the AMO has successfully executed the preceding command.

The following commands are possible:

```

CMD= CHAR,CTYPE=<param>;
CMD= COPY,CTYPE=DEF,[NAME=<string>],[AREA=<param>-<param>];
CMD= COPY,CTYPE=DBL,[NAME=<string>];
CMD= DEF,CTYPE=ADR,NAME=<string>,TYPE=ADR,ADR=<hex>-<hex>;
CMD= DEF,CTYPE=ADR,NAME=<string>,TYPE=TBL,TBL=<string>
    ,IDX=<number>,DISPLACE=<number>;
CMD= DEF,CTYPE=LOGNAME,NAME=<string>,AREA=<param>
    ,LEN=<number>,IDX=<number>&&<number>;
CMD= DEL,CTYPE=DEF,[NAME=<string>],AREA=<param>;
CMD= DIST,NO=<number>;
CMD= DUMP,CTYPE=ADR,NAME=<string>,UNIT=<param>,NO=<number>;
CMD= DUMP,CTYPE=DA,ADR=<hex>,UNIT=<param>,NO=<number>;
CMD= DUMP,CTYPE=LOGNAME,NAME=<string>,IDX=<number>;
CMD= E,FILE=<string>;
CMD= END;
CMD= EV,CTYPE=D,NO=<number>;
CMD= EV,CTYPE=H,VAL=<hex>;
CMD= FILE,FILE=<string>,[NO=<number>];
CMD= LST,CTYPE=ADR,NAME=<string>,UNIT=<param>,NO=<number>;
CMD= LST,CTYPE=DA,ADR=<hex>-<hex>,UNIT=<param>,NO=<number>;
CMD= LST,CTYPE=DEF,[NAME=<string>],AREA=<param>;
CMD= LST,CTYPE=INT,TYPE=CPBH;
CMD= LST,CTYPE=INT,TYPE=BCA;

```

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```
CMD= LST,CTYPE=INT,TYPE=BCASA,SEL=HD,FILE=<string>;
CMD= LST,CTYPE=INT,TYPE=BCASA,SEL=SCREEN,[DISPLACE=<number>],
, [LEN=<number>],[CONTINUE=<param>];
CMD= LST,CTYPE=INT,TYPE=BDTYT[,BDID=<hex>];
CMD= LST,CTYPE=INT,TYPE=STA,SEL=LTG,LTG=<number>;
CMD= LST,CTYPE=INT,TYPE=STA,SEL=LTU,LTG=<number>,LTU=<number>;
CMD= LST,CTYPE=INT,TYPE=STA,SEL=BOARD,LTG=<number>,LTU=<number>,
, SLOT=<number>;
CMD= LST,CTYPE=LOGNAME,NAME=<string>,IDX=<number>;
CMD= LST,CTYPE=SW,TYPE=<param>,SEL=CIR,LTG=<number>,LTU=<number>
, SLOT=<number>,CCT=<number>[,SU=<number>,DI=<number>];
CMD= LST,CTYPE=SW,TYPE=<param>,SEL=CRF,LTG=<number>,PAR1=<number>
, PAR2=<number>;
CMD= LST,CTYPE=SW,TYPE=<param>,SEL=DTI,LTG=<number>,DTI=<number>;
CMD= LST,CTYPE=SW,TYPE=<param>,SEL=IDX,LTG=<number>,IDX=<number>;
CMD= LST,CTYPE=SW,TYPE=<param>,SEL=LN,LTG=<number>
, LN=<number>[,SU=<number>,DI=<number>];
CMD= LST,CTYPE=SW,TYPE=<param>,SEL=LODEN,LODEN=<number>;
CMD= LST,CTYPE=SW,TYPE=<param>,SEL=STNO,STNO=<key-num>,SVC=<param>;
CMD= LST,CTYPE=SW,TYPE=<param>,SEL=LTU,LTG=<number>,LTU=<number>;
CMD= LST,CTYPE=SW,TYPE=FREE,SEL=ALL,LTG=<number>;
CMD= LST,CTYPE=SW,TYPE=FREE,SEL=LNPTH,LTG=<number>;
CMD= LST,CTYPE=SW,TYPE=SZ,SEL=ALL,LTG=<number>;
CMD= LST,CTYPE=SW,TYPE=SZ,SEL=BCH;
CMD= LST,CTYPE=SW,TYPE=SZ,SEL=BUF,LTG=<number>;
CMD= LST,CTYPE=SW,TYPE=SZ,SEL=CPB;
CMD= LST,CTYPE=SW,TYPE=SZ,SEL=DEV;
CMD= LST,CTYPE=SW,TYPE=SZ,SEL=LNPTH,LTG=<number>;
CMD= P,PROCID=<param>;
CMD= PATCH,CTYPE=ADR,NAME=<string>,UNIT=<param>
, NO=<number>,VAL=<hex>;
CMD= PATCH,CTYPE=DA,ADR=<hex>,UNIT=<param>
, NO=<number>,VAL=<hex>;
CMD= PATCH,CTYPE=LOGNAME,NAME=<string>,UNIT=<param>,
, NO=<number>,VAL=<hex>,IDX=<number>,DISPLACE=<number>;
CMD= SET,CTYPE=ADR,NAME=<string>,UNIT=<param>
, NO=<number>,VAL=<hex>;
CMD= SET,CTYPE=DA,ADR=<hex>-<hex>,UNIT=<param>
, NO=<number>,VAL=<hex>;
CMD= SET,CTYPE=LOGNAME,NAME=<string>,UNIT=<param>,
, NO=<number>,VAL=<hex>,IDX=<number>,DISPLACE=<number>;
```

78.5 Working with Memory Definitions: DEF & LST,DEF & COPY & DEL & FILE

By creating memory definitions it is possible to assign meaningful names to memory locations. This makes the Displaying and Modifying of these memory locations a lot easier.

Basically memory definitions can only be used if they are stored in the AMO Work Area, which is always empty after the AMO-DISPS is started. In order to save the definitions permanent they have to be copied to other storage areas. When creating and storing memory definitions, the higher-level storage includes the lower-level storage (i.e. if AREA=HD is specified, the memory definitions are also entered in the save area of the resident Displayer task and in the AMO work area).

The Resident Task Area always contains the constant CC and GP layout element table. Those definitions are available after the command DEF,DBL.

Memory definitions are always created for the processor whose Displayer is currently being controlled by the AMO. Any memory definitions with the same name for other processors in the AMO work area or the hard disk save area are overwritten.

Blanks in memory definition names are always removed. Thus, no distinction is made between "DB_D_ CPB_TBL" and "DB_D_CPB_TBL". However, if the name consists entirely of blanks, one blank remains. An asterisk at the beginning or end of an entry of a memory definition name is regarded as a 'wildcard' character, whenever a complete, unambiguous name is not required (e.g. for the DEF command). Thus, "LST,DEF,DB_D_DH*" would list the memory contents for both DB_D_DH_DEV_TBL and DB_D_DH_LINE_TBL.

The memory address has the same format for the commands LST, SET, and DEF (ADR=<selector>-<offset>).

78.5.1 Types of Memory Definitions

- a) Physical memory definitions
These are simply predefined symbolic names (symbolic addresses), for predefined physical memory addresses.
- b) Logical memory definitions
These define the array dimensions with the start address of the table, the length of the element mode and the index range.
- c) High-level memory definitions
These are handled by the Displayer code and used with DBARs (database access routines), in some cases with the aid of the layout data modules.

78.5.2 Storage of the Memory Definitions

- 1. Layout Data Module
Each CC and LTG has a corresponding layout data module. It is used for accessing predefined memories (storage areas) in the SWU database. For each of these memories, it contains the following information:
 - 1. the memory name
 - 2. the logical data for determining the memory address

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3. the memory address itself
 4. the index range
 5. the length of the elementary mode
2. AMO Work Area
- The work area in the AMO task contains the necessary data for processing memory contents as hexadecimal files. When the AMO is started, the work area buffer is empty. Up to 400 memory definitions can be buffered.
- For processing memory contents as hexadecimal dump files, only data in the AMO work area is accessed. If necessary, the user must copy the required data from other storage areas into the work area. The AMO work area buffer can be filled by:
1. creating memory definitions
 2. copying memory definitions
 - a) from the layout data module in the processor accessed
 - b) from the save area of the resident Displayer task in the main memory of the processor accessed
 - c) from the hard disk save area
3. Resident Task Area
- A resident task area is installed in the main memory of each processor, in which a resident Displayer task is installed. It allows restart-safe storing of memory definitions. Up to 50 memory definitions can be saved.
- The resident task area buffer can be filled by:
1. creating memory definitions
 2. copying memory definitions
 - a) from the AMO work area
 - b) from the hard disk save area
4. Hard Disk Backup Area
- The user can assign a file on the hard disk as a save area for reload-safe storage of memory definitions.
- The hard disk save area can be filled by:
1. creating memory definitions
 2. copying memory definitions
 - a) from the AMO work area
 - b) from the save area of the resident Displayer task in the main memory of the processor accessed

78.5.2.1 DEF: Creating Memory Definitions

Users can create physical and logical memory definitions. The main difference is that for logical memory definitions an array structure must also be defined in addition to the storage address.

Physical memory definitions are used as descriptive symbols for storage addresses, and are intended for repeated use. They are assigned a Dummy Array structure (index range 0 to 0, element length 65535 Bytes), and are entered in the AMO administration area.

Logical memory definitions are used for addressing a storage location as an array, and accessing individual elements.

A created logical memory address can be stored in the AMO work area (available only during AMO execution), or in the save area of the resident task, or in a hard disk save area. Created physical memory addresses can only be stored in the AMO work area.

Command Syntax

- Defining the Address by specifying the Selector and Offset

```
DEF,ADR,name,ADR,selector-offset;
```

The selector and offset must be entered as hexadecimals.

- Defining the Address by specifying the Memory Location

```
DEF,ADR,name,TBL,table name,index,offset;
```

The "pointer offset" is the position of the read pointer relative to the beginning of the array element.

- Defining the Array Structure and the Storage Locations

```
DEF,LOGNAME,name,area,element  
length,minimalindex&&maximalindex;
```

The following entries are permitted for the storage locations: AMO, HD and RES

Examples

The user wants to create an address symbol for the initial entry in the trace buffer of the message tracer. In accordance with the structure of the entries in the trace buffer, the address of the second entry can be found four bytes further on.

Input:

```
*def,adr,entry1,adr,3cf0-099c;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

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```
*def,adr,entry2,tbl,entry1,0,4;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

The following command creates a logical memory definitions from an address symbol. In the example an array structure has been assigned to the trace buffer of the message tracer from the second entry on, with the range of elements numbered from 1 to 25. One element is 30 Bytes long (=length of a standard entry for OS messages).

Input:

```
*def,logname,entry2,amo,30,1&&25;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

78.5.2.2 LST,DEF: Listing Memory Definitions

Command Syntax

```
LST,DEF, [name], area;
```

The name may also be partially qualified by entering an asterisk at the beginning and/or the end of the text string. This is interpreted as a wildcard symbol. If no name or partial name is entered all memory definitions are listed.

The following storage areas can be specified: AMO, HD and RES.

Example

In connection with the example given above the user wants to display all memory definitions in the AMO Work Area.

Input:

```
*lst,def,,amo;
```

Output:

```
DEFINITIONS IN AMO DISPS
```

NAME	SEL	OFF	ELEM_L	MIN_I	MAX_I	PID
ENTRY1	3CF0H	099CH	FFFFH	0H	0H	BPA
ENTRY2	3CF0H	09BAH	1EH	1H	19H	BPA
DISPLAYER-INPUT IN BPA PLEASE:						

Description of the Headers:

NAME	Name of the defined memory
SEL	Selector of the defined memory
OFF	Offset of the defined memory

ELEM_L	Element length of the defined memory
MIN_I	Minimum index of the defined memory
MAX_I	Maximum index of the defined memory
PID	Processor identification of the defined memory

78.5.3 COPY: Copying Memory Definitions

The memory addresses can be copied from their respective storage locations into the AMO work area during AMO execution, into the save area of the resident Displayer task, or into the hard disk save area.

Note

When copying logical memory definitions from a layout data module for memories with more than one data blocks, the additional memory blocks are marked with a "#" followed by a 2-digit block number appended to the memory name.

The functions "copy" and "lst,def" are intended only for those memory blocks that actually have a physical memory area. Flexama memories without a valid memory address may exist in the layout data modules, but they are not displayed to the user.

Command Syntax

- Copying the Layout Data Module into the AMO Work Area

```
COPY,DBL,[name];
```

If the name is missing all memory definitions are going to be copied.

- General Procedure for Copying between Storage Areas

```
COPY,DEF,[name],[source area-target area];
```

The default setting is for copying from the resident task backup area to the AMO work area (RES-AMO).

Examples

The user wants to copy all memory definitions, which contain the string "CP_DEV" as part of their table name, from the Layout Data Module in Base Processor A to the AMO Work Area.

Input:

```
*copy,dbl,*cp_dev*;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

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```
*lst,def,,amo;
```

Output:

```
DEFINITIONS IN AMO DISPS

NAME                                SEL    OFF    ELEM_L  MIN_I  MAX_I  PID
DB_D_CP_DEV_STATE                  34A0H  DEDAH    1H      0H     7FFH  BPA
DB_D_CP_DEV_STATUS                  34A0H  CEDAH    2H      0H     7FFH  BPA
DB_D_CP_DEV_TBL_EXT_ATN 01 0000H  0000H   56H     0H      0H  BPA
DB_D_CP_DEV_TBL_EXT_ATND           3490H  BF28H   56H     0H     C0H  BPA
DB_S_CP_DEV_STATUS                  34C0H  5170H    2H      0H     7FFH  BPA
DB_S_CP_DEV_TBL_APSE_PSM           15A0H  OCC1H   41H     0H      2H  BPA
DB_S_CP_DEV_TBL_TMA_VERB           34E8H  D89CH   17H     0H     6EH  BPA
DB_S_CP_DEV_TYPE                    34C0H  4970H    1H      0H     7FFH  BPA
DISPLAY-INPUT IN BPA  PLEASE:
```

The user wants to copy every memory definition, which ends with the string "STATUS", from the AMO Work Area to the resident Task Area.

Input:

```
*copy,def,*status,amo-res;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*lst,def,,res;
```

Output:

```
DEFINITIONS DISPLAYER

NAME                                SEL    OFF    ELEM_L  MIN_I  MAX_I  PID
CC-LAYOUT-ELEMENT-TABLE           1568H  0792H    2FH     0H     C6H  BPA
GP-LAYOUT-ELEMENT-TABLE           6960H  043CH    2FH     0H    30H  BPA
DB_D_CP_DEV_STATUS                  34A0H  CEDAH    2H      0H     7FFH  BPA
DB_S_CP_DEV_STATUS                  34C0H  5170H    2H      0H     7FFH  BPA
DISPLAY-INPUT IN BPA  PLEASE:
```

78.5.4 DEL: Deleting Memory Definitions

Memory definitions are deleted in order to create free storage space in the corresponding storage location.

The AMO work area is automatically cleared when the AMO DISPS is terminated.

Command Syntax

```
DEL,DEF,[name],area;
```

78.5.5 FILE: Assigning a File as a Hard Disk Backup Area

This file is used to store the memory definitions transferred to the hard disk backup area with COPY command or the DEF command.

Using the hard disk backup area not only ensures that the memory definitions are reload-safe, but also has the advantage of enabling memory definitions to be copied onto a portable data medium (e.g. cartridge) for use in other systems, by simply copying the file.

Command Syntax

```
FILE,filename,[number];
```

The specified filename must be valid within the system.

If the number of memory definitions to be stored is specified in this command, the AMO assumes that the file does not yet exist, and attempts to create it with the specified size. The number of memory definitions to be stored does not need to be exact, since the file is dynamically expanded if necessary.

If no number is entered, the AMO assumes that the file already exists. In this case the AMO opens the file and the number of memory definitions it contains is listed.

If a file with the same name is already assigned for processing (with the DUMP or PATCH command), it cannot be opened a second time. In this case the AMO will respond with the error message F16. However users are permitted to use the FILE-command to repeatedly open different files for subsequent processing during the same displayer dialog.

Example

Input:

```
*file,:dbd:els/defsav1;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

The specified file already exists. Otherwise an error message would have been displayed.

78.6 Displaying and Modifying of Memory Contents: LST & SET

78.6.1 LST,ADR/DA/LOGNAME: Listing Memory Contents without High-Level Access

When using logical memory definitions, the output is always in bytes. In all other cases, the user can choose between output in bytes (BYTE), word output (WORD) or double-length (double-precision) word output (DWORD).

Command Syntax

- Output using an Address Symbol
`LST,ADR,name,outputstyle,number;`
The number of memory units to be displayed must be entered in decimal form.
- Output using a Direct Address
`LST,DA,selector-offset,outputstyle,number;`
Selector and Offset must be entered as hexadecimal numbers, separated by a hyphen.
The number of memory units to be displayed must be entered in decimal form.
- Output using a logical Memory Definition
`LST,LOGNAME,name,indices;`
The indices must be entered in decimal form; either linked single values or index ranges are permitted.

Examples

Input:

```
*copy,dbl,db_d_cp_logical_dev_tbl;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

The user wants t display the device-memory for Loden 2 and 5.

Input:

```
*lst,logname,db_d_cp_logical_dev_tbl,2&5;
```

Output:

```
TABLE: DB_D_CP_LOGICAL_DEV_TBL
INDEX: 0002H      ADDRESS: 3E20H:006EH
CONTENTS HEX                                     (ASCII)
0 ( 0) 0000000000000000 00000082600F0002 .....
```

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```
10( 16) 0002000000020000 0001A40000000000 .....
20( 32) 0000000000000000 000100F4F40000 .....
TABLE: DB_D_CP_LOGICAL_DEV_TBL
INDEX: 0005H ADDRESS: 3E20H:00FBH
CONTENTS HEX (ASCII)
0( 0) 0000000000000000 0000009F600F0005 .....
10( 16) 0005000000050000 0001A40000000000 .....
20( 32) 0000000000000000 000100F4F40000 .....
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*def,adr,sgl_dev2,adr,3e20-007d;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

It is assumed that a call from the number 2101 (Loden 2) to number 1204 (Loden 5) is made. The user wants to check whether the reference indices in the component SINGLE_DEV (FLAG_REFER, FORWRD_LINK, ACTUAL_CPB_IDX, BACKWARD_LINK, BACKGROUND_CPB_IDX) are plausible.

Input:

```
*lst,adr,sgl_dev2,adr,3e20-007d;
```

Output:

```
TABLE: SGL_DEV2
ADDRESS: 3E20H:007DH
CONTENTS HEX (ASCII)
0( 0) 0002 0005 0003 0005 0003 .....
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*lst,da,3e20-10a,word,5;
```

Output:

```
ADDRESS: 3E20H:010AH
CONTENTS HEX (ASCII)
0( 0) 0002 0002 0003 0002 0003 .....
DISPLAYER-INPUT IN BPA PLEASE:
```

Therefor the reference indices are plausible.

78.6.2 LST,INT/SW: Displaying of Memory Contents with High-Level Access

In the high-level access mode, the user defines various output types (pre-defined in the MML interface) for memory definitions, or specifies groups of related memory contents.

If a selection of certain memory-elements is expected, this takes place by user-orientated terms (station number, loden, ..).

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technical Notes

When using high-level memory definitions for displaying call processing memories, the DISPLAYER on principle always shows the memory content of the corresponding 'active' processor. That means, it is not possible during a DISPS-connection with a processor in 'standby'-state, to output its memories using the high-level memory access. Since the addresses of memories are identically in a 'standby'- and an 'active'-Processor, it is possible to use the existing logical memory definition to output the data. This function remains in the current connected processor!

Status data (LST,SW,STA,..?) is output in words.

The output of device memories (DH and CP) for S0-bus stations is done with an other concept as for normal ports. The reason is, that a S0-bus port may have up to 8 terminal devices arranged. As normally the position (=DI) of a terminal device on S0-bus is unknown to the user, therefore this value is handled like a SERVICE INDICATOR (values see Abschnitt 78.9 parameter 'DI'). In this case the DISPS puts out the position (TSI) and the device memories of ALL terminal devices which correspond to the given service. The TSI (terminal selection identifier) defines the physical position of a terminal device at the S0-bus. This method is only necessary if the user take circuit (CIR) or line address (LN), because in this cases a device is not addressed definitely. LODEN, STNO, CRF and DTI input select exactly one device and produce only an output of the device memories belonging to it! The LODEN of the terminal devices can be determined with the command LST,SW,LODEN,CIR/LN,... and thereby the position (see column DI/TSI) is also shown.

Functional terminal devices on S0-bus need additional to the fix available device memories some special, with a dynamic LODEN addressable, dynamic device memories. It is necessary for running parallel transactions, and only usable during the connection exist. In the output it is identified with CRI (call reference internal). By existing connection at first the fix available device memories (TSI) are put out and subsequently if need be, the dynamic allocated device memories (CRI) follow.

Command Syntax

- Output for the Integration Test Team
 - Output of the Boot Communication Area

```
LST,INT,BCA;
```
 - Output of the Backup Area of the Boot Communication Area

```
LST,INT,BCASA,HD,filename;
LST,INT,BCASA,SCREEN,[offset],[length],[continue];
```


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A filename, which is not already existing, has to be entered. Otherwise the command will be rejected with error message F29. This way an unintentional deleting of files is prevented.

Offset is the number, from which on the BCA-backup area should be displayed.

Length is the number of Bytes to be displayed. The AMO always interrupts after 2000 Bytes the output and gives the user the opportunity to terminate the function.

- Output of module data for PIT

```
LST,INT,BDITYT,[module_id];
```

The module-ID is a value of type DB_M_BG_KENNUNG_RNG and is to be entered as a hexadecimal number. If this is left out, the AMO displays the data of all existing modules.

- Output of the CPB-Pool-Header

```
LST,INT,CPBH;
```

- Output of the status-data for DC and PTI

```
LST,INT,STA,LTG,ltg_number;
```

```
LST,INT,STA,LTU,ltg_number,ltu_nummer;
```

```
LST,INT,STA,BOARD,ltg_number,ltu_nummer,mounting_slot;
```

- Output for Switching Process

```
LST,SW,outputtype,addressingtype,...
```

Just certain combinations of outputtype and addressingtype are valid. If an invalid combination is entered the input is rejected and the error message F15:"INPUT FOR "TYPE" AND "SEL" INCONSISTENT" occurs. Which combinations actually are valid can be seen in Abschnitt 78.9 (parameter SEL).

Examples

The user wants to display the module data for the module TMBC (modul_identity: 30H).

Input:

```
*lst,int,bdityt,30;
```

Output:

```
TABLE: DB S SWU PER BG TYP TBL
INDEX: 0009H - ADDRESS: 50E8H:03AEH
CONTENTS HEX (ASCII)
0 ( 0) 013000001B3A5044 533A415053502F4C
.0...:PDS:APSP/L
10 ( 16) 54472F4C4731312F 505A47544D424330 TG/LG11/
PZGTMBC0
20 ( 32) 2020202020000120 20202020202020 ..
30 ( 48) 2020202020202020 2020202020202020
```

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```
40( 64) 20202020202000 5801000000010A00
.X.....
50( 80) 0003
DISPLAYER-INPUT IN BPA PLEASE: ..
```

The user wants to display the status-data for DC (device control) and PIT (peripheral initialization task) up to module level.

Input:

```
*lst,int,sta,board,1,1,25;
```

Output:

```
LTG: 1T    LTG-A STATUS: 1000H    LTG-B STATUS: 1000H
LTU: 1T    LTU STATUS: 1000H
SLOT: 025T  BOARD-TYPE: 01H    BOARD STATUS: 1000H    CIRCUITS:
04T
      CCT   LINE   CCT STATUS   LINE-CONN
      00T   002AH   1000H      04H
      01T   002BH   1000H      04H
      02T   002CH   1000H      04H
      03T   002DH   1000H      04H
DISPLAYER-INPUT IN BPA PLEASE:
```

The user wants to display the status of all available subunits of the station number 3100 for the service VOICE.

Input:

```
*lst,sw,sta,stno,3100,vce;
```

Output:

```
LTG: 01H
LINE: 0000H
CIRCUIT STATUS: 8H

AVAILABLE DEVICE (SUBUNIT) STATES
  MAIN    SU0   : 8H
  FGND    SU1   : 6008H
           SU2   : 8H
  CHECK   SU3   : 8H
DISPLAYER-INPUT IN BPA PLEASE:
```

Output of all device memories which are involved into a S0-bus connection between a SET700 device (S0-Bus with Cornet-T) and a functional VOICE device after call setup (! device memories for dynamic call reference !)

Input:

```
*LST,SW,DCLDC,STNO,3770,VCE;
```

Output:

```
LINKS OF THE CONCERNED DEVICES (HEXADECIMAL),
FROM THE CURRENT DEVICE ON PER THE FORWARD LODEN:
INDEX: 01D1H    ADDRESS: 5158H:F781H
FORWARD    LODEN:      8002      48A
BACKWARD    LODEN:      8002      48A
ACTUAL      CPB INDEX: 2
```

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```

BACKGROUND   CPB INDEX:  2
TABLE: DB_S_CP_DEV_TYPE
INDEX: 048AH ADDRESS: 5158H:FA3AH
CONTENTS HEX                                     (ASCII)
 0(   0) 1F                                     .
TABLE: DB_D_CP_DEV_STATE
INDEX: 048AH ADDRESS: 5260H:0ECEH
CONTENTS HEX                                     (ASCII)
 0(   0) 4C                                     L
TABLE: DB_D_CP_DEV_STATUS
INDEX: 048AH ADDRESS: 52A8H:F226H
CONTENTS HEX                                     (ASCII)
 0(   0) 08C00800                               ....
TABLE: DB_D_CP_LOGICAL_DEV_TBL
INDEX: 048AH ADDRESS: 5250H:730AH
CONTENTS HEX                                     (ASCII)
 0(   0) 0001010CFFFF0000 FFFF0000F4F4F4F4 .....
10(  16) 0304000000F13802 0000000000000000 .....8.....
      .
      .
      .
B0( 176) F4F4F4F4F4F4F4F4 F4F4F4F4F4F4F4F4 .....
C0( 192) F4F4
      ..
TABLE: DB_S_CP_DEV_TYPE
INDEX: 01D1H ADDRESS: 5158H:F781H      <----- physical LODEN of device
CONTENTS HEX                                     (ASCII)
 0(   0) 2F                                     /
TABLE: DB_D_CP_DEV_STATE
INDEX: 0002H ADDRESS: 52B0H:0024H      <----- dynamic LODEN of device
CONTENTS HEX                                     (ASCII)
 0(   0) 43                                     C
TABLE: DB_D_CP_DEV_STATUS
INDEX: 0002H ADDRESS: 5290H:0B38H
CONTENTS HEX                                     (ASCII)
 0(   0) 00000000                               ....
TABLE: DB_D_CP_LOGICAL_DEV_TBL
INDEX: 0002H ADDRESS: 5278H:A5D0H
CONTENTS HEX                                     (ASCII)
 0(   0) 0001030CFFFF0000 FFFF0000FFFF0000 .....
10(  16) 0300000000000000 0000000000000000 .....
      .
      .
      .
B0( 176) F4F4F4F4F4F4F4F4 F4F4F4F4F4F4F4F4 .....
C0( 192) F4F4
      ..
TABLE: DB_D_CPB_TBL
INDEX: 0002H ADDRESS: 52A0H:06A6H
CONTENTS HEX                                     (ASCII)
 0(   0) 0100000100000000 008A040004030707 .....
10(  16) 0000000F0F0F0F0F 0F0F0F0F0F0F0F0F .....
      .
      .
      .
260( 608) 0000000000000000 0000000000000000 .....
270( 624) 0000000000000000
      ..
DISPLAYER-INPUT IN BPA PLEASE:

```

The user wants to display all free facilities.

Input:

```
*lst,sw,free,all,1;
```

Output:

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```
FREE   LINE PATHS           : 2DDH
DISPLAYER-INPUT IN BPA     PLEASE:
```

The user wants to display all seized facilities.

Input:

```
*lst,sw,sz,all,1;
```

Output:

```
SEIZED POOL BUFFERS DH           : 1H
SEIZED POOL BUFFERS PP (CMD)     : 0H
SEIZED POOL BUFFERS PP (EVT)     : 0H
SEIZED POOL BUFFERS CP           : 0H
SEIZED B CHANNELS                : 0H
SEIZED CALL PROCESSING BUFFERS: 0H
SEIZED DEVICES                   : DCH
SEIZED LINE PATHS                : 21H
DISPLAYER-INPUT IN BPA     PLEASE:
```

78.6.3 SET: Modifying Memory Contents

In order to help avoid typing errors, the number of new values entered must correspond to the number of memory units to be changed. In addition the length of the new values must exactly correspond to the memory output option selected (e.g. a 2-digit hexadecimal number if BYTE was selected).

Command Syntax

The number of memory units to be changed must be entered in decimal form.

The new values must be entered as hexadecimal numbers and separated by hyphens.

The input can be made in BYTE-, WORD- oder DWORD-format.

- Modification using an Address Symbol

```
SET,ADR,name,input,number,values;
```

- Modification using a Direct Address

```
SET,DA,selector-offset,input,number,values;
```

The selector and offset must be entered as hexadecimal numbers and separated by hyphens.

- Modification using a logical Memory Definition

```
SET,LOGNAME,name,input,number,values,indices,offset;
```

The indices of the array elements concerned must be entered in decimal form; either linked single values or index ranges are permitted.

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The offset of the memory area to be changed must be entered in decimal form; it is the displacement of the pointer relative to the beginning of the array element.

Example

The user wants to change a memory entry from 12345678 to BADEAFFE. The address of the memory is e36f:0f00, the length of one element is 8 and the offset of the device type relative to the beginning of the third element is 2.

Input:

```
*def,adr,korr_elem,adr,e36f-0f10;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*lst,adr,korr_elem,byte,8;
```

Output:

```
TABLE: KORR_ELEM                ADDRESS: 3E20H:00FBH
CONTENTS HEX                      (ASCII)
0(      0) 0000123456780000      ...4Vx..
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*set,adr,korr_elem,byte,6,00-00-ba-de-af-fe;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*lst,adr,korr_elem,byte,8;
```

Output:

```
TABLE: KORR_ELEM                ADDRESS: 3E20H:00FBH
CONTENTS HEX                      (ASCII)
0(      0) 0000BADEAFFE0000      .....
DISPLAYER-INPUT IN BPA PLEASE:
```

78.7 Displaying and Modifying of File Contents: E & DUMP & PATCH

78.7.1 E: Assigning a File for processing the File Contents

Files which are to be processed with the DUMP command or PATCH command have to be assigned first by using this command.

If a file with the same name has already been assigned as a hard disk backup area, it cannot be opened a second time. In this case the displayer AMO will respond with the error message F16. However users are permitted to use the E-command to repeatedly open different files for subsequent processing during the same displayer dialog session.

Command Syntax

`E, filename;`

The specified file must already exist.

78.7.2 DUMP: Listing File Contents

The file whose contents are to be listed must first be assigned with the E command.

The addresses, which are implemented in the memory definitions are interpreted as 4-Byte Integers, which define the displacement of the data to be output relative to the beginning of the file. The same applies to the addresses output with the LST command.

When using logical memory definitions, the output is always in bytes. In all other cases the user can choose between output in bytes (BYTE), word output (WORD) or double-length (double-precision) word output.

Command Syntax

- Output using an Address Symbol

`DUMP, ADR, name, output, number;`

The number of memory units to be output must be entered in decimal form.

- Output using a Direct Address (Pointer Offset/Displacement)

`DUMP, DA, offset, output, number;`

The pointer offset must be entered in hexadecimal form, whereas the number of memory units to be output must be entered in decimal form.

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Displaying and Modifying of File Contents: E & DUMP & PATCH

- Output using a logical Memory Definition

```
DUMP,LOGNAME,name,indices;
```

The indices must be entered in decimal form; either linked single values or index ranges are permitted.

Example

It is assumed that the HD saved memory definitions are stored in the file defsav1. The user wants to list the first two memory definitions.

Input:

```
*e,:dbdb:els/defsav1;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*def,adr,entry_tbl,adr,0-0;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*def,logname,entry_tbl,amo,37,1&&2;
```

Output:

```
DISPLAYER-INPUT IN BPA PLEASE:
```

Input:

```
*dump,logname,entry_tbl,1&&2;
```

Output:

```
TABLE: ENTRY_TBL
INDEX: 0000H          ADDRESS: 0000H:0000H
CONTENTS HEX                                     (ASCII)
 0(   0) 44425F445F43505F 4445565F53544154 DB_D_CP_DEV_STAT
10(  16) 4520202020202020 2020DADEA0340100 E      ...4..
20(  32) 0000FF0700                                     .....
INDEX: 0001H          ADDRESS: 0000H:0025H
CONTENTS HEX                                     (ASCII)
 0(   0) 44425F445F43505F 4445565F53544154 DB_S_CP_DEV_STAT
10(  16) 5553202020202020 20207051C0340200 US      pQ.4..
20(  32) 0000FF0700                                     .....
DISPLAYER INPUT IN BPA PLEASE:
```

78.7.3 PATCH: Changing File Contents

This feature is not intended to replace the functions of the AMO PATCH. The displayer does not use memory address in order to change the appropriate memory area on the hard disk; in fact for the purpose of this displayer function it is irrelevant whether the file to be processed corresponds to any memory locations on the hard disk at all.

The file whose contents are to be modified must first be assigned with the E command.

In order to help avoid typing errors, the number of new values entered must correspond to the number of memory units to be changed. In addition the length of the new values must exactly correspond to the memory output option selected (e.g. a 2-digit hexadecimal number if BYTE was selected).

Command Syntax

The number of memory units to be changed must be entered in decimal form. The new values must be entered as hexadecimal numbers and separated by hyphens.

- Modification using an Address Symbol

```
PATCH,ADR,name,input,number,values;
```

- Modification using a Direct Address

```
PATCH,DA,offset,input,number,values;
```

The offset must be entered as hexadecimal numbers.

- Modification using a logical Memory Definition

```
PATCH,LOGNAME,name,input,number,values,indices,offset;
```

The indices of the array elements concerned must be entered in decimal form; either linked single values or index ranges are permitted.

The offset of the memory area to be changed must be entered in decimal form; it is the displacement of the pointer relative to the beginning of the array element.

Example

In connection with the DUMP-example given above the user wants to correct the address of the second memory from 34C0:5170 to 34A0:CEDA.

Input:

```
*patch,logname,entry_tbl,dword,1,34a0ceda,1,1a;
```

Output:

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DISPLAYER-INPUT IN BPA PLEASE:

Input:

```
*dump,logname,entry_tbl,1&&2;
```

Output:

```
TABLE: ENTRY_TBL
INDEX: 0000H          ADDRESS: 0000H:0000H
CONTENTS HEX
  0(  0)  44425F445F43505F  4445565F53544154  DB_D_CP_DEV_STAT
 10( 16)  4520202020202020  2020DADEA0340100  E      ...4..
 20( 32)  0000FF0700                .....
INDEX: 0001H          ADDRESS: 0000H:0025H
CONTENTS HEX
  0(  0)  44425F445F43505F  4445565F53544154  DB_S_CP_DEV_STAT
 10( 16)  5553202020202020  2020DACEA0340200  US      pQ.4..
 20( 32)  0000FF0700                .....
DISPLAYER INPUT IN BPA  PLEASE:
```

The correction was successfully completed.

Notes

- If the user switches over to access the displayer of another processor, and specifies this processor according to its status (e.g. active base processor), the connection, once established, is maintained even if the Hicom system switches processors. In other words, if a connection is established to base processor B (being the active processor at the time of the AMO switchover), then the user remains with this processor even when it is switched to standby operation. The user sees which processor he is currently accessing with the aid of the input request message.
- The default setting for output of numbers by the AMO is "H" (hexadecimal); in other cases, the numbers are explicitly assigned the suffix "T" for decimal.
- Until otherwise specified after the AMO has been started, hexadecimal dump format is always displayed with the corresponding ASCII characters (branch CHAR) and not interspersed with empty lines (branch DIST).
- Memory definitions are always created for the processor whose displayer is currently being controlled by the AMO. Any memory definitions with the same name for other processors in the AMO work area or the hard disk save area are overwritten.
- The addresses and index ranges of the CC and GP layout element table are re-initialized each time the AMO is started and for each processor switchover, and remain constant for the duration of the linkup to the processor.

DISPS - Operation of the Displayer in the SWU

Displaying and Modifying of File Contents: E & DUMP & PATCH

- f) Unless otherwise specified, the layout element tables of the layout data modules (CC layout data module or LTG layout data module) are stored as logical memory definitions in the resident task area of the processor being accessed. This allows the user to enter new Flexama memories in the layout element tables which can then be copied from their appropriate layout data module as memory definitions for the next AMO run or processor switchover. These two memory definitions always occupy the first two places in the resident save area and cannot be changed.
- g) When copying logical memory definitions from a layout data module for memories with more than one data blocks, the additional memory blocks are marked with a "#" followed by a 2-digit block number appended to the memory name. The functions "copy" and "lst,def" are intended only for those memory blocks that actually have a physical memory area. Flexama memories without a valid memory address may exist in the layout data modules, but they are not displayed to the user.
- h) The allocation of an address to a memory definition (DEF,ADR,..?) is only executed in the AMO work area. By following up with a DEF command (DEF,LOGNAME,..?) or a COPY comand (COPY,DEF,..?), the allocation can be transferred to other areas.
- i) When creating and storing memory definitions, the higher-level storage includes the lower-level storage (i.e. if AREA=HD is specified, the memory definitions are also entered in the save area of the resident displayer task and in the AMO work area).
- j) After assigning a filename for storing memory definitions on the hard disk, the file is not created until the estimated number of memory descriptions to be stored is specified (otherwise the file will be regarded as created and will be opened). The file is expanded as necessary (dynamically).
- k) Blanks in memory definition names are always removed. Thus, no distinction is made between "DB_D_ CPB_TBL" and "DB_D_CPB_TBL". However, if the name consists entirely of blanks, one blank remains.
- l) An asterisk at the beginning or end of an entry of a memory definition name is regarded as a 'wildcard' character, whenever a complete, unambiguous name is not required (e.g. for the DEF command). Thus, "LST,DEF,DB_D_DH*" would list the memory contents for both DB_D_DH_DEV_TBL and DB_D_DH_LINE_TBL.

- m) When using high-level memory definitions for displaying call processing memories (e.g. LST,SW,<DCLD/SCLD/....>,...), the DISPLAYER on principle always shows the memory content of the corresponding 'active' processor. That means, it is not possible during a DISPS-connection with a processor in 'standby'-state, to output its memories using the high-level memory access. Since the addresses of memories are identically in a 'standby'- and an 'active'-Prozessor, it is possible to use the existing logical memory definition to output the data. This function remains in the current connected processor!
- n) When processing file contents, the "address" shows the position in the file with respect to the start of the file (offset).
- o) Status data (LST,SW,STA,..?) is output in words.
- p) When displaying the save area of the boot communication area (BCASA) on the operator console (SEL=SCREEN) is requested, the AMO interrupts the output after every 2000 bytes, giving the operator the opportunity to abort the function. The reason is the large size of the BCA, with approximate 48 kbyte. The output order to a hard disk file takes the full size of the BCASA. Each command needs a new file name. This prevents inadvertent overwriting of data, in a file that already exists (see message F29).
- q) The memory address has the same format for the commands LST, SET, and DEF (ADR=<selector>-<offset>).
- r) The module identification is required in order to output the module data of a particular peripheral module. If the module-ID is missing, the AMO outputs the data of all peripheral modules in the system configuration.
- s) The output of device memories (DH and CP) for S0-bus stations is done with an other concept as for normal ports. The reason is, that a S0-bus port may have up to 8 terminal devices arranged. As normally the position (=DI) of a terminal device on S0-bus is unknown to the user, therefore this value is handled like a SERVICE INDICATOR (values see chapter 0.1.4 parameter 'DI'). In this case the DISPS puts out the position (TSI) and the device memories of ALL terminal devices which correspond to the given service. The TSI (terminal selection identifier) defines the physical position of a terminal device at the S0-bus. This method is only necessary if the user take circuit (CIR) or line address (LN), because in this cases a device is not addressed definitely. LODEN, STNO, CRF and DTI input select exactly one device and produce only an output of the device memories

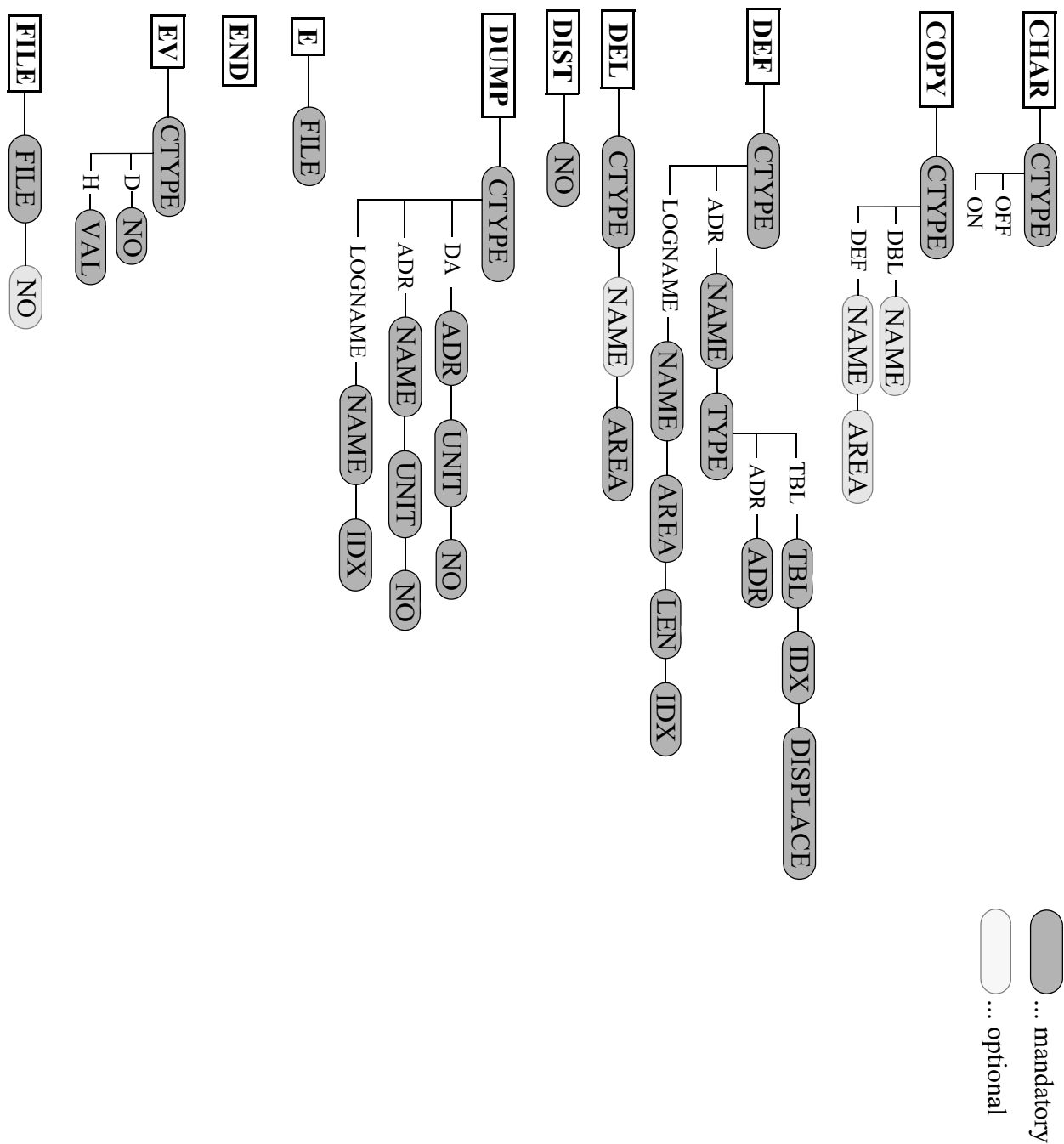
DISPS - Operation of the Displayer in the SWU

Displaying and Modifying of File Contents: E & DUMP & PATCH

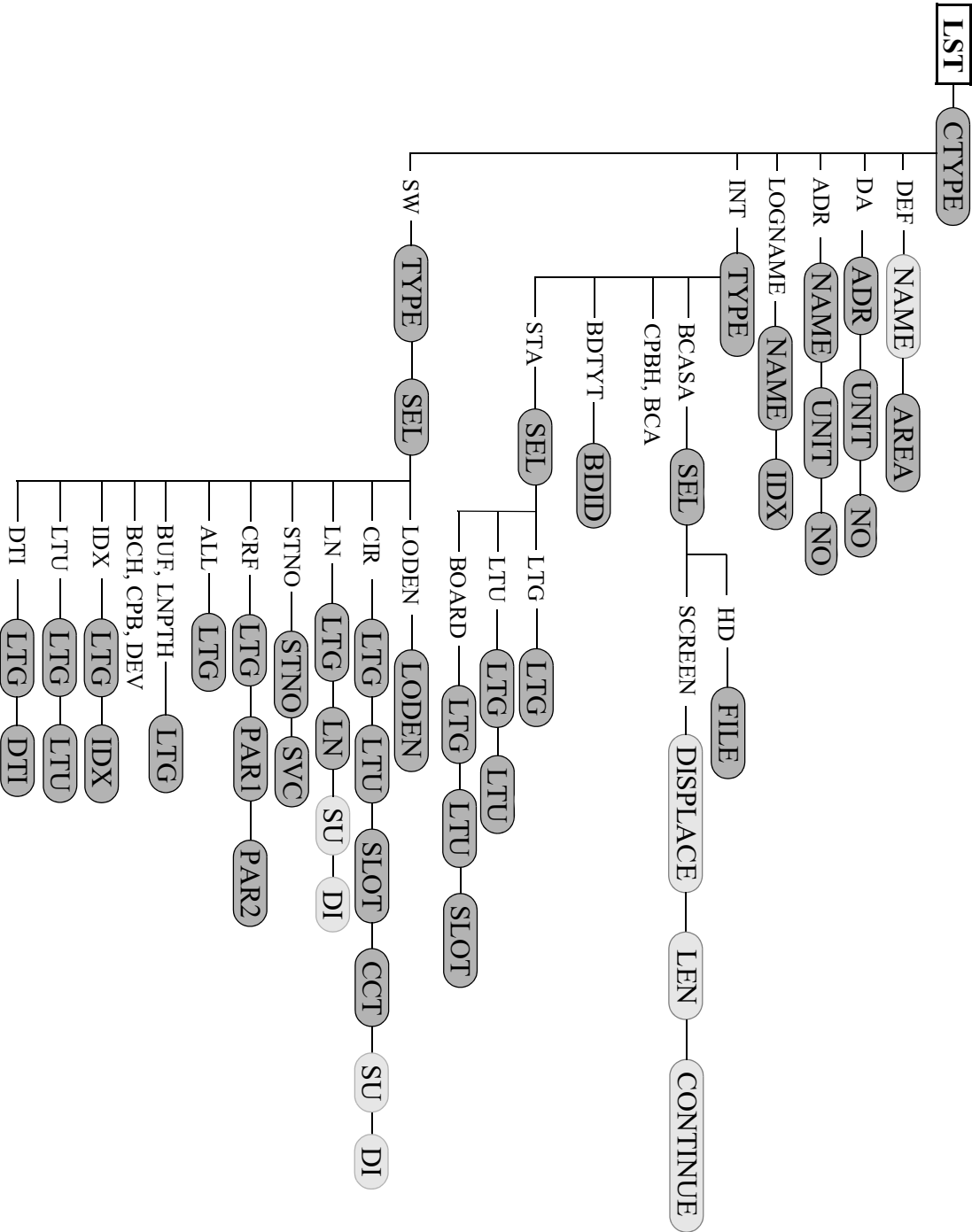
belonging to it! The LODEN of the terminal devices can be determined with the command LST,SW,LODEN,CIR/LN,.... and thereby the position (see column DI/TSI) is also shown.

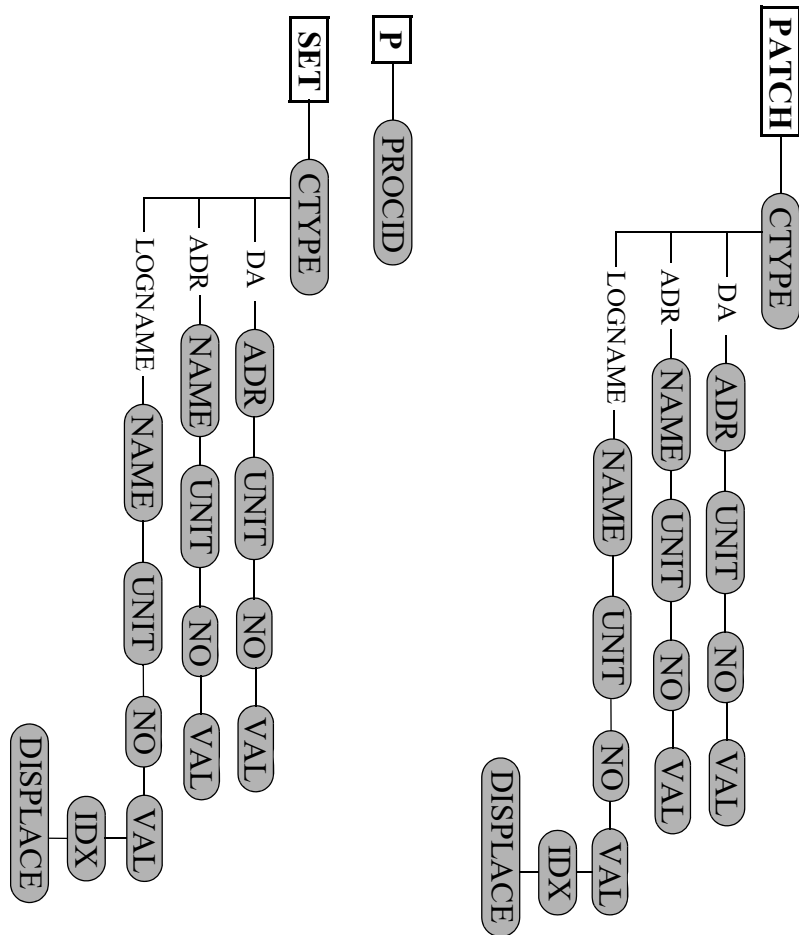
- t) Functional terminal devices on S0-bus need additional to the fix available device memories some special, with a dynamic LODEN addressable, dynamic device memories. It is necessary for running parallel transactions, and only useable during the connection exist. In the output it is identified with CRI (call reference internal). By existing connection at first the fix available device memories (TSI) are put out and subsequently if need be, the dynamic allocated device memories (CRI) follow.

78.8 Parameter Tree



DISPS - Operation of the Displayer in the SWU
Parameter Tree





78.9 Parameter Description

ADR Used in commands: DEF, DUMP, LST, PATCH SET;
address (selector and offset) or distance with regard to beginning of file

Type of Input : For DEF, LST, SET:
 2 linked single values, mandatory
 For DUMP, PATCH:
 Single value, mandatory

Possible Values : For DEF, LST, SET:
 Hexadecimals, 0000 - FFFF (e.g. 3BF0-387)
 For DUMP, PATCH:
 Hexadecimals 00000000 - FFFFFFFF

AREA Used in commands: COPY, DEF, DEL, LST;
areas for which the command is valid

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Parameter Description

	Type of Input	: For DEF, DEL, LST: Single value, mandatory For COPY: 2 linked single values, optional (default value: RES-AMO)
	Possible Values	: ALL all areas (DEL only) AMO AMO work area HD hard disk save area RES resident save area of task
BDID	Used in command: LST; defines the module ID of a peripheral module	
	Type of Input	: Single value, optional
	Possible Values	: Hexadecimal number 0 - FFF
CCT	Used in command: LST; Circuit number (=CirCuiT)	
	Type of Input:	Single value, mandatory
	Possible Values:	0 - 255
CMD	Branch parameter, defines the Displayer commands	
	Type of Input	: Single value, mandatory
	Possible Values	: CHAR character output COPY copy DEF define DEL delete DIST distance between lines DUMP dump file contents E file for editing END end EV evaluate FILE file for saving definitions LST list memory contents P processor PATCH patch file contents SET set memory contents (See Functional Overview for explanation)

CONTINUE	Used in command: LST; defines whether or not output is to be continued after 2000 byte	
Type of Input	: Single value, optional	
Possible Values	: Y N	YES - Continue output NO - Abort output
Default Value	: Y	
CTYPE	Used in commands: CHAR, COPY, DEF, DEL, DUMP, EV, LST, PATCH, SET; defines the command interpretation more precisely (= Command TYPE).	
Type of Input	: Single value, mandatory	
Possible Values	: For CHAR:	
	OFF	ASCII characters off
	ON	ASCII characters on
	For COPY:	
	DBL	Copy the database layout data
	DEF	Copy the memory definitions from the storage location specified
	For DEF:	
	ADR	The definition is executed with a symbolic address
	LOGNAME	The definition is executed with a logical memory definition
	For DEL:	
	DEF	Delete memory definitions in the storage location specified
	For DUMP:	
	ADR	The dump is executed with a symbolic address (combined selector and offset shows position with respect to beginning of file)
	DA	The dump is executed with a direct address (Position in file)
	LOGNAME	The dump is executed with a logical memory definition (combined selector and offset shows position in file)
	For EV:	
	D	The decimals entered are converted to
	H	hexadecimals The hexadecimals entered are converted to
		decimals
	For LST:	

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Parameter Description

	ADR	Listing is executed with a symbolic address
	DA	Listing is executed with a direct address (combined selector and offset)
	DEF	Listing of table structures of memory definitions
	INT	High-level listing for integration
	LOGNAME	Listing is executed with a logical memory definition
	SW	High-level listing for switch processing
	For PATCH:	
	ADR	Output is executed with a symbolic address (combined selector and offset shows position with respect to beginning of file)
	DA	Output is executed with a direct address (Position in file)
	LOGNAME	Output is executed with a logical memory definition (combined selector and offset shows position in file)
	For SET:	
	ADR	Output is executed with a symbolic address
	DA	Output is executed with a direct address
	LOGNAME	Change is executed with a logical memory definition
DI	Used in command: LST; device indicator or service indicator	
	Type of Input	: Single value, optional (requested by AMO if necessary)
	Possible Values	: 0 - 16 (device indicator) For S0-bus station this parameter is used as service indicator: 0 = VCE (voice) 1 = TTX (teletext) 2 = VTX (videotext) 3 = FAX (fax device) 4 = DTE (data terminal equipment)
DISPLACE	Used in commands: DEF, LST, PATCH, SET; defines the position of the area in the array element, or in the BCA save area, which is to be changed or used as an relativ address (= DISPLACEment).	
	Type of Input	: Single value, mandatory; optional only in LST
	Possible Values	: 0 - 65535
DTI	Used in command: LST; defines the Device Table Index (DTI)	
	Type of Input	: Single value, mandatory
	Possible Values	: 0 - FFFF

FILE	Used in commands: E, FILE; defines the file name of a file to be edited or of a hard disk save area. Type of Input : Single value, mandatory Possible : valid filename Values (e.g. ":PDS:TEST" or ":DBD:TEST")
HWY	Used in command: LST; defines the number of the speech highway Type of Input : Single value, mandatory Possible : 0 - 127 Values
IDX	Used in commands: DEF, DUMP, LST, PATCH, SET; defines either the index at which data is to be changed or output, or the index range of the specified array. Type of Input : For DEF with CTYPE=ADR: Single value, mandatory For DEF with CTYPE=LOGNAME: Range, mandatory For DUMP, PATCH, SET: Single value, linked single values and/or range(s), mandatory For LST with CTYPE=SW: Single value, mandatory For LST with CTYPE=LOGNAME: Single value, linked single values and/or range(s), mandatory Possible : 0 - 255 for LST,SW,.. Values 0 - 65535 else
LEN	Used in commands: DEF, LST; defines the length of an array element in a logical memory definition or the length of the data of a BCA save area to be output. Type of Input : Single value, mandatory for DEF and optional for LST Possible : For DEF: 1 - 6000 Values For LST: 0 - 65535
LN	Used in command: LST; line number Type of Input : Single value, mandatory Possible : 0 - 65535 Values

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Parameter Description

LODEN	Used in command: LST; defines the LOGical DEvice Name (LODEN) Type of Input : Single value, mandatory Possible Values : 0 - FFFF
LTG	Used in command: LST; LTG number Type of Input : Single value, mandatory Possible Values : 1 - 32
LTU	Used in command: LST; LTU number Type of Input : Single value, mandatory Possible Values : 1 - 15 and 17 - 99
NAME	Used in commands: COPY, DEF, DEL, DUMP, LST, PATCH, SET; name of various elements used. Type of Input : Single value, optional for COPY and LST,DEF mandatory else Possible Values : text string (e.g. "DB_S_AM_TERM_TBL")
NO	Used in commands: DIST, DUMP, EV, FILE, LST, PATCH, SET; number of empty lines to be inserted in hexadecimal dump output, or number of decimal numbers to be converted to binary or hexadecimal for output, or number of memory definitions to be saved, or number of memory units to be changed or listed Type of Input : Single value, optional for FILE, mandatory else Possible Values : For DIST: 0 - 4 For EV: 0 - 2147483647 For FILE: 0 - 65535 For DUMP, LST: 1 - 1500 For PATCH, SET: 1 - 10
PAR1	Used in command: LST; defines the first parameter of the call reference input (line number if TYPE=DCLD, DTI if TYPE=DDHD). Type of Input : Single value, mandatory

Possible : 0 - 65535
Values

PAR2 Used in command: LST;
defines the second parameter of the call reference input
(call reference number).

Type of Input : Single value, mandatory

Possible : 0 - 255
Values

PROCID Used in command P
Processor which contains the Displayer task to be accessed

Type of Input : Single value, mandatory

Possible : BP Base Processor active
Values

BPA Base Processor A

BPB Base Processor B

BPS Base Processor standby

GP1 Group Processor 1 active

GP1A Group Processor 1 A

GP1B Group Processor 1 B

GP1S Group Processor 1 standby

.

.

GP8 Group Processor 8 active

GP8A Group Processor 8 A

GP8B Group Processor 8 B

GP8S Group Processor 8 standby

SEL Used in command: LST;
selection criterion to be used (=SElection)

Type of Input : Single value, mandatory

Possible : if TYPE = BCHLN, DHCRF:
Values

CIR circuit

DTI device table index

LN line

if TYPE = CPB, DCLDC, SCLD, STA:

DISPS - Operation of the Displayer in the SWU

Parameter Description

CIR	circuit
LN	line
LODEN	logical device number
STNO	station number
if TYPE = CPCRF:	
CIR	circuit
LN	line
if TYPE = DCLD:	
CIR	circuit
CRF	call reference
LN	line
LODEN	logical device number
STNO	call number
if TYPE = DCLT, SCLT, SDLT:	
CIR	circuit
LN	line
STNO	station number
if TYPE = DDHD:	
CIR	circuit
CRF	call reference
DTI	device table index
LN	line
STNO	station number
if TYPE = DTI:	
CIR	circuit
LN	line
LTU	line trunk unit
STNO	station number
if TYPE = FREE:	
ALL	all free facilities
LNPTH	free line paths
if TYPE = LNPTH:	
IDX	table element index
if TYPE = LODEN:	
CIR	circuit
LN	line
LODEN	logical device number
LTU	line trunk unit
STNO	station number
if TYPE = SDHD:	
CIR	circuit
DTI	device table index
LN	line
STNO	station number
if TYPE = SZ:	

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Parameter Description

TBL	Used in command: DEF; name of table which contains the address. Type of Input : Single value, mandatory Possible Values : text string (e.g. "DB_S_DBMA_BOOKING_TBL")														
TSL	Used in command: LST; defines the time slot number for a speech highway Type of Input : Single value, mandatory Possible Values : 0 - 31														
TYPE	Used in commands: DEF, LST; defines the type of address definition or the type of memory output. Type of Input : Single value, mandatory Possible Values : For DEF: <table><tr><td>ADR</td><td>The address is to be held in the storage location specified</td></tr><tr><td>TBL</td><td>The address is to be held in the table specified at the location specified</td></tr></table> For LST with CTYPE = INT: <table><tr><td>BCA</td><td>basic data of boot communication area</td></tr><tr><td>BCASA</td><td>save area of BCA</td></tr><tr><td>BDTYT</td><td>DB_S_SWU_PER_BG_TYP_TBL</td></tr><tr><td>CPBH</td><td>DB_D_CPB_POOL_HEADER</td></tr><tr><td>STA</td><td>status data for hardware level</td></tr></table> For LST with CTYPE = SW:	ADR	The address is to be held in the storage location specified	TBL	The address is to be held in the table specified at the location specified	BCA	basic data of boot communication area	BCASA	save area of BCA	BDTYT	DB_S_SWU_PER_BG_TYP_TBL	CPBH	DB_D_CPB_POOL_HEADER	STA	status data for hardware level
ADR	The address is to be held in the storage location specified														
TBL	The address is to be held in the table specified at the location specified														
BCA	basic data of boot communication area														
BCASA	save area of BCA														
BDTYT	DB_S_SWU_PER_BG_TYP_TBL														
CPBH	DB_D_CPB_POOL_HEADER														
STA	status data for hardware level														

BCHLN	DB_S_DH_NW_B_CHL_TO_LINE
CPB	DB_D_CPB_TBL additional entries possible
CPCRF	DB_D_CP_NW_CR_TBL
DCLD	DB_D_CP_LOGICAL_DEV_TBL additional entries possible
DCLDC	DB_D_CP_LOGICAL_DEV_TBL additional entries and device specifications possible
DCLT	DB_D_TLN_DATA_TBL or DB_D_TRUNK_DATA_TBL
DDHD	DB_D_DH_DEV_TBL
DHCRF	DB_D_DH_NW_CR_TBL
DTI	DTI per line
FREE	free facilities
LNPTH	DB_D_WEGES_SYS_SPEICHER.LINE
LODEN	Loden per line
SCLD	DB_S_CP_LOGICAL_DEV_TBL additional entries possible
SCLT	DB_D_TLN_DATA_TBL or DB_D_TRUNK_DATA_TBL and DB_S_CC_PORT_DATA_TBL
SDHD	DB_S_DH_DEV_TBL
SDLT	DB_S_DH_LINE_TBL
STA	Status data for circuits and devices
SZ	seized facilities

UNIT Used in commands: DUMP, LST, PATCH, SET;
unit of memory to be used

Type of Input : Single value, mandatory

Possible : BYTE Byte
Values DWORD Double Word
 WORD Word

VAL Used in commands: EV, PATCH, SET;
hexadecimal value to be displayed in decimals, binary and hexadecimal (=VALue), or value
to be stored at specified storage location (=VALue).

Type of Input : For EV:
 Single value, mandatory
 For PATCH, SET:
 linked single values, mandatory

Possible : For EV:
Values Hexadecimals 0 - 7FFFFFFF
 For PATCH, SET:
 Hexadecimals 00 - FF,
 Hexadecimals 0000 - FFFF,
 Hexadecimals 00000000 - FFFFFFFF

78.10 Error Messages and Advisories

78.10.1 Error Messages

F01: COMMUNICATION WITH DISPLAYER IN <xxxxx> IMPOSSIBLE

F02: WRITING ACCESS FAILED (START ADDRESS = <xxxx>H:<xxxx>H)

F03: NO TABLE DEFINITION EXISTS WITH THIS NAME

F04: OVERFLOW OF DEFINITION TABLE IN AMO

F05: OVERFLOW OF RESIDENT DEFINITION TABLE

F06: INDEX ILLEGAL

F07: DATABASE ACCESS FAILED

F08: DEFINITION REJECTED

F09: ADDRESS TABLE NOT FOUND

F10: DISPLACEMENT ILLEGAL

F11: INPUT FOR "UNIT", "NO", "VAL" INCONSISTENT

The number of values specified for "VAL" must be entered in the parameter "NO"; this helps detect input errors. The values specified for "VAL" may not exceed the maximum length defined by the parameter "UNIT".

F12: DATABASE TABLE DOES NOT EXIST

F13: LTG NUMBER EXCEEDS <xx>H

F14: LTU NUMBER EXCEEDS <xx>H

F15: INPUT FOR "TYPE" AND "SEL" INCONSISTENT

For example, the input TYPE=CPB is inconsistent with SEL=DTI

F16: FILE "<xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>" ALREADY ASSIGNED

In order to assign a different file, the AMO must be terminated and restarted.

F17: CREATION OF FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F18: OPENING OF FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F19: SEEKING IN FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F20: READING FROM FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F21: WRITING TO FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F22: CLOSING OF FILE FAILED WITH STATUS <xxxx>H

Status output is the same as FAM call.

F23: NO FILE ASSIGNED

...therefore no hard disk backup area can be used.

F24: NECESSARY PARAMETER VALUE MISSING

F25: LINE NUMBER EXCEEDS <xxxx>H

F26: CIRCUIT ADDRESS UNPLAUSIBLE OR LINE DOES NOT EXIST

The address used for addressing the memory was implausible / invalid.

F27: FLEX-ADDR HIERARCHY NOT SUFFICIENT FOR ADDRESSING

Conversion error due to flexible addressing.

F28: <xxxxx> INDEX EXCEEDS <xx>H

Access index too high for LINK or LINE paths

F29: FILE "<xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>" ALREADY EXISTS

A file with the same name already exists on the hard disk and will NOT be overwritten.

Enter a new name.

F30: ALLOCATION OF TEMPORARY SEGMENT FAILED; NOT ENOUGH MEMORY AVAILABLE

The temporary segment for intermediate storage of the BCASA- data could not be created in the system. There is not enough free main storage available.

78.10.2 Advisories

H01: ONLY <xxxx>H BYTES CAN BE ACCESSED

This message explains the reason for a failed attempt at read or write access.

H02: NO DATA FOUND

This message explains the reason for a failed attempt at data output.

H03: REQUESTED FUNCTION NOT AVAILABLE

This message means that the input function or command is not available on the processor accessed, or is not applicable.

H04: S0-BUS, CIR- AND LN- ADDRESS CAN'T RETURN A SINGLE DEVICE-ADDR;
USE STNO OR LODEN

It is not possible to address a single device on the S0 bus by means of a circuit or line address. Please use station number or loden.

H05: THERE IS NO DEVICE TABLE ELEMENT FOR SELECTED SERVICE: DI=<x> (<xxx>)

S0 bus only with functional terminals; no DH device memory currently available for stipulated service (DI). The output has been performed only with the global DH device memory of the S0 bus.

H06: <xxxxx>T BYTES COPIED INTO FILE "<xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>"

Notice relating the number of bytes written into the stipulated file.

H07: S0-BUS LINE; PARAMETER 'DI' INPUT USED AS SERVICE INDICATOR 'SI'
MEMORY DISPLAY FOR SVC = "<xxx>"

DISPS - Operation of the Displayer in the SWU

Error Messages and Advisories

This advisory message means, that the given circuit- or line-address belongs to a S0-bus and the value of parameters 'DI' is handled as a SERVICE INDICATOR 'SI'. The device memories of ALL terminals of the given service will be detected and put out on the user terminal.

79 DLSM - Hard Disk Area Allocation - Logical

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO DLSM is used for allocating up to 8 logical area names to a data storage area.

The logical area name must be unique in the system. If more than one logical area exists with the same logical area name in this system, this can lead to a soft restart when the system attempts to activate the areas. The AMO only checks the logical area name assignments to the specified UNIT.

EXCEPTION: The logical area name :PDS: can be added twice for the area 'E' on different controller, in the same unit, but only once per controller. By deleting, in case logical name :PDS: is added twice in the same unit, it will be deleted only that logical name :PDS: which corresponds to a not active area.

Exception: UW7-UNIX (used in Unity) stores its data in own partitions (AMO DDSM).

'PHY'-areas used by UNIX in previous variants will only be activated physically and will contain no NAMED FILES, either.

A logical area name beginning with "PHY" may not be added to an area with pair allocation.

If the area is subsequently activated by means of the AMO DSSM, the user can access the files of the area by using the logical area name allocated with this AMO.

79.1 Restrictions

This description is valid from HiPath 4000 V6.0.

79.2 Interrelationships

- AMO DASM : Hard disk area allocation - physical
- AMO DSSM : Disk switchover
- AMO DDSM : Disk status
- AMO DPSM : Device Pair Allocation

79.3 AMO Functions

- [ADD-DLSM](#) : Creating logical area names
- [DELETE-DLSM](#) : Deleting logical area names

79.3.1 ADD-DLSM

Procedure Overview

Command Code	Parameter
ADD-DLSM	[UNIT=<param>],CNO=<number>,ANO=<string> ,LANAME=<string>;

Example

1. Allocating the logical area names PDS, ABC35, and EFG3333 to area E on controller 1 .

Input:

```
ADD-DLSM: ,1,E," :PDS:"&" :ABC35:"&" :EFG3333:";
```

2. Configure a logical name for Flash Memory.

Input:

```
ADD-DLSM: ,8,A," :CDBR:";
```

79.3.2 DELETE-DLSM

This action cancels the allocation of a logical area name to an area.

Procedure Overview

Command Code	Parameter
DELETE-DLSM	[UNIT=<param>],LANAME=<string>;

Example

Deleting the logical area names PDS and ABC35 .

Input:

```
DELETE-DLSM: , " :PDS:"&" :ABC35:";
```

ANO	Area number		
	Type of Input	: Single value mandatory	
	Possible Values	: A, E - K	
CNO	Controller number		
	Type of Input	: Single value mandatory	
	Possible Values	: 1 - 8	
LANAME	Logical area name		
	Type of Input	: max. 8 with '&' chained single values mandatory	
	Possible Values	: All ASCII characters except '/' ':' ';' '!' 1 to 7 characters between two colons, e.g. ":PDS:". 1st character must be alphabetical.	
UNIT	Functional system unit i.e. server code		
	Type of Input	: Single value optional	
	Possible Values	: A1	= Administration and Data Server
	Default Value	: A1	

:PDS:	Program area
:DBD:	Debug area
:AMD:	Administration and maintenance area
:CGD:	Call charge area
:TMD:	Traffic metering area
:PAS:	Miscellaneous usage
:DBDA:	Debug disk for ADINIT
:DMP:	HiPath dump area
:DMS:	Domain Management System Area
:DSY:	Database synchronization
:GLA:	Golden Load Area

DLSM - Hard Disk Area Allocation - Logical

Error Messages and Advisories

:SCR:	Scratch Area
:DIAG:	Diagnosis area (save traces, Backup medium for AMOs, loadware files and text sub systems in case of activating a RMX hot fix)

79.5 Error Messages and Advisories

79.5.1 Error Messages

F01: CNO INVALID
F02: ANO INVALID
F03: LANAME <laname> INVALID
F04: SAME LOGICAL AREA NAMES
F05: LANAME <laname> DOES NOT EXIST
F06: CONTROLLER <:cnam:> DOES NOT EXIST
F07: AREA <:area:> IS NOT YET ASSIGNED
F08: AREA <:area:> ACTIVATED
F09: AREA <:area:> BLOCKED BY DEPENDABILITY SYSTEM
F10: LANAME <laname> ALREADY EXISTS
F11: TOO MANY LOGICAL AREA NAMES
F12: LANAME <laname> FOR AREA WITH PAIR ALLOCATION NOT POSSIBLE

79.5.2 Advisories

H01: AMO CANNOT EXECUTE AT THE MOMENT
H02: AREA <:@@@@@:> ACTIVATED
H03: LANAME <@@@@@@@@@> ALREADY EXISTS

80 DNIT - Directory Number Information and Translation

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Descriptions	

The administration and maintenance order DNIT makes it possible to add, change, display, delete and regenerate information for ACD Directory Number Information and General Digit Translation.

With this AMO we can add an ACD number.

Three tables are required for DNIT:

- **DNI: Directory Number Information table**
Stores routing and display information concerning source (SID/ANI) and called party (DNIS) digit strings for ACD.
- **GDTR: General Digit Translation table**
Stores the translation information used to evaluate the Calling Number.
This table contains rules that will evaluate the source number (Calling Number).
- **GDTRSR: General Digit Translation Service Rule table**
Stores the information concerning the DNIS GDTRRULE for Primary Rate Interface trunks.

Definition of Terms:

- **DNIS: Dialed Number Identification Service**
This feature allows special call routing and special call displays based on the *Original Called (Dialed) Number*.
- **SID/ANI: Station Identification / Automatic Number Identification**
This Feature allows special call routing and special call displays based on the *Calling Number*.
- **ANI: The Automatic Number Identification** is a public network customer billing number stored at the public network central office serving the originator of the call. The ANI may be delivered when the SID number is not available.
- **SID: The Station Identification** is the calling party number of the station originating the call.

A unique internal routing number is assigned to each entry in the DNI table. Then, an entry in the GDTR table can be created with a rule and a digit string that will translate to the ACD internal routing number. The

internal routing number is used to access the routing and display information stored in the DNI table. Multiple digit strings may translate to the same internal routing number.

The DNI table stores the following fields for Automatic Call Distribution (ACD):

- **INTRTDN**
The Internal Routing Number (INTRTDN) field is the internal routing directory number and specifies the number that will access the DNI entry. This number must have been previously set to have a digit analysis result of 'STN' by AMO WABE.
- **GDTRRULE**
The Source Rule (GDTRRULE) field is the general digit translation rule that is applied to the entry. For a SID/ANI entry (ROUTING=SA), the rule must be 0, which is a null rule.
- **TARGET**
When entering a networking number for the TARGET parameter, up to 22 digits (barrier code, location code, and network extension) can be entered. The location code, if applicable, should only be entered for networking TARGETs. All other types of TARGETs, including local extension numbers, should be entered without barrier codes or location codes.
- **SARULE**
The Source Rule (SARULE) field is the general digit translation rule that is applied to the entry. For SID/ANI, the rule must be 0, which is a null rule.
- **DISPLAY**
The DISPLAY field stores the information to be displayed on the called device, depending on the type of routing being used. It is possible that the memory for the display pool may be exhausted. In this case, the amount of memory can be increased through AMO DIMSU.
- **ROUTING**
The ROUTING field determines what type of routing takes place. For DNIS entry routing on DNIS (DRTD), an GDTRRULE is optional. For DNIS entry routing on SID/ANI (DRTSA), a GDTRRULE must be present; and for SID/ANI (SA) entry, the GDTRRULE must be set to null.
- **RCG**
The Route Control Group (RCG) field stores the route control group number, which is used to access the ARTs established in the ACD Route Selection tables by AMO ACDRS. The RCG must have been previously created by AMO ACDS, and have its routing defined by AMO ACDRS.

- **PRI and OVRPRI**
The priority field (PRI) and overflow priority (OVRPRI) fields are used to determine the priority of the call. PRI is the initial primary priority of a call, while OVRPRI is the priority of the call when it is queued to an overflow ACD group. The lower the number is for these parameters, the higher the priority of the call. If the value for OVRPRI is 0, or no value is input for the priority in the ADD command, the override priority will default to whatever the PRI value is.
- **AUDSRCID**
The Audible Source Identification Recorded Announcement Number (AUDSRCID) field stores the identification number of a recorder. The recorder is required to be configured as a random start ACD recorded announcement operating under continuous mode by AMO RCSU. A value of 0 means that no recorder is required.
- **THRSHLD**
The Threshold (THRSHLD) parameter determines the maximum number of incoming trunk ACD calls in progress allowed for a given internal routing number before busy is returned. Initially the threshold is set to H'FFFF', which is no threshold. If the threshold is ever desired to be set back to the null value, the value (*) should be entered through the CHANGE function.
- **REVCHA**
The Reversed-Charged (REVCHA) parameter determines if the Internal Routing Number (INTRTDN) is allowed to receive reversed charging calls (used in Brazil).

The GDTR table stores the following fields for DNIS and SID/ANI entries:

- **GDTRRULE**
The General Digit Translation Rule stores the GDTR DNIS rule (129-255) for non-sequential DNIS numbers, or the GDTR SID/ANI rule (1-128) for SID/ANI numbers.
- **DGTSTR**
The Digit String (DGTSTR) field stores the SID/ANI digit string and can be up to 22 digits in length. Wildcards (*) are allowed at the trailing positions and will match any digit. ANI only routing can be accomplished by using the Joker (#) which will match all digits of any length. When the Joker is used, it can be the only character for the DGTSTR. A digit string may be assigned to more than one rule.
- **INTRTDN**
The Internal Routing Number (INTRTDN) field stores the internal routing number and translates into an entry in the DNI table.

DNIT - Directory Number Information and Translation

Restrictions

- SVCDATA

The Service data (SVCDATA) field stores the service preference, and is not allowed for a SID/ANI entry.

The GDTRSR table stores the following fields:

- The GDTRSR table is indexed by trunk group (TGRP) and stores the called party (DNISRULE) for the different Network Services (NETSVC). The GDTRSR table will be initialized to 0, which indicates that no translation is possible for any network service. The CHANGE function must be used to establish a DNIS GDTR rule for at least one network service before the associated trunk group may access the GDTR table.

Possibilities:

- Destination Based Routing

1 DNI Table with Routing = DRTD.

- Source Based Routing

1 DNI Table with Routing = SIAN (source).

1 GDTR Table rule.

1 DNI Table with Routing = DRTSA (destination).

80.1 Restrictions

This description is valid from HiPath 4000 V1.0.

80.2 Interrelationships

- AMO-ACDRS : Automatic Call Distribution Route Selection

A route control group must be assigned ACD routing tables before AMO DNIT can access it.

- AMO-ACDRT : Automatic Call Distribution Routing Tables

ACDRT can route to an internal routing number

- AMO-ACDSD : Automatic Call Distribution System Data
ACDSD can define a Route Control Group (RCG).
- AMO-DIDCR : Direct Inward Dial Digit Conversion Rule
DIDCR can translate a number to a internal routing number that references an entry in the DNI table.
- AMO-DIMSU : Dimensioning of features
The size of the DNI, GDTR, Display Pool, and RULO tables can be changed.
- AMO RCSU : Recorder Configuration for Switching Unit
The recorder must be configured as a random start ACD recorded announcement operating under continuous mode before being referenced by AUDSRCID.
- AMO-WABE : Dial Plan
The DAR for the INTRTDN must be of type 'STN'.
- AMO-ZAND : Sets the ACD feature on or off. ACD groups can not be added or changed if the ACD feature is off.

80.3 Functions of the AMO

- [ADD-DNIT](#) : Add directory number information and translation information
- [CHANGE-DNIT](#) : Change directory number information and translation information
- [DELETE-DNIT](#) : Delete directory number information and translation information
- [DISPLAY-DNIT](#) : Display directory number information and translation information
- [REGENERATE-DNIT](#) : Regenerate directory number information and translation information

80.3.1 ADD-DNIT

Directory number information and translation can be created with the function ADD. The ADD-DNIT command can be used to add routing and display information concerning general digits to the DNI table, and translation information for SID/ANI and non-sequential DNIS numbers to the GDTR table. The CHANGE function must be used to set up at least one valid DNIS rule for a given trunk group in the GDTRSR table before the GDTR table may be accessed.

If the ACD feature has not been turned on, no ACD features may be used.

DNIT - Directory Number Information and Translation

Functions of the AMO

Procedure Overview

Command Code	Parameter
ADD-DNIT	<pre>|TBL=DNI,INTRTDN=<number>,[ROUTING=<param>], [SARULE=<number>],[DISPLAY=<string>] |ACD=NO,TARGET=<key-num>,[REVCHA=<yes/no>]; |ACD=YES,RCG=<number>,[PRI=<number>],[OVRPRI=<number>] ,[AUDSRCID=<number>],[THRSHLD=<number>] ,[REVCHA=<yes/no>]; |TBL=GDTR,GDTRRULE=<number>,DGTSTR=<key-num> ,[INTRTDN=<number>],[SVCDATA=<param>];</pre>

Examples:

1. Set up the Directory Number Information and Translation tables:

Set up the Directory Number Information and Translation tables for a call that will have an ACD SID/ANI routing path with a called party display of 'TYME MAGAZINE' and a calling party display of 'BARF SIMPSON'.

Input:

```
ADD-DNIT:TBL=DNI,INTRTDN=88111,ROUTING=SA,DISPLAY="BARF  
SIMPSON",ACD=YES,  
RCG=5,PRI=10,OVRPRI=1,AUDSRCID=3,THRSHLD=20;
```

Output:

```
H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=88111 HAS BEEN  
ADDED.
```

Input:

```
ADD-DNIT:TBL=GDTR,GDTRRULE=111,DGTSTR=4075551212,INTRTDN=88111;
```

Output:

```
H05: DIGIT STRING DGTSTR=4075551212 HAS BEEN ADDED TO RULE  
GDTRRULE=111.
```

Input:

```
ADD-DNIT:TBL=DNI,INTRTDN=44444,ROUTING=DRTSA,SARULE=111,ACD=YES,  
DISPLAY="TYME MAGAZINE",RCG=6;
```

Output:

H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=44444 HAS BEEN ADDED.

2. "Destination Based Routing":

Add a "Destination Based Routing" via RCG 5, with priority 10 and with overflow priority assuming the same value of the set priority. In addition the display information shown shall be: 'ACD CALL'.

Input:

```
ADD-DNIT:TBL=DNI,INTRTDN=22222,ROUTING=DRTD,DISPLAY="ACD  
CALL",SARULE=0,ACD=YES,  
RCG=5,PRI=10,OVRPRI=0;
```

Output:

H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=22222 HAS BEEN ADDED.

3. "Source Based Routing":

Add a "Source Based Routing" via RCG 5 for ACD calls without source number identification, and for calls with source number identification that do not come from Brazil. In addition this calls shall have priority 10 and overflow priority 20. The ACD calls that come from Brazil (with source number identification) shall be routed to RCG 6, with a display information "CALLING FROM BRAZIL", with priority 10 and overflow priority 20. The other calls (not from Brazil) shall display "GENERAL ACD CALL".

In addition the ACD number shall not treat more than 20 calls.

Input:

```
ADD-DNIT:TBL=DNI,INTRTDN=33333,ROUTING=SA,DISPLAY="GENERAL ACD  
CALL",ACD=YES,  
RCG=5,PRI=10,OVRPRI=20,THRSHLD=20;
```

Output:

H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=33333 HAS BEEN ADDED.

Input:

```
ADD-DNIT:TBL=DNI,INTRTDN=44445,ROUTING=SA,DISPLAY="CALLING FROM  
BRAZIL",  
RCG=6,PRI=10,OVRPRI=20,THRSHLD=20;
```

Output:

DNIT - Directory Number Information and Translation

Functions of the AMO

H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=44445 HAS BEEN ADDED.

Input:

```
ADD-DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055***,INTRTDN=44445;
ADD-DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055****,INTRTDN=44445;
ADD-DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055*****,INTRTDN=44445;
ADD-DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055*****,INTRTDN=44445;
ADD-DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055*****,INTRTDN=44445;
ADD-DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055*****,INTRTDN=44445;
ADD-DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055*****,INTRTDN=44445;
ADD-
DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055*****,INTRTDN=44445;
ADD-
DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055*****,INTRTDN=44445;
ADD-
DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=0055*****,INTRTDN=44445;
ADD-DNIT:TBL=GDTR,GDTRRULE=1,DGTSTR=#,INTRTDN=33333;
```

Output (for each command, where nnn...n = <rule string>):

H05: DIGIT STRING DGTSTR=nnn...n HAS BEEN ADDED TO RULE GDTRRULE=1.

Input:

```
ADD-
DNIT:TBL=DNI,INTRTDN=55555,SARULE=1,ROUTING=DRTSA,DISPLAY="ACD
CALL",ACD=YES,
RCG=5,PRI=10,OVPR=20,THRS=20;
```

Output:

H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=55555 HAS BEEN ADDED.

4. "GDTR Rule analysis sequence ":

Add a "Source Based Routing" via RCG 3 for ACD calls without source number identification. In addition this calls shall have priority 10 and overflow priority 20. The ACD calls that come from number 0089498980001 and 0089498980009 shall be routed to RCG 2, and the calls with number 0089498980000, 0089498980002, 0089498980003, 0089498980004, 0089498980005, 0089498980006, 0089498980007, 0089498980008 shall be routed to RCG 1, with priority 10 and overflow priority 20. In addition the ACD number (66666) shall not treat more than 20 calls.

Input:


```
ADD-  
DNIT:TBL=DNI,INTRTDN=88888,ROUTING=SA,ACD=YES,RCG=1,PRI=10,OVPR  
I=20;
```

Output:

```
H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=88888 HAS BEEN  
ADDED.
```

Input:

```
ADD-  
DNIT:TBL=DNI,INTRTDN=77777,ROUTING=SA,ACD=YES,RCG=2,PRI=10,OVPR  
I=20;
```

Output:

```
H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=77777 HAS BEEN  
ADDED.
```

Input:

```
ADD-DNIT:TBL=GDTR,GDTRRULE=2,DGTSTR=0089498980001,INTRTDN=77777;  
ADD-DNIT:TBL=GDTR,GDTRRULE=2,DGTSTR=0089498980009,INTRTDN=77777;  
ADD-DNIT:TBL=GDTR,GDTRRULE=2,DGTSTR=008949898000*,INTRTDN=88888;
```

Output (for each command, where nnn...n = <rule string>):

```
H05: DIGIT STRING DGTSTR=nnn...n  
HAS BEEN ADDED TO RULE GDTRRULE=2.
```

Input:

```
ADD-DNIT:TBL=DNI,INTRTDN=66666,SARULE=2,ROUTING=DRTSA,ACD=YES,  
RCG=3,PRI=10,OVPRPRI=20,THRSHLD=20;
```

Output:

```
H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=66666 HAS BEEN  
ADDED.
```

80.3.2 CHANGE-DNIT

The change function can be used to modify information in the DNI, GDTR or GDTRSR tables.

A DNIS GDTR rule for at least one network service for a given trunk group must be established in the GDTRSR table before the associated trunk group may access the GDTR table. If the NETSVC parameter is not entered, all network services for the trunk group will be set to the

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DNISRULE. When changing an ACD to a non-ACD entry, the TARGET parameter is required and when changing a non-ACD to an ACD entry, the RCG parameter is required.

If the ACD feature is disabled, changing ACD related information is allowed but it may not take effect.

Procedure Overview

Command Code	Parameter
CHANGE-DNIT	<pre>| TBL=DNI, INTRTDN=<number>, [ROUTING=<param>], [SARULE=<number>], [DISPLAY=<string>] | ACD=NO, TARGET=<key-num>, [REVCHA=<yes/no>]; | ACD=YES, [RCG=<number>], [PRI=<number>], [OVRPRI=<number>] , [AUDSRCID=<number>], [THRSHLD=<number>] , [REVCHA=<yes/no>]; | TBL=GDTR, GDTRRULE=<number>, DGTSTR=<key-num> , [NEWRULE=<number>], [NEWDGTS=<number>] , [INTRTDN=<number>], [SVCDATA=<param>]; | TBL=GDTRSR, TGRP=<number>, DNISRULE=<number> , [NETSVC=<param>];</pre>

Example:

1. Change the overflow priority for an ACD entry in the DNI table that is routed through internal number 76767.

Input:

```
CHANGE-DNIT:TBL=DNI,INTRTDN=76767,ACD=YES,OVRPRI=10;
```

Output:

```
H02: THE ATTRIBUTES OF INTERNAL ROUTING DIRECTORY  
     NUMBER INTRTDN=76767 HAVE BEEN CHANGED.
```

2. Change the GDTRRULE from 200 to 210 for a particular entry.

Input:

```
CHANGE-DNIT:TBL=GDTR,GDTRRULE=200,DGTSTR=8005551212,NEWRULE=210;
```

Output:

```
H07: DIGIT STRING DGTSTR=8005551212  
     HAS BEEN REMOVED FROM RULE GDTRRULE=200.  
H05: DIGIT STRING DGTSTR=8005551212  
     HAS BEEN ADDED TO RULE GDTRRULE=210.
```

80.3.3 DELETE-DNIT

The deletion of an entry in the DNI or GDTR table can be accomplished by the function DELETE. To delete an entry in the GDTRSR table use the function CHANGE by setting DNISRULE to zero (e.g. `CHANGE-DNIT:GDTRSR,<TGRP>,0;`).

To delete an entry in the DNI table, the INTRTDN parameter must be specified. Deletion of the entry cannot occur if the internal routing number is still being referenced by the GDTR table. If AMO DIDCR was referencing this internal routing number, it will be intercepted. To delete an entry in the GDTR table, the GDTRRULE and DGTSTR parameters must be specified.

Procedure Overview

Command Code	Parameter
DELETE-DNIT	| TBL=DNI, INTRTDN=<number>; | TBL=GDTR, GDTRRULE=<number>, DGTSTR=<key-num>;

Examples:

1. Delete an entry in the GDTR table.

Input:

```
DELETE-DNIT:TBL=GDTR,GDTRRULE=222,DGTSTR=8005552000;
```

Output:

```
H07: DIGIT STRING DGTSTR=8005552000
      HAS BEEN REMOVED FROM RULE GDTRRULE=222.
```

2. Delete the entry in the DNI table whose internal directory number is 444333.

Input:

```
DELETE-DNIT:TBL=DNI,INTRTDN=444333;
```

Output:

```
H03: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=444333 HAS BEEN
      DELETED.
```

80.3.4 DISPLAY-DNIT

Display information about directory number information and translation. The displays can be for entries in the DNI, GDTR or GDTRSR tables. To display an entry in the DNI or GDTR table, only one of the optional parameters can be entered. Only a range of 100 numbers inclusive will be allowed when displaying the DNI table when specifying the INTRTDN parameter. If any table is specified but no parameters are entered for that table, the entire table will be displayed.

Procedure Overview

Command Code	Parameter
DISPLAY-DNIT	|TBL=DNI,{ (max 1) [INTRTDN=<number>],[SARULE=<number>] ,[TARGET=<key-num>],[RCG=<number>],[AUDSRCID=<number>]}; |TBL=GDTR,{ (max 1) [GDTRRULE=<number>],[DGTSTR=<key-num>] ,[INTRTDN=<number>]}; |TBL=GDTRSR,[TGRP=<number>];

Examples:

1. Display non-sequential SID/ANI numbers with a GDTRRULE of 222.

Input:

DISPLAY-DNIT:TBL=GDTR,GDTRRULE=222;

Output:

GDTRRULE	DGTSTR	INTRTDN	SVCDATA
222	8005552000	88111	ANIPREF
222	8005552001	88111	ANIPREF
222	8005553000	88222	SIDPREF
222	8005553001	88822	SIDPREF
222	800555****	88000	SID
222	011425176731001	100000	SID

2. Display entry with an internal routing directory number of 55555.

Input:

DISPLAY-DNIT:TBL=DNI,INTRTDN=55555;

Output:

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```
+-----+
| INTRTDN - 55555                                     |
| SARULE - 111   DISPLAY - TYME MAGAZINE             ROUTING - DRTSA |
| RCG - 3       PRI - 10       OVRPRI - 1           AUDSRCID - 5   |
| THRSHLD - 20   REVCHA - NO                               |
+-----+
```

3. Display Digit strings from 8005552000 to 8005554***.

Input:

DISPLAY-DNIT:TBL=GDTR,DGTSTR=8005552000&&8005554***;

Output:

```
+-----+-----+-----+-----+
| GDTRRULE | DGTSTR | INTRTDN | SVCDATA |
+-----+-----+-----+-----+
| 180      | 8005553000 | 88222   | NOREQU  |
| 180      | 8005553001 | 88222   | NOREQU  |
+-----+-----+-----+-----+
| 184      | 800555**** | 88000   | SID     |
+-----+-----+-----+-----+
| 199      | 8005553000 | 88223   | SID     |
+-----+-----+-----+-----+
| 222      | 8005552000 | 88111   | ANIPREF |
| 222      | 8005552001 | 88111   | ANIPREF |
+-----+-----+-----+-----+
```

4. Display non-sequential SID/ANI numbers with an internal routing directory number of 1212.

Input:

DISPLAY-DNIT:TBL=GDTR,INTRTDN=1212;

Output:

```
+-----+-----+-----+-----+
| GDTRRULE | DGTSTR | INTRTDN | SVCDATA |
+-----+-----+-----+-----+
| 100      | 4077752891 | 1212    | NOREQU  |
| 100      | 4077752892 | 1212    | NOREQU  |
+-----+-----+-----+-----+
| 102      | 3052811919 | 1212    | NOREQU  |
+-----+-----+-----+-----+
| 103      | 5197885434 | 1212    | NOREQU  |
+-----+-----+-----+-----+
| 106      | 6091226548 | 1212    | NOREQU  |
+-----+-----+-----+-----+
| 109      | 2025554543 | 1212    | NOREQU  |
+-----+-----+-----+-----+
| 110      | 4146652931 | 1212    | NOREQU  |
+-----+-----+-----+-----+
```

Functions of the AMO

- Input:

Output:

INTRTDN - 44444			
SARULE - 111	DISPLAY - TYME MAGAZINE		ROUTING - DRTSA
RCG - 3	PRI - 10	OVRPRI - 1	AUDSRCID - 5
THRSHLD - 20	REVCHA - NO		
INTRTDN - 44445			
SARULE - 120	DISPLAY - LYFE MAGAZINE		ROUTING - DRTSA
RCG - 4	PRI - 10	OVRPRI - 0	AUDSRCID - 12
THRSHLD - 20	REVCHA - NO		
INTRTDN - 44447			
SARULE - 0	DISPLAY - DAVES TOWING		ROUTING - SA
TARGET - 3333			

- Input:

Output:

	NETWORK SERVICE								
TGRP	FX	INTLWATS	INWATS	LDS	NONE	PPC900	SDS	TTA	VPN
1	130	131	140	150	0	255	130	0	0
3	0	200	0	0	190	255	0	199	0
5	0	0	0	0	0	0	0	0	0
100	129	131	139	0	0	0	243	191	0
200	143	0	165	0	178	222	0	0	0

The output format is set up so that it can be used directly as an input command for the ADD or CHANGE function. Due to the interdependency of the tables on each other, all the tables must be regenerated at once. However it's possible to regenerate only a certain

kind of data (parameter TBL) but in the latter case not all interdependencies of the tables are considered and it may result in malfunction if the craftperson tries to make the partly regenerated commands run.

There are no error/advisory messages associated with the function REGENERATE-DNIT.

Procedure Overview

Command Code	Parameter
REGENERATE-DNIT	| [TBL=DNI], [INTRTDN=<number>]; | [TBL=GDTR]; | [TBL=GDTRSR];

Example:

1. Regenerate all entries.

Input:

```
REGENERATE-DNIT;
```

Output:

```
ADD-DNIT:DNI,88112,SA,0,"BARF SIMPSON",YES,5,64,1,0,FORB;
ADD-DNIT:GDTR,110,4075551212,88112,NOREQU;
ADD-DNIT:GDTR,111,4075551313,88333,NOREQU;
ADD-DNIT:DNI,88111,DRTD,0,"TYME MAGAZINE",NO,77777;
ADD-DNIT:DNI,44444,DRTSA,110,"TYME MAGAZINE",YES,6,64,1,0,FORB;
ADD-DNIT:GDTR,220,8005551212,44444,ANIPREF;
ADD-DNIT:GDTR,221,800555****,88222,SIDPREF;
ADD-DNIT:GDTR,222,8005552000,88111,ANIPREF;
ADD-DNIT:GDTR,255,#,44444,ANI;
CHA-DNIT:GDTRSR,1,130,FX;
CHA-DNIT:GDTRSR,1,131,INTLWATS;
CHA-DNIT:GDTRSR,1,140,INWATS;
CHA-DNIT:GDTRSR,1,150,LDS;
CHA-DNIT:GDTRSR,1,255,PPC900;
CHA-DNIT:GDTRSR,1,130,SDS;
```

2. Regenerate only DNI entries with the given internal routing directory numbers.

Input:

```
REGENERATE-DNIT:DNI,88111&&88112;
```

Output:

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Parameter Descriptions

```
ADD-DNIT:DNI,88112,SA,0,"BARF SIMPSON",YES,5,64,1,0,FORB;  
ADD-DNIT:DNI,88111,DRTD,0,"TYME MAGAZINE",NO,77777;
```

80.4 Parameter Descriptions

ACD	use acd (automatic call distribution)? Type of Input : single value, mandatory Possible Values : NO do not use acd YES use acd Default Value : -
AUDSRCID	Audible Source Identification Type of Input : single value, 4. parameter of a max-1-group (DISPLAY,TBL=DNI) single value, 5. parameter of a min-1-group (CHANGE,TBL=DNI) single value, optional (ADD,TBL=DNI) Possible Values : numeric, 0-206 Default Value : 0
DGTSTR	Digit String for DNIS or SID/ANI Type of Input : 1 to 2 single values, concatenated with &&, 1.parameter of a max-1-group (DISPLAY,TBL=GDTR) single value, mandatory (ADD,TBL=GDTR / CHANGE,TBL=GDTR / DELETE,TBL=GDTR) Possible Values : 0-9,*,#, up to 22 digits Default Value : none
DISPLAY	Called Device Display Type of Input : single value, optional Possible Values : text, up to 24 characters Default Value : blanks
DNISRULE	Number of the rule table entry Type of Input : single value, mandatory Possible Values : numeric, 0, 129-255 Default Value : none
GDTRRULE	GDTR Element with SID/ANI Rules

	Type of Input	: 1 to 10 single values, concatenated with & or && 1. parameter of a max-1-group (DISPLAY,TBL=GDTR) single value, mandatory (ADD,TBL=GDTR / CHANGE,TBL=GDTR / DELETE,TBL=GDTR)
	Possible Values	: numeric, 1-128 GDTR SID/ANI rule for SID/ANI numbers 129-255 GDTR DNIS rule for non-sequential DNIS numbers
	Default Value	: none
INTRTDN	Internal Routing Directory Number	
	Type of Input	: 1 to 10 single values, concatenated with & or && 1. parameter of a max-1-group (DISPLAY,TBL=DNI / REG,TBL=DNI) single value, 3. parameter of a max-1-group (DISPLAY,TBL=GDTR) single value, mandatory (ADD,TBL=DNI / ADD,TBL=GDTR / CHANGE,TBL=DNI / CHANGE,TBL=GDTR / DELETE,TBL=DNI)
	Possible Values	: numeric, up to 6 digits (range 0 - 999999)
	Default Value	: none
NETSVC	Symbol of desired network service	
	Type of Input	: single value, mandatory
	Possible Values	: FX foreign exchange access service INTLWATS international long distance INWATS megacom/mci 800,incoming wats LDS long distance service NONE not a special device PPC900 multiquest, mci 900 SDS ACCU TTA tie trunk access VPN sdn, mci vnet, private nw svc
	Default Value	: none
NEWDGTS	New Digit String	
	Type of Input	: single value, mandatory
	Possible Values	: 0-9,*,#, up to 22 digits
	Default Value	: none
NEWRULE	New GDTR Element with SID/ANI Rule	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 1-255
	Default Value	: none

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Parameter Descriptions

OVRPRI	Overflow Priority for ACD call		
	Queued to overflow ACD groups		
	Type of Input	: single value, 4. parameter of a min-1-group (CHANGE,TBL=DNI) single value, optional (ADD,TBL=DNI)	
	Possible Values	: numeric, 0-64	
	Default Value	: 0	If no OVRPRI value is entered, the OVRPRI value is set to 0 which tells CP to use the original PRIORITY value.
PRI	Priority for ACD Call queued to ACD group		
	Type of Input	: single value, 3. parameter of a min-1-group (CHANGE,TBL=DNI) single value, optional (ADD,TBL=DNI)	
	Possible Values	: numeric, 1 - 64	
	Default Value	: 64	
RCG	Route Control Group		
	Type of Input	: single value, 2. parameter of a min-1-group (CHANGE,TBL=DNI) single value, 3. parameter of a max-1-group (DISPLAY,TBL=DNI) single value, mandatory (ADD,TBL=DNI)	
	Possible Values	: numeric, 1-1020	
	Default Value	: none	
REVCHA	Allow ACD pilot number to receive r-charging calls		
	Type of Input	: single value, optional	
	Possible Value	: FORB	R-charging calls not allowed
		PERM	R-charging calls allowed
	Default Value	: FORB	
ROUTING	Type of Routing to take place		
	Type of Input	: single value, optional	
	Possible Value	: DRTD	DNIS entry routing on DNIS
		DRTSA	DNIS entry routing on SIDANI
		SA	SIDANI entry
	Default Value	: DRTD	
SARULE	SID/ANI rule number		
	Type of Input	: single value, 2. parameter of a max-1-group (DISPLAY,TBL=DNI) single value, optional (ADD,TBL=DNI / CHANGE,TBL=DNI)	

	Possible Values	: numeric, 0-128
	Default Value	: 0
SVCDATA	SID/ANI calling party data	
	Type of Input	: single value, optional
	Possible Values	: ANI ANIPREF NOREQU SID SIDPREF
	Default Value	: NOREQU
TARGET	A non-acd extension number	
	Type of Input	: single value, 3. parameter of a max-1-group (DISPLAY,TBL=DNI) single value, mandatory (ADD,TBL=DNI,ACD=NO / CHANGE,TBL=DNI,ACD=NO)
	Possible Values	: 0-9, up to 22 digits
	Default Value	: none
TBL	Used Table for Directory Number Information and Translation	
	Possible Values	: single value, mandatory (ADD / CHANGE / DELETE / DISPLAY) single value, optional (REGENERATE)
	Possible Values	: DNI Directory Number Information Table GDTR General Digit Translation Table GDTRSR General Digit Translation Service Rule Table
	Default Value	: none
TGRP	Trunk Group	
	Type of Input	: 1 to 10 single values, concatenated with & or &&, optional (DISPLAY,TBL=GDTRSR) single value, mandatory (CHANGE,TBL=GDTRSR)
	Possible Values	: numeric, 1-512
	Default Value	: none
THRSHLD	Number of incoming Trunk ACD Calls	
	Type of Input	: single value, 5. parameter of a min-1-group (CHANGE,TBL=DNI,ACD=YES) single value, optional (ADD,TBL=DNI,ACD=YES)
	Possible Values	: 0 - 1024

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Error Messages and Advisories

	*	If the threshold is ever desired to be set back to the null value.
Default Value	: H'FFFF'	No threshold set. Initialized by database. Not used by the craftsperson.

80.5 Error Messages and Advisories

Note:

The F04 and F36 messages are variable text; one of the text strings bounded by parenthesis will be output to suffix the main part of these error messages

80.5.1 Error Messages

F01: PLEASE ENTER GDTRRULE=0 FOR THE CASE ROUTING=SA (SID/ANI).

F02: PLEASE ENTER THE NUMBER OF AN EXISTING GDTR RULE (GDTRRULE>0) FOR ROUTING=DRTSA.

F03: THE INTERNAL ROUTING DIRECTORY NUMBER 'INTRTDN' OF A GDTR ENTRY WITH GDTRRULE=<rrr> POINTS TO A DNI ENTRY WITH ROUTING=<ttttt>. SUCH A DNI ENTRY MUST HOWEVER HAVE ROUTING=SA (SID/ANI).

F04: CANNOT CHANGE/DELETE RULE GDTRRULE=<rrr> - IT IS STILL BEING REFERENCED BY TABLES (AMO-ffff,pppp)

F05: NO GDTR RULE WITH GDTRRULE=<rrr> PRESENT.

F06: NO ENTRY WITH DGTSTR=<dddddddddddddd> AND GDTRRULE=<rrr> AVAILABLE.

F07: AN ENTRY WITH DGTSTR=<dddddddddddddd> AND GDTRRULE=<rrr> ALREADY PRESENT.

F08: CANNOT USE INTERNAL ROUTING DIRECTORY NUMBER TO INTRTDN=<nnnnnn> - IT MUST FIRST BE ASSOCIATED WITH DIGIT ANALYSIS RESULT DAR=STN (ADD-WABE:CD=<?>,DAR=STN;)

F09: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=<nnnnnn> IS ALREADY IN USE.

F10: NO ENTRY WITH INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=<nnnnnn> PRESENT IN THE DNI TABLE (DISPLAY-DNIT:TBL=DNI;).

F11: CANNOT DELETE INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=<nnnnnn> - IT IS STILL BEING REFERENCED BY THE GDTR TABLE. FIND REFERENCES (DISPLAY-DNIT:TBL=GDTR,INTRTDN=<?>;) AND REMOVE THEM (DELETE-DNIT:TBL=GDTR,GDTRRULE=,DGTSTR=<?>;).

F12: INVALID DIGIT ANALYSIS RESULT FOR INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=<nnnnnn>. THE CORRECT ASSIGNMENT IS DAR=STN. (DISPLAY-WABE,TYPE=GEN,CD=<?>;)

F13: INVALID DIGIT ANALYSIS RESULT FOR <dddddddddddddd>. DAR MUST BE OF TYPE: STN, NETW, HUNT, TIE, ATND, COMBO, MILLWAT, LOOPBACK OR SILENCE. (AMO-WABE:DAR)

F15: THE ROUTE CONTROL GROUP 'RCG' HAS NOT YET BEEN CREATED. FIRST RESERVE RCG INDEX (CHANGE-ACDS:TYPE=CAFRCG,RCG=<?>,CAFDN=<?>;)

F16: FIRST A ROUTE SELECTION TABLE (RS) HAS TO BE SET UP FOR ROUTE CONTROL GROUP RCG=<aaaa>: ADD-ACDRS:TYPE=RS,RCG=<aaaa>,...

- F17: AUDIBLE SOURCE ID AUDSRCID=[^]audsrcid[^] HAS YET TO BE CREATED:
ADD-RCSU:OPMODE=CONT,OPTYPE=RANDOM,RECAPL=ACDR,RECNUM=<?>;
- F18: THE APPLICATION TYPE ASSIGNED FOR RECORDER
'AUDSRCID' BY AMO RCSU MUST BE RECAPL=ACDR.
- F19: RECORDER 'AUDSRCID' MUST BE CONFIGURED WITH
CONTINUOUS OPERATIONS MODE AND RANDOM START.
(CHANGE-RCSU,OPMODE=CONT,OPTYPE=RANDOM,RECNUM=<?>;)
- F20: WILDCARDS ALLOWED ONLY AT TRAILING POSITIONS OF COMMAND INPUT 'DGTSTR'.
- F21: EITHER A SINGLE JOKER (#) OR A DIGIT STRING WITH EVENTUAL
TRAILING WILDCARDS (*) MAY BE ENTERED FOR 'DGTSTR'.
- F22: DIGITS "A" ... "D" ARE NOT ALLOWED FOR 'DGTSTR'.
- F23: NO 'SVCDATA' ALLOWED FOR A SID/ANI ENTRY.
- F24: MEMORY RESERVED FOR DNI TABLE ENTRIES IS INSUFFICIENT.
PLEASE ALLOCATE ADDITIONAL MEMORY
(ADD-DIMSU:DNI=<?>;)
- F25: MEMORY RESERVED FOR GDTR TABLE ENTRIES IS INSUFFICIENT.
PLEASE ALLOCATE ADDITIONAL MEMORY
(ADD-DIMSU:GDTR=<?>;)
- F26: INSUFFICIENT MEMORY FOR DISPLAY TEXTS.
- F27: MEMORY RESERVED FOR RULO BLOCKS IS INSUFFICIENT.
PLEASE ALLOCATE ADDITIONAL MEMORY
(ADD-DIMSU:BLK100=<?>;)
- F28: A 'TARGET' MUST BE ENTERED FOR ACD=N.
- F29: AN RCG INDEX MUST BE ENTERED WHEN CHANGING FROM ACD=N TO ACD=Y.
- F30: THE TWO DIGIT STRINGS DELIMITING THE RANGE ENTERED FOR 'DGTSTR' MUST HAVE THE
SAME LENGTH.
- F31: DIGITS "A" ... "D" ARE NOT ALLOWED FOR 'THRSHLD'.
- F32: THE CHARACTER "*" MUST STAND ALONE`
IF USED IN THE INPUT FOR 'THRSHLD'.
- F33: USE EITHER A SINGLE ASTERISK ("*") OR A NUMBER IN THE RANGE 0-1024 AS INPUT
FOR 'THRSHLD'.
- F34: THE TWO INTERNAL ROUTING DIRECTORY NUMBERS DELIMITING THE RANGE ENTERED FOR
'INTRTDN' MUST HAVE THE SAME LENGTH.
- F35: CHANGE FROM ROUTING=<ttttt> TO ROUTING=<ttttt> NOT PERMITTED -
ONLY FROM ROUTING=DRTD TO ROUTING=DRTSA OR VICE VERSA.
- F36: CANNOT CHANGE/DELETE INTERNAL ROUTING DIRECTORY NUMBER
INTRTDN=<nnnnnn> - IT IS REFERENCED BY RULE AMO-ffff,ppppp)
- F37: THE TARGET MUST HAVE BEEN SET UP AS A SUBSCRIBER.
- F38: SUBSCRIBER NUMBERS 'TARGET' AND 'INTRTDN' MUST BE DIFFERENT.
- F39: THE TARGET MUST BE ASSOCIATED WITH AN ATTENDANT GROUP (ADD-VFGR,ATNDGR=;).
- F40: CANNOT DELETE INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=<nnnnnn>
- IT IS STILL BEING REFERENCED BY THE ACD ROUTING TABLES.
ENTER COMMAND 'DISPLAY-ACDRT;' AND SEARCH FOR ENTRIES HAVING
'RTAGT, RTOFF,RTEXT' IN COLUMNS 'ACTION, PARAMETER' AND THE APPROPRIATE
DIRECTORY NUMBER IN COLUMN 'VALUE'.
(DELETE STEPS WITH 'CHANGE-ACDRT:TYPE=DELSTEP,STEP=<?>;',
REMOVE ACD ROUTING TABLES WITH 'DELETE-ACDRT:ART=<?>;')
- F41: CANNOT DELETE JOKER - THE GDTR RULE FOR JOKER IS REFERENCED BY A TRUNK GROUP
CONTAINING ANI-ONLY TRUNKS.
TRUNK GROUPS FOR ALL AFFECTED TRUNKS MUST BE CHANGED TO USE A DIFFERENT
GDTR RULE THAT CONTAINS A JOKER (AMO BUEND,GDTRRULE; AMO TDCSU,TGRP).
- F42: CANNOT SET ALL ENTRIES IN GDTRSR TABLE TO ZERO SINCE TRUNK GROUP <ggg>
CONTAINS GDTR PRIB TRUNK. (AMO-TDCSU,TGRP)
- F43: MEMORY RESERVED FOR DATA POOL ELEMENTS IS INSUFFICIENT.
PLEASE ALLOCATE ADDITIONAL MEMORY
(ADD-DIMSU:DPDNI=<?>;)

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- F44: DATA POOL RESERVED FOR AMO-DNIT HAS EXHAUSTED ITS MEMORY.
SEE AMO-DIMSUS TO ALLOCATE MORE MEMORY
(ADD-DIMSUS, DPMDNIT).
- F45: TDS TEST TERMINATION ACCESS CODES CANNOT BE ASSIGNED AS A TARGET FOR A DNI
TABLE ENTRY SET TO 'SA'.
- F46: FOR TARGETS ASSOCIATED WITH TDS TEST TERMINATION ACCESS CODES THE PARAMETERS
'ROUTING, GDTRRULE, DISPLAY' MAY NOT BE CHANGED FROM THEIR DEFAULT VALUES.
- F47: NUMBER ENTERED FOR INTRTDN=<nnnnnn> IS ALREADY
USED AS AN EXTERNAL STATION NUMBER.
- F48: NUMBER ENTERED FOR INTRTDN=<nnnnnn> IS ALREADY USED
AS AN EXTERNAL HUNTING DESTINATION (DISPLAY-SA,STNO=<?>).
- F49: CANNOT DELETE DIRECTORY NUMBER INTRTADR=<nnnnnn> - THE ASSIGNMENT DAR=STN FOR
DIGIT ANALYSIS RESULT IS MISSING.
- F50: THE SPECIFIED TRUNK GROUP HAS NOT YET BEEN CREATED
(AMO BUEND, TGRP).
- F52: INSUFFICIENT MEMORY FOR SUBSCRIBERS - ALLOCATION: 'ADD-DIMSUS:STN=<?>'.
- F53: INSUFFICIENT MEMORY FOR DEVICES - ALLOCATION: 'ADD-DIMSUS:LODEN=<?>'.
- F54: THE INTERNAL ROUTING DIRECTORY NUMBER 'INTRTDN' OF A GDTR ENTRY
WITH GDTRRULE=<rrr> POINTS TO A DNI ENTRY WITH ROUTING=<ttttt>. SUCH A DNI
ENTRY MUST HOWEVER HAVE ROUTING=DRTD OR DRTSA.

Output Text Definitions

- aaaa Route Control Group (1-1020)
- ddd..Digit String
- fff..AMO
- ggg Trunk Group (1-512)
- ii Audible Source Id (0-206)
- nnn..Internal Routing Number, Target (0...999999)
- ppp..Parameter
- rrr General Digit Translation Rule (1-255)
- ttttt Routing type with possible values: DRTD, DRTSA, SA
- F55: THIS DIRECTORY NUMBER IS USED BY AN ACD GROUP AS PILOT NUMBER GRPPN. CHANGE
THE ACD GROUP ENTRY BEFORE REPEATING THIS COMMAND.

80.5.2 Advisory Messages

- H01: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=<nnnnnn> HAS BEEN ADDED.
- H02: THE ATTRIBUTES OF INTERNAL ROUTING DIRECTORY
NUMBER INTRTDN=<nnnnnn> HAVE BEEN CHANGED.
- H03: INTERNAL ROUTING DIRECTORY NUMBER INTRTDN=<nnnnnn> HAS BEEN DELETED.
- H04: INTERNAL ROUTING DIRECTORY NUMBER <nnnnnn>
IS NO LONGER BEING REFERENCED.
- H05: DIGIT STRING DGTSTR=<dddddddddddddd>
HAS BEEN ADDED TO RULE GDTRRULE=<rrr>.
- H06: THE ATTRIBUTES OF RULE GDTRRULE=<rrr> HAVE BEEN CHANGED.
- H07: DIGIT STRING DGTSTR=<dddddddddddddd>
HAS BEEN REMOVED FROM RULE GDTRRULE=<rrr>.
- H08: A TDS TEST TERMINATION ACCESS CODE WAS ENTERED AS A TARGET. BY DEFAULT THE
VALUES FOR 'ROUTING, GDTRRULE, DISPLAY' HAVE BEEN SET TO ' DRTD, 0, BLANKS '
RESPECTIVELY.

H09: DNIS RULE <rrr> HAS BEEN ESTABLISHED FOR NETWORK SERVICE <sss> IN TRUNK GROUP <ggg>.
H10: RULE <rrr> ESTABLISHED FOR ALL NETWORK SERVICES IN TRUNK GROUP <ggg>.
H11: PLEASE ENSURE THAT THE TARGET=<dddddddddddddd> BE ASSOCIATED WITH A HUNT GROUP VIA AMO SA. OTHERWISE, THE TARGET WILL NOT BE FUNCTIONAL.
H14: THE FEATURE 'ACD' IS TURNED OFF.
IT MAY BE TURNED ON BY: CHANGE-ZAND:TYPE=ACD,ACDALLOW=YES;

Output Text Definitions

ddd..Digit String
ggg Trunk Group (1-512)
nnn..Internal Routing Number, Target (0..999999)
rrr General Digit Translation Rule (1-255)
sss Network Service (see parameter NETSVC)

80.5.3 Use of Output Messages for each Function

- ADD:
F01, F02, F03, F05, F07, F08, F09, F10, F12, F13,
F14, F15, F16, F17, F18, F19, F20, F21,
F22, F23, F24, F25, F26, F27, F31, F32, F33,
F36, F37, F38, F39, F43, F44, F45, F48,
H01, H05, H08, H11
- CHANGE:
F01, F02, F03, F04, F05, F06, F07, F08, F10,
F13, F14, F15, F16, F17, F18, F19, F20, F21,
F22, F23, F26, F28, F29, F31, F32, F33, F35,
F36, F37, F38, F39, F44, F45, F46, F47, F54,
H02, H04, H05, H06, H07, H08, H09, H10, H11
- DELETE:
F04, F05, F06, F08, F10, F11, F20, F21, F22,
F36, F40, F47,
H03, H04, H07
- DISPLAY:
F20, F21, F22, F30, F34
- REGENERATE:
NONE

81 DPSM - Device Pair Allocation (Duplicate Recording)

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The option of duplicate recording exists for the purpose of increasing the data reliability and data availability. For this purpose, a duplicate area (slave HD) is assigned to the original area (master HD). The original area is copied to the duplicate area (synchronization) before starting operation. If the "logical area name" begins with the letters "RO" (read only) during duplicate recording, adjusting the duplicate area for each runup is omitted. The two areas are synchronized only when activated with DSKX (= new startup). Therefore, only those areas that are written once, that were never changed, and where successful writing can be traced by the service personnel (e.g., recorded announcements on the VMS residing on hard disk), may receive the "predicate RO".

Prerequisites for creating a pair allocation for duplicate recording by using the AMO DPSM (*Device Pair Allocation* , Service Module):

- Two areas configured by means of the AMO DASM.
- Both areas must not be activated.
- Both areas must not belong to the same controller.
- Both areas must be created on different devices.
- Both areas must agree with respect to track, sector, and area sizes.
- 'PHY'-areas used by UNIX in previous variants will only be activated physically and cannot be double recorded, either.

81.1 Restrictions

This description is valid from HiPath 4000 V6.0.

81.2 Interrelationships

- AMO DASM : Memory areas on hard disk
- AMO DCSM : Device configuration of servers

DPSM - Device Pair Allocation (Duplicate Recording)

AMO Functions

- AMO DDSM : Device Display of the Server
- AMO DLSP : Hard Disk area allocation - Logical

81.3 AMO Functions

- [ADD-DPSM](#) : Creating pair allocation
- [DELETE-DPSM](#) : Cancelling pair allocation

81.3.1 ADD-DPSM

Procedure Overview

Command Code	Parameter
ADD-DPSM	[UNIT=<param>], CNO=<number>, ANO=<param>;

Example

Creating pair allocation for a duplicate recording of area G on controller 1 and area F on controller 2 of administration and data server 1.

Input:

```
ADD-DPSM: , 1-2, G-F;
```

81.3.2 DELETE-DPSM

Procedure Overview

Command Code	Parameter
DELETE-DPSM	[UNIT=<param>], CNO=<number>, ANO=<param>;

Example

Cancelling the pair allocation of area G on controller 1 of administration and data server 1.

Input:

```
DELETE-DPSM: , 1, G;
```

81.4 Parameter Description

ANO	Area number		
	Type of Input	: max. 2 chained (with '-') single values mandatory	
	Possible Values	: E - K	
CNO	Controller number		
	Type of Input	: max. 2 chained (with '-') single values mandatory	
	Possible Values	: 1 - 7	
UNIT	Functional system unit i.e. server code		
	Type of Input	: Single value optional	
	Possible Values	: A1	= Administration and Data Server (ADS)
	Default Value	: A1	

81.5 Error Messages and Advisories

81.5.1 Error Messages

```

F01: CONTROLLER <:cnam:> DOES NOT EXIST
F02: DEVICE <:devnam:> DOES NOT EXIST
F03: AREA <:arrea:> IS NOT YET ASSIGNED
F04: AREA <:arrea:> IS BLOCKED DUE TO A DEFECT
F05: AREA <:arrea:> IS IN SYNCHRONIZATION STATE
F06: AREA <:arrea:> IS IN SERVICE
F07: AREA <:arrea:> IS RESERVED EXCLUSIVELY
F08: AREA <:arrea:> IS ALREADY PART OF A PAIR
F09: AREAS ARE ON THE SAME DEVICE
F10: DIFFERENT TRACK SIZES
F11: DIFFERENT SECTOR SIZES
F12: DIFFERENT AREA SIZES
F13: AMO CANNOT BE EXECUTED AT THE MOMENT
F14: AREA <:arrea:> IS NOT ALLOCATED TO A PAIR
F15: ADMINISTRATION AREAS MUST NOT BE DOUBLED
F17: AREAS ARE ON THE SAME CONTROLLER
F18: DIFFERENT VALUES FOR AREA GRANULARITY
F19: PAIR ALLOCATION FOR AREA WITH LOGNAME <logname> NOT POSSIBLE

```

81.5.2 Advisories

H01: DSCR - ERROR

H02: THE LOGNAME <logname> OF AREA <areakz> HAS BEEN OVERWRITTEN !

82 DSSM - Device Switch for Server Moduls

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

Switching of external storage devices.

82.1 Restrictions

This description is valid from HiPath 4000 V6.0.

82.2 Interrelationships

- AMO DASM : Hard disk area allocation - physical
- AMO DCSM : Disk configuration
- AMO DPSM : Device pair allocation

82.3 Functions of the AMO

- [ACTIVATE-DSSM](#) : Activate an external storage device
- [DEACTIVATE-DSSM](#) : Deactivate an external storage device
- [CHANGE-DSSM](#) : Change or remove the dependability inhibit of an external storage device

82.3.1 ACTIVATE-DSSM

Prerequisite for activating a hard disk (HD):

- At least one area must be defined on the hard disk
- All areas on the device must be initialized
- The device must not have a dependability inhibit

When a hard disk is activated, all areas of the hard disk are activated.

DSSM - Device Switch for Server Moduls

Functions of the AMO

Procedure Overview

Command Code	Parameter
ACTIVATE-DSSM	[UNIT=<param>], CNO=<number>, [TEST=<param>] , [ANO=<param>];

Example

Activate and test area F on controller 1 of the administration and data server 1.

Input:

```
ACT-DSSM: , 1, Y, F;
```

82.3.2 DEACTIVATE-DSSM

All areas or specified areas of the hard disk are deactivated, and additional partitions will be displayed if they are present.

Procedure Overview

Command Code	Parameter
DEACTIVATE-DSSM	[UNIT=<param>], CNO=<number>, [ANO=<param>];

Example

Deactivate area F and G on controller 1 of administration and data server 1.

Input:

```
DEACT-DSSM: , 1, F&G;
```

82.3.3 CHANGE-DSSM

When this function is called, the dependability inhibit for the peripheral storage device is removed.

Procedure Overview

Command Code	Parameter
CHANGE-DSSM	[UNIT=<param>], CNO=<number>, [ANO=<param>];

Example

Remove dependability inhibit of device 1 of administration and data server 1.

Input:

CHANGE-DSSM: , 1;

82.4 Parameter Description

ANO	Area number		
	Type of Input	: max. 8 with '&' chained single values optional	
	Possible Values	: E - K	
CNO	Controller number		
	Type of Input	: Single value mandatory	
	Possible Values	: 1 - 8	
TEST	Device test required		
	Type of Input	: Single value optional	
	Possible Values	: YES	= Yes
		NO	= No
	Default Value	: No	
UNIT	Functional system unit i.e. server code (corresponds to processor identification)		
	Type of Input	: Single value optional	
	Possible Values	A1	= Administration and Data Server (ADS)
	Default Value	: A1	

82.5 Error Messages and Advisories

82.5.1 Error Messages

F01: DEVICE DOES NOT EXIST

DSSM - Device Switch for Server Moduls

Error Messages and Advisories

F02: CONTROLLER <:contr:> DOES NOT EXIST
F03: DEVICE <:devnam:> DOES NOT EXIST
F04: NO AREA HAS BEEN CREATED ON DEVICE <:devnam:>
F06: AREA <:area:> IS NOT ACTIVATED BECAUSE THE AREA IS BLOCKED BY
DEPENDABILITY; ACTIVATION IS ONLY POSSIBLE AFTER BLOCK BY
DEPENDABILITY HAS BEEN REMOVED (CHANGE-DSSM)
F07: DEVICE <:devnam:> HAS ALREADY BEEN DEACTIVATED
F08: DEVICE <:devnam:> IS NOT BLOCKED BY DEPENDABILITY
F10: FOR DEVTYPES THAT ARE NOT A HD, AREAS ARE NOT ALLOWED TO BE ENTERED
F11: DEVICE <:devnam:> IS NOT ACTIVATED BECAUSE THE DEVICE IS BLOCKED BY
DEPENDABILITY; ACTIVATION IS ONLY POSSIBLE AFTER BLOCK BY DEPENDABILITY
HAS BEEN REMOVED (CHANGE-DSSM)
F12: AREA <:area:> IS NOT ACTIVATED BECAUSE THE AREA IS RESERVED BY ANOTHER
AMO; ACTIVATION IS ONLY POSSIBLE AFTER TERMINATION OF THE
OTHER AMO
F16: AREA <:area:> HAS NOT BEEN DEACTIVATED BECAUSE IT IS INCONSISTENT
F17: INITIALIZATION OF DEVICE <:devnam:> DOES NOT MATCH THE DATABASE.
PLEASE REINITIALIZE IT!
F18: AREA <:area:> IS NOT CONFIGURED
F19: AREA <:area:> HAS ALREADY BEEN DEACTIVATED
F20: DEVICE <:devnam:> IS WRITE PROTECTED
F21: NO DATA MEDIA IN DEVICE <:devnam:>
F22: DEVICE <:devnam:> IS NOT ACTIVATED BECAUSE OF DSCR ERROR H'error
F23: AREA <:area:> IS NOT ACTIVATED BECAUSE THE AREA IS INCONSISTENT;
INITIALIZATION BY START-INIT IS NECESSARY
F24: AREA <:area:> IS NOT ACTIVATED BECAUSE THE AREA IS NOT INITIALIZED
ON THE MEDIUM; INITIALIZATION BY START-INIT IS NECESSARY
F25: AREA <:area:> INITIALIZED ON MEDIUM IS NOT ACTIVATED BECAUSE THE AREA IS
NOT CONFIGURED IN THE DATABASE; THE DATABASE CONFIGURATION
HAS TO BE CHANGED TO GET THE DATABASE AND THE MEDIUM
CONSISTENT
F26: AREA <:area:> IS NOT ACTIVATED BECAUSE THE AREA IS USED BY THE EXTERNAL
APPLICATION <appl>; ACTIVATION NOT POSSIBLE UNTIL AREA IS
DEACTIVATED BY THE EXTERNAL EXTERNAL APPLICATION
F27: AREA <:area:> IS NOT DEACTIVATED BECAUSE THE AREA IS USED BY THE EXTERNAL
APPLICATION <appl>; DEACTIVATION CAN ONLY BE DONE BY THE
EXTERNAL APPLIKATION
F28: UNEXPECTED DSCR STATE <state> (<:mnemo:>)
F29: UNEXPECTED DSCR ERROR H'error (STATE <state> / <:mnemo:>)
F30: AREA <:area:> IS NOT ACTIVATED BECAUSE OF DSCR ERROR H'error
F31: AREA <:area:> IS NOT DEACTIVATED BECAUSE OF DSCR ERROR H'error
F32: DEVICE <:gernam:> IS NOT DEACTIVATED BECAUSE THE DEVICE IS BLOCKED BY
DEPENDABILITY; DEACTIVATION IS ONLY POSSIBLE AFTER BLOCK BY DEPENDABILITY
HAS BEEN REMOVED (CHANGE-DSSM)
F33: AREA <:area:> IS NOT DEACTIVATED BECAUSE THE AREA IS BLOCKED BY
DEPENDABILITY; DEACTIVATION IS ONLY POSSIBLE AFTER BLOCK BY
DEPENDABILITY HAS BEEN REMOVED (CHANGE-DSSM)

82.5.2 Advisories

H01: AMO CANNOT BE EXECUTED AT PRESENT (DSCR IS OCCUPIED BY ANOTHER AMO)

H02: TEST BY DEPENDABILITY UNAVAILABLE
 H03: TEST UNSUCCESSFUL, NO ACTIVATION TOOK PLACE
 H04: AREA <:area:> ALREADY ACTIVATED
 H05: AREA <:area:> IS ADAPTED
 H06: TEST IS IMPOSSIBLE FOR DEVICES THAT ARE NOT A HD
 H10: AREA <:area:> WILL BE ADAPTED AFTER THE ACTIVATION OF THE MASTER AREA
 H11: AT LEAST ONE AREA IS PAIR ALLOCATED; THE NEXT ACTIVATION OF THIS
 AREA OVERWRITES THE AREA DATA; CONTINUE WITH DEACTIVATION?
 H13: AT LEAST ONE AREA IS PAIR ALLOCATED; CONTINUE WITH ACTIVATION?
 H14: THE ACTIVE LOAD AREA <:area:> IS DEACTIVATED
 H16: PARTITION FOR sysname FILESYSTEM
 SYSTEM ID H'sysid EXISTS ON HARD DISK
 H18: AREA <:area:> IS ACTIVATED
 H19: AREA <:area:> IS ACTIVATED WITH THE AREA DATA FROM THE MEDIUM AND THE
 LOGICAL NAME <lognam>; THE DATABASE CONFIGURATION HAS TO
 BE CHANGED OR THE MEDIUM HAS TO BE INITIALIZED TO GET THE
 DATABASE AND THE MEDIUM CONSISTENT
 H20: AREA <:area:> IS ALREADY ACTIVATED WITH THE AREA DATA FROM THE MEDIUM AND
 THE LOGICAL NAME <lognam>; THE DATABASE CONFIGURATION HAS
 TO BE CHANGED OR THE MEDIUM HAS TO BE INITIALIZED TO GET THE
 DATABASE AND THE MEDIUM CONSISTENT

82.5.3 Insertions for Messages

appl	PC
	HP
	LINUX
sysid	LINUX
	UNKNOWN

DSSM - Device Switch for Server Moduls

Error Messages and Advisories

83 DSSU - Device switch of switching unit

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

Using AMO DSSU, devices of the switching unit (SWU) can be switched on or off (activated/deactivated). Using restart the functions deactivate and activate are combined. Additionally, devices may be signed off or signed on to a pen (Feature Autoset Relocate). In this AMO description, the term 'devices' includes station lines, terminals, and trunks.

Devices may be switched, identified by their port equipment number (TYPE = PEN) or station number (TYPE = STNO).

For configuration of devices with different services for one station number (e.g. S0-Bus) these services may be switched individual.

All functional devices for S0-Bus can only be switched together. Parameter SVC is not allowed.

For display dependability states use AMO SDSU.

MSN station numbers:

This AMO enables the switch on and switch off for CP of MSN station numbers/MSN secondary stations numbers. To do this, the new service MSN was added. If service=MSN is used for a NON-MSN station number/MSN secondary station number the error message F23 will be displayed. Switch on is only allowed with ONTYPE=ANL, whereby the READY-Bit in CP is set. For switch off with OFFTYPE=DC the READY-Bit will be reset, with OFFTYPE=DI CP will be forced additionally to cancel all transactions of MSN station number immediately. (please see AMO-SBCSU also)

B-channel of S0-Trunk circuit:

The second B-channel of S0-Trunk circuit can be switched individually. Switch on will be done by "activation with no loading", and switch off by "long term deactivation". If a non S0-Trunk circuit PEN is entered, message F22 will be displayed.

83.1 Restrictions

This description is valid from HiPath 4000 V1.0.

83.2 Interrelationships

- AMO-DCIC
- AMO-REFTA
- AMO-SDSU
- AMO-SCSU/SBCSU/ACSU
- AMO-TSCSU/TDCSU/TACSU
- AMO-VFGR

83.3 Functions of the AMO

- **ACTIVATE-DSSU** : Activate devices
- **DEACTIVATE-DSSU** : Deactivate devices
- **CHANGE-DSSU** : Sign on / sign off devices
- **RESTART-DSSU** : Reset (deactivate / activate) devices
- **EXEC-DSSU** : *** not available, not supported by board SLMC ***
Execute loading of CMI Basestations

83.3.1 ACTIVATE-DSSU

For switch on there are the following ways:

- activation with conditional loading (ACL),
- activation with unconditional loading (AUL) or
- activation with no loading (ANL)

'Loading' means loading of trunk data on boards, not 'downloading' of SET400/500.

For activation with conditional loading, there is no loading if not required because of trunk status (e.g. pre-locked trunks).

The trunks and all connected devices will be activated.

When activating, existing status "manual lock" or "long term lock" will be removed.

If the line or one of the terminals selected with the parameter SVC is not operational after the activation (e.g., due to 'blocked by partner system'), the status is reported to the operator in an advisory.

DCI:

This feature allows a second line module to be allocated to a station, to which a DCI (data communication interface) can be attached. In such a case, if the parameter TYPE is declared as STNO and SVC is not specified, then an activate job will also activate the second line module with the DCI.

Voice compression:

If the circuit to be activated is partner of a voice compression connection, the according VCM circuit will be activated automatically if its state is pre-blocked, and the message H24 will be displayed.

Procedure Overview

Command Code	Parameter
ACTIVATE-DSSU	[ONTYPE=<param> , TYPE=STNO, STNO=<number>, [SVC=<param>]; | , TYPE=PEN, PEN1=<pen>, [PEN2=<pen>]; | , TYPE=BCHAN, PEN1=<pen>, [BCHL=<number>];

Examples

1. The line module and the terminal equipment with the STNO 204 is to be activated with unconditioned loading.

Input:

```
ACTIVATE-DSSU:AUL,STNO,204;
```

Output:

```
H01: STNO 204 ACTIVATED (READY)
H01: DCI 204 ACTIVATED (READY)
```

2. Activate second B-channel for PEN 1-1-115-0

Input:

```
ACTIVATE-DSSU:,BCHAN,1-1-115-0,2;
```

Output:

```
H01: BCHAN 1-1-115-0 ACTIVATED
```

83.3.2 DEACTIVATE-DSSU

Deactivation can be carried out as follows:

DSSU - Device switch of switching unit

Functions of the AMO

- with pre-blocking (DC),
- without pre-blocking (DI) or
- long-term (L)

Deactivation without Pre-Blocking:

The devices are manually blocked. (Long-term blocked devices remain blocked for a long period of time.) Existing connections are released immediately.

Deactivation with Pre-Blocking:

Existing connections are not released, the affected devices are blocked automatically after the release.

Long-Term Deactivation:

The devices are deactivated immediately and will not be administrated by DEP any longer. This is similar to 'Not Equipped' (NEQ). The feature modem pooling is released.

Reference clock generator:

Parameter REFOFF controls deactivation of reference clock generator. If REFOFF = NO, H10 is displayed for a PEN to which a reference clock generator is assigned. This PEN won't be deactivated.

If nothing is entered for parameter REFOFF, that means PROMPT, or Y is entered, there will be a check if the trunk represents the active reference clock generator. If the entered PEN leads to the only reference clock generator, H09 prompts, whether to deactivate this PEN or not.

If there are additional reference clock generators available, H08 will be prompted. If Y = deactivate, DEP will select another trunk from the reference clock table (AMO REFTA) as the active reference clock generator.

Voice compression:

If the circuit to be deactivated with OFFTYPE=DC is partner of a voice compression connection, the according VCM circuit will be deactivated automatically and the message H24 will be displayed.

Procedure Overview

Command Code	Parameter
DEACTIVATE-DSSU	[OFFTYPE=<param>] , TYPE=STNO, STNO=<number>, [SVC=<param>]; | , TYPE=PEN, PEN1=<pen>, [PEN2=<pen>], [REFOFF=<param>];

Command Code**Parameter**

```
|,TYPE=BCHAN,PEN1=<pen>,[BCHL=<number>];
```

Examples

1. The line at port 1-1-6-1 is to be deactivated regardless of the current device status.

Input:

```
DEACTIVATE-DSSU:DI,PEN,1-1-6-1;
```

Output:

```
H01: SLMA 1-1-6-1 DEACTIVATED
```

2. The FAX terminal equipment having DN's 252 to 256 and 205 are to be deactivated with pre- blocking.

Input:

```
DEACTIVATE-DSSU:DC,STNO,252&&256&205,FAX;
```

Possible Output:

```
H03: FAX 252 DEACTIVATED
F11: STNO 253 NOT CONFIGURATED
F12: STNO 254 PARAMETER SVC NOT ALLOWED
H04: FAX 256 PRE-BLOCKED
H05: FAX 205 DEACTIVATED FOR LONG PERIOD (NEQ STATE)
```

3. Deactivate second B-channel for PEN 1-1-115-0

Input:

```
DEACTIVATE-DSSU:,BCHAN,1-1-115-0,2;
```

Output:

```
H05: BCHAN 1-1-115-0 DEACTIVATED FOR LONG PERIOD (NEQ STATE)
```

4. Deactivate current reference clock at pen 1-1-37-0

Input:

```
DEACT-DSSU:,PEN,1-1-37-0;
```

Output:

```
H08: THE DEACTIVATE JOB AFFECTS THE CURRENT REFERENCE CLOCK
GENERATOR"
      PLEASE ANSWER PARAMETER REOFF
      Y . . . . DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
      N . . . . DO NOT DEACTIVATE CURRENT REFERENCE CLOCK
GENERATOR
```

*

Input:

```
Y;
```

Output:

```
H03: PEN 1-1-37-0 DEACTIVATED
```

83.3.3 CHANGE-DSSU

By means of TYPE=SIGNON, a signed off extension may be signed on to a signed off pen.

By means of TYPE=SIGNOFF, extensions, which are allowed to use AUTOSET RELOCATE, can be signed off. Therefore the extension will be cut off his pen, after all there are a signed off extension and a signed off pen.

Signed off extensions can be only signed on by means of AMO DSSU. They can not be deactivated or activated.

Procedure Overview

Command Code	Parameter
CHANGE-DSSU	TYPE=SIGNON, STNO=<number>, PEN1=<pen>, [TSI=<number>]; | TYPE=SIGNOFF, STNO=<number>;

Examples

1. Stationnumber 3170 will be signed on at pen 1-1-6-1 TSI 1.

Input:

```
CHANGE-DSSU:SIGNON,3170,1-1-6-1,1;
```

Output:

```
H19: TSI 1 NOT VALID, A VALID TSI WILL BE SEARCHED
```

```
H18: STNO 3170 SIGNED ON TO PEN 1-1-6-1 TSI 4
```

2. Stationnumber 3210 will be signed off.

Input:

```
CHANGE-DSSU:SIGNOFF,3210;
```

Output:

```
H17: STNO 3210 SIGNED OFF
```

83.3.4 RESTART-DSSU

This function resets devices, that means the commands DEACTIVATE and ACTIVATE are combined in one order. For ranges all devices will be deactivated first and activated afterwards. All deactivations will be done with OFFTYPE=DI, all activations will be done with ONTYPE=AUL.

For stationnumbers all services will be switched. The last reference clock generator can not be reset by means of this function, the message H10 will be displayed.

Procedure Overview

Command Code	Parameter
RESTART-DSSU	TYPE=STNO, STNO=<number>; | TYPE=PEN, PEN1=<pen>, [PEN2=<pen>];

Example

1. The line at port 1-1-6-1 is to be reset.

Input:

```
RESTART-DSSU:PEN,1-1-6-1;
```

Output:

```
H01: SLMA 1-1-6-1 DEACTIVATED
H01: SLMA 1-1-6-1 ACTIVATED (READY)
```

2. The devices with stationnumbers 252 to 256 and 205 are to be reset.

Input:

```
RESTART-DSSU:STNO,252&&256&205;
```

Possible outputs:

```
H01: STNO 252 DEACTIVATED
H03: FAX 252 DEACTIVATED
F12: STNO 253 NOT CONFIGURED
F12: STNO 254 NOT CONFIGURED
F12: STNO 255 NOT CONFIGURED
H01: STNO 256 DEACTIVATED
H04: FAX 256 DEACTIVATED
H01: STNO 205 DEACTIVATED
H05: FAX 205 DEACTIVATED
H01: STNO 252 ACTIVATED (READY)
H01: FAX 252 EINGEACTIVATEDSCHALTET (READY)
F12: STNO 253 NOT CONFIGURED
F12: STNO 254 NOT CONFIGURED
F12: STNO 255 NOT CONFIGURED
H01: STNO 256 ACTIVATED (READY)
H01: FAX 256 ACTIVATED (READY)
H01: STNO 205 ACTIVATED (READY)
H01: FAX 205 ACTIVATED (READY)
```

83.3.5 EXEC-DSSU

*** not available, not supported by board SLMC ***

DSSU - Device switch of switching unit

Parameter Description

By means of this function CMI Basestations can be loaded and activated. The loadresult will be displayed. Activation of CMI Basestations without loading will be done by means of ACTIVATE.

Procedure Overview

Command Code	Parameter
EXEC-DSSU	[LTG=<number>], LTU=<number>, SLOT=<number>, [CIR=<number>];

Examples

1. CMI Basestation at LTG 1, LTU 1, SLOT 67, CIR 20 is to be loaded.

Input:

```
EXEC-DSSU:1,1,67,20;
```

Output:

```
H21: BASESTATION 1-1-67-20 LOADED
```

2. CMI Basestation at LTG 1, LTU 1, SLOT 67, CIR 20 is to be loaded but failed.

Input:

```
EXEC-DSSU:1,1,67,20;
```

Output:

```
F48: BASESTATION 1-1-67-20 NOT LOADED, (LW-ERROR)
```

83.4 Parameter Description

BCHL	B-channel number	
	Type of Input	: Single value, && (max.2), optional
	Possible Values	: 1 to 30
	Default Value	: all B-channels
CIR	Circuit number of CMI Basestation	
	Type of Input	: Single value, && (max.2), optional
	Possible Values	: 8 to 23
	Default Value	: all circuits of CMI Basestation
LTG	Line Trunk Group	
	Type of Input	: Single value, optional
	Possible Values	: 1 to 32

	Default Value	: 1	Atlantic platforms allow only LTG number 1
LTU	Line Trunk Unit		
	Type of Input	: Single value, required	
	Possible Values	: 1 up to 15	Depends on HW type
		17 to 99	LTU range for IPDA AP shelves
OFFTYPE	Selection of type of deactivate job		
	Type of Input	: Single value, optional	
	Possible Values	: DC	Deactivate with pre- blocking
		DI	Deactivate immediately
		L	Long-term deactivation
	Default Value	: DC for TYPE	for TYPE = PEN / STNO
		L for TYPE	for TYPE = BCHAN
		DI for TYPE	for TYPE = STNO, SVC = MSN
ONTYPE	Selection of type of activate job		
	Type of Input	: Single value, optional	
	Possible Values	: ACL	Activation with conditional loading
		AUL	Activation with unconditional loading
		ANL	Activation with no loading
	Default Value	: ACL	for TYPE = PEN / STNO
		ANL	for TYPE = BCHAN
		ANL	for TYPE = STNO, SVC = MSN
PEN1	Port equipment number of the first or only line to be switched (LTG-LTU-SLOT-CCT)		
	Type of Input	: Compound value, required	
	Possible Values	: g-uu-sss-ccc	
	g= LTG Number	: 1 (no other value)	
	uu= LTU Number	1 to 15 in HHS (Host Shelf)	
		17 to 99 in AP (Access Point Shelf)	
		16 not defined	
	sss= Slot	: 1 to 121 in increments of six or one depending on HW type (See AMO UCSU)	
	ccc= Line Number	: 0 to 254	

A suitable module must be configured to the slot addressed by PEN (AMO BCSU).

The possible LTU and Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description.

DSSU - Device switch of switching unit

Parameter Description

The possible Line values depend on the module type and its functionality.

They can be listed using DISP-BCSU: TYPE=PEN1 [,LTG=, LTU=, SLOT=, CCT=]; which will also output the actual PEN status (e.g. NOT CONNECTED).

PEN2	Port equipment number of the last line to be switched	
	Type of Input	: Compound value, optional
	Possible Values	: same as for PEN1
REFOFF	Switch reference clock generator as well	
	Type of Input	: Single value, optional
	Possible Values	: Y Switch off ref. clock generator if additional available, otherwise prompt
		N Do not switch off ref. clock generator
		PROMPT Prompt if ref. clock generator found
	Default Value	: PROMPT
SLOT	Slot	
	Type of Input	: Single value, required
	Possible Values	: 1 to 121 in increments of six or one depending on HW type (see AMO-UCSU)
STNO	Station number	
	Type of Input	: Single values, chained single values (not allowed for CHANGE), ranges (not allowed for CHANGE) required
	Possible Values	: STNO must exist in the dialing plan A max. of 10 values is possible, e.g. 3 ranges and 4 chained single values. For CHANGE only single value allowed
SVC	Selection of services for configuration with terminals of different services for S0-Bus or DCI	
	Type of Input	: Single value, & (max. 6) optional
	Possible Values	: VCE Voice
		FAX Facimile
		DTE Data terminal equipment
		MSN MSN number
		ALL All services
	Default Value	: ALL

TSI	Terminal Selection Identifier for subscribers and bus devices		
	Type of Input	:	Single value, optional
	Possible Values	:	1 to 8
TYPE	Type of device to be switched		
	Type of Input	:	Single value, required
	Possible Values	:	ACTIVATE/DEACTIVATE :
	PEN		Port equipment number
	STNO		Station number
	BCHAN		B-channel of Trunk circuits
	RESTART :		
	PEN		Port equipment number
	STNO		Station number
	CHANGE :		
	SIGNON		Sign on extension to pen
	SIGNOFF		Sign off extension

83.5 Error Messages and Advisories

Note

'xxxxx' in the messages designates module type and station number or module type and PEN.

83.5.1 Error Messages

```

F01:  PEN2 PRECEDES PEN1
F02:  LTG NUMBER <ltg> DOES NOT HAVE ADMISSIBLE VALUE, MAXIMUM VALUE: <max>
F03:  LTU NUMBER <ltu> DOES NOT HAVE ADMISSIBLE VALUE, MAXIMUM VALUE: <max>
F04:  SLOT <slot> DOES NOT HAVE ADMISSIBLE VALUE
F05:  CIRCUIT NUMBER <cir> DOES NOT HAVE ADMISSIBLE VALUE, MAXIMUM VALUE: <max>
F06:  LTG <ltg> NOT ASSIGNED (NEQ)
F07:  LTU <ltg>-<ltu> NOT ASSIGNED (NEQ)
F08:  MODULE <ltg>-<ltu>-<slot> NOT ASSIGNED (NEQ)

```

DSSU - Device switch of switching unit

Error Messages and Advisories

F09: STNO XXXX / PEN <ltg>-<ltu>-<slot>-<cir> NOT ACTIVATED/SIGNED ON

F10: PEN <ltg>-<ltu>-<slot> CIRCUIT NUMBER <cct> TOO LARGE
(The specified line number is greater than the largest line number of the module.)

F11: xxxxxx NOT CONFIGURED
(the station number is not in the station number plan)

F12: STNO xxxxxx PARAMETER SVC NOT ALLOWED

F13: STNO xxxxxx HAS NO <svc>-TERMINAL DEVICE
(A terminal matching parameter SVC is not configured for the specified DN.)

F14: xxxxx xxxxxx WITHOUT PHYSICAL DEVICE
(There is no line for the specified DN; the station is a 'floating' chip card user.)

F15: xxxxx xxxxxx NOT ACTIVATED (ORDER ERROR)
(the activation job has been rejected by DC / CDC)

F16: xxxxx xxxxxx NOT DEACTIVATED (ORDER ERROR)
(the deactivation job has been rejected by DC / CDC)

F17: STATION CALL NUMBERS <stn1> AND <stn2> HAVE DIFFERENT LENGTHS

F18: xxxxx xxxxxx CONSOLE DOES NOT BELONG TO ANY AC-GROUP
(the terminal connection of the attendant console must first be accepted in an AC group)

F19: LAYER LOST AT PEN @@-@@-@@@-@@@ PLEASE WAIT FOR END OF SOFT LOCK OR LOCK THIS CIRCUIT HARD (DEACT-DSSU:DI,...;)

F20: STNO <stno> SVC=DTE ONLY ALLOWED FOR CTE

F21: STNO <stno> SINGLE FUNCTIONAL TERMINAL CANNOT BE SWITCHED
(The parameter SVC may not be specified for functional terminals)

F22: ENTERED PEN IDENTIFIES NO S0-TRUNK-CHANNEL

F23: STNO <stno> IS MSN-NUMBER AND THEREFORE SVC=MSN OR SVC=ALL HAS TO BE USED

F24: STNO <stno> MSN-NUMBER NOT DEACTIVATED FOR CP (ORDER ERROR)

F25: STNO <stno> IS NO MSN-NUMBER AND THEREFORE SVC=MSN IS NOT ALLOWED

F27: DEVICE OF STNO <stno> IS NOT ALLOWED FOR SIGN OFF

F28: MAIN NUMBER <stno> HAS ALREADY SIGNED ON NUMBERS

F29: STNO <stno> IS ASSOCIATED WITH DATA DEVICE, SIGN OFF NOT POSSIBLE

F30: STNO <stno> IS ALREADY SIGNOFF

F31: STNO IS PRE-BLOCKED. REPEAT COMMAND LATER OR DEACTIVATE IMMEDIATELY BY MEANS OF DEACT-DSSU:DI,STNO,<stno>;

F32: ID CARD USER <stno> IS NOT SIGNED ON

F35: STNO <stno> IS NOT SIGNED OFF

F36: PEN IS ALREADY ASSIGNED

F37: PEN IS AVAILABLE, BUT NOT SIGNED OFF, USE FIRST
CHANGE-BCSU:SIGNOFF,<ltg>,<ltu>,<ebt>,<cir>,<tsi>;

F38: BOARD <bg> AND DEVICE <ger> DO NOT MATCH

F39: PEN <ltg>-<ltu>-<slot>-<cct> <tsi> IS BUSY WITH CALL PROCESSING, THEREFORE SIGN
ON NOT POSSIBLE

F40: STNO IS IN AN UNDEFINED SIGN OFF STATE. SIGN OFF FIRST:
CHANGE-DSSU:SIGNOFF,<stno>;

F41: STNO <stno> IS SIGNED OFF. THEREFORE IT CANNOT BE SWITCHED

F42: SIGNON/SIGNOFF NOT POSSIBLE RIGHT NOW, REPEAT COMMAND LATER

F43: STNO <stno> IS MSN-NUMBER, SIGN OFF NOT POSSIBLE

F44: FOR STNO <stno> NO OPTISET-MASTER IS SIGNED ON

F45: <block|unblock|reset> ONLY ALLOWED FOR BOARD DIUS7

F46: B-CHANNEL <block|unblock|reset> NOT POSSIBLE, CIRCUIT STATUS MUST BE READY

F47: RESET NOT POSSIBLE, ERROR WHEN READING THE BLOCKING DATA

F48: BASESTATION <ltg>-<ltu>-<slot>-<cct> NOT LOADED, <loaderror>

F49: PEN <ltg>-<ltu>-<slot> IDENTIFIES NO BASESTATION

F50: EXEC ONLY ALLOWED FOR BOARD SLMC

F51: B-CHANNEL <block|unblock|reset> NOT POSSIBLE, NO SUITABLE B-CHANNELS AVAILABLE

F52: AN ACD-AGENT IS LOGGED ON STNO <stno>, SIGN OFF NOT POSSIBLE

F53: PEN <ltg>-<ltu>-<slot> BOARD WITHOUT CIRCUITS

F54: PEN <ltg>-<ltu>-<slot> NOT ACTIVATED

CANNOT ACTIVATE ATPVC CIRCUITS WITH ONTYPE=AUL; ALL ATMSVC CIRCUITS OF THE STMA
BOARD MUST BE LOCKED

F55: PEN <ltg>-<ltu>-<slot> IS ONLY PRE-BLOCKED

STMA CIRCUITS CANNOT BE DEACTIVATED WITH ONTYPE=AUL IN THIS STATE (DEACTIVATE
WITH OFFTYPE=DI PREVIOUSLY)

F56: NO PEN FOUND

F57: NO STATION NUMBER FOUND

F58: STNO <stno> IS USING ONE OF ITS LINE APPEARANCES, THEREFORE SIGN OFF IS NOT
POSSIBLE

F59: STNO <stno> SIGN OFF IS NOT POSSIBLE, BECAUSE IT'S PRIMARY LINE IS STILL IN USE
BY STNO <stno>

F60: CANNOT LOAD ATPVC CIRCUITS; ALL ATMSVC CIRCUITS OF THE STMA BOARD MUST BE LOCKED

F61: <stno> THE MAXIMUM PLANNED NUMBER OF STATIONS HAS BEEN REACHED.

THE NUMBER OF STATIONS ALLOWED CAN BE INCREASED WITH AMO DIMSU

F62: <stno> INSUFFICIENT LINE MEMORY SPACE FOR VIRTUAL LINES

F63: <stno> SIGN ON IS NOT POSSIBLE, BECAUSE AN OPTISET WITH AN API CAN

ONLY BE SIGNED ON TO A PEN WITH A SIGNED OFF TSI FOR AN OPTISET AND A SIGNED OFF
TSI FOR AN API.

F64: SIGNON/SIGNOFF IS NOT ALLOWED FOR STNO ^tlnnu^ (AMO SDAT)

DSSU - Device switch of switching unit

Error Messages and Advisories

F65: PEN @@-@@-@@@-@@@ BCHAN @@ NOT ACTIVATED (ORDER ERROR)
F66: PEN @@-@@-@@@-@@@ BCHAN @@ NOT DEACTIVATED (ORDER ERROR)
F67: PEN @@-@@-@@@-@@@ NOT ACTIVATED (SIGNALLING CIRCUIT)
F68: PEN @@-@@-@@@-@@@ NOT DEACTIVATED (SIGNALLING CIRCUIT)
F69: ACTIVATION OF THE CIRCUIT WITH ONTYPE=AUL HAS NOT BEEN PROCESSED, BECAUSE
CORRESPONDING WAML BOARD IS PRE-BLOCKED. BOARD MUST BE SWITCHED ON WITH THE
FOLLOWING COMMAND FIRST: ACTIVATE-BSSU: ,@@,@@,@@@;

83.5.2 Advisories

H01: xxxx xxxxxx ACTIVATED
H02: xxxx xxxxxx ACTIVATED - NOT READY (<status>)
H03: xxxx xxxxxx DEACTIVATED
H04: xxxx xxxxxx PRE-BLOCKED (<status>)
H05: xxxx xxxxxx DEACTIVATED FOR LONG PERIOD (NEQ STATE)
H06: AMO DSSU INTERRUPTED
(the AMO has been interrupted by a BREAK command or by the BREAK key.)
H07: xxxx xxxxxx IS ONE OF THE TWO CONNECTIONS OF A MODEM
H08: THE DEACTIVATE JOB AFFECTS THE CURRENT REFERENCE CLOCK GENERATOR
PLEASE ANSWER PARAMETER REFOFF
Y DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
N DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
(If Y is specified, the dependability system switches to another
reference clock generator.)
H09: THE DEACTIVATE JOB AFFECTS THE LAST POSSIBLE REFERENCE CLOCK
GENERATOR
***** THE SYSTEM CANNOT ADOPT A REFERENCE CLOCK *****
PLEASE ANSWER PARAMETER REFOFF
Y DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
N DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
(If Y is answered, all reference clock generators are deactivated)
H10: PEN xxxxxx NOT DEACTIVATED (REFERENCE CLOCK GENERATOR)
H11: STNO <stno> MSN-NUMBER ACTIVATED FOR CP
H12: STNO <stno> FOR SERVICE <svc> NOT SWITCHED (MSN-NUMBER)
H13: STNO <stno> MSN-NUMBER DEACTIVATED FOR CP

H14: STNO <stno> MSN-NUMBER DEACTIVATED WITH PRE-BLOCKING FOR CP

H15: MSN-NUMBERS WILL BE SWITCHED WITH ONTYPE=ANL,
ALL OTHERS WITH ONTYPE=<ontype>

H16: MSN-NUMBERS WILL BE SWITCHED WITH OFFTYPE=DI,
ALL OTHERS WITH OFFTYPE=<offtype>

H17: STNO <stno> SIGNED OFF

H18: STNO <stno> SIGNED ON TO PEN <ltg>-<ltu>-<slot>-<cct> xxx (<tsi>)

H19: TSI <tsi> NOT VALID, A VALID TSI WILL BE SEARCHED

H20: <block|unblock|reset> FOR PEN <ltg>-<ltu>-<slot>-<cct> INITIATED

H21: BASESTATION <ltg>-<ltu>-<slot>-<cct> LOADED

H22: BASESTATION CAN BE LOADED ONLY BY MEANS OF
EXEC-DSSU:<ltg>,<ltu>,<slot>;

H23: B-CHANNEL <bchl> NOT ASSIGNED

H24: PEN <ltg>-<ltu>-<slot>-<cct> IS VOICE COMPRESSION PARTNER, THEREFORE THE VCM
CIRCUIT WILL BE SWITCHED FIRST

H25: FOR OUTGOING ONLY B-CHANNEL <bchl> NO BLOCKING POSSIBLE

H26: NO ACKNOWLEDGE OF LAST MESSAGE RECEIVED TO B-CHANNEL <bchl>. NO
<block|unblock|reset> POSSIBLE

H27: B-CHANNEL <bchl> STATE IS ALREADY <block|unblock|reset>

H28: CORDLESS ADMIN STATION MAY NOT BE SWITCHED.
USE AMO BSSU TO SWITCH.

H29: RESTART OF STMA-CIRCUITS NOT ALLOWED. USE DEACT- AND ACT-DSSU.

H30: xxxxx xxxxxx WAS ALREADY ACTIVATED
CIRCUIT DATA HAS NOT BEEN LOADED
LOADING CAN BE INITIATED BY DEACTIVATION AND SUBSEQUENT ACTIVATION

H31: PEN <ltg>-<ltu>-<slot>-<cct> ACTIVATED
CIRCUIT DATA LOADING INITIATED

H33: xxxxx xxxxxx WAS ALREADY DEACTIVATED

H34: ONTYPE=ANL IS TREATED LIKE ONTYPE=ACL

H35: xxxxx xxxxxx WAS ALREADY PRE-BLOCKED

H36: PEN <ltg>-<ltu>-<slot>-<cct> ACTIVATED - NOT READY (<status>)
CIRCUIT DATA LOADING INITIATED

H37: SIGNED OFF STATIONS WILL BE SWITCHED WITH ONTYPE=AUL, ALL OTHERS WITH
ONTYPE=<ontype>

H38: SIGNED OFF STATIONS WILL BE SWITCHED WITH OFFTYPE=DI, ALL OTHERS WITH
OFFTYPE=<offtype>

H39: API <stno> SIGNED ON TO PEN <ltg>-<ltu>-<slot>-<cct> xxx (<tsi>)

H40: PEN @@-@@-@@@-@@@ BCHAN @@ ACTIVATED

H41: PEN @@-@@-@@@@@@-@@@ BCHAN @@ ACTIVATED - NOT READY (@@@@@@@@@@@@@@@@@@@@)

DSSU - Device switch of switching unit

Error Messages and Advisories

- H42: PEN @@-@@-@@@-@@@ BCHAN @@ DEACTIVATED
- H43: PEN @@-@@-@@@-@@@ BCHAN @@ PRE-BLOCKED (SOFTLOCK/BUSY)
- H44: PEN @@-@@-@@@-@@@ BCHAN @@ DEACTIVATED FOR LONG PERIOD (NEQ STATE)
- H45: THE DEACTIVATE JOB AFFECTS THE CURRENT REFERENCE CLOCK GENERATOR OF THE HICOM HOST SYSTEM (HHS). PLEASE ANSWER PARAMETER REFOFF YES . . . DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR NO DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
- H46: THE DEACTIVATE JOB AFFECTS THE LAST POSSIBLE REFERENCE CLOCK GENERATOR OF THE HICOM HOST SYSTEM (HHS). ***** THE SYSTEM CANNOT ADOPT A REFERENCE CLOCK ***** PLEASE ANSWER PARAMETER REFOFF YES . . . DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR NO DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
- H47: THE DEACTIVATE JOB AFFECTS THE CURRENT REFERENCE CLOCK GENERATOR OF THE ACCESS POINT (AP) @. PLEASE ANSWER PARAMETER REFOFF YES. . . . DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR NO DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
- H48: THE DEACTIVATE JOB AFFECTS THE LAST POSSIBLE REFERENCE CLOCK GENERATOR OF THE ACCESS POINT (AP) @. ***** THIS ACCESS POINT CANNOT ADOPT A REFERENCE CLOCK ***** PLEASE ANSWER PARAMETER REFOFF YES. . . . DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR NO DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
- H49: AT LEAST ONE B-CHANNEL WAS LONG TERM DEACTIVATED. TO MAKE SURE, THAT THE ACTIVATED B-CHANNELS GO INTO SERVICE, THE ASSOCIATED CIRCUIT MUST BE SWITCHED OFF AND ON WITH THE FOLLOWING COMMAND: RESTART-DSSU:PEN,@@-@@-@@@-@@@;

84 DTIM1 - Device Handler Timers

The AMO DTIM1 is used to change, display and regenerate the timers for the device handler software complex.

For reasons of clarity, the timers are divided into the following categories:

- ALTA Timers for Austrian branch line (alternate route)
- CO Timers for central office trunk calls
- DIGITE Timers for DIGITE
The parameters ..ON and ..OFF are only valid for AUXDIGI (former DIGI260). The remaining parameters are also valid for Optiset/OptiPoint500.
The calling timers for the Optiset/OptiPoint device family are administrated with AMO PTIME TYPE=SLMA.
- EXPTONE Timers for Expensive route tone supervision
- MFCDID Timers for MFC indialing and test program
- MTLC Timers for the main-PABX set
- STN Timers for stations in general
- TCOM Timers for the adapter set for special equipment
(e.g. CC, dictation equipment)
- TIE Timers for inter-PABX calls

All the tables processed with this AMO are initialized in the database, thus making the ADD action of the AMO superfluous.

84.1 Restrictions

This description is valid from HiPath 4000 V1.0

84.2 Interrelationships

- AMO TACSU : Configure analog trunk circuits in the SWU
- AMO TDCSU : Configure digital trunk circuits in the SWU
- AMO TSCSU : Configure special trunk circuits in the SWU

84.3 Functions of the AMO

- [CHANGE-DTIM1](#) : Change the timers for the device handler
- [DISPLAY-DTIM1](#) : Interrogate the timers for the device handler
- [REGENERATE-DTIM1](#) : Regenerate the timers for the device handler

84.3.1 CHANGE-DTIM1

Procedure Overview

Command Code	Parameter
CHANGE-DTIM1	| TYPEDH=ALTA, OVR=<number>; | TYPEDH=CO, { RESZO=<number>, RESZI=<number> , SETUPULS=<number>, CYCSET=<number> , DSUPVOP=<number>, TRACCO=<number> , WANN1=<number>, DANN1=<number> , WANN2=<number>, DANN2=<number> , DITR=<number>, PEODMS=<number>}; | TYPEDH=DIGITE, { NORMON=<number>, NORMOFF=<number> , CO1ON=<number>, COOFF1=<number> , CO2ON=<number>, COOFF2=<number> , SR1ON=<number>, SR1OFF=<number> , SR21ON=<number>, SR21OFF=<number> , SR22ON=<number>, SR22OFF=<number> , MTON=<number>, MTOFF=<number> , VCTONE=<number>, DITS1=<number> , DD1NTS=<number>, DD2NTS=<number> , DD1TS=<number>, DIALPAU=<number> , BURST=<number>, DISDEL=<number> , DITL1=<number>, VCHATONE=<number> , VCHAPAU=<number>, DIALIDLE=<number> , SVCMENU=<number>, HWTEST=<number> , INITREQ=<number>, CTPRESEL=<number>

Command Code	Parameter
	, TINT1=<number>, DISPNEG=<number> , VWKONFMB=<number>; | TYPEDH=EXPTONE, LCRET=<number>, LCRADVT=<number>;
	| TYPEDH=MTLC, { FEEDSUPV=<number>, RLSA=<number> , RLSB=<number>, PREDIAL=<number> , STADIAL=<number>, EODBSY=<number> , LOOPACK=<number>, REMBLK=<number> , LRSUPV=<number>, RESZ=<number> , MINGR=<number>, OVRSEP=<number> , BTONE=<number>, SIGDEL=<number> , SECDT=<number>, LOOPIN=<number> , STADEL=<number>, EOD=<number> , EODACK=<number>; | TYPEDH=MFCDDID, { RNG=<number>, BUSY=<number> , TSUPV1=<number>, TSUPV2=<number> , TSUPV3=<number>, TSUPV4=<number> , TSUPV5=<number>, DSUPVG=<number> , RBANSW=<number>, WAITDTMF=<number>; , EODDEL=<number>, DTDEL=<number>; | TYPEDH=STN, DTONE=<number>; | TYPEDH=TCOM, { LASUPV1=<number>, LASUPV2=<number> , LASUPV3=<number>, LASUPV4=<number> , LASUPV5=<number>, CCMED1=<number> , CCMED2=<number>, CCSTAD=<number> , RLSPUL=<number>, RLGRD=<number> , CCMEOD1=<number>, CCMEOD2=<number> , RASTA=<number>, RECAMDLY=<number> , RATX=<number>, SZACK1=<number> , SZACK2=<number>, WFIRST=<number>

Command Code	Parameter
	,WNEXT=<number>; | TYPEDH=TIE, {RLSC1=<number>,RLSC2=<number> , SZSUPV=<number>,BTSUPV=<number> , REMBLKAC=<number>, PAUDIAL=<number> , PTNRSUPV=<number>, RESET1=<number> , RESET2=<number>, RESET3=<number> , RESET4=<number>, RESET5=<number> , SZAT=<number>, RLSSUPV=<number> , TEST1=<number>, TEST2=<number> , CTLSTST1=<number>, CTLSTST2=<number> , CTLSTST3=<number>, RESTRTNA=<number>;

84.3.2 DISPLAY-DTIM1

Procedure Overview

Command Code	Parameter
DISPLAY-DTIM1	TYPEDH=<param>;

Example

Display timers for Austrian branch line.

Input:

DISPLAY-DTIM1:ALTA;

Output:

TIMER FOR BRANCH LINE AUSTRIA:			
+-----+-----+-----+-----+			
| OVR	=	1000 MS.	|
+-----+-----+-----+-----+			

84.3.3 REGENERATE-DTIM1

All values are output, including the pre-initialized ones.

Procedure Overview

Command Code	Parameter
REGENERATE-DTIM1	;

Example

Regenerate the timers for the device handler.

Input:

REGENERATE-DTIM1;

Output:

```
CHANGE-DTIM1:DIGITE,1000,4000, 300, 400, 300,4000,1000,1000, 300, 400, 300,1000,
1000,4000,1000, 5, 5, 5, 5, 30, 15, 5, 20, 100, 20
5, 60, 10, 6, 10, 20, 2, 5;
CHANGE-DTIM1:CO, 3, 10, 25, 900, 40, 50,12000,24000,30000,24000, 5000,
500;
CHANGE-DTIM1:TIE,1200,2500, 100, 10, 1, 200, 5, 700,1500, 250, 50, 350,
1,
250, 200, 30, 30, 30, 30, 180;
CHANGE-DTIM1:STN, 5;
CHANGE-DTIM1:ALTA,1000;
CHANGE-DTIM1:MTLC, 700, 600, 900, 100, 0, 250, 400, 600, 20, 300,
200, 200, 10, 200, 5, 250, 100, 250, 250;
CHANGE-DTIM1:TCOM, 10, 30, 30, 60, 300, 500, 999, 300, 500, 200,
4, 7, 10, 14, 300, 200, 500, 15, 60;
CHANGE-DTIM1:MFCDDID,500, 75, 6500,10000, 1, 5500, 500, 10, 8,1000,
2000, 0;
CHANGE-DTIM1:EXPTONE, 5,300;
```

84.4 Parameter Description

BTONE	Duration of busy tone Type of Input : Single value, optional Possible Values : 1 - 9999 s Default Value : 10 s
BTSUPV	Supervision time after end of barred trunk service Type of Input : Single value, optional Possible Values : 20 - 999 ms Default Value : 100 ms
BURST	Delayed burst ring with ON1 & ON3 for AUN, CHESE for all digital devices (see also AMO CTIME, parameter NOTRNG with PERIOD3/PERIOD1) see FuE Call Pickup Groups PUG see FuE CHESE Integrated Exec./Sec. System Type of Input : Single value, optional Possible Values : 1 - 9999 s

DTIM1 - Device Handler Timers

Parameter Description

	Default Value : 15 s
BUSY	Delay between deactivating SIU type 3 and busy tone (in accordance with CCITT recommendation Q.475) see FuE Line Circuits
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 75 ms
CCMED1	Minimum delay between 2 events on the multi-paging system. The timer is allocated by means of parameter "TBT" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 20 - 50000 ms
	Default Value : 500 ms
CCMED2	Minimum delay between 2 events on the multi-paging system. The timer is allocated by means of parameter "TBT" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 20 - 50000 ms
	Default Value : 999 ms
CCMEOD1	EOD delay supervision for multi-paging system (Absence/Paging)
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 4 s
CCMEOD2	EOD delay supervision for multi-paging system (Absence/Paging)
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 7 s
CCSTAD	Dialing supv. (EOD delay) for switchable (single/multi) paging system. The end-of-dial signal is delayed as a control for the two TCOM trunk modules. If no EOD signal is received during the delay time, a message is sent to the dependability system. The timer is allocated by means of parameter "STADIAL" of AMO TSCSU
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 300 s
COOFF1	Pause length for double burst ring 1 (1st pause)
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 400 ms
COOFF2	Pause length for double burst ring 1 (2nd pause)
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 4000 ms
CO1ON	Pulse length for double burst ring 1 (1st pulse)

	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 300 ms
CO2ON	Pulse length for double burst ring 1 (2nd pulse)
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 300 ms
CTLSTST1	controlled trunk and line selection test1
	Type of Input : Single value, optional
	Possible Values : 0 - 300 s
	Default Value : 2 s
CTLSTST2	controlled trunk and line selection test2
	Type of Input : Single value, optional
	Possible Values : 0 - 300 s
	Default Value : 2 s
CTLSTST3	controlled trunk and line selection test3
	Type of Input : Single value, optional
	Possible Values : 0 - 300 s
	Default Value : 2 s
CTPRESEL	Timer for controlling the Manual Preselection on an idle line see FuE Integrated Key Functionality Multiline access
	Type of Input : Single value, optional
	Possible Values : 2 - 60 s
	Default Value : 10 s
CYCSET	Cyclic setup of line alarms for pulse signaling systems
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 900 s
DANN1	Duration of announcement 1 (feature ADA Thailand)
	Type of Input : Single value, optional
	Possible Values : 1 - 60000 ms
	Default Value : 24000 ms
DANN2	Duration of announcement 2 (feature ADA Thailand)
	Type of Input : Single value, optional
	Possible Values : 1 - 60000 ms
	Default Value : 24000 ms
DD1TS	Delayed display with time supervision
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s

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Parameter Description

DD1NTS	Default Value	: 5 s
	Delayed display without time supervision	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
DD2NTS	Default Value	: 5 s
	Delayed display without time supervision	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
DIALIDLE	Default Value	: 5 s
	Time supervision for dialog menu in idle state	
	Type of Input	: Single value, optional
	Possible Values	: 2 - 20 sec.
DIALPAU	Default Value	: 5 sec.
	Inter-digit pause length supervision (see AMO-DTIM2, parameter ANATN)	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
DISDEL	Default Value	: 30 s
	Delete display after timeout	
	For all time limited displays, except negativ displays (e.g. "not possible"). They are administrated with parameter DISPNEG. see FuE Call Pickup Groups PUG	
	Type of Input	: Single value, optional
DISPNEG	Possible Values	: 1 - 254 s
	Default Value	: 5 s
	timer for negativ display	
	e.g. "not possible"	
DITL1	Type of Input	: Single value, optional
	Possible Values	: 1 - 254 s
	Default Value	: 2 s
	Display immediately with time limit.	
DITR	The timer is allocated by means of parameter "STADIAL" of AMO TSCSU	
	Sets the display time for terminal displays	
	- when the user answers a call	
	- after the user has finished dialing an external number	
	(To set the display time for either the dialed external number or for display after answer, the three parameters DD1NTS, DD2NTS and DITL1 must be set.	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
	Default Value	: 20 s
DITR	timer for recall on hkz trunk with feature ditr	
	Type of Input	: Single value, optional
	Possible Values	: 500 - 60000 ms

DITS1	Default Value	: 5000 ms
	Display immediately with time supervision	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
DSUPVG	Default Value	: 5 s
	Dialing supervision after outgoing line seizure	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 300 s
DSUPVOP	Default Value	: 10 s
	Dialing supervision after 1st outpulsed digit	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
DTDEL	Default Value	: 40 s
	Selayed dial tone, incoming	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 10000 ms
DTONE	Default Value	: 0 ms
	Duration of data tone	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
EOD	Default Value	: 5 s
	Minimum delay between arrival of last pulse and sending EOD signal	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
EODACK	Default Value	: 250 ms
	Minimum delay between end-of-dialing and answer (acknowledgement)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
EODBSY	Default Value	: 250 ms
	Time for end-of-loop-dial busy recognition by main-PABX set	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
EODDEL	Default Value	: 250 ms
	Delayed end of dialing, outgoing	
	Type of Input	: Single value, optional
	Possible Values	: 500 - 32000 ms
FEEDSUPV	Default Value	: 2000 ms
	Supervision of sub-PABX feed current for outgoing calls from main-PABX set	
	Type of Input	: Single value, optional

DTIM1 - Device Handler Timers

Parameter Description

	Possible Values : 20 - 999 ms
	Default Value : 700 ms
HWTEST	Time supervision for hardware settings and terminal test
	Type of Input : Single value, optional
	Possible Values : 5 - 20 sec.
	Default Value : 10 sec.
INITREQ	Zeitüberwachung für Antworten oder Option nach Einschalten bzw. Reset
	Eingabeart : Einzelwert, wahlfrei
	Mögliche Werte : 5 - 100 sek.
	Standardwert : 6 sek.
LASUPV1	Line alarm supervision time The timer is allocated by means of parameter "SUPV" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 10 s
LASUPV2	Line alarm supervision time The timer is allocated by means of parameter "SUPV" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 20 s
LASUPV3	Line alarm supervision time The timer is allocated by means of parameter "SUPV" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value :
LASUPV4	Line alarm supervision time The timer is allocated by means of parameter "SUPV" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 60 s
LASUPV5	Line alarm supervision time The timer is allocated by means of parameter "SUPV" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 300 s
LCRADVT	Duration of route advance delay tones (feature LCR: Expensive Route Tone)
	Type of Input : Single value, optional
	Possible Values : 100 - 2000 msec.
	Default Value : 300 msec.
LCRET	Expensive route tone supervision (feature LCR: Expensive Route Tone)

	Type of Input : Single value, optional
	Possible Values : 2 - 10 sec.
	Default Value : 5 sec.
LOOPACK	Minimum time for application of loop after feeding from sub-PABX
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 400 ms
LOOPIN	Supervision of loop start in sub-PABX after line seizure
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 250 ms
LRSUPV	Supervision of line readiness after connection clear-down
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 20 s
MIDENT	Time for identification of job in main-PABX (TMCL in main-PABX, DEV = MAINMFC)
	Type of Input : Single value, optional
	Possible Values : 10 - 40 s
	Default Value : 20 s
MINGR	Minimum delay for ground return
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 200 ms
MTOFF	Pause length for multitone ring
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 4000 ms
MTON	Pulse length for multitone ring
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 1000 ms
NORMOFF	Pause length for single burst ring 1
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 4000 ms
NORMON	Pulse length for single burst ring 1
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms

DTIM1 - Device Handler Timers

Parameter Description

OVR	Default Value	: 1000 ms
	Override release supervision for branch lines	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 9999 ms
OVRSEP	Default Value	: 1000 ms
	Minimum pause between 2 override pulses	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
PAUDIAL	Default Value	: 200 ms
	Minimum time between arrival of start-of-dial signal and outpulsing	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
PEODMS	Default Value	: 200 ms
	Pause before eod delay on did with ms trunk	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
PREDIAL	Default Value	: 500 ms
	Delay before outpulsing on main-PABX set	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
PTNRSUPV	Default Value	: 100 ms
	Supervision of ready state of far-end system; supv. of cleardown ack.	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
RASTA	Default Value	: 5 s
	Recorded announcement answering text time see FuE Announcement Unit	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
RATX	Default Value	: 10 s
	Recorded announcement text time see FuE Announcement Unit	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
RBANSW	Default Value	: 300 s
	Answ. i/c CO call ringback after called party release	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 300 s

	Default Value : 8 s
RECAMDLY	Delay on start of answer text for recorded announcement see FuE <u>Announcement Unit</u>
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 14 s
REMBLK	Minimum remote blockage duration on main-PABX set
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 600 ms
REMBLKAC	Minimum remote blockage duration on AC tie-line circuit
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 10 s
RESET1	Outgoing line reset delay after connection clear-down
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 700 ms
RESET2	Outgoing line reset delay after connection clear-down
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 1500 ms
RESET3	Outgoing line reset delay after connection clear-down
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 250 ms
RESET4	Outgoing line reset delay after connection clear-down
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 50 ms
RESET5	Outgoing line reset delay after connection clear-down
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 350 ms
RESTRINA	timer for restarting North America analog procedure
	Type of Input : Single value, optional
	Possible Values : 20 - 300 s
	Default Value : 180 s
RESZ	Minimum delay through outgoing trunk re-seize bar

DTIM1 - Device Handler Timers

Parameter Description

	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 300 ms
RESZI	Outgoing reseize barring after an incoming CO call	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
	Default Value	: 10 s
RESZO	Outgoing reseize barring after an outgoing CO call	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 9999 s
	Default Value	: 3 s
RLSA	Main/satellite loop set release time	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 600 ms
RLSB	Main/satellite loop set release time	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 900 ms
RLSC1	Carrier frequency set release acknowledgement time	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 9999 ms
	Default Value	: 1200 ms
RLSC2	Carrier frequency set release acknowledgement time	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 9999 ms
	Default Value	: 2500 ms
RLSGRD	Release guard after called party release	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 200 ms
RLSPUL	Forward release pulse length The time entered here must be at least as long as the longest time required by the various devices connected to the TCOM.	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 500 ms
RLSSUPV	Release receive supervision time	
	Type of Input	: Single value, optional

	Possible Values : 20 - 999 ms
	Default Value : 250 ms
RNG	Delay between deactivating SIU type 3 and ring tone (in accordance with CCITT recommendation Q.475) see FuE Line Circuits
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 500 ms
SECDT	Secondary dial tone supervision
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 5 s
SETUPULS	Trunk setup supervision, pulse signaling system
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 25 s
SIGDEL	Minimum delay between 2 ground signals (consultation, cons. cancel)
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 200 ms
SR1OFF	Pause length for single burst ring 2
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 1000 ms
SR1ON	Pulse length for single burst ring 2
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 1000 ms
SR21OFF	Pause length for double burst ring 2 (1st pause)
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 400 ms
SR21ON	Pulse length for double burst ring 2 (1st pulse)
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 300 ms
SR22OFF	Pause length for double burst ring 2 (2nd pause)
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms

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Parameter Description

	Default Value : 1000 ms
SR22ON	Pulse length for double burst ring 2 (2nd pulse)
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 300 ms
STADEL	Minimum delay before start-of-dialing
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 100 ms
STADIAL	Start-of-dial supervision
	Type of Input : Single value, optional
	Possible Values : 0 and 20-999 ms
	Default Value : 0 ms
SVCMENU	Time supervision for service menu
	Type of Input : Single value, optional
	Possible Values : 20 - 200 sec.
	Default Value : 60 sec.
SZACK1	Timeout for arrival of seize acknowledgement The timer is allocated by means of parameter "ACKT" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 20 - 50000 ms
	Default Value : 200 ms
SZACK2	Timeout for arrival of seize acknowledgement The timer is allocated by means of parameter "ACKT" of AMO TSCSU.
	Type of Input : Single value, optional
	Possible Values : 20 - 50000 ms
	Default Value : 500 ms
SZAT	Clock test before seize attempt
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 1 s
SZSUPV	Supervision time on seize acknowledgement after outgoing seize attempt
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 s
	Default Value : 1 s
TEST1	Time for repeat of release signal if not acknowledged
	Type of Input : Single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 200 ms

TEST2	Time for repeat of nth test seizure		
	Type of Input	:	Single value, optional
	Possible Values	:	1 - 9999 s
	Default Value	:	30 s
TINT1	control timer for terminal init procedure		
	Type of Input	:	Single value, optional
	Possible Values	:	1 - 30 s
	Default Value	:	20 s
TRACCO	Timer for call tracing of incoming calls from central office		
	- Tracer not activated if user does not answer within a specified time limit (N2 and R2)		
	- Output of tracing data to printer when outgoing connection is released, if not cleared down		
	by central office within specified time limit (received with R2 signaling)		
	- Output of message RELEASED DESPITE TRACING to printer, if central office clears down connection within specified time limit in spite of trace request		
	see FuE TRACE Malicious Call Tracing		
	Type of Input	:	Single value, optional
	Possible Values	:	1 - 9999 s
	Default Value	:	50 s
TSUPV1	Test run timer 1		
	see FuE MFC-R2 Signalling/Rest of World ,		
	see FuE Line Circuits		
	Type of Input	:	Single value, optional
	Possible Values	:	1 and 20 - 60000 ms
	Default Value	:	6500 ms
	The significance of parameter TSUPV1 depends on the value entered for TESTNO in the AMO TACSU:		
	TESTNO=1	Length of the ring tone in the test program after dialing the test loop from central office (Switzerland)	6500
	TESTNO=2	Delay until answered (Belgium)	2000
	TESTNO=3	No significance	1
	TESTNO=4	Length of the ring tone (South Africa)	4500
	TESTNO=5	No significance	1
	.		
	.		
	TESTNO=26	No significance	1
	TESTNO=27	Length of the ring tone (CIS)	13000
TSUPV2	Test run timer 2		
	see FuE MFC-R2 Signalling/Rest of World ,		
	see FuE Line Circuits		
	Type of Input	:	Single value, optional
	Possible Values	:	1 and 20 - 60000 ms
	Default Value	:	10000 ms

DTIM1 - Device Handler Timers

Parameter Description

The significance of parameter TSUPV2 depends on the value entered for TESTNO in the AMO TACSU:		
TESTNO=1	Length of the test tone in the test program after dialing the test loop from central office. A busy signal is then sent back to the central office, and a release acknowledgement signal is awaited (Switzerland)	10000
TESTNO=2	Delay before test tone (Belgium)	1500
TESTNO=3	No significance	1
TESTNO=4	Length of test tone (South Africa)	5000
TESTNO=5	No significance	1
.		
.		
TESTNO=26	No significance	1
TESTNO=27	Length of test tone 1 (CIS)	2500
TSUPV3	Test run timer 3 see FuE MFC-R2 Signalling/Rest of World , see FuE Line Circuits	
Type of Input	: Single value, optional	
Possible Values	: 1 and 20 - 60000 ms	
Default Value	: 1 ms	
The significance of parameter TSUPV3 depends on the value entered for TESTNO in the AMO TACSU:		
TESTNO=1	No significance	1
TESTNO=2	No significance	1
TESTNO=3	No significance	1
TESTNO=4	No significance	1
TESTNO=5	No significance	1
.		
.		
TESTNO=26	No significance	1
TESTNO=27	Pause after test tone 1 (CIS)	5500
TSUPV4	Test run timer 4 see FuE MFC-R2 Signalling/Rest of World , see FuE Line Circuits	
Type of Input	: Single value, optional	
Possible Values	: 1 and 20 - 60000 ms	
Default Value	: 5500 ms	
The significance of parameter TSUPV4 depends on the value entered for TESTNO in the AMO TACSU:		
TESTNO=1	No significance	1
TESTNO=2	No significance	1
TESTNO=3	No significance	1

	TESTNO=4	No significance	1
	TESTNO=5	No significance	1
	.		
	.		
	TESTNO=26	No significance	1
	TESTNO=27	Length of test tone 2 (CIS)	500
TSUPV5	Test run timer 5 see FuE MFC-R2 Signalling/Rest of World , see FuE Line Circuits		
	Type of Input	: Single value, optional	
	Possible Values	: 1 and 20 - 60000 ms	
	Default Value	: 500 ms	
	The significance of parameter TSUPV5 depends on the value entered for TESTNO in the AMO TACSU:		
	TESTNO=1	No significance	1
	TESTNO=2	No significance	1
	TESTNO=3	No significance	1
	TESTNO=4	No significance	1
	TESTNO=5	No significance	1
	.		
	.		
	TESTNO=26	No significance	1
	TESTNO=27	No significance	1
TYPEDH	Desired timer category see FuE Timers		
	Type of Input	: Single value, optional	
	Possible Values	ALTA Timers for austrian branch line (alternate route)	
		CO Timers for central office trunk calls	
		DIGITE Timers for DIGITE	
		EXPTONE Timers for Expensive route tone supervision	
		MFCID Timers for MFC indialing and test program	
		MTLC Timers for the main-PABX set	
		STN Timers for stations in general	
		TCOM Timers for the adapter set for special equipment (e.g. CC, dictation equipment)	
		TIE Timers for inter-PABX calls	
VCHAPAU	Pause length for alerting tone during voice calling / handsfree answering (see VCHATONE)		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 60 s	

DTIM1 - Device Handler Timers

Parameter Description

	Default Value : 20 s
VCHATONE	Pulse length for alerting tone during voice calling / handsfree answering (see VCHAPAU)
	Type of Input : Single value, optional
	Possible Values : 20 - 300 ms
	Default Value : 100 ms
VCTONE	Voice call tone
	Type of Input : Single value, optional
	Possible Values : 555 - 9999 ms
	Default Value : 1000 ms
VWKONFMB	timeout for view conference members dialog
	Type of Input : Single value, optional
	Possible Values : 1-254 sec.
	Default Value : 5 sec.
WAITDTMF	Delayed switching of voice connections for DTMF calls to CO if PAR=NO1A (AMO COP) and if dialing was terminated using # (SFRM set) to prevent the DTMF signal sent by the terminal
	Type of Input : Single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 1000 ms
WANN1	Wait for announcement 1 (feature ADA Thailand) (see parameter DANN1)
	Type of Input : Single value, optional
	Possible Values : 1 - 60000 ms
	Default Value : 30000 ms
WANN2	Wait for announcement 2 (feature ADA Thailand) (see parameter DANN2)
	Type of Input : Single value, optional
	Possible Values : 1 - 60000 ms
	Default Value : 30000 ms
WFIRST	Max. wait time until first announcement see FuE Announcement Unit, Synchronized Announcements
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 sec.
	Default Value : 15 sec.
WNEXT	Time supervision until next announcement see FuE Announcement Unit, Synchronized Announcements
	Type of Input : Single value, optional
	Possible Values : 1 - 9999 sec.
	Default Value : 60 sec.

84.5 Error Messages and Advisories

none

85 DTIM2 - Device Handler Timers 2

AMO DTIM2 can be used to change, interrogate and regenerate the *timers* for the software complex 'device handler'.

In order to give a clear overview, the timers are divided into the following groups:

- DSS1 Timers for DSS1 protocols
- GEN General timers
- LNGEN General trunk set timers
- MKBK Make/break ratios (CO/tie for dial pulsing)

All tables processed by this AMO are initialized in the database, as a result of which the creation branch of the AMO is bypassed.

85.1 Restrictions

This description is valid from HiPath 4000 V1.0.

85.2 Interrelationships

- AMO TSCSU : Special equipment configuration for switching unit

85.3 Functions of the AMO

- [CHANGE-DTIM2](#) : Change the timers for the device handler
- [DISPLAY-DTIM2](#) : Interrogate the timers for the device handler
- [REGENERATE-DTIM2](#) : Regenerate the timers for the device handler

85.3.1 CHANGE-DTIM2

Procedure Overview

Command Code	Parameter
CHANGE-DTIM2	TYPEDH=DSS1, {TCCBS1=<number>,TCCBS2=<number>}

DTIM2 - Device Handler Timers 2

Functions of the AMO

Command Code	Parameter
	<pre> , TCCBS4=<number>, TCCBS5=<number> , TCCBS6=<number>, TACTIV=<number> , TDEACTIV=<number>, TINTER=<number> , TSTATUS=<number>; | TYPEDH=GEN, {ANATN=<number>, DTNT1=<number> , BSYON=<number>, ACKTN1=<number> , DIALPAUT=<number>, POSTDIAL=<number> , FLSHSUPV=<number>, CRFIND=<number> , FRNGBK=<number>, FCO=<number> , FAUXTN1=<number>, FAUXTN2=<number> , BSGNL1=<number>, BSGNL2=<number> , BSGNL3=<number>, CUTTHRUD=<number> , BSIGCONN=<number>, NUTONE=<number> , OHDELAY1=<number>, PAUSDIAL=<number> , CMPOBEEP=<number>, MAUTO=<number>, AICSZIPT <number>; | TYPEDH=LNGEN, {STADIAL1=<number>, STADIAL2=<number> , STADIAL3=<number>, STADIAL4=<number> , PDLY1=<number>, PDLY2=<number> , PDLY3=<number>, PDLY4=<number> , IDGT1=<number>, IDGT2=<number> , IDGT3=<number>, IDGT4=<number> , DTRFIND=<number>, EOD=<number> , EOD1A=<number>, RESZBLK=<number> , DIALSTA=<number> , DELTIM1=<number>.DELTIM2=<number> , REQTIM1=<number>, REQTM2=<number>; | TYPEDH=MKBK, {BKFO=<number>, PMKFO=<number>, BKIN=<number> , PMKIN=<number>, MBK1=<number>, MMK1=<number> , MBK2=<number>, MMK2=<number>, SBK1=<number> , SMK1=<number>, SBK2=<number>, SMK2=<number> , ACBK1=<number>, ACMK1=<number>, ACBK2=<number> </pre>

Command Code	Parameter
	,ACMK2=<number>,TBK1=<number>,EMMK1=<number> ,TBK2=<number>,EMMK2=<number>,SCBK1=<number> ,SCMK1=<number>,SCBK2=<number>,SCMK2=<number> ,EBK1=<number>,EMK1=<number>,EBK2=<number> ,EMK2=<number>,CCBK1=<number>,CCMK1=<number> ,CCBK2=<number>,CCMK2=<number>;

85.3.2 DISPLAY-DTIM2

Procedure Overview

Command Code	Parameter
DISPLAY-DTIM2	TYPEDH=<param>;

Example

Interrogate the LNGEN timers.

Input:

DISPLAY-DTIM2:DSS1;

Output:

TIMER FOR DSS1 PROTOCOLS:

+-----+-----+-----+			
| TCCBS1 =	4 SEC.	| TCCBS2 =	45 MIN.
| TCCBS5 =	60 MIN.	| TCCBS6 =	60 MIN.
| TDEACTIV=	4 SEC.	| TINTER =	4 SEC.
+-----+-----+-----+			

85.3.3 REGENERATE-DTIM2

All values are output, including the initialized values.

Procedure Overview

Command Code	Parameter
REGENERATE-DTIM2	;

Example

Regenerate the device handler timers.

Input:

DTIM2 - Device Handler Timers 2

Parameter Description

REGENERATE-DTIM2;

Output:

```
CHA-DTIM2:GEN, 10,10,10,3500,30,10,2,300,800,300,500,1000,
                15,30,60,15,10,10,2500,0,60, 3, 500;
CHA-DTIM2:LNGEN,5,25,5,25,500,800,1200,3000,400,900,1200,
                1500,300,3000,5000,1500,30;0;0;30;30;
CHA-DTIM2:MKBK, 60,40,30,30,60,40,30,30,60,40,30,
                30,60,40,40,60,60,40,30,30,60,40,
                30,30,60,40,30,30,60,40,30,30;
CHA-DTIM2:DSS1, 4,45,15,60,60,10,4,4,4;
```

85.4 Parameter Description

ACBK1	Break timing for tie trunk, AC signalling
	Type of Input : single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 60 ms
ACBK2	Break timing for tie trunk, AC signalling
	Type of Input : single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 40 ms
ACKTN1	Station dialling supervision time
	Type of Input : single value, optional
	Possible Values : 20 - 9999 ms
	Default Value : 3500 ms
ACMK1	Make time for tie trunk, AC signalling
	Type of Input : single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 40 ms
ACMK2	Make time for tie trunk, AC signalling
	Type of Input : single value, optional
	Possible Values : 20 - 999 ms
	Default Value : 60 ms
AICSZIPT	AICS ZIP Tone
	Type of Input : single value, optional
	Possible Values : 500 - 1600 ms
	Default Value : 1600 ms
ANATN	Time for disconnection of tone from ANATE
	Type of Input : single value, optional
	Possible Values : 1 - 9999 sec

	Default Value	: 10 sec
BKFO	Impulse timing on exchange central office trunks (according to Telecommunications Regulations)	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 60 ms
BKIN	Impulse timing on exchange central office trunks (international)	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
BSGNL1	Max. duration of busy signal 1	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 15 sec
BSGNL2	Max. duration of busy signal 2	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 30 sec
BSGNL3	Max. duration of busy signal 3	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 60 sec
BSIGCONN	Time to connect a busy signal	
	Type of Input	: single value, optional
	Possible Values	: 5 - 60 sec
	Default Value	: 30 sec (for France: 5 sec)
BSYON	Busy tone "on" time	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 10 sec
CCBK1	Pulse timing for code call module	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 60 ms
CCBK2	Pulse timing for code call module	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
CCMK1	Pause time for code call module	

DTIM2 - Device Handler Timers 2

Parameter Description

	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	:
CCMK2	Pause time for code call module	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
CMPOBEEP	cycle time of the beep cycle	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 msec
	Default Value	: 60 msec
CRFIND	Time to find free code receiver (or sender if none had previously been found) see Voice Mail Service External	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 300 ms
CUTTHRUD	Time required to connect a DTMF receiver, e.g. after seizure of a cut-through dialing line	
	Type of Input	: single value, optional
	Possible Values	: 2 - 70 sec
	Default Value	: 15 sec
DELTIM1	Timer 1 for delay time until sending of ANI codogram (CIS)	
	Type of Input	: Single value, optional
	Possible Values	: 0, 1 - 9999 msec.
	Default Value	: 0 msec.
DELTIM2	Timer 2 for delay time until sending of ANI codogram (CIS)	
	Type of Input	: Single value, optional
	Possible Values	: 0, 1 - 9999 msec.
	Default Value	: 0 msec.
DIALPAUT	Inter digit timing for ANATE	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 30 sec
DIALSTA	Supervision time when no dialling occurs (dialling is not started or continued in incoming trunk traffic)	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 30 sec
DTNT1	Station dialling supervision time	

	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 10 sec
DTRFIND	Time to find an available dial tone receiver (if none was found previously)	
	Type of Input	: single value, optional
	Possible Values	: 20 - 9999 ms
	Default Value	: 300 ms
EBK1	Impulse timing for E&M tie trunk	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 60 ms
EBK2	Impulse timing for E&M tie trunk	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
EMK1	Pause time for E&M tie trunk	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 40 ms
EMK2	Pause time for E&M tie trunk	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
EMMK1	Make time for tie trunk, carrier frequency signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 40 ms
EMMK2	Make time for tie trunk, carrier frequency signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
EOD	End-of-dial timing without 1A dialling scheme	
	Type of Input	: single value, optional
	Possible Values	: 20 - 9999 ms
	Default Value	: 3000 ms
EOD1A	End-of-dial timing with 1A dialling scheme The value of EOD1A must not be less than the value of parameter SPDPD IN AMO CTIME.	
	Type of Input	: single value, optional

DTIM2 - Device Handler Timers 2

Parameter Description

	Possible Values	: 20 - 9999 ms
	Default Value	: 5000 ms
FAUXTN1	First burst of auxiliary tone	
	Type of Input	: single value, optional
	Possible Values	: 100 - 2000 ms
	Default Value	: 500 ms
FAUXTN2	First burst of auxiliary tone 2	
	Type of Input	: single value, optional
	Possible Values	: 100 - 2000 ms
	Default Value	: 1000 ms
FCO	First burst of camp-on tone	
	Type of Input	: single value, optional
	Possible Values	: 100 - 2000 ms
	Default Value	: 300 ms
FLSHSUPV	Time for return from consultation after flashing	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 2 sec
FRNGBK	First burst of ringback tone	
	Type of Input	: single value, optional
	Possible Values	: 100 - 2000 ms
	Default Value	: 800 ms
IDGT1	Inter digit timing for dial pulsing on lines	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 400 ms
IDGT2	Inter digit timing for dial pulsing on lines	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 900 ms
IDGT3	Inter digit timing for dial pulsing on lines	
	Type of Input	: single value, optional
	Possible Values	: 20 - 9999 ms
	Default Value	: 1200 ms
IDGT4	Inter digit timing for dial pulsing on lines	
	Type of Input	: single value, optional
	Possible Values	: 20 - 9999 ms
	Default Value	: 1500 ms
MAUTO	delay timer of auto connection	

	Type of Input	: single value, optional
	Possible Values	: 1 - 255 s
	Default Value	: 3 s
MBK1	Impulse time for main trunk, loop	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 60 ms
MBK2	Impulse time for main trunk, loop	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
MMK1	Pause time for main trunk, loop	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 40 ms
MMK2	Pause time for main trunk, loop	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
NUTONE	Duration time of nu tone connection	
	Type of Input	: single value, optional
	Possible Values	: 5 - 60 sec
	Default Value	: 10 sec (for France: 30 sec)
OHDELAY1	offhook delay timer.	
	Type of Input	: single value, optional
	Possible Values	: 100 - 3000 ms
	Default Value	: 100 ms
PAUSDIAL	pause time between internal and second dial tone	
	Type of Input	: single value, optional
	Possible Values	: 0 - 999 msec
	Default Value	: 0 msec
PDLY1	Predialling delay (for lines without start-of-pulsing signal and without tone)	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 500 ms
PDLY2	Predialling delay (for lines without start-of-pulsing signal and without tone)	
	Type of Input	: single value, optional

DTIM2 - Device Handler Timers 2

Parameter Description

	Possible Values	: 20 - 999 ms
	Default Value	: 800 ms
PDLY3	Predialling delay (for lines without start-of-pulsing signal and without tone)	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 1200 ms
PDLY4	Predialling delay (for lines without start-of-pulsing signal and without tone)	
	Type of Input	: single value, optional
	Possible Values	: 20 - 9999 ms
	Default Value	: 3000 ms
PMKFO	Central office trunk pause time (according to Telecommunications Regulations)	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 40 ms
PMKIN	Central office trunk pause time (international)	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
POSTDIAL	Maximum post dialling delay for analog telephone	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 10 sec
REQTIM1	Timer 1 for ANI supervision from seizure acknowledgement on (CIS)	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 60 sec.
	Default Value	: 30 sec.
REQTIM2	Timer 2 für ANI-Überwachung ab Belegungsquittung	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 60 sec.
	Default Value	: 30 sec.
RESZBLK	Reseizure blockage for trunk	
	Type of Input	: single value, optional
	Possible Values	: 20 - 9999 ms
	Default Value	: 1500 ms
SBK1	Break time for tie trunk, "simultaneous" signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms

	Default Value	: 60 ms
SBK2	Break time for tie trunk, "simultaneous" signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
SCBK1	Break time for tie trunk, loop signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 60 ms
SCBK2	Break time for tie trunk, loop signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
SCMK1	Make time for tie trunk, loop signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 40 ms
SCMK2	Make time for tie trunk, loop signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
SMK1	Make time for tie trunk, "simultaneous" signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 40 ms
SMK2	Make time for tie trunk, "simultaneous" signalling	
	Type of Input	: single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 30 ms
STADIAL1	Start dial supervision timing (for tone or signal in the case of trunks); (AMO TSCSU, parameter STADIAL) (for dial tone 1)	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 5 sec
STADIAL2	Start dial supervision timing (for tone or signal in the case of trunks); (AMO TSCSU, parameter STADIAL) (for dial tone 1)	
	Type of Input	: single value, optional
	Possible Values	: 1 - 9999 sec
	Default Value	: 25 sec

DTIM2 - Device Handler Timers 2

Parameter Description

STADIAL3	Start dial supervision timing (for tone or signal in the case of trunks); (AMO TSCSU, parameter STADIAL) (for dial tone 2) Type of Input : single value, optional Possible Values : 3 - 100 sec Default Value : 5 sec
STADIAL4	Start dial supervision timing (for tone or signal in the case of trunks); (AMO TSCSU, parameter STADIAL) (for dial tone 2) Type of Input : single value, optional Possible Values : 20 - 300 sec Default Value : 25 sec
TACTIV	Activation timer T-ACTIVE This timer is started by user A, after sending a CCBS Request invoke component to network A. Type of Input : single value, optional Possible Values : 0 - 20 sec Default Value : 10 sec
TBK1	Break time for tie trunk, carrier frequency signalling Type of Input : single value, optional Possible Values : 20 - 999 ms Default Value : 60 ms
TBK2	Break time for tie trunk, carrier frequency signalling Type of Input : single value, optional Possible Values : 20 - 999 ms Default Value : 30 ms
TCCBS1	Status Check Timer T-CCBS1 The maximum time the network will wait for user A for checking for compatible terminals. Type of Input : single value, optional Possible Values : 0 - 8 sec Default Value : 4 sec
TCCBS2	CCBS Service Duration Timer T-CCBS2: The maximum time the network will be active within the network. The value is a network option. Type of Input : single value, optional Possible Values : 10 - 60 min Default Value : 45 min
TCCBS4	Destination B idle guard timer T-CCBS4: The time the network will wait after destination B has become not busy before indicating a "CCBS recall" or "Indication of B idle" to user A. Type of Input : single value, optional Possible Values : 0 - 30 sec Default Value : 15 sec

TCCBS5	Service lifetime supervision timer T-CCBS5: This timer supervises the lifetime of the signaling connection at the destination public network.
	Type of Input : single value, optional
	Possible Values : 0 - 80 min
	Default Value : 60 min
TCCBS6	Service lifetime supervision timer T-CCBS6: This timer supervises the lifetime of the signaling connection at the destination public network.
	Type of Input : single value, optional
	Possible Values : 0 - 80 min
	Default Value : 60 min
TDEACTIV	Deactivation Timer T-DEACTIVATE: This timer is started by user A, after sending a CCBS Deactivate invoke component to network A.
	Type of Input : single value, optional
	Possible Values : 0 - 8 sec
	Default Value : 4 sec
TINTER	Interrogation Timer T-INTERROGATE: This timer is started by user A, after sending a CCBS Interrogate invoke component to network A.
	Type of Input : single value, optional
	Possible Values : 0 - 8 sec
	Default Value : 4 sec
TSTATUS	Status Check Timer T-STATUS: The maximum time the network will wait for user B response for checking for compatible terminals.
	Type of Input : single value, optional
	Possible Values : 0 - 8 sec
	Default Value : 4 sec
TYPEDH	Desired timer category see Timers
	Type of Input : single value, optional
	Possible Values : DSS1 Call back on DSS1 protocol
	GEN General timers
	MKBK Make/break ratios
	LNGEN General trunk set timers

85.5 Error Messages and Advisories

none

86 DTSM - Device Type Service Module

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO DTSM is used for assigning device types in the database.

86.1 Restrictions

This description is valid from HiPath 4000 V1.0.

86.2 Interrelationships

- AMO DCSM : Device Configuration Service Module

86.3 Functions of the AMO

- [ADD-DTSM](#) : Add a device type to the database
- [DELETE-DTSM](#) : Delete a device type from the database
- [DISPLAY-DTSM](#) : Display the device types from the database
- [REGENERATE-DTSM](#) : Regenerate the device types from the database

86.3.1 ADD-DTSM

If the device type has already been added with identical parameters, the advisory H1 is output followed by AMO EXECUTED.

A change branch is not considered necessary for this AMO. However, the user can achieve the same results using the DELETE and ADD branches.

Procedure Overview

Command Code	Parameter
ADD-DTSM	[UNIT=<param>], DEVTYPE=<param>, SIZE=<number>

DTSM - Device Type Service Module

Functions of the AMO

Command Code	Parameter
	,GRAN=<number>,PNO=<string>,[UNITTYPE=<number>];

Examples

1. Add the hard disk HD001 to the database.

Input:

```
ADD-DTSM: ,HD,3450,123,HD001,1;
```

2. Add STDHD STD01 to the database.

Input:

```
ADD-DTSM:A1,STDHD,1221,512,STD01,2;
```

3. Add FM FM001 to the database.

Input:

```
ADD-DTSM: ,FM,1200,512,FM001,10;
```

86.3.2 DELETE-DTSM

Deletes a device type entry from the database, after checking whether the device type is still in use.

Must the entry remain in the database, the delete action is then rejected.

Procedure Overview

Command Code	Parameter
DELETE-DTSM	[UNIT=<param>],PNO=<string>;

Examples

1. Delete a device type entry for a device type no longer in use.

Input:

```
DELETE-DTSM: ,HD001;
```

86.3.3 DISPLAY-DTSM

Procedure Overview

Command Code	Parameter
DISPLAY-DTSM	[UNIT=<param>],[DEVTYPE=<param>],[PNO=<string>;

Examples

1. Display the device type entries in the ADS database.

Input:

```
DISPLAY-DTSM;
```

Output:

		SIZE IN			
PNO	TYPE	64K BLOCKS	MBYTES	GRAN	UNITTYPE
MO540	HD	8136	508	512	255
500M	HD	8000	500	512	255
FM128	STDFM	2	0	8192	255
2GIGA	STDHD	32000	2000	512	255
STD01	STDHD	1221	78	512	2
FM001	FM	1200	77	512	10

86.3.4 REGENERATE-DTSM**Procedure Overview**

Command Code	Parameter
REGENERATE-DTSM	[UNIT=<param>];

Example

Input:

```
REGENERATE-DTSM;
```

Output:

```
ADD-DTSM:A1,HD,8136,512,"MO540",255;
ADD-DTSM:A1,HD,8000,512,"500M ",255;
ADD-DTSM:A1,STDFM,2,8192,"FM128",255;
ADD-DTSM:A1,STDHD,32000,512,"2GIGA",255;
ADD-DTSM:A1,STDHD,1221,512,"STD01",2;
ADD-DTSM:A1,FM,1220,512,"FM001",10;
```

86.4 Parameter Description

DEVTYPE	Device type		
	Type of Input	: Single value mandatory (ADD) optional (DISPLAY)	
	Possible Values	: HD	= Hard Disk
		FM	= Flash Memory
		STDHD	= SStandard Hard Disk
		STDFM	= Standard Flash Memory
GRAN	Granularity		
	Type of Input	: Single value mandatory	
	Possible Values	: 1 - 65535	
PNO	Type designation from Part Number		
	Type of Input	: Single value mandatory (ADD, DELETE) optional (DISPLAY)	
	Possible Values	: max. 5 chars (beginning with either an alphabetical or a numerical character)	
SIZE	Size of memory medium (in blocks of 64 kByte)		
	Type of Input	: Single value mandatory	
	Possible Values	: 1 - 32767	
UNIT	Name of service module in which the DTSM is to be loaded.		
	Type of Input	: Single value optional	
	Possible Values	: A1	= Administration- and Dataserver (ADS)
	Default Value	: A1	
UNITTYPE	Internal device type number		
	Type of Input	: Single value optional	
	Possible Values	: max. 3 chars (0-255)	

86.5 Error Messages and Advisories

86.5.1 Error Messages

F01: THE DEVICE WITH THE PART NUMBER <pno> IS STILL IN USE
F02: THE PART NUMBER MUST BEGIN EITHER WITH AN ALPHABETICAL CHARACTER OR WITH A NUMERICAL CHARACTER
F03: THE DEV_TYPE_LIST IS FULL. NO FURTHER ENTRIES POSSIBLE
F04: A DEVICE ALREADY EXISTS WITH THE PART NUMBER <pno>.
A CHANGE CAN ONLY BE MADE BY DELETING IT FIRST AND THEN ASSIGNING IT AGAIN.
F05: NO DEVICE WITH THE SPECIFIED PART NUMBER <pno> HAS YET BEEN CREATED IN THE DATABASE.
F06: A STANDARD DEVICE WITH THE DEVICE TYPE <devtype> HAS ALREADY BEEN CREATED
F07: FOR DEVICES GREATER THEN 2 GB THE GRANULARITY MUST BE 2 ** N

86.5.2 Advisories

H01: THE PART NUMBER <pno> IS ALREADY ASSIGNED TO THE DEVICE TYPE <devtype>.
H02: NO DEVICE TYPES HAVE YET BEEN CREATED IN THE DATABASE.
H03: NO DEVICE HAS YET BEEN CREATED WITH THE SPECIFIED DEVICE TYPE
H04: NO DEVICE HAS YET BEEN CREATED WITH THE PART NUMBER <pno>
H05: THE PART NUMBER <pno> HAS BEEN ASSIGNED TO THE DEVICE TYPE <devtype>

87 DUP - Duplication of mass storage devices

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO DUP is used for duplicating a hard disk (HD), magneto-optical disk (MO) or compact flash card (CF) offline.

Requirements

Both devices must be deactivated (for an online duplication the command COPY-DDRSM can be used). Since format of modern devices is not more needed, the destination device does not be formatted.

Duplicating

Basically, the AMO DUP consists of two procedures, copying and (optional) verify.

- u) By one order either the complete device or RMX partitions only can be duplicated. If an error occurs during duplication, the copy will be aborted. In this case the operator must restart the AMO DUP.
- v) If the operator requests a comparison of the devices on completion of the duplication job (verify), the contents of the copied device will be compared track by track with the original. If an error occurs during comparison, the job will be aborted and the operator must restart the AMO DUP. In some cases, it may be necessary to replace the destination device.

87.1 Restrictions

This description is valid from HiPath 4000 V6.0.

87.2 Interrelationships

- AMO-complex FIDES : File and device service
- AMO DSSM : Disk Switch
- AMO DDRSM : Device Double Recording Server Modul

87.3 AMO Functions

- **START-DUP** : Duplicate the contents of a source device to a destination device

87.3.1 START-DUP

Copying (with or without verification) a source device on a destination device .

Notes

If a further partition (e.g. Linux) is to be found on the hard disk, the operator must quit this state. That question can be suppressed by specifying the WARN parameter.

If the controller 1 as source device will be copied, it must be deactivated too, in order to prevent a parallel accesses.

Warning: During copying the hard disk (controller 1) device as source device, no operation message will be stored (CGD, Hista).

From this reason, before duplication of the device with active :PDS: the switch (or SWU unit) should be switched off (or if it is not possible, start the duplication over night).

Only devices with same sector sizes can be duplicated.

Possible combinations:

- HD/CF/MO540->HD/CF/MO540,
- MO1.3 ->MO1.3

Not possible combinations:

- MO1.3 -> HD/CF/MO540,
- HD/CF/MO540 -> MO1.3

Only used sectors of source device will be duplicated (sectors which belongs to sector ranges of partitions in partition table).

for example: on 250 GB hard disk are only ~40 GB used, and therefore is possible duplication of this device to one 40 GB hard disk.

The source and destination devices must match the specified mnemotechnical name definitions (SDEV and DDEV). The structure of mnemotechnical names is:

:uudc1:

uu = Must be the same as the value specified for UNIT.

Possible Values: A1 for ADS

d = Device

Possible Values: H for hard disk, magneto-optical disk or compact flash

c = Controller number

Possible Values: 1 to 7

The colons are optional in the mnemotechnical names.

If the source device is larger than the destination the AMO DUP terminates abnormally with status H'002B. This message does not indicate clearly if an error has occurred during the duplication, or the destination device has insufficient space. In the second case all that areas of the destination device can be used, that were completely copied. This information can only be found in the dependability message.

If the end of the memory on the destination device is reached, the following dependability message will be displayed:

```
F7406 M4 N0016 NO ACT A1 DRIVE IO ERROR 01-04-09 10:42:53
ALARM CLASS:SM-PER: 018
DRIVE:<destination device>
FORMAT:11
7F97000000xxxxxxxxxx020521xxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
                                02: SCSI Status, 02 = Check Condition
                                05: Sense Key, 05 = Illegal Request
                                21: Additional Sense Code, 21 = Logical Block
                                           Address out of
Range
```

If a different message is output, it must be regarded as a real error message, and the duplication must be repeated (possibly with a different destination medium).

Procedure Overview

Command Code	Parameter
START-DUP	[UNIT=<param>], SDEV=<string>, DDEV=<string>, [TEST=<param>], [W ARN=<param>], [ANS=<param>];

Example

1. Duplicate a hard disk and compare source and destination device contents on completion. The device name will be entered without ': '.

Input:

```
START-DUP:A1,A1H11,A1H21,A,Y,Y,N,N;
```

DUP - Duplication of mass storage devices

Parameter Description

- 2. Duplication of RMX partition only without comparison (verify).
Eingabe:

```
START-DUP:A1,A1H11,A1H21,N,N,N;
```

87.4 Parameter Description

ANS	Answer (Requested when user reply required)
Type of Input	: Single value optional
Possible Values	: Y = yes N = no
DDEV	Mnemotechnical destination device name
Type of Input	: Single value mandatory
Possible Values	: Valid device mnemonic max. 9 signs
SDEV	Mnemotechnical source device name
Type of Input	: Single value mandatory
Possible Values	: Valid device mnemonic max. 9 signs
TEST	Verify option
Type of Input	: Single value optional
Possible Values	: Y = with comparison N = without comparison
Default Value	: N
UNIT	Device name of the destination server
Type of Input	: Single value optional
Possible Values	: A1 = Administration and Data Server (ADS)
Default Value	: A1

WARN Query is required before partition will be deleted

 Type of Input : Single value
 optional

 Possible Values : Y = yes, query is required
 N = no, query is not required

 Default Value : Y

87.5 Error Messages and Advisories

87.5.1 Error Messages

F01: PARAMETER UNIT NOT EQUAL TO SOURCE DEVICE UNIT
 F02: PARAMETER UNIT NOT EQUAL TO DESTINATION DEVICE UNIT
 F03: 5TH CHARACTER IN NAME OF SOURCE DEVICE NOT EQUAL 1
 F04: 5TH CHARACTER IN NAME OF DESTINATION DEVICE NOT EQUAL 1
 F05: TYPE OF SOURCE DEVICE NOT HD
 F06: TYPE OF DESTINATION DEVICE IS NOT HD
 F07: SOURCE DEVICE TYPE NOT DESTINATION DEVICE TYPE
 F08: CONTROLLER NUMBER OF SOURCE DEVICE SAME AS DESTINATION DEVICE
 F09: THERE IS NO AREA ON THE SOURCE HD
 F10: DEVICE <device> CANNOT BE RESERVED
 AS IT IS ACTIVATED
 DEACTIVATE DEVICE FIRST
 F11: <sdev> NOT EQUAL <ddev>
 ERROR DURING COMPARE
 F12: CANNOT DETERMINE SECTOR SIZE
 F13: NO VOLUME IN DEVICE <devname>
 F14: VOLUME IN DEVICE <devname> IS WRITE PROTECTED
 F15: DEVICE <devname> DOES NOT EXIST
 F16: REJECTED BECAUSE THE AREA <:area:> IS USED BY THE EXTERNAL APPLICATION
 <appl>; START-DUP NOT POSSIBLE UNTIL AREA IS DEACTIVATED
 BY THE EXTERNAL APPLICATION
 F17: SIZE OF DESTINATION DEVICE IS TOO SMALL!

87.5.2 Advisories

H01: PARTITION FOR sysname FILESYSTEM
 SYSTEM ID H'sysid WILL BE DUPLICATED
 CONTINUE DUPLICATION (Y/N)?

DUP - Duplication of mass storage devices
Error Messages and Advisories

H02: DEVICE <sdev> WILL BE DUPLICATED
H03: DEVICE <sdev> IS DUPLICATED
H04: COMPARE OF THE DEVICES
H05: <sdev> = <ddev>
 DEVICES ARE IDENTICAL
H06: DUPLICATING COMPLETED WITHOUT ERROR
H07: DEVICE <ddev> WILL BE FORMATTED
H08: DEVICE <ddev> IS FORMATTED

87.5.3 Settings

appl	HP
	PC
	LINUX
sysname	LINUX
	UNKNOWN

88 DVU - Disk verification utility

The description of this AMO is only available in html format!

89 FAMOS - Remote Administration and Maintenance: start of AMOs

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO "FAMOS" controls the Logical Device Unit (LDU) RAMOS by means of parameters.
It specifies which AMOs are not to be invoked by FBT, and which actions these AMOs are not allowed to execute.
FAMOS also serves to activate and deactivate printout and the LDU FAMOS, and to allow or forbid a HICOM system restart (soft restart) via remote A&M.
FAMOS enters the individual parameter values in the customer table (CT) from which the LDU FAMOS obtains its information.

89.1 Restrictions

This description is valid from V3.4

Adjusting the callback function:

From V3.4 all the connections in the "EMS-APPLICATIONS" with the name "FAMOS2" will be excepted from the callback function.

89.2 Interrelationships

None

89.3 Functions of the AMO

- [ADD-FAMOS](#) : Adding parameters
- [DELETE-FAMOS](#) : Deleting parameters
- [DISPLAY-FAMOS](#) : Displaying parameters
- [REGENERATE-FAMOS](#) : Regenerating parameters
- [ACTIVATE-FAMOS](#) : Activating the LDU FAMOS and printout, allowing a RESTART
- [DEACTIVATE-FAMOS](#) : Deactivating the LDU FAMOS and printout, forbidding a RESTART

89.3.1 ADD-FAMOS

Adding an entry to the customer table. To add an entry, you must specify the NOUN and VERB parameters of that AMO that is to be barred for access from the service center. If parameter VERB is omitted, all the actions of the relevant AMO will be barred. To make additions to the scope of an existing AMO (additional verbs are to be barred), you must recreate it and state a new VERB combination.

Procedure Overview

Command Code	Parameter
ADD-FAMOS	NOUN=<string>, [VERB=<param>];

Examples

1. Service center access to AMO PERSI for the actions REGENERATE and DELETE is to be barred.

Input:

```
ADD-FAMOS:PERSI, REGENERATE&DELETE;
```

Output:

```
ADD-FAMOS:PERSI, REGENERATE&DELETE;
H500: AMO FAMOS STARTED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
ADD COMPLETED
```

2. Service center access to AMO TGER for all actions is to be barred.

Input:

```
ADD-FAMOS:TGER;
```

Output:

```
ADD-FAMOS:TGER;
H500: AMO FAMOS STARTED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
ADD COMPLETED
```

89.3.2 DELETE-FAMOS

Deleting an entry from the customer table (CT). Possible variants:

- Deleting (enabling) some or several actions for one or more AMOs
- Deleting (enabling) some or several actions for all AMOs entered

- Deleting one or more AMOs --> enabling one or more AMOs for calling from the service center
- Deleting the entire customer table --> enabling all the entered AMOs for calling from the service center

The statuses of the printout and logical device unit (LDU) FAMOS are not changed by this operation.

Procedure Overview

Command Code	Parameter
DELETE-FAMOS	TYPE=AMO, NOUN=<string>, [VERB=<param>]; | TYPE=ALL, [VERB=<param>];

Examples

1. Deleting the access inhibit for the actions ADD and CHANGE for both AMOs TGER and PERSI

Input:

```
DELETE-FAMOS:AMO,TGER&PERSI,ADD&CHANGE;
```

Output:

```
DELETE-FAMOS:AMO,TGER&PERSI,ADD&CHANGE;
H500: AMO FAMOS STARTED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
DELETE COMPLETED
```

2. Deleting the access inhibit for the actions CHANGE, DISPLAY and REGENERATE for all AMOs entered

Input:

```
DELETE-FAMOS:ALL,CHANGE&DISPLAY&REGENERATE;
```

Output:

```
DELETE-FAMOS:ALL,CHANGE&DISPLAY&REGENERATE;
H500: AMO FAMOS STARTED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
DELETE COMPLETED
```

3. Deleting the access inhibit for all the actions of AMOs TGER, PERSI and VBZGR

Input:

```
DELETE-FAMOS:AMO,TGER&PERSI&VBZGR;
```

Output:

FAMOS - Remote Administration and Maintenance: start of AMOs

Functions of the AMO

```
DELETE-FAMOS:AMO,TGER&PERSI&VBZGR;
H500: AMO FAMOS STARTED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
DELETE COMPLETED
```

4. Deleting the access inhibit for all the actions of all AMOs entered

Input:

```
DELETE-FAMOS:ALL;
```

Output:

```
DELETE-FAMOS:ALL;
H500: AMO FAMOS STARTED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
DELETE COMPLETED
```

89.3.3 DISPLAY-FAMOS

Displaying parameters

The current contents of the customer table (CT) are output by a DISPLAY. Output possibilities:

- Outputting the entire customer table
- Outputting the barred actions for certain AMO NOUNs
- Outputting the AMO NOUNs for a barred combination specified in the call (single value or chained single values)
- Outputting the statuses of printout and FAMOS, and RESTART allowed or forbidden (This information is always supplied automatically with the first three output possibilities.)

Procedure Overview

Command Code	Parameter
DISPLAY-FAMOS	[PAR=NOUN,NOUN=<string>; | [PAR=VERB],[VERB=<param>; | [PAR=STATUS];

Examples

1. Displaying the entire customer table

Input:

```
DISPLAY-FAMOS;
```


Output:

```

DISPLAY-FAMOS;
H500: AMO FAMOS STARTED
PROT OFF ***** RAMOS ON ***** RESTART NOT ALLOWED
=====+
| NOUN | BARRED VERBS |
=====+
| PERSI | DISPLAY, OUTPUT, DUMP, ADD, ACTIVATE, |
| | REGENERATE, RESTART |
+-----+
| VBZGR | CHANGE, OUTPUT, DEACTIVATE, ACTIVATE, EXEC |
+-----+
AMO-FAMOS -... REMOTE ADMINISTRATION & MAINTENANCE: START OF AMOS
DISPLAY COMPLETED

```

2. Displaying the barred actions of AMO PERSI

Input:

```
DISPLAY-FAMOS:NOUN,PERSI;
```

Output:

```

DISPLAY-FAMOS:NOUN,PERSI;
H500: AMO FAMOS STARTED
PROT OFF ***** RAMOS ON ***** RESTART NOT ALLOWED
=====+
| NOUN | BARRED VERBS |
=====+
| PERSI | DISPLAY, OUTPUT, DUMP, ADD, ACTIVATE, |
| | REGENERATE, RESTART |
+-----+
AMO-FAMOS -... REMOTE ADMINISTRATION & MAINTENANCE: START OF AMOS
DISPLAY COMPLETED

```

3. Displaying the barred actions for all AMOs entered

Input:

```
DISPLAY-FAMOS:VERB;
```

Output:

```

DISPLAY-FAMOS:VERB;
H500: AMO FAMOS STARTED
PROT OFF ***** RAMOS ON ***** RESTART NOT ALLOWED
=====+
| NOUN | BARRED VERBS |
=====+
| PERSI | DISPLAY, OUTPUT, DUMP, ADD, ACTIVATE, |
| | REGENERATE, RESTART |
+-----+
| VBZGR | CHANGE, OUTPUT, DEACTIVATE, ACTIVATE, EXEC |
+-----+
| AFR | CHANGE, ADD |
+-----+
| IGLU | ALL VERBS BARRED |
+-----+
AMO-FAMOS -... REMOTE ADMINISTRATION & MAINTENANCE: START OF AMOS
DISPLAY COMPLETED

```

FAMOS - Remote Administration and Maintenance: start of AMOs

Functions of the AMO

4. Displaying the barred actions ADD and CHANGE for all AMOs entered

Input:

```
DISPLAY-FAMOS:VERB,ADD&CHANGE;
```

Output:

```
DISPLAY-FAMOS:VERB,ADD&CHANGE;
H500: AMO FAMOS STARTED
PROT OFF ***** RAMOS ON ***** RESTART NOT ALLOWED
=====+
| NOUN |   BARRED VERBS   |
+-----+
| AFR  | CHANGE, ADD      |
+-----+
| IGLU | ALL VERBS BARRED |
+-----+
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START OF AMOS
DISPLAY COMPLETED
```

5. Displaying the barred actions of AMOs PERSI, VBZGR, AFR and IGLU

Input:

```
DISPLAY-FAMOS:NOUN,PERSI&VBZGR&AFR&IGLU;
```

Output:

```
DISPLAY-FAMOS:NOUN,PERSI&VBZGR&AFR&IGLU;
H500: AMO FAMOS STARTED
PROT OFF ***** RAMOS ON ***** RESTART NOT ALLOWED
=====+
| NOUN |   BARRED VERBS   |
+-----+
| PERSI | DISPLAY, OUTPUT, DUMP, ADD, ACTIVATE,
|       | REGENERATE, RESTART
+-----+
| VBZGR | CHANGE, OUTPUT, DEACTIVATE, ACTIVATE, EXEC
+-----+
| AFR  | CHANGE, ADD      |
+-----+
| IGLU | ALL VERBS BARRED |
+-----+
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START OF AMOS
DISPLAY COMPLETED
```

6. Displaying the printout status

Input:

```
DISPLAY-FAMOS:STATUS;
```

Output:

```
DISPLAY-FAMOS:STATUS;
H500: AMO FAMOS STARTED
PROT OFF ***** RAMOS ON ***** RESTART NOT ALLOWED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
DISPLAY COMPLETED
```

89.3.4 REGENERATE-FAMOS

Displaying the contents of the customer table and outputting in the form of commands for regeneration

Output is in the form of position-oriented commands.

Procedure Overview

Command Code	Parameter
REGENERATE-FAMOS	;

Example

Regenerating the entire customer table (CT)

Input:

```
REGENERATE-FAMOS;
```

Output:

```
REGENERATE-FAMOS;
H500: AMO FAMOS STARTED
DELETE-FAMOS:ALL;
ADD-FAMOS:AFR, CHANGE;
ADD-FAMOS:AFR, ADD;
ADD-FAMOS:IGLU;
ACTIVATE-FAMOS:RAMOS;
ACTIVATE-FAMOS:PROT;
ACTIVATE-FAMOS:RESTART;
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
REGENERATE COMPLETED
```

89.3.5 ACTIVATE-FAMOS

Activating the LDU FAMOS and printout, and allowing a RESTART

Procedure Overview

Command Code	Parameter
ACTIVATE-FAMOS	TYPE=<param>;

Example

Activating the LDU FAMOS and printout, and allowing a RESTART

Input:

```
ACTIVATE-FAMOS:RAMOS&PROT&RESTART;
```

Output:

FAMOS - Remote Administration and Maintenance: start of AMOs

Parameter Description

```
ACTIVATE-FAMOS:RAMOS&PROT&RESTART;
H500: AMO FAMOS STARTED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
ACTIVATE COMPLETED
```

89.3.6 DEACTIVATE-FAMOS

Deactivating the LDU FAMOS and printout, or forbidding a RESTART

Procedure Overview

Command Code	Parameter
DEACTIVATE-FAMOS	TYPE=<param>;

Example

Deactivating the LDU FAMOS and printout, forbidding a RESTART

Input:

```
DEACTIVATE-FAMOS:RAMOS&PROT&RESTART;
```

Output:

```
DEACTIVATE-FAMOS:RAMOS&PROT&RESTART;
H500: AMO FAMOS STARTED
AMO-FAMOS -...  REMOTE ADMINISTRATION & MAINTENANCE: START
OF AMOS
DEACTIVATE COMPLETED
```

89.4 Parameter Description

NOUN	Name of AMO	
	Type of Input	: Single value, chained single values, mandatory (ADD, DELETE) optional (DISPLAY)
	Possible Values	: AMO designations
PAR	Type selection of output	
	Type of Input	: Single value, optional (DISPLAY)
	Possible Values	: NOUN, VERB, STATUS

TYPE	Selection parameter
Type of Input	: Single value, chained single values, mandatory (DELETE, ACTIVATE, DEACTIVATE)
Possible Values	: RAMOS, PROT, RESTART
VERB	AMO action or combination of actions
Type of Input	: Single value, chained single values optional (ADD, DELETE, DISPLAY)
Possible Values	: DISPLAY, CHANGE, OUTPUT, DEACTIVATE, DUMP, ADD, ACTIVATE, EXEC, COPY, DELETE, TEST, REGENERATE, RESTART, COLLECT, SET, START, STOP, RENAME, SWITCHOVER, INTERRUPT

89.5 Error Messages and Advisories

89.5.1 Error Messages

F01: AMO @@@@ HAS NOT BEEN ADDED
F02: CUSTOMER TABLE FULL, AMO @@@@ NOT ADDED

89.5.2 Advisories

H01: THE SPECIFIED VERB COMBINATION IS ALLOWED FOR ALL AMOS
H02: PROTOCOLLING WAS ALREADY ACTIVATED
H03: RAMOS WAS ALREADY ACTIVATED
H04: PROTOCOLLING WAS ALREADY DEACTIVATED
H05: RAMOS WAS ALREADY DEACTIVATED
H06: NOUN(S) IN CUSTOMER TABLE NOT ADDED
H07: RESTART WAS ALREADY ALLOWED
H08: RESTART WAS ALREADY BARRED

FAMOS - Remote Administration and Maintenance: start of AMOs

Error Messages and Advisories

90 FAMUP - Remote Administration and Maintenance Update

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO "FAMUP" controls the Logical Device Unit (LDU) FAMUP (Remote Administration & Maintenance Update).

The changes in the APS and patch directory are transmitted to the service center at adjustable time intervals.

Additionally, an AMO-stapel is managed by the AMO-FAMUP at adjustable time intervals.

The following functions can be controlled with parameters:

- **FAMUP**
Activating/deactivating the execution of AMO-stapel.
- **PROT**
The parameter PROT defines whether printout on the service terminal is to be activated or deactivated. Data exchange can be logged at customer's request. Regardless of parameter PROT, regeneration is additionally recorded in operating file :AMD:FBT/FAMUP/NOUNCO/A. The operating files of the last three bad regeneration runs are all stored under the names :AMD:FBT/FAMUP/REGENERROR1 (or 2 and 3).
- **FTRNS**
Activating/deactivating file transmission by file transfer to the SZ. This indicates whether the APS, PATCH-state by LDU FAMUP is to be transmitted to the SZ .
- **RUPSTT**
Time when the AMO-stapel is to be started. In addition, the logical device unit (LDU) FAMUP searches the APS-DIR file and the patch directory for changes. The data is then transmitted to the service center by a HICOM file transfer. There will be no transmission if there have been no changes in the patch directory or the APS-DIR file since the last update.
- **RUPINT**
This is the interval in days between the starting times. This parameter serves to set the intervals in days at which the execution of AMOCMD, respectively data transmissions at time RUPSTT are started. It must never be '0'. The longest possible interval is 31 days.

FAMUP - Remote Administration and Maintenance Update

Restrictions

- SCNAME
This is the name of the destination computer in the SZ. A destination computer must be reported to the Remote A&M UPDATE in the service center for data transmission. (Parameter OSPTNR in AMO FTCSM)
- SZLOGON
The LOGON on the destination computer (SZLOGON) consists of three different components: USERID, ACCT, PASSWORD.
- SUCCPROC
Filename of the DO procedure for post-processing of data after successful transmission
- FAILPROC
Filename of the DO procedure for post-processing of data after unsuccessful transmission

90.1 Restrictions

This description is valid from ATLANTIC-R6.3

90.2 Interrelationships

None

90.3 Functions of the AMO

- [ADD-FAMUP](#) : Adding parameters or AMO-command
- [CHANGE-FAMUP](#) : Changing parameters
- [DELETE-FAMUP](#) : Deleting certain AMOCMD-TAB entries
- [DISPLAY-FAMUP](#) : Displaying parameters or AMOCMD-TAB
- [OUTPUT-FAMUP](#) : Outputting the values entered by LDU FAMUP in the database
- [REGENERATE-FAMUP](#) : Regenerating parameters
- [ACTIVATE-FAMUP](#) : Activating FAMUP, PROT and FTRNS
- [DEACTIVATE-FAMUP](#) : Deactivating FAMUP, PROT and FTRNS
- [START-FAMUP](#) : Starting an UPDATE manually Initiation of UPDATE-Function

90.3.1 ADD-FAMUP

Creating the parameter list of the logical device unit (LDU) FAMUP or the selection table. The branch parameter TYPE is used for distinguishing between the FAMUP parameter list and the AMO-command table.

When creating the parameter list, remember to state all the parameters to ensure that FAMUP will work properly.

By adding AMOCMD-stapel, till 50 AMO-commands (string maximum length = **74** char) can be created. These strings will be received by the usertask. The action ADD should be reserved for just a certain privileged group of users.

The parameter SUCCPROC/FAILPROC specifies the valid partner system for the LDU FAMUP.

	entry	destination
1	xx.NAME *	HTS
2	USR	NCC in PC MX
3	FTH	NCC in HICOM-ADS
4	FTX	NCC in the local HICOM-ADS

*) If the destination system is HTS, the complete post-processing procedure must be specified. This filename must have a two-character prefix (e.g. W9.). Validation of the parameter USERID, ACCOUNT and PASSWORD in relation to the destination system..

	USERID	ACCOUNT	PASSWORD
1	X	X	X
2	X	---	X
3	---	---	---
4	---	---	---

Those fields marked with an X are invalueted.

Procedure Overview

Command Code	Parameter
ADD-FAMUP	TYPE=LDU, ,RUPSTT=<number>,RUPINT=<number>,FTSTT=<number> ,SCNAME=<string>,USERID=<string>,ACCT=<string> ,PASSWORD=<string>,SUCCPROC=<string> ,FAILPROC=<string>;

FAMUP - Remote Administration and Maintenance Update

Functions of the AMO

Command Code	Parameter
	| TYPE=AMOCMD, AMOCMD=<string>;

Examples

1. Creating the parameter list of the logical device unit FAMUP
Starting the AMO-stapel at 02.00 hours and at intervals of one day;
Starting file transfer one hour later at 03.00 hours
Name of the destination computer in the service center: N78H02
and LOGON ID of the destination computer in the service center:
FBCLUDI
Account number: 52B42730
Password: C 'xxxxx'
Filename of the DO procedure after successful transmission:
W9.FAMUP.SUCC
Filename of the DO procedure after unsuccessful transmission:
W9.FAMUP.FAIL

Input:

```
ADD-FAMUP:LDU,02-00-01-01-1987,1,03-  
00,N78H02,FBCLUDI,52B42730,C'xxxxx';  
W9.FAMUP.SUCC,W9.FAMUP.FAIL;
```

Output:

```
ADD-FAMUP:LDU,02-00-01-01-1987,1,03-00,N78H02,FBCLUDI,52B42730,C'xxxxx';  
W9.FAMUP.SUCC,W9.FAMUP.FAIL;  
H500: AMO FAMUP STARTED  
AMO-FAMUP -... REMOTE ADMINISTRATION & MAINTENANCE UPDATE  
ADD COMPLETED
```

2. Adding the AMO DATE in AMO-stapel

Input:

```
ADD-FAMUP:AMOCMD,"DISP-DATE;"
```

Output:

```
ADD-FAMUP:AMOCMD,"DISP-DATE;"  
H500: AMO FAMUP STARTED  
AMO-FAMUP -... REMOTE ADMINISTRATION & MAINTENANCE UPDATE  
ADD COMPLETED
```

90.3.2 CHANGE-FAMUP

Changing the parameter list of the logical device unit (LDU) FAMUP. At least one parameter on the list must be stated.

Procedure Overview

Command Code	Parameter
CHANGE-FAMUP	{RUPSTT=<number>,RUPINT=<number>,FTSTT=<number> ,SCNAME=<string>,USERID=<string> ,ACCT=<string>,PASSWORD=<string> ,SUCCPROC=<string>,FAILPROC=<string>;

Example

Changing the AMO-stapel starting time and interval in days in the parameter list of LDU FAMUP

Input:

```
CHANGE-FAMUP:05-00-02-02-1988,10;
```

Output:

```
CHANGE-FAMUP:05-00-02-02-1988,10;
H500: AMO FAMUP STARTED
AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
CHANGE COMPLETED
```

90.3.3 DELETE-FAMUP

Deleting an entry from the AMOCMD-table.

The branch parameter SEL indicates whether one AMO or the entire AMOCMD- table is to be deleted.

With 'linenr' the line number of an entry can be deleted from the AMOCMD-table (the line number will be output by DISPLAY)

Procedure Overview

Command Code	Parameter
DELETE-FAMUP	SEL=ALL; SEL=AMOCMD,linenr=<number>;

Examples

Input:

```
DELETE-FAMUP:AMOCMD,1;
```

Output:

```
DELETE-FAMUP:AMOCMD,1;
H500: AMO FAMUP STARTED
AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
DELETE COMPLETED
```

Deleting the entire AMOCMD table

Input:

DELETE-FAMUP:ALL;

Output:

DELETE-FAMUP:ALL;
H500: AMO FAMUP STARTED
AMO-FAMUP -... REMOTE ADMINISTRATION & MAINTENANCE UPDATE
DELETE COMPLETED

90.3.4 DISPLAY-FAMUP

Displaying the parameter list of the logical device unit (LDU) FAMUP and the AMOCMD- table

Output possibilities (see also formats in typical output):

- a) Displaying the parameter list of AMO-FAMUP (SEL parameter: PARAM, output in format1)
- b) Outputting the status of LDU FAMUP
Displaying the parameters FAMUP, PROT and FTRNS (SEL parameter: STATUS, output in format2)
- c) Displaying the AMOCMD table,,. With AMOCMD, the AMO-command table will be output. The entries will be output in a table form with line number.
- d) Procedure Overview

Command Code	Parameter
DISPLAY-FAMUP	SEL=PARAM; |SEL=STATUS; |SEL=AMOCMD;

Examples

- 1. Displaying the parameter list of LDU FAMUP

Input:

DISPLAY-FAMUP:PARAM;

Output:

Format1
DISPLAY-FAMUP:PARAM;
H500: AMO FAMUP STARTED

FAMUP - Remote Administration and Maintenance Update

Functions of the AMO

```
UPDATE STARTTIME          RUPSTT   : 02.00-01.01.1987
INTERVAL IN DAYS          RUPINT    : 01 DAYS
FILE TRANSFER START TIME  FTSTT     : 03.00
PARTNER COMPUTER IN SC    SCNAME    : N78H02
LOGON ID OF DEST. COMPUTER USERID   : FBCLUDI
ACCOUNT NO. OF DEST COMP. ACCT      : 52B42730
LOGON PWD OF DEST. COMP.  PASSWORD  : C'HICOM'
COMMAND FOR HANDLING OF   SUCCPROC  : W9.FAMUP.SUCC
SUCCESSFUL TRANSMISSION
COMMAND FOR HANDLING OF   FAILPROC  : W9.FAMUP.FAIL
ERRONEOUS TRANSMISSION

AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
DISPLAY COMPLETED
```

2. Displaying the status of LDU FAMUP

Input:

```
DISPLAY-FAMUP:STATUS;
```

Output:

Format2

```
DISPLAY-FAMUP:STATUS;
H500: AMO FAMUP STARTED
PROT OFF ***** FAMUP ON ***** FTRNS ON
AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
DISPLAY COMPLETED
```

3. Displaying the UPDATE authorizations for the AMOs of AMOCMD table

Input:

```
DISPLAY-FAMUP:AMOCMD;
```

Output:

Format3

```
DISPLAY-FAMUP:AMOCMD;
H500: AMO FAMUP STARTED
1 DISP-DATE;

2 AFR,ADD&CHANGE;

AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
DISPLAY COMPLETED
```

90.3.5 OUTPUT-FAMUP

Outputting the values entered by LDU FAMUP in the database
(corresponds to the current status of LDU FAMUP)

Procedure Overview

Command Code	Parameter
OUTPUT-FAMUP	;

Example

Outputting the status of LDU FAMUP

Input:

```
OUTPUT-FAMUP;
```

Output:

```
OUTPUT-FAMUP;
H500: AMO FAMUP STARTED

STATUS OF LDU FAMUP :
=====

REGENERATION RUNNING           : NO
LAST REGENERATION SUCCESSFUL   : YES

FILE TRANSFER ACTIVATED        : NO

LAST MMLCMD TRANSMISSION OK     : YES
LAST APSDIR TRANSMISSION OK     : YES
LAST PATDIR TRANSMISSION OK     : YES

DISK ACCESS POSSIBLE           : YES

NUMBER OF NOUNS IN THE NOUN FILE : 1

AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
OUTPUT COMPLETED
```

90.3.6 REGENERATE-FAMUP

Displaying the parameter list of the logical device unit (LDU) FAMUP
outputting in the form of commands for regeneration. Output is in the
form of commands with position-oriented parameters.

Procedure Overview

Command Code	Parameter
REGENERATE-FAMUP	;

Example

Regenerating the parameter list of LDU FAMUP

Input:

```
REGENERATE-FAMUP;
```

Output:

```
REGENERATE-FAMUP;
H500: AMO FAMUP STARTED
ADD-FAMUP:LDU,02-00-01-01-1987,01,03-00,"N78H02","FBCLUDI","52B42730";
          "C' HICOM' ",
          "W9.FAMUP.SUCC",
          "W9.FAMUP.FAIL";
ACTIVATE-FAMUP:FAMUP;
ACTIVATE-FAMUP:FTRNS;
DEACTIVATE-FAMUP:PROT;
AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
REGENERATE COMPLETED
```

90.3.7 ACTIVATE-FAMUP

Activating the execution of AMOCMD, printout and file transfer

Procedure Overview

Command Code	Parameter
ACTIVATE-FAMUP	SEL=<param>;

Example

Input:

```
ACTIVATE-FAMUP:FAMUP&PROT&FTRNS;
```

Output:

```
ACTIVATE-FAMUP:FAMUP&PROT&FTRNS;
H500: AMO FAMUP STARTED
AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
ACTIVATE COMPLETED
```

90.3.8 DEACTIVATE-FAMUP

Deactivating the execution of AMOCMD, printout and file transfer

Procedure Overview

Command Code	Parameter
DEACTIVATE-FAMUP	SEL=<param>;

Example

Deactivating update function, printout and file transfer

Input:

DEACTIVATE-FAMUP:FAMUP&PROT&FTRNS;

Output:

DEACTIVATE-FAMUP:FAMUP&PROT&FTRNS;
H500: AMO FAMUP STARTED
AMO-FAMUP -... REMOTE ADMINISTRATION & MAINTENANCE UPDATE
DEACTIVATE COMPLETED

90.3.9 START-FAMUP

An UPDATE is started manually by sending a SAVE job to the incoming mailbox of the logical device unit (LDU) FAMUP. All changes made by this time to the static database, the APS directory and the PATCH directory are transmitted to the service center SZ. FAMUP and FTRNS must be active. When the SAVE job is sent, the AMO FAMUP outputs a message.

By declaring the parameter INIT=Y, the UPDATE function is initialized. All the information stored up to this point in time is deleted, together with the data transfer version numbers. Version numbers for the transfer of database updates are then counted from 1 again. The initialization must be started immediately after the generation of the MMLCMD command batch (initial generating batch), which is then stored in the HTS. The first transfer should not take place until the generating patch has been accepted.

Procedure Overview

Command Code	Parameter
START-FAMUP	[INIT=N] ; | [ INIT=Y] , [INS=<param>] ;

Example

Starting an UPDATE manually

Input:

STA-FAMUP:Y,Y;

Output:


```
START-FAMUP:Y,Y;
H500: AMO FAMUP STARTED
SAVE JOB SENT TO LDU FAMUP 87-12-31 23:59:59
AMO-FAMUP -...  REMOTE ADMINISTRATION & MAINTENANCE UPDATE
START COMPLETED
```

90.4 Parameter Description

ACCT	Account number of destination computer
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	: See BS2000 command language
AMOCMD	Specify an AMO-command
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	: 1 to 74 alphanumeric characters
FAILPROC	Command for handling of erroneous transmission
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	: See DVS restrictions for filename in BS2000
FTSTT	File transfer start time
Type of Input	: Single value mandatory (ADD) Group parameter (CHANGE)
Possible Values	: Hours - Minutes Hours: 0 - 23 Minutes: 0 - 59
INIT	Initialising of LDU FAMUP
Type of Input	: Single value optional (START)
Possible Values	: Y,N

FAMUP - Remote Administration and Maintenance Update

Parameter Description

INS	System to be put in service for FAMUP
Type of Input	: Single value optional (START)
Possible Values	: Y
LINENR	Line number of AMO call
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	1 to 50
PASSWORD	Logon password of destination computer
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	: See BS2000 command language
RUPINT	Interval (in days) at which a remote update is to occur
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	1 to 31
RUPSTT	Remote update start time
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	: Hours - Minutes Hours: 1 - 23 Minutes: 0 - 59 Day: 1 - 31 Month: 1 - 12 Year: 1980 - 9999
SUCCPROC	File name of proc. to be seen after a successfull transfer
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	: See DVS restriction for filenames in BS2000

SCNAME	Partner computer in service center
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	: All names to be formed without special characters, 1 to 8 alphanumeric characters
SEL	Selection parameter
Type of Input	: Single value, mandatory (ACTIVATE, DEACTIVATE, DELETE, DISPLAY)
Possible Values	: PARAM, AMOCMD, STATUS (DISPLAY) ALL, AMOCMD (DELETE) FAMUP, PROT, FTRNS (ACTIVATE, DEACTIVATE)
TYPE	Desired remote maintenance update options
Type of Input	: Single value, mandatory mandatory (ADD)
Possible Values	: LDU, AMOCMD
USERID	Logon id of destination computer
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
Possible Values	: See BS2000 command language

90.5 Error Messages and Advisories

90.5.1 Error Messages

F01: RUPSTT NOT IN VALUE RANGE [HH-MM-DD-MM-YYYY]
F02: INVALID VALUE FOR SCNAME
F03: INVALID VALUE FOR USERID
F04: INVALID VALUE FOR ACCT
F05: INVALID VALUE FOR PASSWORD
F06: INVALID VALUE FOR SUCCPROC
F07: INVALID VALUE FOR FAILPROC

FAMUP - Remote Administration and Maintenance Update

Error Messages and Advisories

F08: F8: THE TABLE IS FULL
F11: THE NAME OF THE POST-PROCESSING PROCEDURE MAY ONLY START WITH USR, FTH, FTX OR
A PREFIX OF 2 CHARACTERS
F12: THE YEAR DEFINED IN RUPSTT MUST BE 1980 OR GREATER
F13: FILE TRANSFER STARTTIME NOT IN VALUE RANGE
F14: DEACTIVATE FTRNS BEFORE ACTIVATING FAMUP
F15: DEACTIVATE FAMUP BEFORE ACTIVATING FTRNS

90.5.2 Advisories

H01: LDU FAMUP IS DEACTIVATED, SAVE JOB WILL NOT BE SENT
H03: INIT-JOB CANNOT CURRENTLY BE PROCESSED BECAUSE OF UPDATE RUN
H04: FAMUP WAS ALREADY ACTIVATED
H05: FAMUP WAS ALREADY DEACTIVATED
H06: PROTOCOLLING WAS ALREADY ACTIVATED
H07: PROTOCOLLING WAS ALREADY DEACTIVATED
H08: FTRNS WAS ALREADY ACTIVATED
H09: FTRNS WAS ALREADY DEACTIVATED
H10: THE VERB 'REGENERATE' HAS NO RELEVANCE IN THIS CONTEXT

91 FBTID - Remote Administration and Maintenance Identification Data

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO-FBTID is used to create data for the connection setup of *remote A & M* between Hicom and the service center (SZ). The required data are created in the administration and data server (ADS) of Hicom by means of the AMO FBTID.

The data are input by means of the following parameters: regional office (CD), contract number (NO), position number of contract (POS), password (PASSWORD), customer name (NAME) and station number of Hicom terminal (STNO)

- CD

The ZN (= regional office) code is used to identify Hicom for the SZ. This ensures an unambiguous assignment in the SZ. The identical ZN code must also be provided in the SZ (ISDN 2000). Thus, an unambiguous customer identification check is thus possible.

- NO

The contract number is used to identify Hicom for the SZ. An unambiguous assignment can be made in the SZ. The identical contract number must also be provided in the SZ (ISDN 2000). Thus, an unambiguous customer identification check is possible.

- POS

The position number of the contract is used to identify Hicom for the SZ. An unambiguous assignment can be made in the SZ. The identical position number of the contract must also be provided in the SZ (ISDN 2000). Thus, an unambiguous customer identification check is possible.

- PASSWORD

The password is used to identify Hicom for the SZ. The identification, for example, is required for AMO start when the connection is set up from the SZ to Hicom and AMOs are to be started. The password protects Hicom against unauthorized intervention from the outside; it must also be provided in the SZ (ISDN 2000).

- PRODUCT

FBTID - Remote Administration and Maintenance Identification Data

Restrictions

Product name of the Hicom system. If the AFS (automatic fault statistics) is in emergency operation, the product name is included in the printer output, in order to facilitate the interpretation of the fault reports at the control center.

- NAME

In order to make the unambiguous assignment of the accumulated data possible during automatic fault transfer (via RAFR), it is possible to transfer the customer name to the SZ. During emergency operation, the customer name is printed out.

- STNO

The station number of the customer of the Hicom system is transferred to the SZ during automatic fault transfer. This enables the SZ personnel in the SZ to call the customer system directly. During emergency operation, the station number is printed out directly.

- Remarks

SZ Station Number

The station number of the SZ must also be set up in Hicom. This is done by using an AMO of the CMS because the station number of the CMS is required for the connection setup and is read directly from the database by the CMS. The remote A & M also has access to these data, if required.

Processor Name of the Service Center

The processor name of the service center and the application name in the SZ are also created in the database of the ADS by an AMO of the CMS. The remote A & M has access to these data.

91.1 Restrictions

This description is valid from ATLANTIC-R6.3

91.2 Interrelationships

None

91.3 Functions of the AMO

- [ADD-FBTID](#) : Creation of the parameters
- [DISPLAY-FBTID](#) : Display of the parameters
- [CHANGE-FBTID](#) : Change of the parameters
- [REGENERATE-FBTID](#) : Regeneration of the parameters

91.3.1 ADD-FBTID

The action 'add' must be executed during the generation. All parameters must be specified to ensure the proper execution of the remote A & M.

Procedure Overview

Command Code	Parameter
ADD-FBTID	CD=<number>,NO=<string>,POS=<string> , PASSWORD=<string>,PRODUCT=<string>, ,NAME=<string>,STNO=<string>;

Example

Creating the data for the connection setup of the remote A & M between Hicom and the SZ using the following parameters:

ZN-code = 12, contract number = M299289, position number of the contract = 0001+, password = PSE3 C131, product name = PN HICOM 600, customer name = BOB_BUDER_AND_HIS_KOMMETS_COKG and station number of the customer = 21122/432.

Input:

```
ADD-FBTID:12,M299289,0001+,PSE3 C131,PN HICOM 600,
          BOB_BUDER_AND_HIS_KOMMETS_COKG,21122/432;
```

Output:

```
ADD-FBTID:12,M299289,0001+,PSE3 C131,PN HICOM 600,
          BOB_BUDER_AND_HIS_KOMMETS_COKG,21122/432;
H500: AMO FBTID STARTED
AMO-FBTID ... REMOTE ADMINISTRATION & MAINTENANCE
IDENTIFICATION
ADD COMPLETED
```

91.3.2 DISPLAY-FBTID

Displaying the list AMO-FBTID and the output of all parameters in list format (DIS).

Procedure Overview

Command Code	Parameter
DISPLAY-FBTID	;

Example

Displaying the parameters of list AMO-FBTID

Input:

```
DISPLAY-FBTID;
```

Output:

```
DISPLAY-FBTID;
H500: AMO FBTID STARTED

      PARAMETERS FOR THE CONNECTION SETUP
      BETWEEN HICOM SYSTEM AND SERVICE CENTER
PARAMETERS                                VALUE
-----
REGIONAL SERV. CENTER CODE : 12
NUMBER OF CONTRACT         : M299289
POSITION NO. IN CONTRACT   : 0001+
PASSWORD                   : PSE3 C133
PROD. NAME OF HICOM SYSTEM : PN HICOM 600
CUSTOMER NAME              : BOB_BUDER_AND_HIC_KOMMETS_COKG
TEL. NO. OF HICOM SYSTEM   : 21122/432

AMO-FBTID ... REMOTE ADMINISTRATION & MAINTENANCE
IDENTIFICATION
DISPLAY COMPLETED
```

91.3.3 CHANGE-FBTID

Changing the list AMO-FBTID; at least one parameter of the list must be specified.

Procedure Overview

Command Code	Parameter
CHANGE-FBTID	{CD=<number>,NO=<string>,POS=<string> ,PASSWORD=<string>,PRODUCT=<string> ,NAME=<string>,STNO=<string>;}

Example

Changing the parameter ZN code, position number of contract and password in the FBTID list.

Input:

```
CHANGE-FBTID:13,,0002+,TEST;
```

Output:

```
CHANGE-FBTID:13,,0002+,TEST;
H500: AMO FBTID STARTED
AMO-FBTID ... REMOTE ADMINISTRATION & MAINTENANCE
IDENTIFICATION
CHANGE COMPLETED
```

91.3.4 REGENERATE-FBTID

Regeneration (SAVDB) in position-oriented commands.

Procedure Overview

Command Code	Parameter
REGENERATE-FBTID	;

Example

Regenerating the parameters in the list AMO-FBTID

Input:

```
REGENERATE-FBTID;
```

Output:

```
REGENERATE-FBTID;
H500: AMO FBTID STARTED
ADD-FBTID:12,M299289,0001+,PSE3 C131,PN HICOM 600,
BOB BUDER AND HIS KOMMETS COKG,21122/432;
AMO-FBTID ... REMOTE ADMINISTRATION & MAINTENANCE
IDENTIFICATION
REGENERATE COMPLETED
```

91.4 Parameter Description

CD	Regional service centre code
Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)

FBTID - Remote Administration and Maintenance Identification Data

Parameter Description

	Possible Values	: 00 to 99
NAME	Surname and christian name with additional information	
	Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 30-position alphanumeric characters
NO	Number of contract	
	Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 7-position alphanumeric characters and special characters
PASSWORD	Password for identification check	
	Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 14-position alphanumeric characters
POS	Position number in contract	
	Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 5-position alphanumeric characters and special characters
PRODUCT	Product name of Hicom system	
	Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 14-position alphanumeric characters
STNO	Telephone number of Hicom system	
	Type of Input	: Single value, mandatory (ADD) Group parameter (CHANGE)
	Possible Values	: 22-position alphanumeric characters

91.5 Error Messages and Advisories

None

FBTID - Remote Administration and Maintenance Identification Data

Error Messages and Advisories

92 FBTN - Administration of the Flag Byte Table and Trunk Number Table

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO is used to administrate the flag byte table and the trunk number table.

The flag bytes are used in the message to the DPS and can be changed to suit individual customer requirements.

The trunk number table contains the assignments of virtual CO trunk numbers to actual CO trunks.

a) Flag byte table

The flag bytes (maximum of 2) are used in the message to the DPS and can be changed to suit customer requirements.

In flag byte 1, only the bit positions 0 to 5 can be used.

Definition of bit positions 6 and 7:

BIT 6 = 1: Output was started by a timer job.

BIT 7 = 1: Output was started by file overflow.

b) Trunk number table

Independent of its hardware address, each CO trunk can be assigned a virtual CO trunk number.

The trunk numbers are entered in ascending order. There are a maximum of 870 entries possible.

92.1 Interrelationships

- AMO-FTBL : Administration of the format tables

92.2 Functions of the AMO

- [ADD-FBTN](#) : Create table entries
- [DELETE-FBTN](#) : Cancel table entries
- [DISPLAY-FBTN / REGENERATE-FBTN](#) : Interrogate table entries
Regenerate table entries

92.2.1 ADD-FBTN

Entry of flag byte values into the flag byte table.

Assignments of virtual CO trunk numbers to CO trunks in the trunk number table. These trunk numbers can then be output in CDR format (see AMO-FTBL).

The values in the trunk number table are entered in ascending order.

For internal connections there can be made a general entry in the trunk number table. In this case the value 99 has to be entered for the parameter LTG. For internal connections this entry will be in effect.

1. Entry of a flag byte into flag byte table 1.
2. Entry of a flag byte into flag byte table 2.
3. Entry of assignment of virtual CO trunk numbers to CO trunks.

Procedure Overview

Command Code	Parameter	
ADD-FBTN	TBL=FB1, FLAGBYTE=<number>, VAL=<number>;	(1)
	| TBL=FB2, FLAGBYTE=<number>, VAL=<number>;	(2)
	| TBL=TRKNO, LTG=<number>, LTU=<number>, SLOT=<number> , CCT=<number>, BCHAN=<number>, VTRKNO=<number>;	(3)

Examples

1. The flag bit 1 in flag byte 2 is to be set to 1.
Input:
ADD-FBTN:TBL=FB2, FLAGBYTE=1, VAL=1;
2. The contents of the call detail record must identify
 - a) the 'customer' (shared system) from whom the data record originates
 - b) the type of data the call detail record contains.Possible solutions:

1. Flag byte 1 indicates the number of the shared system 'customer' (e.g.: flag bit 5 has been set).
2. Flag byte 2 indicates the type of data the contained in the record (e.g.: the customer wishes flag bit 3 to be set for flag byte 2).

Input:

```
ADD-
FBTN:TBL=FB1,FLAGBYTE=5,VAL=1;
(1)
```

Input:

```
ADD-
FBTN:TBL=FB2,FLAGBYTE=3,VAL=1;
(2)
```

3. A CO trunk is to be allocated a virtual CO trunk number.
The CO trunk number is composed of: LTG=1, LTU=1, SLOT=1, CCT=0.
The B-channel number is 0.
The CO trunk number is to receive the virtual CO trunk number 05.

Input:

```
ADD-
FBTN:TBL=TRKNO,LTG=1,LTU=1,SLOT=1,CCT=0,BCHAN=0,VTRKNO=05;
```

4. A CO trunk is to be allocated a virtual CO trunk number.
The CO trunk number is composed of: LTG=1, LTU=1, SLOT=1, CCT=0.
The B-channels are in the range from 2 to 19.
The CO trunk number is to receive the virtual CO trunk number 666666.

Input:

```
ADD-
FBTN:TBL=TRKNO,LTG=1,LTU=1,SLOT=1,CCT=0,BCHAN=2&&19,VTRKNO=66
6666;
```

92.2.2 DELETE-FBTN

Cancel the entries of the flag byte table or trunk number table.

If a trunk number table entry was cancelled, the remaining entries are resorted in ascending order.

1. Cancellation of a flag bit in the flag byte table 1.
2. Cancellation of a flag bit in the flag byte table 2.
3. Cancellation of a CO trunk number assignment.

Functions of the AMO

Command Code	Parameter	
DELETE-FBTN	[TBL=FB1], [FLAGBYTE=<number>;	(1)
	[TBL=FB2], [FLAGBYTE=<number>;	(2)
	[TBL=TRKNO], LTG=<number>, LTU =<number> , SLOT=<number>, CCT=<number>, BCHAN=<number>;	(3)

DELETE-FBTN:TBL=FB2,FLAGBYTE=1;

Command Code	Parameter	
DISPLAY-FBTN	[TBL=FB1];	(1)
	[TBL=FB2];	
	[TBL=TRKNO], [LTG=<number>], [LTU=<number> , [SLOT=<number>], [CCT=<number>], [BCHAN=<number>];	
REGENERATE-FBTN	[TBL=FB1];	(2)
	[TBL=FB2];	

Command Code

Parameter

```
| [TBL=TRKNO], [LTG=<number>], [LTU=<number>]  
| , [SLOT=<number>], [CCT=<number>], [BCHAN=<number>];
```

Examples

1. Interrogate the trunk number table.

Input:

```
DISPLAY-FBTN:TBL=TRKNO;
```

Output:

```
TRUNK-NUMBER-TABLE  
  
ENTRY      LTG      LTU      SLOT      CCT      ISDN-B-CHANNEL  VIRT.TRUNK CIRC. NO  
1           1        1        1         0         0              05  
2           1        1        1         0         2 -19          666666
```

2. Interrogation of flag byte table 2.

Input:

```
DISPLAY-FBTN:TBL=FB2;
```

Output:

```
FLAG - BYTE - TABLE 2  
  
FLAGBYTE      VAL  
1              0  
2              0  
3              1  
4              0  
5              0  
6              0  
7              0  
8              0
```

3. Interrogate the trunk number table for regeneration.

Input:

```
REGENERATE-FBTN:TBL=TRKNO;
```

Output:

```
ADD-FBTN:TRKNO,1,1,1,0,0,05;  
ADD-FBTN:TRKNO,1,1,1,0,2&19,666666;
```

FBTN - Administration of the Flag Byte Table and Trunk Number Table

Parameter Description

92.3 Parameter Description

BCHAN	Number of the ISDN B-channel	
	Type of Input	: single value, range, mandatory (ADD, DELETE) optional (DISPLAY, REGENERATE)
	Possible Values	: 0 to 30
CCT	Circuit number	
	Type of Input	: single value, mandatory (ADD, DELETE) optional (DISPLAY, REGENERATE)
	Possible Values	: 0 to 121
FLAGBYTE	Number of elements (BITS) in the flag byte	
	Type of Input	: single value, optional (DELETE) mandatory (ADD)
	Possible Values	: 1 to 8, corresponding to bit positions
LTG	Line trunk group	
	Type of Input	: single value, mandatory (ADD, DELETE) optional (DISPLAY, REGENERATE)
	Possible Values	: 1 = dummy 99 = entry of avoidance of advisories
LTU	Line trunk unit	
	Type of Input	: single value, mandatory (ADD, DELETE) optional (DISPLAY, REGENERATE)
	Possible Values	: 1 to 99
	Note	: LTU 16 is used Hicom internal.
SLOT	Specification of the mounting pitch in the LTU	
	Type of Input	: single value, mandatory (ADD, DELETE) optional (DISPLAY, REGENERATE)
	Possible values	: 1-121 A suitable module must be configured for the slot addressed by PEN (AMO BCSU).
The possible Slot values depend on the systems architecture and can be found in the BCSU AMO description.		
TBL	Name of table	
	Type of Input	: single value, mandatory (DISPLAY, DELETE, REGEN) optional (DISPLAY)

	Possible Values	: FB1	= flag byte 1
		FB2	= flag byte 2
		TRKNO	= trunk number
VAL	Value of flag bit		
	Type of Input	: single value, mandatory (DISPLAY)	
	Possible Values	: 1	= bit set
		0	= bit not set
VTRKNO	Virtual CO trunk number		
	Type of Input	: single value, mandatory (DISPLAY)	
	Possible Values	: max. of 10 positions	

92.4 Error Messages and Advisories

92.4.1 Error Messages

F01: THE ENTRY IS ALREADY IN THE TABLE
F02: ENTRY DOES NOT EXIST IN THE TABLE
F03: THERE IS NO MORE EMPTY SPACE IN THE TABLE

92.4.2 Advisories

none

93 FEACG - SMDR/DMDR Feature List

Interrelationships	Parameter Description
AMO Functions	Error Messages and Advisories

"SMDR/DMDR" is elsewhere described as "Call Detail Recording" or "CDR".

The task of this AMO is to administer the bit string of call charge registration. The individual elements in the bit string can be set and cancelled; the setting of the bit string can be interrogated.

A set "bit" ensures that the other AMOs can be used to generate the outputs required for an SMDR feature.

A "bit" that is not set prohibits the creation of a feature.

If no "bit" is set (empty set), SMDR is deactivated.

Procedure to activate and deactivate SMDR or an SMDR feature:

- Activation of SMDR
At least one feature bit must be set.
- Activation of an SMDR feature.
Set the corresponding feature bit using AMO-FEACG. Additionally, selection groups and tables (AMO-SELG) or dialog fields (AMO-GEZAB) must be created for the corresponding call charge data output.
- Deactivation of SMDR
All feature bits must be cancelled.
- Deactivation of an SMDR feature.
Cancel the corresponding feature bit using AMO-FEACG. Additionally, the selection group (AMO-SELG) or the dialog field (AMO-GEZAB) for the corresponding call charge data output must be cancelled. New creation of the corresponding output is prevented by the feature bit that is not set.

Note:

Call charge data output should be deactivated for a brief time (because of maintenance or change), using AMO-SELS.

In fast output mode, AMO-GEZAB can not be started.

All features must be activated before generating. After generating, those features not immediately required can be deactivated.

Proceed as follows:

FEACG - SMDR/DMDR Feature List

Interrelationships

1. Activate all features
2. Regenerate
3. Generate
4. Deactivate features not required

93.1 Interrelationships

- AMO-SELG : Administration of selection groups and tables
- AMO-GEZAB : Administration of dialogs for the forms output
- AMO-SELS : Administration of the operating states of selection groups

93.2 AMO Functions

- [ADD-FEACG](#) : Set one or more elements of bit string
- [DELETE-FEACG](#) : Cancel one or several elements of bit string
- [DISPLAY-FEACG / REGENERATE-FEACG](#) : Interrogate bit string
Regenerate bit string

93.2.1 ADD-FEACG

Create elements of bit string.

The AMO receives one or more elements of the bit string from the input side. These are entered in the database, unless they have already been set.

Setting the element CDRCDIS and CDRFAST requires that the element CDRCDUMP is either already set in the database or that it must also be transferred from the input side in order to set it.

Setting the element CDRFAST all selection groups > 1 will be switched off. (AMO-SELS)

Note:

At setting of the value "CDRFAST" is possible only by following bit string :

- CDRCDUMP activated

- CDRCDIS, CDRATND, CDRSPR deactivated.

Procedure Overview

Command Code

ADD-FEACG

Parameter

CM=<param>;

Example

1. Create call charge registration at the Hicom attendant terminal.

Input:

ADD-FEACG:CDRATND&CDRCDUMP&CDRSPR;

93.2.2 DELETE-FEACG

Cancel elements of the bit string.

The AMO receives one or more elements of the bit string from the input side.

These are cancelled in the database, unless this has already been done.

Cancelling the element CDRCDUMP requires that the elements CDRCDIS and CDRFAST is either already cancelled in the database or that it must be transferred from the input side in order to be cancelled.

Cancelling the CDRFAST-value requires no startup of the selection groups. They have to be switched on with AMO-SELS.

Procedure Overview

Command Code

DELETE-FEACG

Parameter

CM=<param>;

Example

1. Cancel SMDR at the Hicom attendant terminal (CDRATND).

Input:

DELETE-FEACG:CDRATND;

93.2.3 DISPLAY-FEACG / REGENERATE-FEACG

- 1. Interrogate the bit string with output in list format (DISPLAY).
- 2. Interrogate the bit string with output in position-related commands for regeneration (REGEN).

Procedure Overview

Command Code	Parameter
DISPLAY-FEACG	; (1)
REGENERATE-FEACG	; (2)

Examples

- 1. Interrogate the bit string and output in list format.

Input:

DISPLAY-FEACG;

Output:

CALL DATA REGISTRATION AT ATTENDANT CONSOLE :
DEACTIVATED;

CALL DATA REGISTRATION ON ADD. DEVICE, IMMEDIATE OUTPUT :
ACTIVATED;

CALL DATA REGISTRATION ON ADDITIONAL DEVICE, CALL UP :
DEACTIVATED;

CALL DATA REGISTRATION PER STATION, PRINTER OUTPUT :
ACTIVATED;

CALL DATA REGISTRATION ON FAST OUTPUT DEVICE :
DEACTIVATED;

- 2. Example of an output in command format.

Input:

REG-FEACG;

Output:

ADD-FEACG:CDRCDUMP&CDRSPR;

93.3 Parameter Description

CM	One or more elements of the bit string		
Type of Input	:	Single value, chained single values, required	
Possible Values	:	CDRATND	= Charge registration on attendant console
		CDRCDIS	= Central call charge registration on call-up
		CDRCDUMP	= Central call charge registration immediate
		CDRFAST	= Charge registration on fast output device
		CDRSPR	= Charge registration on printer

93.4 Error Messages and Advisories

93.4.1 Error Messages

F01: APPLICATION "CHARGING" HAS TO BE SWITCHED ON WITH THE AMO APC
F02: ELEMENT CDRCDUMP IS ONLY DELETED IF ELEMENT @@@@@@@@ IS DELETED
F03: ELEMENT @@@@@@@@ IS ONLY SET IF ELEMENT CDRCDUMP IS SET
F04: ELEMENT CDRFAST IS ONLY SET IF ELEMENTS CDRCDIS AND CDRSPR ARE NOT SET

93.4.2 Advisories

H01: ELEMENT <xxxxxxxx> IS ONLY SET IF ELEMENT CDRCDUMP IS SET
H02: ELEMENT CDRCDUMP IS ONLY DELETED IF ELEMENT <xxxxxxxx> IS DELETED
H03: not in use
H04: ELEMENT CDRFAST IS ONLY SET IF ELEMENTS CDRCDIS, CDRATND AND CDRSPR ARE NOT SET
H05: FAST MODE IN PROGRESS. ALL SELECTION GROUPS, EXCEPT THE FIRST ONE, ARE SWITCHED OFF

94 FEASU - Features (Bit String) in the SWU

By means of AMO FEASU, customer-specific features (CM) can be released (activated) or blocked (deactivated). The features are represented by symbolic abbreviations (8 characters maximum). A somewhat longer description (50 characters max) for these abbreviations may be obtained by entering `CHANGE-FEASU:TYPE=A,CM=?;`.

The order of appearance for the values of parameter CM listed there was fixed by the evolution of the AMO. A list of them is given here under the title "[Parameter Description](#)" in alphabetical order of their English names. Feature bits that are activated in the standard customer package are especially designated there by an asterisk in the first column of the table.

94.1 Restrictions

This description is valid from HiPath 4000 V2.0.

94.2 Interrelationships

- All AMOs in which the handled features are processed.

94.3 Functions of the AMO

- [CHANGE-FEASU](#) : Activate or deactivate features by specifying the appropriate symbolic abbreviations (see parameter description for CM)
- [DISPLAY-FEASU](#) : Display lists of all activated features as well as of all deactivated ones
- [REGENERATE-FEASU](#) : Generate CHANGE-FEASU commands for all activated&deactivated features

94.3.1 CHANGE-FEASU

Activating and deactivating features

FEASU - Features (Bit String) in the SWU

Functions of the AMO

By means of the function CHANGE FEASU features can be activated or deactivated. If the input for parameter 'TYPE' is equal to 'A', the specified features will be activated. If the input for parameter 'TYPE' is equal to 'D', the features will be deactivated.

There are pairs within the allowed values of parameter CM which form exclusive pairs, i.e. pairs of feature bits both of which may not be activated at one time. At present the values PININT and PINNW (internal PIN¹ and network wide PIN) as well as the values XFBACALL and XFBADIAL (Transfer before Answer from Call State and Transfer before Answer from Dial State) constitute such exclusive pairs.

Procedure Overview

Command Code	Parameter
CHANGE-FEASU	| TYPE=A, CM=<param>; | TYPE=D, CM=<param>;

Examples

1. The features central speed dialing, individual speed dialing, and hunting group are to be activated.

Input:

CHANGE-FEASU: TYPE=A, CM=SPDC&SPDCI&HTVCE;

2. The features central speed dialing, individual speed dialing, and hunting group are to be deactivated.

Input:

CHANGE-FEASU: TYPE=D, CM=SPDC&SPDCI&HTVCE;

94.3.2 DISPLAY-FEASU

By calling DISPLAY-FEASU we obtain a list of all the features treated by the AMO divided into two groups: the first group shows the features that are activated (if any), the second shows those that are deactivated (if any).

Procedure Overview

Command Code	Parameter
DISPLAY-FEASU	;

1. PIN: Personal Identification Number

Example

The state (on/off) of all features is to be shown.

Input:

```
DISPLAY-FEASU;
```

Output:

```
DISPL-FEASU;
```

```
H500: AMO FEASU STARTED
```

```
ACTIVATED FEATURES
```

```

SPDC      SPDI      HTVCE      HTFAX      HTDTE      OVR      FRKN      NIGHT
COSXCD    COSXKEY    DCOSX      COSXATND   COSXT      COSXDP    ICPTDID    HOTRCL
DND        VARCONF    TRACE      SNR         RKNOVR     CBK       DSS        SPLIT
ONHKTRNS  PU          RSVCO      SER         ISTR       RNG       SYNCANN    CDRINH
CDRIC      CDROGNW    CDROGTR    DISCHINH   DISCHNW    DISCHTR   LCRET      POSTBUSY
POSTFREE   RELOCATE   HTNW       PININT      TIMEDREM   ATTR      CPS        INCPRIO
CALOGOPT   DIRCPCKP   CLIP       MOBHFA

```

```
DEACTIVATED FEATURES
```

```

CRITM      LDME      DDTES      NOCHRG     WTATND     TRACCO    LEDSIGN    VMSDP
RELCON      RERING    AUTOV      EMOVR      EMRLS      DCBB      DCBNOA     VOICO
PINNW       ECFW      XFBACALL   XFBADIAL   CDRE       DCPA      NCT        RCCB
MLPP        CDRACC    SMARTCRD

```

```
AMO-FEASU-237      CUSTOMER FEATURE LIST
```

```
DISPLAY COMPLETED;
```

94.3.3 REGENERATE-FEASU

Command REGENERATE-FEASU produces a set of CHANGE-FEASU commands for all activated and deactivated features.

Procedure Overview

Command Code	Parameter
REGENERATE-FEASU	;

Example

Input:

FEASU - Features (Bit String) in the SWU
Parameter Description

```
REGENERATE-FEASU;  
Output:  
REG-FEASU;  
H500:  AMO FEASU STARTED  
CHANGE-FEASU:A, SPDC&SPDI&HTVCE&HTFAX&HTDTE&OVR;  
CHANGE-FEASU:A, FRKN&NIGHT&COSXCD&COSXKEY&DCOSX&COSXATND;  
CHANGE-FEASU:A, COSXT&COSXDP&ICPTDID&HOTRCL&DND&VARCONF;  
CHANGE-FEASU:A, TRACE&SNR&RKNOVR&CBK&DSS&SPLIT;  
CHANGE-FEASU:A, ONHKTRNS&PU&RSVCO&SER&ISTR&RNG;  
CHANGE-FEASU:A, SYNCANN&CDRINH&CDRIC&CDROGNW&CDROGTR&DISCHINH;  
CHANGE-FEASU:A, DISCHNW&DISCHTR&LCRET&POSTBUSY&POSTFREE&RELOCATE;  
CHANGE-FEASU:A, HTNW&PININT&TIMEDREM&ATTR&CPS&INCPRIO;  
CHANGE-FEASU:A, CALGOPT&DIRCPCKP&CLIP&MOBHFA;  
CHANGE-FEASU:D, CRITM&LDME&DDTES&NOCHRG&WTATND&TRACCO;  
CHANGE-FEASU:D, LEDSIGN&VMSDP&RELCON&RERING&AUTOV&EMOVR;  
CHANGE-FEASU:D, EMRLS&DCBB&DCBNOA&VOICO&PINNW&ECFW;  
CHANGE-FEASU:D, XFBACALL&XFBADIAL&CDRE&DCPA&NCT&RCCB;  
CHANGE-FEASU:D, MLPP&CDRACC&SMARTCRD;  
AMO-FEASU-237          CUSTOMER FEATURE LIST  
REGENERATE COMPLETED;
```

94.4 Parameter Description

Only some characteristic command parameters are shown in the penultimate column, so the commands thus given are not directly applicable. Abbreviations for parameter input types: num: number, pm: symbolic value (parm), sg: string.

The links shown underlined with (blue) capitals can be accessed via Ctrl-Alt-mouseclick. The last column shows the German name of the symbolic value.

Parameters, which are relicts of previous versions and have not yet been removed but are not used any more, are shown without bold type and with smaller characters.

CM	The features to be activated or deactivated	
	Type of input: single value or linked single value, required	German

FEASU - Features (Bit String) in the SWU

Parameter Description

Possible Values:	ATTR	Attendant-invoked call transfer before the answer of a DSS1-subscriber (Beginning with EV3.0, <i>ATTR</i> was replaced by <i>TRBA</i> in AMO COT) The subscriber can pass on the call before having response. See use case DSS1 User-to-User Service	COSSU: [D/ A]VCE=SUTVA; COT:PAR=TRBA;	VFVE
	AUTOV	Automatic override (China-feature, see CM=OVR)	COSSU: DVCE/AVCE/ VCE=AUTOV;	AUTOV
	CALOGOPT	Call log for Optiset E This feature called journal is available since E V3.0. The last incoming and outgoing calls are logged for optiset E terminals with display. The user can query the stored information and use the entries to establish outgoing connections. In the part of the call log reserved for outgoing calls the last six called users are entered. In the part reserved for incoming calls the last twelve calling users are stored. The entries are sorted starting from the newest and ending with the oldest entry. See use case Call log for optiset E	SBCSU: CALLOG=ALL/ TRIES; BERUM: TYPE=STN/ COSX, COSACT=1/2;	ANRLSOPT
	CBK	Call back / consultation (busy, free, voice mail) Callback is for voice calls only. When a station is found to be busy, it is possible to enter a callback request, after which the connection is cleared down. As soon as the desired station is free, the callback is initiated to the requesting station (station A). When the callback is answered, the desired station (station B) is automatically called. Each user can decide whether to allow callback-on-busy or 'callback-on-no-answer for his or her call number, as required. This is intended to satisfy data protection requirements and particularly requirements of the civil services (public services) in Germany.		RR
	CDRACC	Call detail recording account code		
	CDRE	Call Data Recording enhancements (extended charge detail recording) With Hicom 300 E V3.0, the CDR (Call Detail Record) has been enhanced for more detailed call record output. See use case Call Data Recording Enhancements (CDRe)		CDRE

FEASU - Features (Bit String) in the SWU

Parameter Description

CDRIC	Call detail recording for incoming network and trunk calls See use case Call Data Recording - Standard Settings		GEBK
CDRINH	Call detail recording for in-house calls The cost parameters for on-node connections are assigned to the connection groups (ITR groups: internal traffic restriction groups). The AMO VBZGR assigns the ZONE cost parameter (INT01 to INT09, EMPTY) to the ITR groups, and the cost parameters of the ITR group of the user who is paying the bill are used for call data recording. The ZONE must be created beforehand with the AMO TTBL. See also CDRIC		GEBINT
CDROGNW	Call detail recording for outgoing network calls Cross traffic, see also CDROGTR		GEBGNW
CDROGTR	Call detail recording for outgoing trunk calls Call data recording for outgoing calls (trunk and tie-line calls) is always set by means of Least Cost Routing (LCR) parameters. As far as call data recording is concerned, no distinction is made between the VOICE/FAX and DATA services. LCR can be configured separately for specific services, so a different cost parameter can be assigned to each service. See use case INFO 2000 Outcalls		GEBGAMT
CLIP	Calling Line Identification Presentation Clip for analog subscribers		CLIP
COSXATND	COS changeover from attendant Changeover of the standard class-of-service of subscriber groups to an alternative class-of-service can be carried out by any operator (from the night AC). A patch allows a class-of-service changeover which has been carried out by a user to be barred from being changed again from the AC. (For details see CM=DCOSX)	BERUM: TYPE=STN/ COSX;	BERUMV
COSXCD	COS changeover with code (For details see CM=DCOSX)	BERUM: TYPE=STN/ COSX;	BERUMC
COSXDP	COS changeover from computer (data processing equipment) (For details see CM=DCOSX)	BERUM: TYPE=STN/ COSX;	BERUMD
COSXKEY	COS changeover with key (For details see CM=DCOSX)	BERUM: TYPE=STN/ COSX;	BERUMS

FEASU - Features (Bit String) in the SWU

Parameter Description

COSXT	COS changeover t ime controlled (For details see CM=DCOSX)	BERUZ: {COS1/ COS2=off/on};	BERUMZ
CPS	C harge p ulse s ending and metering The SLMAR ¹ card provides 8 analog subscriber lines supporting the basic analog line features as well as the three major features (Extended Loop, Pulse Metering and Line testing) required for the rural marketplace. See use case Charge Pulse Metering & Sending to Analog Stations	BCSU: MTYPE=PER, PARTNO= Q2480-X000; GEFE: TYPPARAM=CAR , CARRIER=num, TYPE=MIX, CHRGPLS=N; LIST: DATNAM= ":PDS:APSP/ LTG/LG80/ PZESLAR0", FORMAT=B; PTIME: SLMA1; SCSU: STNO=34, DVCFIG=ANATE CM, DIAL=VAR, PULSTYPE=KHZ 16, PULSLEV=VEFF3 ; TTBL:TBL=GRP, GROUPNO=0, CARRIER=1, CATPTY=PUPHO N, SERVICE=ALL, TARTBLNO=1; ZAND: CCUC=num, CDDISPEX= AMOUNT/UNIT, CDDISPAT=1/2, CDRRINGB=yes/ no;	GIS
CRITM	C ritical t ime m etering		GEFM

FEASU - Features (Bit String) in the SWU

Parameter Description

DCBB	System level D isable of Automatic C allback-on- B usy (See DCBNOA below) The Callback feature (see CBK above) can be activated at system level (Base initialization: deactivated), for cases of free and busy state and for Voice Mail. This can be restricted by the parameter values DCBB/DCBNOA from V3.3 on. If not locked at system level, it can be deactivated at subscriber-level by AMOs SCSU and SBCSU for the busy/free states. This lock is then valid for the station called giving it the capability to protect itself from callback assignments.	RRB
DCBNOA	To avoid malfunctions, parameter MB (Mailbox - authorization to read mail) in AMO-COSSU must not be set in case of parameter DCBNOA (D isable of Automatic- C allback-on- N o- A nswer for entire system) is set in AMO-FEASU	RRF
DCOSX	D eactivation C OS changeover from station Each subscriber has two classes-of-service: a standard and an alternative class-of-service. The classes-of-service are assigned by means of the administration and maintenance operation. Changeover between the two classes-of-service can be effected from the telephone set or from a centralised location. If a telephone set is programmed for centralised class-of-service changeover (i.e. member of a COSX group) and COSX is not activated by locking the telephone (Key-COSX), it is always switched over, even if class-of-service changeover from the telephone set is additionally possible. See use case Class of Service Switchover	BERUM: TYPE=STN/ COSX; PERSI: COSXCD=string; SCSU: COSX=num; ZAND: COSIND=yes/ no; BERUMA

DCPA	Directed call park By means of a special procedure the subscriber can switch a call to a parking condition. The connection is thus held, and the station is free again. The connection can be picked up from the parked state from this station or from another station. Internally it is possible for one user to be put in the parked condition as a partner. It is not possible to park an internal call with an attendant console. An external call can be put in the parked condition irrespective of the type of far-end partner (subscriber, attendant console, special equipment).	AUN: REMSIGPK=yes/no; CTIME: PARK=num, RECPARK=num, TAPRO: TDxx=PA; (xx=01 .. 42) WABE: DAR=CALLPARK/PARKKY; XAPPL: ADDEVT/ DELEVT=PARKTO; ZAND: ATNDAL=yes/no, ATNDHOLD=yes/no;	DCPA
DDTES	Direct data terminal equipment switching		DRD
DIRCPCKP	Directed call pickup With this feature any subscriber can pick-up any ringing, camped-on or manually held call network wide. With directed call pickup the feature code (AMO WABE:DAR=PUDIR) or the menu option provided on the Optisets dialed and then the number of the dialed terminal is entered. This feature is available both locally and network wide. It is not bound to the usually configured pickup groups and can therefore be used by terminals which are not members of a pickup group.		DIRAUN
DISCHINH	Display charges for in-house calls		GESPINT
DISCHNW	Display charges for network calls		GESPNW
DISCHTR	Display charges for trunk calls See use case Immediate Output of CDR Data		GESPAMT
DND	Do not disturb The do-not-disturb feature allows certain stations to be guarded temporarily from incoming calls. Outgoing calls from this station are still possible. Activation from the station itself: — Guards against all calls to this station Activation from the attendant console: — Guards a station group against all calls — Guards a station group against all calls from stations in this group (station-to-station restriction). See use case Preventing Connections	ACTDA: FEATCD=DND; WABE: DAR= DNDKY/DDND/ADND	ANRS

FEASU - Features (Bit String) in the SWU

Parameter Description

DSS	Direct station selection (voice) Users with a Hicom set 260/400/500/700 or Optiset E voice terminal have up to 35 direct station selection keys at their disposal as an alternative to repertory keys. The Hicom 300 E system can be administered in a way that the maximum possible 35 direct station selection keys can be either flexibly entered from the terminal, or (for the sake of data protection) confidentiality administered by AMOs. Optiset E telephone users can program these destinations via the menu functions of their telephones. An internal destination can be stored for every direct station selection (DSS) key: Digite, Anate, P-key on an attendant console as destination. See use case Direct Station Selection	SXSU: STNO=num; TAPRO: STD=num, KYxx=DSS; (xx=01 .. 42) ZIEL: TYPE=DSS;	DRS
ECFW	Enhanced call forwarding Subscriber A calls subscriber B and subscriber B has call forwarding to subscriber C. Whenever subscriber C is busy or doesn't respond, the call will be turned back to subscriber B, if subscriber-B has activated this extended call forwarding forwarding feature together with a call-forwarding-for-ring-no-answer or a call-forwarding-to-fix-destination-if-busy.	COSSU: [A/ D]VCE=FWEXT;	EAUL
EMOVR	Network-wide emergency connection override The Emergency Override/Disconnect feature enables the caller to intrude on or disconnect busy digital (S0/S2 B-channels) or analog lines (with/without DIUC, not TMOM circuits) within a private network configuration. In addition, the feature is also available for analog or digital tie-trunks or CO (exchange) trunks within a private network (for breakout to other networks). The Emergency override feature can be activated by authorized users by means of suffix dialing as soon as the busy or All Trunks Busy state occurs. See use case Emergency Override/Disconnect		NOTAUF

EMRLS	Network-wide emergency connection release The Emergency Override/Disconnect feature enables the caller to intrude on or disconnect busy digital (S0/S2 B-channels) or analog lines (with/without DIUC, not TMOM circuits) within a private network configuration. In addition, the feature is also available for analog or digital tie-trunks or CO (exchange) trunks within a private network (for breakout to other networks). The Disconnect feature can be activated by authorized users by means of prefix dialing as a precautionary measure prior to entering the destination number or alternatively by means of suffix dialing as soon as the busy or ATB state arises. See use case Emergency Override/Disconnect	NOTTR
FRKN	Free to knock/camp on, terminating Station users who are authorised for this feature and who call a busy station can use the camp-on facility to indicate that an external or internal call is waiting. The feature concerns personal calls and hunt groups. Hunting group calls give rise to a visual call waiting indication at this station (Digite) if all the hunting group stations are busy. Personal calls camp on independently of the hunting group. All Digite users have access to this feature. The calls switched to night service automatically camp on irrespective of whether the night station has activated Camp-on Enabled or not.	FRAD
HOTRCL	Hotline/Off-hook recall The hotline feature automatically sets up voice, teletex, videotex and data terminal equipment connections immediately after initial seizure. The destinations must be assigned to the internal traffic restriction group of the station. The off-hook recall feature automatically sets up a connection to a preset destination assigned to the internal traffic restriction group of this station, if either no digits are dialled, or only an incomplete digit sequence is dialled within a preset time after initial seizure. The feature is provided for voice service only. The parameter GROUP in the AMO VBZGR defines the internal traffic restriction group. See use case Hotline/Off-Hook Recall	VBZGR: HOTROE GROUP=num, {TYPE=HOTDES T, HOTVCE=key- num |TYPE=OFRUDE ST, OFFRCL=key- num};

FEASU - Features (Bit String) in the SWU

Parameter Description

HTDTE	: Hunt group, service: data terminal equipment		SAD
HTFAX	Hunt group, service: fax		SAF
HTNW	Hunt groups, network wide In E V1.0 and higher, all internal, network-wide and external destinations of a hunting group subscriber will be considered as call forwarding destinations if the forwarding-in-hunting-group parameter FWD of AMO SA is enabled. In order to do this, the forwarding feature must first be enabled at system level by AMO FEASU. See use case Hunting Groups		SANW
HTVCE	Hunt groups, voice Stations (voice and non-voice terminals) can be combined to form a hunting group. Hunting groups are accessed via a special hunting group number, namely by a code or by the call number of the leading user in the hunting group. Hunting groups can equally be accessed by internal users, attendants, external parties through DID, in inter-PBX traffic. Each station in the hunting group can also be accessed directly under its own call number (with the exception of the first user if his call number is the hunting group number). (See HTNW above)	SA:TYPE=VCE; SA:TYPE=STN, SVC=VCE	SAS
ICPTDID	Intercept of Direct Inward Dialing calls Depending on communication type and the status of the dialed destination, unsuccessful DID calls are diverted to a specific permanently connected destination. Alternatively, music or an announcement can be applied to the waiting user. If call forwarding on DID calls is not activated, the external user receives audible tones. Station terminals which are to be obtainable by direct inward dialing are given DID authorisation. See use case Attendant Intercept	COT: PAR=IDND/ IONS; ZAND: CP=ANNICPT;	ABDUWA

INCPRIO	Increase priority level after timeout From version V3.0, the priority assignment to calls in call queues of an attendant console group is improved. — Incoming calls are linked and administrated in the call queue using the latest priority criteria. — After a configurable timeout, the priority level of calls waiting in the call queue is increased. — After a configurable timeout, calls waiting in the call queue for a longer period of time are forwarded to a different AC group (overflow). See use case Function-Enhancements for the Attendant Queues	BUEND: ERHPRIO PRIONO=num, COT: PAR=PRI; CTIME: CQOFL/ CQPRIO=num; VFGR: TYPE=PRIOCALL /PRIOLEV; VFGR: FORMAT=PRIO;
ISTR	Internal self-dial traffic restriction When this feature is activated, the station users of a particular subscriber group can reach other subscribers in their group only with the assistance of the operator, i.e. the subscribers of the group are protected from calls by users in the same group.	ACTD:FEATCD= ESI DNDGR;
LCRET	LCR (Least Cost Routing) expensive route tone Hicom's LCR mechanism is used for setting up connections via ISDN, in order to realise the least expensive data connection. The corresponding LCR classmarks assigned to the WAML² and transferred to call processing during call setup. Time Based Routing is included. Within Hicom 300 E systems, the Expensive Route Tone feature is available for networked Hicom systems with LCR. This feature can be set up individually per station. The expensive route tone warns users if a normally cheap route cannot be switched, e.g. due to congestion in busy hours, and the call has to be switched via a more expensive route element instead. The Least Cost Routing feature has a set of Schedules that are used when configuring route elements with AMO LDAT. Using the AMO LSCHD up to 8 schedules, identified by the letters A to H, can be defined. These will typically cover the week in bands corresponding to call charging rates. See use case LCR Least Cost Routing	COSSU: LCRET LCROPTS=LCRE T/NONE; CTIME: LCRET=num; LDAT: LSCHED=A/.../ H/ AE/.../HE/ NONE; LSCHD: ITR=num, DAY= SU/MO/TU/WE/ TH/FR/SA, HOURL=num, {SCHED=A/.../ H, MINUTE=num};

FEASU - Features (Bit String) in the SWU

Parameter Description

LDME	Load measurement Traffic metering comprises the measurement of the traffic carried and the registration of the statistics for call processing: — Traffic volume Y (in Erlh) and number of seizures per quarter of an hour for specific call-processing devices (circuits, terminals, attendant consoles, etc.); — Availability time of specific attendant consoles during the measurement period; — Availability for call processing of the devices monitored throughout the measurement period; — Control processor workload.	BELIN: LST=num;	BELM
LEDSIGN	Analog connections LED signalling (Switzerland feature: Comtel3 is an analog phone device with fast dial-pulsing and a 16-key number block with LEDs.) Siehe AWF Comtel3	SCSU: DHPAR=LEDSIGN;	LEDSIGN
MLPP	Multi level precedence and preemption		MLPP
MOBHFA	Mobile HFA		MOBHFA
NCT	Network call transfer		NCT
NIGHT	Night switching Night stations (night options/night variants) can be changed at an active attendant console or via AMO. Also night stations can be changed at standard terminals (e.g. ANATE with DTMF or DIGITE) as well as from an attendant console. The authorization will be assigned as a classmark in a COS for a specific group. It will be possible for authorized users (regardless of whether the stations are defined as night stations or not) and authorized attendants in any attendant console group to change specific night stations. See use case Remote Night Station Changeover	COSSU: TYPE=COS, COS=num, AVCE=NOPTCD; WABE: CD=num, DAR=NAVAR;	NACHTZU
NOCHRG	No charge Free of charge (valid for MFC-R2 ³ coming, Switzerland feature)		GEBFREI

ONHKTRNS	On-hook transfer An authorized user (functional terminal units⁴ excepted), who has dialed the complete extension number of an external user (via S0/S2), can perform a consultation hold before receiving acknowledgement for that first connection. This authorized user can then set up a consultation call to a user in the network (via S0/S2) or to an internal user, in order to subsequently connect the two calls with each other, as soon as one of the called parties has already answered.	UML
OVR	Override Station users with busy override authorisation calling a busy station can break into the call in progress: -- override on stations -- override for a personal call at an attendant console (P key)--- busy override with continuous check for free line: If the desired party has released his line, the call is automatically switched through, provided the calling party has not gone on-hook in the meantime. Once the override has been terminated, the station user who initiated busy override can initiate other services (e.g. callback). Users can only intrude on hunting group calls if all stations in the hunting group are busy, and the hunting group call queue is full (if configured). Users cannot choose which of the hunting group members to intrude on; the first connection in the hunting group in one of the above states is overridden. Users can intrude on connections if a waiting call is being signaled (camp-on, knocking). Variant b) must be configured in the A&M system in order to do this. The camp-on or knocking signal is then terminated. Users cannot intrude on or override a connection which is already being intruded on.	COSSU: [A/E]VCE= ANBTR/AUTOV/ RKOABS/ REOVR; COS: PAR=OVR; COT: PAR= KNOR/OVRE/ IONS; LWPAR: TYPE= NWLOOP/ NWWTK/NWZS, SDAT: TYPE=ATTRIBUT, AATTR/ DATTR=KNOVR; AUFS
PININT	PIN, internal (See PINNW below) From version EV3.0, internal PIN allows to enter the PIN in consultation state. A short PIN is only valid for the consultation call and is automatically deleted at end of call. A long PIN entered in consultation state is valid for the consultation call and the following calls, as long as the PIN is activated. Only one of the two features PININT and PINNW may be activated at once. See use case Personal Identification Number	ZAND: PIN=num; PININT

FEASU - Features (Bit String) in the SWU

Parameter Description

PINNW	PIN, networkwide (See PININT above) Users in local Hicom networks (i.e. confined to one company building/location) are able to use the Network wide PIN feature (AMO FEASU) similarly to the previous system-wide PIN function, for manual PINs and chip cards. Only one of the two features PININT and PINNW may be activated at once.	ZAND: PIN=num;	PINNW
POSTBUSY	Synchronous announcement for analog Trunks (Post Busy) From version E V1.0 you can operate a new announcement, if a digital trunk with external traffic performs automatic camp-on on a Digite, Anate or functional station. For this, configure and assign an announcement type for the new announcement reason Announcement with Automatic Camp-on. From version E V2.0 you can operate a synchronized announcement for analog trunks with automatic camp-on on a Digite or Anate. The announcement is also activated for a transfer during camp on. (See also POSTFREE below)	COT: PAR=IFR/PDOB; COSSU: AVCE=MULTRA; SYNCA: ANREASON= ANNBUSY, TABTYPE=ANNM ITR;	POSTBUSY
POSTFREE	Synchronous announcement for analog Trunks (Post Free) (See also POSTBUSY above)	COT: PAR=IBSY/ PDOT; CTIME: TYPESWU=CP, ANNDIAL=num, DANNDIAL=num ; SYNCA: ANREASON= ANNOHK/ SDOHK, TABTYPE=ANNM ITR;	POSTFREE
PU	Call pickup A station user in a call pickup group can answer a call to an other station in his group from his own telephone set. The pickup groups are defined by means of administration and maintenance operation. Station users in call pickup groups may also use their <i>Direct Station Select</i> keys (DSS keys) for call pickup within the same group. See use case Call pick up group	AUN: DISTNO=yes;	AUN
RCCB	Remote call completion busy		RCCB

RELCON	Release control (China-Feature) With the help AMO CTIME is the time interval configured during which a connection is not released after a user has gone on-hook. During this time the remaining user can dial a suffix code (RERING) in order to keep the connection.		RELCOM
RELOCATE	Autoset-Relocate The Autoset Relocate feature allows users to move their telephones to different locations within the same PABX (i.e. same node in network systems), as required. Users can <i>sign off</i> their telephones by dialing an appropriate code followed by their PIN number (only at their own telephone), and can, similarly, <i>sign on</i> at any suitable free location (PEN) in the system. The users class of service, group memberships and activated telephone features remain unchanged. See use case AUTOSSET-RELOCATE Applications	BCSU: TYPE=SIGNOFF/ RELEASE; | BCSU: TYPE=PEN; PERSI: TYPE=STN/SI; SBCSU: OPT=OPTI, CONN=DIR, DVCFIG=OPTIS ET, INS=SIGNOFF; SCSU: DVCFIG=ANATE, DIAL=VAR, INS=SIGNOFF; SDSU: [STATUS=SIGN OFF], TYPE=STNO/ PEN, LEVEL=PER3; WABE: DAR=SIGNOFF;	RELOCATE
RERING	Re-ring : Partner recall (China-feature) See RELCON above.		RERING
RKNOVR	Rejection of knocking override Station users who are authorised for this feature and who call a busy station can use the camp-on facility to indicate that a call is waiting. Station users, whose digital voice terminal has the Call Waiting - Re-terminating feature key, can activate the automatic call waiting feature for their station line for all external and internal calls in the busy state. The activation of this feature is necessary if the calls that can result in a conversation call are to automatically camp on. See use case Preventing Connections	COSSU: AVCE=RKOABS;	ANKS
RNG	Variable ringing types at different call types, e.g. for internal, external calls, see settings in AMO ZAND, TYPE=RNGTYPE. If this parameter is not set then the ringing type of internal calls is used for all kinds of calls.		RUF

FEASU - Features (Bit String) in the SWU

Parameter Description

RSVCO	Reservation of Central Office trunks The attendant can block a certain definable number of external lines for outgoing seizure by internal users. this operation does not seize the trunks. The trunks can then be accessed only by the attendant, external users and certain internal users. Both the set of external lines (tie trunks, cross trunks) and the set of users authorized fro accessing them can be controlled with the aid of administration and maintenance.	RES
SER	Serial calling An external call is signaled at the attendant console as an automatic recall after the internal user, to whom the call was extended, goes on-hook, provided the attendant pressed the serial call key before connecting the first user. Serial calls are possible for incoming calls, outgoing calls, trunk calls and tie trunk calls. A system or even an attendant terminal may handle more than one serial call at any one time.	KET
SMARTCRD	Smartcard application.	SMARTCRD
SNR	Saved number redial Any external or internal call number dialed with the pushbutton set, by speed dialing or with repertory or DSS keys can be stored for subsequent redialing as long as the connection is still alive. For telefax devices, only the call number is stored and repeated, not the telefax code. Maximum number of digits per number redial destination: — external destinations: 22 digits including trunk group access code — internal destinations: 6 digits. All dialing information entered on the pushbutton set, including * and #, can be stored. Every station can store the dialing information for one connection only. See use case Redial Saved Number	WW
SPDC	Speed calling, central SPDC is conceived for up to 1000 destinations that can be distributed as desired among a maximum of 16 SPD lists by way of Each terminal port can be allocated up to two lists with the AMO SCSU or SBCSU. These are list 0 and one of the lists 1 to 15. See use case Speed dialing	LRNGZ: LST=num, SPDMIN=num, SPDMAX=num; RNGZ

FEASU - Features (Bit String) in the SWU

Parameter Description

SPDI	Speed calling, individual (see SPDC above) This feature permits individual storing of a maximum of 10 arbitrary digit sequences each comprising up to 22 digits, at any ANATE, DIGITE, but not at the attendant terminal. Destinations are stored in a memory which is set up with the AMOs SCSU/SBCSU, by declaring parameter SPDI=Y when the port is assigned.	SBCSU/ SSCSU: SPDI=yes; ZIEL: TYPE=SPDI;	RNGI
SPLIT	:Split / alternating calls (toggling) A station user can switch back and forth between two connections (internal or external) as often as desired; during this procedure one party is always on hold.		MAK
SYNCANN	Synchronously started recorded announcements Synchronized announcements are used for providing callers with a specific sequence of information prompts in order to achieve specific reactions. The prompts/announcements are achieved by connecting external announcement units to TMOM2 boards. Each prompt or announcement is heard from the beginning. Up to 50 callers can listen to an announcement at any one time. If more than 50 callers are to be able to listen to the same announcement or, if the time callers spend waiting for an announcement to begin is to be minimized, then the appropriate number of additional announcement units of the required announcement type must be configured. See use case Help for Setting Synchronized Announcements	COP:PAR=AANT; COT:PAR=ANOD ; SYNCA: TABTYPE=ANNT T, ANNAME=sg, ANNTYPE=num, ANSTATE=on/ off; ZAND: ANSES/ ISYNCCCM/ ISYNCHG/ ISYNCAC/ SYNCACCM=yes /no;	SYNCANN
TIMEDREM	Timed reminder Through entering of reminder data from his phone device, the station user can arrange for timed reminder service, which consists of automatic calls at pre-specified times accompanied by a message from the system about the appointment. The reminder data refers to the 24 hour period following input of the data (automatic daily repetition is not possible).		TERMIN
TRACCO	Tracing of Central Office calls (see CM=TRACE) See use case Malicious Call Tracing	SBCSU/SSCSU: TYPE=TRACE, TRACE=YES/ NO;	AMTFANG
TRACE	Trace malicious calls The tracing feature can be used to record the extension number of an annoying caller on an outprint. See use case Malicious Call Tracing	COSSU: VCE=ANICT/ TRACE;	FANGEN

FEASU - Features (Bit String) in the SWU

Parameter Description

VARCONF	Variable conference A user dials, under consultation-hold, an internal or external user and when the consultatio-hold party replies, first start a conference with three users. To do this, he presses, in the call status of consultation-hold, the conference-key. If the user has no conference-key he can also start the conference by pressing the consultation-key. The original route-relationships between the initiator, the waiting parties and party in consultation-hold are terminated The conference-chairperson can then enable additional internal and external users by initiating the consultation-hold from the conference, dialing the desired user and switching him into the conference on his response by pressing the conference- or the consultation-key. See use case Station Controlled Conference	VARKONF
VMSDP	Analog voice mail service by dial pulsing Enables the control of Voice Mail Service by devices using the old analog impulse technique (Switzerland feature, ComTel devices)	SCSU: VMSEWV DHPAR=VMSDP;

VOICO	Voice compression The feature Voice Compression (VC) increases the capacity of speech channels on S0/S2 trunks. If a S0/S2 B-channel is configured for VC, it can only be used for voice communication. Therefore it is possible to use only some and not all B-channels of a S0/S2 circuit by VC. See use case Voice Compression	BCSU: MTYPE=PER, PARTNO= "Q2235-X__"/ "Q2235-X100"; BSSU: ADRTYPE= ALL/PEN/ PARTNO, OFFTYPE=DC/ DI, ONTYPE= ACL/ANL/AUL; BUEND:NO=num; m; COSSU: TYPE=LCOSV, LCOSV=num, DLCR=num; COT: COTTYPE=COTA DD, PAR=SPCM&NLH T/VCMN; DSSU: OFFTYPE=DC/ DI, ONTYPE= ACL/ANLAUL; SCSU: LCOS1=num, LCOS2=num; TDCSU: OPT=NEW, PROTVAR= CORN33, DEV=S2CONN, BCHAN=num; VOICO: BCHANNEL=num; m;	VOICO
WTATND	On wait, attendant telephone (France feature, not implemented) The activation of WATND lets the attendant put calls into hold or park state only after the elapse of 5 seconds. Registering of a call back is similarly restricted. Also, for incoming recall/interept calls the override of consultation call is delayed.	ZAND: TYPE=ATND, WTATND=yes/ no;	WARTVF

FEASU - Features (Bit String) in the SWU

Error Messages and Advisories

	XFBACALL Transfer before answer from call state (See XFBADIAL below) Station A dials the number of an external station B (1st Call) . If station A has a special authorization it can enter consultation state before end of dialing and e.g. call station C in the network or station D internally. Station A can transfer the calls after one of the dialed parties has answered. Only one of the two features XFBACALL and XFBADIAL may be activated at once. See use case Transfer before Answer ex Call State	TRVARUF
	XFBADIAL Transfer before answer from dial state (See XFBACALL above) FEASU parameter XFBACALL activates the feature centrally. It allows consultation hold before end of dialing for the first connection. Alternatively, the feature can be activated using the FEASU parameter XFBADIAL. This feature allows consulation call either after end of dialing (free or non-evaluated) for the first connection, or from the time when the call was routed into the analog network. Only one of the two features XFBACALL and XFBADIAL may be activated at once.	TRVAWAHL
TYP Type of action requested (either activate or deactivate) E Type of input: Possible values: A Activate the features entered D Deactivate the features entered		
1 SLMAR: Subscriber Line Module - Analog, Rural 2 WAML: Wide-area-network Access Module, Local 3 MFC-R2: Multi Frequency Code 4 functional terminal unit: Set 600 for example		

94.5 Error Messages and Advisories

List of Acronyms

<aaaaaaa> = abbreviation of a feature (see possible parameter values for CM)

94.5.1 Error Messages

- F02: THE FOLLOWING FEATURES CANNOT BE RELEASED, BECAUSE THEY WERE NOT CONTRACTED:
<aaaaaaa> <aaaaaaa> <aaaaaaa> ...
PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES.
PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO USE ONE OF THESE FEATURES.
- F03: PINNW AND PININT CANNOT SIMULTANEOUSLY BE ACTIVATED.
BOTH FEATURES REMAIN UNCHANGED.
- F04: XFBACALL AND XFBADIAL CAN NOT SIMULTANEOUSLY BE ACTIVATED.
BOTH FEATURES REMAIN UNCHANGED.
- F05: MLPP AND EMOVR RESP. MLPP AND EMRLS CAN NOT SIMULTANEOUSLY BE ACTIVATED. THESE FEATURES REMAIN UNCHANGED.

94.5.2 Advisories

- H01: CM=CDRE ACTIVATES THE FULL EXTENDED CALL DETAIL RECORDING.
- H02: THE FULL EXTENDED CALL DETAIL RECORDING (CDRE) IS ACTIVATED.
- H03: JOINED TO DISCHNW THE FEATURE CDROGNW HAS ALSO BEEN ACTIVATED.
- H04: JOINED TO CDROGNW THE FEATURE DISCHNW HAS ALSO BEEN DEACTIVATED.
- H05: PINNW AND PININT CAN NOT SIMULTANEOUSLY BE ACTIVATED.
ONLY THE FEATURE ENTERED LAST IS ACTIVATED.
- H06: XFBACALL AND XFBADIAL CAN NOT SIMULTANEOUSLY BE ACTIVATED.
ONLY THE FEATURE ENTERED LAST IS ACTIVATED.
- H07: MLPP AND EMOVR RESP. MLPP AND EMRLS CAN NOT SIMULTANEOUSLY BE ACTIVATED. ONLY THE FEATURE ENTERED LAST IS ACTIVATED.
- H08: CDRE MARKED AS TRIAL ENTITY.THE FEATURE CDRE WILL BE DEACTIVATED, IF TRIAL MODE EXPIRES WITHOUT SUFFICIENT LICENSES.
- H09: THIS FEATURE IS ALREADY ACTIVATED.
- H10: THIS FEATURE IS ALREADY DEACTIVATED.

FEASU - Features (Bit String) in the SWU

Error Messages and Advisories

95 FETA - Administration of Holiday Tables

Interrelationships	Parameter Description
AMO Functions	Error Messages and Advisories

The AMO FETA makes it possible to administer the holiday tables for the SMDR.

The following three tables exist:

- One table with 16 entries for fixed holidays
- One table with 50 entries for variable holidays
- One table for that day in the week which is destined for a free day (e.g. sunday)

Holidays are considered free days in the cost computation (see AMO TABT).

The fixed holidays are entered with day and month, the variable holidays are entered with day, month, and year.

95.1 Interrelationships

- AMO-TABT : Administration of the Rate Period Tables

95.2 AMO Functions

- [ADD-FETA](#) : Entering holidays in the tables
- [DELETE-FETA](#) : Deleting holidays
- [DISPLAY-FETA / REGENERATE-FETA](#) : Displaying holiday tables
Regenerating holidays

95.2.1 ADD-FETA

Entering holidays in the table of fixed or variable holidays.

1. Entering fixed holidays.
2. Entering variable holidays.

3. Entering that day of the week which is a free day

Procedure Overview

Command Code	Parameter	
ADD-FETA	TBL=FIX, DAY=<number>, MONTH=<number>;	(1)
	| TBL=VAR, DAY=<number>, MONTH=<number>, YEAR=<number>;	(2)
	| TBL=REDDAY, REDDAY=<string>;	(3)

Examples

1. Adding the fixed holiday 15. August.

Input:

ADD-FETA:FIX,15,8;

2. Adding the variable holiday 5. April 1999.

Input:

ADD-FETA:VAR,5,4,99;

3. Adding Sunday as that day of the week which is a free day

Input:

ADD-FETA:REDDAY,SUNDAY;

95.2.2 DELETE-FETA

Deleting an entire table or all tables, or deleting one entry.

- 1. Deleting the fixed holiday table.
- 2. Deleting the variable holiday table.

Procedure Overview

Command Code	Parameter	
DELETE-FETA	[TBL=FIX], [DAY=<number>], [MONTH=<number>;	(1)
	| [TBL=VAR], [DAY=<number>], [MONTH=<number>]	(2)
	, [YEAR=<number>;	

Examples

1. Deleting the fixed holiday 15. August.

Input:

```
DEL-FETA:FIX,15,8;
```

2. Deleting the variable holiday 5. April 1999.

Input:

```
DEL-FETA:VAR,5,4,99;
```

95.2.3 DISPLAY-FETA / REGENERATE-FETA

Display of the holiday tables with output in list format (DISPLAY) or in position-oriented commands for regeneration (SAVDB).

1. Displaying fixed holidays.
2. Displaying variable holidays.
3. Displaying that day of the week which is a free day
4. Regenerating fixed holidays.
5. Regenerating variable holidays.
6. Regenerating that day of the week which is a free day

Procedure Overview

Command Code	Parameter	
DISPLAY-FETA	[TBL=FIX];	(1)
	| [TBL=VAR];	(2)
	| [TBL=REDDAY];	(3)
REGENERATE-FETA	[TBL=FIX];	(4)
	| [TBL=VAR];	(5)
	| [TBL=REDDAY];	(6)

Examples

1. Displaying the table of fixed holidays.

Input:

FETA - Administration of Holiday Tables
Parameter Description

DISP-FETA:FIX;
Output:

HOLIDAY TABLE OF FIXED HOLIDAYS				
ENTRY	NUMBER	DAY	MONTH	YEAR
	1	15	8	--

2. Displaying the table of variable holidays.
Input:

DISP-FETA:VAR;
Output:

HOLIDAY TABLE OF VARIABLE HOLIDAYS				
ENTRY	NUMBER	DAY	MONTH	YEAR
	1	05	04	99

3. Displaying that day of the week which is a free day
Input:

DISP-FETA:REDDAY;
Output:

HOLIDAYS ARE HANDLED LIKE
SUNDAY

4. Displaying the fixed and variable holidays and that day which is the free day for regeneration
Input:

REG-FETA;
Output:
ADD-FETA:FIX,15,8;
ADD-FETA:VAR,5,4,99;
ADD-FETA:REDDAY,SUNDAY;

95.3 Parameter Description

DAY Day of the week

	Type of Input	: Single value, mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)
	Possible Values	: 1 - 31
MONTH	Date - Month	
	Type of Input	: Single value, mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)
	Possible Values	: 1 - 12
REDDAY	Day of the week which is a red day	
	Type of Input	: Single value, mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)
	Possible Values	: MONDAY = Monday TUESDAY = Tuesday WEDNESDAY = Wednesday THURSDAY = Thursday FRIDAY = Friday SATURDAY = Saturday SUNDAY = Sunday
	Default Value	: SUNDAY
TBL	Table	
	Type of Input	: Single value, mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)
	Possible Values	: FIX :Table of fixed non-work days VAR :Table of variable non-work days REDDAY : day of the week which is a red day
YEAR	Date - Year	
	Type of Input	: Single value, mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)
	Possible Values	: max. 2 positions

95.4 Error Messages and Advisories

95.4.1 Error Messages

F01: SPECIFIED DATE IS NOT POSSIBLE
F02: SPECIFIED DATE ALREADY ENTERED IN TABLE
F03: SPECIFIED DATE IS NOT IN THE TABLE
F04: THERE IS NO MORE SPACE IN THE TABLE

95.4.2 Advisories

None

96 FINF - File and Directory Information

The description of this AMO is only available in html format!

97 FORM - Hard Disk Formatting

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO formats the entire hard disk.

97.1 Restrictions

This description is valid from HiPath 4000 V6.0.

97.2 Interrelationships

- AMO complex FIDES : file and device service
- AMO INIT : Disk Controller Definition and Installation
- AMO DCSM : Disk Configuration
- AMO DASM : Hard Disk Area Allocation - Physical
- AMO DSSM : Disk Switchover

97.3 AMO Functions

- [START-FORM](#) : Format the hard disk

97.3.1 START-FORM

If there is an additional partition (e.g. Linux) on the disk, the user have to confirm that this partition is to be deleted. This question can be switched off by using the parameter WARN.

If an area is reserved by an external application, the formatting will be rejected.

FORM - Hard Disk Formatting

Parameter Description

Procedure Overview

Command Code	Parameter
START-FORM	[UNIT<param>],DEVNAME=<string>,[WARN=<param>] ,[VERIFY=<param>],[ANS=<param>];

Example

Format the hard disk, controller 1.

Input:

START-FORM:A1," :A1H11:";

97.4 Parameter Description

ANS	Answer (Requested when user reply required)
Type of Input	: Single value optional
Possible Values	: Y = format hard disk N = do not format hard disk
DEVNAME	Device name (storage device formatting)
Type of Input	: Single value mandatory
Possible Values	: Mnemonic device name, max. 32 positions
UNIT	Functional system unit i.e. server code
Type of Input	: Single value optional
Possible Values	: A1 = Administration and Data Server (ADS)
Default Value	: A1
VERIFY	Perform verify read
Type of Input	: Single value optional
Possible Values	: Y = yes, verify N = no, don't verify
Default Value	: Y

WARN Ask question if additionally partitions will be deleted

Type of Input	:	Single value	
		optional	
Possible Values	:	Y	= yes, ask
		N	= no, don't ask
Default Value	:	Y	

97.5 Error Messages and Advisories

97.5.1 Error Messages

F01: PARAMETER UNIT IS NOT EQUAL TO THE UNIT OF THE NAMED AREA
F02: FORMAT ONLY ALLOWED FOR ADMINISTRATION AREA !
F03: DEVICE <devname> CANNOT BE RESERVED
 AS IT IS ALREADY ACTIVATED
F04: <devname> ERROR ON FORMATTING H'status
F05: SCSI-BUS RESET OCCURED, PLEASE REPEAT ORDER.
F06: NO VOLUME IN DEVICE <devname>
F07: VOLUME IN DEVICE <devname> IS WRITE PROTECTED
F08: REJECTED BECAUSE THE AREA <:area:> IS USED BY THE EXTERNAL APPLICATION
 <appl>; START-FORM NOT POSSIBLE UNTIL AREA IS DEACTIVATED BY THE EXTERNAL
 APPLICATION

97.5.2 Advisories

H01: PARTITION FOR sysname FILESYSTEM
 SYSTEM ID H'sysid WILL BE DELETED FROM HARD DISK
 CONTINUE FORMATTING (Y/N)?
H02: FORMATTING FINISHED

97.5.3 Settings

appl	HP
	PC
	LINUX
sysname	LINUX
	UNKNOWN

FORM - Hard Disk Formatting

Error Messages and Advisories

98 FTBL - Administration of the Output Format Tables

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

It is the task of this AMO to administer the output layout for call charge registration. The AMO enters the output formats and the description of any variable fields into the format tables.

The customer-specific formats are made up of text and data elements.

The names of the text elements can be freely selected by the user.

The possible data elements are allocated under FLDNAME (identification of the variable fields).

NOTE:

Maximal 255 elements per format are permitted.

The new names of the variable output fields GLOBLV0, GLOBLV1, GLOBLV2, GLOBLSEQ, THRELV0, THRELV1, THRELV2 and THRESEQ are used starting from HiPath 4000 V1.0 for all Hicom monitoring applications.

The old names of the variable output fields LEGLV0, LEGLV1, LEGLV2, LEGSEQ, GLOBLV0, GLOBLV1, GLOBLV2, GLOBSEQ are maintained due to the downward compatibility.

old name til HiPath 4000 V1.0	new name from HiPath 4000 V1.0
GLOBLV0	THRELV0
GLOBLV1	THRELV1
GLOBLV2	THRELV2
GLOBSEQ	THRESEQ
LEGLV0	GLOBLV0
LEGLV1	GLOBLV1
LEGLV2	GLOBLV2
LEGSEQ	GLOBLSEQ

Table 18 Interrelationship of the variable output fields

98.1 Interrelationships

- AMO-GEZAB : Output of Call Charges to Optional Equipment
- AMO-SELG : Administration of Selection Groups
- AMO-FBTN : Administration of the Flag Byte and Trunk Number Table
- AMO-TEXT : Administration of the Text Tables

98.2 Functions of the AMO

- [ADD-FTBL](#) : Create a Format
- [CHANGE-FTBL](#) : Change a Format or a Field Description
- [DELETE-FTBL](#) : Cancel a Format
- [DISPLAY-FTBL / REGENERATE-FTBL](#) : Interrogate the Formats / Regenerate Formats

98.2.1 ADD-FTBL

Create a user-specific format.

The format can contain any number of variable field elements.

The AMO enters the format and the description of any variable fields into the format tables.

A format consists of texts and variable fields. The variable fields start with the character '#'. ('#' means: variable field with one character.)

The number of '@' characters indicates how many characters the variable field contains plus 1 (character '#'). (##### means: variable field with 4 characters.)

Based on this code, the AMO determines whether variable fields are included in the format to be generated and then requests the field description for each variable field (e.g., alignment, comma character).

Since the following DIALOG activities cannot be taken into account during the generation process for ADD-FTBL, a branch parameter TYPE (input mode) was included in the parameter tree. If the value D (dialog) is declared for the parameter TYPE, then the field descriptions in the DIALOG are reloaded. If, however, the value B (batch) is declared, then no DIALOG activities are carried out, i.e. the user then carries the responsibility for ensuring that all the entries have been made (no operator prompting).

Formats 1 to 16: standard formats

These are formats that can be specifically selected by means of the parameters FORMBAS (format of base output device) and FORMRES (format of reserve output device) in AMO-SELG and AMO-GEZAB. All variable fields can occur in these formats.

Formats 17 to 24: formats for the start-of-block (basic device)

In AMO-SELG, the parameters BLBAS (block size of base device) and BLRES (block size of reserve device) can be used to define the block sizes for output. The block size indicates how many call data records are grouped into a continuous output. For each start of this type of block, formats 17-24 are entered into the corresponding selection groups 1 to 4 (format 17 in selection group 1, format 18 in selection group 2, etc.).

Formats 25 to 32: formats for the start-of-block (reserve device)

See formats 17-24, but only for reserve devices.

Formats 33 to 40: formats for the end-of-block (basic device)

See formats 17-24, but only for end-of-block and basic devices.

Formats 41 to 48: formats for the end-of-block (reserve device)

See formats 17-24, but only for end-of-block and reserve devices.

By formats (17-48) for the selection groups remain gaps because the number of the selection groups are limited to 4.

Formats 49 to 56: formats for start-of-block (dialog/output by means of a call)

In AMO-GEZAB, the parameter BLKSIZE (block size, number of records per output block) can be used to define block sizes for output in interactive mode. Formats 49-56 are output at each start of this type of block for the corresponding dialog fields 1 to 8 (format 49 in dialog field 1, etc.).

Formats 57 to 64: formats for end-of-block (dialog/output by means of a call).

See formats 49-56, but only for end-of-block.

Formats 65 to 72: formats for end-of-data in a file (dialog/output by means of a call)

These formats are output when the actual call data output is ended.

Formats 73 to 80: formats for "empty files" (dialog/output by means of a call)

These formats are output when the selected file is empty.

FTBL - Administration of the Output Format Tables

Functions of the AMO

Formats 81 to 88: formats for "deleted files" (dialog/output by means of a call)

The formats are output if the file is deleted after a delete job.

Formats 89 to 96: formats for ending the output

These formats are output if the system wishes to end the data output.

Formats 97 to 109: formats for station CDR output

These formats are needed for CDR output.

Only the variable data elements 'time of output', 'block length', and 'number of records per block' are permitted in formats 17 to 96.

Procedure Overview

Command Code	Parameter	
ADD-FTBL	FORMNO=<number> ,TYPE=D,FORMAT=<string>;	(1)
	,TYPE=B,TBL=FORM,NO=<number>,END=Y/N,FORMAT=<string>;	(2)
	,TBL=CTRL,NO=<number>,END=Y/N,CTLCHARS=<param>;	(3)
	,TBL=FIELD,NOFELD=<number>,FLDNAME=<param> ,FILLTYPE=CHAR,FILLER=<string> ,FLDALIGN=L/R; ,FLDALIGN=LC/RC,COMPOS=<number>;	(4)
	,FILLTYPE=NONE,FLDALIGN=L/R; ,FLDALIGN=LC/RC,COMPOS=<number>;	(5)

NOTE:

The value B (batch) should only be declared for the branch parameter TYPE (input mode) when using command stacks. For manual applications, the operator should continue to use the DIALOG procedure (TYPE=D).

Control characters can also be entered in the branch B (batch). However, care should be taken that they are entered in the correct position of the format.

The following example shows the function of the input.

Example:

Input of format 50 with a command batch.

The format should look like this:

```
+-----+
|       |
+-----+
```

The individual lines should be terminated with a carriage return, and there should be a page feed at the start of the format.

Input:

```
ADD-FTBL:FORMNO=50,TYPE=B,TBL=CTRL,NO=1,END=N,CTLCHARS=FF;
ADD-FTBL:FORMNO=50,TYPE=B,TBL=FORM,NO=2,END=N,FORMAT=" +-----
-----+";
ADD-FTBL:FORMNO=50,TYPE=B,TBL=CTRL,NO=3,END=N,CTLCHARS=CR;
ADD-FTBL:FORMNO=50,TYPE=B,TBL=CTRL,NO=4,END=N,CTLCHARS=LF;
ADD-FTBL:FORMNO=50,TYPE=B,TBL=FORM,NO=5,END=N,FORMAT=" |
|";
ADD-FTBL:FORMNO=50,TYPE=B,TBL=CTRL,NO=6,END=N,CTLCHARS=CR;
ADD-FTBL:FORMNO=50,TYPE=B,TBL=CTRL,NO=7,END=N,CTLCHARS=LF;
ADD-FTBL:FORMNO=50,TYPE=B,TBL=FORM,NO=8,END=N,FORMAT=" +-----
-----+";
ADD-FTBL:FORMNO=50,TYPE=B,TBL=CTRL,NO=9,END=N,CTLCHARS=CR;
ADD-FTBL:FORMNO=50,TYPE=B,TBL=CTRL,NO=10,END=Y,CTLCHARS=LF;
```

Branch: DIALOG FTBL

This procedure is a job for requesting the field description of the individual variable fields of the entered format.

The AMO checks to determine if the character '#' occurs in the entered format. If so, then variable fields are included in the format, and the AMO uses the prompt to request the field descriptions for the variable fields.

Example

Create format table 4 with the following fixed and variable data elements:

Trunk Number 4 characters, fill character "0", aligned to the right.
 Paying Party 6 characters, fill character "0", aligned to the left.
 Units 4 characters, fill character "0", aligned to the right.
 Destination with 7 characters, fill character " ", aligned to the right.

The AMO requests the prompt that the parameters for the variable data fields be entered. The sequence is shown in the section for the command ADD-FTBL.

Input:

```
ADD-FTBL:FORMNO=4,TYPE=D,FORMAT=" SETNO.:#@@@ COSTNO.:#@@@@@
UNIT:#@@@ DESTNO.:#@@@@@@";
```

Output:

FTBL - Administration of the Output Format Tables

Functions of the AMO

H01: ENTER FIELD DESCRIPTION FOR THE 1ST VARIABLE FIELD
FLDNAME =

Input:

RECNO

Output:

FILLTYPE =

Input:

CHAR

Output:

FILLER =

Input:

0

Output:

FLDALIGN =

Input:

R

Output:

COMPOS =

Input:

<carriage return>

Output:

H01: ENTER FIELD DESCRIPTION FOR THE 2ND VARIABLE FIELD
FLDNAME =

Input:

CHRGEE

Output:

FILLTYPE =

Input:

CHAR

Output:

FILLER =

Input:

0

Output:

FLDALIGN =

Input:

L

Output:

COMPOS =

Input:

<carriage return>

Output:

H01: ENTER FIELD DESCRIPTION FOR THE 3RD VARIABLE FIELD
FLDNAME =

Input:

CHRGUNIT

Output:

FILLTYPE =

Input:

CHAR

Output:

FILLER =

Input:

0

Output:

FLDALIGN =

Input:

L

Output:

COMPOS =

Input:

<carriage return>

Output:

H01: ENTER FIELD DESCRIPTION FOR THE 4TH VARIABLE FIELD
FLDNAME =

Input:

DESTPTY

Output:

FILLTYPE =

Input:

CHAR

Output:

FILLER =

Input:

" "

Output:

FLDALIGN =

Input:

R

Output:

COMPOS =

Input:

<carriage return>

NOTE:

The connection durations HOUR, MINUTE, and SECOND are entered right-justified with the fill character 0.

The parameters for the end-of-connection MONTH, DAY, HOUR, and MINUTE are entered right-justified and with the fill character 0.

98.2.2 CHANGE-FTBL

When changing a format, the user can choose between changing the format itself or changing only the field description of a variable field in a format.

If the format is changed, the field descriptions for the variable fields are requested in interactive mode.

Procedure Overview

Command Code	Parameter	
CHANGE-FTBL	FORMNO=<number>	
	,TBL=FIELD,FLDNAME=<param>,{(min 1),FILLTYPE=CHAR,FILLER=<string>,FLDALIGN=L/R/LC/RC,COMPOS=<number>;	(1)
	{(min 1),FILLTYPE=NONE,FLDALIGN=L/R/LC/RC,COMPOS=<number>;	(2)

Example

In format table 4, the fill character in the variable data field for the call charge units should be changed to a " ".

Input:

```
CHAN-FTBL:FORMNO=4,TBL=FIELD,FLDNAME=CHRGUNIT,FILLER=" ";
```

98.2.3 DELETE-FTBL

Cancellation of a format. If a format is cancelled, the descriptions of the variable fields used in this format are also cancelled.

Only one format can be cancelled.

Procedure Overview

Command Code	Parameter
DELETE-FTBL	FORMNO=<number>;

Example

Cancel format table 4.

Input:

```
DEL-FTBL:FORMNO=4;
```

98.2.4 DISPLAY-FTBL / REGENERATE-FTBL

1. Interrogate the format tables with output in list format (DISPLAY).
2. Interrogate the format tables with output in position-oriented commands for regeneration (REGENERATE).

Procedure Overview

Command Code	Parameter	
DISPLAY-FTBL	[FORMNO=<number>;	(1)
REGENERATE-FTBL	[FORMNO=<number>;	(2)

Examples

1. Interrogate format table 4 with output in list format.

Input:

```
DISP-FTBL:FORMNO=4;
```

FTBL - Administration of the Output Format Tables

Parameter Description

Output:

FORMAT NUMBER : 4				
SETNO.:#@@@ COSTNO.:#@@@@@ UNIT:#@@@ DESTNO.:#@@@@@@				
VARIABLE FIELDS				
FLDNAME	FILLTYPE	FILLER	FLDALIGN	COMPOS
RECNO	CHAR	"0"	RIGHT	000
CHRGEE	CHAR	"0"	LEFT	000
CHRGUNIT	CHAR	" "	LEFT	000
DESTPTY	CHAR	" "	RIGHT	000

2. Interrogate format 4 for regeneration.

Input:

REG-FTBL:FORMNO=4;

Output:

ADD-FTBL:4,B,FORM,1,N," SETNO.:#@@@ COSTNO.:#@@@@@ UNIT:#@@@
DESTNO.:#@@@@";
ADD-FTBL:4,B,FORM,2,Y,"@@@";
ADD-FTBL:4,B,FIELD,1,RECNO,CHAR,"0",R;
ADD-FTBL:4,B,FIELD,2,CHRGEE,CHAR,"0",L;
ADD-FTBL:4,B,FIELD,3,CHRGUNIT,CHAR," ",L;
ADD-FTBL:4,B,FIELD,4,DESTPTY,CHAR," ",R;

98.3 Parameter Description

COMPOS Comma position when alignment is carried out according to the comma.
Type of Input : single value, mandatory (ADD)
 optional (prompted DIALOG)
 optional, 4. parameter of a min-1-group (CHANGE)
Possible Values : 0 to 16

CTLCHARS Control character entered into the format
Type of Input : single value, mandatory (ADD)
Possible Values : ACK = acknowledge
 BEL = bell
 BS = backspace
 CAN = cancel
 CR = carriage return
 DC1 = device control character 1
 DC2 = device control character 2

FTBL - Administration of the Output Format Tables

Parameter Description

DC3	= device control character 3 (only ASCII)
DC4	= device control character 4
DEL	= delete
DLE	= data link escape
EM	= end of medium
ENQ	= enquiry
EOT	= end of transmission
ESC	= escape
ETB	= end of transmission block
ETX	= end of text
FF	= form feed
FS	= file separators
GS	= group separators
HT	= horizontal Tabulation
LF	= line feed
NAK	= negative Acknowledge
NL	= new line (only EBCDIC)
NUL	= fill character (nil)
RS	= record separators
SI	= shift-in
SO	= shift-out
SOH	= start of heading
STX	= start of text
SUB	= substitute character
SYN	= synchronous idle
TM	= tape mark (only EBCDIC)
US	= unit separators
VT	= vertical Tabulation

END	End of format input
Type of Input	: single value, mandatory (ADD)
Possible Values	: Y = Format input completed
	N = Format input not completed
FILLER	Character that is to be used as a fill character
Type of Input	: single value, mandatory (ADD)
	optional (prompted DIALOG)
	optional, 2. parameter of a min-1-group (CHANGE)
Possible Values	1 character, no restrictions

FTBL - Administration of the Output Format Tables

Parameter Description

FILLTYPE	Fill Character	
	Type of Input	: single value, mandatory (ADD) optional (prompted DIALOG) optional, 1. parameter of a min-1-group (CHANGE)
	Possible Values	: CHAR = fill character is entered NONE = no entry
FLDALIGN	Alignment of the values in the variable field	
	Type of Input	: single value, mandatory (ADD) optional (prompted DIALOG) optional, 3. parameter of a min-1-group (CHANGE)
	Possible Values	: L = left LC = comma left R = right RC = comma right
FLDNAME	Identification of the variable fields	
	Type of Input	: single value, mandatory (ADD, CHANGE) optional (prompted DIALOG)
	Possible Values	: ACCTCODE = Information about an account code used before / during a call (numeric, from 1 to 12 digits), (12 digits) ACDAGTID = ACD Agent ID ADPLOAD = Processor load in ADP in 1/10 percent (1 digit) AOCTYPE = Advice of charge (10 digits) (see AMO-TEXT) ATNDGRNO = Output of the attendant group (2 digits) ATTCALLP = Attendant Call Priority ATTCALLT = Attendant Call Type ATTCALLR = Attendant Intercept Reason ATTQUEID = Attendant Queue ID BAUD = Output of the transmission speed as a text string (10 digits), (see AMO-TEXT) If the speed is not in defined in the text-table (AMO-TEXT), the speed will be output as number with 3 digits. See table Meaning of numeric value for BAUD on page 1098. BCHLCNT = Number of B-channels (2 digits) BLENBYT = Block length in bytes (5 digits)

BLENREC	= No. of Records per block (5 digits)
CALCTYPE	= Applied type of billing (10 digits), (see AMO-TEXT)
CALLEPTY	= Called party; number which was dialed by the calling party. (22 digits) If the paying party is an attendant console, then AMO TLZO can be used to create a virtual subscriber; one must be created for a PBX tie trunk set. If the length of the output field is shorter than the length of the station number, then the station number, will be cut. For this reason the parameter FLDALIGN will be used. Is the length of the value to output longer than the field in the data record, then the output will be cut (left or right). Example right justified: A-Paypart: 96252125 Data record: 2125 Example left justified: A-Paypart: 96252125 Data record: 9625 Is the length of the value to output is shorter than the value in the data record. The field will be filled with the specified filler (left or right). Example right justified with longer field: A-Paypart: 2125 Data record: ____2125 Example left justified with longer field: A-Paypart: 2125 Data record: 2125____
CALLIID	= Station ID of calling party (text parameter SUBSID will be assigned in AMO-TEXT) (1 digit)
CALLILV0	= Node number of calling party (3 digits)
CALLILV1	= Subdomain number of calling party (3 digits)
CALLILV2	= Domain number of calling party (2 digits)
CALLIONI	= Originating net ID of calling party
CALLIPTY	= Calling party; Party that initiated the current connection/section. (22 digits) Infos about the right/left justified output field see description of item CALLEPTY on page 1087.
CARRIER	= Output of the communication network as a text string (10 digits), (see AMO-TEXT)
CAUSE	= Cause of connection interrupt (3 digits) See table Meaning of the values for the element CAUSE on page 1097.
CHOFCON	= Output of the type of connection as a text string (10 digits), (see AMO-TEXT)
CHRGEE	= Paying party; Chargee of a connection. (22 digits) Infos about the right/left justified output field see description of item CALLEPTY on page 1087.

FTBL - Administration of the Output Format Tables

Parameter Description

CHRGUNIT	= Call charge units; The units of this field are backcalculated from the computed costs. (5 digits)
CONCHRG	= Output of the costs (within value-added tax) With calculation in 1/100-ths: max. 8 digits, With calculation in 1/100000-ths: max. 12 digits
CONCHRN	= Output of the nettocosts (without value added tax) With calculation in 1/100-ths: max. 8 digits, With calculation in 1/100000-ths: max. 12 digits
CONHOUR	= Connection duration of part hour (2 digits)
CONMIN	= Connection duration of part minute (2 digits)
CONNSTEP	= All CDB records of a connection will be numbered sequentially (starts with content 1), (3 digits)
CONNTYPE	= Output of the connection type as a text string (10 digits), (see AMO-TEXT)
CONSEC	= Connection duration of part second (2 digits)
CONSECT	= Connection duration total in 1/10 of a second (6 digits)
CON10	= Connection duration 1/10 of a second (1 digit)
COPIN	= Output of the class of pin as a text string (10 digits), (see AMO-TEXT)
CTRDIFF	= Call charge sum for station difference, only GET functionality (5 digits)
CTRTOT	= Call charge sum for station total, only GET functionality (5 digits)
DESTLV0	= Node number of new/connected party (3 digits)
DESTLV1	= Subdomain number of new/connected party (3 digits)
DESTLV2	= Domain number of new/connected party (2 digits)
DESTPID	= Station ID of new/connected party (text parameter SUBSID will be assigned in AMO-TEXT) (1 digit)
DESTPTY	= New/connected party; New selected destination for a connection. (22 digits) Infos about the right/left justified output field see description of item CALLEPTY on page 1087.
DISPCHRG	= Output of the connection charge (within value-added tax) With calculation in 1/100-ths: max. 8 digits, With calculation in 1/100000-ths: max. 12 digits
DISPCHRN	= Output of the netto connection charge, (without value added tax) With calculation in 1/100-ths: max. 8 digits, With calculation in 1/100000-ths: max. 12 digits

DNIS	= Text string related to the called (DNIS) (12 digit)
ENDDAY	= End-of-connection day (2 digits)
ENDHOUR	= End-of-connection hour (2 digits)
ENDMIN	= End-of-connection minute (2 digits)
ENDMONTH	= End-of-connection month (2 digits)
ENDSEC	= End-of-connection second (2 digits)
ENDYEAR	= End-of-connection year (4 digits)
ENDYDAY	= End-of-connection day of the year (3 digits)
END10	= End-of-connection 1/10 of a second (1 digit)
EXPENS	= Output of the expensive connections as a text string (10 digits), (see AMO-TEXT)
FACA	= Values for FX / TTA trunk access as part of NI2 PRI support (5 digits)
FACB	= Values for FX / TTA trunk access as part of NI2 PRI support (5 digits)
FLAG1	= Generation of flag byte 1, ONLY using data processing system (2 digits)
FLAG2	= Generation of flag byte 2, ONLY using data processing system (2 digits)
GLOBLV0	= Node number of global id (3 digits) Use starting from HiPath 4000 V1.0 Table 18 on page 1075
GLOBLV1	= Subdomain number of global id (3 digits) Use starting from HiPath 4000 V1.0 Table 18 on page 1075
GLOBLV2	= Domain number of global id (2 digits) Use starting from HiPath 4000 V1.0 Table 18 on page 1075
GLOBLSEQ	= Leg id; If a targetuser may be changed with an existing connection, a new global id will be generated, the global id itself wouldn't be changed. (8 digits) Use starting from HiPath 4000 V1.0 Table 18 on page 1075
GLOBLV0	= Node number of global call id (3 digits) Use till HiPath 4000 V1.0 Table 18 on page 1075
GLOBLV1	= Subdomain number of global call id (3 digits) Use till HiPath 4000 V1.0 Table 18 on page 1075
GLOBLV2	= Domain number of global call id (2 digits) Use till HiPath 4000 V1.0 Table 18 on page 1075

FTBL - Administration of the Output Format Tables

Parameter Description

GLOBSEQ	= Global id; A new global id may be produced only, in case of a new connection. (8 digits) Use till HiPath 4000 V1.0 Table 18 on page 1075
HOLDDUR	= Calculation of the hold duration total in 1/10 of a second (6 digits)
IDPP	= Output of the station CDR chargees as a text string, only GET functionality (10 digits), (see AMO-TEXT)
INFOTYPE	= Type of information (10 digits) If charging of the OFFICE, then units or amounts (see AMO-TEXT)
INTNBCHA	= B-channel of the real trunk number of the non record point (2 digits)
INTNLIST	= imaginary trunk number created of INTREAL (10 digits), (see AMO FBTN)
INTNREAL	= Real trunk number of the non-recording point (see TKNOREAL) (5 digits) : outgoing connection : A-Subscriber trunk or incoming trunk number incoming connection : B-Subscriber trunk or outgoing trunk number internal connection : same PBX : B-Subscriber trunk network : A-Subscriber trunk or incoming trunk number
INTNTRGR	= Trunk number group, assigned to INTNREAL (the real trunk number of non recording point), (3 digits) Value 0 means line device
KEYLV0	= Node number of key line used party (3 digits)
KEYLV1	= Subdomain number of key line used party (3 digits)
KEYLV2	= Domain number of key line used party (2 digits)
KEYPTY	= Key line used party; The selected line (number) on a key phone providing multiple lines. (22 digits) Infos about the right/left justified output field see description of item CALLEPTY on page 1087.
LCALLENO	= Length of the called party (2 digits)
LDESTNO	= Length of the destination number (2 digits) Use starting till HiPath 4000 V1.0 Table 18 on page 1075
LEGLV0	= Node number of leg id (3 digits) Use till HiPath 4000 V1.0 Table 18 on page 1075
LEGLV1	= Subdomain number of leg id (3 digits) Use till HiPath 4000 V1.0 Table 18 on page 1075

LEGLV2	= Domain number of leg id (2 digits) Use till HiPath 4000 V1.0 Table 18 on page 1075
LEGSEQ	= Leg id; If a targetuser may be changed with an existing connection, a new leg id will be generated, the global call id itself wouldn't be changed. (8 digits)
LISTTYPE	= Output of the type of station CDR list type as a text string, only GET functionality (16 digits), (see AMO-TEXT)
MOBUCLV0	= Node number of mobile user calling party (3 digits)
MOBUCLV1	= Subdomain number of mobile user calling party (3 digits)
MOBUCLV2	= Domain number of mobile user calling party (2 digits)
MOBUCPTY	= Mobile user calling party; User identifies at calling station with PIN (22 digits). Infos about the right/left justified output field see description of item CALLEPTY on page 1087.
MSGNO	= Consecutive number of message (5 digits) by S&F connection
NCT	= Indicates call in which NCT was successfully invoked (indicator "N", otherwise "-"), (1 digit)
NETCARA	= Access codes of the network carrier providing the trunk, whereas NETCARA is assigned to the BREAKIN trunk (maximum 4 digits with numeric values), (4 digits)
NETCARB	= Access codes of the network carrier providing the trunk whereas NETCARB is assigned to the BREAKOUT trunk (maximum 4 digits with numeric values), (4 digits)
NETPULS	= Pulses; charge info from net (5 digits)
NETSVCA	= Contain values that represent the type of service for a long distance carrier that: a) delivered the PRI-Rate call (in case of calls terminating to the PBX), b) was used or requested when making an outgoing PRI-Rate call. (depending on DB_M_NW_CALLING_SVC_SET), (2 digits)
NETSVCB	= Contain values that represent the type of service for a long distance carrier that: a) delivered the PRI-Rate call (in case of calls terminating to the PBX), b) was used or requested when making an outgoing PRI-Rate call. (depending on DB_M_NW_CALLING_SVC_SET), (2 digits)

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Parameter Description

NETTYPE	= Output of the network description as a text string (10 digits), (see AMO-TEXT)
OSAA	= Operator system access (range 0 - 2), not yet supported by CP (1 digit)
OSAB	= Operator system access (range 0 - 2), (1 digit)
OUTDAYC	= Current date of the output name of the day (10 digits), (see AMO-TEXT)
OUTDAYN	= Current date of the output day (2 digits)
OUTHOUR	= Current date of the output hour (2 digits)
OUTMIN	= Current date of the output minute (2 digits)
OUTMONN	= Current date of the output month (2 digits)
OUTMONC	= Current date of the output name of the month (10 digits)
OUTSEC	= Current date of the output second (2 digits)
OUTDAY	= Current date of the output day of the year (3 digits)
OUTYEAR	= Current date of the output year (4 digits)
PIN	= Personal ID (12 digits)
PINLEN	= Length of the personal ID (2 digits)
PPLV0	= Node number of paying party (3 digits)
PPLV1	= Subdomain number of paying party (3 digits)
PPLV2	= Domain number of paying party (2 digits)
QUEUEDUR	= Total queuing duration in 1/10 seconds (5 digits)
RECNO	= Consecutive number of the record to be output (1 to 9999) for each selection group (4 digits)
RECPT	= record point (1 digit)
possible values:	0 = Transit between systems 1 = Breakout to central office 2 = Recording direct at origin 3 = Recording direct at origin and breakout to central office 4 = Incoming
RECTYPE	= Record type (no text will be assigned in AMO-TEXT) (1 digit)
possible values:	1 = empty 2 = CDR-e only 3 = PM only 4 = CDR-e and PM
RING10	= Output of the ring duration of part 1/10 seconds with format minute:second:1/10second (1 digit)

RINGDUR	= Output of the ring duration in format 1/10 seconds (5 digits)
RINGMIN	= Output of the ring duration of part minutes with format minute:second:1/10second (2 digits)
RINGSEC	= Output of the ring duration of part seconds with format minute:second:1/10second (2 digits)
ROUTCC	= Output of the route code as a text string (10 digits) see AMO-TEX)
ROUTCN	= Route code (6 digits)
RTINGLV0	= Node number of redirecting party (3 digits)
RTINGLV1	= Subdomain number of redirecting party (3 digits)
RTINGLV2	= Domain number of redirecting party (2 digits)
RTINGPTY	= Redirecting party; Party that redirects a call. (22 digits) Infos about the right/left justified output field see description of item CALLEPTY on page 1087.
RTIONLV0	= Node number of redirection party (3 digits)
RTIONLV1	= Subdomain number of redirection party (3 digits)
RTIONLV2	= Domain number of redirection party (2 digits)
RTIONPTY	= Redirection party; Party where a call is redirected to. (22 digits) Infos about the right/left justified output field see description of item CALLEPTY on page 1087.
RURAL	flag if rural call (1 digit) value 0 = rural value 1 = other terminal device.
SELGRUNO	= Output of the selection group number (1 digit)
SERVICE	= Output of the service as a text string, (10 digits), (see AMO-TEXT)
SIDANI	= Text string related to the calling (ANI) (24 digits)
SIGDATA	= Indicates whether the output data record is correct / incorrect or double (10 digits), (see AMO-TEXT)
STDAY	= Start-of-connection day (2 digits)
STHOUR	= Start-of-connection hour (2 digits)
STMIN	= Start-of-connection minute (2 digits)
STMONTH	= Start-of-connection month (2 digits)
STNID	= Output of the station ID as a text string (10 digits), (see AMO-TEXT)
STYDAY	= Start-of-connection day of the year (3 digits)
STYEAR	= Start-of-connection year (4 digits)
STSEC	= Start-of-connection second (2 digits)
ST10	= Start-of-connection 1/10 of a second (1 digit)

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Parameter Description

SUPLSERV	= Output of the supplement service as a text string (10 digits), (see AMO-TEXT)
SWP	= Call phases (10 digits), (see AMO-TEXT)
SWULOAD	= Processor load in SWU in 1/10 percent (4 digits)
THRELV0	= Node number of thread call id (3 digits) Use starting from HiPath 4000 V1.0 Table 18 on page 1075
THRELV1	= Subdomain number of thread call id (3 digits) Use starting from HiPath 4000 V1.0 Table 18 on page 1075
THRELV2	= Domain number of thread call id (2 digits) Use starting from HiPath 4000 V1.0 Table 18 on page 1075
THRESEQ	= Global call id; A new thread call id may be produced only, in case of a new connection. (8 digits) Use starting from HiPath 4000 V1.0 Table 18 on page 1075
TKNOBCHA	= B-channel of the real trunk number of the record point (2 digits)
TKNOLIST	= Imaginary trunk number created of TKNOREAL (10 digits), (see AMO-FBTN)
TKNOREAL	= Real trunk number of recording point (5 digits): outgoing connection : outgoing trunk number incoming connection: incoming trunk number internal connection: same PBX : A-Subscriber trunk number network : outgoing trunk number
TKNOTRGR	= Trunk number group, assigned to TKNOREAL (the real trunk number of recording point) (3 digits) Value 0 means line device
TRANSFLV0	= Node number of transferring party (3 digits)
TRANSFLV1	= Subdomain number of transferring party (3 digits)
TRANSFLV2	= Domain number of transferring party (2 digits)
TRANSFPTY	= Transferring party; party that transferred a call. (22 digits) Infos about the right/left justified output field see description of item CALLEPTY on page 1087.
TRANSCNT	= Number of passed through transit nodes (2 digits)
UNANS	= Through connect / no through connect (10 digits), (see AMO-TEXT)

UNITERAS	= Output of deletion of the station CDR resettable counter after output , only GET functionality (22 digits), (see AMO-TEXT)
ZONE	= Output of the distance zone as a text string (10 digits), (see AMO-TEXT)

Note:

For incoming connections the fieldset is as follows:

ATNDGRNO	= Groupnumber of the attendant console which has accepted and supplied the call.
CARRIER	= Carrier which can be assigned to an incoming bundle (AMO TACSU/TDCSU).
CHOFCON	= always „DISTANT“.
CONNTYPE	= „INCOMING“.
ROUTCN	= empty (filler).
ROUTCC	= empty (filler).
STNID	= Subscriber identification of the called subscriber.
ZONE	= Zone which can be assigned to an incoming bundle ANK01 - ANK09 (AMO TACSU/TDCSU)

For internal connections are the fields as follows:

CARRIER	= always „0“.
CHRGUNIT	= empty (filler).
CONNTYPE	= „INTERNAL“.
CHOFCON	= always „LOCAL“.
ROUTCN	= empty (filler).
ROUTCC	= empty (filler)).
RINGDUR	= Is „0“ if ZAND-parameter CDRRINGB = NO (AMO ZAND).
ZONE	= From VBZ-Group determined zone INT01 - INT09 (AMO VBZGR).

FORMAT	Actual format description
	Type of Input : single value, mandatory (ADD, CHANGE)
	Possible Values : max. 80 characters (limited by the input buffer of CMS)
FORMNO	Format number
	Type of Input : single value, mandatory (ADD, CHANGE, DELETE) optional (DISPLAY, REGENERATE)
	Possible Values : 1 to 101
NO	Format line number, the format and control character description is related to.

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Parameter Description

	Type of Input	: single value, mandatory (ADD)
	Possible Values	: 1 to 99
NOFELD	Number of variable field, the field description is related to.	
	Type of Input	: single value, mandatory (ADD)
	Possible Values	: 1 to 999
TBL	Indicates whether the format or the field description is changed.	
	Type of Input	: single value, mandatory (ADD, CHANGE)
	Possible Values	: CTRL = control character (ADD only)
		FIELD = field description (ADD and CHANGE)
		FORM = format (ADD only)
TYPE	Input mode	
	Type of input	: single value, mandatory (ADD)
	Possible Values	: D = dialog
		B = batch

NOTE:

Only the variable data elements "output time" (OUTXXX), "block length" (BLENBYT), and "number of records per block" (BLENREC) are permitted in formats 17-96.

If the following separators are used in a format (text string),

' :	' ?'
' !'	' &'
' ;'	' /*'
' ,'	' */'
' ='	' _'
' \$'	

or if the control characters 'return', 'line feed' (Ampex terminals), etc., are used, then the complete text string must be started with "" and closed with "".

Input: ""TEXTSTRING""

The elements CTRDIFF, CTRTOT, IDPP, LISTTYPE are used only in the formats for GET-Output (formats 97 - 106) and must not be used in the other formats.

Meaning of the values for the element CAUSE:

Value	Meaning
000	no cause
001	unallocated (unassigned) number
002	no route to specified transit network
003	no route to destination
006	channel unacceptable
016	normal call clearing
017	user busy
018	no user responding
019	no answer from user (user alerted)
021	call rejected
022	number changed
026	non-selected user clearing
027	destination out of order
028	invalid number format (address incomplete)
029	facility rejected
030	response to STATUS ENQUIRY
031	normal, unspecified
033	circuit out of order
034	no circuit/channel available
038	network out of order
041	temporary failure
042	switching equipment congestion
043	access information discarded
044	requested circuit/channel not available
047	resource unavailable, unspecified
049	Quality of Service not available
050	requested facility not subscribed
052	outgoing call barred
053	outgoing call barred with CUG
054	incoming call barred
055	incoming call barred with CUG
057	bearer capability not authorized
058	bearer capability not presently available
063	service or option not available, unspecified
065	bearer capability not implemented

Table 19 *Meaning of the values for the element CAUSE*

FTBL - Administration of the Output Format Tables

Parameter Description

Value	Meaning
066	channel type not implemented
069	requested facility not implemented
070	only restricted digital information bearer capability is available
079	service or option not implemented, unspecified
081	invalid call reference value
082	identified channel does not exist
083	a suspended call exists, but this call identity does not
084	call identity in use
085	no call suspended
086	call having the requested call identity has been cleared
088	incompatible destination
091	invalid transit network destination
095	invalid message, unspecified
096	mandatory information element is missing
097	message type non-existent or not implemented
098	message not compatible with call state or message type non-existent or not implemented
099	information element non-existent or not implemented
100	invalid information element contents
101	message not compatible with call state
102	recovery on timer expiry
111	protocol error, unspecified
127	interworking, unspecified

Table 19 *Meaning of the values for the element CAUSE*

The not listed values are "not defined".

For further information on the element cause look at the CorNet-N Protocol Specification Volume 1, Part C, Chapter 3.4 Coding of Information Elements.

Meaning of the values for the element BAUD:

Value	Meaning	Value	Meaning
000	0 Baud	005	600 Baud
006	2400 Baud	007	4800 Baud
008	9600 Baud	009	48000 Baud
010	64000 Baud	011	variable
012	X25 2400 Baud	013	X25 4800 Baud
014	X25 9600 Baud	015	X25 48000 Baud

Table 20 *Meaning of numeric value for BAUD*

Value	Meaning	Value	Meaning
016	X25 64000 Baud	017	X25 variable
024	300 Baud	025	3600 Baud
026	12000 Baud	032	3510 Service
033	Displaycopy	034	BTX 1200 75 Modem
035	BTX 1200 1200 Modem	036	BTX 64k
037	3510 kind 1	038	3510 kind 2
039	3510 kind 3	040	3510 kind 4
041	3510 kind 5	042	3510 kind 6
043	3510 kind 7	044	3510 kind 8
045	3510 kind 9	046	3510 kind 10
047	3510 kind 11	049	900 Baud
050	1200 Baud	051	1800 Baud
052	7200 Baud	053	14400 Baud
054	16800 Baud	055	19200 Baud
056	56000 Baud	069	600 Baud asynchronous
070	2400 Baud asynchronous	071	4800 Baud asynchronous
072	9600 Baud asynchronous	075	variable Baud asynchronous
081	50 Baud asynchronous	082	75 Baud asynchronous
083	100 Baud asynchronous	084	110 Baud asynchronous
085	134,5 Baud asynchronous	086	150 Baud asynchronous
087	200 Baud asynchronous	088	300 Baud asynchronous
089	3600 Baud asynchronous	090	12000 Baud asynchronous
113	900 Baud asynchronous	114	1200 Baud asynchronous
115	1800 Baud asynchronous	116	7200 Baud asynchronous
117	14400 Baud asynchronous	118	16800 Baud asynchronous
119	19200 Baud asynchronous		

Table 20 Meaning of numeric value for BAUD

Values not listed here are "not defined".

98.4 Error Messages and Advisories

98.4.1 Error Messages

F01: VARIABLE ELEMENT @@@@ is NOT ALLOWED IN THE FORMAT 17 - 96.

F02: VARIABLE ELEMENT @@@@ is NOT CONTAINED IN FORMAT.

FTBL - Administration of the Output Format Tables

Error Messages and Advisories

F03: FORMAT DOES NOT EXIST.
F04: FORMAT IS ALREADY CREATED.
F05: NO MORE SPACE AVAILABLE IN THE TABLE.
F06: MAXIMAL 255 ELEMENTS PER FORMAT ARE PERMITTED.
F07: VARIABLE ELEMENT @@@@ is NOT ALLOWED IN THE FORMAT 1 - 96.
F08: IF FILLER TYPE IS NONE, NO FILLER CAN BE SPECIFIED.
F09: IF ALIGNMENT IS LEFT OR RIGHT, NO DECIMAL POSITION CAN BE SPECIFIED.
F10: PROBLEMS OCCURED ON WRITING/READING AT HARD DISK AT AREA G (A1H1G OR A1H6G)
F11: FORMAT IS NOT YET READY. FIELD DESCRIPTION COULD NOT BE STORED.
F12: STRINGS WITH MORE THAN 255 CHARACTERS ARE NOT ALLOWED.
F13: FIELD ALREADY WITH SMALLER LENGTH AVAILABLE. PLEASE EXCHANGE SEQUENCE.
F14: FORMAT STRING CAN NOT INCLUDE ONLY @ SIGNS (FIELD MASK FOR EXAMPLE : #@@@).
F15: ALL FIELDS FROM 1 TO @@@ CAN BE ENTERED ONLY IN ORDER.

98.4.2 Advisories

H01: ENTER FIELD DESCRIPTION FOR THE @@@TH VARIABLE FIELD.
H02: not in use
H03: not in use
H04: THE ELEMENT "CONCHRG" "CONCHRN" "DISPCHRG" RESP. "DISPCHRN" MUST HAVE A COMMA
POSITION. IS CHANGED TO THE STANDARD VALUES (ALIGNMENT TO THE RIGHT AND COMMA
POSITION(S)).
H05: ATTENTION! FORMAT IS NOT COMPLETE.
H06: ELEMENT RTIONLV0, RTIONLV1 AND RTIONLV2 ARE ALWAYS FILLED WITH 'X'.

99 FTCSM - File Transfer Configuration

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO FTCSM (file transfer configuration service module) is an administration interface for changing system parameters. The AMO processes the parameters in the data base which are required for the host connection and thus required for the file transfer , and sends the appropriate message to the file transfer following every such alteration.

99.1 Restrictions

This description is valid from SP300-Rel6.3

99.2 Interrelationships

None

99.3 Functions of the AMO

- [ADD-FTCSM](#) : Add the file tranfer parameters
- [CHANGE-FTCSM](#) : Change the file tranfer parameters
- [DELETE-FTCSM](#) : Delete the file tranfer parameters
- [DISPLAY-FTCSM](#) : Display the file tranfer parameters
- [REGENERATE-FTCSM](#) : Regenerate the data base for the file transfer parameters

99.3.1 ADD-FTCSM

Depending on which branch parameter TTYPE is given, the following takes place :

1. the network book data is added,
2. the task book data is added,
3. the file transfer is either activated (START), terminated (STOP) or executed (RUN).

FTCSM - File Transfer Configuration

Functions of the AMO

Because there is no delete of the task book, it is possible to add though there are configurations existing. If there is no value of a parameter entered, the default value will be added.

Procedure Overview

Command Code	Parameter
ADD-FTCSM	[UNIT=<param>]
	, TTYPE=NCF, NCFNO=<number>
	, OSPTNR=<string>, HPID=<string>
	, DPAPPL=<string>, FEPROC=<string>
	, [DPTYPE=<param>];
	|, TTYPE=FTTF, [RSTIME=<number>]
	, [FILNAM=<string>], [TASKMAX=<number>]
	, [TASKIN=<number>], [TASKOUT=<number>];
	|, TTYPE=STATE, STATE=<param>;

Examples

1. Add the parameters for the network book

Input:

```
ADD-  
FTCSM:A1,NCF,16,"EMSAPPL1","DVAPROZ1","DVAAPPL1","N78H02",BS2  
000;
```

2. Add the parameters for the task book

Input:

```
ADD-FTCSM:A1,FTTF,8,"":DBD:FTV1",4,3,2;
```

3. Terminate the file transfer

Input:

```
ADD-FTCSM:A1,STATE,STOP;
```

99.3.2 CHANGE-FTCSM

Depending on which branch parameter TTYPE is given, the following takes place :

1. the network book data is changed,
2. the task book data is changed,

- the file transfer is either activated (START), terminated (STOP) or executed (RUN).

Procedure Overview

Command Code	Parameter
CHANGE-FTCSM	[UNIT=<param>]
	, TTYPE=NCF, NCFNO=<number>
	, [OSPTNR=<string>], [HPID=<string>]
	, [DPAPPL=<string>], [FEPROC=<string>],
	, [DPTYPE=<param>];
	|, TTYPE=FTTF, [RSTIME=<number>]
	, [FILNAM=<string>], [TASKMAX=<number>]
	, [TASKIN=<number>], [TASKOUT=<number>];
	|, TTYPE=STATE, STATE=<param>;

Examples

- Change the time interval of the restart

Input:

```
CHANGE-FTCSM:A1,FTTF,1;
```

- Change data having the network book number 16

Input:

```
CHANGE-FTCSM:A1,NCF,16,"EMSAPPL1","DVAPROZ2";
```

- Activate the file transfer

Input:

```
CHANGE-FTCSM:A1,STATE,START;
```

99.3.3 DELETE-FTCSM

Branching to STATE here serves no purpose, since only the STOP state comes into question for deleting anyway.

Procedure Overview

Command Code	Parameter
DELETE-FTCSM	[UNIT=<param>], [NCFNO=<number>];

FTCSM - File Transfer Configuration

Functions of the AMO

Examples

1. Delete all network book data

Input:

```
DELETE-FTCSM:A1;
```

2. Delete data having the network book number 4

Input:

```
DELETE-FTCSM:A1,4;
```

99.3.4 DISPLAY-FTCSM

Depending on which branch parameter TTYPE is entered, the following is displayed :

1. the network book data
2. the task book data

If no TTYPE entry is made, all data relevant for the file transfer is output. Branching to STATE is also redundant, since the state of the file transfer is already entered in the task book.

Procedure Overview

Command Code	Parameter
DISPLAY-FTCSM	[UNIT=<param>], [TTYPE=<param>];

Examples

1. Output all file transfer parameters

Input:

```
DISPLAY-FTCSM:A1;
```

Output:

NETWORK BOOK ENTRIES:

NETW.	BS-	PROZESSOR	DP-	FEPROC	DPTYPE
BK.NO.	PARTNER	ID	APPL		
1	EMSAPPL1	DVAPROZ1	DVAAPPL1	N78H02	BS2000

GLOBAL DATA:

```
STATUS           : RUN
TIME PERIOD      : 1
ORDER BOOK NAME  : :DBD:FTA1
```

```

MAX. FT-EXEC      : 4
MAX. INBOUND      : 2
MAX. OUTBOUND     : 3

```

2. Output the network book data

Input:

```
DISPLAY-FTCSM:A1,NCF;
```

Output:

NETWORK BOOK ENTRIES:

NETW.	BS-	PROZESSOR	DP-	FEPROC	DPTYPE
BK.NO.	PARTNER	ID	APPL		
1	EMSAPPL1	DVAPROZ1	DVAAPPL1	N78H02	BS2000

3. Output the task book data

Input:

```
DISPLAY-FTCSM:A1,FTTF;
```

Output:

GLOBAL DATA:

```

STATUS           : RUN
TIME PERIOD       : 1
ORDER BOOK NAME   : :DBD:FTA1
MAX. FT-EXEC      : 4
MAX. INBOUND      : 2
MAX. OUTBOUND     : 3

```

99.3.5 REGENERATE-FTCSM

Procedure Overview

Command Code	Parameter
REGENERATE-FTCSM	[UNIT=<param>;

Example

Output all data as position-oriented input commands

Input:

```
REGENERATE-FTCSM:A1;
```

Output:

```

ADD-
FTCSM:A1,NCF,16,"EMSAPPL1","DVAPROZ1","DVAAPPL1","N78H02",BS2000
;
ADD-FTCSM:A1,FTTF,8,":DBD:FTA1",4,3,2;

```

FTCSM - File Transfer Configuration

Parameter Description

```
ADD-FTCSM:A1, STATE, STOP;  
.  
.  
.
```

99.4 Parameter Description

DPAPPL	Data processing application Type of Input : Single value, mandatory (ADD) optional (CHANGE) Possible Values : Application name (1 - 8 chars, 1st char /= ' ')
DPTYPE	DATA Processing Type of Input : Single value, optional Possible Values : BS2000 OTHER Default Value : BS2000
FEPROC	BCAM name of the front-end processor Type of Input : Single value, mandatory (ADD) optional (CHANGE) Possible Values : Front-end processor name (1 - 8 chars, 1st char /= ' ')
FILNAM	File name of the file transfer task list Type of Input : Single value, optional Possible Values : Hard disk file name (max 32 chars) Default Value : :DBD:FTyy (yy=UNIT)
HPID	Host processor identity Type of Input : Single value, mandatory (ADD) optional (CHANGE) Possible Values : Processor name (1 - 8 chars, 1st char /= ' ')
NCFNO	Network configuration file entry number Type of Input : Single value, mandatory (ADD, CHANGE) optional (DELETE, DISPLAY) Possible Values : 1 - 255
OSPTNR	PBX application (OS partner)

	Type of Input	: Single value, mandatory (ADD) optional (CHANGE)
	Possible Values	: Application name (1 - 8 chars, 1st char /= ' ')
RSTIME	Restart time	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 10 minutes
	Default Value	: 10 min
STATE	State of file transfer	
	Type of Input	: Single value, mandatory
	Possible Values	: START STOP RUN
TASKIN	Maximum number of tasks from remote system	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 4
	Default Value	: 1
TASKMAX	Maximum number of tasks	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 4
	Default Value	: 1
TASKOUT	Maximum number of tasks for remote system	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 4
	Default Value	: 1
TTYPE	Type of task	
	Type of Input	: Single value, mandatory (ADD, CHANGE, DELETE) optional (DISPLAY)
	Possible Values	: NCF = configure the network book FTTF = configure the task book STATE = set FT state
UNIT	Device name of the destination server	

FTCSM - File Transfer Configuration

Error Messages and Advisories

Type of Input	: Single value, optional	
Possible Values	: A1	= Administration and Data Server (ADS)
Default Value	A1	

99.5 Error Messages and Advisories

99.5.1 Error Messages

F01: A CONFIGURATION FOR NETWORK BOOK <num> IS ALREADY AVAILABLE
F02: OS-PARTNER <osptnr> IS ALREADY AVAILABLE
F03: FILE <datnam> IS NOT IN A HARD DISK AREA
F04: PARAMETER OSPTNR <osptnr> IS SYNTACTICALLY INCORRECT
F05: PARAMETER HPID <hpid> IS SYNTACTICALLY INCORRECT
F06: FILE TRANSFER IS NOT AVAILABLE
F07: NETWORK BOOK NUMBER <num> IS NOT CONFIGURED
F08: PARAMETER DPAPPL <dpappl> IS SYNTACTICALLY INCORRECT
F09: PARAMETER FILNAM <datnam> SYNTACTICALLY INCORRECT
F10: PARAMETER FEPROC <feproc> IS SYNTACTICALLY INCORRECT
F11: HARD DISK AREA "PDS" INADMISSIBLE FOR FT ORDER BOOK
F12: DATABASE INCONSISTENT :FT-RETURNCODE <11>
F13: ERROR BY FILE-ACCESS IN LOCAL SYSTEM :FT-RETURNCODE <56>
F14: ERROR FROM FT OVERHANDED :RETURNCODE <num>

99.5.2 Advisories

H01: NO NETWORK BOOK CONFIGURATION AVAILABLE
H02: HIS CONFIGURATION ALREADY EXISTS

100 FTRNS - File Transfer between BS2000 and Hicom

Restrictions	AMO Functions	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO FTRNS (File Transfer) can be used to transfer files between HICOM and a BS2000 system. The AMO FTRNS is used as the interface between the user and the system module FT-HICOM.

100.1 Restrictions

This description is valid from SP300-V3.1

100.2 Interrelationships

None

100.3 AMO Functions

- [START-FTRNS](#) : Entering a file transfer task into job book
- [DELETE-FTRNS](#) : Delete a file transfer task out of job book
- [DISPLAY-FTRNS](#) : List of all waiting file transfer tasks

100.3.1 START-FTRNS

Entering a file transfer task into the job book.

Note

AMO FTRNS cannot be started multiple.

Procedure Overview

Command Code	Parameter
START-FTRNS	BSPTNR=<string>,BSLOGID=<string>,BSACCNO=<string> ,BSPSWD=<string>,SYSFILE=<string>,BSFILE=<string>

FTRNS - File Transfer between BS2000 and Hicom

AMO Functions

Command Code	Parameter	
	, DRCTN=SEND, [CONVRT=<param>], [SYSDEV=<param>] , [WAIT=<string>], [BSPASS=<string>] , [OPNMOD=<param>], [COMPRS=<string>] , [SUCCPR=<string>], [FAILPR=<string>] , [BSSUCCPR=<string>], [BSFAILPR=<string>] , [UNIT=<param>];	
	|, DRCTN=RCV, [SYSFT=<param>] , SYSDEV=HD, [SYSFSIZE=<string>] , [CONVRT=<string>], [WAIT=<string>] , [BSPASS=<string>], [OPNMOD=<param>] , [COMPRS=<string>], [SUCCPR=<string>] , [FAILPR=<string>], [BSSUCCPR=<string>] , [BSFAILPR=<string>], [UNIT=<param>];	
	|, SYSDEV=CT, SYSFSIZE=<string>, [CONVRT=<string>] , [VOLCT=<string>], [WAIT=<string>] , [BSPASS=<string>], [OPNMOD=<param>] , [COMPRS=<string>], [SUCCPR=<string>] , [FAILPR=<string>], [BSSUCCPR=<string>] , [BSFAILPR=<string>], [UNIT=<param>];	
	|, SYSDEV=TA, [CONVRT=<string>], BLOLEN=<string> , [VOLTA=<string>], [WAIT=<string>] , [BSPASS=<string>], [OPNMOD=<param>] , [COMPRS=<string>], [SUCCPR=<string>] , [FAILPR=<string>], [BSSUCCPR=<string>] , [BSFAILPR=<string>], [UNIT=<param>];	
	|, DRCTN=SENDNMC, [CONVRT=<param>], [SYSDEV=<param>] , [WAIT=<string>], [BSPASS=<string>] , [OPNMOD=<param>], [COMPRS=<string>] , [SUCCPR=<string>], [FAILPR=<string>] , [BSSUCCPR=<string>], [BSFAILPR=<string>] , [UNIT=<param>];	(*2) (*2) (*2) (*2) (*2) (*2)
	|, DRCTN=RCVNMC, [SYSFT=<param>] , SYSDEV=HD, [SYSFSIZE=<string>] , [CONVRT=<string>], [WAIT=<string>] , [BSPASS=<string>], [OPNMOD=<param>] , [COMPRS=<string>], [SUCCPR=<string>] , [FAILPR=<string>], [BSSUCCPR=<string>] , [BSFAILPR=<string>], [UNIT=<param>];	(*2) (*2) (*2) (*2) (*2) (*2) (*2)

Command Code	Parameter	
	|, SYSDEV=CT, SYSFSIZE=<string>, [CONVRT=<string>]	(*2)
	, [VOLCT=<string>], [WAIT=<string>]	(*2)
	, [BSPASS=<string>], [OPNMOD=<param>]	(*2)
	, [COMPRS=<string>], [SUCCPR=<string>]	(*2)
	, [FAILPR=<string>], [BSSUCCPR=<string>]	(*2)
	, [BSFAILPR=<string>], [UNIT=<param>];	(*2)
	|, SYSDEV=TA, [CONVRT=<string>], BLOLEN=<string>	(*2)
	, [VOLTA=<string>], [WAIT=<string>]	(*2)
	, [BSPASS=<string>], [OPNMOD=<param>]	(*2)
	, [COMPRS=<string>], [SUCCPR=<string>]	(*2)
	, [FAILPR=<string>], [BSSUCCPR=<string>]	(*2)
	, [BSFAILPR=<string>], [UNIT=<param>];	(*2)

(*2) Parameter valid from SP300-V3.2

Example

Starting a file transfer.

Input:

```
STA-FTRNS:DVAPROC1,"PNEA424T","52B30720","C'FILETRNS'",":PDS:ADM/FILE",
"BS2.FILE",RCV,,HD;
```

100.3.2 DELETE-FTRNS

Delete a file transfer task out of job book

Note

AMO FTRNS cannot be started multiple.

Procedure Overview

Command Code	Parameter	
DELETE-FTRNS	TRANSID=<string>;	

Example

Delete a file transfer task.

Input:

```
DEL-FTRNS:1;
```

100.3.3 DISPLAY-FTRNS

List of all waiting file transfer tasks

Note

AMO FTRNS cannot be started multiple.

Procedure Overview

Command Code	Parameter
DISPLAY-FTRNS	[TRANSID=<string>;

Example

Query a file transfer task. The transfer direction can have the values RECEIVE or SEND, the state of transfer can be ACTIVE, WAIT or LOCKED. The file name can have a maximum of 32 chars.

Input:

DIS-FTRNS;

Output:

NR	TRANS-ID	DIRECTION	STATE	HICOM-FILE-NAME
1	22	SEND	ACTIVE	:PRS:TESTDATEI

100.4 Parameter Description

BLOLEN	Blocklength on tape
Type of Input	: Single value, optional
Possible Values	: max. 2 chars.
BSACCNO	BS2000 account number
Type of Input	: Single value, optional
Possible Values	: All BS2000 account numbers possible (must be entered with inverted commas, i.e. "<account>")
BSFAILPR	Command text to follow on failed FTRNS run
Type of Input	: Single value, optional
Possible Values	: Textstring, max. 80 chars. complete BS2000 command (i.e. "<command>")

BSFILE	BS2000 file	
	Type of Input	: Single value, optional
	Possible Values	: Name of a file in the BS2000 system max. 54 chars. (i.e. "<file>")
BSLOGID	BS2000 userid	
	Type of Input	: Single value, mandatory
	Possible Values	: All BS2000 user IDs possible, max. 8 chars. (i.e. "<userid>")
BSPASS	BS2000 file password	
	Type of Input	: Single value, optional
	Possible Values	: Password with prefix c', x' or d' max. 11 chars.
BSPSWD	BS2000 password	
	Type of Input	: Single value, mandatory
	Possible Values	: All BS2000 passwords possible e.g. "c'1234abcd'" or "x'f0f1f2f3f4f5f6f7'" c' or x' must be entered
BSPTNR	Symbolic name of BS2000 host; in format required by CMS	
	Type of Input	: Single value, mandatory
	Possible Values	: network name of the BS2000 host connected (must be entered with inverted commas, e.g. "N78H02")
BSSUCCPR	Command text to follow on successful FTRNS run	
	Type of Input	: Single value, optional
	Possible Values	: Textstring, max. 80 chars. complete BS2000 command (i.e. "<command>")
COMPRS	Compression necessary during transfer	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N
CONVRT	Conversion ASCII (Hicom) to EBCDIC (BS2000)	
	Type of Input	: Single value, mandatory
	Possible Values	: Y, N
	Default Value	: Y

FTRNS - File Transfer between BS2000 and Hicom

Parameter Description

DRCTN	Direction system -> BS2000 or BS2000 -> system
Type of Input	: Single value, mandatory
Possible Values	: SEND = system -> BS2000 RCV = BS2000 -> system SENDNMC = system -> NMC RCVNMC = NMC -> system
FAILPR	Command text to follow on failed FTRNS run on system
Type of Input	: Single value, optional
Possible Values	: Textstring, max. 80 chars complete MML command (i.e. "<command>")
OPNMOD	Openmode of destination file
Type of Input	: Single value, optional
Possible Values	: NEW = new E = extend O = overwrite
Default Value	: O
SUCCPR	Command text to follow on successful FTRNS run on system
Type of Input	: Single value, optional
Possible Values	: Textstring, max. 80 chars. complete MML command (i.e. "<command>") " - signs within MML-commands have to be replaced by % resp. poundcharacter. A maximum of 2 MML-commands are allowed, separated by '-'.
SYSDEV	System device
Type of Input	: Single value, mandatory for DRCTN = RCV in other case optional
Possible Values	: HD = Hard disk CT = Cartridge TA = Tape
Default Value	: HD
SYSFILE	System file
Type of Input	: Single value, mandatory
Possible Values	: Textstring, max. 32 chars. Name of file on hard disk

(must be entered with inverted commas, i.e. "<file>")

SYSFSIZE	System file size (in Bytes)	
	Type of Input	: Single value, For SYSDEV = CT: mandatory For SYSDEV = HD: optional, Compulsory value > 0 is the primary disk allocation when a new file is created on HD
	Possible Values	: 4 chars. 1024 (Bytes)
SYSFT	System file type	
	Type of Input	: Single value, mandatory
	Possible Values	: V = SAM file with variable record length F = SAM file with fixed record length B = Byte file
	Default Value	: V
TRANSID	Transfer identification of FTRNS task	
	Type of Input	: Single value, For DELETE-FTRNS: mandatory, For DISPLAY-FTRNS: optional
	Possible Values	: max. 4 chars. Number or the desired task
UNIT	Module in which file transfer is to be executed	
	Type of Input	: Single value, optional
	Possible Values	: A1 = ADS
	Default Value	: A1
VOLCT	Volume name of cartridge	
	Type of Input	: Single value, optional
	Possible Values	: Textstring, max. 6 chars.
VOLTA	Volume name of tape	
	Type of Input	: Single value, optional
	Possible Values	: Textstring, 24 chars. :logical_device_name:user_id/volume_id

FTRNS - File Transfer between BS2000 and Hicom

Error Messages and Advisories

WAIT	Wait for end of file transfer
Type of Input	: Single value, optional
Possible Values	: Y, N
Default Value	: Y

100.5 Error Messages and Advisories

100.5.1 Error Messages

F01: FILE TRANSFER TASK WITH RETURN CODE <xx> REJECTED
F02: TIMEOUT FOR FT-HICOM RESPONSE MESSAGE
F03: FTHICOM NOT ACTIVE. RETURN CODE: 04
F05: FTHICOM PARTNER UNKNOWN. FTHICOM RETURN CODE: 05
F06: MESSAGE LENGTH FAULT. FTHICOM RETURN CODE: 06
F07: MESSAGE PARAMETER RANGE FAULT. FTHICOM RETURN CODE: 07
F08: FUNCTION IN FTHICOM NOT IMPLEMENTED. FTHICOM RETURN CODE: 08
F09: TRANS-ID COULD NOT BE FOUND. FTHICOM RETURN CODE: 09
F10: FILE TRANSFER TASK REJECTED. FTHICOM RETURN CODE: 10
F11: ERROR IN GLOBAL DATA. FTHICOM RETURN CODE: 11
F12: UNKNOWN. FTHICOM RETURN CODE: 12
F13: FTHICOM CANCELED BY BS2000. FTHICOM RETURN CODE: 13
F14: CANCELED BY HICOM. FTHICOM RETURN CODE: 14
F15: FILE TRANSFER TASK REJECTED. FTHICOM RETURN CODE: 15
F16: FILE TRANSFER TASK CANCELED. FTHICOM RETURN CODE: 16
F17: HICOM-FILE DOES NOT EXIST. FTHICOM RETURN CODE: 17
F18: HICOM-FILE ALREADY EXISTS. FTHICOM RETURN CODE: 18
F19: HICOM-FILE IS EMPTY. FTHICOM RETURN CODE: 19
F20: NO ACCESS TO HICOM-FILE. FTHICOM RETURN CODE: 20
F21: HICOM-FILE RECORD TOO LONG. FTHICOM RETURN CODE: 21
F22: HICOM-FILE SAM ERROR. FTHICOM RETURN CODE: 22
F23: HICOM-FILE IS_CATALOG_ERROR. FTHICOM RETURN CODE: 23
F24: HICOM-FILE DMS ERROR. FTHICOM RETURN CODE: 24
F25: HICOM-FILE I/O ERROR. FTHICOM RETURN CODE: 25
F26: HICOM-FILE RESET ERROR. FTHICOM RETURN CODE: 26
F27: HICOM-FILE TRUNCATE ERROR. FTHICOM RETURN CODE: 27
F28: HICOM-FILE CLOSE ERROR. FTHICOM RETURN CODE: 28
F29: HICOM-FILE TYPE CONFLICT. FTHICOM RETURN CODE: 29
F30: HICOM-FILE DEVICE NO SUPPORT. FTHICOM RETURN CODE: 30
F31: HICOM SYSTEM RESOURCE. FTHICOM RETURN CODE: 31
F32: BS2000 FT NOT AVAILABLE. FTHICOM RETURN CODE: 32
F33: FRONT END PROCESSOR: OWN_DVR_UNKNOWN. FTHICOM RETURN CODE: 33
F34: TRUNK ERROR. FTHICOM RETURN CODE: 34
F35: CONNECTION TIMEOUT. FTHICOM RETURN CODE: 35
F36: CONNECTION SHORTAGE. FTHICOM RETURN CODE: 36
F37: BS2000 FILE DOES NOT EXIST. FTHICOM RETURN CODE: 37

FTRNS - File Transfer between BS2000 and Hicom

Error Messages and Advisories

F38: BS2000 FILE ALREADY EXISTS. FTHICOM RETURN CODE: 38
F39: BS2000 FILE NO MORE SPACE. FTHICOM RETURN CODE: 39
F40: NO ACCESS TO BS2000 FILE. FTHICOM RETURN CODE: 40
F41: BS2000 FILE: RECORD TOO LONG. FTHICOM RETURN CODE: 41
F42: BS2000 FILE INCONSISTENCY. FTHICOM RETURN CODE: 42
F43: BS2000 FILE: BAD TYPE. FTHICOM RETURN CODE: 43
F44: BS2000 FILE: SYNTAX ERROR. FTHICOM RETURN CODE: 44
F45: BS2000 FILE: I/O ERROR. FTHICOM RETURN CODE: 45
F46: BS2000 LOGON DOES NOT EXIST. FTHICOM RETURN CODE: 46
F47: BS2000 SYSTEM DISCONNECT. FTHICOM RETURN CODE: 47
F48: BS2000 SYSTEM INTERRUPT. FTHICOM RETURN CODE: 48
F49: BS2000 SYSTEM RESOURCE. FTHICOM RETURN CODE: 49
F50: BS2000 SYSTEM SHUT DOWN. FTHICOM RETURN CODE: 50
F51: FTHICOM NUCLEUS ERROR. FTHICOM RETURN CODE: 51
F52: FTHICOM DMS ERROR. FTHICOM RETURN CODE: 52
F53: FTHICOM CMS ERROR. FTHICOM RETURN CODE: 53
F54: FTHICOM NDMS ERROR IN HICOM. FTHICOM RETURN CODE: 54
F55: FTHICOM NDMS ERROR IN BS2000. FTHICOM RETURN CODE: 55
F56: FTHICOM DAS ERROR IN HICOM. FTHICOM RETURN CODE: 56
F57: FTHICOM DAS ERROR IN BS2000. FTHICOM RETURN CODE: 57
F58: FTHICOM FJAM ERROR IN HICOM. FTHICOM RETURN CODE: 58
F59: FTHICOM FJAM ERROR IN BS2000. FTHICOM RETURN CODE: 59
F60: BS2000 SYSTEM ERROR. FTHICOM RETURN CODE: 60

100.5.2 Advisories

H01: FILE TRANSFER TASK WITH TRANSID: <xxxx> HAS BEEN COMPLETED CORRECTLY
H02: FILE TRANSFER TASK WAS ADDED TO JOB BOOK. ACTUAL TRANSID: <xxxx>
H03: FILE TRANSFER STILL ACTIVE
H04: AMO FTRNS HAS BEEN INTERRUPTED
H05: NO TASK IN JOB BOOK
H09: CANCEL OF FILE TRANSFER TASK INITIATED

FTRNS - File Transfer between BS2000 and Hicom

Error Messages and Advisories

101 FUNCT - System switches

This AMO is used to actuate the switches with which the following functions are deactivated or activated:

- No display of command echoing, the end message and the echoing of headers
- the language of AMO-calls
- switches of routine test organisation in some parts of ISp (Administration, TFS and VMS)
- splitting of CC (Common Control)
- new loading of subsystem UBGDAT (data of ports), when the SIT (signalisation task) uses this data.

Also it is possible to setup a time, in which the XENIX server has to be active, if the IHS is out of service (XENIX retention time).

If an externally attached power supply is present, it can also be configured depending on it's type (e.g. AC/DC Without redundancy).

Besides it is possible to configure the type of SS7 controller attached to the switch : Telephone user part controller / ISDN user part controller / no controller attached.

Futher it is possible to set a session specific AMO Text Language (German or English).

It is even possible to control the REGEN output using three new switches.

In addition, it is possible to display and regenerate the current switch settings.

It is possible to switch off logging of certain AMOs.

The user interface for the AMO-FUNCT is in English. Text output for the AMOs is also in English, even if the system is set to operate in a different language.

101.1 Restrictions

This description is valid from HiPath 4000 V2.0.

101.2 Interrelationships

none

101.3 Functions of the AMO

- [CHANGE-FUNCT](#) : Change functions (switch settings)
- [DISPLAY-FUNCT](#) : Display functions (switch settings)
- [REGENERATE-FUNCT](#) : Regenerate functions (switch settings)

101.3.1 CHANGE-FUNCT

Changes the functions (switch settings).

If a parameter value is given for a certain switch during command input, this switch is set to the specified value, even if this value was already set.

If a switch position is skipped over during command input, the switch in question remains unchanged.

Note

- Default during initialization:
Switch for subsystem UBGDAT and for CC/decoupled mode or "splitting mode" to OFF, Type of power supply to AC/DC without redundancy and all other switches to ON.
- A check is made during switching of the RTOs for VMS and TCS as to whether the RTO in question is present.
- If you changed the system language (parameter LANG) for terminal input/output, this change will only take effect after a soft restart of the ISP (EXECUTE-REST:UNIT,A1,SOFT,;). However, a soft restart is not required when changing the session-specific administration language (parameter SLANG)!
- A change to the power supply type is done without checking to see if this type of power supply is present.
- A change to the pfi type is done without checking to see if the PFI (power fail interrupt) is read on this switch.
- A change of SS7 controller type is done without checking whether this controller is really attached.

- The function "switch off logging of certain AMOs" is possible from Hipath V2.0 inclusively onward.
- Procedure Overview.

Command Code	Parameter
CHANGE-FUNCT	[CMDECHO=<param>], [AMOOK=<param>], [AMOHDR=<param>] , [SUSY=<param>], [RTOADS=<param>], [RTOTFS=<param>] , [RTOVMS=<param>], [LANG=<param>], [SPLIT=<param>] , [RETENT=<number>], [POWERSYS=<param>], [PFI=<param>] , [SS7CTR=<param>], [SLANG=<param>], [REGIN=<param>] , [REGKEY=<param>], [REGLN=<param>] , [LOGBKOFF=<number>], [CONFREST=<param>];

101.3.2 DISPLAY-FUNCT

Display functions (switch settings).

All parameters are displayed with their current values.

Procedure Overview

Command Code	Parameter
DISPLAY-FUNCT	[VALUE=<param>;

Example 1

Display switch settings.

Input:

```
DISPLAY-FUNCT;
```

Output:

```

(CMDECHO) -COMMAND ECHO .....ON
(AMOOK ) -AMO PERFORMANCE DISPLAY .....ON
(AMOHDR ) -AMO PROTOCOL HEADER DISPLAY .....ON
(SUSY ) -UBGDAT SUBSYSTEM SWITCH IN SIT .....OFF
(RTOADS ) -ADS ROUTINE TEST SWITCH .....ON
(RTOTFS ) -TFS ROUTINE TEST SWITCH .....NPR
(RTOVMS ) -VMS ROUTINE TEST SWITCH .....ON
(LANG ) -AMO TEXT LANGUAGE
.....GERMAN
(SPLIT ) -SPLIT MODE SWITCH .....OFF
(RETENT ) -XENIX RETENTION TIME IN SECONDS .....10
(POWERSYS) -TYPE OF POWER SYSTEM
.....ACDCWOR
(PFI ) -TYPE OF POWER FAIL INTERRUPT
.....WOUTPFI
(SS7CTR ) -SS7 CONTROLLER TYPE CONNECTED TO HICOM
```

FUNCT - System switches
Functions of the AMO

```
.....ISUP
(REGIN  ) -REGEN OUTPUT INPUT USABLE .....N
(REGKEY ) -REGEN OUTPUT DISPLAY CONTAINING KEYWORDS .....Y
(Reglen ) -REGEN OUTPUT LENGTH FOR MAX. INPUT LENGTH .....N
(LOGBKOFF) -SWITCH OFF LOGGING .....1 3
```

Example 2
Display several switch settings.

Input:

```
DISPLAY-FUNCT:VALUE=CNDECHO&SPLIT&SLANG&REGKEY;
```

Output:

```
(CMDECHO) -COMMAND ECHO .....ON
(SPLIT  ) -SPLIT MODE SWITCH .....OFF
(SLANG  ) -SESSION SPECIFIC AMO TEXT LANGUAGE
.....GERMAN
(REGKEY  ) -REGEN OUTPUT DISPLAY CONTAINING KEYWORDS .....Y
```

Example 3
Display bits set for logging off certain AMOs.

Input:

```
DISPLAY-FUNCT:LOGBKOFF;
```

```
(LOGBKOFF) -SWITCH OFF LOGGING .....1 3
```

Remark:

That is the commands DISPLAY-BUEND; and REGEN-CPTP are not logged.

101.3.3 REGENERATE-FUNCT

Regenerate Xenix Retention Time.

Procedure Overview

Command Code	Parameter
REGENERATE-FUNCT	;

Example
Regenerate Xenix Retention Time.

Input:

```
REGENERATE-FUNCT;
```

Output:

```
CHANGE-FUNCT:,,,,,,10,ACDCWOR,,,GER,N,Y,N,"1","3";
```

101.4 Parameter Description

AMOHDR	Name of switch: echoing the header
	Type of Input : Single value, optional
	Possible Values : ON, OFF
	Default Value : ON
AMOOK	Name of switch: test "AMO COMPLETED"
	Type of Input : Single value, optional
	Possible Values : ON, OFF
	Default Value : ON
CMDECHO	Name of switch: echoing of het AMO input on/off
	Type of Input : Single value, optional
	Possible Values : ON, OFF
	Standard : ON
CONFREST	Name of switch: Suppress execution confirmation of AMO-REST
	Type of Input : Single value, optional
	Possible Values : ON, OFF
	Standard : ON
LOGBKOFF	Name of switch: Switch off logging
	Type of Input : Single value, optional
	Possible Values : 0 till 8
	0 NONE
	1 EXEC-UPLO/UPLO2
	2 DISPLAY(ABFRAGEN) -BUEND
	3 REGEN-CPTP
	4 CHANGE-FUNCT is not logged
	5 - 8 RESERVED
PFI	Name of switch: Power fail interrupt
	Type of Input : Single value, optional
	Possible Values : WOUTPFI WITHPFI
	Default Value : WOUPIFI

FUNCT - System switches

Parameter Description

POWERSYS	Name of switch: Type of power system Type of Input : Single value, optional Possible Values : ACDCWR = AC/DC With redundancy ACDCWOR = AC/DC Without redundancy DCDCWR = DC/DC With redundancy DCDCWOR = DC/DC Without redundancy Default Value : ACDCWOR = AC/DC Without redundancy
REGIN	REGEN output input usable. This switch is indicating whether a regen output has to be displayed in the standard format or in the new introduced format which is usable for input. The standard format contains line control sequences and filling blanks. Type of Input : Single value, optional Possible Values : :Y - Yes N - No Default Value : none
REGKEY	REGEN output display containing keywords. This switch is indicating whether a regen output has to be displayed in the standard format (position oriented) or in the new introduced format containing keywords. Type of Input : Single value, optional Possible Values : :Y - Yes N - No Default Value : none
REGLN	Check REGEN output length for max. input length. This switch is indicating whether a regen output has to be displayed in the keyword output format only, if the maximum input string length is not exceeded. Type of Input : Single value, optional Possible Values : :Y - Yes N - No Default Value : none
RETENT	Xenix Retention Time Type of Input : Single value, optional Possible Values : 0 to 65535 seconds
RTOADS	Name of switch: Administration server routine test Type of Input : Single value, optional Possible Values : ON, OFF Default Value : ON

RTOTFS	Name of switch: TFS routine test Type of Input : Single value, optional Possible Values : ON, OFF Default Value : ON
RTOVMS	Name of switch: Voice mail server routine test Type of Input : Single value, optional Possible Values : ON, OFF Default Value : ON
SLANG	Name of switch: Select Session specific AM'O language Type of Input : Single value, optional Possible Values : GER: German ENG: English Default Value : GER
SPLIT	Name of switch: split mode Type of Input : Single value, optional Possible Values : ON, OFF Default Value : OFF
SS7CTR	Name of switch: Type of SS7 controller attached to the Hicom Type of Input : Single value, optional Possible Value : NO : No controller connected TUP : Telephone user part controller connected ISUP : ISDN user part controller connected Default Value : NO
SUSY	Name of switch : Loading indication for SIT Type of Input : Single value, optional Possible Values : ON, OFF Default Value : OFF
VALUE	Optional parameter VALUE introduced to up to now parameterless action DISPLAY. Parameter VALUE can be set with up to 14 single values (all parameters of action change) concatenated with ampersant (&). Standard set of parameter VALUE, when not given, equals all values except SLANG.. Type of Input : Single value ore concatenated with &, optional

FUNCT - System switches

Error Messages and Advisories

Possible Value	: CMDECHO: command echo switch AMOOK: amo performance display switch AMOHDR: amo protocol header switch SUSY: loading indication switch for UBGDAT subsystem in SIT RTOADS: ADS routine test switch RTOTFS: TFS routine test switch RTOVMS: VMSroutine test switch LANG: AMO text language switch SPLIT: splitting mode switch RETENT: XENIX retention time in seconds POWERSYS: Type of power system PFI: Interpretation of PFI in power system SS7CTR: SS7 controller type connected to hicom SLANG: select session specific amo language REGIN: regen output input usable REGKEY: regen output display containing keywords REGLN: check regen output length for max. input length

101.5 Error Messages and Advisories

101.5.1 Error Messages

F1: TEXT TABLES NOT FOUND

(The AMO texts cannot be output in the desired foreign language since the necessary test subsystems are not present.)

F2: RTO<TFS/VMS> NOT PRESENT

(The RTO for the TFS/VMS is not present and thus cannot be switched on.)

F4: INACTIVE CC IS NOT IN STATE STAND ALONE

(The AMO was started with SPLIT=ON, but the inactive CC half is not in state "stand alone").

101.5.2 Advisories

none

102 FUNSU - System Switches in the switching unit

Restrictions	Functions of the AMO	Error messages and advisories
Interrelationships	Parameter Description	

The AMO *FUNSU* processes jobs for the *RTO* (Routine Test Organisation) of the SWU for

- starting and stopping of individual routine tests,
- changing the start frequency of routine tests,
- changing time parameters,
- displaying the status and outputting the control data.

In addition, the switches 'Load from hard disc' and 'Flash memory to be loaded' can be set to load the peripheral loadware and/or flash memory respectively from the HD.

RTO test options in the SWU.

The following test configurations are available;

- All SWU routine tests,
- All routine tests in all or specific CC halves,
- All routine tests in all or specific LTG halves,
- Specific groups of routine tests.

The default value set by the AMO is 'TRUE', which means that the RTO tests may be started.

Changing the start frequency of some routine tests.

The start frequency of individual routine tests can be controlled with the parameter (*RJFREQ*).

RJFREQ	Meaning
0	Test is never started
1	Test is started in every run
2	Test is started in every 2nd run
.	.
.	.

Table 21 Routine tests

RJFREQ	Meaning
255	Test is started in every 255th run

Table 21 Routine tests

Changing time parameters.

The following time parameters can be changed for each group of routine tests using the AMO FUNSU:

- Test group start time (*RJSTART*);
- Time at which this test group will not be restarted after having paused between runs (*RJSTOP*);
- Pause time between two test runs (*RJPAUSE*);

Displaying the status and control data.

The following RTO status can be displayed;

- *AM* (administration and maintenance) start authorization for the RTO of a unit (CC or LTG);
- *FA* (fault analysis) start authorization for the RTO of a unit (CC or LTG);
- AM start authorization for a test group;
- RTO status of a test group;
- Start frequency of individual routine tests.

The following can also be displayed for each test group;

- start time,
- end time and
- pause time between tests.

Basic initialization of the static RTO memory

Entire RTO	Start authorization AM	YES
	Start authorization FA	YES

Table 22 Basic initialization

RJ group RJC	Start authorization AM	YES	(*1)
	RTO status	NOT ALLOWED	
	Start time (HH)	0	
	End time (HH)	24	
	Pause time (S)	600	
	Test frequency IPREQ	2	
	Test frequency CCHREQ	2	
	Test frequency MBUAREQ	2	
	Test frequency IOCCAREQ	2	
	Test frequency IOCGREQ	2	
	Test frequency DCLREQ	2	
	Test frequency MBUATEST	1	
	Test frequency IOCCATST	1	
	Test frequency CCHIECBS	6	
	Test frequency IPTEST	1	
RJ group RJP1	Start authorization AM	YES	
	RTO status	NOT ALLOWED	
	Start time (HH)	0	
	End time (HH)	24	
	Pause time (S)	180	
	Test frequency DPTIMOUT	3	
	Test frequency DPWDCTR0	40	
	Test frequency DPWDCTR1	40	
	Test frequency DPRDYREQ	3	
	Test frequency DCLTEST (*1)	3	
	Prüfhäufigkeit BDHWYTST	3	
	Test frequency CCHIECBS	20	
	Test frequency MEMACEA	240	
	Test frequency MEM1AREQ	40	
	Test frequency GSNMTSCM	20	
	Test frequency LTUCUPRQ	1	
	Test frequency SYMCHKAL	240	
	Test frequency CONWADP	5	
	Test frequency SURVPATA	240	

Table 22 Basic initialization

FUNSU - System Switches in the switching unit

RJ group RJP2	Start authorization AM	YES
	RTO status	NOT ALLOWED
	Start time (HH)	0
	End time (HH)	4
	Pause time (S)	3600
	Test frequency CIRA	2
RJ group RJP3	Test frequency CIRAENDA	2
	Start authorization AM	YES
	RTO status	NOT ALLOWED
	Start time (HH)	0
	End time (HH)	24
	Pause time (S)	3600
	Test frequency UPAREQ	1
	Test frequency LTUAHWYA	4
	Test frequency STBYHWYA	4
	Test frequency SIUTSTTR	1
	Test frequency SIUDTO	1
	Test frequency SIUPTO	1
	Test frequency SIUCSCR	1
	Test frequency SIUPCSCR	1
	Test frequency LTUCCCBM	2
	Test frequency SIUPTDSA	4
	Test frequency SIUTDSA	1

Table 22 Basic initialization

(*1) At EC HW these tests concern the DDCL module

Microprocessor checks in the LTUC.

Sporadic errors cause a hardware reset of the LTUC . This subsequently causes the shelf concerned to go out of service. This operation failure is not reported to the dependability system, so that the latter cannot respond appropriately. Only when the microprocessor is tested by the RTO the LTUC is put back into service. The test cycle of the RTO microprocessor tests has thus been stepped up so that a failure of the LTUC microprocessor is detected as rapidly as possible.

In order to avoid the system load it creates, the LTUC microprocessor test will not be contained in the universal microprocessor test routine UPAREQ, but rather will be implemented as a separate routine, LTUCUPRQ .

The repeat time (test intervals or test cycle) will be preset at 3 minutes. Users may alter the test cycle as required. However, it is advisable to leave no more than 3 minutes between the test routines, i.e. RJPAUSE of the group RJP1 multiplied by RJFREQ of the LTUCUPRQ routine should not exceed 180 (seconds).

The action SET is used to set the tests to be carried out by the RTO. However, the changes made by the action SET will only become active after the action EXEC has been called to execute the changes.

Setting the Switch 'Load From Hard Disc'

The loadware is loaded into the LTG RAM during the first system boot and saved there for restarts.

The boards are then supplied with loadware exclusively from the LTG alone and not, as they were previously, from the hard disc. Exchanging loadware on the hard disc basically has no effect at all in the peripherals, unless an LTG is reloaded.

To allow loadware to be exchanged selectively by plugging in and pulling out boards, the central peripheral initialization task (PIT) defines an SW switch which, if set, causes the LW to be loaded from the hard disc when a board is plugged in or an LTG HR occurs.

Setting the Switch 'Flash memory to be loaded'

After a hard restart (without reload) all flash memory modules are, like any other restartable module, not explicitly reloaded. A newly configured module has to be explicitly marked as having to be reloaded. This is done using the parameter 'Flash memory to be loaded'. When set, all flash memory modules will be reloaded with new loadware the next time a load job takes place (Restart or reload).

102.1 Restrictions

This description is valid from SP300-EV3.0.

102.2 Interrelationships

None.

102.3 Functions of the AMO

- **SET FUNSU** : Switching the RTO tasks in the SWU.
- **CHANGE FUNSU** Type PIT: Setting the switch 'Load from hard disc' for peripheral loadware or the switch to load all flash memory modules.
- **EXEC FUNSU** : Activating the RTO tasks in the SWU (See SET-FUNSU).
- **DISPLAY FUNSU** : Displaying the status of the RTO SWU and the RTO control data.

102.3.1 SET FUNSU

Setting the RTO SWU and changing RTO control data.

All data concerning the RTO of the SWU (test authorization, time parameters, etc.) is stored in the static database. Each time an update job is performed this database memory is output, changed and rewritten. However, the RTO is only advised of the changes by a message sent to the interface task in the active base processor after the action EXEC has been called.

If none of the optional parameters is specified, the RTO tests will be set to default values.

It is also possible to change the RTO control data of LTGs which are out of service.

Note

The default values are obtained from basic initialization of the RTO memory.

Procedure Overview

Command Code	Parameter
SET-FUNSU	UNIT=<param>, COMPLEX=UNIT, STARTAUT=<param>; | COMPLEX=RJGRP, RJGRP=<param>, { [STARTAUT=<param>], [RJSTART=<number>], [RJSTOP=<number>], [RJPAUSE=<number>] } ; | COMPLEX=RJ, RJ=<param>, RJFREQ=<number>;

Examples

1. Issuing the start authorization for LTG1.

Input:

```
SET-FUNSU:GP1A,UNIT,Y;
```

2. Changing the control parameters for a routine job group.

Input:

```
SET-FUNSU:BPA,RJGRP,RJC,Y,18,24,60;
```

3. Changing the test frequency for a test job.

Input:

```
SET-FUNSU:GP1B,RJ,IPREQ,2;
```

Output:

```
H04: RTO OF GP1B IS NOT STARTED BECAUSE THERE IS NO FA START
      AUTHORIZATION
```

102.3.2 CHANGE FUNSU

- Setting the switch 'Load loadware from hard disc'.

The switch is set with the aid of a message to the central peripheral initialization task (*PIT*).

- Setting the switch 'Load flash memory modules'.

The switch is set in the database immediately.

Note

Once the switch for 'Load loadware from hard disc' has been set it cannot be unset.

Procedure Overview

Command Code	Parameter
CHANGE-FUNSU	PIT=LWLOAD; | PIT=FLASH, [PARTNO=<param>], [FCTID=<param>], [ACTION=<param>];

Examples

4. Setting the switch 'Load loadware from HD'.

Input:

```
CHANGE-FUNSU:PIT=LWLOAD;
```

FUNSU - System Switches in the switching unit

Functions of the AMO

5. Setting the switch 'Load flash memory modules' for board Q2144-X with function identification 0 to 'load'.

Input:

```
CHANGE-FUNSU:PIT=FLASH,Q2144-X,0,LOAD;
```

6. Reset the switch 'Load flash memory modules' for all flash boards with the function identification 1.

Input:

```
CHANGE-FUNSU:PIT=FLASH,,1,RESET;
```

102.3.3 EXEC FUNSU

Advising the RTO SWU about changed RTO control data.

The RTO is advised by a message sent to the interface task in the active base processor. Finally, acknowledgment from the main task of the unit concerned is sent back to the AMO. This must be done to activate the changes made by the action SET.

Procedure Overview

Command Code	Parameter
EXEC-FUNSU	UNIT=<param>;

Examples

1. Advising the LTG1 (A half) of RTO changes.

Input:

```
EXEC-FUNSU:GP1A;
```

Output:

```
H03: RTO OF GP1A IS STARTED WITH NEW DATA.
```

2. Advising the BP (A half) of RTO changes.

Input:

```
EXEC-FUNSU:BPA;
```

Output:

```
H03: ROUTINE TEST OF PROCESSOR BPA WILL BE STOPPED
```

3. Advising the LTG1 (B half) of RTO changes.

Input:

```
EXEC-FUNSU:GP1B;
```

Output:

H04: RTO OF GP1B IS NOT STARTED BECAUSE THERE IS NO FA START
AUTHORIZATION

102.3.4 DISPLAY FUNSU

Used to display the status of the RTO SWU and RTO control data.

Procedure Overview

Command Code	Parameter
DISPLAY-FUNSU	UNIT=<param>, COMPLEX=UNIT, [OUTPUT=<param>]; |COMPLEX=RJGRP, RJGRP=<param>, [OUTPUT=<param>]; |COMPLEX=RJ, [RJ=<param>];

Examples

1. Displaying the test frequency of test jobs.

Input:

DISPLAY-FUNSU:CC,RJ,IPREQ&CCHREQ&MBUAREQ;

Output:

UNIT	ROUTINE JOB	START FREQ.
BPA	IPREQ	1
	CCHREQ	0
	MBUAREQ	1
BPB	IPREQ	1
	CCHREQ	2
	MBUAREQ	1

2. Displaying the status of routine job groups.

Input:

DISPLAY-FUNSU:BPA,RJGRP,RJC&RJP1,STATUS;

Output:

UNIT	RJ GROUP	START AUTH (AM)	STATUS (RTO)
BPA	RJC	NO	NOT ALLOWED
	RJP1	YES	READY

FUNSU - System Switches in the switching unit

Functions of the AMO

3. Displaying all the data of routine job groups.

Input:

DISPLAY-FUNSU:BPA,RJGRP,RJC,ALL;

Output:

+-----+-----+-----+-----+			
|	UNIT	:	BPA
+-----+-----+-----+-----+			
|	RJ GROUP	:	RJC
|	START AUTH. (AM)	:	YES
|	STATUS (RTO)	:	READY
|	PAUSE (S)	:	60
|	START (HH)	:	18
|	STOP (HH)	:	24
+-----+-----+-----+-----+			
|	ROUTINE JOB		|
		START FREQUENCY	|
+-----+-----+-----+-----+			
|	IPREQ		|
		1	|
|	CCHREQ		|
		2	|
|	MBUAREQ		|
		1	|
|	IOCCAREQ		|
		0	|
|	IOCGREQ		|
		0	|
|	DCLREQ		|
		1	|
|	MBUATEST		|
		1	|
|	IOCCATST		|
		1	|
|	CCHIECBS		|
		6	|
|	IPTTEST		|
		1	|
+-----+-----+-----+-----+			
-+			

4. Displaying the start authorization of RTOs.

Input:

DISPLAY-FUNSU:CC,UNIT,STATUS;

Output:

+-----+-----+-----+-----+			
|	UNIT	|	START AUTH.
|		|	(AM)
|		|	(FA)
+-----+-----+-----+-----+			
|	BPA	|	YES
|	BPB	|	NO
+-----+-----+-----+-----+			

5. Displaying all the data of RTOs.

Input:

DISPLAY-FUNSU:BPA,UNIT,ALL;

Output:

+-----+-----+-----+-----+					
|	UNIT	: BPA	START AUTH. (AM) : YES	START AUTH. (FA) : YES	|
+-----+-----+-----+-----+					
|	RJ GROUP	: RJC	START AUTH. (AM) : YES	STATUS (RTO) : READY	|
|	PAUSE (S) : 60		START (HH) : 18	STOP (HH) : 24	|
+-----+-----+-----+-----+					
|	ROUTINE JOB			START FREQ.	|
+-----+-----+-----+-----+					
|	IPREQ			1	|
+-----+-----+-----+-----+					

FUNSU - System Switches in the switching unit

Parameter Description

CCHREQ	2
MBUAREQ	1
IOCCAREQ	0
IOCGREQ	0
DCLREQ	1
MBUATEST	1
IOCCATST	1
CCHIECBS	6
IPTEST	1

UNIT : BPA	START AUTH. (AM) : YES

RJ GROUP : RJP1	START AUTH. (AM) : YES
PAUSE (S) : 60	START (HH) : 18

ROUTINE JOB	START FREQ.

DPTIMOUT	1
DPWDCTR0	1
DPWDCTR1	1
DPRDYREQ	2
DCLTEST	2
IOCGTEST	0
MEMACEA	1
MEM1AREQ	2
GSNMTSCM	6
LTUCUPRQ	1
SYMCHKAL	240
CONWADP	5

102.4 Parameter Description

ACTION	Loading type of board	
	Type of Input	: Single value, optional
	Possible Values	: LOAD forced loading for the board RESET reset of the forced loading
	Default Value	: LOAD
COMPLEX	RTO complex.	
	Type of Input	: Single value, mandatory
	Possible Values	: UNIT RTO of a unit, RJGRP Test group, RJ Individual routine test.
FCTID	Function identification for multi function boards	

FUNSU - System Switches in the switching unit

Parameter Description

	Type of Input	: Single value, optional	
	Possible Values	: 0 - 255	
	Default Value	: 0	(0=non multi function board)
OUTPUT	Output mode.		
	Type of Input	: Single value, optional	
	Possible Values	: STATUS	Outputting the status,
		ALL	Outputting all data.
	Default Value	: STATUS	
PARTNO	Part number of board		
	Type of Input	: Single value, optional	
	Possible Values	: any text string, max. 10 characters	
	Default Value	: Code number in accordance with the table of permissible modul types, eg., "Q2057-X..."	
PIT	Peripheral Interface Task.		
	Type of Input	: Single value, mandatory	
	Possible Values	: LWLOAD	Load loadware from Hard disk,
		FLASH	Load all flash memory modules.
RJ	Routine job.		
	If the parameter is not specified, all routine jobs will be output.		
	Type of Input	: Linked single values, mandatory (SET) Linked single values, optional (DISPLAY)	
	Possible Values	:	RJGRP:
	IPREQ	Interface processor (IP) display	RJC
	CCHREQ	Cross channel (CCH) display	RJC
	MBUAREQ	Displaying all message buffer units (MBU)	RJC
	IOCCAREQ	Displaying all input/output controllers (IOCC) or the input/output control central switching network (IOCSN)	RJC
	IOCGREQ	Displaying the input/output controller GP (IOCG) or the input/output controller (IOC)	RJC
	DCLREQ	Displaying the data comm. link (DCL) or the double communication link (DDCL)	RJC
	MBUATEST	Testing all message buffer units (MBU)	RJC
	IOCCATST	Testing all input/output controllers, central (IOCC) or the input/output control central switching network (IOCSN)	RJC

FUNSU - System Switches in the switching unit

Parameter Description

CCHIECBS	Testing the IEC bus between the RJP1 CCH modules	RJC
IPTEST	Interface processor (IP) test	RJC
DPTIMOUT	HW monitor circuit to be used for initiating multibus timeouts on the DP module	RJP1
DPWDCTR0	HW monitor circuit to be used for starting watchdog counter 0 on the DP module	RJP1
DPWDCTR1	HW monitor circuit to be used for starting watchdog counter 1 on the DP module	RJP1
DPRDYREQ	Displaying the +ready+ line of the partner data processor	RJP1
DCLTEST	Testing the data communication link (DCL) or the double communication link (DDCL)	RJP1
IOCGTEST	Testing the input/output controller group (IOCG) or the input/output controller (active) performs test on standby)	RJP1
MEMACEA	Reading all memory cells on all M8M and DPML286 memory modules (parity check)	RJP1
MEM1AREQ	Displaying 1-bit errors on all M2M memory modules	RJP1
GSNMTSCM	Testing the MTS/GSN in the standby section by reading any TSL on every component in MTS64 modules	RJP1
LTUCUPRQ	Displaying all microprocessors of the LTUC module in an LTG	RJP1
SYMCHKAL	Testing the SLMO board to see if the Symphony device is still alive.	RJP1
CONWADP	Testing connection between WAML and ADP	RJP1
CIRA	Testing all circuits on a specific line circuit module	RJP2
CIRAENDA	Testing all terminals on all circuits of a specific line circuit module	RJP2
UPAREQ	Displaying all microprocessors in the periphery of an LTG	RJP3
LTUAHWYA	Testing all time slots on all highways leading to all LTU mod. Testing the LTG shelf (without the service unit)	RJP3
STBYWYA	Standby Highway A	RAP3
BDHWYTST	Board Highway Test	RAP1
SIUTSTTR	Echoing any test transmitter on the associated test receiver	RJP3
SIUDTO	Echoing a continuous tone on any SLC of any dial tone receiver	RJP3
SIUPTO	Echoing a cadenced tone on any SLC of a dial tone receiver	RJP3

FUNSU - System Switches in the switching unit

Parameter Description

	SIUCSCR	Echoing any code transmitter of an SIU periphery (SIU type 2) on all code receivers of the standard SIU	RJP3
	SIUPCSCR	Echoing all code transmitters on all code receivers of the SIU periphery module (SIU type 2/3)	RJP3
	SURVPATA	Survivability Path test	RJP1
	LTUCCCBM	LTUCC Central Byte Manipulation test loop	RJP3
	SIUPTDSA	TDS loopback test event DSC	RJP3
	SIUTDSA	TDS loopback test event DSCX	RJP3
RJFREQ	Start frequency of single routine test jobs.		
	Type of Input	: Single value, mandatory	
	Possible Values	: 0 to 255	
	0	Never tested,	
	1	Start at every run,	
	2	Start at every 2nd run,	
	.		
	.		
	x <= 255	Start at every xth run.	
RJGRP	Routine job groups.		
	Type of Input	: Linked single values, mandatory	
	Possible Values	: RJC Display firmware,	
	RJP1	Test central units,	
	RJP2	Test interface circuits,	
	RJP3	Test peripheral units.	
RJPAUSE	Pause time between two tests (seconds).		
	Type of Input	: Group value, optional.	
	Possible Values	: 1 to 65535	
RJSTART	Start time for routine job groups (hours).		
	Type of Input	: Group value, optional	
	Possible Values	: 0 to 23	
RJSTOP	Stop time for routine job groups (hours).		
	Type of Input	: Group value, optional	
	Possible Values	: 1 to 24	

UNIT	Hardware unit.	
	Type of Input	: Linked single values, mandatory
	Possible Values	: BPA, BPB CC half, GP1A ... GP32A LTG half, GP1B ... GP32B " CC Entire CC, LTG all LTGs, SWU Entire SWU.

102.5.1 Error messages.

102.5.2 Advisories

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FUNSU - System Switches in the switching unit

Error messages and advisories

H04: RTO OF <unit> IS NOT STARTED BECAUSE THERE IS NO FA START AUTHORIZATION
H05: TIMEOUT AFTER <sss> SECONDS, NO RESPONSE RECEIVED FROM UNIT <unit>
H06: ROUTINE TEST OF PROCESSOR <unit> WILL BE STOPPED
H07: CHANGES MADE FOR BOARD <partno>

103 GEFE - Administering the Charge Registration Parameters

The description of this AMO is only available in html format!

104 GENDB - Generate Data Base with MML Command File

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO GENDB is used to generate the system databases (DBs) in batch operation. Before first-time generation, a database must be initialised for configuration data (CFIGDA) and customer data (CUSTDA). Databases which have been thus initialized can be loaded with the aid of the AMO LDB, if present on the hard disk.

AMO GENDB can only be started, if the APS numbers entered into the directory files are identical to those in the MML command file. The numbers in the MML command file can be changed on the hard disk with the aid of the AMO ASPIK. The current APS numbers in the system can be interrogated via the DISPLAY action of the AMO VEGAS, parameter FLIST=LONG.

If the AMO-TEXT-APS-NO in the MML command file are not the same as those in the system, the GENDB will close with an error message, the status 'FREE' will remain in the VEGAS file. If the RES-CODE-APS-NO or the AMO-CODE-APS-NO are different the status will be set to 'ABORTED'.

If an interrupted generation is to be continued via the CONT parameter of the AMO GENDB, the partially generated database must correspond to the MML command file. The AMO checks that the system number entered in the database is identical to that in the MML command file. Continue GENDB is only possible, if the status in the VEGAS file is set to 'INTRUPTD' or 'SYBRO'(system crash).

During generation, a sorted file of MML commands is read sequentially, and the DBs generated with the aid of the respective AMOs. The sequence in which the AMOs are called up during generation can be seen in the generating sequence control file. When creating the MML command file with DAGEN, the AMOs are automatically sorted in the correct sequence. The generation sequence is logged in an error and execution file.

AMO GENDB permits parallel generating runs for the DBs in the SWU and ADS. For parallel generation, the AMO must be started separately for each server (single value for parameter UNIT). Otherwise, the generating runs will be executed sequentially.

Generating (or regenerating) runs on the system are coordinated by the AMO VEGAS. The system access status for each HW module is entered in the VEGAS file (control file). The AMO GENDB can only be started if all the modules to be generated are entered in the file as 'FREE', or have been reserved for the AMO GENDB by the user

GENDB - Generate Data Base with MML Command File

Restrictions

(status='RESERVED').

With the DELETE action of the AMO VEGAS, the operator can set all module operating state entries in the VEGAS file to 'FREE', thus enabling a successful start of the AMO GENDB. After a correct run of GENDB the status is set to 'FINISHED'. The operator can interrogate the state of the generating (or regenerating) run on the system by calling up the DISPLAY action of the AMO VEGAS.

If DBHOLD=N (no) was entered, then the DBs are loaded from the hard disk on completion of the generating run. When the system is restarted after a generating run, the operating state entries for all (re)generated modules in the VEGAS file are automatically set to 'FREE'.

GENDB can be executed if no system number is entered. If SYSNO is already added (e.g. from a previous GENDB), it can be cleared with the following command:

```
ADD-ANSU:TYPE=SYSNO,SYSNO="NO-ENTRY-IN-DBASE";
```

NOTE: If SWU is cleared with the AMO DBC parameter RESSWUDB, also CODEW is lost and must be re-added via license activation or a previously saved REG-CODEW.

104.1 Restrictions

This description is valid from SP300-V3.1

104.2 Interrelationships

- AMO ASPIK : Change System Program Number in MML Command File on Hard Disk
- AMO LDB : Load Data Base from Hard Disk
- AMO REGEN : Regenerate Customer Data from Data Base
- AMO VEGAS : Administrate Generation Runs on Support System

104.3 Functions of the AMO

- [START-GENDB](#) : Start batch processing

104.3.1 START-GENDB

Start sequential processing of command batches.

Procedure Overview

Command Code	Parameter	
START-GENDB	MMLFILE=<string>,USERCODE=<string>,[UNIT=<param>], , [CONT=Y]; |, [CONT=N], [DBSAVE=<param>], [DBHOLD=<param>] , [DEL=<param>], [HWCHK=<param>], [PROT=<param>] , [STANDBY=<param>], [STOP=<param>] , [FTRNS=N] , [LOGGING=<param>];	(*3)
	|, [FTRNS=Y], BSPTNR=<string>, BSLOGID=<string> , BSACCNO=<string>, BSPSWD=<string> , [LOGGING=<param>];	(*3)
	|, [FTRNS=NMC], PARTNER=<string>, LOGON=<string> , PASSWORD=<string>	(*2)
	, [LOGGING=<param>];	(*2)
		(*3)

(*2) Parameter valid from SP300-V3.2

(*3) Parameter valid from SP300-V3.4

Example

Generate SWU module with MML command file :PAS:L31111/
S1111X11111/0000/MML.

Input:

```
START-GENDB:":PAS:L31111/S1111X11111/0000/MML",MEIER,SWU;
```

Display/hardcopy output at service terminal/printer:

```
H01: START OF GENDB GENERATION
H02: GENERATION OF HW-MODULE SWU HAS BEEN STARTED
H25: NOUN: UCSU   MML-CMDS: 6      STARTED  :6      EXECUTED :6
H27: GENERATION WITH NOUN BCSU   STILL IN PROGRESS
H25: NOUN: BCSU   MML-CMDS: 51     STARTED  :51     EXECUTED :51
H27: GENERATION WITH NOUN WABE   STILL IN PROGRESS
H27: GENERATION WITH NOUN WABE   STILL IN PROGRESS
H27: GENERATION WITH NOUN WABE   STILL IN PROGRESS
H25: NOUN: WABE   MML-CMDS: 214    STARTED  :214    EXECUTED :214
H25: NOUN: ZAND   MML-CMDS: 1      STARTED  :1      EXECUTED :1
.
```

GENDB - Generate Data Base with MML Command File

Functions of the AMO

```
.
.
H12: END OF GENERATION FOR HW MODULE @@@
H14: ALL HW-MODULES HAVE BEEN PROCESSED
H11: END OF GENERATION: GENBD EXECUTED
```

Output in result file <format long>

For each hardware module, a result file is created with the following name:

```
<MMLDAT>/Ex
<MMLDAT> : Name as entered for this parameter
x : S (=SWU), A (=ADS), C (=CM), V (=VMS), T (=TFS)
```

```
*** DAGEN - DEVELOPMENT AID FOR GENERATION *****
*
*      SSSSSSSSSSSSSSSSSSSSSSS
*                      SSS
*                      SSS
*      TTTTTTTTTTTTTTTTTTTTTT  SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS
*                      TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
*                      BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB
*      BBBBBBBBBBBBBBBBBBBBBB  DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
*                      DDD
*                      DDD
*      DDDDDDDDDDDDDDDDDDDDDDD
*
** SWU *** START *****
*
* GENDB-122-RESULT-PROTOCOL                      DATE : 05.05.87
*                                                  START : 09:51:18
* GENERATED HARDWARE MODULE (SERVER): SWU
*
* NAME OF MMLFILE          : :PAS:L31615/R0001X00001/0003/MML
* SYSTEM PROGRAM NUMBER (APS-SPNO.) : P30252AMO-APS-SVR
*
* CALLUP      USERCODE : LUDWIG          STANDBY : N
* PARAMETERS:  UNIT      : SWU           STOP    : N
*
*              CONTINUE : N
*              DBSAVE    : N              FTRNS    : N
*              DBHOLD    : N              BSPTNR   :
*              DEL       : N              BSLOGID  :
*              HWCHK     : N              BSACCNO   :
*              PROT      : Y              BSPSWD    : (SECRET)
*
***** DAGEN - DEVELOPMENT AID FOR GENERATION **
S  ADD-UCSU:LTG,1;
A  H500: AMO UCSU  STARTED
EH H8:  LTG  1 ADDED (NL)
ME AMO-UCSU -111    UNIT CONFIGURATION OF SWITCHING UNIT
+      ADD COMPLETED;
S  ADD-UCSU:LTG,2;
A  H500: AMO UCSU  STARTED
EH H8:  LTG  2 ADDED (NL)
ME AMO-UCSU -111    UNIT CONFIGURATION OF SWITCHING UNIT
+      ADD COMPLETED;
.
.
.
```



```

S  ADD-TGER:460&&461,730;
A  H500:  AMO TGER  STARTED
ME  AMO-TGER -111          STATION/DEVICE ALLOCATION, INCOMING
+      ADD COMPLETED;
S  ADD-TGER:600&&601,731;
A  H500:  AMO TGER  STARTED
ME  AMO-TGER -111          STATION/DEVICE ALLOCATION, INCOMING
+      ADD COMPLETED;
S  ADD-TGER:640,641;
A  H500:  AMO TGER  STARTED
ME  AMO-TGER -111          STATION/DEVICE ALLOCATION, INCOMING
+      ADD COMPLETED;
****  NOUN: TGER  MML-CMDS:   12   STARTET:   12   COMPLETED:   12  ****
** SWU *****
*
*  GENDB-122-DATA BASE GENERATION                      DATE: 05.05.87      *
*                                                    END   : 11:08:14      *
*  GENERATED HARDWARE MODULE (SERVER): SWU              *
*
*  NAME OF MMLFILE           : :PAS:L31615/R0001X00001/0003/MML      *
*  SYSTEM PROGRAM NUMBER (APS-SPNO.) : P30252AMO-APS-SVR            *
*
*
*          NUMBER OF MMLFILE RECORDS READ                :      964      *
*          NOT INTERPRETABLE                             :           0      *
*          NUMBER OF MML COMMANDS READ                   :      958      *
*          WITH ERROR FLAG                               :           0      *
*          COULD NOT BE STARTED                          :           1      *
*          COULD BE STARTED                              :      957      *
*          COMMANDS PERFORMED                            :      957      *
*          NOT PERFORMED                                  :           0      *
*          ABORTED                                         :           0      *
*          PARTIALLY PERFORMED                           :           0      *
*          NUMBER OF RED ERRORS                           :           0      *
*          NUMBER OF EXEC AMO ERROR MESSAGES              :           0      *
*          NUMBER OF EXEC AMO ADVISORIES                  :      1463      *
*
*
*****
*
*  GENERATION WAS NOT SUCCESSFUL
*
*****  DAGEN - DEVELOPMENT AID FOR GENERATION  **

```

Output in result file <Format short>

If PROT=N was entered, then only MML command errors are output in the result file after the result file header (see Format long), together with the appropriate error messages.

104.4 Parameter Description

BSACCNO Account number for BS2000
 Type of Input : Single value, mandatory

GENDB - Generate Data Base with MML Command File

Parameter Description

	Possible Values	: Any BS2000 account number (max. 8 chars.)
BSLOGID	User ID for BS2000	
	Type of Input	: Single value, mandatory
	Possible Values	: Any BS2000 user IDs (max. 8 chars.)
BSPSWD	BS2000 password	
	Type of Input	: Single value, mandatory
	Possible Values	: Valid BS2000 password (max. 10 chars.) prefixed by "c", e.g. c'1234abcd'
BSPTNR	Symbolic name of BS2000 host	
	Type of Input	: Single value, mandatory
	Possible Values	: Symbolic name of connected BS2000 host, (max. 8 chars) e.g.: DVAPROC1
CONT	Continuation required	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N
DBHOLD	Retention of DB in main memory after an error free generation, and if DBSAVE=Y also on HD	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: Y
DBSAVE	Updating of database during generation	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N
	Note	: Parameter is currently not evaluated
DEL	Deletion of result file	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N
	Note	: This parameter will be blocked.
FTRNS	File transfer of result files (on completion of the generation)	

	Type of Input	: Single value, optional
	Possible Values	: Y, N, NMC
	Default Value	: N
HWCHK	System configuration check	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N
	Note	Parameter is currently not evaluated
LOGGING	Logging desired with AMO LOGBK	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N
LOGON	User ID for LINUX	
	Type of Input	: Single value, mandatory
	Possible Values	: Any LINUX user IDs (max. 8 chars.)
MMLFILE	Name of MML command file (test program)	
	Type of Input	: Single value, mandatory
	Possible Values	: Name of file on Hard Disk (1-32 chars.)
PARTNER	Symbolic name of LINUX host	
	Type of Input	: Single value, mandatory
	Possible Values	: Symbolic name of LINUX host (max. 8 chars.)
PASSWORD	LINUX password	
	Type of Input	: Single value, mandatory
	Possible Values	: Valid LINUX password (max. 19 chars.)
PROT	Long protocol desired in result file	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N
STANDBY	SWU generation active or standby processor	
	Type of Input	: Single value, optional
	Possible Values	: Y, N

GENDB - Generate Data Base with MML Command File

Error Messages and Advisories

	Default Value	: N
STOP	Stop after first generation error	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N
UNIT	Functional system unit, i.e. SWU or server	
	Type of Input	: Single value, linked single values, optional
	Possible Values	: SWU, ADS
	Default Value	: SWU & ADS
USERCODE	User code	
	Type of Input	: Single value, mandatory
	Possible Values	: Text string, no special chars. (1-7 chars.)

104.5 Error Messages and Advisories

104.5.1 Error Messages

F01: USER TASK CANNNOT BE INITIALIZED
F02: MML FILE <mml file name> CANNOT BE CONVERTED
F03: MML FILE <mml file name> CANNOT BE OPENED
F04: MML FILE <mml file name> CANNOT BE CLOSED
F05: MML FILE <mml file name> NOT PRESENT ON HD
F07: ERROR IN VEGAS FILE
F09: READ ERROR IN MML FILE
F10: FIRST RECORD OF MML FILE COULD NOT BE READ
F11: HEADER OF MML FILE COULD NOT BE COMPILED
F12: NOT ALL CHOSEN HW MODULES ARE LISTED IN HEADER OF MML FILE
F14: NO HW MODULE IS ENTERED IN HEADER OF MML FILE
F15: CURRENT HW MODULE COUNTER NOT CORRECT
F17: RESULT FILE <result file name> CANNOT BE WRITTEN.
DMS ERROR CODE: <dms>
F18: RESULT FILE <result file name> COULD NOT BE CLOSED.
DMS-ERROR-CODE: <dms>
F19: RESULT FILE <result file name> COULD NOT BE CREATED.
DMS-ERROR-CODE: <dms>
F20: RESULT FILE <result file name> COULD NOT BE READ.
DMS-ERROR-CODE: <dms>
F21: RESULT FILE <result file name> COULD NOT BE SAVED.
DMS-ERROR-CODE: <dms>

F22: RESULT FILE <result file name> COULD NOT BE DELETED.
DMS-ERROR-CODE: <dms>

F28: FAULTY PROCEDURAL SEQUENCE OF DMS

F29: INCORRECT INTERPRETATION OF AMO ERROR MESSAGES

F31: SAVING WITH UPDATE NOT CORRECTLY EXECUTED

F32: TIMEOUT FOR USER TASK ANSWER MESSAGE

F33: TIMEOUT WHILE SAVING DATA BASE

F35: END OF MML FILE

F36: EXCEEDED MAXIMUM NUMBER OF MML FILE RECORDS

F39: HEADER OF MML FILE IS MISSING

F40: AMO DISPLAY-VEGAS WAS NOT EXECUTED CORRECTLY

F41: FILE TRANSFER WAS NOT EXECUTED CORRECTLY

F42: ERROR ACCESSING VEGAS FILE. DMS ERROR CODE: <dms>

F43: ANOTHER SYSTEM NUMBER IS ENTERED IN DATA BASE OF HW MODULE <module>

F44: AMO-TEXT-APS-NO OF HW MODULE <module> IN MML FILE IS WRONG

F45: HW MODULE <module> IS RESERVED FOR ANOTHER USER

F46: HW MODULE <module> IS RESERVED FOR ANOTHER SYSTEM

F47: HW MODULE <module> IS RESERVED FOR ANOTHER PROCESSING AMO

F48: HW MODULE <module> IS OCCUPIED BY ANOTHER PROCESSING AMO

F49: HW MODULE <module> IS NOT PRESENT

F50: FOR HW MODULE <module> ANOTHER MML FILE IS ENTERED IN VEGAS FILE OR
CONFLICT OF VERSIONS

F51: ERRONEOUS CALLUP PARAMETERS: HW MODULE <module> CANNOT BE PROCESSED

F52: INADMISSIBLE STATUS: PROCESSING OF HW MODULE <module> CANNOT BE
CONTINUED

F53: AMO-CODE-APS-NO OF HW MODULE IN HEADER OF MML FILE IS WRONG

F54: RES-CODE-APS-NO OF HW MODULE IN HEADER OF MML FILE IS WRONG

F55: SWITCHING OF USER TASK IN STANDBY PROCESSOR COULD NOT BE EXECUTED
CORRECTLY

F56: FIRST YOU HAVE TO CANCEL ENTRIES IN VEGAS FILE FOR HW MODULE @@@

F57: THERE ARE NO NOUNS TO GENERATE

104.5.2 Advisories

H01: START OF GENDB GENERATION

H02: GENERATION OF HW MODULE <modul> HAS BEEN STARTED

H03: CONTINUATION OF GENERATION WITH GENDB

H04: MML FILE IS BEING PROCESSED

H10: GENDB WAS INTERRUPTED

H11: END OF GENERATION: GENBD EXECUTED

H12: END OF GENERATION FOR HW MODULE <modul>

H13: GENERATION OF HW-MODULE <modul> WAS INTERRUPTED

H14: ALL HW MODULES HAVE BEEN PROCESSED

H16: GENERATION WAS INTERRUPTED AT FIRST ERROR

H17: HW-MODULE <modul> DOWN: GENERATION INTERRUPTED

H25: NOUN: <noun> MML-CMDS: <number> STARTED :<number>
EXECUTED :<number> <delta>

H26: SYSTEM NUMBER OF HW MODULE <modul> ALREADY ENTERED IN DATA BASE

H27: GENERATION WITH NOUN <noun> STILL IN PROGRESS

GENDB - Generate Data Base with MML Command File

Error Messages and Advisories

H28: FILE TRANSFER OF RESULT FILE TO BS2000 STILL IN PROGRESS
H29: APS NUMBER OF HW MODULE <modul> WAS CHANGED BY AMO ASPIK
H30: SWU WILL BE GENERATED IN THE STANDBY PROCESSOR
H31: A HARD RESTART HAS BEEN INITIATED FOR MODULE @@@

105 GETAB - CM charge data display from CDRS files (CDR station)

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The task of this AMO is to call up data for partial or complete output of the GET-file on add-on devices and to store this in a dialog field in the database. Data can be output for stations or for lines.

The actual output time can be determined by the user himself, as opposed to immediate output. A choice of three possible start times and the option of entering a periodic cycle length for cyclic, iterative output permits a number of combinations and a wide range of applications.

A maximum of 8 dialog fields are available for calling up the GET file.

105.1 Interrelationships

- AMO-TTBL : SMDR/DMDR tariff table
- AMO-GEZU : SMDR/DMDR device allocation
- AMO-FEACG : SMDR/DMDR Feature List

105.2 Functions of the AMO

- [ADD-GETAB](#) : Set timer jobs (short or long dialog)
- [DELETE-GETAB](#) : Delete timer job
- [OUTPUT-GETAB](#) : Immediate output
- [STOP-GETAB](#) : Stop immediate output
- [DISPLAY-GETAB / REGENERATE-GETAB](#) : Interrogate dialog field(s) with on-screen output /
Interrogate the dialog field(s) with output of position-oriented command listing for regeneration

105.2.1 ADD-GETAB

Long dialog is the original form for setting a timer job and can subsequently be replaced by short dialog.

A prerequisite for starting a short dialog is that a dialog field has been set up previously by means of long dialog and that it contains all the values necessary for output (e.g. tariff, output device). In short dialog it is then only necessary to specify the current subscriber number, a subscriber list or a line list and the delete flag.

Immediate output takes place after a short dialog has been created.

When setting timer jobs the user can select between the following 4 possibilities:

a) one-off timer job single

This is a timer job for a single output at an output time defined by the user. To obtain a correct output, the year, month, day, hour and minute of the starting time must be specified.

b) one-off timer job multiple

This is a timer job in which the user can define up to 3 outputs in advance, but with the restriction that all outputs must be within a month, since for the second output and the third (if one is specified) the year, month and minutes defined for the first output date are taken, and thus only the day and hour parameters are variable. The first start time must be entered in the same way as described in a). Start times 2 and 3 can then be defined either by simply indicating the day (the hour is then taken from the 1st start time), or by indicating the hour (the day is then taken from the 1st start time). Another possibility is to give a separate day and hour entry both for start time 2 and start time 3. However, in this case the day and hour must be stated for all start times, otherwise the entry is rejected.

c) periodic timer job single

This is a timer job that results in output at periodic intervals (intervals can be months, days or hours). In addition to the first start time which must be stated in the same way as in a), a period must be entered after which the next output will take place. This period must be expressed in months (1-12), days (1-31) or hours (1-24).

d) periodic timer job multiple

This is a timer job with which up to 3 different output dates can be defined; a period length is defined additionally. The up to 3 different start times are entered in the same manner as described in b), the period length as in c). To avoid output overlapping, however, the following restrictions must be observed:

1. If the interval between the individual outputs is greater than one day (i.e. different days were specified for the start times), then the shortest possible period that can be entered is 1 month. (Days and hours are not possible. If they are entered, an error message is issued.)
2. If the interval between the individual outputs is only in hours (the same day was chosen for the output), the smallest possible period is 1 day (if hours are entered, an error message is issued).

Procedure Overview

Command Code

ADD-GETAB

Parameter

TYPE=L, DIAFNO=<number>, DEV=<string>, TAR=<string>
, STAT=<string>, [STADAY2=<string>], [STADAY3=<string>]
, [STAHR2=<number>], [STAHR3=<number>]
, [PERIOD=<string>], STNO=<string>, DEL=<string>;

| TYPE=S, DIAFNO=<number>, STNO=<string>, DEL=<string>;

Example

1. Create a dialog field

Parameter STAT=0 means current start time.

Input:

ADD-GETAB:L,1,DEV1,TAR01,0,15,20,8,16,1M,STN,N;

105.2.2 DELETE-GETAB

It is only possible to delete a dialog field that has been set up. The contents are changed to standard values and the dialog field marked as free.

Procedure Overview

Command Code

DELETE-GETAB

Parameter

DIAFNO=<number>;

Example

1. Delete a dialog field

Input:

DELETE-GETAB:1;

105.2.3 OUTPUT-GETAB

Immediate output of a dialog field is only possible if a dialog field has been set up. The contents are taken over and an immediate output initiated without the start times or the period in the dialog field being changed.

At this Action there is no use of the parameter "DEL". That means that the data will not be deleted even if the parameter "DEL" is set to "YES".

Procedure Overview

Command Code	Parameter
OUTPUT-GETAB	DIAFNO=<number>;

Example

1. Immediate output via dialog field 1
Input:
OUTPUT-GETAB:1;

105.2.4 STOP-GETAB

Output is aborted. The abort flag is entered in the dialog field by GETAB and the current output is aborted.

Procedure Overview

Command Code	Parameter
STOP-GETAB	DIAFNO=<number>;

Example

1. Stop the immediate output via dialog field 1
Input:
STOP-GETAB:1;

105.2.5 DISPLAY-GETAB / REGENERATE-GETAB

1. Interrogating the dialog fields with output in list form (DISPLAY).
2. Interrogating the dialog fields with output in position-oriented commands for regeneration (REGENERATE).

Procedure Overview

Command Code	Parameter	
DISPLAY-GETAB	[DIAFNO=<number>];	(1)
REGENERATE-GETAB	[DIAFNO=<number>];	(2)

Examples

1. Interrogate dialog field 1

Input:

DISPLAY-GETAB:1;

Output:

DIALOG FIELD :	1	STATUS :	TIMED ORDER RUNNING
FILE :	GET	DEV :	DEV1
FORMAT :	GETFORM	BLOCK SIZE :	1
DELETE :	N	ABORT :	Y
START TIME 1 :	9909150803	PERIOD :	01M
START TIME 2 :	9909201603	START TIME 3 :	9910061403
TARIFF :	TAR01	SINGLENO/LIST :	STN

2. Regenerate dialog field 1

Input:

REGENERATE-GETAB:1;

Output:

ADD-GETAB: L,1,DEV1,TAR01,9909150803,20,06,16,14,01M,STN,N;

105.3 Parameter Description

DEL Delete

Type of Input : Single value, mandatory (ADD)

Possible Values : Y = Yes
N = No

DEV Symbolic Output device, Device Type (DH)

Type of Input : Single value, mandatory (ADD)

Possible Values : DEV1 = Device 1
DEV2 = Device 2
DEV3 = Device 3
DEV4 = Device 4

GETAB - CM charge data display from CDRS files (CDR station)

Parameter Description

DIAFNO	Number of dialog field
Type of Input	: Single value, mandatory (ADD, DELETE, OUTPUT, STOP) optional (DISPLAY, REGENERATE)
Possible Values	: 1 - 8
PERIOD	Timing of periodic output
Type of Input	: Single value, optional (ADD)
Possible Values	: max. of 3 Positions
	01M - 12M = mounth
	01D - 31D = day
	01H - 23H = hour
	0 = no period
STADAY2	Second start day for multiple output mode
Type of Input	: Single value, optional (ADD)
Possible Values	: max. of 2 Positions
	0 - 31
	0U, 1U, 2U, 3U (see parameter STAT)
STADAY3	Third start day for multiple output mode
Type of Input	: Single value, optional (ADD)
Possible Values	: max. of 2 Positions
	0 - 31
	0U, 1U, 2U, 3U (see parameter STAT)
STahr2	Second start hour for multiple output mode
Type of Input	: Single value, optional (ADD)
Possible Values	: 0 - 23
STahr3	Third start hour for multiple output mode
Type of Input	: Single value, optional (ADD)
Possible Values	: 0 - 23
STAT	Start time

GETAB - CM charge data display from CDRS files (CDR station)

Parameter Description

Type of Input : Single value, mandatory (ADD)
Possible Values : 0 = current start time
10 positions = YYMMDDHHmm
00 - 99 = Year (YY),
01 - 12 = Month (MM),
01 - 31, 0U, 1U, = Day (DD),
2U, 3U
00 - 23 = Hour (HH),
00 - 59 = Minute (mm)
N = Preset only , without start of output.
0U = Starting on the last day of month
1U = Starting on the next to last day of month
2U = Starting on the second to last day of month
3U = Starting on the third to last day of month

STNO Telephone number of system switch

Type of Input : Single value, mandatory (ADD)

Possible Values : max. of 22 Positions

ALL = Any station number
AMT = Central office station number
HAS = PBX set
STN = Station number
VF = Attendant

TAR Tariff used for call charge computations

Type of Input : Single value, mandatory (ADD)

Possible Values : TAR01 = Tariff list 1
TAR02 = Tariff list 2
TAR03 = Tariff list 3
TAR04 = Tariff list 4
TAR05 = Tariff list 5
TAR06 = Tariff list 6
TAR07 = Tariff list 7
TAR08 = Tariff list 8
TAR09 = Tariff list 9

TYPE Input Mode (Short or Long Dialog)

Type of Input : Single value, mandatory (ADD)

Possible Values : L = Long dialog
S = Short dialog

105.4 Error Messages and Advisories

105.4.1 Error Messages

F01: SPECIFIED DIALOG FIELD FREE, PLEASE START LONG DIALOG FIRST
F02: DIALOG FIELD INDICATED HAS ALREADY BEEN WRITTEN
F03: SPECIFIED COMBINATION OF START TIME 2 AND START TIME 3 NOT POSSIBLE
F04: SPECIFIED PERIOD NOT POSSIBLE
F05: SPECIFIED START DAY@ INADMISSIBLE
F06: SPECIFIED DIALOG FIELD IS FREE
F07: ONLY MONTH IS ADMISSIBLE FOR PERIOD IN MULTIPLE OUTPUT
F08: START TIME NOT POSSIBLE OR IN THE PAST
F09: DIALOG FIELD IS REQUIRED FOR CURRENT OUTPUT, DELETION NOT POSSIBLE
F10: IMMEDIATE OUTPUT NOT POSSIBLE, SINCE OUTPUT IS ALREADY IN PROGRESS
F11: SUBSCRIBER NUMBER INVALID
F12: NO ABBREV. DIALOG POSSIBLE, JOB IN PROGRESS FOR DIALOG FIELD INDICATED
F13: DAY OR MONTH IS ADMISSIBLE FOR PERIOD IN MULTIPLE OUTPUT
F14: RECALL OF CALL CHARGE DATA NOT POSSIBLE, AS BIT IN BIT STRIP NOT SET

105.4.2 Advisories

not in use

105.4.3 Output texts

IDLE
BUSY
TIMED ORDER RUNNING
OUTPUT
CDRC

106 GETPD - CM deletion of CDRS files

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

In order to be able to erase a station with CDRS access from the CDRS file, the selection needs a rub-out indicator (delete mark) for the station number. The task of the AMO is to pass one or more station numbers to the selection, in order to place the delete marks.

106.1 Interrelationships

None

106.2 Functions of the AMO

- [DELETE-GETPD](#) : Defines the station number(s) to be forwarded for deletion

106.2.1 DELETE-GETPD

One or more station numbers are entered with the AMO (the MMI limits this to 62 chained single values) or the sum of all possible numbers (i.e. SGLNO=N). The AMO now forwards these station numbers to the selection. The deletion itself will be performed by the data selection.

Procedure Overview

Command Code

DELETE-GETPD

Parameter

SGLNO=Y, STNO=<number>;
| SGLNO=N;

Example:

Input:

DELETE-GETPD:Y,234567&123&45;

106.3 Parameter Description

SGLNO	Single number or whole file?		
	Branch parameter		
	Type of Input	:	Single value, mandatory
	Possible Values	:	Y, N (N = whole file)
STNO	Station number		
	Type of Input	:	Single value, chained single values, mandatory
	Possible Values	:	0 to 9 max. 22 positions

106.4 Error Messages and Advisories

106.4.1 Error Messages

None

106.4.2 Advisories

None

107 GEZAB - Call Charge Data Request Output to Options

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

In contrast to immediate output, the output on request provides the system user with the option to select the time at which the call charge data is to be output.

The action ADD-GEZAB is divided into long dialog and short dialog branches. The long dialog defines all parameters of the call charge data request. Individual parameters can be modified via the short dialog with CHANGE-GEZAB.

By using a long dialog, a timer job can be defined, i.e., automatic start of call charge data output for a CDRC file at a specified time.

Prerequisite for starting of action ADD-GEZAB via short dialog, is that a timer job has already been defined previously via ADD-GEZAB (in long dialog).

Prerequisite:

For the application of AMO-GEZAB a GEZ file must be defined as output device with AMO-SELG and the assigned selectiongroup must be activated.

107.1 Interrelationships

- AMO-DAGR : Administration of file parameter in CDR
- AMO-FEACG : SMDR/DMDR feature list
- AMO-FTBL : Administration of the output format tables
- AMO-SELG : Administration of selection groups and selection tables

107.2 Functions of the AMO

- [ADD-GEZAB](#) : Creating a dialog field for a call charge data request
- [DELETE-GEZAB](#) : Deleting timer jobs
- [STOP-GEZAB](#) : Abort output

GEZAB - Call Charge Data Request Output to Options

Functions of the AMO

- [OUTPUT-GEZAB](#) : Immediate output
- [DISPLAY-GEZAB / REGENERATE-GEZAB](#) : Displaying dialog fields / Regenerating dialog fields
- [CHANGE-GEZAB](#) : Changing of short dialog

107.2.1 ADD-GEZAB

Long dialog

This is the original format for setting a timer job. It can be changed to short dialog later.

All parameters are always displayed for the long dialog.

When setting timer jobs the user can select from the 4 following options:

Onetime timer job, single:

This is a timer job for a onetime output at an output time specified by the user.

In order to obtain correct output, the year, month, day, hour, and minute of the starting time have to be specified. The time of output is defined via parameter STAT. The contents of parameter FILEEND specify the time up to which the stored call data will be output.

It should be noted that a date can be specified as end-of-file for a onetime timer job, single.

Onetime timer job, multiple:

This is a timer job which can be used to predefine up to 3 outputs.

These 3 output starting times must be placed within one month because the year, month, and minute information of the initial, output time is selected for the second or perhaps even a third output.

Thus, only the day and hours information can be selected optionally for the 2nd and 3rd starting time.

The first starting time is to be entered analogously to "onetime timer job, single".

Starting time 2 and 3 now can be defined either by only specifying the day (the hour is selected from the 1st starting time), or by specifying the hour (the day is selected from the 1st starting time).

Another option is to enter separate information for the day and hour for starting time 2 as well as for starting time 3. In this case, however, the day and hour is to be specified for all starting times because the input is rejected otherwise.

In contrast to the "onetime timer job, single", '0' for the end-of-file is required input for all other timer jobs. Output then occurs from the beginning of the file up to and including the respective last date at the time of output. Subsequently, the end-of-file is marked as the new beginning of a file.

Periodic timer job, single:

This is a timer job that results in file output at periodic intervals (months, days, or hours are considered intervals).

In addition to the first starting time, a time period must be entered after which the next output occurs. This period is to be specified in months (1-12), days 1-31), or hours (1-24).

Periodic timer job, multiple:

This is a timer job which can be used to define up to three different output starting times.

However, the duration of the time period is also defined.

Up to three different starting times are entered analogously to "onetime timer job, multiple".

The duration of the time period is entered analogously to "periodic timer job, single".

However, in order to prevent output overlaps, the following restrictions must be observed:

- If the distance between the individual output times is more than one day (i.e., different days were specified for the starting times), then the shortest possible time period that can be specified is 1 month; days and hours are not possible. (If such an entry is made, an error message is received.)
- Is the difference between the individual output times only in hours (the same day was selected for the output), the shortest possible time period is one day. (If hours are entered for this time period, an error message is received again.)

The following branches are possible:

- Creation of a short dialog.
- Creation of a long dialog.

After the successful ADD-GEZAB action, the job for the call charge data request is stored in a dialog field.

There are 8 dialog fields (parameter DIAFNO), therefore, a maximum of 8 different jobs can be created for call charge data requests.

GEZAB - Call Charge Data Request Output to Options

Functions of the AMO

Mandatory output / Write around:

With parameters

DEV=NODEV, DEL=Y, FOUT=Y

the GEZ data records are "written around", this means that the oldest 20% of GEZ data records are deleted automatically.

Short dialog

When starting the action ADD-GEZAB with mode "S" (short dialog) all parameters are changed, except the two parameters CALLUP and PERIOD.

Procedure Overview

Command Code	Parameter	
ADD-GEZAB	TYPE=S, DIAFNO=<number>, [FILE=<character>] , [FILESTA=<string>], [FILEEND=<string>], [DEV=<string>] , [DEL=<Y/N>], [FORM=<string>], [BLKSIZE=<number>] , [FOUT=<Y/N>], STAT=<string> , [MULTOUT=N], [SELSTOP=<Y/N>]; | [MULTOUT=Y], { (min 1) STADAY2=<string>, STADAY3=<string> , STAHR2=<string>, STAHR3=<string>}, [SELSTOP=<Y/N>];	(1)
	| TYPE=L, DIAFNO=<number>, FILE=<character> , FILESTA=<string>, FILEEND=<string> , DEV=DP, CALLUP=<Y/N>, DEL=<Y/N> , FORM=<string>, BLKSIZE=<number> , FOUT=<Y/N>, STAT=<string> , MULTOUT=N, PERIOD=<string>, SELSTOP=<Y/N>;	(2)
	| MULTOUT=Y, { (min 1) STADAY2=<string>, STADAY3=<string> , STAHR2=<string>, STAHR3=<string>} , PERIOD=<string>, SELSTOP=<Y/N>;	(3)
	| DEV=NODEV, DEL=<Y/N>, FOUT=<Y/N>;	(4)
	| DEV=<DEV1/DEV2/DEV3/DEV4/TAPE/FT>, DEL=<Y/N> , FORM=<string>, BLKSIZE=<number>, FOUT=<Y/N> , STAT=<string> , MULTOUT=N, PERIOD=<string>, SELSTOP=<Y/N>;	(5)
	| MULTOUT=Y, { (min 1) STADAY2=<string>, STADAY3=<string> , STAHR2=<string>, STAHR3=<string>} , PERIOD=<string>, SELSTOP=<Y/N>;	(6)

Examples

1. The customer request is as follows:

Monthly evaluation,
 Output of data from 12. April 2000, 00:00 a.m. to 19. April 11:59 p.m.
 Time of output: 7. September 2000, 10:00 a.m.
 The immediate output is to be blocked during output.
 Subsequently, the data are to be deleted.

Input:

```
ADD-
GEZAB:TYPE=L,DIAFNO=1,FILE=CDRC1,FILESTA=0004120000,FILEEND=
0004192359,DEV=DEV1

,DEL=Y,FORMAT=FORM01,BLKSIZE=50,FOUT=Y,STAT=0009071000,MUL
TOUT=N,PERIOD=0
,SELSTOP=Y;
```

2. Same as example 1, except output is to occur at the 1st of each month.

Input:

```
ADD-
GEZAB:TYPE=L,DIAFNO=2,FILE=CDRC1,FILESTA=0004120000,FILEEND=
0,DEV=DEV1,DEL=Y

,FORMAT=FORM01,BLKSIZE=50,FOUT=Y,STAT=0010011000,MULTOUT=N
,PERIOD=01M
,SELSTOP=Y;
```

3. Output is to occur at the 1st and 15th of each month

Input:

```
ADD-
GEZAB:TYPE=L,DIAFNO=3,FILE=CDRC1,FILESTA=0004120000,FILEEND=
0,DEV=DEV1,DEL=Y

,FORMAT=FORM01,BLKSIZE=50,FOUT=Y,STAT=0010011000,MULTOUT=Y
,STADAY2=15
,STAHR2=08,PERIOD=01M,SELSTOP=Y;
```

Short dialog

If a timer job has been activated for a dialog field, the dialog field can be rewritten only if the current timer job is stopped (STOP-GEZAB). In that way the state of the dialog field changes from TIMED ORDER RUNNING to state BUSY.

GEZAB - Call Charge Data Request Output to Options

Functions of the AMO

Examples

1. Preparation: Creation of dialog field 1 with long dialog.

Input:

```
ADD-  
GEZAB:TYPE=L,DIAFNO=1,FILE=CDRC1,FILESTA=0,FILEEND=0,DEV=DEV  
1,DEL=Y  
  
,FORMAT=FORM01,BLKSIZE=1,FOUT=Y,STAT=0,MULTOUT=Y,STADAY2=30  
,STAHR2=12  
,PERIOD=01M,SELSTOP=Y;
```

2. Stopping of state TIMED ORDER RUNNING for dialog field 1.

Input:

```
STOP-GEZAB:DIAFNO=1;
```

3. Modifying some values in the dialog field 1 with short dialog.

Input:

```
ADD-  
GEZAB:TYPE=S,DIAFNO=1,FILESTA=0004121200,STAT=0,MULTOUT  
=N;
```

107.2.2 DELETE-GEZAB

The dialog field assigned to the job is deleted and identified as available.

If a file is being output for the dialog field, the action DELETE-GEZAB is rejected.

Procedure Overview

Command Code	Parameters
DELETE-GEZAB	DIAFNO=<number>;

Example

1. Deleting dialog field 1.

Input:

```
DEL-GEZAB:DIAFNO=1;
```

107.2.3 STOP-GEZAB

The current file output is interrupted. In this case, GEZAB enters the abort code in the dialog field.

Procedure Overview

Command Code

STOP-GEZAB

Parameters

DIAFNO=<number>;

Example

1. Stop output from dialog field 1.

Input:

STOP-GEZAB:DIAFNO=1;

107.2.4 OUTPUT-GEZAB

If a dialog field has been written previously, the action OUTPUT-GEZAB enables the user to initiate output at any time without changing the dialog field. Immediate output is activated by selecting the action OUTPUT in the dialog and by specifying the corresponding dialog field number. If a file has been incorrectly output (i.e., the output could not be executed properly), the purpose of this action is to output this file as soon as possible at the time most favorable for the user) without affecting the existing timer job.

Note: At this Action there is no use of the parameters "FILESTA" and "FILEEND" and the parameter "DEL". That means that the data will not be deleted even if the parameter "DEL" is set to "YES". Also all stored records will be output not just those within the file start and file end.

Procedure Overview

Command Code

OUTPUT-GEZAB

Parameters

DIAFNO=<number>;

Example

1. Output dialog field 1.

Input:

OUTPUT-GEZAB:DIAFNO=1;

107.2.5 DISPLAY-GEZAB / REGENERATE-GEZAB

Depending on the parameters provided in the dialog command, either one specific, or all dialog fields are displayed on the dialog device. In contrast to the remaining actions provided to the user by GEZAB, not only one but several fields can be addressed in the case of parameter DIAFNO.

- 1. Display of the dialog fields with output in list format (DISPLAY).
- 2. Display of the dialog fields with output in position-oriented commands for the regeneration (REGENERATE).

Procedure Overview

Command Code	Parameter	
DISPLAY-GEZAB	[DIAFNO=<number>];	(1)
REGENERATE-GEZAB	[DIAFNO=<number>];	(2)

Examples

- 1. Display of dialog field 2 with output in list format.

Input:

DISPLAY-GEZAB:DIAFNO=2;

Output:

DIALOG FIELD : 2	STATUS	:	TIMED
ORDER RUNNING			
FILE : CDRC1	STOP IMMED.OUTPUT	:	YES
HEAD OF FILE : 0004120000	DEVICE	:	DEV1
END OF FILE : 0004120000	FORM	:	FORM01
BLOCK SIZE : 50	FORCED OUTPUT	:	YES
DELETION : YES	ABORTION	:	NO
START TIME : 0010011000	PERIOD	:	01M
START TIME2 :	START TIME 3	:	
DP - CALL : NO			

- 2. Regenerating the timer job for dialog field 2.

Input:

REGENERATE-GEZAB:DIAFNO=2;

Output:

```
ADD-
GEZAB:L,2,CDRC1,0004120000,0004120000,DEV1,Y,FORM01,50,Y,N,N,
01M,Y;
```

Note:

If parameter STAT=0 (immediate output) was added with ADD-GEZAB, a regeneration will produce STAT=N. Therefore the call of this regenerated command causes no immediate output.

In addition with generating, the value of parameter FILEEND is set automatically to the value of the parameter FILESTA, if the period is in the past.

107.2.6 CHANGE-GEZAB

Short dialog

If a timer job has been activated for a dialog field, the dialog field can be rewritten only if the current timer job is stopped (STOP-GEZAB). In that way the state of the dialog field changes from TIMED ORDER RUNNING to state BUSY.

With the action CHANGE-GEZAB all parameters can be written new, without the parameter PERIOD.

Procedure Overview

Command Code

CHANGE-GEZAB

Parameter

```
DIAFNO=<number>,{ (min 1) FILE=<character>
, FILESTA=<string>, FILEEND=<string>
, DEV=<string>, CALLUP=<Y/N>, DEL=<Y/N>
, FORM=<string>, BLKSIZE=<number>
, FOUT=<Y/N>, STAT=<string>
, MULTOUT=N}, [SELSTOP=<Y/N>];
|MULTOUT=Y,{ (min 1) STADAY2=<string>, STADAY3=<string>
, STAHR2=<string>, STAHR3=<string>}, [SELSTOP=<Y/N>];
```

Examples

1. The name of file of dialog field 1 to be transmitted is to be modified to CDRC2.

Input:

```
CHANGE-GEZAB:DIAFNO=1, FILE=CDRC2;
```

GEZAB - Call Charge Data Request Output to Options

Parameter Description

2. The output device (DEV) of dialog field 2 is to be modified from NODEV to DEV1. The value of multiple output (selected: MULTOUT=N) must be set also.

Preperation:

```
ADD-
GEZAB:TYPE=L,DIAFNO=2,FILE=CDRC1,FILESTA=0,FILEEND=0,DEV=NODE
V,DEL=Y,FOUT=Y;
```

Input:

```
CHANGE-GEZAB:DIAFNO=2,DEV=DEV1,MULTOUT=N;
```

Output:

```
F24: PLEASE ENTER VALUE FOR PARAMETER FORM
FORM = input <string>
F24: PLEASE ENTER VALUE FOR PARAMETER BLKSIZE
BLKSIZE = input <string>
F24: PLEASE ENTER VALUE FOR PARAMETER STAT
STAT = input <string>
F24: PLEASE ENTER VALUE FOR PARAMETER SELSTOP
SELSTOP = input <J/N>
```

107.3 Parameter Description

BLKSIZE	Block size	
	Type of Input	: Single value, required (ADD with long dialog) optional (ADD with short dialog) optional, 8. parameter of a min-1-group (CHANGE)
	Possible Values	: 1 - 128
CALLUP	Call up via data processing	
	Type of Input	: Single value, required (ADD) optional, 5. parameter of a min-1-group (CHANGE)
	Possible Values	: Y = Yes N = No
DEL	Records deleted after output	
	Type of Input	: Single value,

		required (ADD with long dialog)
		optional (ADD with short dialog)
		optional, 6. parameter of a min-1-group (CHANGE)
Possible Values	: Y	= Yes
	N	= No
DEV	Output device, device type (Device handler)	
Type of Input	: Single value,	
		required (ADD with long dialog)
		optional (ADD with short dialog)
		optional, 4. parameter of a min-1-group (CHANGE)
Possible Values	: DEV1	= Device 1
	DEV2	= Device 2
	DEV3	= Device 3
	DEV4	= Device 4
	DP	= Data processing system
	FT	= File for file transfer
	NODEV	= No device
	TAPE	= Tape device
DIAFNO	Number of dialog field	
Type of Input	: Single value,	
		required (ADD, STOP, DELETE, CHANGE)
		optional (DISPLAY, REGENERATE)
Possible Values	: 1 - 8	
FILE	Name of file to be transmitted	
Type of Input	: Single value,	
		required (ADD with long dialog)
		optional (ADD with short dialog)
		optional, 1. parameter of a min-1-group (CHANGE)
Possible Values	: CDRC1	= Call detail registration file 1
	CDRC2	= Call detail registration file 2
FILEND	End date for selection	
Type of Input	: Single value,	
		required (ADD with long dialog)
		optional (ADD with short dialog)
		optional, 3. parameter of a min-1-group (CHANGE)
Possible Values	: 10 Positions	= YYMMDDHHmm

GEZAB - Call Charge Data Request Output to Options

Parameter Description

		0	= Current date
		00 - 99	= Year (YY),
		01 - 12	= Month (MM),
		01 - 31	= Day (DD),
		11 - 23	= Hour (HH),
		00 - 59	= Minute (mm)
FILESTA	Start date for selection		
	Type of Input	: Single value, required (ADD with long dialog) optional (ADD with short dialog) optional, 2. parameter of a min-1-group (CHANGE)	
	Possible Values	: 10 Positions = YYMMDDHHmm (see parameter FILEEND) 0 = Current date	
FORM	Output form		
	Type of Input	: Single value, required (ADD with long dialog) optional (ADD with short dialog) optional, 7. parameter of a min-1-group (CHANGE)	
	Possible Values	: FORM01 = Format 1 FORM02 = Format 2 FORM03 = Format 3 FORM04 = Format 4 FORM05 = Format 5 FORM06 = Format 6 FORM07 = Format 7 FORM08 = Format 8 FORM09 = Format 9 FORM10 = Format 10 FORM11 = Format 11 FORM12 = Format 12 FORM13 = Format 13 FORM14 = Format 14 FORM15 = Format 15 FORM16 = Format 16	
FOUT	Forced output		
	Type of Input	: Single value, required (ADD with long dialog)	

		optional (ADD with short dialog)
		optional, 9. parameter of a min-1-group (CHANGE)
	Possible Values	: Y = Yes N = No
MULTOUT	Multiple output	
	Type of Input	: Single value, required (ADD with long dialog) optional (ADD with short dialog) optional, 11. parameter of a min-1-group (CHANGE)
	Possible Values	: Y = Yes N = No
PERIOD	Timing of periodic output	
	Type of Input	: Single value, required (ADD)
	Possible Values	: max. 3 Positions 1M - 12M = month 1D - 31D = day 1H - 23H = hour 0 = no period
SELSTOP	Stop selection	
	Type of Input	: Single value, required (ADD with long dialog) optional (ADD with short dialog, CHANGE)
	Possible Values	: Y = Yes N = No
STADAY2	Second start day for multiple output mode	
	Type of Input	: Single value, optional 1. parameter of a min-1-group (ADD) optional (CHANGE)
	Possible Values	: max. 2 positions 0 - 31 0U, 1U, 2U, 3U (see parameter STAT)
STADAY3	Third start day for multiple output mode	
	Type of Input	: Single value, optional 2. parameter of a min-1-group (ADD)

GEZAB - Call Charge Data Request Output to Options

Parameter Description

		optional (CHANGE)
	Possible Values	: max. 2 positions 0 - 31 0U, 1U, 2U, 3U (see parameter STAT)
STAHR2	Second start hour for multiple output mode	
	Type of Input	: Single value, optional 3. parameter of a min-1-group (ADD) optional (CHANGE)
	Possible Values	: 0 - 23
STAHR3	Third start hour for multiple output mode	
	Type of Input	: Single value, optional 4. parameter of a min-1-group (ADD) optional (CHANGE)
	Possible Values	: 0-23
STAT	Starting time of the first output	
	Type of Input	: Single value, required (ADD) optional, 10. parameter of a min-1-group (CHANGE)
	Possible Values	: 10 Positions = YYMMDDhhmm 0 = current date immediate output of data) 00 - 99 Year (YY), 01 - 12 Mounth (MM), 01 - 31, 0U, 1U, Day (DD), 2U, 3U 00 -23 Hour (hh), 00 - 59 Minute (mm) N Preset only , without start of output. 0U Starting on the last day of mounth 1U Starting on the next to last day of mounth 2U Starting on the second to last day of mounth 3U Starting on the third to last day of mounth
TYPE	Display mode	
	Type of Input	: Single Value,

	required(ADD)	
Possible Values	: L	= Long dialog
	S	= Short dialog

107.4 Error Messages and Advisories

107.4.1 Error Messages

F01: SPECIFIED FILE LIMIT NOT VALID
 F02: SPECIFIED START TIME NOT VALID
 F03: SPECIFIED START DAY NOT VALID
 F04: SPECIFIED PERIOD NOT VALID
 F05: SPECIFIED DIALOG FIELD NOT IDLE, PLEASE CHOOSE ANOTHER ONE
 F06: BEGINNING OF FILE GREATER THAN OR EQUAL TO END OF FILE NOT VALID
 F07: START TIME IS IN THE PAST
 F08: SPECIFIED COMBINATION OF START TIMES NOT VALID
 F09: IN THE CASE OF MULTIPLE OUTPUT ONLY M AS PERIOD VALID
 F10: NO CHANGE POSSIBLE, CREATE DIALOG FIELD IN LONG DIALOG FIRST
 F11: NO IMMEDIATE OUTPUT, OUTPUT FOR SPECIFIED DIALOG FIELD RUNNING
 F12: NO CHANGE POSSIBLE, AS TIME ORDER IS RUNNING FOR DIALOG FIELD
 F13: IF ENTERED END OF THE MONTH FOR START TIME, ONLY M FOR PERIOD VALID
 F14: ACTION OUTPUT FOR DP OUTPUT IS NOT PLANNED
 F15: NO SHORT DIALOG POSSIBLE, CREATE DIALOG FIELD IN LONG DIALOG FIRST
 F16: DP OUTPUT IS ALREADY USED IN ANOTHER DIALOG FIELD
 F17: DIALOG FIELD WAS NOT DELETED AS IT IS NECESSARY FOR THE CURRENT OUTPUT
 F18: RECALL OF CALL CHARGE DATA NOT POSSIBLE, AS BIT IN BIT STRIP NOT SET
 F19: NO SHORT DIALOG POSSIBLE, AS TIME ORDER IS RUNNING FOR DIALOG FIELD
 F20: FILE BEGIN IS IN THE FUTURE
 F21: DIALOG FIELD @ FREE
 F22: DIALOG FIELD @ IS BUSY
 F23: not in use
 F24: PLEASE ENTER VALUE FOR PARAMETER @@@@@@@@

107.4.2 Advisories

H01: DELETE IDENTIFIER MUST BE SET AT OUTPUT DEVICE NODEV, THIS WAS CHANGED INTERNALLY
 H02: CALLUP IDENTIFIER MUST NOT BE SET AT OUTPUT DEVICE NOT EQUAL TO DP, THIS WAS CHANGED INTERNALLY
 H03: DIALOG FIELD @ FREE
 H04: not in use
 H05: IF PERIODIC OUTPUT, END OF FILE MUST BE 0, THIS WAS CHANGED INTERNALLY

GEZAB - Call Charge Data Request Output to Options

Error Messages and Advisories

H06: not in use
H07: not in use
H08: DIALOG FIELD @ IS USED FOR @@@@
H09: FOR THE U.S. VERSION ARE ONLY THE DIALOGFIELDS 1 AND 2 VALID
H10: DIALOG FIELD @ IS USED INTERNAL
H11: RECALL OF CALL CHARGE DATA NOT POSSIBLE, AS BIT IN BIT STRIP NOT SET

107.4.3 Output texts

@ Number of the Dialog field
@@@@ Dialog field is used for CDRS file (AMO-GETAB)
@@@@@@@@ Parameter name

108 GEZU - SMDR/DMDR Device Allocation

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The function of this AMO is to administer *device allocation* tables.

These contain the allocation of symbolic device names (call charge registration device names) to physical device names.

Each symbolic device name may be used once only.

The device allocation table for TTY devices contains a maximum of 4 entries; the table output device DP contains only one entry.

108.1 Interrelationships

- AMO-SELG : Administration of selection groups and tables
- AMO-GEZAB : Call Charge Data Request Output to Options
- AMO-GETAB : CM charge data display from CDRS files (CDR station)
- AMO-CPSM : Communication parameters of the data link

108.2 Functions of the AMO

- [ADD-GEZU](#) : Add device allocations
- [CHANGE-GEZU](#) : Change device allocations
- [DELETE-GEZU](#) : Delete table entries or tables
- [DISPLAY-GEZU / REGENERATE-GEZU](#) : Display table entries or tables / Regenerate table entries

108.2.1 ADD-GEZU

Add device allocations to the device allocation tables.

There are 2 tables: one for TTY and one for DP.

1. Entries for TTY devices.
2. Entries for DP devices.

Procedure Overview

Command Code	Parameter
ADD-GEZU	TBL=TTY,NAMEOUT=<string>,PHDEV=<string> (1) ,DEVCL=<string>;
	|TBL=DP,NAMEOUT=<string>,PHDEV=<string> (2) ,DEVCL=<string>,EMSAPPL=<string>,DPNAME=<string> ,DPAPPL=<string>;

Example

Input:

ADD-GEZU:TTY,DEV1,TTY,TERM3;

108.2.2 CHANGE-GEZU

- 1. Change an entry in the device allocation tables. Either the device designation, the device class or both parameters may be changed. Change TTY entries.
- 2. Change DP entries.

Procedure Overview

Command Code	Parameter
CHANGE-GEZU	TBL=TTY,NAMEOUT=<string>,{PHDEV=<string> (1) ,DEVCL=<string>;
	|TBL=DP,NAMEOUT=<string>,{PHDEV=<string> (2) ,DEVCL=<string>,EMSAPPL=<string>,DPNAME=<string> ,DPAPPL=<string>;

Example

In the table for TTY devices the symbolic device name DEV1 should be allocated to device class TERM2.

Input:

CHANGE-GEZU:TTY,DEV1,TTY,TERM2;

108.2.3 DELETE-GEZU

Delete an entry for an entire device allocation table, or for all device allocation tables.

Procedure Overview

Command Code	Parameter
DELETE-GEZU	[TBL=TTY], [NAMEOUT=<string>;
	| [TBL=DP], [NAMEOUT=<string>;

Example

In the table for TTY devices the symbolic device name DEV1 should be deleted.

Input:

DELETE-GEZU:TTY,;

108.2.4 DISPLAY-GEZU / REGENERATE-GEZU

1. Display the entries for device allocation tables with output in list form (DISPLAY).
2. Display the entries for device allocation tables with output in position-oriented commands for regeneration (REGEN).

The user may select whether one entry only, a table, or both tables should be output.

Procedure Overview

Command Code	Parameter
DISPLAY-GEZU	[TBL=TTY], [NAMEOUT=<string>; (1)
	| [TBL=DP], [NAMEOUT=<string>;
| REGENERATE-GEZU	(2)

Examples

1. Display device allocation tables

Input:

DISPLAY-GEZU:TTY;

Output:

GEZU - SMDR/DMDR Device Allocation
Parameter Description

DEVICE ALLOCATION TABLE FOR TTY		
SYM. DEVICE NAME	PHY. DEVICE NAME	DEVICE CLASS
DEV1	TELETYPE	ADM_TERMINAL_2
DEV2	NO_SERVICE	NO_DEVICE
DEV3	NO_SERVICE	NO_DEVICE
DEV4	NO_SERVICE	NO_DEVICE

Input:

DISPLAY-GEZU:DP;

Output:

DEVICE ALLOCATION TABLE FOR DP					
SYMBOL.	PHYSIC.	DEVICE CLASS	EMS-APPL.	DP-PROC.	DP-APPL.
DEV.-NAME	DEV.-NAME				
DP	V24IA5	DSC5	HICOM	PROC	DP-APP

2. Display device allocation tables with output in position- oriented commands for regeneration.

Input:

REGENERATE-GEZU:TTY, ;

Output:

ADD-GEZU:TTY, DEV1, TTY, TERM2;
ADD-GEZU:TTY, DEV2, NOSERV, NODEV;
ADD-GEZU:TTY, DEV3, NOSERV, NODEV;
ADD-GEZU:TTY, DEV4, NOSERV, NODEV;

108.3 Parameter Description

DEVCL	Device class in communication management system
Type of Input	: Single value, mandatory
Possible Values	: for TAB = TTY : NODEV TERM1 TERM2 TERM3 TERM4 TERM5 TERM6

PRINTER
 GC3001A
 for TAB = DP : NODEV
 HDLC
 BSC1
 BSC2
 BSC3
 BSC4
 BSC5

DPAPPL	Name of data processing application Type of Input : Single value, mandatory Possible Values : 8 characters, no restrictions
DPNAME	Symbolic data processing computer name Type of Input : Single value, mandatory Possible Values : 8 characters, no restrictions
EMSAPPL	Name of EMS application Type of Input : Single value, mandatory Possible Values : 8 characters, no restrictions
NAMEOUT	Symbolic device name of output device Type of Input : Single value, optional mandatory (ADD, CHANGE) Possible Values : for TAB = TTY : DEV1, DEV2, DEV3, DEV4 for TAB = DP : DP

PHDEV	Communication management system device description
Type of Input	: Single value, mandatory
Possible Values	: for TAB = TTY : NOSERV TTY for TAB = DP : NOSERV V24IA5 V24EBC X21IA5 X21EBC V24HDLC X21HDLC IBMD IBMR

TBL	Table
Type of Input	: Single value, optional mandatory (ADD, CHANGE)
Possible Values	: TTY: Teletype terminal DP: data processing system

108.4 Error Messages and Advisories

108.4.1 Error Messages

F01: THERE IS ALREADY A TABLE ENTRY FOR THIS DEVICE
F02: THERE IS NO TABLE ENTRY FOR THIS DEVICE YET

108.4.2 Advisories

None

109 GKREG - Gatekeeper Registry

The description of this AMO is only available in html format!

110 GKTOP - Topology Configuration for Gate Keeper

The description of this AMO is only available in html format!

111 GRA - Get Reset Alarm

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO GRA (Get Reset Alarm) is used to request the alarm mirror or to delete the different alarms.

111.1 Restrictions

This description is valid from Hicom 300 E V1.0.

111.2 Interrelationships

None

111.3 Functions of the AMO

- [DISPLAY-GRA](#) : Request of the alarm mirror for one or all processors
- [DELETE-GRA](#) : Reset of alarm for definitely device classes

111.3.1 DISPLAY-GRA

With this function it is possible to request the alarm mirror for one or all processors.

At monoprocessing and the statement for the parameter unit = all, only the alarm mirror for the BP (SWU) is issued. The AMO is terminated with a corresponding message to the operator.

The alarm mirror of following processors can be displayed:

- ALL (All Processors)
- A1 (Administration and data server 1)
- BP (Switching unit)

GRA - Get Reset Alarm

Functions of the AMO

Procedure Overview

Command Code	Parameter
DISPLAY-GRA	UNIT=<param>;

Example

Display of the alarm mirror for processor A1.

Input:

```
DISPLAY-GRA:A1;
```

111.3.2 DELETE-GRA

With this function it is possible to delete the alarm of particular device classes. At multiprocessing only SWU-alarm and some ISP-alarms are allowed to delete.

In dependent on the processor at most 8 device classes can be given.

The alarm of following processors can be deleted:

- A1 (Administration and data server 1)
- BP (Switching unit)

All the central alarms of ISP an SWU can be deleted.

- 0 LTG RESTARTS
- 1 LTG FAILURE
- 2 LTU FAILURE
- 3 PHONEMAIL ALARM
- 4 LTU STANDBY CABLE
- 5 CC RESTARTS
- 6 STBY-CC FAILURE
- 8 RMS FAILURE
- 15 EXTERNAL SERVER
- 16 LTG CENTRAL CONTROL
- 17 CC CENTRAL CONTROL
- 18 SWITCHING NETWORK
- 19 CLOCKING SYSTEM
- 20 SIGNAL UNIT
- 23 SW ERRORS

- 24 SYSTEM MESSAGES
- 25 POWER SUPPLY
- 26 SM FAILURE
- 29 MAINTENANCE NOTE
- 32 ACCESS POINT FAILURE
- 33 BAD IP CONNECTIVITY
- 34 LW-SW VERSION CONFLICT

- SM-CENTRAL ALARMS

- 5 CC RESTARTS
- 9 CHARGE COMPUTER
- 10 IS RESTARTS
- 13 ALTERNATE LOAD AREA
- 17 CC CENTRAL CONTROL
- 21 IS CENTRAL CONTROL
- 22 SM CENTRAL CONTROL
- 23 SW ERRORS
- 24 SYSTEM MESSAGES
- 25 POWER SUPPLY
- 27 LINUX FAILURE
- 28 SYSTEM TIME FAILURE
- 29 MAINTENANCE NOTE
- 30 SWITCHING UNIT FAILURE

- All alarms which can be deleted (SWU&ADP) ordered after parameter ALARMNR:

- 0 LTG RESTARTS
- 1 LTG FAILURE
- 2 LTU FAILURE
- 3 PHONEMAIL ALARM
- 4 LTU STANDBY CABLE
- 5 CC RESTARTS
- 6 STBY-CC FAILURE
- 8 RMS FAILURE
- 9 CHARGE COMPUTER
- 10 IS RESTARTS
- 13 ALTERNATE LOAD AREA
- 15 EXTERNAL SERVER
- 16 LTG CENTRAL CONTROL

- 17 CC CENTRAL CONTROL
- 18 SWITCHING NETWORK
- 19 CLOCKING SYSTEM
- 20 SIGNAL UNIT
- 21 IS CENTRAL CONTROL
- 22 SM CENTRAL CONTROL
- 23 SW ERRORS
- 24 SYSTEM MESSAGES
- 25 POWER SUPPLY
- 26 SM FAILURE
- 27 LINUX FAILURE
- 28 SYSTEM TIME FAILURE
- 29 MAINTENANCE NOTE
- 30 SWITCHING UNIT FAILURE
- 32 ACCESS POINT FAILURE
- 33 BAD IP CONNECTIVITY
- 34 LW-SW VERSION CONFLICT

Procedure Overview

Command Code	Parameter
DELETE-GRA	UNIT=<param> ,ALARMNO1=<number>, [ALARMNO2=<number>],[ALARMNO3=<number>], [ALARMNO4=<number>],[ALARMNO5=<number>], [ALARMNO6=<number>],[ALARMNO7=<number>], [ALARMNO8=<number>;

Example

Reset of several alarm in the SWU.

Input:

DEL-GRA:BP,0,5,8,17,19,24;

111.3.3 Interface to Dependability (DEP)

The orders to delete or display the alarm will be passed on to the DEP. For delete orders the operator only gets the normal error/alarm handling of the DEP.

111.4 Parameter Description

UNIT	Processor Name (of the server module to be addressed)
	Type of Input : Single value, mandatory
	Possible Values : ALL = All Processors
	A1 = ADMINISTRATION AND DATA SERVER 1
	BP = SWITCHING UNIT
ALARMNO1	Alarm number
	Type of Input : Single value, mandatory
ALARMNO2- ALARMNO8	Alarm number :
	Type of Input : Single value, optional
	maximal 8 device classes possible
	Possible Values : 0 (LTG RESTART)
	4 (LTU STANDBY CABLE)
	5 (CC RESTARTS)
	7 (LTUR RESTARTS)
	9 (CHARGE COMPUTER9)
	10 (IS RESTART)
	16 (LTG CENTRAL CONTROL)
	17 (CC CENTRAL CONTROL)
	19 (CLOCKING SYSTEM)
	21 (IS CENTRAL CONTROL)
	23 (SW ERRORS)
	24 (SYSTEM MESSAGES)
	27 (XENIX ALARM)
	29 (MAINTENANCE NOTE)
	32 (LS FAILURE)
	33 (BAD IP CONNECTIVITY)
	34 (LW-SW VERSION CONFLICT)

111.5 Error Messages and Advisories

111.5.1 Error Messages

F01: DESTINATION PROCESSOR NOT AVAILABLE

F02: ALARM NUMBER NOT VALID FOR UNIT <unit>

F03: THIS ALARM CAN NOT BE DELETED BY AMO GRA, BECAUSE IT IS DELETED AUTOMATICALLY
(DYNAMIC ALARM)

111.5.2 Advisories

H01: DESTINATION PROCESSOR <unit> NOT AVAILABLE

112 GRZW - CDR Connection Limits

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The function of this AMO is to administer the limit values for call detail registration.

There are 5 different limit values per dialed number prefix (routing code) possible and there are 10 entries for carriers. That means there are limit values for 4 different routing codes. The 5th entry is for all other routing codes. The routing code is the routing code which is created by AMO-RCUT. If no transformation took place, the selected number prefix (routing code) is evaluated.

These limit values are

- the limit value for call charge units (in call charge units)
- the limit value for call duration (in hours/minutes/seconds)
- the limit value for call amount units (in call amount units¹)
- the limit value for hour for artificial section to fixed time-of-day.
Daily to the indicated hour for all existing connections an artificial section is executed.

If one of these limit values is exceeded, the result is an "artificial call section", i.e. the connection block is terminated and transferred to unit record preparation and a new connection block set up for this call.

For the call charge limit value, this is 4000 call charge units. For the call duration limit value the maximum is more than 18 hours 12 minutes and 15 seconds (=65535 seconds). For the call amount limit value, this is 0 call amount units (that means it is not set) and for the hour limit value, this is 255 (that means no limit).

The parameter CALLT (call duration limit) cannot be applied to internal connections. In this case therefore for internal connections no "artificial call section" is produced.

112.1 Interrelationships

- AMO-RCUT : Routing code conversion table

1. The explanation of the amount units see appendix in description for AMO-TTBL

112.2 Functions of the AMO

- [ADD-GRZW](#) : Add the limit value for artificial section
- [CHANGE-GRZW](#) : Change the limit value for artificial section
- [DELETE-GRZW](#) : Delete the limit value for artificial section
- [DISPLAY-GRZW / REGENERATE-GRZW](#) : Display the limit values for artificial section / Regenerate the limit values for artificial section

112.2.1 ADD-GRZW

Adding a call charge limit value or a call duration limit value or a call amount limit value for a routing code or a carrier or adding a hour limit for all entries. There is a maximum of 5 entrys for 5 different routing codes. The 6th entry is for all other routing codes. If there is no value for the parameter routing code, then the following limit values are for all other routing codes.
If no value for parameter "hour limit", "call charge unit limit" or "call amount unit limit" is specified, the limit value is set to its default value.

Procedure Overview

Command Code	Parameters
ADD-GRZW	TBL=RCD, [CDRCODE=<number>], [CDRULT=<number>], [CALLT=<number>], [AMOUNTLT=<number>]; | TBL=CAR, CARRIER=<number>, [CDRULT=<number>], CCALLT=<number>], [AMOUNTLT=<number>]; | TBL=HOUR, [HOURLIM=<number>];

Example

1. Create the call charge limit with 500 charge units, call duration limit value with 10 hours, 30 minutes and 15 seconds, call amount limit with 1000 amont units and the hour limit value with 10 hours for the routing code 1 .

Input:

ADD-GRZW:RCD,1,500,103015,1000;
ADD-GRZW:HOUR,10;
2. Create the call charge limit with 100 charge units, call duration limit value with 10 hours, 30 minutes and 15 seconds, call amount limit with 100 amont units and the hour limit value with 10 hours for the carrier 1 .

Input:

```
ADD-GRZW:CAR,1,100,103015,100;
ADD-GRZW:HOURLIM,10;
```

112.2.2 CHANGE-GRZW

Change a call charge limit value or a call duration limit value.

If no parameter is specified in RCD branch, the limit value is set to its default value.

If no value for parameter "hour limit", "call charge unit limit" or "call amount unit limit" is specified, the limit value is set to its default value.

Procedure Overview

Command Code

CHANGE-GRZW

Parameters

```
TBL=RCD, [CDRCODE=<number>],
    [LTTYPER=TIME], [CALLT=<number>];
| [LTTYPER=CHRG], [CDRULT=<number>];
| [LTTYPER=AMOUNT], [AMOUNTLT=<number>];
TBL=CAR, CARRIER=<number>,
    [LTTYPER=TIME], [CALLT=<number>];
| [LTTYPER=CHRG], [CDRULT=<number>];
| [LTTYPER=AMOUNT], [AMOUNTLT=<number>];
TBL=HOURLIM, [HOURLIM=<number>];
```

Example

1. Change the connection time limit to 5 hours 0 minutes 0 seconds for the routing code 1.

Input:

```
CHANGE-GRZW:RCD,1,TIME,050000;
```

2. Change the call amount limit value to 800 amount units for the routing code 1.

Input:

```
CHANGE-GRZW:RCD,1,AMOUNT,800;
```

3. Change the hour limit to 5 o'clock .

Input:

```
CHANGE-GRZW:HOURLIM,5;
```

4. Change the call charge limit to 2000 for the carrier 1.

Input:

```
CHANGE-GRZW:CAR,1,CHRG,2000;
```

112.2.3 DELETE-GRZW

Delete a call charge limit value , a call duration limit value, a call amount limit value per routing code or per carrier or delete the hour limit value for all enties.
If there is no value for the parameter routing code or for the carrier, then all limit values will be deleted. That means that the limit values are set to its default value.

Procedure Overview

Command Code	Parameters
DELETE-GRZW	[TBL=RCD] , [CDRCODE=<number>] ; | [TBL=CAR] , [CARRIER=<number>] ; | [TBL=HOUR] ;

Example

1. Delete limit values for routing code 1;
Input:
DELETE-GRZW:RCD,1;
2. Delete limit values for carrier 1.
Input:
DELETE-GRZW:CAR,1;
3. Delete hour limit for all enties.
Input:
DELETE-GRZW:HOURL;

112.2.4 DISPLAY-GRZW / REGENERATE-GRZW

1. Interrogate the limit values for on-screen output in list form (DISPLAY)
2. Interrogate the limit values for output in the form of a command listing for the action CHANGE-GRZW (REGENERATE)

Procedure Overview

Command Code	Parameters
DISPLAY-GRZW	[TBL=RCD] ; (1)

Command Code

REGENERATE-GRZW

Parameters

```
| [TBL=CAR];
| [TBL=HOURL];
[TBL=RCD];
(2)
| [TBL=CAR];
| [TBL=HOURL];
```

Examples**1. Display the limit values in list form****Input:**

DISPLAY-GRZW;

Output:

LIMIT VALUES OF THE CALL DATA REGISTRATION PER ROUTING CODE

ROUTE CODE CODE	CHARGE LIMIT (UNITS)	CONN. TIME LIMIT (IN HH:MM:SS)	AMOUNT LIMIT (CURRENCY)
1	500	05:00:00	800
ELSE	4000	18:12:15	0

LIMIT VALUES PER CARRIER

CARRIER	CHARGE LIMIT (UNITS)	CONN. TIME LIMIT (IN HH:MM:SS)	AMOUNT LIMIT (CURRENCY)
0	4000	18:12:15	0
1	2000	10:30:15	100
2	4000	18:12:15	0
3	4000	18:12:15	0
4	4000	18:12:15	0
5	4000	18:12:15	0
6	4000	18:12:15	0
7	4000	18:12:15	0
8	4000	18:12:15	0
9	4000	18:12:15	0

HOURL LIMIT OF THE CALL DATA REGISTRATION (IN HH) : 5

2. Interrogate the limit value table for regeneration**Input:**

REGENERATE-GRZW;

Output:

```
ADD-GRZW:RCD,1,500,050000,800;
ADD-GRZW:RCD,,4000,181215,0;
ADD-GRZW:CAR,0,4000,181215,0;
ADD-GRZW:CAR,1,2000,103015,100;
```

GRZW - CDR Connection Limits

Parameter Description

```
ADD-GRZW:CAR,2,4000,181215,0;  
ADD-GRZW:CAR,3,4000,181215,0;  
ADD-GRZW:CAR,4,4000,181215,0;  
ADD-GRZW:CAR,5,4000,181215,0;  
ADD-GRZW:CAR,6,4000,181215,0;  
ADD-GRZW:CAR,7,4000,181215,0;  
ADD-GRZW:CAR,8,4000,181215,0;  
ADD-GRZW:CAR,9,4000,181215,0;  
ADD-GRZW:HOURLIM,5;
```

112.3 Parameter Description

AMOUNTLT	Call amount unit limit *
Type of Input	: Single value, optional
Possible Values	: max. 8 digits, 0 to 9
Default Value	: 0
CALLT	Call duration limit, Input hhhmmss
	Note: Not for internal connections
Type of Input	: Single value, optional
Possible Values	: 000001 to 181215
Default Value	: 181215 (= 65535 sec. = H'FFFF)
CARRIER	Number of carrier of a connection
Type of Input	: Single value, optional required (ADD, CHANGE)
Possible Values	: 0 to 9
CDRCODE	Route Code (dialed number prefix) (see AMO-RCUT)
Type of Input	: Single value, optional
Possible Values	: max. 6 digits, 0 to 9
CDRULT	Call charge unit limit
Type of Input	: Single value, optional
Possible Values	: 0 to 4000
Default Value	: 4000
HOURLIM	Hour value to fixed time-of-day, Input: hh
Type of Input	: Single value, optional

	Possible Values	: 0 to 23, or no input, if no fixed time-of-day	
LTTYPER	Limit type		
	Type of Input	: Single value, optional	
	Possible Values	: AMOUNT	= Call amount unit limit
		CHRG	= Call charge unit limit
		TIME	= Call duration limit
TBL	Designation of table		
	Type of Input	: Single value, optional required (ADD, CHANGE)	
	Possible Values	: CAR	= Carrier
		HOURL	= Hour limit
		RCD	= Routing code

* The explanation of the amount units see appendix in description for AMO-TTBL.

112.4 Error Messages and Advisories

112.4.1 Error Messages

F01: CONNECTION TIME LIMIT VALUE IS TOO LARGE (MAX. VALUE IS 181215)
F02: CONNECTION TIME LIMIT VALUE 000000 IS NOT ALLOWED
F03: NO MORE ENTRY POSSIBLE
F04: PLEASE ENTER VIRTUAL ROUTE CODE WITH ACTION "ADD"
F05: CONNECTION TIME LIMIT VALUE IS NOT POSSIBLE

112.4.2 Advisories

H01: HOUR LIMIT IS SET FOR ALL ROUTING CODES AND CARRIERS
H02: HOUR LIMIT WAS DELETED FOR ALL ROUTING CODES AND CARRIERS
H03: NO HOUR LIMIT ADDED

113 HIDMP - Creation and Output of HIDUMP Control Data

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

In Hicom-System at field trial, system test and at customers use still occur some uncorrected faults which can only be pinpointed if the necessary diagnostic data is provided. The program package HIDUMP (consisting of the resident HIDUMP software and AMO HIDMP) provides the service engineer with a tool for saving diagnostic data onto hard disk (HD) in case of a HICOM system restart.

Administration and modification of control data as well as communication with the service terminal is accomplished by means of AMO HIDMP. This AMO is exclusively used to define, (de-)activate, delete and output the required HIDUMP control data. Without the AMO, the HIDUMP is able to operate only with control data already stored in the control segment to select its diagnostic data.

The control data are contained in a control segment and are made up of individual control strings. In the case of a HICOM system restart, HIDUMP processes all active control strings in ascending order (as regards their number).

Before control strings can be activated or deactivated for the resident HIDUMP, they must be defined stating the conditions and the associated actions. Control strings that are no longer required can be deleted (irrespective of whether they are active or deactive). It is possible to output information on the defined control strings.

Note

The AMO HIDMP runs exclusively in the CC part of the SWU. The resident HIDUMP part can operate in all processors of the SWU containing a dependability.

Function Overview

The following functions are implemented in the AMO:

- a. Change the control segment (control data) to be processed using the P command
It is possible to process control data for CC or LTG.
- b. Define control data using the DEF command
This command defines the control data and stores it in the control segment. A maximum of 1 kbyte of control data can be defined. The control data is stored in the individual control strings (each of which has been created by a DEF command) in ascending order of their numbers.

HIDMP - Creation and Output of HIDUMP Control Data

Interrelationships

- c. Activate control strings using the ON command
 This command is used to ACTIVATE (enable) control data and to determine how many times a control string may be processed.
- d. Deactivate control strings using the OFF command
 This command is used to DEACTIVATE (disable) control data.
- e. Output control data using the LST command
 This command is used to output control data information.
- f. Delete control data using the DEL command
 This command is used to delete control strings.
- g. Terminate the AMO using the END command

113.1 Interrelationships

The AMO HIDMP communicates with the (resident) HIDUMP.

113.2 Functions of the AMO

- EXEC-HIDMP : Start of AMO HIDMP
- INPUT-HIDMP : Request of input commands in interactive mode

113.2.1 EXEC-HIDMP

Notes

- a) By entering the parameter MDL it is determined, which control segment (i.e. CC or LTG control data) is processed.
- b) AMO HIDMP is started. Then, INPUT-HIDMP is called up automatically (hidden instruction). The AMO is now in interactive mode.
- c) The AMO remains in dialog mode for several minutes awaiting input. If no input is made, the AMO terminates automatically.

Procedure Overview

Commandcode	Parameter	
EXEC-HIDMP	MDL=<param>	

Examples

Input:

```
<EXEC-HIDMP:CC;
```

Output:

```
AMO-HIDMP VARIANT/VERSION 100/004 OF 1993-09-24
PLEASE HIDUMP INPUT FOR CC:
*
```

Input:

```
*END; /* * = Command input request */
```

Output::

```
EXEC COMPLETED;'
<
```

113.2.2 INPUT-HIDMP

Notes

The verb INPUT-HIDMP is called up automatically (hidden instruction) once the AMO has been started using EXEC-HIDMP. The next command is to be input after the asterisk (*). The AMO is in interactive mode. After execution of a command, the system again issues the input request:

```
PLEASE HIDUMP INPUT FOR <processor name>:
*
```

This AMO message also indicates that the previous command has been properly processed. If it is accompanied by an error message, the command has not been executed.

Note

Again, the asterisk (*) is used as a user prompt. In our example it precedes the actual user input.

The following commands are defined:

```
CMD= P,MDL=<param>;
```

This command enables HIDUMP control segments that associated with other hardware modules to be processed in interactive mode, i.e. without having to exit the AMO. Following this command, the newly selected control data can be processed.

The parameter MDL is used to select the HW module.

HIDMP - Creation and Output of HIDUMP Control Data

Functions of the AMO

Example

Changeover to processing of HIDUMP control data for LTG.

Input:

*P,LTG;

Output:

PLEASE HIDUMP INPUT FOR LTG:
*

CMD= DEF,NUMBER=<param>,COND=<string>,ACTION=<string>;

This command defines the control data and stores it in the control segment. A maximum of 1 kbyte of control data can be defined. The control data is stored in single control strings (each of it has been created by a DEF command) in the ascending order of their numbers.

A control string consists of a identification number (it defines the processing sequence by the HIDUMP, that means the control string with the lowest number will be processed first), some conditions and the associated actions.

The parameter COND defines the conditions.

The parameter ACTION determines the actions that are carried out when the conditions are met

After input the control string is deactive, its execution counter is zero (0).

The ON command is used to activate it and to enter an execution counter.

Note regarding the parameter COND:

The parameter COND comprises at least one term. Each term consists of three parts:

1. Variable to be compared;	C ...	Call code
	E ...	Exception code
	I ...	Interrupt no.
	N ...	NMI no.
	O ...	OS sev.
2. Mathematical operator;	= ...	equal to
	> ...	greater than
	>= ...	greater than or equal to
	< ...	less than
	<= ...	less than or equal to
	/= ...	not equal to
3. Reference value;	(hexadecimal, up to four characters in length)	

Example of terms: I<=9 , N=10 , C/=A7D;

It is possible to link several of these terms by means of logical operators (OR, AND) or to make use of parentheses. Terms or parenthesized expressions are negated by a preceding NOT.

The parameter COND must be delimited, i.e. preceded and succeeded, by the character "'".

Note

The condition NOT C=5000 initiates execution of the specified actions for any fault except C=5000 (even for NMI, aso. ...). If a dump is required only for each call code (C) that is not equal to 5000, the condition needs to be formulated as follows:

a. C>=0 AND NOT C=5000 AND C<FFFF

or

b. C/=5000

The first variant offers the additional possibility to define an upper limit and a lower limit.

Note regarding the parameter ACTION:

Only the following actions and syntax interpretation will be accepted.

a) DUMP_BCA(<len>)

b) DUMP_MEM_LOG(<offset> : <base> / <len>)

c) DUMP_MEM_LOG(<selector>:<offset>/<len>)

In the case of DUMP_MEM_LOG, base / selector and offset must be separated by a colon ':'. Each of the two values may be up to four characters in length.

d) DUMP_MEM_PHYS(<phys.addr.> / <len>)

In the case of DUMP_MEM_PHYS, the physical address may be up to 6 characters in length.

e) DUMP_DPR(<value for DPR> / <len>)

In the case of DUMP_DPR, a code for the Dual Port Ram (DPR) to be dumped must be specified for the first parameter. The following codes are permitted:

0 for IP-DPR, 1 for MIP-DPR, 2 for CCH-DPR, 3 for MBU_1-DPR, 4 for MBU_2-DPR, 5 for MBU_3-DPR, 6 for MBU_4-DPR, 7 for IOCG-DPR, 8 for DCL-DPR .

f) DUMP_STACK(<len>)

g) DUMP_RNGT

h) DUMP_001

i) DUMP_002

j) DUMP_003

HIDMP - Creation and Output of HIDUMP Control Data

Functions of the AMO

- k) DUMP_004
- l) DEBUG_001
- m) DEBUG_002
- n) DEBUG_003
- o) DEBUG_004
- p) DEBUG_005
- q) DEBUG_006
- r) DEBUG_007
- s) DEBUG_008

In all cases, the parameter <len> may be up to 4 characters in length. It is treated as a hexadecimal value.

If several actions are specified, these must be separated by means of '&'. If the actions used include a parameter, the parameter must be enclosed in parentheses and must immediately follow the action itself. If several parameters are specified, they must be separated by a slash '/'.

The parameter ACTION must be delimited, i.e. preceded and succeeded, by the character "'".

Examples

1. If exception code $\geq 3A$ and exception code ≤ 50 , AND NOT call code = 17 OR interrupt = 18, the actions DEBUG_005 DUMP_BCA(200) DUMP_DPR(MBU-DPR,30) are to be carried out. The control string number is 4.

Input:

```
*DEF,4,"(E=>3A AND E<=50) AND NOT C=17 OR I=18","DEBUG_005&
DUMP_BCA(200)&DUMP_DPR(2/30)";
```

Output:

```
PLEASE HIDUMP INPUT FOR LTG:
*
```

2. If exception code 123 or call code 240 turn out to be the cause of a restart, the actions DUMP_MEM_LOG with the logical address (base = 39A8 / selector = 39A8, offset = 14F), length = 75 and DUMP_MEM_PHYS with the physical address 1C863E, length = 140 are to be executed. The control string number is 174.

Input:

```
*DEF,174,"E=123 OR C=240","DUMP_MEM_LOG(14F:39A8/75) &
DUMP_MEM_PHYS(1C863E/140)";
*DEF,174,"E=123 OR C=240","DUMP_MEM_LOG(39A8:14F/75) &
DUMP_MEM_PHYS(1C863E/140)";
```

Output:

```
PLEASE HIDUMP INPUT FOR LTG:
*
```

```
CMD= ON,TYPE=NO,NUMBER=<param>,CNT=<param>;
ON,TYPE=ALL,CNT=<param>;
```

This command is used to set defined control strings to ACTIVE, i.e. the control string will be identified as being active, and processed by HIDUMP (resident) in the case of a restart. It is possible to activate either all (TYPE=ALL) or only a certain (TYPE=NO) control string. The parameter CNT determines how many times a control string may be executed by HIDUMP. Activation is independent of the status previously held.

Examples

1. All defined control strings are to be activated and processed 5 times by HIDUMP.

Input:

```
*ON,ALL,5;
```

Output:

```
PLEASE HIDUMP INPUT FOR LTG:
*
```

2. Control string no. 38 is to be activated and processed once by HIDUMP.

Input:

```
*ON,NO,38,1;
```

Output:

```
PLEASE HIDUMP INPUT FOR LTG:
*
```

```
CMD= OFF,TYPE=NO,NUMBER=<param>;
OFF,TYPE=ALL;
```

This command is used to DEACTIVATE defined control strings, which means that the control string will not be processed by HIDUMP in the case of a restart. It is possible to deactivate either all (TYPE=ALL) or a particular (TYPE=NO) control string. Deactivation is independent of the status previously held.

HIDMP - Creation and Output of HIDUMP Control Data

Functions of the AMO

Examples

1. All defined control strings are to be deactivated.

Input:

```
*OFF,ALL;
```

Output :

```
PLEASE HIDUMP INPUT FOR LTG:  
*
```

2. Control string no. 2 is to be deactivated.

Input:

```
*OFF,NO,2;
```

Output:

```
PLEASE HIDUMP INPUT FOR LTG:  
*
```

```
CMD= LST,TYPE=NO,NUMBER=<param>,[CNT=<param>],[ACTION=<string>];  
LST,TYPE=ALL,[CNT=<param>],[ACTION=<string>];  
LST,TYPE=ACT,[CNT=<param>],[ACTION=<string>];  
LST,TYPE=DEACT,[CNT=<param>],[ACTION=<string>];
```

This command is used to output control data information. It is possible to specify several selection criteria. Parameter TYPE (mandatory) determines whether a particular, all, all active, or all deactivate control strings are to be processed for output. The parameters CNT (optional) and ACTION (optional) can be used to make a selection for output processing.

NOTE

As the processing of parameter ACTION is not implemented in this version of AMO HIDMP, the parameter will simply be ignored by the AMO.

Examples

1. All active control strings are to be output.

Input:

```
*LST,ACT;
```

Output: :

```
-----  
-----  
DUMP NO: 3      CNT: 3      STATUS: ACT  
N<66D OR NOT(O=4))  
DUMP_MEM_LOG(E435:1B48/1000)  
DUMP_MEM_LOG(1B48:E435/1000)
```


HIDMP - Creation and Output of HIDUMP Control Data

Functions of the AMO

```
DUMP NO: 9      CNT: 1      STATUS: ACT
N/=FFF2
DUMP_STACK(160)
DUMP NO: 40     CNT: 3      STATUS: ACT
((C=7F2 AND (O/=55E AND I<EE2)) OR C>A3)
DUMP_MEM_PHYS(28FAC1/50)
DUMP NO: 61     CNT: 4      STATUS: ACT
(E>442A OR NOT( I=5))
DEBUG_001, DUMP_DPR(8/20)
DUMP NO: 204    CNT: 3      STATUS: ACT
( I<A41 OR C=1000)
DEBUG_005, DUMP_BCA
-----
PLEASE HIDUMP INPUT FOR LTG:
*
```

2. All control strings with CNT = 3 are to be output.

Input:

```
*LST,ALL,3;
```

Output:

```
-----
DUMP NO: 3      CNT: 3      STATUS: ACT
(N<66D OR NOT(O=4))
DUMP_MEM_LOG(E435:1B48/1000)
DUMP_MEM_LOG(1B48:E435/1000)
DUMP NO: 7      CNT: 3      STATUS: DEACT
C>=3F
DUMP_DPR(6/200), DUMP_RNGT, DUMP_003
DUMP NO: 10     CNT: 3      STATUS: DEACT
NOT(C=EE3 AND O<6)
DEBUG_007, DUMP_STACK(70), DUMP_001
DUMP NO: 40     CNT: 3      STATUS: ACT
((C=7F2 AND (O/=55E AND I<EE2)) OR C>A3)
DUMP_MEM_PHYS(28FAC1/50)
DUMP NO: 119    CNT: 3      STATUS: DEACT
N=2
DUMP_004
DUMP NO: 204    CNT: 3      STATUS: ACT
( I<A41 OR C=1000)
DEBUG_005, DUMP_BCA
-----
PLEASE HIDUMP INPUT FOR LTG:
*
```

Input:

```
*LST,NO,40;
```

Output:

HIDMP - Creation and Output of HIDUMP Control Data

Parameter Description

```
-----  
DUMP NO: 40      CNT: 3      STATUS: ACT  
((C=7F2 AND (O/=55E AND I<EE2)) OR C>A3)  
DUMP_MEM_PHYS(28FAC1/50)  
-----
```

```
-----  
PLEASE HIDUMP INPUT FOR LTG:  
*
```

CMD= CMD= DEL,TYPE=NO,NUMBER=<param>;
 DEL,TYPE=ALL;

This command is used to delete control data (control strings). The parameter TYPE specifies whether all control strings (TYPE=ALL) or whether one particular control string (TYPE=NO) is to be deleted-

Examples

1. All control strings are to be deleted.

Input:

*DEL,ALL;

Output: :

```
PLEASE HIDUMP INPUT FOR LTG:  
*
```

2. Control string no. 2 is to be deleted.

Input:

*DEL,NO,2;

Output::

```
PLEASE HIDUMP INPUT FOR LTG:  
*
```

CMD= END;

This command terminates the AMO.

113.3 Parameter Description

ACTION	Used in the commands: DEF, LST; To input the action procedures.
Type of Input	: String, mandatory in DEF

	optional in LST Possible Values : Character string up to 1019 characters in length Admissible actions : DUMP_BCA(<len>), DUMP_STACK(<len>), DUMP_MEM_PHYS(<phys.addr>/<len>), DUMP_DPR(<value for DPR>/<len>), DUMP_MEM_LOG(<offset>:<base>/<len>), DUMP_RNGT, DUMP_001, DUMP_MEM_LOG(<selector>:<offset>/<len>) DUMP_002, DUMP_003, DUMP_004, DEBUG_001, DEBUG_002, DEBUG_003 DEBUG_004, DEBUG_005, DEBUG_006, DEBUG_007, DEBUG_008
CNT	Used in the commands: ON, LST; Specifies how many times a HIDUMP control string is executed. Type of Input : Single value, mandatory in ON optional in LST Possible Values : 0 - 255
COND	Used in the commands: DEF; To input the conditions. Type of Input : String, mandatory in DEF Possible Values : Character string up to 1019 characters in length
CMD	Branch parameter, Specifies the AMO-HIDMP command. Type of Input : Single value, mandatory Possible Values : DEF, DEL, END, LST, OFF, ON, P (The meaning of these values is explained in the Function Overview.)
MDL	Used in the commands: P, EXEC-HIDMP; Specifies the HW module for which the HIDUMP control segment is processed. Type of Input : Single value, mandatory Possible Values : CC, LTG
NUMBER	Used in the commands: DEF, DEL, LST, OFF, ON Specifies the number (ID) of the control string. Type of Input : Single value, mandatory Possible Values : 0 - 255
TYPE	Used in the commands: DEL, LST, OFF, ON Branch parameter; specifies which control strings are to be processed. Type of Input : Single value, mandatory

HIDMP - Creation and Output of HIDUMP Control Data
Error Messages and Advisories

Possible Values	: ALL, NO	in DEL
	ACT, ALL, DEACT, NO	in LST
	ALL, NO	in OFF
	ALL, NO	in ON

113.4 Error Messages and Advisories

113.4.1 Error Messages

- F01: DUMP <number> NOT DEFINED
- F02: DUMP <number> ALREADY EXISTS
- F03: ACTION NOT DEFINED
- F04: INVALID VALUE IN CONDITION
- F05: SYMBOL NOT DEFINED
- F06: CANNOT INCLUDE DUMP (NOT ENOUGH MEMORY)
- F07: WANTED DUMP NOT FOUND
- F08: SYNTAX ERROR IN ACTION
- F09: SYNTAX ERROR IN CONDITION
- F10: ERROR IN LOGICAL OPERATOR
- F11: OPERATOR OF A TERM FAULTY
- F12: INVALID VALUE IN ACTION
- F13: CONDITION NOT DEFINED

113.4.2 Advisories

None

114 HISTA - Output history file

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO HISTA is used for setting up and searching through the fault report archive.

114.1 Restrictions

114.2 Interrelationships

HISTA-FUNCTION requires a cyclic file (C-FBTHIST) in which the error messages are written.

The installation of this file can be made by AMO ASSGN (assignment of the symbolic output device DPT4 to the logic device C-file) The assignment of error messages to the corresponding output device can be made by AMO SIGNAL (assignment of error messages to output device DPT4).

114.3 Functions of the AMO

- [ACTIVATE-HISTA](#) : Activate the error message statistic
- [ADD-HISTA](#) : Setting up the history archive
- [CHANGE-HISTA](#) : Change the configuration of an entry
- [DEACTIVATE-HISTA](#) : Deactivate the error message statistic
- [DELETE-HISTA](#) : Deleting the history archive
- [DISPLAY-HISTA](#) : Displaying the current archive data
- [OUTPUT-HISTA](#) : Displaying the error messages for any c-file
- [REGENERATE-HISTA](#) : Regenerating the ADD command
- [START-HISTA](#) : Searching through the history archive

114.3.1 ACTIVATE-HISTA

With this verb the configuration table at first start will be initialized with standard values and the statistic will be activated.

Procedure Overview

Command Code	Parameter
ACTIVATE-HISTA	RESET=<param>;

Parameter description

RESET	Reset = YES means the configuration table will be initialized with standard values.
	Reset = NO means the function continues with existing entries.

114.3.2 ADD-HISTA

The verb ADD is used to set up the history archive structure.

Procedure Overview

Command Code	Parameter
ADD-HISTA	FSIZE=<number> , ALARMING=<param>;

Parameter description

FSIZE	The size of the text archive is specified in kB (500kB - 10000kB) .
ALARMING	By activating the parameter alarming, maintenance alarm is output in the case of history file overflow.

114.3.3 CHANGE-HISTA

This verb is used to change the configuration of the HW-Error statistic.

Procedure Overview

Command Code	Parameter
CHANGE-HISTA	ENTRY=STALARM, [STATUS=<param>] ; ENTRY=NEW/OLD, [NUM=<number>], [THRESH=<number>], [DECTH=<number>], [DECTM=<number>], [ALARM=<param>;

Parameter description

ENTRY	IS A branch parameter	
ENTRY=STALARM	Statistic - Alarming	
	STATUS	Activates/deactivates the alarm signalization
ENTRY=NEW	A new entry will be added into the configuration table	
	NUM	The number of an error message
		possible values (2000 to 8999)
	THRESH	The threshold value
		possible values (1 to 65535)
	DECTH	The time interval to decrement the error counter (max. 100h)
		possible values (1 minute to 100 hours)
	DECTM	The time interval to decrement the error counter (max. 60min.)
	ALARM	Alarming in case to exceed the threshold
ENTRY=OLD	Change of an existing configuration entry	
	NUM	The number of an error message
		possible values (2000 to 8999)
	THRESH	The threshold value
		possible values (1 to 65535)
	DECTH	The time interval to decrement the error counter (max. 100h)
		possible values (1 minute to 100 hours)
	DECTM	The time interval to decrement the error counter (max. 60min.)
	ALARM	Alarming in case to exceed the threshold

114.3.4 DEACTIVATE-HISTA

This function deactivates the error statistic completely.

Procedure Overview

Command Code	Parameter
DEACTIVATE-HISTA	;

114.3.5 DELETE-HISTA

Deleting the history archive structure. This function should be used also to delete all statistic tables.Additional a separate delete of single entries of the HWES-configuration table.

Procedure Overview

Command Code	Parameter
DELETE-HISTA	CLEAR=ALL ; CLEAR=HWESCONF, [NUM=<number>] ; CLEAR=HWENTRY, [NUM=<number>];

Parameter description

CLEAR	Is a branch parameter
ALL	Delete the history file and the error statistic tables
HWESCONF	Delete an entry from hwes-configuration table
NUM	Error message number
HWENTRY	Delete an entry from hwes table
NUM	Error message number

114.3.6 DISPLAY-HISTA

The verb DISPLAY is used to output the current archive data.

Procedure Overview

Command Code	Parameter
DISPLAY-HISTA	TAB=OVIEW/FSTALL/HWES/SWES; TAB=HWES , | [TTYPE=CONFIG, CONFIG=<param>]; , | [TTYPE=HWALL, HWALL=<param>]; , | [TTYPE=COMPLETE, COMPLETE=<param>]; , | [TTYPE=ALARMS, ALARMS=<param>]; , | [TTYPE=FNO, NUM=<number>];

Examples :

```

DISP-HISTA:OVIEW;
H500 : AMO HISTA STARTED
DIRECTORY SIZE : 500KB
NO. OF ENTRIES : 200
OLDEST ENTRY : 1998-06-22 12:49
LATEST ENTRY : 1998-06-24 10:22
ALARMING BY HISTO-FILE OVERFLOW : NO
HW-ERROR-STATISTIC: FROM 13 ENTRIES 0 THRESHOLD REACHED
HWES-TABLE: FROM 1000 ENTRIES 13 OCCUPIED

SW-ERROR-STATISTIC: 27 ENTRIES AVAILABLE
STATISTIC-ALARMING : YES
STATISTIC-STATE : ACT
DISPLAY COMPLETED;
DISP-HISTA:HWES, CONFIG;
H500 : AMO HISTA STARTED

```

LINE	CONFIGURATION HW-ERROR STATISTIC			
	F-NO ALARMING MINUTES]	THRESHOLD	DECREMENT-TIME	[HOURS/
1	F3050	1	00:05	NO
2	F3059	1	00:05	NO
3	F3150	1	00:05	NO
4	F3155	1	00:05	NO

HISTA - Output history file

Functions of the AMO

5	F3172	1	00:05	NO
6	F3173	1	00:05	NO

DISPLAY COMPLETED;

DISP-HISTA:HWES,COMPLETE;

H500 : AMO HISTA STARTED

LINE	HW-ERROR STATISTIC					
	F-NO TIME/DATE	LOCATION/	THRES-	ERROR-		
	FIRST	PEN LAST		HOLD	COUNTER	
1	F8272	00-00-000-00	1	0	98-06-19 13:28	98-06-23 15:36
2	F5414	01-02-109-00	1	0	98-06-19 13:29	98-06-23 15:36
3	F5556	01-02-079-00	1	0	98-06-19 13:32	98-06-23 15:36
4	F5412	01-02-049-00	1	0	98-06-19 13:33	98-06-23 15:37
5	F8266	00-00-000-00	1	0	98-06-19 14:32	98-06-23 15:33

DISPLAY COMPLETED;

DISP-HISTA:HWES,ALARMS;

H500 : AMO HISTA STARTED

LINE	HW-ERROR STATISTIC					
	F-NO TIME/DATE	LOCATION/	THRES-	ERROR-		
	FIRST	PEN LAST		HOLD	COUNTER	
1	F5411	1-01-110-0	20	24	15-03-96 07:01	15-03-96 09:15

DISPLAY COMPLETED;

DISP-HISTA:HWES,FNO,5411;

H500 : AMO HISTA STARTED

HISTA - Output history file

Functions of the AMO

LINE	HW-ERROR STATISTIC					
	F-NO	LOCATION/	THRES-	ERROR-		
	TIME/DATE					
	FIRST	PEN LAST		HOLD	COUNTER	
1	F5411	1-01-110-0	20	24	15-03-96 07:01	15-03-96 09:15

DISPLAY COMPLETED;

DISP-HISTA:SWES;

H500 : AMO HISTA STARTED

LINE	SW-ERROR STATISTIC					
	F-NO	COMPLEX	CC	EC		USER-ADR
	ERR-COUNTER	PEN				
	TIME /DATE:	FIRST	LAST			
1	F6300	SM-AM	31000	5001	3BFC-0002	1 01-02-049-007
	98-06-19 13:42		98-06-19 13:41			

DISPLAY COMPLETED;

DISP-HISTA:HWALL;

H500 : AMO HISTA STARTED

LINE	CONFIGURATION HW-ERROR STATISTIC			
	F-NO	THRESHOLD	DECREMENT-TIME	
	ALARMING			
	MINUTES]			[HOURS/
1	F3050	1	00:05	NO
2	F3059	1	00:05	NO
3	F3150	1	00:05	NO
4	F3155	1	00:05	NO
5	F3172	1	00:05	NO
6	F3173	1	00:05	NO

HISTA - Output history file

Functions of the AMO

LINE	HW-ERROR STATISTIC					
	F-NO	LOCATION/	THRES-	ERROR-		
	TIME/DATE					
	FIRST	PEN LAST		HOLD	COUNTER	
1	F8272	00-00-000-00	1	0	98-06-19 13:28	98-06-23 15:36
2	F5414	01-02-109-00	1	0	98-06-19 13:29	98-06-23 15:36
3	F5556	01-02-079-00	1	0	98-06-19 13:32	98-06-23 15:36
4	F5412	01-02-049-00	1	0	98-06-19 13:33	98-06-23 15:37
5	F8266	00-00-000-00	1	0	98-06-19 14:32	98-06-23 15:33

DISPLAY COMPLETED;

Parameter description

The parameter TAB specifies the error statistic tables.

OVVIEW	History overview	
FSTALL	Hwes, swes and the configuration table for hwes.	
HWES	TTYPE	Table type
	CONFIG	Configuration table for hwes
	HWALL	HW error statistic and configuration table for hwes
	COMPLETE	Complete hw error statistic (without config)
	ALARM S	Display of all the hwes entries where the threshold is exceeded
	FNO	All f-no. related error statistic entries
SWES	FNO=NUM	Error message number
	SW-error statistic	

114.3.7 OUTPUT-HISTA

This function serves to output files (Hicom Teleservice protocol files) written cyclically

by the FILE TASK.

Cyclic organization means that when writing a file of limited length, the system

returns to start of file as soon as the file is complete.

The old contents are then overwritten from the beginning.

Procedure Overview

Command Code	Parameter
OUTPUT-HISTA	FILENAME=<string>, [ADDR=<number>], [LEN=<number>] , [BOTTOM=<param>], [ANS=<param>];

Parameter description

FILENAME	The name of the C file must begin with "C-", the AMO adds the prefix :AMD:. If no file is specified, ":AMD:C-FBTHIST" will be used as the file name.
ADR	If the parameter ADR is specified, output starts at this fault message.
LEN	If the parameter LEN is specified, the number of fault messages to be output corresponds to the number specified by LEN, output either starts at the most recent fault report in the file, or if ADR has been specified, at the fault message which lies ADR positions before the most recent message.
BOTTOM	If the parameter BOTTOM is specified (BOTTOM=YES), the number of oldest fault messages which was specified by LEN will be output, output either starts at the oldest fault message in the file, or if ADR has been specified, at the fault message which is offset by ADR positions from the oldest message.
ANS	Determines whether the user is to be prompted to "Continue (Y/N)" the output of long blocks.

114.3.8 REGENERATE-HISTA

The verb REGENERATE is used to output the current AMO HISTA command.

Procedure Overview

Command Code	Parameter
REGENERATE-HISTA	;

114.3.9 START-HISTA

The verb START is used to output all error and alarm messages recorded within any given period of time or within the last two hours. In the case of searches, it is used to output error messages from the history archive which were qualified by a given search criterion.

HISTA - Output history file

Functions of the AMO

Procedure Overview

Command Code	Parameter
START-HISTA	<pre>RTYPE=MIRROR; |RTYPE=SEARCH/SEARCHB, [STIME=<string>], [ETIME=<string>] , [ANS=<param>] , | [CONTEXT= MID,MID=<param>,NUM=<number>]; , | [CONTEXT= ALARM , | ALARMTYP=CENTRAL,CENTRAL=<param>; , | ALARMTYP=SWUPERI,SWUPERI=<param>; , | ALARMTYP=LOGSPEC,LOGSPEC=<param>; , | ALARMTYP=LOGDIR,LOGDIR=<number>; , | ALARMTYP=LOGPERS,LOGPERS=<number>; , | ALARMTYP=SMPERI,SMPERI=<param>;] , | [CONTEXT= PEN,LTG=<number>,LTU=<number> ,SLOT=<number>,CCT=<number>]; , | [CONTEXT= STNO,STNO=<number> ,SVC<param>]; , | [CONTEXT= PRIO,PRIO=<param>]; , | [CONTEXT= FUNCT,FUNCT=<param>]; , | [CONTEXT= EC,EC=<number>]; , | [CONTEXT= CC,CC=<number>]; , | [CONTEXT= UA,UA=<number>];</pre>

Parameter description (in hierarchical order)

RTYPE	Branch parameter for output format: If RTYPE=MIRROR is specified, the current alarm mirror is output in the form of a table. The AMO HISTA uses the requested alarm mirror for preparing the layout of the table. If RTYPE=SEARCH is specified, a branch is made to the search mode. The error messages are output with the sequence, the oldest to the newest. If RTYPE=SEARCHB is specified, a branch is made to the search mode. The error messages are output with the sequence, the newest to the oldest.
STIME	Start time for selection of error messages. Input format : YY-MM-DD/ hh:mm Default value : system time - 2 hours

ETIME	End time for selection of error messages. Input format : YY-MM-DD/ hh:mm Default value : system time
ANS	This parameter specifies whether the output of long blocks will be interrupted by the prompt "Continue (Y/N/C)".
CONTEXT	Branch parameter for output format: CONTEXT= MID Search by error/alarm number CONTEXT= ALARM Search by alarm class CONTEXT= PEN Search by PEN (LTG/LTU/SLOT/CCT) CONTEXT= STNO Search by station number CONTEXT= PRI Search by priority CONTEXT= FUNCT Search by function complex CONTEXT= EC Search by exception code CONTEXT= CC Search by call code CONTEXT= UA Search by user address
NUM	The error/alarm number is used as a criterion for selecting the messages. e.g.: MID=AL NUM=9001 means "MAJOR ALARM ON" messages
ALARMTYP	The alarm type can be specified to select fault reports which belong to a specific alarm class.
CENTRAL	central alarms.
SWUPERI	swu peripheral alarms.
LOGSPEC	swu logical special alarms.
LOGDIR	swu logical direction related alarms.
LOGPERS	swu logical personal alarms.
SMPERI	sm peripheral alarms.
PEN	HW data is used as a search criterion.
STNO	Search by station number (which is translated into a PEN by the AMO).

HISTA - Output history file

Functions of the AMO

PRI	Search by message priority (M1-M8,E1-E8)
FUNCT	The following function complexes are used as search criteria.
SWUPER	SWU periphery All error messages assigned to the alarm classes of SWU-periphery alarm groups(0-31) and of SWU LOGICAL alarm groups (0-583) and which are assigned to the following central alarms: LTU FAILURE (2), PHONEMAIL ALARM (3), LTU HW STATUS BUS (4), LTUR RESTARTS (7), RMS FAILURE (8).

SWU_CENTRAL Central SWU modules

All error messages assigned to the following central alarm classes:

LTG RESTARTS (0),
LTG FAILURE (1),
CC RESTARTS (5),
CC STBY FAILURE (6),
LTG CENTRAL CONTROL (16),
CC CENTRAL CONTROL (17),
SWITCHING NETWORK (18),
CLOCKING SYSTEM (19),
SIGNAL UNIT (20).

SW_ERROR	SW errors All error messages assigned to the following central alarm classes: SW ERRORS (23), XENIX/LINUX ALARM (27).

SYSTEM	SYSTEM error All error messages assigned to the following central alarm classes: SYSTEM MESSAGES (24), POWER SUPPLY (25),

SM FAILURE
(26),
SYSTEM TIME FAILURE (28),
MAINTENANCE NOTE (29).

SM_PER SM periphery
All error messages assigned to SM-periphery alarm group (0-23) and central alarm class 9.

SM_CENTRAL ... Central SM modules
All error messages assigned to the following central alarm classes:
IS RESTARTS (10),
SM RESTARTS (13),
IS CENTRAL CONTROL (21),
SM CENTRAL CONTROL (22).

EC Search by exception code

CC Search by call code

UA Search by user address

Examples:

STA-HISTA:MIRROR; results in the following output:

I ALARM	I ABS	I	ALARM	I	ALARM	I	ALARM NAME	I
I GROUP	I	I	NUMBER	I	PRIO	I		I
I CENTRAL	I BP	I	5	I	MAJOR	I	CC_RESTARTS	I
.				.				.
.				.				.
.				.				.
.				.				.
.				.				.

Below you find the command for searching all error messages recorded for this alarm within the last two hours:

```
STA-HISTA:SEARCH,,,,ALARM,CENTRAL,CENTRAL_05;
```

Below you find the command for searching the error messages recorded for this alarm on November 15 between 9 a.m. and 3 p.m.

```
STA-HISTA:SEARCH,1993-11-15/09-00,1993-11-15/15-00,ALARM,CENTRAL,CENTRAL_05;
```

114.4 Parameter Description

ALARMTYP	Alarm type
Type of Input	: Single value, mandatory (for CONTEXT = ALARM)
Possible Values	: CENTRAL SWUPERI LOGSPEC LOGDIR LOGPERS SMPERI
ANS	Answer
	After every screen page (15 lines) a new "Continue" prompt is issued.
Type of Input	: Single value, optional
Possible Values	: Y = output next page N = stop output C = continue, i.e. output all further error messages.
CC	Call code
Type of Input	: Single value, mandatory (for CONTEXT = CC)
Possible Values	: 0001 to FFFE
CCT	Circuit number
Type of Input	: Single value, optional (for CONTEXT = PEN)
Possible Values	: 0 to 9999
CENTRAL	Alarm type : CENTRAL
Type of Input	: Single value, mandatory (for ALARMTYP = CENTRAL)
Possible Values	: CENTRAL_00 ... LTG_RESTARTS CENTRAL_01 ... LTG_FAILURE CENTRAL_02 ... LTU_FAILURE CENTRAL_03 ... PHONEMAIL_ALARM CENTRAL_04 ... LTU_HW_STATUS_BUS CENTRAL_05 ... CC_RESTARTS CENTRAL_06 ... CC_STBY_FAILURE CENTRAL_07 ... LTUR_RESTARTS CENTRAL_08 ... RMS_FAILURE CENTRAL_09 ... CHARGE_COMPUTER CENTRAL_10 ... IS_RESTARTS

CENTRAL_11 ... CENTRAL_ALARM_11
CENTRAL_12 ... CENTRAL_ALARM_12
CENTRAL_13 ... SM_RESTARTS
CENTRAL_14 ... CENTRAL_ALARM_14
CENTRAL_15 ... EXTERNAL_SERVER
CENTRAL_16 ... LTG_CENTRAL_CONTROL
CENTRAL_17 ... CC_CENTRAL_CONTROL
CENTRAL_18 ... SWITCHING_NETWORK
CENTRAL_19 ... CLOCKING_SYSTEM
CENTRAL_20 ... SIGNAL_UNIT
CENTRAL_21 ... IS_CENTRAL_CONTROL
CENTRAL_22 ... SM_CENTRAL_CONTROL
CENTRAL_23 ... SW_ERRORS
CENTRAL_24 ... SYSTEM_MESSAGE
CENTRAL_25 ... POWER_SUPPLY
CENTRAL_26 ... SM_FAILURE
CENTRAL_27 ... XENIX_ALARM
CENTRAL_28 ... SYSTEM_TIME_FAILURE
CENTRAL_29 ... MAINTENANCE_NOTE
CENTRAL_30 ... SWITCHING_UNIT_FAILURE
CENTRAL_31 ... CENTRAL_ALARM_31
CENTRAL_32 ACCESS POINT FAILURE
CENTRAL_33 BAD IP CONNECTIVITY
CENTRAL_34 LW-SW VERSION CONFLICT
CENTRAL_35 ... CENTRAL_ALARM_35
CENTRAL_36 ... CENTRAL_ALARM_36
CENTRAL_37 ... CENTRAL_ALARM_37
CENTRAL_38 ... CENTRAL_ALARM_38
CENTRAL_39 ... CENTRAL_ALARM_39
CENTRAL_40 ... CENTRAL_ALARM_40
CENTRAL_41 ... CENTRAL_ALARM_41
CENTRAL_42 ... CENTRAL_ALARM_42
CENTRAL_43 ... CENTRAL_ALARM_43
CENTRAL_44.. CENTRAL_ALARM_44
CENTRAL_45 ... CENTRAL_ALARM_45
CENTRAL_46 ... CENTRAL_ALARM_46
CENTRAL_47 ... CENTRAL_ALARM_47
CENTRAL_48 ... CENTRAL_ALARM_48
CENTRAL_49 ... CENTRAL_ALARM_49

HISTA - Output history file

Parameter Description

		CENTRAL_50 ... CENTRAL_ALARM_50
		CENTRAL_51 ... CENTRAL_ALARM_51
		CENTRAL_52... CENTRAL_ALARM_52
		CENTRAL_53 ... CENTRAL_ALARM_53
		CENTRAL_54 ... CENTRAL_ALARM_54
		CENTRAL_55 ... CENTRAL_ALARM_55
		CENTRAL_56 ... CENTRAL_ALARM_56
		CENTRAL_57 ... CENTRAL_ALARM_57
		CENTRAL_58 ... CENTRAL_ALARM_58
		CENTRAL_59 ... CENTRAL_ALARM_59
		CENTRAL_60 ... CENTRAL_ALARM_60
		CENTRAL_61 ... CENTRAL_ALARM_61
		CENTRAL_62 ... CENTRAL_ALARM_62
		CENTRAL_63 ... CENTRAL_ALARM_63
CONTEXT	Search criterion	
	Type of Input	: Single value, optional
	Possible Values	: MID ALARM PEN STNO PRI FUNCT EC CC UA
EC	Exception code	
	Type of Input	: Single value, mandatory (for CONTEXT = EC)
	Possible Values	: 0001 to FFFE
ETIME	End time for search operation	
	Type of Input	: Single value, optional
	Possible Values	:
	Default value	: System time
FUNCT	Function complex	
	Type of Input	: Single value, mandatory (for CONTEXT = FUNCT)
	Possible Values	: SWUPER SWU periphery SWU_CENTRAL .. Central SWU modules

SW_ERROR SW errors
SYSTEM SYSTEM errors
SM_PER SM periphery
SM_CENTRAL ... Central SM modules

LOGDIR	Alarm type : LOGDIR Type of Input : Single value, mandatory (for ALARMTYP = LOGDIR) Possible Values : 8 to 519
LOGPERS	Alarm type : LOGPERS Type of Input : Single value, mandatory (for ALARMTYP = LOGPERS) Possible Values : 520 to 583
LOGSPEC	Alarm type : SWUSPEC Type of Input : Single value, mandatory (for ALARMTYP = SWUSPEC) Possible Values : SWU_LOG_00 ... NO_DEVICE_CLASS SWU_LOG_01 ... INWARD_DIALING SWU_LOG_02 ... OUTWARD_DIALING SWU_LOG_03 ... SWU_LOG_03 SWU_LOG_04 ... DIUC_ITALY SWU_LOG_05 ... PHONEMAIL_ACCESS SWU_LOG_06 ... SWU_LOG_06 SWU_LOG_07 ... SWU_LOG_07
LTG	LTG number Type of Input : Single value, mandatory (for CONTEXT = PEN) Possible Values : 0 to 9999
LTU	LTU number Type of Input : Single value, optional (for CONTEXT = PEN) Possible Values : 0 to 9999
MID	Type of fault report (error/alarm message) Type of Input : Single value, mandatory (for CONTEXT = MID) Possible Values : AL EM
NUM	Number of fault report (error/alarm message)

HISTA - Output history file

Parameter Description

	Type of Input	: Single value, mandatory (for CONTEXT = MID)
	Possible Values	: 1000 to 9999

PRI	Priority	
	Type of Input	: Single value, mandatory (for CONTEXT = PRI)
	Possible Values	: M1 priority M1 M2 priority M2 M3 priority M3 M4 priority M4 M5 priority M5 M6 priority M6 M7 priority M7 M8 priority M8 E1 priority E1 E2 priority E2 E3 priority E3 E4 priority E4 E5 priority E5 E6 priority E6 E7 priority E7 E8 priority E8

RTYPE	Function type	
	Type of Input	: Single value, mandatory
	Possible Values	: SEARCH, SEARCHB .. search function MIRROR .. alarm mirror

SLOT	SLOT number	
	Type of Input	: Single value, optional (for CONTEXT = PEN)
	Possible Values	: 0 to 121

A suitable module must be configured for the slot addressed by PEN (AMO BCSU).

The possible Slot values depend on the systems architecture and can be found in the BCSU AMO description.

SMPERI	Alarm type : SMPERI	
	Type of Input	: Single value, mandatory (for ALARMTYP = SMPERI)
	Possible Values	: SM_PERI_00 ... SERVICE_TELETYP SM_PERI_01 ... SERVICE_UTC SM_PERI_02 ... SERVICE_TTX

SM_PERI_03 ... SERVICE_FAX
SM_PERI_03 ... SERVICE_FAX
SM_PERI_04 ... SERVICE_VOICE
SM_PERI_05 ... SERVICE_XENIX
SM_PERI_06 ... SERVICE_BSC
SM_PERI_07 ... SERVICE_ISO
SM_PERI_08 ... SERVICE_IBM
SM_PERI_09 ... SM_PERI_09
SM_PERI_10 ... SM_PERI_10
SM_PERI_11 ... SM_PERI_11
SM_PERI_12 ... SM_PERI_12
SM_PERI_13 ... SM_PERI_13
SM_PERI_14 ... IS_FLASH_MEMORY
SM_PERI_15 ... SM_FLASH_MEMORY
SM_PERI_16 ... IS_DAT_RECORDER
SM_PERI_17 ... SM_DAT_RECORDER
SM_PERI_18 ... IS_HARD_DISK
SM_PERI_19 ... IS_CARTRIDGE
SM_PERI_20 ... IS_TAPE
SM_PERI_21 ... SM_HARD_DISK
SM_PERI_22 ... SM_PERI_22
SM_PERI_23 ... SM_PERI_23

STIME	Start time for search operation	
	Type of Input	: Single value, optional
	Possible Values	:
	Default value	: System time - 2 hours
STNO	Station number	
	Type of Input	: Single value, mandatory (for CONTEXT = STNO)
	Possible Values	: 0 to 999999
SVC	Type of service	
	Type of Input	: Single value, optional (for CONTEXT = STNO)
	Possible Values	: VCE
		VTX
		TTX
		FAX
		DTE

HISTA - Output history file

Parameter Description

SWUPERI	Alarm type : SWUPERI
Type of Input	: Single value, mandatory (for ALARMTYP = SWUPERI)
Possible Values	: SWU_PERI_00 .. C-O TRUNK/EXCH_LINE SWU_PERI_01 .. TIE_LINE SWU_PERI_02 .. MULTIPLE_DEVICES SWU_PERI_03 .. ANALOG_VOICE_DEVICES SWU_PERI_04 .. DIGITAL_VOICE_DEVICES SWU_PERI_05 .. ATTENDANT_CONSOLE SWU_PERI_06 .. C-O/EXCHANGE_DATA_LINE SWU_PERI_07 .. TIE_DATA_LINE SWU_PERI_08 .. BASE_STATION SWU_PERI_09 .. LOGICAL_DEVICES SWU_PERI_10 .. TFS_LINE SWU_PERI_11 .. VMS_LINE SWU_PERI_12 .. APSE SWU_PERI_13 .. OTHER_DEVICES SWU_PERI_14 .. DATA_DEVICES SWU_PERI_15 .. SWU_PERI_15 SWU_PERI_16 .. SWU_PERI_16 SWU_PERI_17 .. SWU_PERI_17 SWU_PERI_18 .. SWU_PERI_18 SWU_PERI_19 .. SWU_PERI_19 SWU_PERI_20 .. SWU_PERI_20 SWU_PERI_21 .. SWU_PERI_21 SWU_PERI_22 .. SWU_PERI_22 SWU_PERI_23 .. SWU_PERI_23 SWU_PERI_24 .. SWU_PERI_24 SWU_PERI_25 .. SWU_PERI_25 SWU_PERI_26 .. SWU_PERI_26 SWU_PERI_27 .. SWU_PERI_27 SWU_PERI_28 .. SWU_PERI_28 SWU_PERI_39 .. SWU_PERI_29 SWU_PERI_30 .. SWU_PERI_30 SWU_PERI_31 .. SWU_PERI_31
UA	Selector for SW address
Type of Input	: Single value, mandatory (for CONTEXT = UA)
Possible Values	: 0001 to FFFE

114.5 Error Messages and Advisories

114.5.1 Error Messages

F01: FILE C-FBTHIST UNKNOWN
F02: FILE C-FBTHIST IS NO C-FILE
F03: ADD COMMAND ABORTED; INSUFFICIENT DISK SPACE
F04: UNSUCCESSFUL ATTEMPT ; DMS ERROR CODE ::@@@@; ERROR LOCATION::@@@@
F05: PARAMETER STIME MUST PRECEDE PARAMETER ETIME
F06: INPUT FORMAT OF PARAMETER STIME: "YYYY-MM-DD/HH:MM"
F07: INPUT FORMAT OF PARAMETER ETIME: "YYYY-MM-DD/HH:MM"
F08: TIMEOUT
F09: ISUBSCRIBERNUMBER NOT NVALID
F10: NO ANSWER FROM SWU
F11: SWU NOT CONNECTABLE
F12: SWU DOWN
F13: ALARM CLASS DOES NOT EXIST
F14: ANOTHER JOB IS CURRENTLY BEING EXECUTED OR THE HISTA FUNCTION IS DISABLED
F15: FILE @@@@@@@@@@@@@@ UNKNOWN
F16: NO FAULT REPORT FOUND
F17: PARAMETER FILENAME HAS TO BEGIN WITH 'C-'
F18: F-NUMBER IN CONFIGURATION TABLE IS NOT CREATED
F19: NO MORE ENTRY IN CONFIGURATION TABLE POSSIBLE
F20: TIME > 99:59 NOT ALLOWED
F21: F-NUMBER IS CURRENTLY AVAILABLE IN CONFIGURATION TABLE
F22: NO ENTRIES IN THE TABLE FOUND
F23: ERROR NUMBER IS NOT AVAILABLE IN THE TABLE
F24: PARAMETER STIME MUST PRECEDE CURRENT TIME

114.5.2 Advisories

H01: @@@@ ERROR MESSAGES FOUND
H02: ANOTHER JOB IS CURRENTLY BEING EXECUTED OR THE HISTO FUNCTION IS DISABLED
H03: NO MORE THAN @@@@ KB AVAILABLE

HISTA - Output history file

Error Messages and Advisories

H04: PLEASE WAIT ...

H05: TASK HAS NOT BEEN ADDED

H06: COMPLETE FILE OUTPUT

H07: AMO WAS STARTED ONCE BEFORE (AMO NON REENTRANT)
PLEASE TRY IS-AMOS AGAIN

H08: NEW FAULT REPORTS IN FILE, LIST INITIALIZED

H09: AMO ACTIVE, PLEASE WAIT

H10: AN INITIAL ENTRY WAS DELETED

H11: AN INITIAL ENTRY WAS CHANGED

H12: TIME DECREMENT METHOD IS DEACTIVATED

H13: NO ENTRIES IN THE CONF.-TABLE FOUND

H14: STATISTIC FUNCTION IS CURRENTLY ACTIVE

H15: STATISTIC FUNCTION IS CURRENTLY DEACTIVE

H16: NO ENTRIES IN THE HWES-TABLE FOUND

H17: NO ENTRIES IN THE SWES-TABLE FOUND

H18: STATISTIC-ALARMING IS CURRENTLY ACTIVE

H19: STATISTIC-ALARMING IS CURRENTLY DEACTIVE

H20: STATISTIC-ALARMING IS DEACTIVE
"ACTIVATE WITH COMMAND, CHANGE-HISTA:STALARM,ACT;"

H21: SEARCHING BEFORE 1990 IS NOT POSSIBLE

H22: SEARCHING AFTER 2089 IS NOT POSSIBLE

H23: A CONFIGURATION ALREADY EXISTS. (REG-HISTA;;)

115 HOTLN - Hotline/Offhook Intercept Destinations

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO HOTLN (Internal Traffic Relations groups and Hotline/Offhook Intercept) assigns the corresponding destinations for offhook intercept and hotline (voice and data) to a hotline index which is entered in the line table of each device by AMO SCSU.

- Offhook Intercept = Automatic call setup if dialing is not continued after a specific time period.
- Hotline = Immediate call setup.

Max. up to 22 digits can be entered as destinations. Only the following are recommended:

- for internal hotlining to voice devices
 - Subscriber DNs
 - Attendant console personal key (personal DN)
 - Attendant console general operator key (operator access code)
 - External DNs (applies to hotline only)
 - Hunting group (applies to hotline only)
 - Pickup group member
 - Internal DNI numbers
- for internal hotlining to data devices
 - Subscriber DNs
 - Hunting group
- for trunk hotlining to voice, data, or fax devices

When setting up a trunk to direct connect to a device, use ADD-HOTLN:TYPE=HOTDEST.

- Subscriber DNs (voice,data, or fax)
- Hunting group (voice, data, or fax)
- Attendant console personal key
- Attendant console general operator key

HOTLN - Hotline/Offhook Intercept Destinations

Restrictions

- Internal DNI numbers

115.1 Restrictions

This description is valid from HiPath 4000 V1.0

115.2 Interrelationships

The interrelationship between this AMO and other AMOs in the generation sequence is fully described in the administration document AMO SEQUENCE.

- AMO SCSU : assigns hotline indices to devices
- AMO TACSU : assigns hotline indices to trunks
- AMO DNIT : configures internal DNI numbers
- AMO SA : configures hunt groups
- AMO SDAT : configures subscriber attributes

115.3 Functions of the AMO

- [ADD-HOTLN](#) : Create/change destinations
- [DELETE-HOTLN](#) : Cancel destinations
- [DISPLAY-HOTLN](#) : Display destinations
- [REGEN-HOTLN](#) : Regenerate destinations

115.3.1 ADD-HOTLN

Create one of the following destinations for hotline indices:

1. Offhook Intercept destination for voice
2. Hotline destination for voice
3. Hotline destination for data terminal

Procedure Overview

Command Code	Parameter
ADD-HOTLN	TYPE=OFRCDST,HTLNIDX=<number>,DEST=<key-num>; | TYPE=HOTDEST,HTLNIDX=<number>,DEST=<key-num>; | TYPE=DTEDEST,HTLNIDX=<number>,DEST=<key-num>;

Examples

Example 1

Create hotline destination voice DN = 2360 for hotline indices 1 to 5. (The hotline destinations DN=2000 and DN=4000 are already existing for hotline indices 2 and 5, respectively).

Input:

```
ADD-HOTLN:TYPE=HOTDEST,HTLNIDX=1&&5,DEST=2360;
```

Output:

```
ADD-HOTLN:TYPE=HOTDEST,HTLNIDX=1&&5,DEST=2360;
```

```
H500: AMO HOTLN STARTED
```

```
H1: OVERWROTE DESTINATION 2000 FOR HOTDEST IN HOTLINE INDEX 2
```

```
H1: OVERWROTE DESTINATION 4000 FOR HOTDEST IN HOTLINE INDEX 5
```

```
AMO-HOTLN ... HOTLINE/OFFHOOK INTERCEPT
```

```
ADD COMPLETED
```

Example 2

Assign the hunting group access code = *550 as hotline destination voice to hotline index 100.

(The hotline destination 2222 exists already for hotline index 100.)

Input:

```
ADD-HOTLN:TYPE=HOTDEST,HTLNIDX=100,DEST=*550;
```

Output:

```
ADD-HOTLN:TYPE=HOTDEST,HTLNIDX=100,DEST=*550;
```

```
H500: AMO HOTLN STARTED
```

```
H1: OVERWROTE DESTINATION 2222 FOR HOTDEST IN HOTLINE INDEX 100
```

```
AMO-HOTLN ... HOTLINE/OFFHOOK INTERCEPT
```

```
ADD COMPLETED
```

Example 3

Assign the pickup group member 2200 as hotline destination voice to hotline indices 200 and 250.

HOTLN - Hotline/Offhook Intercept Destinations
Functions of the AMO

Input:
ADD-HOTLN:TYPE=HOTDEST,HTLNIDX=200&250,DEST=2200;
Output:
ADD-HOTLN:TYPE=HOTDEST,HTLNIDX=200&250,DEST=2200;
H500: AMO HOTLN STARTED
AMO-HOTLN ... HOTLINE/OFFHOOK INTERCEPT
ADD COMPLETED

115.3.2 DELETE-HOTLN

- Cancel one of the following destinations for hotline indices:
- 1. Offhook Intercept destination for voice
 - 2. Hotline destination for voice
 - 3. Hotline destination for data terminal
 - 4. All types of the specified hotline indices

Procedure Overview

Command Code	Parameter
DELETE-HOTLN	TYPE=OFRCDDEST, [HTLNIDX=<number>]; | TYPE=HOTDEST, [HTLNIDX=<number>]; | TYPE=DTEDEST, [HTLNIDX=<number>]; | TYPE=ALLDEST, [HTLNIDX=<number>];

Examples

Example 1

Cancel hotline destination voice of hotline indices 3 to 5.

Input:
DELETE-HOTLN:TYPE=HOTDEST,HTLNIDX=3&&5;
Output:
DELETE-HOTLN:TYPE=HOTDEST,HTLNIDX=3&&5;
H500: AMO HOTLN STARTED
AMO-HOTLN ... HOTLINE/OFFHOOK INTERCEPT
DELETE COMPLETED

Example 2

Cancel hotline destination voice of hotline index 250.

Input:

```
DELETE-HOTLN:TYPE=HOTDEST,HTLNIDX=250;
```

Output:

```
DELETE-HOTLN:TYPE=HOTDEST,HTLNIDX=250;
```

```
H500: AMO HOTLN STARTED
```

```
AMO-HOTLN ... HOTLINE/OFFHOOK INTERCEPT
```

```
DELETE COMPLETED
```

115.3.3 DISPLAY-HOTLN

Display the destinations of hotline indices with output in list format:

1. Offhook Intercept destination for voice
2. Hotline destination for voice
3. Hotline destination for data terminal
4. All types of the specified hotline indices

Those destinations that are specified in parameter TYPE are output. When destinations for hotline indice are displayed, only those hotline indice for which at least one destination is found are output.

Procedure Overview

Command Code	Parameter
DISPLAY-HOTLN	TYPE=OFRCDDEST, [HTLNIDX=<number>]; | TYPE=HOTDEST, [HTLNIDX=<number>]; | TYPE=DTEDEST, [HTLNIDX=<number>]; | TYPE=ALLDEST, [HTLNIDX=<number>];

Example

Display all types for hotline indices 1 to 250.

Input:

```
DISPLAY-HOTLN:TYPE=ALLDEST,HTLNIDX=1&&250;
```

Output:

HOTLN - Hotline/Offhook Intercept Destinations

Functions of the AMO

```
DISPLAY-HOTLN:TYPE=ALLDEST,HTLNIDX=1&&250;
H500: AMO HOTLN STARTED

H6: NO DESTINATIONS ARE CREATED AT DTEDEST (FOR THE SPECIFIED
HOTLINE INDEX)

+-----+
| HTLNIDX HOTDEST |
+-----+
| 1      2360      |
| 2      2360      |
| 100    *550      |
| 200    2200      |
+-----+

+-----+
| HTLNIDX OFRCDEST |
+-----+
| 1      *2512      |
+-----+
AMO-HOTLN ... HOTLINE/OFFHOOK INTERCEPT
DISPLAY COMPLETED
```

115.3.4 REGEN-HOTLN

Display the destinations of the hotline indices with output in position-oriented commands for regeneration:

- 1. Offhook Intercept destination for voice
- 2. Hotline destination for voice
- 3. Hotline destination for data terminal
- 4. All types of the specified hotline indices

Those destinations that are specified in parameter TYPE are output.

The command "REGENERATE-HOTLN;" regenerates all HOTLN configured data.

Procedure Overview

Command Code	Parameter
REGENERATE-HOTLN	[TYPE=OFRCDEST], [HTLNIDX=<number>]; | [TYPE=HOTDEST], [HTLNIDX=<number>]; | [TYPE=DTEDEST], [HTLNIDX=<number>]; | [TYPE=ALLDEST], [HTLNIDX=<number>];

Example

Regenerate the offhook intercept destinations for hotline index 90-100.

Input:

```
REGENERATE-HOTLN:TYPE=OFRCDDEST,HTLNIDX=90&&100;
```

Output:

```
REGENERATE-HOTLN:TYPE=OFRCDDEST,HTLNIDX=90&&100;
```

```
H500: AMO HOTLN STARTED
```

```
ADD-HOTLN: OFRCDDEST,100,*2512;
```

```
AMO-HOTLN ... HOTLINE/OFFHOOK INTERCEPT
```

```
REGENERATE COMPLETED
```

115.4 Parameter Description

DEST	Offhook intercept destination
Type of Input	: single value, mandatory
Possible Values	: 0-9,*,#,A-D, up to 22 characters
HTLNIDX	Desired hotline index for hotline/offhook destinations
Type of Input	: 1 to 16 single values, concatenated with & or &&, mandatory (ADD)
	1 to 16 single values, concatenated with & or &&, optional (DELETE, DISPLAY, REGENERATE)
Possible Values	: numeric, 1-512 TYPE=DTEDEST/ OFRCDDEST
	: numeric, 1-2512 TYPE=ALLDEST / HOTDEST
TYPE	Desired hotline/offhook recall option
Type of Input	: single value, mandatory (ADD, DELETE, DISPLAY)
	single value, optional (REGENERATE)
Possible Values	: ALLDEST all destinations
	DTEDEST data hotline destination
	HOTDEST voice hotline destination
	OFRCDDEST offhook recall destination

115.5 Error Messages and Advisories

115.5.1 Error Messages

F01: The entered hotline index is out of permitted range.
Enlarge the range with ADD-DIMSU:HOTDEST=;
F08: @@@@ index @@@ is still being referenced by other trunks and stations.

115.5.2 Advisories

H01: Overwrote destination @@@@@@@@@@@@@@@@@@ for @@@@@@ in hotline index @@@
H02: PRECLEVL is set for both voice and data hotline destination.
H06: No destinations are created at @@@@@@ (for the specified hotline index)

115.5.3 Messages per Action

ADD	F01
	H01
DELETE	F08
	H06
DISPLAY	
	H06
REGENERATE	

116 INFO - File Information

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

This AMO provides information regarding files located on hard disk, cartridge, DAT, flash memory or tape.

The amount of information can be controlled via parameter TYPE with the possible values: small, medium, or large.
Information regarding entire groups of files is possible also by specifying a partly qualified name.

Contents of the File Description:

Small amount of information:

- File name

Medium amount of information - in addition to above:

- Type of file: dir file, data file
- Size of file in bytes
- Record length (SAM files)
- fixed or variable record length (SAM files)

Large amount of information - in addition to above:

- File granularity
- File connections
- Read connections
- Write connections
- Open share
- Owner (user ID)
- Number of volume blocks of the file (occupied space)
- Volume name
- Size of volume in bytes
- Access rights (read, write, append, delete)

RMX Named Area Information

- Area size

- Amount of free space in the area

116.1 Restrictions

The description is valid from SP300 E V3.0.

116.2 Interrelationships

- AMO-complex FIDES : File and device service
(see System AMO Section 'ISY startup system')

116.3 Functions of the AMO

- [START-INFO](#) : Information regarding files of hard disk, DAT, flash memory, cartridge or tape

116.3.1 START-INFO

Starting an information display of files.

If a HD area name is entered, the size of the area and the available capacity is output.

Procedure Overview

Command Code	Parameter
START-INFO	FILENAME=<string>,TYPE=<param>,[SEL=<param>] ,[ANS=<param>],[DIALOG=Y],[UNIT=<param>;

Examples

1. Output file status of file APSN/S/DATE@/ to the logical area PDS in small mode.

Input:

START-INFO:":PDS:APSN/S/DATE@/","S;

Output:

```
< :PDS:APSN/S/DATE@/D >  
< :PDS:APSN/S/DATE@/C >  
  
FSTAT ENDED  
STATUS = H'0000
```

2. The size of the area :A1H1E: is required

Input:

```
START-INFO":A1H1E:",S;
```

Output:

```
AREA NAME      : :A1H1E:  
AREA SIZE      : H'003E0000  
FREE ON AREA   : H'00005000  
FILES ON AREA  : H'00004711  
  
FSTAT ENDED  
STATUS = H'0000
```

116.4 Parameter Description

ANS	Answer Answer requested when parameter SEL=Y. Type of Input : Single value optional Possible Values : Y = output information N = do not output information I = interrupt output C = output information of all subsequent files
DIALOG	Dialog Text to be output on the terminal by programs if the AMO is called. Type of Input : Single value optional Possible Values : Y = yes Default Value : Y
FILENAME	File name of MML-CMD file (test file) Name of file or area Type of Input : Single value mandatory

INFO - File Information
Error Messages and Advisories

	Possible Values	: fully qualified or partly qualified hard disk filename (max. 32 positions) DAT- oder flash memory-filename (max. 32 positions) cartridge or tape filename (max. 17 positions)	
SEL	Selection mode		
	Should an inquiry be made for each file by using parameter ANS when a partially qualified file name is specified, or should the information for each file be output directly?		
	Type of Input	: Single value optional	
	Possible Values	: Y	= yes, inquiry by parameter ANS
		N	= no, no inquiry
	Default Value	: N	
TYPE	Type of information and amount		
	Type of Input	: Single value mandatory	
	Possible Values	: S	= short
		M	= medium
		L	= large
UNIT	Functional system unit i.e. server code		
	Type of Input	: Single value optional	
	Possible Values	: A1	= Administration and Data Server (ADS)
	Default Value	: A1	

116.5 Error Messages and Advisories

116.5.1 Error Messages

None

116.5.2 Advisories

H01: NOTE: FILE STATUS SEGMENT NOT OK

H02: FILE STATUS FINISHED

116.5.3 Output Formats

<format1> - HD

AREA NAME : <areanam>
AREA SIZE : H'<number>
FREE ON AREA : H'<number>
FILES ON AREA : H'<number>

<format2>

OUTPUT FILE STATUS ?

<format3> - RMX - medium und large

FILE TYPE : <type>
FILESIZE : H'<number>
RECORD LENGTH : H'<number>
SAM TYPE : <type>

<format4> - RMX - large

FILE GRANULARITY : H'<number>
FILE CONNECTIONS : H'<number>
READ CONNECTIONS : H'<number>
WRITE CONNECTIONS : H'<number>
OPEN SHARE : H'<number>
OWNER : H'<number>
FILE BLOCKS : H'<number>
VOLUMENAME : <volnam>
VOLUME SIZE : H'<number>
ACCESS : H'<number>

INFO - File Information

Error Messages and Advisories

117 INIT - Hard Disk Area initializing

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

INIT Initialize the Hard Disk

Hard disk areas are initialized with the files required for operation as RMX_Named_File_Disc.

117.1 Restrictions

This description is valid from HiPath 4000 V6.0.

117.2 Interrelationships

- AMO complex FIDES : file and device service
- AMO FORM : Formatting Hard Disk
- AMO DCSM : Device Configuration of Service Modules
- AMO DASM : Area Configuration of Service Modules
- AMO DSSM : Device and Area Switch of Service Modules

117.3 Functions of the AMO

- [START-INIT](#) : Initialize areas of a hard disk
- [CHANGE-INIT](#) : Changing the name of a hard disk area
- [DISPLAY-INIT](#) : Interrogate the areas on a hard disk

117.3.1 START-INIT

If there is an additional partition (e.g. Linux) on the disk, the user have to confirm before the partition will be deleted. This question could be switched off by using the parameter WARN.

If an area is reserved by an external application, the initialization will be rejected.

INIT - Hard Disk Area initializing

Functions of the AMO

Note: If after a successful initialization of an MO the disk cannot be removed, the problem can be solved by deactivating the MO with AMO DSSM.

Procedure Overview

Command Code	Parameter
START-INIT	[UNIT=<param>],DEVNAME=<string> ,[MAXFILE=<number>],[WARN=<param>],[ANS=<param>];

Examples

1. Initialize the second user area on the HD at controller 1

Input:

```
START-INIT:A1,":A1H1F:";
```

2. Initialize all user areas on the HD on controller 1, which have not yet been initialized.

Input:

```
START-INIT:,":A1H11:";
```

3. Initialize areas G, H and I on the HD on controller 1 of the ADS.

Input:

```
START-INIT:A1,A1H1G&A1H1H&A1H1I;
```

4. Initialize area G on the HD on controller 4 with 5000 file nodes.

Input:

```
START-INIT:A1,V1H4G,5000;
```

117.3.2 CHANGE-INIT

This command can change the logical name of an area.

Procedure Overview

Command Code	Parameter
CHANGE-INIT	[UNIT=<param>],DEVNAME=<string>,LANAME=<string>;

Examples

Changing the logical name of the Administration area from A1H2E to ":PDS:".

Input:

```
CHANGE-INIT:,":PDS:";
```

117.3.3 DISPLAY-INIT

Interrogate the areas on a hard disk.

Procedure Overview

Command Code	Parameter
DISPLAY-INIT	[UNIT=<param>], DEVNAME=<string>, [ANS=<param>]

Example

Interrogate the areas on the hard disk A1H11

Input:

DISPLAY-INIT:,A1H11;

Output:

	HARD DISK	DATABASE
SECTOR	H' 0200	H' 0200
AREA NAME:	A1H1A	A1H1A
LOG NAME :		
FIRST :	H' 00000000	H' 00000000
LAST :	H' 0000013F	H' 0000013F
VOL GRAN :	H' 0200	H' 0200
AREA NAME:	A1H1E	A1H1E
LOG NAME :	PDS	PDS
FIRST :	H' 00000140	H' 00000140
LAST :	H' 0001293F	H' 0001293F
VOL GRAN :	H' 1000	H' 1000
AREA NAME:	A1H1F	A1H1F
LOG NAME :	DBDA	DBDA
FIRST :	H' 00012940	H' 00012940
LAST :	H' 0001713F	H' 0001713F
VOL GRAN :	H' 0200	H' 0200
AREA NAME:		A1H1G
LOG NAME :		AMD
FIRST :	H' 00000000	H' 00017140
LAST :	H' 00000000	H' 000262D1
VOL GRAN :	H' 0000	H' 0200
AREA NAME:		
LOG NAME :		
FIRST :	H' 00000000	H' 00000000
LAST :	H' 00000000	H' 00000000
VOL GRAN :	H' 0000	H' 0000
AREA NAME:		
LOG NAME :		
FIRST :	H' 00000000	H' 00000000
LAST :	H' 00000000	H' 00000000
VOL GRAN :	H' 0000	H' 0000

INIT - Hard Disk Area initializing

Parameter Description

```
AREA NAME: |
LOG NAME : |
FIRST  : H'00000000 | H'00000000
LAST   : H'00000000 | H'00000000
VOL_GRAN : H'0000 | H'0000
-----+-----
AREA NAME: |
LOG NAME : |
FIRST  : H'00000000 | H'00000000
LAST   : H'00000000 | H'00000000
VOL_GRAN : H'0000 | H'0000
```

117.4 Parameter Description

ANS	Answer User prompting (requested when user reply required) Type of Input : Single value optional Possible Values : Y = Initialize hard disk N = Do not initialize hard disk
DEVNAME	Areaname (START, CHANGE) Devicename (DISPLAY) Type of Input : Single value (CHANGE, DISPLAY) Single value or max. 8 with '&' chained single values (START) mandatory Possible Values : Defined area name, max. 32 digits
LANAME	Logical name of the program library Type of Input : Single value mandatory Possible Values : 1 - 9 signes if it is bounded from ":",e.g. ":PDS:" or 1 - 7 signes if not included in ":" the first sign must be a letter the following signs can be all ASCII signes except '*' '/' ':' ';' '' and
MAXFILE	Number of file nodes to be created Type of Input : Single value optional

Possible Values : 100 - 65500
Default Value : 1 file node per 16 kByte area size

UNIT Functional system unit code i.e. server code.
Module into which the AMO is to be loaded.
Type of Input : Single value
optional
Possible Values : A1 = Administration and Data Server (ADS)
Default Value : A1

WARN Ask question if additional partitions will be deleted
Type of Input : Single value
optional
Possible Values : Y = yes, ask
N = no, don't ask
Default Value : Y

117.5 Error Messages and Advisories

117.5.1 Error Messages

F01: PARAMETER UNIT IS NOT EQUAL TO THE UNIT OF THE NAMED AREA
F03: AREAS ON HD NOT EQUAL TO AREAS IN DATABASE
F04: THE AREA <devname> TO BE INITIALIZED DOES NOT
IMMEDIATLY FOLLOW THE PREDECESSOR ONE.
PLEASE INITIALIZE THE AREA <devname> FIRST
F07: AREA <devname> NOT IN DATABASE
F08: INIT ON ADMINISTRATION AREAS NOT POSSIBLE
F09: LOGICAL NAME OF SPECIFIED AREA
CAN NOT BE CHANGED
F10: INVALID AREA NAME
F11: SPECIFIED NAME <devname> IS NOT A NAME OF A DEVICE
F12: SPECIFIED DEVICE <devname> IS NOT A HARD DISK
F13: SPECIFIED AREA NOT INITIALIZED
F14: <input> SYNTACTICALLY INCORRECT
.....\$ (CHARACTER numer)
F15: AREA <devnam> (LAST_SECTOR = H'last_sector)
NOT INITIALIZED,
BECAUSE THERE IS NOT ENOUGH SPACE ON THE DEVICE (LAST_SECTOR = H'last_sector)
F16: NO VOLUME IN DEVICE <devname>
F17: VOLUME IN DEVICE <devname> IS WRITE PROTECTED

INIT - Hard Disk Area initializing
Error Messages and Advisories

F18: REJECTED BECAUSE THE AREA <:area:> IS USED BY THE EXTERNAL APPLICATION
<appl>;START-INIT NOT POSSIBLE UNTIL AREA IS DEACTIVATED BY THE EXTERNAL
APPLICATION

F19: WRONG DEVICE TYPE CONFIGURED IN DATABASE FOR
<:devtype:>

117.5.2 Advisories

H01: CREATE AND WRITE FNODE FILE

H02: INIT FOR <devname> COMPLETED

H03: INIT FINISHED

H04: IT WILL BE TRIED TO WRITE UPON A NOT FORMATTED MANAGEMENT AREA

H05: MANAGEMENT AREA WRITTEN

H06: PARTITION FOR sysname FILESYSTEM
SYSTEM ID H'sysid WILL BE DELETED FROM HARD DISK
CONTINUE INITIALISATION (Y/N)?

H07: AREA <devname> DELETED FROM ADMINISTRATION AREA

H08: AREA <devname> IS REACHING INTO THE NEXT AREA
AREA <devname> HAS TO BE INITIALIZED

H09: THE AREAS
<areas>
CONFIGURED IN THE DATABASE OVERLAP WITH NON-RMX PARTITIONS.

H10: THE AREAS
<areas>
CONFIGURED ONLY IN THE ADMINISTRATION AREA ARE OUTSIDE THE RMX PARTITION.
THESE AREAS ARE DELETED.

H11: DO YOU WANT TO REINITIALIZE ALL (CONSISTENT) AREAS (Y/N)?
(ALL DATA WILL BE DELETED)

117.5.3 Settings

appl	HP PC LINUX
sysname	LINUX UNKNOWN

118 JOB - Administration of the JOB Task

Restrictions	System Overview	Parameter Description	Conventions and Restrictions
Interrelationships	Functions of the AMO	Error and advisory messages	

The purpose of AMO JOB is the administration of the JOB table. Handling MML-batch files originating from DMS the JOB Task enters informations concernig the request of DMS in the JOB Table. The following data are stored in the JOB Table:

- validity flag
- CRON Tab index
- EXE type of execution
- name of the Batch -Protocol file
- name of the Batch-Protocol file remote
- partner name
- login name and password at the partner system
- data concerning the file transfer (JOB Task <-----> DMS)
- counter for attempts to send the protocol to DMS
- batch job state

118.1 Restrictions

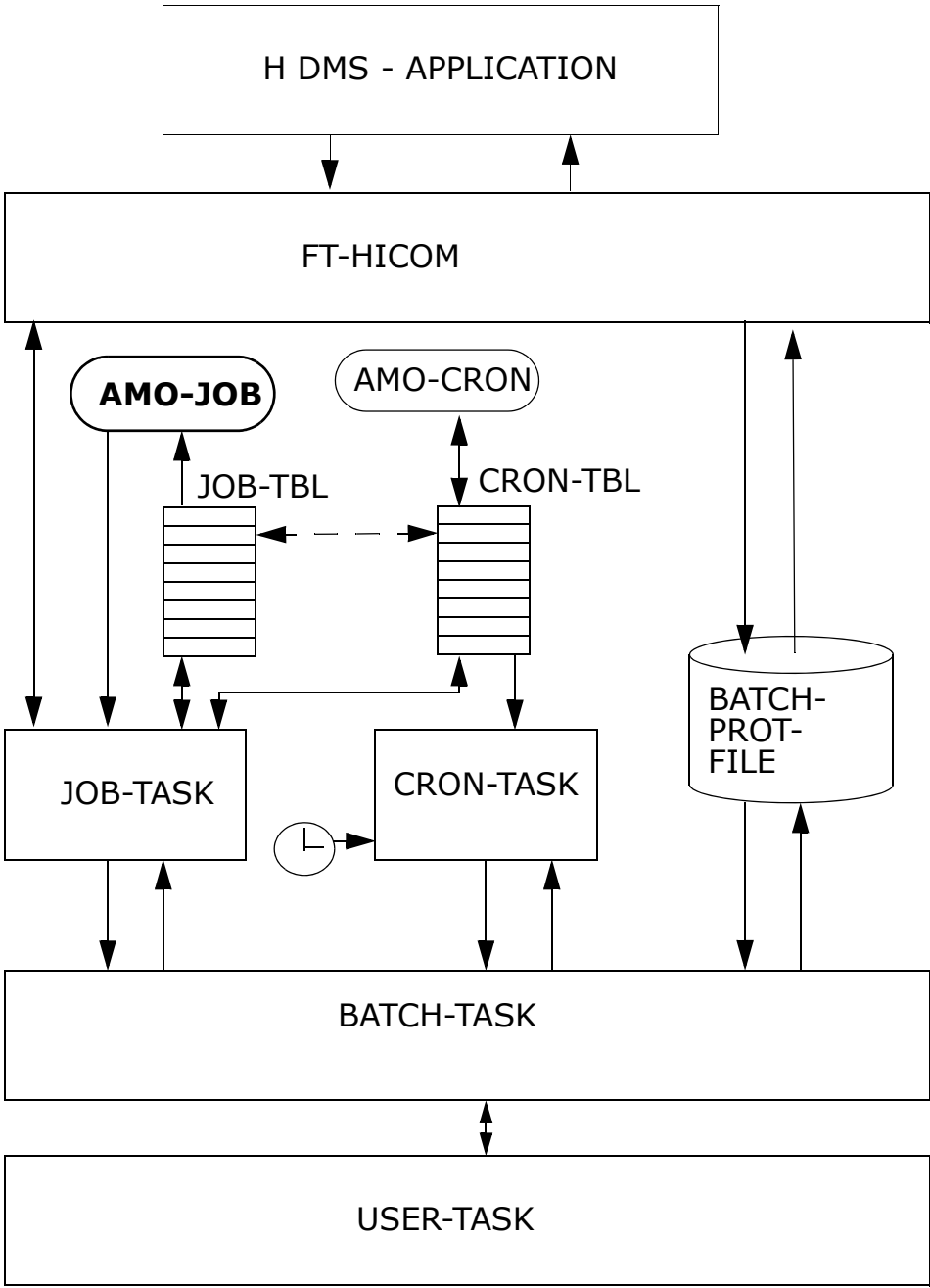
This description is valid from Hicom 300 E V3.0

118.2 Interrelationships

- JOB-TASK : Task handling batch jobs from DMS
- CRON-TASK : Task handling time dependent commands
- AMO-CRON AMO administrating the CRON Tab
- FT-HICOM File Transfer receiving Batch Jobs from DMS
- BATCH-TASK Task executing received batch jobs
- DMS DMS application sending Batch Jobs via file transfer

118.3 System Overview

Figure 1: AMO JOB in the system



From Hicom E V3.0 onward the JOB Task on ADP provides **ONLY for DMS** (Domain Mangement System) the entry point to execute HICOM AM-Batch files (the integrated LINUX will not be delivered any more) .

Short Description

- The JOB-Task receives messages from DMS containing MML-Batch Jobs via FT-SINIX - FT-HICOM.
- Data concerning the received Batch Job are entered into the JOB Tab and in case of a periodical job into the CRON Tab.
- In case of an immediate Batch Job the JOB Task triggers an immediate execution of the Batch Job by the BATCH Task.
- In case of a periodical Batch Job the CRON Task triggers a periodical (according to the time stamp contained in the CRON Tab entry) execution of the Batch Job by the BATCH-Task.
- After an execution of a Batch Job by the BATCH Task the JOB-Task receives a protocol from the Batch Task. This protocol is forwarded via FT-HICOM - FT-SINIX to the DMS application.
- If the execution mode of the Batch Job is "O" once or "I" immediate the corresponding entry of the Batch Job in the JOB-Tab is deleted by the JOB Task immediately after a successful execution of the Batch Job by the BATCH Task.
- Periodical Batch Jobs can either be deleted by a DELETE ORDER from the DMS application or by a DELETE COMMAND via AMO JOB.

118.4 Functions of the AMO

- [DELETE-JOB](#) : Deleting a singular or several entries of the JOB Table
- [DISPLAY-JOB](#) : Displaying one or all entries of the JOB Table

118.4.1 DELETE-JOB

If MODE=INIT etc..

Procedure Overview**Command Code**

DELETE-JOB

Parameter

JOB=<param>;

Example

- 1. Deleting the entry with JOB index 10 from the JOB Table.

Input:

DELETE-JOB:10;

Output:

DEL-JOB:10;
H500: AMO JOB GESTARTED
H02: ENTRY WITH INDEX 10 DELETED
AMO-JOB -204 ADMINISTRATION OF THE JOB-TABLE
DELETE COMPLETED

- 2. Deleting entry 3 till 7 from the JOB Table

Input:

DELETE-JOB:3&&7;

Output:

LOE-JOB:3&&7;
H500: AMO JOB GESTARTED
H02: ENTRY WITH INDEX 3 DELETED
H02: ENTRY WITH INDEX 4 DELETED
H02: ENTRY WITH INDEX 5 DELETED
H02: ENTRY WITH INDEX 6 DELETED
H02: ENTRY WITH INDEX 7 DELETED
AMO-JOB -204 ADMINISTRATION OF THE JOB-TABLE
DELETE COMPLETED

118.4.2 DISPLAY-JOB

Entries of the JOB Table are displayed.

Procedure Overview

Command Code
DISPLAY-JOB

Parameter
JOB=<param>;

Examples

- 1. Displaying a singular entry of the JOB table

Input:

DISPLAY-JOB:7;

Output:

JOB-TABLE										
JOB	EXE	MIN	H	DAY	MNT	WDY	FILE NAME			
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----										
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----										

PARTNER		JOB-STATUS				ATTEMPTS		USER ID	
USER ID									
7	R	20	13	01	04	*		:DMS:BATCH/C009AN160094.C	
MXFCEN	BATCH_JOB_WAITING				0			ncc	

The entry with the JOB Table index 7 is displayed.

2. Displaying the whole JOB table

Input:

DISPLAY-JOB;

Output:

The whole JOB Table is displayed.

3. Displaying entries of the JOB Table from JOB Table index m till JOB Table index n.

Input:

DISPLAY-JOB:1&&7;

Output:

The JOB Table elements from JOB Table index 8 till index 14 are displayed.

H500: AMO JOB STARTED

JOB-TABLE									
JOB	EXE	MIN	H	DAY	MNT	WDY	FILE NAME		
-----+									
-----+									
PARTNER		JOB-STATUS				ATTEMPTS		USER ID	
-----+									
-----+									
1	R	20	13	01	04	*	:DMS:BATCH/C009AN160094.C		
MXFCEN	BATCH_JOB_WAITING					0		ncc	
2	R	20	13	01	04	*	:DMS:BATCH/C009AN160094.C		
MXFCEN	BATCH_JOB_WAITING					0		ncc	
3	R	20	13	*	*	*	:AMD:2.C		
MXFCEN0	TRANSFERE_TERMINATED					0		batch	
4	R	20	13	*	*	*	:DMS:BATCH/C009AN160094.C		
MXFCEN	BATCH_JOB_WAITING					0		ncc	
5	R	20	13	*	*	*	:AMD:2.C		
MXFCEN0	BATCH_JOB_WAITING					0		batch	
6	R	20	13	*	*	*	:DMS:BATCH/C009AN160094.C		
MXFCEN	BATCH_JOB_WAITING					0		ncc	

```
| 7| R| 20 | 13| *| *| *| :DMS:BATCH/C009AN160094.C |
| MXFCEN | BATCH_JOB_WAITING | 0 | ncc |
AMO-JOB -69 ADMINISTRATION OF THE JOB-TABLE
DISPLAY COMPLETED
```

118.5 Parameter Description

JOB	Position in the time-schedule table
Type of Input	: single value or range, mandatory DELETE optional DISPLAY: in case of no input for the parameter JOB the whole JOB Table will be displayed
Possible Values	: 1-256
Default Value	: n index of the JOB Table element (DELETE,DISPLAY) : 1&&256 all entries (DISPLAY and DELETE) m&&n all entries between m and n (DISPLAY and DELETE)

118.6 Error and advisory messages

118.6.1 Error Messages

The value of the insertion <status> may be as follows:

- F01: FUNCTION NOT AVAILABLE
- F02: ENTRY TO BE DELETED WITH INDEX @@@ DOES NOT EXIST
- F03: THE ELEMENT TO BE DELETED WITH INDEX @@@ HAS AN INVALID STATE

118.6.2 Advisories

- H01: NO VALID JOB TAB ENTRY FOUND
- H02: ENTRY WITH INDEX @@@ DELETED

118.7 Conventions and Restrictions

- From Hicom E V3.0 onward the JOB Task on ADP provides **ONLY for DMS** (Domain Management System) the entry point to execute HICOM AM-Batch files (the integrated LINUX will not be delivered any more) .
- The name of the Batch File has to consist of **capital letters**.
- A **modification of an entry into the JOB Table** is only possible by a DELETE of the JOB by a DELETE ORDER from the DMS application with a subsequent new BATCH- ORDER(send of a message to JOB Task, containing the Batch File).
- Name convention for the Batch File: the second colon has to be the fifth character.
e.g.: :DMS:BATCH/C009AN160094.C
- If the JOB-Table is full (256 entries) further Batch Jobs will be discarded without acknowledgement.
- If the file containing the JOB Table is deleted with AMO-DEL, it is created with the next Batch Job. Entries of the CRON Table belonging to the former JOB Table (entries with JOB Index $\neq 0$) will be deleted.
- A DELETE Order concerning a Batch Job, which has a state different from BATCH_JOB_WAITING and TRANSFERE_TERMINATED, will be discarded, if it originates from the DMS application. The DELETE Order will be discarded and acknowledged negatively if it originates from AMO JOB.
- BATCH Jobs staying in the state BATCH_JOB_RUNNING **CANNOT be canceled** by the JOB Task.
- Regular Batch Jobs or Singular Batch Jobs, which are to be executed in the future, are rounded off to 10 min because of the logics of the CRON Task.

- During the startup the JOB Task checks the new **format of the CRON Table** (from EV3.0 onward). If the CRON Table has an old format, i.e. it has only max. 32 entries, it is deleted and an empty CRON Table with the new format is created.

118.8 Appendix: An Example for the System Installation

```
Configuration HICOM
=====
```

```
HICOM IP-ADR's :   xxx.xx.xx.xxx
```

```
YYY.YY.YY.YYY
```

```
zzz.zz.zz.zzz
```

```
LINUX IP-ADR:      uuu.u.uuu.uu
```

```
Symb. SINIX Name: XXXX
```

```
EINR-DIMSU:TYP=CC,WAML1=3;
```

```
einr-bcsu:per,1,2,55,q2205-x,1;
```

```
EINR-LANC:1,2,55,GLOBAL,155,WESTERN,ATLLAN&EXTLAN1,KEINE,,,,,,,,,PROXY,PROXY;
```

```
EINR-LANC:LTG=1,LTU=2,EBT=55,TABTYP=NETZWERK,NETNAME=EXTLAN1,
IPADR=xxx.xx.xx.xxx,IPNMASK=255.255.255.0,;
```

```
EINR-LANC:LTG=1,LTU=2,EBT=55,TABTYP=IPROUTE,IPADR=zzz.z.zzz.z,,
DESTTYPE=NETZ,IPNMASK=255.255.255.0, NEX-
```

```
TROUT=yyy.yy.yy.yyy;
```

```
AB-LANC:1,2,55,ALLE;
```

```
EXEC-LANC:1,2,55;
```

```
EINRICHTEN-CPTP:DVAVERB,8,"XXXXX","uuu.u.uuu.uu";
```

```
/*EINRICHTEN-CPTP:APPL,42,"FAMOS","XXXX","DIPAS",JA,102,102,"DI-HIC","DI-DMS";
*/
```

```
EINRICHTEN-CPTP:APPL,60,"FILETRAN","XXXX","FT0",JA,102,102,"FT-HIC","$FJAM";
```

```
EINRICHTEN-CPTP:APPL,61,"FILETRAN","XXXX","FT1",JA,102,102,"FT-HIC","$FJAM000";
```

```
EINRICHTEN-CPTP:APPL,62,"FILETRAN","XXXX","FT2",JA,102,102,"FT-HIC","$FJAM001";
```

```
EINRICHTEN-CPTP:APPL,63,"FILETRAN","XXXX","FT3",JA,102,102,"FT-HIC","$FJAM002";
```

```
EINRICHTEN-CPTP:APPL,64,"FILETRAN","XXXX","FT4",JA,102,102,"FT-HIC","$FJAM003";
```

```
EINRICHTEN-CPTP:APPL,65,"FILETRAN","XXXX","FT5",JA,102,102,"FT-HIC","$FJAM004";
```

JOB - Administration of the JOB Task

Appendix: An Example for the System Installation

```
EINR-FTCSM:A1,KO,1,"MXFCENT","MIZZI","FT1","SINIX1",SONST;  
EINR-FTCSM:A1,FTVR,2,"DBD:FTORDERA1",2,1,1;  
EINR-FTCSM:A1,STATE,RUN;
```

JOB - Administration of the JOB Task

Appendix: An Example for the System Installation

119 KCSU - Keysystem Configuration in Switching Unit

The description of this AMO is only available in html format!

120 KDEV - Creation and administration of customer files

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The task of this AMO is to administer and add the entries for the customer file "PPCF". It is possible for the user to set up, change or delete a file in accordance with his or her individual wishes.

The task of the file is to define the sequence of organizational units, station numbers and personal numbers and their relation to one another, and to keep them ready for data retrieval.

Up to 3,000 elements may be entered, an element being an organization name (e.g. 'EA'), a station number or a PIN.

An element basically consists of two parts, a

- name and
- name identification.

The name consists of alphanumeric characters and can be a maximum of 12 characters in length. The maximum length of the station number is 6 digits.

The name identification tells whether an organizational unit, a station number or a personal number is involved.

The generic term for a customer file is the name PPCF, and it is given the highest rank in the hierarchy (see also Figure 1). It is the same for every customer.

There are four hierarchy levels under the PPCF:

- ORG1
- ORG2
- ORG3
- T/P

T/P is the hierarchy level for the PP (station) or PIN, and is the lowest level.

The following points should be noted when setting up a customer file:

- Stations and PINs can stored mixed within an organizational unit.
- Stations, PINs or an organizational unit which is lower in the hierarchy can be subordinate to an organizational unit.

- Organizational units can not be subordinate to a T/P level.
- Organizations names, station numbers and PINs may occur once only in the file, i.e. a station number may be used, for example, as the PP number, but the same designation may be used as a PIN and/or ORG unit.
- An ORG unit need not necessarily be allocated a station number or PIN.

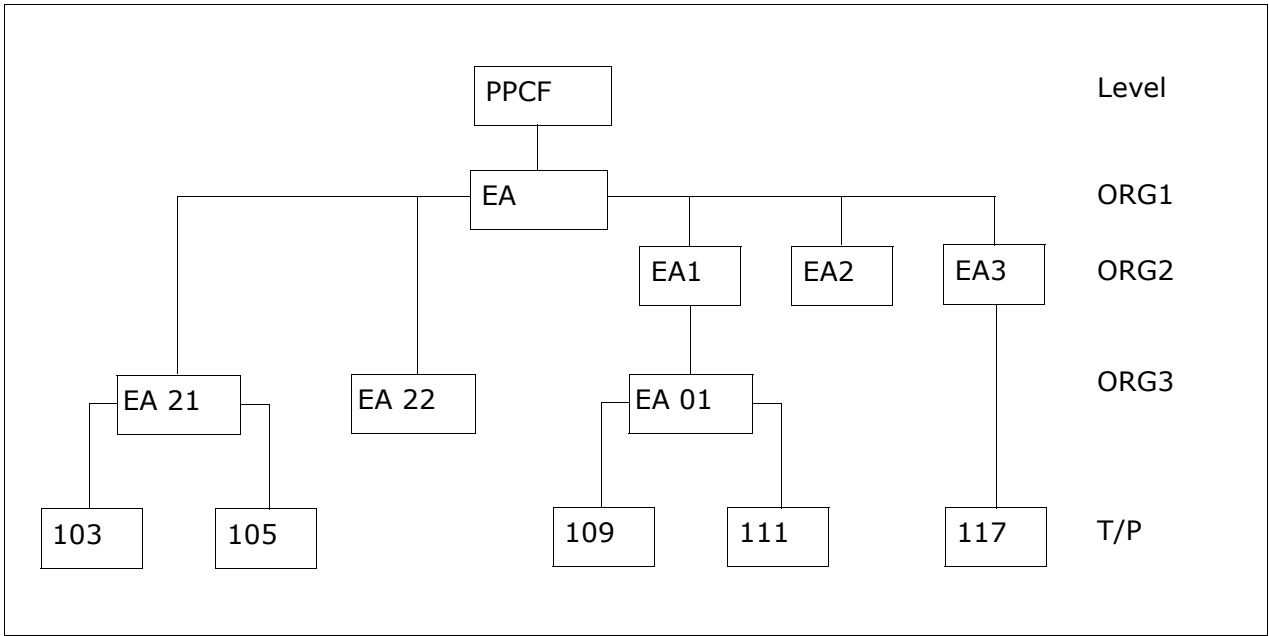


Figure 8 Sample Structure of a Customer File as a Hierarchy Tree

PPCF (generic term for every file) is assigned the highest hierarchy level.

Directly subordinate to this is the EA department on ORG level 1.

Under EA are departments EA21, EA22 on ORG level 3 and departments EA1, EA2 and EA3 on ORG level 2.

EA21 has two subordinate stations 103 and 105 on the T/P level.

EA22 has no subordinate stations/PINs.

Department EA01 on ORG level 3 is subordinate to EA1.

EA01 has two subordinate stations 109 and 111 on the T/P level.

EA2 has no subordinate units.

PIN 117 on the T/P level is subordinate to EA3.

Using DISPLAY-KDEV, the following printout would result for this example:

```
ENTRIES FOR      ORG PPCF                      8 .7
.1999

(1) EA            (3) EA21          (T) 103
(1) "            (3) "              (T) 105
```

```

(1) "          (3) EA22
(1) "          (2) EA1          (3) EA01
(T) 109
(1) "          (2) "          (3) "
(T) 111
(1) "          (2) EA2
(1) "          (2) EA3          (P) 117

12 ENTRIES IN CDR CUSTOMER FILE (PPCF)

```

The sequence in the file is from left to right and from top to bottom.
The values in parentheses refer to the level.

120.1 Interrelationships

None

120.2 Functions of the AMO

- [ADD-KDEV](#) : Create the PPCF or add new entries
- [CHANGE-KDEV](#) : Change entries
- [RENAME-KDEV](#) : Rename entries
- [DELETE-KDEV](#) : Delete the PPCF or parts of the PPCF
- [DISPLAY-KDEV / REGENERATE-KDEV](#) : Display the PPCF or parts of the PPCF / Regenerate the PPCF or parts of the PPCF

120.2.1 ADD-KDEV

With the ADD function, the user selects whether an "ORG", a station or a "PIN" should be added to the PPCF.

A maximum of 8 entries with the same name identification can be chained with one order, i.e. using an input command an organizational unit can be assigned a maximum of 8 stations or "PINs" with the same ORG level.

Procedure Overview

Command Code

ADD-KDEV

Parameters

POS=<param>, IDOLD=<param>, OLDNAME=<string>
, IDNEW=<param>, NEWNAME=<string>;

KDEV - Creation and administration of customer files

Functions of the AMO

Position specifications and the following instructions define how the entries are filed in terms of organization of the "PPCF".

Example

Add the customer file shown at the beginning

1. On ORG level 1, the organizational designation "EA" should be the absolute first entry.

Input:

```
ADD-KDEV:U,ORG,PPCF,ORG1,EA;
```

Under ORG unit "EA", add an ORG level with the organizational designations "EA21" and "EA22".

Input:

```
ADD-KDEV:U,ORG,EA,ORG3,EA21&EA22;
```

2. Add an ORG2 level with organizational designations "EA1", "EA2" and "EA3" under ORG unit "EA22".

Input:

```
ADD-KDEV:A,ORG,EA22,ORG2,EA1&EA2&EA3;
```

3. Add stations "103" and "105" under ORG unit "EA21".

Input:

```
ADD-KDEV:U,ORG,EA21,STN,103&105;
```

4. Assign ORG unit "EA1" subordinate to ORG3 level with the organizational designation "EA01".

Input:

```
ADD-KDEV:U,ORG,EA1,ORG3,EA01;
```

5. Add stations "109" and "111" under ORG unit "EA01".

Input:

```
ADD-KDEV:U,ORG,EA01,STN,109&111;
```

6. Add PIN 117 under ORG unit "EA3".

Input:

```
ADD-KDEV:U,ORG,EA3,PIN,117;
```

120.2.2 CHANGE-KDEV

With this function it is possible for the user to move an entry, whether it is an ORG unit, a station or a PIN, from an existing structure column to another. (This is only possible with REN-KDEV). This means that when the CHANGE function is run, in order to prevent mix-ups the parameter IDNEW does not differentiate between different ORG levels. Simply enter "ORG" for IDNEW.

Procedure Overview

Command Code

CHANGE-KDEV

Parameters

POS=<param>, IDOLD=<param>, OLDNAME=<string>
, IDNEW=<param>, NEWNAME=<string>;

Examples

These refer to the customer file shown at the beginning.

1. The already existing ORG unit "EA01" with its assigned stations is added under the already existing ORG unit "EA2".

Input:

```
CHANGE-KDEV:U,ORG,EA2,ORG,EA01;
```

2. The already existing ORG unit "EA22" is added under the already existing ORG unit "EA2". But since the ORG unit "EA01" has already been added as a subordinate by the preceding order, "EA22" is appended at the end. There are two alternative procedures available for this situation.

Either input:

```
CHANGE-KDEV:U,ORG,EA2,ORG,EA22;
```

Or input:

```
CHANGE-KDEV:A,ORG,EA01,ORG,EA22;
```

After execution of change procedures 1 and 2:

Input:

```
DISPLAY-KDEV:ORG,PPCF;
```

Structure of the customer file in output format

Output:

```
ENTRIES FOR   ORG PPCF                               8 .7 .1999

(1) EA          (3) EA21          (T) 103
(1) "           (3) "            (T) 105
```

KDEV - Creation and administration of customer files

Functions of the AMO

(1)	"	(2)	EA1	(3)	
(1)	"	(2)	EA2	(3)	EA01
(T)	109				
(1)	"	(2)	"	(3)	"
(T)	111				
(1)	"	(2)	"	(3)	EA22
(1)	"	(2)	EA3	(P)	117

12 ENTRIES IN CDR CUSTOMER FILE (PPCF)

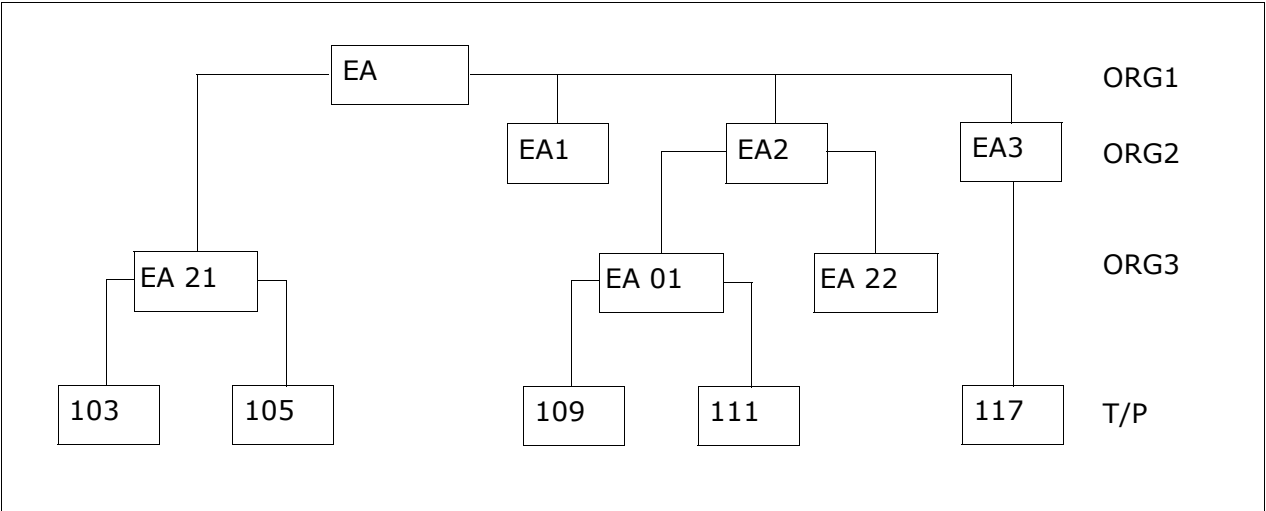


Figure 9 Structure of the Customer File as Hierarchy Tree

120.2.3 RENAME-KDEV

Change an existing name and/or an ORG unit to a new, non-existent name or to a new ORG level.

Procedure Overview

Command Code

RENAME-KDEV

Parameters

IDOLD=<param>,OLDNAME=<string>
, { (min1) IDNEW=<param>,NEWNAME=<string>;

Both old parameters can be renamed to a single command, but either only IDOLD or only OLDNAME can be changed.
Stations and PINs can not be renamed.
For reasons related to administration, the name PPCF can not be renamed.

Examples

These refer to the customer file shown at the beginning.

1. The name is to be changed. It must be noted that the group parameter is not to be entered, but the space for the parameter must be kept free (2 commas). IDNEW may be entered, but must correspond to the original identification.

Change the name of ORG unit "EA21" to "EA11".

Input:

```
RENAME-KDEV:ORG,EA21,,EA11;
```

2. Change the ORG level. The group parameter "NEWNAME" need not be given.

Change the ORG level for ORG unit "EA2" to "ORG3".

Input:

```
RENAME-KDEV:ORG,EA2,ORG3;
```

3. Rename the ORG level and the name. Both group parameters IDNEW and NEWNAME are required in this case.

Rename the ORG level for ORG unit "EA22" to "ORG2" and the name to "EA33".

Input:

```
RENAME-KDEV:ORG,EA22,ORG2,EA33;
```

Following execution of the procedures:

Structure of the customer file in output form

```
ENTRIES FOR   ORG PPCF                               8 .7 .1999

(1) EA          (3) EA11          (T) 103
(1) "            (3) "            (T) 105
(1) "            (2) EA33
(1) "            (2) EA1          (3) EA01
(T) 109
(1) "            (2) "            (3) "
(T) 111
(1) "            (3) EA2
(1) "            (2) EA3          (P) 117

12  ENTRIES IN CDR CUSTOMER FILE (PPCF)
```

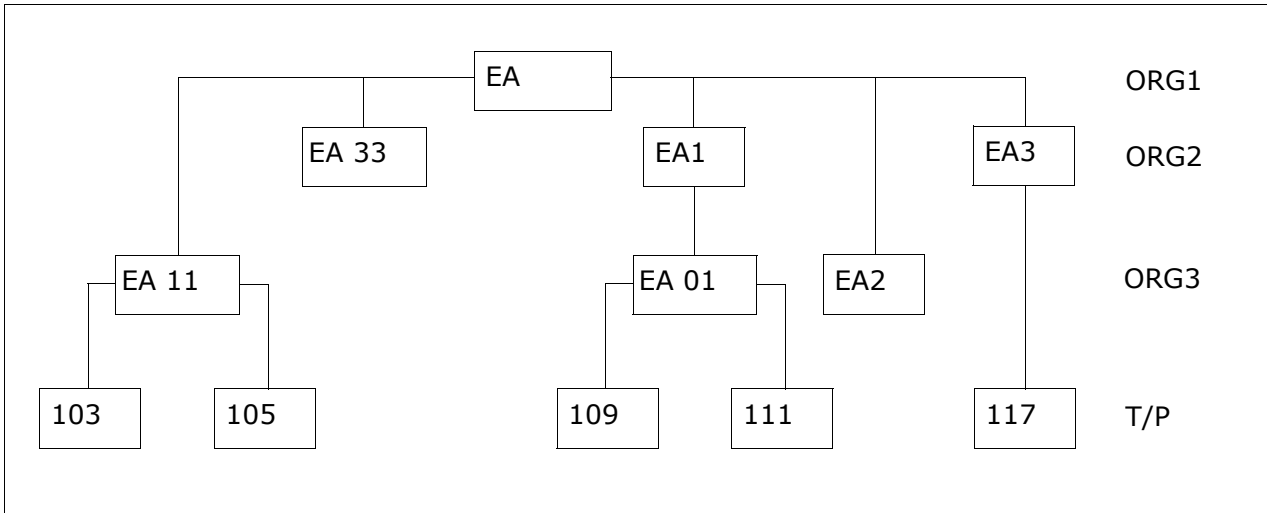


Figure 10 Structure of the Customer File as Hierarchy Tree

120.2.4 DELETE-KDEV

With this function the user can delete sections of the customer file or the entire customer file. Since in addition to the customer file a further file with the CDBs (call charge data records) for the stations and/or PINs exists on the hard disk, it must be specified whether the cost carrier should be deleted despite the presence of any CDBs. For an ORG level which is to be deleted, it must be specified whether only the entry for this level is to be deleted, or whether any levels assigned subordinate to this level are also to be deleted in the process. In the latter case, it must then be specified whether any CDBs present for stations or PINs are to be deleted.

Procedure Overview

Command Code

DELETE-KDEV

Parameter

IDOLD=ORG, SUBLEV=Y, DEL=<param>
 , OLDNAME=<string>;
| IDOLD=ORG, SUBLEV=N, OLDNAME=<string>;

| IDOLD=STN, DEL=<param>, OLDNAME=<string>;

| IDOLD=PIN, DEL=<param>, OLDNAME=<string>;

Examples

These refer to the customer file shown at the beginning.

1. Delete an ORG unit including subunits and despite the presence of any CDBs (see ORG unit "EA21" as example).

Input:

```
DELETE-KDEV:ORG,Y,Y,EA21;
```

2. Delete a station or PIN only if CDBs not present ("PIN 117" as example)

Input:

```
DELETE-KDEV:PIN,N,117;
```

3. Delete an ORG unit without subunits (ORG unit "EA1" as example).

Input:

```
DELETE-KDEV:ORG,N,EA1;
```

4. Delete the entire customer file despite presence of CDBs

Input:

```
DELETE-KDEV:ORG,Y,Y,PPCF;
```

Following execution of delete procedures 1-3:

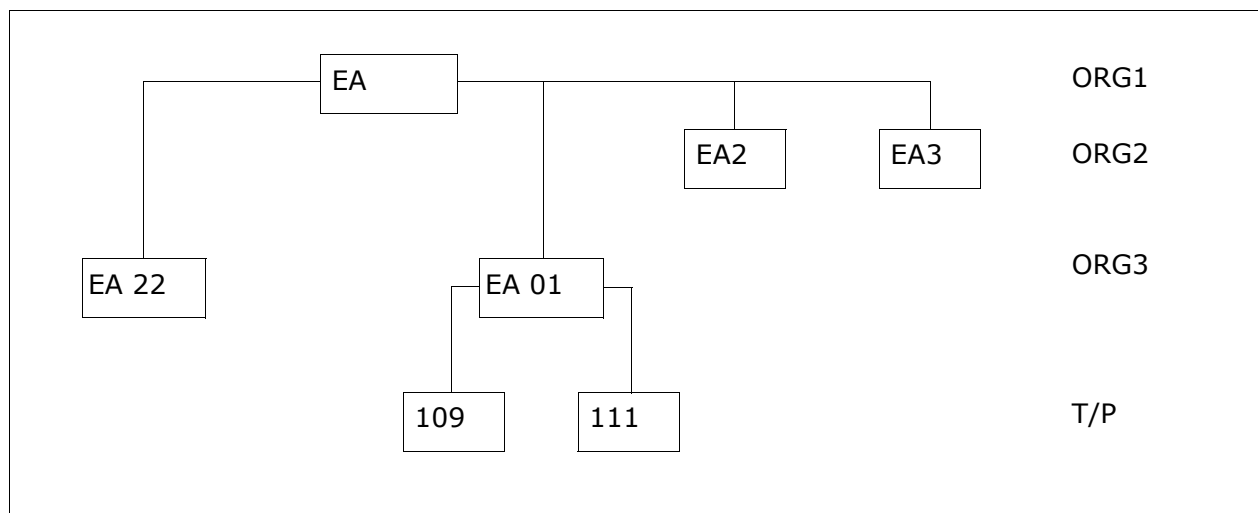
Structure of the customer file in output format

```
ENTRIES FOR      ORG PPCF                                     8 .7 .1999

(1) EA           (3) EA22
(1) "            (3) EA01          (T) 109
(1) "            (3) "             (T) 111
(1) "            (2) EA2
(1) "            (2) EA3

7      ENTRIES IN CDR CUSTOMER FILE (PPCF)
```

Functions of the AMO



```

(1) "          (3) "          (T) 105
(1) "          (3) EA22
(1) "          (2) EA1          (3) EA01
(T) 109
(1) "          (2) "          (3) "
(T) 111
(1) "          (2) EA2
(1) "          (2) EA3          (P) 117

12  ENTRIES IN CDR CUSTOMER FILE (PPCF)
    
```

2. Interrogate the customer file for regeneration.

Input:

REGENERATE-KDEV:ORG,PPCF;

Output:

```

ADD-KDEV:U,ORG,"PPCF",ORG1,"EA";
ADD-KDEV:U,ORG,"EA",ORG3,"EA21";
ADD-KDEV:U,ORG,"EA21",STN,"103";
ADD-KDEV:U,ORG,"EA21",STN,"105";
ADD-KDEV:U,ORG,"EA",ORG3,"EA22";
ADD-KDEV:U,ORG,"EA",ORG2,"EA1";
ADD-KDEV:U,ORG,"EA1",ORG3,"EA01";
ADD-KDEV:U,ORG,"EA01",STN,"109";
ADD-KDEV:U,ORG,"EA01",STN,"111";
ADD-KDEV:U,ORG,"EA",ORG2,"EA2";
ADD-KDEV:U,ORG,"EA",ORG2,"EA3";
ADD-KDEV:U,ORG,"EA3",PIN,"117";
    
```

120.3 Parameter Description

IDOLD	Identification of position parameter
Type of Input	: Single value, required (ADD, DELETE, DISPLAY, REGENE-RATE, CHANGE, RENAME)
Possible Values	: ORG = Organization PIN = Personal identification number STN = Stationnumber
IDNEW	Identification of new entry
Type of Input	: Single value, required (ADD,CHANGE) optional, 1. parameter of a min-1-group (RENAME)
Possible Values	: ORG1 = Organization level 1 ORG2 = Organization level 2 ORG3 = Organization level 3 PIN = Personal identification number

KDEV - Creation and administration of customer files

Error Messages and Advisories

	STN	= Stationnumber
DEL	Delete branch parameter, list	
	Type of Input	: Single value, required (DELETE)
	Possible Values	: N = No
		Y = Yes
OLDNAME	Name of position parameter	
	Type of Input	: Single value, required (ADD, DELETE, DISPLAY, REGENE-RATE, CHANGE, RENAME)
	Possible Values	: max. 12 Positions
NEWNAME	Name of new entry	
	Type of Input	: Single value, required (ADD,CHANGE) optional, 2. parameter of a min-1-group (RENAME)
	Possible Values	: max. 12 Positions
POS	Position parameter	
	Type of Input	: Single value, required (ADD,CHANGE)
	Possible Values	: A = Value for position AFTER
		B = Value for position BEFORE
		U = Value for position UNDER
SUBLEV	Sub-levels should also be deleted	
	Type of Input	: Single value, required (DELETE)
	Possible Values	: N = No
		Y = Yes

120.4 Error Messages and Advisories

120.4.1 Error Messages

F01: SUBSCRIBER NOT NUMERICAL !

120.4.2 Advisories

H01: CDB'S FOR @@@ @@@@@@@@@@@@@@ STILL IN CDR FILE
H02: NO CAPACITY IN PPCF
H03: POSITION NOT SPECIFIED IN PPCF
H04: POSITIONING INADMISSIBLE
H05: OBJECT @@@@@@@@@@@@@@ ALREADY IN PPCF
H06: OBJECT @@@@@@@@@@@@@@ NOT IN PPCF
H07: ACCESS TO PPCF NOT POSSIBLE
H08: NO ENTRIES IN PPCF
H09: OBJECT CANNOT BE PROCESSED
H10: INADMISSIBLE DELETE INSTRUCTION
H11: AMO KDEV ALREADY ACTIVE

KDEV - Creation and administration of customer files

Error Messages and Advisories

121 KDGZ - SMDR/DMDR Short Form for Call Charge Data output

The description of this AMO is only available in html format!

122 KNDEF - Configuration of virtual nodes

The description of this AMO is only available in html format!

123 KNFOR - Administration of Node Format table

AMO checks	Functions of the AMO	Error messages and advisories
Interrelationships	Parameter description	

If an external node requires that the "calling number" (e.g. number of the A-subscriber) be changed to a specific format (type of number, TON) or if a specific check attribute (screening indicator, SCRE) is expected for the "calling number", an entry must be created for this destination node in the node format table.

The TON is splitted into TONIN for the incoming end traffic and TONOUT for the outgoing traffic.

In this context node numbers are defined as "virtual node numbers". The own virtual node numbers are defined at own node by AMO KNDEF,TYPE=OWN. For DNNO both kind of nodes are allowed: Own virtual nodes and foreign virtual nodes. The foreign (remote) nodes can but need not be defined by AMO KNDEF. Therefore DNNO is not checked against the KNDEF-Entries (but advisory H03).

When an own virtual node number is entered into the format table, the display format for the "calling number" is controlled on all the terminals of the local virtual node. If more virtual nodes share the own physical node, it is possible to have individual display formats at each virtual node.

As a rule, no entries are required in the node format table. In this case:

- The "calling number" is always transmitted in the highest format (e.g. international);
- The "calling number" is displayed in the lowest possible format (e.g. only the direct inward dialing number) on all the terminals of the local node;
- The value of SCRE is set to NOT DEFINED in the source node;
- In transit nodes, SCRE is passed transparently.

Note:

The "calling number" is any number that is not the "called number" (e.g.: number of the A-subscriber, number of the answering subscriber, forwarding number).

DNNO parameter:

The destination foreign (remote) node numbers are defined by the AMOs RICHT resp. LDAT (Parameter DNNO), they depict always the end nodes of connections. In AMO KNFOR also the own node numbers are allowed (AMO KNDEF, TYPE=OWN, parameter NODECD).

TONIN / TONOUT parameters:

The TON parameters TONIN and TONOUT define the conversion by call processing of an explicit "calling number" to a desired format before the number is transmitted to a destination node (TONOUT) or displayed on the terminals of the local node (TONIN).

If a virtual destination node number extends over the own and foreign physical nodes, TONIN and TONOUT may both be set for the same virtual destination node whereby TONIN and TONOUT may be set to different values.

For the format dependent calling number modification, which is based on the numbering plans ISDN and PRIVATE of the ETSI-E.164/189 standard, the corresponding codes of the KNDEF-Table (AMO KNDEF) and the prefixes defined in node prefix table (AMO KNPRES) are used.

Note: The former circuit specific TDCSU-Codes are no longer configured by AMO TDCSU. They are now subscriber specific and assigned by AMO KNDEF, TYPE=OWN (in special cases also TYPE=FOREIGN). KNPRES-Entries must always be configured!

NPI parameter:

The numbering plan of a calling number is always derived from LCR-Outdial Rules (AMO LODR) and is valid both for calling and called numbers. This determines which branch in AMO KNFOR is to be used for modification.

The parameter values for TONIN / TONOUT depend on the particular NPI and have the following effect on the format of the "calling number":

NPI = ISDN (ISDN exchange numbering plan to ETSI-E.164) Values of TONIN / TONOUT parameter	'Calling number' format ('Calling number' comprises:)
INTERNAT (International number)	Country code (CC) + area code (AC) + local subscriber number e.g. 49 89 72232386 Display always includes trunk access code and prefix: e.g. 0 00 49 89 72232386

NPI = ISDN (ISDN exchange numbering plan to ETSI-E.164) Values of TONIN / TONOUT parameter	'Calling number' format ('Calling number' comprises:)
INTERPRE (International number with prefix)	International prefix + Country code (CC) + area code (AC) + local subscriber number e.g. 00 49 89 72232386 Display always includes trunk access code: e.g. 0 00 49 89 72232386
NATIONAL (National number)	Area code (AC) + local subscriber number e.g. 89 72232386 Display always includes trunk access code and prefix: e.g. 0 0 89 72232386
NATIOPRE (National number with prefix)	National prefix + Area code (AC) + local subscriber number e.g. 0 89 72232386 Display always includes trunk access code: e.g. 0 0 89 72232386
SUBSCR	Local subscriber number e.g. 72232386 Display always includes trunk access code: e.g. 0 72232386
UNKNOWN	Implicit number, can be dialed e.g. 32386, 0 72232386, 0 0 89 72232386, 0 00 49 89 72232386

In the examples above:

Trunk access code=0, international prefix=00, national prefix=0,
 country code=49,
 area code=89, address of main station=722

KNFOR - Administration of Node Format table

NPI = PRIVATE (private numbering plan to ETSI-E.189) Values of TONIN / TONOUT parameter	'Calling number' format ('Calling number' comprises:)
LEVEL2	Level 2 code (L2C) + level 1 code (L1C) + local subscriber number e.g. 9 8 732386 Display always includes trunk access code and prefix: e.g. 1 3 9 8 732386
LEVEL1	Level 1 code (L1C) + local subscriber number e.g. 8 732386 Display always includes trunk access code and prefix: e.g. 1 2 8 732386
LOCAL	Local subscriber number e.g. 732386 Display always includes trunk access code: e.g. 1 732386
UNKNOWN	Implicit number, can be dialed e.g. 32386, 1 732386, 1 2 8 732386, 1 3 9 8 732386

In the examples above:

Trunk access code=1, level 2 prefix=3, level 1 prefix=2, level 2
code=9,
level 1 code=8, local code=7

SCRE parameter:

If an external node requires a specific SCRE, it can be defined in the
node format table for this destination node.

A SCRE entry for the local node number has no meaning.

Values of SCRE parameter	
NETWPROV	The station number is generated by network
TRANSP	The screening indicator remains unchanged (transparent)
USERNSCR	The station number is not checked by user
USERVF	The station number is checked by user - the result was negative
USERVP	The station number is checked by user - the result was positive

Parameter SENDCALL:

This parameter controls how to send the *Calling Number*:

Values of SENDCALL parameter	
SEND0	No <i>Calling Number</i> will be send.
SEND1	The available <i>Calling Number</i> will be send.
SEND2	"Two Number Delivery Option" In case of this option the <i>Calling Number</i> and the <i>Calling Node Number</i> will be send.

Parameter SENDCONN:

This parameter controls how to send the *Connected Number*:

Values of SENDCONN parameter	
SEND0	No <i>Connected Number</i> will be send.
SEND1	The available <i>Connected Number</i> will be send.

Parameter OVRDCAT:

With *Override Category* it's possible to control the presentation of restricted *Calling-* or *Connected Numbers* (*Presentation Indicator (PI)* = *RESTRICTED*).

Values of OVRDCAT parameter	
YES	<i>Calling Numbers</i> with PI=RESTRICTED will be send nevertheless to the Called Party. <i>Called Numbers</i> with PI=RESTRICTED will be send nevertheless to the Calling Party.
NO	Restricted <i>Calling-</i> and <i>Called Numbers</i> will be not send. They will stay restricted.

Parameter ERROPT:

By configuring the *Error Options* the format of the *Calling / Connected Numbers* is affected in the special case, that the desired format, configured by parameter TONOUT, cannot be built up properly. This can occur for example, if the *Country Code* which is part of the calling number is not known in the system (e.g. call forwarding of an external international call to another .terminal in the local area). Usually the default value IGNOR should be chosen. This avoids inconsistencies between *Calling / Connected Number* and the correlated *Type of Number* (TON)..

Values of ERROPT parameter	
IGNOR	If the desired format of the <i>Calling / Connected Number</i> as configured by parameter TONOUT cannot be built up, TONOUT is <i>ignored</i> .

KNFOR - Administration of Node Format table

AMO checks

Values of ERROPT parameter	
DOMIN	If the desired format of the Calling / Connected Number as configured by parameter TONOUT cannot be built up, the <i>Type of Number</i> is nevertheless overwritten by TONOUT, i.e. TONOUT is <i>dominant</i> . This equals the "old" functionality before HiPath4000.
IMPL	If the desired format of the Calling / Connected Number as configured by parameter TONOUT cannot be built up, an <i>implicit</i> number (TON=UNKNOWN) with prefixes is sent.

123.1 AMO checks

1. The permissible values for the TONIN / TONOUT parameter depend on the numbering plan and are already checked by the command interpreter when entered.
 - NPI = PRIVATE:
TONIN / TONOUT = LEVEL2 or LEVEL1 or LOCAL or UNKNOWN
 - NPI = ISDN:
TONIN / TONOUT = INTERNAT or NATIONAL or SUBSCR or UNKNOWN

A check is performed for ADD and CHANGE.

2. A destination node number with a value of 0 (0, 0-0, 0-0-0) is invalid. In such a case, error message F01 is output.

A check is performed for ADD, CHANGE, DELETE, DISPLAY and REGENERATE.

3. Destination node numbers can comprise up to 3 levels; each level has its own permissible range of values:
 - LEVEL0: 0 - 999
 - LEVEL1: 0 - 253
 - LEVEL2: 0 - 29

The range of values for level 0 is checked by the command interpreter. The AMO checks levels 1 and 2 and issues error message F02 in the event of incorrect values.

The value 0 is also invalid for level 1 if level 0 and level 2 of the destination node number are greater than 0 (e.g. 3-0-5). This error is indicated by error message F03.

Checks are performed for ADD, CHANGE, DELETE, DISPLAY and REGENERATE.

4. The following dependencies exist between the local physical node number and the virtual destination node number:

The destination node number must not be identical with the physical node number defined by AMO ZAND, parameter PNNO (F09). Different levels between DNNO and ZAND/PNNO are allowed..

A check is performed for ADD.

- DNNOs are no longer adjusted to ZAND/PNNO.
5. TONIN / TONOUT - dependencies: At least 1 parameter has to be specified. If a parameter is reset (by action CHANGE) and both parameters would be left reset, the command is rejected by F10.
 6. If a valid value for parameter TONIN has been entered (by action ADD or CHANGE), the entered DNNO should be member of the OWN part of KNDEF table. If KNFOR does not find DNNO in KNDEF table, H04 is displayed and the command is nevertheless performed.

123.2 Interrelationships

- AMO COT : Class of Trunk for Call Processing
 - PAR value LINO
- AMO LODR : Configuration of LCR-Outdial Rules
 - Parameter CMD=NPI,
NPI=numbering plan identifier
- AMO KNPRES : Setting of node prefix table
- AMO KNDEF : Configuration of own virtual node numbers and assign codes to them
- AMO TDCSU : Configuration of digital circuits
- AMO ZAND : Administration of central system data;
 - Addition of local physical node number by means of PNNO parameter in branch TYPE=ALLDATA

Order of generation:
ZAND --> KNFOR

123.3 Functions of the AMO

- [ADD-KNFOR](#) : For a destination node number, adds TONIN/TONOUT and attributes (SCRE...) to the node format table.
- [CHANGE-KNFOR](#) : Changes and resets the values TONIN/TONOUT, changes the attributes (SCRE...) for a destination node number entered in the node format table.
- [DELETE-KNFOR](#) : For a destination node number, deletes the entry from node format table.
- [DISPLAY-KNFOR](#) : Displays entries of node format table for one or all destination node numbers for one or both numbering plans.
- [REGENERATE-KNFOR](#) : Regenerates entries of node format table for one or all destination node numbers for one or both numbering plans.

123.3.1 ADD-KNFOR

This command allows you to enter a specific TONIN/TONOUT, SCRE, SENDCALL, SENDCONN und OVRDCAT into the node format table for a destination node number in a numbering plan (NPI =PRIVATE or ISDN).

Procedure overview

Command Code	Parameter
ADD-KNFOR	DNNO=<number> |,NPI=ISDN,{ (min=1) TONIN=<param>,TONOUT=<param>} ,[SCRE=<param>],[SENDCALL=<param>],[SENDCONN=<param>] ,[OVRDCAT=<param>],[ERROPT=<param>; |,NPI=PRIVATE,{ (min=1) TONIN=<param>,TONOUT=<param>} ,[SCRE=<param>],[SENDCALL=<param>],[SENDCONN=<param>] ,[OVRDCAT=<param>],[ERROPT=<param>;

Examples

1. Add a 3-level destination node number for the ISDN numbering plan.

Input:

ADD-KNFOR:DNNO=3-1-20,NPI=ISDN,TONOUT=NATIONAL,SCRE=USERNSCR;

123.3.2 CHANGE-KNFOR

This command allows you to change the values of TONIN/TONOUT, SCRE, SENDCALL, SENDCONN and OVRDCAT for a destination number that has already been defined. You must specify at least one of the parameters. The value of the parameter for which no entry is made is retained in the database unchanged. TONIN/TONOUT values can also be reset.

Procedure overview

Command Code	Parameter
CHANGE-KNFOR	DNNO=<number> |, NPI=ISDN, {TONIN=<param>, TONOUT=<param>, SCRE=<param> , SENDCALL=<param>, SENDCONN=<param>, OVRDCAT=<param> , ERROPT=<param>}; |, NPI=PRIVATE, {TONIN=<param>, TONOUT=<param>, SCRE=<param> , SENDCALL=<param>, SENDCONN=<param>, OVRDCAT=<param> , ERROPT=<param>};

Example

1. Change the value of the TONIN parameter for a destination node number that has already been added and reset the TONOUT value.

Input:

```
CHANGE-KNFOR:DNNO=3-1-20,NPI=ISDN,TONIN=UNKNOWN,TONOUT=RESET;
```

123.3.3 DELETE-KNFOR

This command allows you to delete a destination node number from the format table. If the type of numbering plan is specified for the NPI parameter, only this specific destination node number entry is deleted.

Procedure overview

Command Code	Parameter
DELETE-KNFOR	DNNO=<number>, [NPI=<param>];

Example

1. Delete a destination node number for the PRIVATE numbering plan.

Input:

```
DELETE-KNFOR:DNNO=3-1-20,NPI=PRIVATE;
```

- 2. Delete a destination node number for both the PRIVATE and ISDN numbering plans.

Input:

```
DELETE-KNFOR:DNNO=3-1-20;
```

123.3.4 DISPLAY-KNFOR

If you enter this command without parameters, all destination node numbers are output, sorted by numbering plan type. However, you can limit output to the destination node numbers of a specific numbering plan or to a specific destination node number.

Procedure overview

Command Code	Parameter
DISPLAY-KNFOR	[DNNO=<number>], [NPI=<param>];

Example

- 1. Output all destination node numbers for the PRIVATE numbering plan.

Input:

```
DISPLAY-KNFOR:NPI=PRIVATE;
```

Output:

| NUMBERING PLAN					|				
| PRIVATE					|				

|	DNNO		TONIN	|	TONOUT	|	SCRE	|	SEND
|			|	|		|		|	CALL
-----					-----				
|	1	LEVEL1	|		NETWPROV	SEND0	SEND1	NO	IGNOR
|	2- 1	|	LEVEL2	|	NOTDEF	SEND1	SEND0	YES	IGNOR
|	18- 18- 18	LOCAL	|		USERNSCR	SEND2	SEND0	YES	IGNOR
|	22- 0- 0	UNKNOWN	|	UNKNOWN	USERVF	SEND1	SEND1	NO	IGNOR
-----					-----				

- 2. Output all destination node numbers for both the PRIVATE and ISDN numbering plans.

Input:

```
DISPLAY-KNFOR;
```

Output:

KNFOR - Administration of Node Format table

Functions of the AMO

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
|	NUMBERING PLAN									|	
|	ISDN									|	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
|	DNNO		TONIN	TONOUT	SCRE	SEND	SEND	OVRD	ERR	|	
|						CALL	CONN	CAT	OPT	|	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
|	3-	1-	6	INTERNAT		TRANSP	SEND1	SEND1	YES	IGNOR	|
|	3-	1-	7		INTERPRE	NETWPROV	SEND0	SEND0	YES	IGNOR	|
|	3-	1-	8	NATIONAL	NATIONAL	TRANSP	SEND1	SEND1	NO	IGNOR	|
|	3-	1-	9	NATIOPRE		USERNSCR	SEND2	SEND0	YES	IGNOR	|
|	3-	1-	10		SUBSCR	USERVF	SEND0	SEND1	NO	IGNOR	|
|	3-	1-	11	UNKNOWN	UNKNOWN	USERVP	SEND1	SEND0	YES	IGNOR	|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
|	NUMBERING PLAN									|	
|	PRIVATE									|	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
|	DNNO		TONIN	TONOUT	SCRE	SEND	SEND	OVRD	ERR	|	
|						CALL	CONN	CAT	OPT	|	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
|	1		LEVEL1		NETWPROV	SEND0	SEND1	NO	IGNOR	|	
|	2- 1			LEVEL2	NOTDEF	SEND1	SEND0	YES	IGNOR	|	
|	18-	18-	18	LOCAL		USERNSCR	SEND2	SEND0	YES	IGNOR	|
|	22-	0-	0	UNKNOWN	UNKNOWN	USERVF	SEND1	SEND1	NO	IGNOR	|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											

123.3.5 REGENERATE-KNFOR

If you enter this command without parameters, all destination node numbers are regenerated, sorted by numbering plan type. However, you can limit output to the destination node numbers of a specific numbering plan or to a specific destination node number.

Procedure overview

Command Code	Parameter
REGENERATE-KNFOR	[DNNO=<number>], [NPI=<param>];

Example

1. Regenerate all the destination node numbers entered in the format table.

Input:

REGENERATE-KNFOR;

Output:

ADD-KNFOR:3-1-6, ISDN, INTERNAT, , TRANSP, SEND1, SEND1, YES, IGNOR;
 ADD-KNFOR:3-1-7, ISDN, , INTERPRE, NETWPROV, SEND0, SEND0, YES, IGNOR;
 ADD-KNFOR:3-1-8, ISDN, NATIONAL, NATIONAL, TRANSP, SEND1, SEND1, NO, IGNOR;
 ADD-KNFOR:3-1-9, ISDN, NATIOPRE, , USERNSCR, SEND2, SEND0, YES, IGNOR;

KNFOR - Administration of Node Format table

Parameter description

```
ADD-KNFOR:3-1-10,ISDN,,SUBSCR,USERVF,SEND0,SEND1,NO,IGNOR;  
ADD-KNFOR:3-1-  
11,ISDN,UNKNOWN,UNKNOWN,USERVP,SEND1,SEND0,YES,IGNOR;  
ADD-KNFOR:1,PRIVATE,LEVEL1,,NETWPROV,SEND0,SEND1,NO,IGNOR;  
ADD-KNFOR:2-1,PRIVATE,,LEVEL2,NOTDEF,SEND1,SEND0,YES,IGNOR;  
ADD-KNFOR:18-18-  
18,PRIVATE,LOCAL,,USERNSCR,SEND2,SEND0,YES,IGNOR;  
ADD-KNFOR:22-0-  
0,PRIVATE,UNKNOWN,UNKNOWN,USERVF,SEND1,SEND1,NO,IGNOR;
```

123.4 Parameter description

DNNO	Destination virtual node number	
	Type of input:	1 to 3 single values, concatenated with -, mandatory (CHANGE, ADD, DELETE) optional (DISPLAY, REGENERATE)
	Possible values:	Numeric, 0-999 The 3 single values are: Level0: 0-999 (value on the right) Level1: 0-253 (value in the middle) Level2: 0-29 (value on the left) Example: 29-253-999
	Default value	: All destination node numbers entered for an NPI
ERROPT	Option, how to handle the error situation, that the calling number cannot be converted to the configured TONOUT format	
	Type of input	: Single value, optional (ADD), Group member, min.1 (CHANGE)
	Possible values:	: IGNOR Configured TONOUT ignored in error case, i.e. the TON of the calling number is only overwritten by TONOUT if the calling number can be converted to the desired TONOUT format DOMIN Configured TONOUT dominates in error case, i.e. the TON of the calling number is always overwritten by TONOUT, even if the calling number cannot be converted to the desired format IMPL Implicit station number in error case, i.e. if the calling number cannot be converted to the desired TONOUT format, an implicit station number (with prefixes, TON=UNKNOWN) is sent
	Default value	: IGNOR For ADD

NPI	Numbering plan identifier	
	Term from ETSI Standard - identifies the particular numbering plan.	
	Type of input:	1 to 2 single values, concatenated with &, optional (DISPLAY, DELETE, REGENERATE) Single value, mandatory (CHANGE, ADD)
	Possible values:	ISDN ETSI-E.164 ISDN numbering plan PRIVATE ETSI-E.189 Private numbering plan
	Default value	ISDN&PRIVATE
OVRDCAT	Override Category	
	Controls the presentation of restricted numbers. (Presentation Indicator (PI) = RESTRICTED)	
	Type of input:	Single value, optional (ADD) Group member, min.1 (CHANGE)
	Possible values:	YES Presentation of a restricted Calling/Connected number NO No presentation of a restricted Calling/Connected number (the number stays restricted)
	Default value	YES
SCRE	Screening Indicator	
	Term from ETSI Standard - check attribute for "calling number".	
	Type of input:	Single value, optional (ADD) Group member, min.1 (CHANGE)
	Possible values:	NETWPROV Network provided number TRANSP Transparent - screening indicator remains USERNSCR Number not screened by USER USERVF Number verification by USER failed USERVP Number verification by USER passed
	Default value	NOTDEF
SENDCALL	Send Calling Number	
	Type of input:	Single value, optional (ADD) Group member, min.1 (CHANGE)
	Possible values:	SEND0 send no number SEND1 send one number SEND2 send two numbers (Calling and Calling Node)
	Default value	SEND1
SENDCONN	Send Connected Number	

KNFOR - Administration of Node Format table

Parameter description

	Type of input:	Single value, optional (ADD)	
		Group member, min.1 (CHANGE)	
	Possible values:	SEND0	send no number
		SEND1	send one number
	Default value	SEND1	
TONIN	TON (Type Of Number, Term from ETSI Standard) of incoming end traffic. The entry determines the format of the displayed calling number within the own virtual nodes.		
	Type of Input	: Group member, min.1	
	Possible Values	: INTERNAT	International number (permitted for NPI=ISDN)
		INTERPRE	International number with prefix (permitted for NPI=ISDN)
		LEVEL1	Level 1 regional number (permitted for NPI=PRIVATE)
		LEVEL2	Level 2 regional number (permitted for NPI=PRIVATE)
		LOCAL	Local subscriber number (permitted for NPI=PRIVATE)
		NATIONAL	National number (permitted for NPI=ISDN)
		NATIOPRE	National number with prefix (permitted for NPI=ISDN)
		SUBSCR	Local subscriber number (permitted for NPI=ISDN)
		UNKNOWN	Implicit numbers
		RESET	only possible for CHANGE, resets the entry to basic initialization value
TONOUT	TON (Type Of Number, Term from ETSI Standard) of outgoing traffic. The entry determines the format of the calling number sent to foreign virtual destination nodes.		
	Type of Input	: Group member, min.1	
	Possible Values	: INTERNAT	International number (permitted for NPI=ISDN)
		INTERPRE	International number with prefix (permitted for NPI=ISDN)
		LEVEL1	Level 1 regional number (permitted for NPI=PRIVATE)
		LEVEL2	Level 2 regional number (permitted for NPI=PRIVATE)
		LOCAL	Local subscriber number (permitted for NPI=PRIVATE)
		NATIONAL	National number (permitted for NPI=ISDN)

NATIOPRE	National number with prefix (permitted for NPI=ISDN)
SUBSCR	Local subscriber number (permitted for NPI=ISDN)
UNKNOWN	Implicit numbers
RESET	only possible for CHANGE, resets the entry to basic initialization value

123.5 Error messages and advisories

123.5.1 Error messages

F01: THE DNNO MAY NOT BE OF VALUE 0.
 F02: LEVEL<#> OF DNNO MAY NOT EXCEED <max>.
 F03: LEVEL1 OF DNNO MAY NOT BE VALUE 0
 IF LEVEL2 AND LEVEL0 ARE NOT VALUE 0.
 (EXAMPLE: 1-0-1 IS NOT POSSIBLE)
 F05: THE DNNO <level2>-<level1>-<level0> DOES ALREADY EXIST IN NPI <npi>.
 F06: THE DNNO <level2>-<level1>-<level0> DOES NOT EXIST IN NPI <npi>.
 F07: THERE IS NO FREE MEMORY ELEMENT TO STORE THE NEW DNNO.
 DELETE AN UNUSED DNNO OR ENLARGE THE NUMBER OF
 DNNO MEMORY ELEMENTS WITH THE FOLLOWING COMMAND:
 ADD-DIMSU:TYPE=CC,FORMTAB=<?>;
 F09: FOR DNNO THE OWN PHYSICAL NODE ID (AMO ZAND) IS NOT ALLOWED.
 ONLY VIRTUAL NODE ID'S ARE ALLOWED.
 F10: TONIN AND TONOUT MUST NOT BOTH BE RESET

123.5.2 Advisories

H02: DNNO NOT FOUND IN NPI <npi>.
 H03: DNNO IS AN OWN VIRTUAL NODE ID (SEE AMO KNDDEF,TYPE=OWN)
 H04: THE TONIN PARAMETER FOR THE ENTERED DNNO BECOMES ONLY EFFECTIVE IF DNNO IS
 ADDED TO KNDDEF-TABLE, TYPE=OWN. PLEASE CONFIGURE WITH COMMAND:
 ADD-KNDDEF:TYPE=OWN,NNO=...;

123.5.3 Use of the Output Messages for Each Action

ADD	:	F01,	F02,	F03,	F05,	F07,	F09
		H03,	H04				
CHANGE	:	F01,	F02,	F03,	F06,	F10	
		H04					
DELETE	:	F06					
DISPLAY	:	H02					
REGENERATE	:						

124 KNLCR - Administration Source Dependent Routing

Interrelationships	Parameter Descriptions
Functions of the AMO	Error Messages and Advisories

The AMO KNLCR administers the class-of-service powersets which are used to modify the Least Cost Routing Access Rights for the path selection only. This feature enables to choose a different LCR route depending on originating (source) and destination node defined via AMO RICHT. For this particular purpose, the node defined by AMO LDAT does not overwrite the DNNO of AMO RICHT.

The LCR route is controlled by the enabled Least Cost Routing Access Rights. These enabled LCR classes-of-service (LCR in LCOSV/LCOSD) are administered by the AMO COSSU. It is possible to modify these enabled LCR classmark subset as a function of source and destination node. Two LCR class-of-service powersets are used for this modification. One access right powerset is used for reducing access rights from LCR classmark subset and the other for adding specified rights. Using the modified LCR access rights as usual enables choosing one route and prevent choosing another route depending on source/destination information. The modification is working for the current connection only, without permanent changes in LCOSV/LCOSD of the calling party.

Both LCR class-of-service powersets are administered using the AMO KNLCR. The class-of-service powersets can be created and deleted, changed, displayed and regenerated. If a change is made the existing class-of-service powersets are changed by adding and removing or by a new size definition of classes-of-service. A table entry is removed on action DELETE. The created class-of-service powersets can be displayed by using the actions "DISPLAY" and "REGENERATE".

The 3-level source and destination node number is used for addressing the connection, for which the LCR Access Rights are supposed to be modified. A 3-level node number can be fully qualified (1-2-45) or partial qualified (1-0-0). In a partial qualified node number "0" is to be interpreted as "don't care". If the same LCR class-of-service powersets are to be used for all nodes in the own subdomain, the entry is made under the node number n-m-0. If individual nodes are to be selectively excluded, entries must be made for these specifying node number n-m-a.

The source and destination node number must be virtual node ID's. The virtual node ID's must be different to the physical node id of the own node (of AMO ZAND).

The AMO does not perform any logical check on the source and destination node number.

124.1 Interrelationships

- AMO COSSU : Administration of the classes of service (LCR in LCOSV/LCOSD)
- AMO KNDFF : Administration of the virtual node numbers (source node)
- AMO LDAT : Administration of LCR directions (with LAUTH)
- AMO RICHT : Administration of the trunk routing (destination node)
- AMO ZAND : Administration of the system data (physical node number of the own node)

124.2 Functions of the AMO

- [ADD-KNLCR](#) : Create the classes-of-service for the modification of the enabled LCR Access Rights
- [CHANGE-KNLCR](#) : Change the classes-of-service for the modification of the enabled LCR Access Rights
- [DELETE-KNLCR](#) : Delete the classes-of-service for the modification of the enabled LCR Access Rights
- [DISPLAY-KNLCR](#) : Display the classes-of-service for the modification of the enabled LCR Access Rights
- [REGENERATE-KNLCR](#) : Regenerate the classes-of-service for the modification of the enabled LCR Access Rights

124.2.1 ADD-KNLCR

This function is used to create the classes-of-service for the modification of the LCR Access Rights.

With the parameter ADDSLCOS, access rights are defined that are added to the enabled LCR Access Rights.

With the parameter REDSLCOS, access rights are defined with which the enabled LCR Access Rights are reduced.

Procedure Overview

Command Code	Parameter
ADD-KNLCR	SNNO=<number>, DNNO=<number>, [ADDSLCOS=<number>], [REDSLCOS=<number>];

Example

For the connection SNNO=1-1-10 to DNNO=1-1-800 for all users out of SNNO the second ways - for that LCOS 10 is required - are not supposed to be used within the own node.

Input:

```
ADD-KNLCR:SNNO=1-1-10, DNNO=1-1-800, REDSLCOS=10;
```

124.2.2 CHANGE-KNLCR

The function CHANGE makes it possible to modify the parameters defined during creation. When a change is made the existing classes-of-service are changed by adding and removing or by a new size definition.

Procedure Overview

Command Code	Parameter
CHANGE-KNLCR	SNNO=<number>, DNNO=<number> , FUNCT={ADD/DEL/ND}, {[ADDSLCOS=<number>], [REDSLCOS=<number>]};

124.2.3 DELETE-KNLCR

With the action DELETE the entry for the connection, defined by SNNO and DNNO, is removed from table.

Procedure Overview

Command Code	Parameter
DELETE-KNLCR	SNNO=<number>, DNNO=<number>;

124.2.4 DISPLAY-KNLCR

This function makes it possible to output the classes-of-service which are used to modify the Least Cost Routing Access Rights.

Following possibilities exists:

- a) SNNO and DNNO are entered: display of the classes-of-service of the defined connection*)
- b) SNNO is entered: display of all connections related on the defined source node and the classes-of-service of these connections
- c) DNNO is entered: display of all connections related on the defined destination node and the classes-of-service of these connections
- d) SNNO and DNNO not entered: display of the classes-of-service of all connections

*) If the same LCR class-of-service powersets are used for the modification of the classmark subset of all subdomaines or nodes (addressed by a partial qualified node) and the entered connection is not selectively excluded, the entry of the partial qualified node is issued.

Procedure Overview

Command Code	Parameter
DISPLAY-KNLCR	[SNNO=<number>], [DNNO=<number>];

Example

The data for the connection SNNO=1-1-5 and DNNO=1-2-3 is to be displayed. For this connection, no explicit entry exists. However an entry exists, that is used for the modification for all nodes in the subdomain (1-1-0) and is displayed.

Input:

DISPLAY-KNLCR:SNNO=1-1-5,DNNO=1-2-3;

Output:

SOURCE	DESTINATION	ADDSLCOS	REDSLCOS
1-1-0	1-2-3	15 17 23 35 40	10

124.2.5 REGENERATE-KNLCR

Procedure Overview

Command Code	Parameter
REGEN-KNLCR	[SNNO=<number>], [DNNO=<number>];

Example

Regenerating the LCR classmark modification for the connection
SNNO=1-1-10 and DNNO=1-1-800.

Input:

```
REGEN-KNLCR:SNNO=1-1-10,DNNO=1-1-800;
```

Output:

```
ADD-KNLCR:1-1-10,1-1-800,,10;
```

124.3 Parameter Descriptions

ADDSLCOS	Class-of-service that is added to the enabled LCR classmark subset
Type of Input	: 1 to 5 single values, concatenated with & or &&, optional
Possible Values	: 1-64
DNNO	virtual destination node number
Type of Input	: 1 to 3 single values, concatenated with - mandatory (ADD, CHANGE, DELETE) optional (DISPLAY, REGENERATE)
Possible Values	: Level2 (left value):0 - 29 Level1 (middle value):0 - 253 Level0 (right value):0 - 999
	A 3-level node number can be fully qualified (1-2-45) or partial qualified (1-0-0). In a partial qualified node number "0" is to be interpreted as "don't care".
FUNCT	whether LCR class-of-service are to be added or removed
	Branch parameter for the parameters ADDSLCOS and REDSLCOS
Type of Input	: Single value, mandatory (CHANGE)
Possible Values	: ADD = Add to created classmarks that modify enabled LCR classmark subset
	: DEL = Delete from created classmarks that modify enabled LCR classmark subset

KNLCR - Administration Source Dependent Routing

Error Messages and Advisories

	ND	= New size definition of the set of classmarks that modify enabled LCR classmark subset
REDSLCOS	Class-of-service which reduces the enabled LCR classmark subset	
	Type of Input	: 1 to 5 single values, concatenated with & or &&, optional
	Possible Values	: 1-64
SNNO	virtual source node number	
	Type of Input	: 1 to 3 single values, concatenated with - mandatory (ADD, CHANGE, DELETE) optional (DISPLAY, REGENERATE)
	Possible Values	: Level2 (left value):0 - 29 Level1 (middle value):0 - 253 Level0 (right value):0 - 999
	A 3-level node number can be fully qualified (1-2-45) or partial qualified (1-0-0). In a partial qualified node number "0" is to be interpreted as "don't care".	

124.4 Error Messages and Advisories

124.4.1 Error Messages

F01:	LEVEL <x> OF <xxxx> MAY NOT EXCEED <xxx>
F02:	THE NUMBER OF LEVELS FOR SNNO IS DIFFERENT TO THE NUMBER OF LEVELS FOR DNNO
F03:	ENTRY FOR THIS CONNECTION ALREADY EXISTS
F04:	NO ENTRY AVAILABLE FOR THIS CONNECTION
F05:	IT IS NOT POSSIBLE TO ADD ANY DATA BECAUSE THERE IS NO OWN NODE NUMBER CONFIGURED. CONFIGURE THE OWN NODE NUMBER WITH THE FOLLOWING COMMAND: CHANGE-ZAND:TYPE=ALLDATA,PNNO=<?>;
F06:	OWN NODE NUMBER NOT ALLOWED FOR <xxxx>
F07:	SNNO IS IDENTICAL WITH DNNO
F08:	ENTRY NOT POSSIBLE BECAUSE MAX. NUMBER OF ENTRIES IS ALREADY REACHED
F09:	<xxxx> LEVEL1 = <x> NOT ALLOWED. RANGE 1 TO <xxx>.
F10:	<xxxx> LEVEL0 = <x> NOT ALLOWED. RANGE 1 TO <xxx>.

124.4.2 Advisories

H01: IN THE DATABASE, IDENTICAL CLASSMARKS ARE ENTERED FOR
EXPANSION AND REDUCTION OF THE LCR CLASSMARKS.
IN THIS CASE, CALLPROCESSING WILL REDUCE THE LCR CLASSMARKS
BY THE ENTERED CLASSMARK.

124.4.3 Use of the Output Messages for each Action

ADD	: F01, F02, F03, F05, F06, F07, F08, F09, F10, H01
CHANGE	: F01, F02, F04, F09, F10, H01
DELETE	: F01, F02, F04, F09, F10
DISPLAY	: F01, F02, F09, F10
REGENERATE	: F01, F02, F09, F10

125 KNMAT - Administer node connection matrix

Definitions	Interrelationships	Parameter description
Functions	Functions of the AMO	Error messages and advisories

The AMO KNMAT administers the node connection matrix which is responsible for

- restricting connections (for example for preventing network loops) and
- modifying station numbers.

The node connection matrix is set individually at each network node: it is not identical across the entire network. These two separate functions are briefly explained below. The only thing they have in common is that both are based on the "node numbers". For KNMAT 2 kind of node numbers are to be used:

- Virtual node numbers, which are configured by AMO KNDEF. Virtual nodes can extend over several physical nodes. Moreover, one physical node can comprise several virtual nodes.
- Fictitious node numbers of PBXs which cannot handle the node numbers. These numbers are assigned to a circuit using one of the AMOs TDCSU, TACSU or TSCSU.

Physical node numbers as configured by AMO ZAND, parameter PNNO at each network node, are not to be used for the AMO KNMAT.

Note:

This AMO is used for network configuration. Reconfiguration measures during live operation can temporarily lead to implausibilities which, in turn, can disrupt operation.

For further definitions of network-relevant addresses and for examples of network configurations and cases where KNMAT applies for station number modification and the prevention of network loops, refer to the Service Manual (AMO Usage Examples/Networking). The explanation of the several kind of node numbers (e.g. virtual node number) can be found in chapter 'General Networking Terminology' in the service manual.

125.1 Definitions

Station numbering plans:

The introduction of QSIG/DSS1 extends the options available for station numbering plans:

NPI = UNKNOWN: Hicom-specific station numbering plan

NPI = ISDN: ISDN-E.164 numbering plan

NPI = PRIVATE: private numbering plan (PNP) as defined in the ETSI standard.

In most cases, station number modification need only be set for numbering plan UNKNOWN. For the other NPI's, a second method (Format Depending Modification), configured by using AMO's TDCSU, KNFOR, KNPRE and KNDEF is normally used (see Service Manual / AMO Usage Examples).

Note:

KNMAT entries for NPI = ISDN or PRIVATE override the Format Depending Modification.

NPI is interpreted only where station numbers are modified, but not when connections are restricted. However, all the necessary information is contained in the output screens.

Originating Node Number:

Normally the Originating Node Number ONNO is taken from incoming messages of networking protocol (e.g. Cornet-NQ). If protocol is not containing ONNO (e.g. Central Office protocols), ONNO is taken from circuit configuration of incoming circuit (AMO TDCSU, parameter NNO) if this is activated by the appropriate COT parameters (see cross reference to AMO COT). For transit ONNO is passed from incoming connection (protocol or TDCSU) to outgoing connection. If the own node is originator of the connection, ONNO is the virtual node number of the calling station. All virtual node numbers of the own physical node are defined in a so called KNDEF-Table (administered by AMO KNDEF,TYPE=OWN). The assignment to the subscriber is done by the configuration AMOs (SCSU/SSCSU/SBCSU set only the default node number) or by AMO SDAT. The virtual node number of the calling station is then inserted into the appropriate protocol elements, if networking protocol allows transfer of originating node numbers (e.g. Cornet-NQ).

Destination Node Number:

The destination node number DNNO is defined by the AMOs RICHT resp. LDAT for number modification purpose; it depicts always the end node of a connection.

Levels:

The introduction of 3-level node numbers has given rise to the LEVEL parameter in KNMAT:

LEVEL = 0: Lowest level of the node number hierarchy. Only this level was available up to and including SP300 V3.4. Level 0 node numbers correspond to node numbers used in KNMAT up to and including SP300 V3.4.

LEVEL = 1: First level of the node number hierarchy; corresponds to the national level where NPI = ISDN, for example. A level 1 region number comprises all level 0 node numbers within that region.

LEVEL = 2: Highest level of the node number hierarchy; corresponds to the international level where NPI = ISDN, for example. A level 2 region number comprises all subordinated level 1 regions.

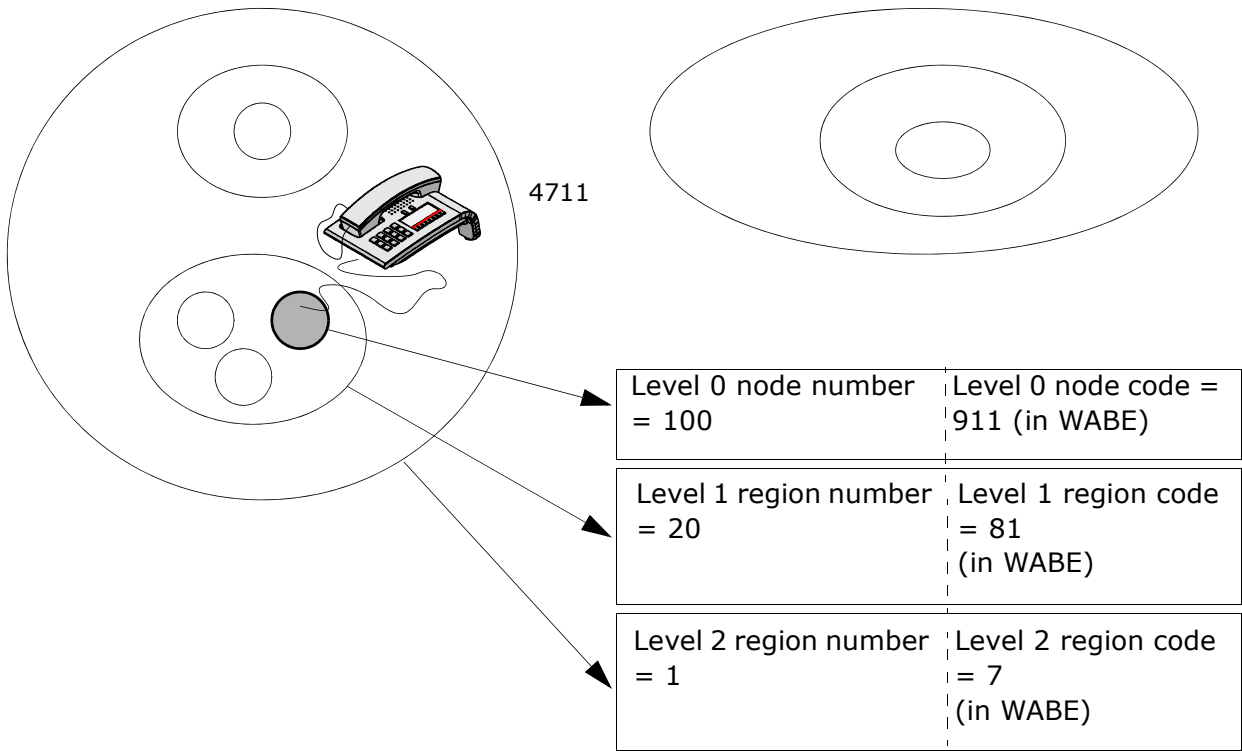


Figure 12 Example: 3-Level PBX Network

A node is identified uniquely in the network by a node number with up to three levels. This number is displayed in other AMOs (RICHT, LDAT, KNFOR etc.) in the form aa-bbb-ccc:

KNMAT - Administer node connection matrix

Definitions

aa = level 2 region number
bbb = level 1 region number
ccc = level 0 node number

Node numbers are not visible at station display. Dialed and displayed are the station numbers, structured level oriented corresponding to the node numbers (see [Figure 12](#)).

In [Figure 12](#) for example the shaded node has the number 1-20-100. Region/node codes are part of the station number in open numbered networks. The station in [Figure 12](#) connected to node 1-20-100 has the phone number 7-81-911-4711.

KNMAT administers the network levels separately. For this reason, a modification point is addressed by a combination of the layer and node numbers (region numbers). One level is handled independently from another.

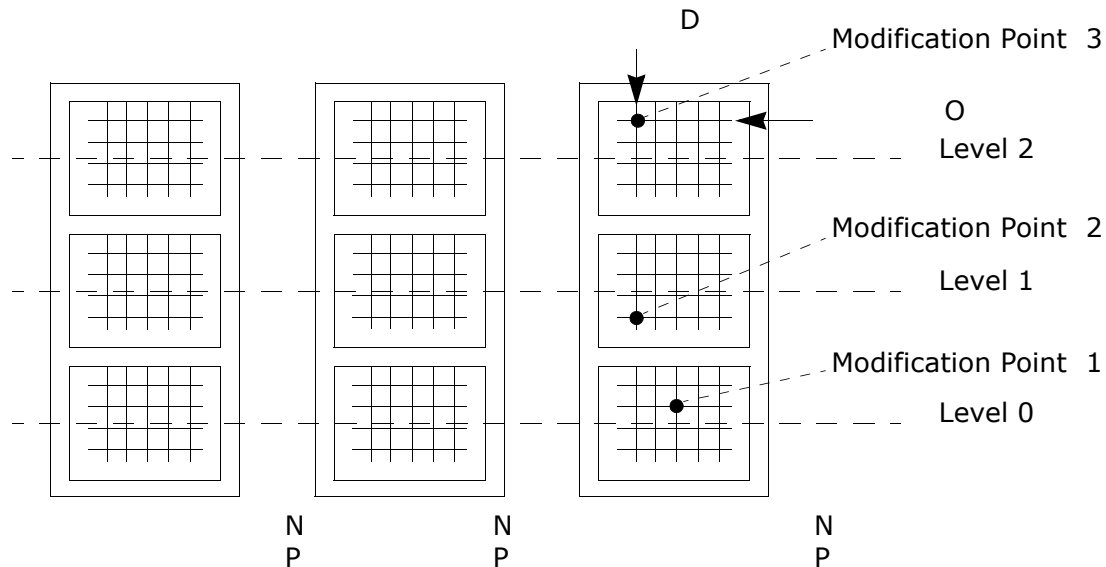


Figure 13 Modification Matrices and Modification Points in a 3-Level Network

Each NPI has a separate node connection matrix for each level, which means there are 9 individual node connection matrices in all (see [Figure 13](#)). The network levels are assigned individual node connection matrices, based on which reductions are applied sequentially from the highest to the lowest level and extensions from the lowest to the highest level:

- Number reduction: Modification sequence is Modification Point 3, 2, 1 (up-down)
- Number extension: Modification sequence is Modification Point 1, 2, 3 (down-up)

The restriction of connection is also level based. Therefore connections between regions can be allowed / denied too.

Logical nodes:

Logical nodes simplify the task of administration and result in less entries in the node connection matrix. They must not be used for the restriction of connection. The following logical nodes exist:

- CDR: Charge Data Recording
- OWN: Own nodes as they are specified by AMO KNDEF, TYPE=OWN
- ROW: Rest Of World (all virtual nodes in system)

The logical node OWN is always converted into the virtual node numbers as defined by the AMO KNDEF, TYPE=OWN. This is only possible for the numbering plan UNKNOWN and LEVEL=0.

Any entry for ROW will **not** be converted into several entries for the existing physical nodes. The logical node ROW is only modified if the direct entry for the physical node (ONNO/DNNO) does not contain a modification. In this way, multiple modifications within one and the same level can be avoided.

Modification conditions:

Each point in the modification matrix is assigned a modification condition. These conditions describe the call processing context in which modification will take place. A modification condition can only be assigned, if a modification (NUMRED, NUMEXT) is either valid in the command or in the matrix.

Modification condition can be divided into

- call processing context depending modification conditions (IN, OUT, TRANSI, TRANSH, ALL)
- special modification conditions (REPEXT, RES1, RES2)
- modification condition disable switch (NOMOD)

125.2 Functions

125.2.1 Restricting connections

This function of the AMO KNMAT can be used to restrict connections between certain combinations of origin and destination nodes. This can, for example, be used:

- to prevent network loops by blocking transit nodes for certain connections and/or
- to control the load on trunks i.e. - a restriction can be made based purely on incoming/outgoing node destination to prevent the trunks of a route becoming bottle necked from one particular destination; as result of call barring. The reroute will fallback to previous PBX/node where a different path will be checked.

The system date (see the ACCHECK parameter for the AMO ZAND) can be used for the attendant console telephone to suspend the restriction of connections by the node connection matrix.

125.2.2 Modifying station numbers

125.2.2.1 Effect on station number display and network-wide features

This function enables station numbers (calling numbers, connected numbers, but **not** called numbers) signaled in the context of internode traffic to be modified. It thus supports network-wide features in networks with open numbering plans. For example, the function can be used to ensure the "correct" display of the caller's station number on the called subscriber's station. For instance, if number extensions are set in the originating node and if no modification takes place at the transit node, this means that the station number can be extended (e.g. by means of the node code) irrespective of the call route. However, to operate a network with nodes that cannot handle station number modification (such as variants earlier than SP300 V3.3), it may be necessary for numbers to be extended or reduced in transit nodes or destination nodes. Central Office trunk accesses necessitate the option of modifying station numbers even on the "inbound" side.

NOTE: In the case of analog circuits, the originating node number (a fictitious node number) must be assigned to the circuit with the AMO TACSU (the NNO parameter). The same applies for digital circuits or systems of variants earlier than SP300 V3.3. For trunk circuits the AMO TDCSU must be used (with the NNO parameter) and acticated by COT parameter (see cross reference to AMO COT).

125.2.2.2 Effect on call detail recording

The node connection matrix is also used for call detail recording, to ensure that a unique station number is obtained within the network. For this purpose it is necessary to make an entry in the matrix modifying a virtual node to the logical destination node "CDR" (see AMO Usage Examples/Networking in the Service Manual for the relevant rules). However, this entry will only be interpreted if NPI = UNKNOWN.

125.2.2.3 Standard configuration

- For NPI=ISDN, PRIVATE Format Depending Modification is to be configured, using the AMO's KNFOR, KNPRE, TDCSU and KNDEF.
- The logical node OWN is replaced by all own virtual node numbers as configured by AMO KNDEF, TYPE=OWN.
- For NPI=UNKNOWN in most cases a standard configuration is sufficient using KNMAT logical nodes. For example, in a 1 level open numbered network, a node with node/region code 911 (corresponds to station numbers 911xxxxx, where xxxxx means a local station number) should be configured with:

Input:

```
CHANGE-KNMAT:UNKNOWN,0,,OWN,,ROW,,OUT,911; /* level 0 node code
= 911 */
CHANGE-KNMAT:UNKNOWN,0,,ROW,,OWN,,IN&TRANSI,,911;
```

Output, if for example only 1 own virtual node (=15) is configured in KNDEF-Table (message 1 for command 1 and message 2 for command 2)

```
H08: ONNOL=OWN WAS CONVERTED ACCORDING TO KNDEF-TABLE INTO
ONNO=15.
H08: DNNOL=OWN WAS CONVERTED ACCORDING TO KNDEF-TABLE INTO
DNNO=15.
```

125.2.2.4 Code-Extraction from KNDEF

If the own physical node comprises more virtual nodes with different codes, the parameters NUMEXT/NUMRED can be supplied with ##### instead of explicit codes. In this case, all codes are extracted automatically from KNDEF-Table. The so called Skip Digits have to be considered.

Example:

KNMAT - Administer node connection matrix
Interrelationships

K N		
O		
NNO	NODECD	NODECDSK
1	931	1
2	91	0
3	-	-
F		

CHANGE-
KNMAT:NPI=UNKNOWN,L

K

NODE MATRIX FOR NPI =
UNKNOWN, LEVEL = 0

ONNO/ |DNNO/ |

Output:

H09: DNNOL=OWN WAS CONVERTED ACCORDING TO KNDEF-TABLE INTO DNNO=1.
EXTRACTED NUMBER: NUMRED=9 (SKIP DIGITS HAVE BEEN CONSIDERED)

H09: DNNOL=OWN WAS CONVERTED ACCORDING TO KNDEF-TABLE INTO DNNO=10.
EXTRACTED NUMBER: NUMRED=66 (SKIP DIGITS HAVE BEEN CONSIDERED)

H09: DNNOL=OWN WAS CONVERTED ACCORDING TO KNDEF-TABLE INTO DNNO=21.
EXTRACTED NUMBER: NUMRED=445 (SKIP DIGITS HAVE BEEN CONSIDERED)

H10: PLEASE NOTE THAT ENTRIES, WHICH ARE EXTRACTED FROM KNDEF-TABLE, ARE NOT
AUTOMATICALLY ADAPTED, IF KNDEF-TABLE IS CHANGED.

The Skip Digits specify how many digits are to be copied from the KNDEF-Table. KNDEF-Table entries are only considered if they contain a node code (NODECD) and Skip Digits /= 0 (NODECDSK). This is the reason why in the example above no entries are generated for DNNO 2 and 3.

Note: The extraction of the KNDEF-Table is only allowed in numbering plan UNKNOWN and in level 0. If the KNDEF-Table contains node numbers with multiple levels, only level 0 is evaluated. Therefore the KNDEF-Table must be unique for level 0 entries (e.g. codes cannot be extracted if entries for NNO 1-1-2 and 1-3-2 exist).

125.3 Interrelationships

- AMO ACSU : Parameter NNO: Assigns (fictitious) originating node numbers to attendant consoles
Assignment of a display suppression attribute to attendant console (SATNDNO=ONLYEXT)

- AMO COT : Parameter PAR: The values LWNC, DFNN are assigned for trunk circuits which do not transmit usable originating node codes incoming / outgoing.
- AMO DIMSU : Parameter RSTCON: Sets the number of originating nodes from which connections are to be restricted.
: Parameter DSPMOD and DPDSPMOD: Sets the number of originating/destination node combinations for which station number modification is to be set.
- AMO KNDEF : Definition of the virtual nodes within the own physical node (TYPE=OWN, parameter NNO)
Per virtual node the node codes and the skip digits for the node codes for the numbering plan UNKNOWN are configurable (parameters NODECD and NODECDISK)
- AMO KNFOR : Sets the node format table
- AMO KNPRE : Sets the node prefix table
- AMO LDAT : Parameter DNNO: Assigns an individual virtual destination node number for each routing element
- AMO LODR NPI : Branch CMD=NPI: Assigns NPI and TON in the outdial rule / TON
- AMO RICHT : Parameter DNNO: Assigns the individual virtual destination node number (not a transit node number) for each route
- AMO SDAT : Change the virtual node number of a station and regenerate it
Change the display suppression attribute (SSTNO= ONLYEXT)
- AMO SBSCU : Assignment of a default virtual node number (taken from KNDEF-Table) to a subscriber when configuring a new station (not visible at user interface). For display and regenerate action AMO SDAT has to be used.
Assignment of a display suppression attribute (SSTNO=ONLYEXT)
- AMO SCSU
- AMO SSCSU
- AMO TACSU : Parameter NNO: Assigns (fictitious) originating node numbers for incoming trunk circuits which do not transmit an ONNO (e.g. trunk circuits)
- AMO TDCSU : Parameter NNO: Assigns (fictitious) originating node numbers for incoming trunk circuits which do not transmit an ONNO (e.g. trunk circuits)
Parameter ISDNxx, PNPxx: Configuration of prefixes for digital trunk circuits if KNPRES prefixes cannot be used
- AMO TSCSU : Parameter NNO: Assigns (fictitious) originating node numbers for special equipment and special networks
- AMO WABE : Branch TYPE=DNNO, parameter DNNO: Displays destination nodes and destination system numbers
Parameter DAR=OWNNODE: Assigns own node codes

125.4 Functions of the AMO

- [CHANGE-KNMAT](#) : Changes the node connection matrix
- [DISPLAY-KNMAT](#) : Displays the node connection matrix
- [REGENERATE-KNMAT](#) : Regenerates the node connection matrix

KNMAT - Administer node connection matrix

Functions of the AMO

No add command is implemented because the node connection matrix is always "logically" present. The matrix is initialized with:

- No station number modification
- All connections are allowed

No delete command is implemented. The CHANGE command is used as the delete function (set to initialization values).

125.4.1 CHANGE-KNMAT

Changes the node connection matrix, which consists of two independent parts: the restrict connection component and the station number modification component. An entry is addressed with NPI, LEVEL, ONNO (or ONNOL) and DNNO (or DNNOL).

All combinations ONNO/ONNOL and DNNO/DNNOL are considered. For example, if all node number parameters are present in command, the modification is done for:

ONNO - DNNO
ONNO - DNNOL
ONNOL - DNNO
ONNOL - DNNOL

In the station number modification component, the delete function is implemented by means of NUMEXT=***** or NUMRED=*****.

In the restrict connection component, the delete function is implemented by means of CONN=A.

NPI, ONNOL, DNNOL, MODCON, NUMEXT and NUMRED are valid only for the station number modification component.

CONN is valid only for the restrict connection component.

LEVEL, ONNO and DNNO are valid for both components.

If an entry can no longer be made in the node connection matrix owing to insufficient memory (see cross-references: AMO DIMSU), an error message is displayed.

MODCON is only an attribute of an entry in the node connection matrix and is therefore only valid in combination with an entry. This means that an empty entry with MODCON=NOMOD is not possible (NUMEXT or NUMRED have to be specified or have to exist in this case too)

Procedure overview

Command code	Parameters
CHANGE-KNMAT	[NPI=<param>], LEVEL=<number> , {ONNO=<number>, ONNOL=<param>} , {DNNO=<number>, DNNOL=<param>} , {CONN=<param>, MODCON=<param>} , NUMEXT=<key-num>, NUMRED=<key-num>;

Examples

1. Single-level network (level 0 only). The station numbering plan UNKNOWN is to be changed by adding the extension 91 for connections from the home node to all other nodes in the network for all kind of traffic conditions.

Input:

```
CHANGE-KNMAT:UNKNOWN,0,,OWN,,ROW,,,91;
```

2. Two-level network (levels 0, 1). Connections from the originating node number 100 to destination nodes with the numbers 120 to 200 on level 0 are to be permitted, and the extension 722 is to be added to station numbers signaled in this context in the ISDN numbering plan. This extension should only apply to outgoing connections. The modification takes effect between the nodes xx-100 and xx-120 to xx-200 (xx being any level 1 region).

Input:

```
CHANGE-KNMAT:ISDN,0,100,,120&&200,,A,OUT,722;
```

If the extension 89 is to be added to outgoing connections from level 1 region number 15 to region number 16 in addition to the above example, the following command must be entered:

```
CHANGE-KNMAT ISDN,1,15,,16,,A,OUT,89;
```

Once both commands have been entered, a dual extension is applied between 15-100 and 16-120 to 16-200: 722 is added to begin with, and then 89, with the result that the station number 4711 is converted to 897224711. Between 15-100 and 15-120 the resultant modified station number would be 7224711; no modification would take place between 15-100 and 15-119.

3. On level 2, the international element of the station number (exit code, prefix and country code) are to be reduced in the ISDN numbering plan in incoming terminal traffic and transit traffic from Central Office (CO) region specified by fictitious level 2 region number 1 (e.g. by AMO TDCSU, parameter NNO=1-0-0).

Input:

```
CHANGE-KNMAT:ISDN,2,1,,,ROW,,IN&TRANSI,,00049;
```

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Functions of the AMO

4. Connections from originating region 25 to destination region 92 on level 1 are to be denied.. Any station number modifications already entered in the PRIVATE numbering plan for these connections are to be deleted.

Input:

```
CHANGE-KNMAT:PRIVATE,1,25,,92,,D,,*****,*;;
```

5. Configuration of a replacement number between a local station with extension number suppression (SSTNO=ONLYEXT) defined in the own virtual node 17 and a Central Office specified by a fictitious node number 100:

```
CHANGE-SDAT:STNO=2100,TYP=DATA,SSTNO=ONLYEXT;
```

```
CHANGE-KNMAT:ISDN,0,17,,100,,,OUT&REPEXT,4989722*0;
```

The asterisk character (*) in NUMEXT has a special meaning in combination with MODCON=REPEXT. It means that, if the calling station has the attribute ONLYEXT, the calling extension number is replaced by the part right of the asterisk. Afterwards, the resulting extension number is extended by the part left of the asterisk independent of the attribute ONLYEXT.

Please note that the format of NUMEXT corresponds to the format defined by AMO KNFOR for the destination node (here international format, i.e. no entry in AMO KNFOR or the entry INTERNAT for DNNO=100). The codes (49, 89, 722) can be read by means of the virtual node number of the local subscribers (17) from the Kndef table.

In the example above the calling number 3111 is converted into the new calling number 49897223111 (no ONLYEXT, i.e. normal number extension). The calling extension 2100 (ONLYEXT) is sent to the Central Office as 49897220 (that means the number was replaced and extended).

For a detailed description see service manual, chapter " Display Suppression".

125.4.2 DISPLAY-KNMAT

Displays the denied connections and the station number modifications.

Only entries, which are different from the initialization values, are displayed.

The parameter TYPE controls whether only entries with denied connections, only entries with station number modifications, or both types of entry are displayed. If (in accordance with the TYPE selection parameter) an entry in the node connection matrix is displayed, then

all information is displayed (e.g. including the denied/allowed connection information, even if the selection was based on TYPE=MOD).

Although restricted connections are independent of the numbering plan, they are always displayed for all numbering plans to provide the user with as much information as possible (i.e. to ensure that all modifications are also displayed).

The system issues a prompt for the LEVEL parameter if it has not been specified in a command which contains physical node entries (ONNO, DNNO). Logical nodes (ONNOL, DNNOL) apply for all levels, which means that, if the LEVEL parameter is omitted, the modifications on all levels are displayed for the corresponding ONNOL/DNNOL.

Group relationship between ONNO and ONNOL and/or DNNO and DNNOL:

If one of the parameters in the group is specified, the parameter that has not been specified will be interpreted by default as "no display". If neither of the parameters in the group is specified, both parameters will be interpreted by default as "all nodes".

Procedure overview

Command code	Parameters
DISPLAY-KNMAT	[NPI=<param>], [LEVEL=<number>] , {ONNO=<number>, ONNOL=<param>} , {DNNO=<number>, DNNOL=<param>} , [MODE=<param>]

Examples

1. Display the station number modifications in the UNKNOWN numbering plan for connections from the originating nodes OWN, 91 and 96 to the destination nodes 80 to 85, and to all logical nodes on level 0. The KNDEF-Table contains only 1 own virtual node (95). For ONNO 96, no modification is entered for any DNNO; the message H02 is therefore output.

Input:

```
DISPLAY-KNMAT:UNKNOWN,0,91&96,OWN,80&&85,OWN&ROW&CDR,MOD;
```

Output:

```
H08: ONNOL=OWN WAS CONVERTED ACCORDING TO KNDEF-TABLE INTO
ONNO=95.
```

```
-----
NODE MATRIX FOR  NPI = UNKNOWN, LEVEL = 0
-----
```

KNMAT - Administer node connection matrix

Functions of the AMO

ONNO / ONNOL	DNNO / DNNOL	CONN	MODCON	NUMEXT	NUMRED
91	80	A	ALL	91	-
91	84	D	IN	-	40
			TRANSH		
91	85	A	NOMOD	91	40
95	81	A	ALL	-	50
95	85	A	ALL	95	50
95	CDR	A	ALL	95	50

H02: NOT ALL REQUESTED ONNO ARE DISPLAYED

2. Display denied connections between the originating regions 10 to 20 and all destination regions on level 1 in the network. In addition, the modifications for all NPIs are displayed, but only if CONN=D.

Input:

DISPLAY-KNMAT: ,1,10&&20,,,,DEN;

Output:

NODE MATRIX FOR NPI = ISDN, LEVEL = 1					
ONNO / ONNOL	DNNO / DNNOL	CONN	MODCON	NUMEXT	NUMRED
10	11	D	ALL	89	-
15	10	D	IN	-	0089
15	99	D	ALL	711	-
NODE MATRIX FOR NPI = PRIVATE, LEVEL = 1					
ONNO / ONNOL	DNNO / DNNOL	CONN	MODCON	NUMEXT	NUMRED
10	11	D	-	-	-
15	10	D	IN	21	-
15	99	D	ALL	-	1121
NODE MATRIX FOR NPI = UNKNOWN, LEVEL = 1					
ONNO / ONNOL	DNNO / DNNOL	CONN	MODCON	NUMEXT	NUMRED
10	11	D	-	-	-
15	10	D	-	-	-
15	99	D	-	-	-

H02: NOT ALL REQUESTED ONNO ARE DISPLAYED

Note:

The parameter "MODE" does not affect the format of the display.

125.4.3 REGENERATE-KNMAT

Displays denied connections or connections with station number modifications in the form of change commands.

If no parameter is specified, all denied connections and all connections with station number modifications will be regenerated.

Procedure overview

Command code	Parameters
REGENERATE-KNMAT	[NPI=<param>], [LEVEL=<number> , {ONNO=<number>, ONNOL=<param>} , {DNNO=<number>, DNNOL=<param>} , [MODE=<param>]

Example

List all change commands which affect originating nodes with the numbers 90 to 99 and destination nodes 60 to 85 on level 0.

Input:

```
REGENERATE-KNMAT:,0,90&&99,,60&&85;
```

Output:

```
CHA-KNMAT:ISDN,0,91,,84,,D,,,;
CHA-KNMAT:ISDN,0,99,,60,,D,ALL,722,;
CHA-KNMAT: PRIVATE,0,91,,84,,D,,,;
CHA-KNMAT:PRIVATE,0,95,,60&&63&70,,A,OUT,211,;
CHA-KNMAT:UNKNOWN,0,91,,80,,A,IN&TRANSH,91,;
CHA-KNMAT:UNKNOWN,0,91,,84,,D,,,;
CHA-KNMAT:UNKNOWN,0,91,,85,,A,NOMOD,91,40;
CHA-KNMAT:UNKNOWN,0,95,,81,,A,ALL,,50;
CHA-KNMAT:UNKNOWN,0,95,,85,,A,ALL,95,50;
```

125.5 Parameter description

CONN	Connection from ONNO to DNNO allowed or denied
Type of input	: Single value, group member (at least 1) with MODCON, NUMEXT, NUMRED for CHANGE
Possible values	: A = allowed (basic initialization) D = denied
Default value	Entry remains unchanged
Initialization value	A

DNNO	Destination virtual node number

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Parameter description

Node numbers have level specific ranges.

Type of input	: single value, range or concatenated values, group member (at least 1) with DNNOL for CHANGE, group member (maximum 2) with DNNOL for DISPLAY, REGENERATE	
Possible values	: 1 - 999	for LEVEL = 0
	1 - 253	for LEVEL = 1
	1 - 29	for LEVEL = 2
Default value	: 1&&999	for DISPLAY and REGENERATE LEVEL= 0 if DNNOL is missing from command
	1&&253	for DISPLAY and REGENERATE LEVEL=1 if DNNOL is missing from command
	1&&29	for DISPLAY and REGENERATE LEVEL=2 if DNNOL is missing from command
	no node	for DISPLAY and REGENERATE if DNNOL exists in command

DNNOL

Logical destination node

Logical nodes have been introduced in order to simplify administration of modifications. For denying connections, logical nodes are not allowed. **OWN is only allowed for level 0 in numbering plan UNKNOWN and is extracted from KNCDEF-Table.** The other values (ROW, CDR) are mapped to special node numbers which are not visible at user interface.

Type of input	: single value or concatenated values, group member (at least 1) with DNNO for CHANGE, group member (maximum 2) with DNNO for DISPLAY, REGENERATE	
Possible values	: ROW	llogical node "Rest of World": applies implicitly for all virtual nodes on the level (including own nodes, not CDR) for which no modification is entered for DNNO
	OWN	CHANGE: All virtual nodes which are configured in the "OWN" part of the KNCDEF table. DISPLAY/REGENERATE: All virtual nodes which are configured in the "OWN" part of the KNCDEF table <u>and</u> which have an entry in the KNMAT table.
	CDR	logical node Charge Data Recording (becomes effective only in call processing for NPI=UNKNOWN)
Default value	: ROW&OWN&CDR	for DISPLAY and REGENERATE if DNNO is missing from command
	: no logical node	for DISPLAY and REGENERATE if DNNO exists in command

LEVEL

Level of the node numbers for modifications or denied connections

Node numbers consist of up to 3 levels. Each level has its own value range. Higher levels than 0 are used for building up hierarchical networks.

	Type of Input	: :single value, mandatory for CHANGE single value, range of values, optional for DISPLAY, REGENERATE
	Possible Values	: 0 - 2
	Default value	: 0&&2 for DISPLAY and REGENERATE
MODCON	Modification condition	
	Traffic conditions for executing the modifications (NUMEXT, NUMRED) or special modification conditions.	
	Type of input	: single value, concatenated values, group member (at least 1) with CONN, NUMEXT, NUMRED for CHANGE (if NUMEXT or NUMRED are not present in matrix, at least 1 of these parameters must be present in command). NOMOD must not be concatenated with other values.
	Possible values	: IN incoming end traffic OUT outgoing traffic TRANSH transit traffic homogeneous TRANSI transit traffic interworking (with change of numbering plan) ALL modifications in all traffic conditions ALL = IN&OUT&TRANSH&TRANSI (special modification conditions are not included in ALL) NOMOD no modification REPEXT special modification condition: The extension number of calling party is replaced by another one (NUMEXT) for connections between originating and destination node, if the calling party has assigned the attribute ONLYEXT in parameter SSTNO (AMOs SCSU, SBSCU, SSBSU,SDAT). Additionally, the appropriate traffic conditions have to be set.(e.g.OUT). The mechanism is shown in example 5 of the ADD action. RES1 reserve value 1 RES2 reserve value 2
	Default value	: Entry exists: Entry remains unchanged Entry does not exist: ALL
MODE	Output control	
	Type of input	: Single value, optional
	Possible values	: ALL ALL = Output all denied connections and all connections with station number modification (default) DEN = Output only denied connections

KNMAT - Administer node connection matrix

Parameter description

	MOD	= Output only connections with station number modification
Default value	: ALL	
NPI	Numbering plan identifier (ETSI standard) Station number modifications are NPI-dependent, denial of connection function is NPI-independent.	
Type of input	: single value, optional for CHANGE or concatenated values, optional for DISPLAY, REGENERATE (but mandatory for CHANGE of modifications)	
Possible values	: ISDN ISDN-E.164 numbering plan PRIVATE Private numbering plan (PNP) UNKNOWN Implicit numbering plan	
Default value	: ISDN for DISPLAY and REGENERATE &PRIVATE &UNKNOWN	
NUMEXT	Number extension at the beginning of the station number If MODCON=REPEXT the asterisk character * separates 2 parts of the calling number (see example 5 of ADD action)	
Type of input	: Single value, group member (at least 1)	
Possible values	: number consisting of up to 22 digits (0-9,*,#,A-D) or "*****" to delete the number extension or ##### to take over the own codes of the KNDEF table into the KNMAT table (only possible if ONNOL or DNNOL = OWN and NPI=UNKNOWN in LEVEL 0)	
Default value	Entry remains unchanged	
NUMRED	Number reduction (truncation) at the beginning of the station number If MODCON=REPEXT the asterisk character * separates 2 parts of the calling number (see example 5 of ADD action)	
Type of Input	: Single value, group member (at least 1)	
Possible values	: number consisting of up to 22 digits (0-9,*,#,A-D) or "*****" to delete the number extension or ##### to take over the own codes of the KNDEF table into the KNMAT table (only possible if ONNOL or DNNOL = OWN and NPI=UNKNOWN in LEVEL 0)	
Default value	Entry remains unchanged	
ONNO	Originating virtual node number	

Node numbers have level-specific ranges.

Type of input	: single value, range or concatenated values, group member (at least 1) with ONNOL for CHANGE, group member (maximum 2) with ONNOL for DISPLAY, REGENERATE	
Possible values	: 1 - 999	for LEVEL = 0
	1 - 253	for LEVEL = 1
	1 - 29	for LEVEL = 2
Default value	: 1&&999	for DISPLAY and REGENERATE LEVEL= 0 if ONNOL lacks in command
	1&&253	for DISPLAY and REGENERATE LEVEL=1 if ONNOL lacks in command
	1&&29	for DISPLAY and REGENERATE LEVEL=2 if ONNOL lacks in command
	no node	for DISPLAY and REGENERATE if ONNOL exists in command

ONNOL

Logical originating node

Logical nodes have been introduced in order to simplify administration of modifications. For denying connections, logical nodes are not allowed. **OWN is only allowed for level 0 in numbering plan UNKNOWN and is extracted from KNDDEF-Table.** The other values (ROW, CDR) are mapped to special node numbers which are not visible at user interface.

Type of input	: single value or concatenated values, group member (at least 1) with ONNO for CHANGE, group member (maximum 2) with ONNO for DISPLAY, REGENERATE	
Possible values	: ROW	logical node "Rest of World": applies implicitly for all virtual nodes on the level (including own nodes, not CDR) for which no modification is entered for ONNO
	OWN	CHANGE: All virtual nodes which are configured in the "OWN" part of the KNDDEF table. DISPLAY/REGENERATE: All virtual nodes which are configured in the "OWN" part of the KNDDEF table <u>and</u> which have an entry in the KNMAT table.
	CDR	logical node Charge Data Recording (becomes ineffective in call processing)
Default value	: ROW&OWN&CDR	for DISPLAY and REGENERATE if ONNO lacks in command
	: no logical node	for DISPLAY and REGENERATE if ONNO exists in command

125.6 Error messages and advisories

125.6.1 Error messages

- F01: CONNECTIONS FROM <aaa> TO <bbb> IN LEVEL <c> CANNOT BE DENIED SINCE THE MEMORY AREA WHICH WAS ASSIGNED BY MEANS OF THE AMO DIMSU PARAMETER RSTCON HAS ALREADY BEEN USED UP.
- F02: STATION NUMBER MODIFICATIONS FROM NODE <dddd> TO NODE <eeee> IN LEVEL <c> CANNOT BE ENTERED SINCE THE MEMORY AREA WHICH WAS ASSIGNED BY MEANS OF THE AMO DIMSU (PARAMETER DSPMOD AND DPDSPMOD) HAS ALREADY BEEN USED UP.
- F03: MODCON = NOMOD MUST NOT BE CONCATENATED WITH OTHER VALUES.
- F04: FOR CHANGING A MODIFICATION VALUE (MODCON, NUMEXT, NUMRED), NPI IS MANDATORY.
- F05: LOGICAL NODES (PARAMETER ONNOL, DNNOL) ARE NOT ALLOWED FOR DENYING CONNECTIONS.
- F06: <ffff> = <ggg> IS OUT OF RANGE FOR LEVEL = <c>. POSSIBLE RANGE: 1 - <hhh>
- F08: <ffff> IS ONLY VALID FOR A SPECIFIC LEVEL.
- F09: TOO MANY ENTRIES FOR DENIED CONNECTIONS OR MODIFICATIONS: THE MAXIMUM RUNTIME WAS EXCEEDED. THE ENTRIES UNTIL NODE <dddd> OF LEVEL <c> HAVE BEEN EXECUTED.
PLEASE ENTER COMMAND AGAIN FOR THE REMAINING NODES.
- F10: THE LOGICAL NODE 'OWN' IS ONLY ALLOWED FOR NPI=UNKNOWN AND LEVEL=0
- F11: THE SPECIAL VALUE ##### IN PARAMETER NUMEXT/NUMRED IS ONLY ALLOWED FOR THE LOGICAL NODE 'OWN'. EITHER ONNOL OR DNNOL MUST BE 'OWN'.
- F12: OWN NODE ID'S COULD NOT BE PICKED UP FROM KNDEF-TABLE BECAUSE NODE ID <ggg> IS NOT UNIQUE IN LEVEL 0 IN KNDEF-TABLE.
- F13: OWN NODE ID'S COULD NOT BE PICKED UP FROM KNDEF-TABLE BECAUSE THE KNDEF-TABLE FOR OWN NODES IS EMPTY.
- F14: OWN NODE CODES COULD NOT BE EXTRACTED FROM KNDEF-TABLE (NO ENTRY IN KNDEF FOR NODECD OR NODECDISK).
- F15: MODCON IS ONLY VALID IN COMBINATION WITH NUMBER EXTENSION OR REDUCTION. MODCON WAS IGNORED BECAUSE NO NUMBER EXTENSION OR REDUCTION WAS FOUND EITHER IN COMMAND OR IN MODIFICATION MATRIX.
- F16: ONNOL AND DNNOL MUST NOT BE BOTH 'OWN' IF NODE CODES ARE TO BE EXTRACTED FROM KNDEF-TABLE (NUMEXT/NUMRED=#####).

Output texts:

<aaa>:	Originating node / region number
<bbb>:	Destination node / region number
<c>:	Level
<dddd>:	Originating node / region number or OWN, ROW or CDR
<eeee>:	Destination node / region number or OWN, ROW or CDR

<fffff>: Parameter ONNO or DNNO
 <ggg>: Node / region number
 <hhh>: Highest permissible node / region number

125.6.2 Advisories

H01: NO ENTRY WITH THE REQUIRED ATTRIBUTES AVAILABLE
 H02: NOT ALL REQUESTED ONNO ARE DISPLAYED
 H04: NPI IS NOT RELEVANT TO DENY / ALLOW CONNECTIONS.
 THE PARAMETER WAS IGNORED FOR THIS FUNCTION.
 H05: MODCON IS ONLY VALID IN COMBINATION WITH NUMBER EXTENSION OR REDUCTION.
 MODCON WAS IGNORED WHERE NO NUMBER EXTENSION OR REDUCTION WAS FOUND
 EITHER IN COMMAND OR IN MODIFICATION MATRIX.
 H06: NPI IS NOT RELEVANT TO DENY CONNECTIONS. THE PARAMETER IS NOT IGNORED
 FOR OUTPUT RESTRICTIONS.
 H07: THE LOGICAL NODE CDR BECOMES ONLY EFFECTIVE AS DESTINATION NODE FOR
 NPI=UNKNOWN.
 H08: <iiii>=OWN WAS CONVERTED ACCORDING TO KNDEF-TABLE INTO <ffff>=<ggg>.
 H09: <iiii>=OWN WAS CONVERTED ACCORDING TO KNDEF-TABLE INTO <ffff>=<ggg>.
 EXTRACTED NUMBER: <zzzz>=<nnnnnn> (SKIP DIGITS HAVE BEEN CONSIDERED)
 H10: PLEASE NOTE THAT ENTRIES, WHICH ARE EXTRACTED FROM KNDEF-TABLE, ARE NOT
 AUTOMATICALLY ADAPTED, IF KNDEF-TABLE IS CHANGED.
 H11: FOR EXTRACTING OF NUMEXT/NUMRED FROM KNDEF-TABLE ONLY <iiii>=OWN WAS
 CONSIDERED. OTHER <tttttttttttttttt> HAVE BEEN IGNORED.

Output texts:

<fffff>: ONNO or DNNO
 <ggg>: Node / region number
 <iiii>: ONNOL or DNNOL
 <zzzzzz>: NUMEXT or NUMRED
 <nnnnnn>: Node access code from KNDEF-Table
 <tttttttttttttttt>: ORIGINATING NODES or DESTINATION NODES

**125.6.3 Error messages and advisories
affected by the various AMO actions**

CHANGE	:	F01,	F02,	F03,	F04,	F05,	F06,	F09,	F10,	F11,	F12,	F13,
		F14,	F15,	F16								
		H04,	H05,	H07,	H08,	H09,	H10,	H11				
DISPLAY	:	F05,	F06,	F08,	F12,	F13						
		H01,	H02,	H06,	H07,	H08						
REGENERATE	:	F05,	F06,	F08,	F12,	F13						

126 KNPRES - Administer node prefix table

Interrelationships	Parameter description
Functions of the AMO	Error Messages and Advisories

This AMO administers the node prefix table for the various dial plans. Currently ISDN-E and Private Numbering Plans (PNP) are handled by the call processing. The node prefix table contains the DPLN-dependent designations of the Numbering Plan Identifier (NPI), the Type of Number (TON), as well as the associated exit codes and the prefixes for the national/international code for the own node. These table entries are used by the call processing to convert implicit numbers to explicit ones, and vice versa.

126.1 Interrelationships

- AMO KNFOR : Administration of the Node Format Tables
- AMO KNMAT : Administration of the Node Matrix
- AMO LDAT : Administration of the LCR Route Elements
- AMO LODR : Administration of LCR Outdial Rules
- AMO TDCSU : Configuration of digital Trunk Circuits
- AMO WABE : Administration of the Digit Analysis

126.2 Functions of the AMO

- [ADD-KNPRES](#) : Create an entry in the node prefix table
- [CHANGE-KNPRES](#) : Change an entry in the node prefix table
- [DELETE-KNPRES](#) : Delete an entry from the node prefix table
- [DISPLAY-KNPRES](#) : Display the node prefix table
- [REGENERATE-KNPRES](#) : Regenerate the entries of the node prefix table

126.2.1 ADD-KNPRES

This action creates an entry in the node prefix table.

KNPRE - Administer node prefix table

Functions of the AMO

The entry is DPLN-dependent and contains the Numbering Plan Identifier (NPI), the Type of Number (TON), as well as the associated exit codes and the prefixes for the national/international code. If an entry for the specified Numbering Plan Identifier (NPI) and the Type of Number (TON) already exists for the particular DPLN group, the new entry is rejected and an error message output.

Procedure overview

Command code	Parameters
ADD-KNPRES	[DPLN=<number>], | NPI=ISDN, | TON=INTERNAT,EXIT=<key-num>,[PREFIX=<key-num>]; | TON=NATIONAL,EXIT=<key-num>,[PREFIX=<key-num>]; | TON=SUSCR,EXIT=<key-num>,[PREFIX=<key-num>]; | NPI=PRIVATE, | TON=LEVEL2,EXIT=<key-num>,[PREFIXPREFIX=<key-num>]; | TON=LEVEL1,EXIT=<key-num>,[PREFIX=<key-num>]; | TON=LOCAL,EXIT=<key-num>,[PREFIX=<key-num>];

Example:

Create an entry in the node prefix table for DPLN group 1, the numbering plan "ISDN-E.164" and the type of number "International Number" with exit code 0 and 00 as prefix for the international code.

Input:

ADD-KNPRES:1,ISDN,INTERNAT,0,00;

Output:

ADD-KNPRES:1,ISDN,INTERNAT,0,00;
AMO-KNPRES -... ADMINISTRATION OF PREFIX TABLE OF NODE
ADD COMPLETED;

126.2.2 CHANGE-KNPRES

The CHANGE function allows to you modify data entered with ADD.

The table entry is addressed by the DPLN group, the Numbering Plan Identifier (NPI) and the Type of Number (TON); the exit code or the prefix for national/international can be changed. At least on entry to be changed must be specified. The change is indicated by an advisory.

If there is no table entry for the DPLN group, the Numbering Plan Identifier (NPI) and the Type of Number (TON), the change is rejected and an error message displayed.

Procedure overview

Command code	Parameters
CHANGE-KNPRES	[DPLN=<number>], | NPI=ISDN,TON=<param>,{EXIT=<key-num>, PREFIX=<key-num>; | NPI=PRIVATE,TON=<param>,{EXIT=<key-num>, PREFIX=<key-num>;

Example

Change the exit code for DPLN group 1, numbering plan "ISDN-E.164" and type of number "International number" from 0 to 0123.

Input:

```
CHANGE-KNPRES:1,ISDN,INTERNAT,0123;
```

Output:

```
CHANGE-KNPRES:1,ISDN,INTERNAT,0123;
H01: ENRTY FOR DPLN=1, NPI=ISDN, TON=INTERNAT CHANGED:
      EXIT: 0 TO 0123, PREFIX: 00 TO 00
AMO-KNPRES -...      ADMINISTRATION OF PREFIX TABLE OF NODE
CHANGE COMPLETED;
```

126.2.3 DELETE-KNPRES

The DELETE function allows you to delete a table entry addressed by the DPLN group, the Numbering Plan Identifier (NPI) and the Type of Number (TON). An advisory is displayed to indicate that the deletion is completed.

If there is no corresponding table entry, the deletion is rejected and an error message displayed.

Procedure overview

Command code	Parameters
DELETE-KNPRES	[DPLN=<number>], | NPI=ISDN,TON=<param>; | NPI=PRIVATE,TON=<param>;

KNPRE - Administer node prefix table

Functions of the AMO

Example

Delete the table entry for DPLN group 1, the Numbering Plan Identifier (NPI) "ISDN-E.164" and the Type of Number (TON) "International Number".

Input:

```
DELETE-KNPRES:1,ISDN,INTERNAT;
```

Output:

```
DELETE-KNPRES:1,ISDN,INTERNAT;
H02: ENRTY FOR DPLN=1, NPI=ISDN, TON=INTERNAT
      WITH EXIT=0123, PREFIX=00 DELETED
AMO-KNPRES -...      ADMINISTRATION OF PREFIX TABLE OF NODE
DELETE COMPLETED;
```

126.2.4 DISPLAY-KNPRES

This action outputs the entries in the node prefix table.

Procedure overview

Command code	Parameters
DISPLAY-KNPRES	[DPLN=<number>];

Example

Input:

```
DISPLAY-KNPRES:0&&1;
```

Output:

```
DISPLAY-KNPRES:0&&1;
  DPLN |      NPI      |      TON      |EXIT|      PREFIX |
=====|=====|=====|=====|=====|
      0 | PRIVATE | LEVEL2 |  99 |    000 |
      0 | PRIVATE | LEVEL1 |  99 |    011 |
      1 |   ISDN  | INTERNAT |   0 |     00 |
      1 |   ISDN  | NATIONAL |   0 |     1 |
AMO-KNPRES -...      ADMINISTRATION OF PREFIX TABLE OF NODE
DISPLAY COMPLETED;
```

126.2.5 REGENERATE-KNPRES

Procedure overview

Command code	Parameters
REGENERATE-KNPRES	[DPLN=<number>];

Example

Input:

```
REG-KNPRES:1;
```

Output:

```
REG-KNPRES:1;
ADD-KNPRES:1,ISDN,INTERNAT,0,00;
ADD-KNPRES:1,ISDN,NATIONAL,0,1;
AMO-KNPRES -... ADMINISTRATION OF PREFIX TABLE OF NODE
REGENERATE COMPLETED;
```

126.3 Parameter description

EXIT	Exit code
Type of Input	: single value mandatory ADD optional CHANGE
Possible Values	: 6 digits: 0 - 9, *, #, A - D
NPI	Numbering Plan Identifier
Type of Input	: single value, mandatory
Possible Values	: ISDN = ISDN-E.164 Numbering Plan PRIVATE = Private Numbering Plan (PNP)
PREFIX	Prefix of nat./internat. Code
Type of Input	: single value, optional
Possible Values	: 4 digits: 0 - 9, *, #, A - D
TON	Type of Number
Type of Input	: single value, mandatory
Possible Values	for NPI=ISDN: INTERNAT = international number

KNPRE - Administer node prefix table
Error Messages and Advisories

Possible Values	NATIONAL	=	national number
	SUBSCR	=	local subscriber
	for NPI=PRIVATE:		
	LEVEL2	=	Level2- regional number
	LEVEL1	=	Level1-regional number
	LOCAL	=	local number
DPLN	Dial Plan Group		
	Type of Input	:	single value, optional
	Possible Values	:	0 - 15
	Default Value	:	0 ADD, CHANGE, DELETE
	Default Value	:	0&&15 DISPLAY, REGENERATE

126.4 Error Messages and Advisories

126.4.1 Error Messages

F01: ENTRY IN TABLE NOT POSSIBLE - TABLE TOO SMALL
F02: ENRTY FOR DPLN=<xx>, NPI=<xxxxxxxx>, TON=<xxxxxxxx> ALREADY EXISTS
F03: NO ENRTY FOR DPLN=<xx>, NPI=<xxxxxxxx>, TON=<xxxxxxxx> PRESENT

126.4.2 Advisories

H01: ENRTY FOR DPLN=<xx>, NPI=<xxxxxxxx>, TON=<xxxxxxxx> CHANGED:
EXIT: <xxxxxx> TO <xxxxxx>, PREFIX: <xxx> TO <xxx>
H02: ENRTY FOR DPLN=<xx>, NPI=<xxxxxxxx>, TON=<xxxxxxxx>
WITH EXIT=<xxxxxx>, PREFIX=<xxx> DELETED
H03: NO TABLE ENTRY AVAILABLE

126.4.2.1 Output Texts

<xx> : DPLN group
<xxx> : Prefix of nat./internat. code
<xxxxxx> : Exit code
<xxxxxxxx> : Numbering plan identifier
<xxxxxxxx> : Type of number

126.4.3 Use of the Output Message for Each Action

ADD	:	F01,	F02,
CHANGE	:	F03,	H01,
DELETE	:	F03,	H02,
DISPLAY	:	H03,	
REGENERATE	:	NONE	

KNPRE - Administer node prefix table
Error Messages and Advisories

127 KNTOP - Administrates Nodes Topology

The description of this AMO is only available in html format!

128 LANC - LAN configuration

The AMO LANC can be used to administer the WAML board's board-specific configuration data that is required for LAN communication via the ISDN network or with the Atlantic LAN to the ADP. In addition to its administration function, the AMO LANC also serves to read out the WAML board's MAC addresses and initiate loading of the data to the board. In a system maximally 4 WAML boards can be configured.

The following tables are processed:

- Global parameter table
This table contains all the characteristics and limiting values that are generally valid for each WAML board. The number of B-channels in the WAML circuit is administered by means of AMO TDCSU!
- Network interface table
This table defines the 4 network interfaces on the WAML board. One entry is provided for each interface. The network mask defines the network connected to the interface. The interface is identified by means of its defined name (see NETNAME parameter).
- IP routing table
This table contains routing information for the packet's destination IP address. The entry determines the next router to be required in the network. Entries can apply to an entire network or to individual hosts. The table is arranged by IP address and can hold up to 200 different entries.
With the help of an entry with the "wild card address" 0.0.0.0 the WAML board can route all IP addresses not contained in its IP routing table to a default router. See [Section 128.2.1, "ADD-LANC", on page 1347](#).
- ISDN remote terminal table
This table assigns possible station numbers and characteristics to the destination IP address of an ISDN remote terminal (WAML) in the network. The usage must be specified for a station number. Also note that the station number for which the 'OUT' value was specified in the INOUTCHx parameter is always used as the station number for callback. The table is arranged by IP address and can hold up to 200 different entries.
- Firewall IP address table
This table contains the IP addresses of hosts connected to external servers and their network access rights. On the basis of the rights entered, a check is run for each packet to determine whether the source IP address and destination IP address are allowed to communicate. The table is arranged by IP address and can hold up to 305 different entries.

- Firewall MAC address table

This table contains the assignment of MAC addresses to IP addresses for hosts connected to external servers. It can be used to check the assignment of source IP addresses to MAC addresses only for packets received from the external LAN. The table is arranged by IP address and can hold up to 100 different entries. If routers are inserted between the WAML2 and the external server, as source MAC address the MAC address of the last router has to be added into the Firewall MAC Address Table.

The MAC address is an internationally unique hardware address of the Ethernet interface that is permanently encoded on every LAN board at the time of production. The verb DISPLAY can be used to determine the MAC addresses of any WAML.

When basic initialization is performed for the tables, the WAML board is not operational.

The criteria that determine whether data transmission is performed include a packet's source IP address and destination IP address and, in the case of ISDN access, the station number. The firewall function on the WAML board is a protective mechanism that prevents the transmission of packets from unauthorized stations. To do so, it uses the entries in the firewall IP address table, firewall MAC address table and ISDN remote terminal table. The firewall checks and WAML network interfaces are activated in the global parameter table.

Only one LAN interface on the external LAN can be operated at one time. The relevant LAN hardware interface is selected in the global parameter table.

The WAML supports 2 routing methods regarding the Atlantic LAN which can be set in the global parameter table. By default, the Atlantic LAN interface doesn't need to be configured. In case of access to ADP via external LAN, the ADP can be reached with the IP address of the external LAN interface; in case of access to ADP via ISDN, the ADP can be reached with the IP address of the ISDN interface.

The AMO LANC is not able to check whether tables that are added are consistent with the topology of an existing network (e.g. IP addresses).

If more than one WAML board is configured in a system, the following items must be considered:

- the Atlantic LAN interface can be added to only one WAML
- the IP addresses of the network interfaces EXTLAN1, ISDN1 und ISDN2 must be unique
- the WAML station number (parameter STNO) must be different for each WAML

In scope of feature IPDA (IP Distributed Architecture) the WAML boards can be configured in the Access Points which have the LTU range from 17 to 99 (added by AMO UCSU and BCSU). The Source Group Index (SRCGRP) assigned to the LTU is issued in the header mask at command DISP-LANC.

Further details and other WAML specific configuration examples see Feature Usage Example LAN Connectivity.

128.1 Interrelationships

- AMO DIMSU Memory configuration in SWU
- AMO BCSU Board configuration SWU

Order of generation: DIMSU -> BCSU -> LANC

128.2 Functions of the AMO

- [ADD-LANC](#) : Adds the WAML-specific configuration tables.
- [CHANGE-LANC](#) : Changes entries in the WAML-specific configuration tables.
- [DELETE-LANC](#) : Deletes entries from the WAML-specific configuration tables.
- [EXEC-LANC](#) : Initiates loading of the WAML-specific configuration tables to the board.
- [DISPLAY-LANC](#) : Displays entries from the WAML-specific configuration tables along with the MAC address entries.
- [REGENERATE-LANC](#) : Regenerates entries in the WAML-specific configuration tables.

128.2.1 ADD-LANC

No particular order is specified for configuring the tables. However, the following cross-references exist when the global parameter table is added:

- To the network interface table:
Used to check whether the network interface(s) to be activated (ACTNETIF parameter) has/have been added. All network interfaces that have not been added are output with the message H08 and the command is executed as specified.
The associated network interface must be added for all network access rights used in the firewall IP address table.

LANC - LAN configuration

Functions of the AMO

- To the firewall checks:
Depending on the scope selected (FIREWALL parameter), the entries in the firewall IP address table, firewall MAC address table and ISDN remote terminal table are used. If the firewall checks are activated but the associated table contains no valid entries, no packets are transmitted.
- To the IP routing tables:
At host IP addresses the net mask does not have to be entered because it does not take effect. Even if the net mask has been entered the default value 255.255.255.255 shall be written in the database and H10 is output. In case of network IP addresses the network mask 255.255.255.255 is not allowed and the command is rejected with the message F26.

The WAML board can route all IP addresses not contained in its IP routing table to a default router. The solution is to let a specific entry having the "wild card address" 0.0.0.0 be configured in the IP routing table where this entry must contain the IP address of the default router as a further parameter. If this entry is present, all IP addresses not configured in the IP routing table will be routed to the default router.

When adding the network interface to the Atlantic LAN (network interface table), note that the last position in this IP address is permanently assigned and must always be '4' (e.g. IPADDR=192.168.1.4). Each incorrect entry is rejected with the message F24!

In order to guarantee the uniqueness of IP addresses, each IP address must be entered no more than once in all tables arranged by IP address.

Procedure overview

Command code	Parameter	
ADD-LANC	[LTG=<number>], LTU=<number>, SLOT=<number> , TABTYPE=GLOBAL, STNO=<key-num>, LANHW=<param> , ACTNETIF=<param>, FIREWALL=<param> , [DIALATT=<number>], [PAUSE=<number>] , [BYTERATE=<number>], [PACKRATE=<number>] , [HIWTRMRK=<number>], [HIWTRTMR=<number>] , [LOWTRMRK=<number>], [LOWTRTMR=<number>] , [TRACELV=<number>] , [ADPISDN=<param>], [ADPELAN=<param>];	(1)
	|, TABTYPE=NETWORK, NETNAME=<param>, IPADDR=<string> , IPNMASK=<string>, [MAXTU=<number>];	(2)

Command code	Parameter	
	|,TABTYPE=IPROUTE,IPADDR=<string>,DESTTYPE=<param> ,[IPNMASK=<string>],NEXTROUT=<string>;	(3)
	|,TABTYPE=ISDNTERM,IPADDR=<string> ,[STNO1=<key-num>],INOUTCH1=<param> ,[STNO2=<key-num>],[INOUTCH2=<param>], ,[STNO3=<key-num>],[INOUTCH3=<param>] ,[STNO4=<key-num>],[INOUTCH4=<param>] ,[HOLDTIME=<number>],[CHBUND=<number>] ,[BITRATE=<number>],[CALLBACK=<param>;	(4)
	|,TABTYPE=FIREIP,IPADDR=<string>,NETAR=<param>;	(5)
	|,TABTYPE=FIREMAC,IPADDR=<string>,MACADDR=<string>;	(6)

Examples

1. Configure the global parameter table.

Input:

```
ADD-LANC:1,2,25,GLOBAL,47211,WESTERN,EXTLAN1&ISDN,SRICIP&ISDN;
```

2. Add the network interface to the external LAN in the network interface table with IP address 140.1.0.1, with network mask 255.255.255.0 and a packet size of 1000 bytes.

Input:

```
ADD-LANC:1,2,25,NETWORK,EXTLAN1,140.1.0.1,255.255.255.0,1000;
```

3. Add an entry to the IP routing table for host IP address 198.1.108.3, with network mask 255.255.255.0 and IP address 140.1.0.2 as the next router.

Input:

```
ADD-  
LANC:1,2,25,IPROUTE,198.1.108.3,NET,255.255.255.0,140.1.0.2;
```

4. Add an entry to the IP routing table for host IP address 198.1.108.103 and IP address 140.1.0.3 as the next router.

Input:

```
ADD-LANC:1,2,25,IPROUTE,198.1.108.103,HOST,,140.1.0.3;
```

5. Add an entry to the ISDN remote terminal table for IP address 192.168.255.64 along with the possible ISDN station numbers for the WAML and their usage.

Input:

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```
ADD-LANC:1,2,25,ISDNTERM,192.168.255.64,036147931,OUT;
```

6. Add an entry to the firewall IP address table for IP address 192.168.1.3 with access rights to all networks.

Input:

```
ADD-LANC:1,2,25,FIREIP,192.168.1.3,ALL;
```

7. Add an entry to the firewall MAC address table for IP address 192.168.5.1 and MAC address CC.00.A0.45.D0.7F.

Input:

```
ADD-LANC:1,2,25,FIREMAC,192.168.5.1,CC.00.A0.45.D0.7F;
```

128.2.2 CHANGE-LANC

The same cross-references exist as for the ADD action. Furthermore, only table entries that have been added can be changed.

Entering a network mask allows you to change the data uniformly for entire networks.

Specifying the IPADRNEW parameter allows you to change an IP address that is already configured (IPADDR parameter).

Procedure overview

Command code	Parameter	
CHANGE-LANC	[LTG=<number>], LTU=<number>, SLOT=<number> , TABTYPE=GLOBAL, [STNO=<key-num>], [LANHW=<param>] , [ACTNETIF=<param>], [FIREWALL=<param>] , [DIALATT=<number>], [PAUSE=<number>] , [BYTERATE=<number>], [PACKRATE=<number>] , [HIWTRMRK=<number>], [HIWTRTMR=<number>] , [LOWTRMRK=<number>], [LOWTRTMR=<number>] , [TRACELV=<number>] , [ADPISDN=<param>], [ADPELAN=<param>];	(1)
	|, TABTYPE=NETWORK, NETNAME=<param>, [IPADDR=<string>] , [IPNMASK=<string>], [MAXTU=<number>];	(2)
	|, TABTYPE=IPROUTE, IPADDR=<string>, [IPADRNEW=<string>] , [DESTTYPE=<param>], [IPNMASK=<string>] , [NEXTROUT=<string>];	(3)
	|, TABTYPE=ISDNTERM, IPADDR=<string>, [IPADRNEW=<string>] , [STNO1=<key-num>], [INOUTCH1=<param>]	(4)

Command code	Parameter	
	, [STNO2=<key-num>], [INOUTCH2=<param>] , [STNO3=<key-num>], [INOUTCH3=<param>] , [STNO4=<key-num>], [INOUTCH4=<param>] , [HOLDTIME=<number>], [CHBUND=<number>] , [BITRATE=<number>], [CALLBACK=<param>];	
	|, TABTYPE=FIREIP, IPADDR=<string>, [IPADRNEW=<string>] , [NETAR=<param>];	(5)
	|, TABTYPE=FIREMAC, IPADDR=<string>, [IPADRNEW=<string>] , [MACADDR=<string>];	(6)

Examples

1. Change WAML station numbers, active network interfaces and the number of dialing attempts in the global parameter table.

Input:

```
CHANGE-LANC: , 2, 25, GLOBAL, 004325829, , ALL, , 6;
```

2. Change IP address and packet size for the network interface to the external LAN.

Input:

```
CHANGE-LANC: , 2, 25, NETWORK, EXTLAN1, 140.1.0.2, , 300;
```

3. For the entry with IP address 198.1.108.3 in the IP routing table, change the IP address to 198.1.108.0.

Input:

```
CHANGE-LANC: , 2, 25, IPROUTE, 198.1.108.3, 198.1.108.0;
```

4. For the entry with IP address 192.168.255.64 in the ISDN remote terminal table, change the usage type for WAML station number 1 and add a second station number with a usage type.

Input:

```
CHANGE-  
LANC: , 2, 25, ISDNTERM, 192.168.255.64, , , IN&OUT, 03742250868, IN;
```

5. For the entry with IP address 192.168.1.3 in the firewall IP address table, change the IP address itself and the network access rights.

Input:

```
CHANGE-  
LANC: , 2, 25, FIREIP, 192.168.1.3, 140.1.0.9, ATLLAN&EXTLAN1;
```

6. For the entry with IP address 192.168.5.1 in the firewall MAC address table, change the IP address.

Input:

```
CHANGE-LANC: , 2, 25, FIREMAC, 192.168.5.1, 140.1.0.10;
```

128.2.3 DELETE-LANC

The WAML-specific tables may become inconsistent due to the cross-references between the global parameter table and the tables listed below. Before deleting entire tables, it is recommended that you deactivate the relevant function in the global parameter table.

- Network interface table:
The AMO checks whether the network interface(s) to be deleted has/have been deactivated. All active network interfaces are output with the message H09 but the command is executed as desired.
- Firewall checks:
These checks use the entries in the firewall IP address table, firewall MAC address table and ISDN remote terminal table. If firewall checks are activated but the associated table contains no valid entries, no packets can be transmitted! The AMO does not check for consistency.

You can delete both individual table elements and the contents of entire tables. Entire tables can be deleted only if entries have been configured previously.

In case of TABTYPE=ALL all tables are deleted without checking whether entries are available in the table or not.

Procedure overview

Command code	Parameter	
DELETE-LANC	[LTG=<number>], LTU=<number>, SLOT=<number> , TABTYPE=GLOBAL;	(1)
	|, TABTYPE=NETWORK, [NETNAME=<param>;	(2)
	|, TABTYPE=IPROUTE, [IPADDR=<string>;	(3)
	|, TABTYPE=ISDNTERM, [IPADDR=<string>;	(4)
	|, TABTYPE=FIREIP, [IPADDR=<string>;	(5)
	|, TABTYPE=FIREMAC, [IPADDR=<string>;	(6)
	|, TABTYPE=ALL;	(7)

Examples

1. Delete the global parameter table.

Input:

```
DEL-LANC: , 2, 25, GLOBAL;
```

2. Delete the external LAN network interface from the network interface table.

Input:

```
DEL-LANC: 1, 2, 25, NETWORK, EXTLAN1;
```

3. Delete the entire IP routing table.

Input:

```
DEL-LANC: 1, 2, 25, IPROUTE;
```

4. Delete the table element with IP address 143.18.205.11 from the ISDN remote terminal table.

Input:

```
DEL-LANC: , 2, 25, ISDNTERM, 143.18.205.11;
```

5. Delete the entire firewall IP address table.

Input:

```
DEL-LANC: 1, 2, 25, FIREIP;
```

6. Delete the table element with IP address 93.181.25.47 from the firewall MAC address table.

Input:

```
DEL-LANC: 1, 2, 25, FIREMAC, 93.181.25.47;
```

7. Delete all WAML configuration tables.

Input:

```
DEL-LANC: , 2, 25, ALL;
```

128.2.4 EXEC-LANC

This command initiates the dynamic loading of all WAML configuration data during operation. The board is also loaded:

- When added by means of AMO BCSU,
- When inserted in the LTU shelf,
- When activated by means of AMO BSSU.

The WAML does not use the configured data until it has been successfully loaded.

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The response message from PIT is timer supervised, a timer is set for this purpose.

If the board data can not be loaded or it doesn't succeed, an error message with possible remedy is output and the AMO stops. An unsuccessful loading can have the following reasons:

- board data have not been configured yet
- WAML board is not available
- no acknowledge has arrived from PIT within the 10 minutes response time
- the dynamic board identifier is not available
- board is not in state 'ready'.

Procedure overview

Command code	Parameter
EXEC-LANC	[LTG=<number>], LTU=<number>, SLOT=<number>;

Examples

1. Initiate loading of WAML configuration data.

Input:

```
EXEC-LANC: , 2, 25;
```

128.2.5 DISPLAY-LANC

Configured entries can be output for each table individually or for all tables as a whole. Moreover, entering the level of display makes it possible to limit the output range. If you specify the MOD value, only those entries are output that have been changed since the last load job. In the default configuration, all configured entries are output.

You can search for IP addresses in the IPROUTE, ISDNTERM, FIREIP and FIREMAC tables and output the matching entries; if you specify a network mask, the search can also be performed on a network-specific basis.

By specifying TABTYPE=ALL, the global parameter table and the network interface table are output, regardless of subsequent parameters.

The WAML board has 2 Ethernet interfaces, that's why 2 MAC addresses also exist and these can be output by means of the AMO LANC. This information (2 MAC addresses) is output even in the case when 'TABTYPE=ALL' is selected.

If a table is empty, the message H01 is output. If none of the existing table elements matches the criteria in the AMO command, the message H04 is displayed.

When the message H07 is output, it explicitly informs the user that WAML configuration data has been changed since the last load job and that the WAML must be dynamically loaded in order for these changes to become valid.

Procedure overview

Command code	Parameter	
DISPLAY-LANC	[LTG=<number>], LTU=<number>, SLOT=<number> , TABTYPE=GLOBAL, [DISPLV=<param>];	(1)
	|, TABTYPE=NETWORK, [NETNAME=<param>], [DISPLV=<param>];	(2)
	|, TABTYPE=IPROUTE, [IPADDR=<string>], [IPNMASK=<string>] , [DISPLV=<param>];	(3)
	|, TABTYPE=ISDNTERM, [IPADDR=<string>] , [IPNMASK=<string>], [DISPLV=<param>];	(4)
	|, TABTYPE=FIREIP, [IPADDR=<string>], [IPNMASK=<string>] , [DISPLV=<param>];	(5)
	|, TABTYPE=FIREMAC, [IPADDR=<string>], [IPNMASK=<string>] , [DISPLV=<param>];	(6)
	|, TABTYPE=MACADDR;	(7)
	|, TABTYPE=ALL, [IPADDR=<string>], [IPNMASK=<string>] , [DISPLV=<param>];	(8)

Examples

1. Output the global parameter table if the data has been changed since the last load job.

Input:

```
DISP-LANC:1,2,25,GLOBAL,MOD;
```

Output:

```
+-----+-----+-----+-----+
| WAML :  LTG = 1      LTU = 2      SLOT = 25      | SRCGRP: 1 |
+-----+-----+-----+-----+

+-----+-----+-----+-----+
|
```

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Functions of the AMO

```
|                                     GLOBAL PARAMETER                                     |
|=====|
| WAML STATION NUMBER: 47211 |
| NUMBER OF B-CHANNELS: 16 |
| BYTERATE: 100 KB/SEC.    PACKAGE RATE: 1000 PER SEC. |
| CALL RETRIES: 5          CALL PAUSE: 5 SEC. |
| HIGH WATER MARK: 90 %    ADD CHANNEL TIMER: 40 SEC. |
| LOW WATER MARK: 65 %     SUB CHANNEL TIMER: 30 SEC. |
| TRACE-LEVEL: 3           FIREWALL: SCRIP ISDN |
| LAN HW-INTERFACE: WESTERN ACTIVE-FLAGS: ATLLAN EXTLAN1 ISDN |
| ADP ACCESS VIA ISDN INTERFACES: PROXY |
| ADP ACCESS VIA EXTERNAL LAN INTERFACES: PROXY |
+-----+
```

H07: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML BOARD WITH COMMAND
'EXEC-LANC' REQUIRED.

2. Output network interfaces added to the network interface table.

Input:

DISP-LANC: ,2,25,NETWORK;

Output:

```
+-----+
| WAML : LTG = 1      LTU = 2      SLOT = 25      | SRCGRP: 1 |
+-----+
```

```
+-----+
|                                     NETWORK INTERFACE TABLE                                     |
|=====|
| INTERFACE NAME | IP-ADDRESS | IP-NETMASK | MTU |
+-----+-----+-----+-----+
| EXTLAN1       | 140.001.000.002 | 255.255.000.000 | 300 |
| ISDN1         | 192.168.155.001 | 255.255.255.000 | 1000 |
+-----+
```

3. Output all entries added to the IP routing table.

Input:

DISP-LANC:1,2,25,IPROUTE;

Output:

```
+-----+
| WAML : LTG = 1      LTU = 2      SLOT = 25      | SRCGRP: 1 |
+-----+
```

```
+-----+
|                                     IP - ROUTING TABLE                                     |
|=====|
| IP-ADDRESS | DESTI- | IP-ADDRESS OF |
| IP-ADDRESS | NATION | IP-NETMASK    | NEXT ROUTER |
+-----+-----+-----+-----+
| 192.168.003.003 | HOST | 255.255.255.255 | 140.001.000.003 |
+-----+
```



```
| 192.168.002.003 | NET | 255.255.255.000 | 140.001.000.002 |
+-----+
```

H07: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML BOARD WITH COMMAND
'EXEC-LANC' REQUIRED.

- Output all entries added to the ISDN remote terminal table that have been changed since the last load job.

Input:

DISP-LANC:1,2,25,ISDNTERM,,MOD;

Output:

```
+-----+
| WAML :  LTG = 1      LTU = 2      SLOT = 25      | SRCGRP: 1 |
+-----+
```

```
+-----+
|                                     |
|                               ISDN REMOTE TERMINAL TABLE
|                               =====
|
|          |SHORT|B-CHANNELS | BITRATE |      |
|          |HOLD |FOR CHANNEL|  ON   |CALL|
| IP-ADDRESS |TIME | BUNDLING |B-CHANNEL|BACK| STATION NUMBER |USAGE |
|-----+-----+-----+-----+-----+-----+
|192.168.255.064| 30 |    1    | 64KBIT |  N |      036147931|IN OUT|
|               |   |        |        |   |      03742250868|IN  |
+-----+
```

H07: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML BOARD WITH COMMAND
'EXEC-LANC' REQUIRED.

- Output all entries added to the firewall IP address table.

Input:

DISP-LANC:1,2,25,FIREIP;

Output:

```
+-----+
| WAML :  LTG = 1      LTU = 2      SLOT = 25      | SRCGRP: 1 |
+-----+
```

```
+-----+
|                                     |
|                               FIREWALL IP-ADDRESS TABLE
|                               =====
|
| IP-ADDRESS | NETWORK ACCESS RIGHTS |
|-----+-----+
| 192.168.001.003 | ATLLAN EXTLAN1 |
| 140.001.000.009 | ATLLAN          | ISDN |
| 140.001.000.005 | ATLLAN EXTLAN1 INTLAN ISDN |
+-----+
```

H07: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML BOARD WITH COMMAND
'EXEC-LANC' REQUIRED.

- Output the entry with IP address 140.1.0.10 in the firewall MAC address table.

Input:

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DISP-LANC:1,2,25,FIREMAC,140.1.0.10;

Output:

+-----+-----+-----+-----+							
	WAML :	LTG = 1	LTU = 2	SLOT = 25		SRCGRP: 1	
+-----+-----+-----+-----+							
	FIREWALL MAC-ADDRESS TABLE						
	=====						
|	IP-ADDRESS	|	MAC-ADDRESS	|	IP-ADDRESS	|	MAC-ADDRESS
	+-----+-----+-----+-----+						
|	140.001.000.010	|	CC.00.A0.45.D0.7F	|	000.000.000.000	|	00.00.00.00.00.00
+-----+-----+-----+-----+							

7. Display the WAML MAC addresses.

Input:

DISP-LANC:1,2,25,MACADDR;

Output:

+-----+-----+-----+-----+							
|	WAML :	LTG = 1	LTU = 2	SLOT = 25	|	SRCGRP: 1	|
+-----+-----+-----+-----+							
|	WAML MAC - ADDRESSES						|
	=====						
|	ATLANTIC LAN: 08.00.06.0A.0E.98			EXTERNAL LAN: 08.00.06.0A.0E.99			|
+-----+-----+-----+-----+							

8. Output all entries in the WAML configuration tables that have been changed since the last load job.

Input:

DISP-LANC:,2,25,ALL,,MOD;

Output:

The table contents are output in the following order:

GLOBAL	- Global parameter table
NETWORK	- Network interface table
IPROUTE	- IP routing table
ISDNTERM	- ISDN remote terminal table
FIREIP	- Firewall IP address table
FIREMAC	- Firewall MAC address table
MACADDR	- Display MAC address of WAML board

128.2.6 REGENERATE-LANC

Configured entries can be output for each table individually or for all tables as a whole. You can specify an IP address to search the IPROUTE, ISDNTERM, FIREIP and FIREMAC tables for individual entries; you can also enter an IP network mask to search for entire networks.

By specifying TABTYPE=ALL, you can always generate the ADD commands for the global parameter table and network interface table as well, regardless of subsequent parameters.

If more than one WAML board is configured in a system, the configuration data of all WAML boards can be regenerated with the command `REGEN-LANC;`. But if the parameter TABTYPE is given, the PEN (shelf position: LTG, LTU, SLOT) must be entered explicit as well.

Procedure overview

Command code	Parameter	
REGENERATE-LANC	[LTG=<number>], [LTU=<number>], [SLOT=<number>] , TABTYPE=GLOBAL;	(1)
	|, TABTYPE=NETWORK, [NETNAME=<param>;	(2)
	|, TABTYPE=IPROUTE, [IPADDR=<string>] , [IPNMASK=<string>;	(3)
	|, TABTYPE=ISDNTERM, [IPADDR=<string>] , [IPNMASK=<string>;	(4)
	|, TABTYPE=FIREIP, [IPADDR=<string>], [IPNMASK=<string>;	(5)
	|, TABTYPE=FIREMAC, [IPADDR=<string>] , [IPNMASK=<string>;	(6)
	|, TABTYPE=ALL, [IPADDR=<string>], [IPNMASK=<string>;	(7)

Examples

1. Generate an ADD command for a global parameter table.

Input:

```
REG-LANC:1,2,25,GLOBAL;
```

Output:

```
ADD-LANC:1,2,25,GLOBAL,47211,WESTERN,EXTLAN1&ISDN,  
SRCIP&ISDN,,,,,,,,,PROXY,PROXY;
```

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2. Generate ADD commands for a network interface table.

Input:

```
REG-LANC:1,2,25,NETWORK;
```

Output:

```
ADD-LANC:1,2,25,NETWORK,EXTLAN1,140.1.0.2,255.255.0.0,300;  
ADD-  
LANC:1,2,25,NETWORK,ISDN1,192.168.255.1,255.255.255.0,1000;
```

3. Generate ADD commands for an IP routing table.

Input:

```
REG-LANC:1,2,25,IPROUTE;
```

Output:

```
ADD-LANC:1,2,25,IPROUTE,192.168.3.3,HOST,,140.1.0.3;  
ADD-LANC:1,2,25,IPROUTE,192.168.2.3,NET,255.255.255.0,  
140.1.0.2;
```

4. Generate an ADD command for IP address 192.168.255.64 in the IP routing table.

Input:

```
REG-LANC:1,2,25,ISDNTERM,192.168.255.64;
```

Output:

```
ADD-LANC:1,2,25,ISDNTERM,192.168.255.64,036147931,IN&OUT,  
03742250868,IN,,,,,,64,N;
```

5. Generate ADD commands for the network containing IP address 140.1.0.9 in the firewall IP address table.

Input:

```
REG-LANC:1,2,25,FIREIP,140.1.0.9,255.255.255.0;
```

Output:

```
ADD-LANC:1,2,25,FIREIP,140.1.0.9,ATLLAN&EXTLAN1;  
ADD-LANC:1,2,25,FIREIP,140.1.0.5,ALL;
```

6. Generate ADD commands for the firewall MAC address table.

Input:

```
REG-LANC:1,2,25,FIREMAC;
```

Output:

```
ADD-LANC:1,2,25,FIREMAC,140.1.0.10,CC.00.A0.45.D0.7F;
```

7. Generate ADD commands for the current WAML configuration data.

Input:

```
REG-LANC:1,2,25,ALL;
```

Output:

```
ADD-LANC:1,2,25,GLOBAL,47211,WESTERN,EXTLAN1&ISDN,
SRCIP&ISDN,,,,,,,,,PROXY,PROXY;
ADD-LANC:1,2,25,NETWORK,EXTLAN1,140.1.0.2,255.255.0.0,300;
ADD-
LANC:1,2,25,NETWORK,ISDN1,192.168.255.1,255.255.255.0,1000;
ADD-LANC:1,2,25,IROUTE,192.168.3.3,HOST,,140.1.0.3;
ADD-LANC:1,2,25,IROUTE,192.168.2.3,NET,255.255.255.0,
140.1.0.2;
ADD-LANC:1,2,25,ISDNTERM,192.168.255.64,036147931,IN&OUT,
03742250868,IN,,,
,,,64,N;
ADD-LANC:1,2,25,FIREIP,140.1.0.9,ATLLAN&ISDN;
ADD-LANC:1,2,25,FIREIP,140.1.0.5,ALL;
ADD-LANC:1,2,25,FIREMAC,140.1.0.10,CC.00.A0.45.D0.7F;
```

128.3 Parameter Description

ACTNETIF	Activate network interface	
	Type of input	: Single value, 2 chained single values, & mandatory (ADD) optional (CHANGE)
	Possible values	: ATLLAN ATLANTIC LAN EXTLAN1 External LAN ISDN ISDN network ALL All
	Default value	: -
ADPELAN	ADP access via external LAN interfaces	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible values	: PROXY ADP is reached via IP address of WAML interface Atlantic LAN configured as a class C network ROUTE
	Default value	: PROXY
This parameter makes it possible to set the routing method for external LAN interfaces to the Atlantic LAN.		
ADPISDN	ADP access via ISDN interfaces	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible values	: PROXY ADP is reached via IP address of WAML interface Atlantic LAN configured as a class C network ROUTE
	Default value	: PROXY
This parameter makes it possible to set the routing method for external ISDN interfaces to the Atlantic LAN.		
BITRATE	Bit rate on B-channel	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible value	: 64 64 kbit per second in ISDN direction 56 56 kbit per second in ISDN direction

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	Default value	: 64	
BYTERATE	Max. transmission rate: kB / s, Load control	ATLANTIC LAN	
	Type of input	: Single value, optional (ADD, CHANGE)	
	Possible values	: 1-1000	
	Default value	: 100	
CALLBACK	Callback		
	Type of input	: Single value, optional (ADD, CHANGE)	
	Possible values	: y n	Callback required No callback required
	Default values	: n	
CHBUND	Number of channels for channel bundling		
	Type of input	: Single value, optional (ADD, CHANGE)	
	Possible values	: 1-30 1-2	for S2 connection for S0 connection
	Default value	: 1	
DESTTYPE	Type of destination		
	Type of input	: Single value, mandatory (ADD) optional (CHANGE)	
	Possible values	: NET HOST	Destination address in the network Host destination address
	Default value	: -	
DIALATT	Number of dialing attempts		
	Type of input	: Single value, optional (ADD, CHANGE)	
	Possible values	: 3-127	
	Default value	: 5	
DISPLV	Level of display		
	Type of input	: Single value, optional (DISPLAY)	
	Possible values	: MOD ALL	Output of modified data All
	Default value	: ALL	
FIREWALL	Firewall check		
	Type of input	: Single value, up to 2 chained single values, & mandatory (ADD) optional (CHANGE)	
	Possible values	: MAC SRCIP ISDN ISDNWOCN ALL NON	MAC address check SRC-IP address check ISDN station number check ISDN network without calling number All No checks
	Default value	: ALL	
	Notice for ISDNWOCN: if set, even connections without calling number are accepted.		

HIWTRMRK	High watermark - load (in %) to increase the number of B-channels
	Type of input : Single value, optional (ADD, CHANGE)
	Possible values : 60-100
	Default value : 90
HIWTRTMR	Time (in s) above high watermark before another B-channel is added
	Type of input : Single value, optional (ADD, CHANGE)
	Possible values : 5-255 s
	Default value : 40 s
HOLDTIME	Time (in sec) until an ISDN connection will be released
	Type of input : Single value, optional (ADD, CHANGE)
	Possible values : 0, 5-360 s
	Default value : 30 s
INOUTCH1	Usage of station number 1
	Type of input : Single value, up to 2 chained single values, & mandatory (ADD) optional (CHANGE)
	Possible values : IN Use for incoming ISDN number check OUT Station number for outgoing call
	Default value : -
INOUTCH2	Usage of station number 2
	Type of input : Single value, up to 2 chained single values, & optional (ADD, CHANGE)
	Possible values : IN Use for incoming ISDN number check OUT Station number for outgoing call
	Default value : -
INOUTCH3	Usage of station number 3
	Type of input : Single value, up to 2 chained single values, & optional (ADD, CHANGE)
	Possible values : IN Use for incoming ISDN number check OUT Station number for outgoing call
	Default value : -
INOUTCH4	Usage of station number 4
	Type of input : Single value, up to 2 chained single values, & optional (ADD, CHANGE)
	Possible values : IN Use for incoming ISDN number check OUT Station number for outgoing call
	Default value : -
IPADDR	IP address (Ex. 192.168.1.4)
	Type of input : Single value, mandatory (ADD, CHANGE) optional (ADD: TABTYPE = NETWORK, DELETE, DISPLAY, REGENERATE)

LANC - LAN configuration

Parameter Description

	Possible values	: 15-digit, 0-9 and ''
	Default value	: -
IPADRNEW	IP address (Ex. 192.168.1.4)	
	Type of input	: Single value, optional (CHANGE)
	Possible values	: 15-digit, 0-9 and ''
	Default value	: -
IPNMASK	IP network mask (Ex. 255.255.255.0)	
	Type of input	: Single value, optional
	Possible values	: 15-digit, 0-9 and ''
	Default value	: -
LANHW	Hardware interface for external LAN port	
	Type of input	: Single value, mandatory (ADD) optional (CHANGE)
	Possible values	: WESTERN Western-PLUG (10BASET) COAX COAX (10BASE2) AUI CANNON
	Default value	: -
LOWTRMRK	Low watermark , (% load) to remove b-channels	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible values	: 30-90
	Default value	: 65
LOWTRTMR	Time (in s) below low watermark before removal of B-channel	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible values	: 5-255 s
	Default value	: 30 s
LTG	LTG number	
	Type of input	: Single value, optional (ADD, CHANGE, DELETE, EXEC, DISPLAY, REGENERATE)
	Possible values	: 1
	Default value	: 1
LTU	LTU number	
	Type of input	: Single value mandatory (ADD, CHANGE, DELETE, EXEC, DISPLAY) optional (REGENERATE)
	Possible values	: 1-15, 17-99
	Default value	: -
MACADDR	MAC address (Ex. 00.6B.8C.CC.9B.7F)	

	Type of input	: Single value, mandatory (ADD) optional (CHANGE)
	Possible values	: 23-digit, 0-9 , A-F and ''
	Default value	: -
MAXTU	Maximum size of a transmission unit	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible values	: 256-1500
	Default value	: 1500
NETAR	Network access rights	
	Type of input	: Single value, up to 3 chained single values, & mandatory (ADD) optional (CHANGE)
	Possible values	: ISDN ISDN network ATLLAN ATLANTIC LAN INTLAN ATLANTIC LAN without ADP EXTLAN1 External LAN ALL All
	Default value	: -
NETNAME	Name of network interface	
	Type of input	: Single value, mandatory (ADD, CHANGE) optional (DELETE, DISPLAY, REGENERATE)
	Possible values	: ATLLAN ATLANTIC LAN EXTLAN1 External LAN ISDN1 Private ISDN network ISDN2 Public ISDN network
	Default value	: -
NEXTROUT	Next router IP address (Ex. 195.4.5.1)	
	Type of input	: Single value, mandatory (ADD) optional (CHANGE)
	Possible values	: 15-digit, 0-9 and ''
	Default value	: -
PACKRATE	Max. number of packets/s, Load control ATLANTIC LAN	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible values	: 1-10000
	Default value	: 1000
PAUSE	Pause between two dialing attempts (s)	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible values	: 3-300 s
	Default value	: 90 s
SLOT	Slot number of a LTU	

LANC - LAN configuration

Parameter Description

Type of input	: Single value mandatory (ADD, CHANGE, DELETE, EXEC, DISPLAY) optional (REGENERATE)
Possible values	: 1-121 A suitable module must be configured for the slot addressed by PEN (AMO BCSU).
Default value	: 1

The possible Slot values depend on the systems architecture and can be found in the BCSU AMO description.

STNO	ISDN station number of WAML
	Type of input : Single value, mandatory (ADD) optional (CHANGE)
	Possible values : 22-digit, 0-9
	Default value : -
STNO1	ISDN station number 1
	Type of input : Single value mandatory (ADD) optional (CHANGE)
	Possible values : 22-digit, 0-9
	Default value : -
STNO2	ISDN station number 2
	Type of input : Single value, optional (ADD, CHANGE)
	Possible values : 22-digit, 0-9
	Default value : -
STNO3	ISDN station number 3
	Type of input : Single value, optional (ADD, HANGE)
	Possible values : 22-digit, 0-9
	Default value : -
STNO4	ISDN station number 4
	Type of input : Single value, optional (ADD, CHANGE)
	Possible values : 22-digit, 0-9
	Default value : -
TABTYPE	Type of table
	Type of input : Single value mandatory (ADD, CHANGE, DELETE, EXEC, DISPLAY) optional (REGENERATE)
	Possible values : GLOBAL Global parameter table NETWORK Network interface table IPROUTE IP routing table ISDNTERM ISDN remote terminal table FIREIP Firewall IP address table FIREMAC Firewall MAC address table MACADDR Display MAC addresses of WAML ALL All

	Default value	: -
TRACELV	Trace and logging functions	
	Type of input	: Single value, optional (ADD, CHANGE)
	Possible values	: 0-255
	Default value	: 3

128.4 Error messages and advisories

128.4.1 Error messages

F01: A WAML BOARD WITH THIS PEN HAS NOT BEEN CONFIGURED
No WAML board has been added for the specified address (LTG, LTU, EBT) or the address is incorrect or invalid. You must use the same address that was used for adding a WAML by means of AMO BCSU.

F02: THERE ARE FORMAL ERRORS IN THE STATION NUMBER @@@@
The specified station number contains invalid characters. Only digits in the 0 - 9 range may be used.

F03: THE VALUE 'NONE' FOR PARAMETER 'FIREWALL' MUST BE ENTERED AS SINGLE VALUE
The NONE parameter value must not be specified together with other values. This combination is meaningless!

F04: TABLE '#####' IS FULL, NO ENTRY POSSIBLE
All table elements in the table specified are already being used. In order to be able to add another entry, you must first delete an entry that is no longer needed.

F05: THERE IS ANOTHER WAML BOARD WITH ACCESS RIGHTS TO THE ATLANTIC LAN
In a system, only one WAML can access the ADP via the Atlantic LAN. This connection already exists and, therefore, cannot be configured here.

F06: WHEN A NETMASK HAS BEEN ENTERED AN IP-ADDRESS IS REQUIRED
ENTER PARAMETER '#####'
For the DISPLAY and REGENERATE actions, you must specify an IP address if you wish to use a network mask.

F07: THERE ARE FORMAL ERRORS IN THE IP-ADDRESS @@@.@@@.@@@.@@@
The IP address specified is errored. Only digits in the 0 - 9 range may be used. Furthermore, the address must comprise 4 parts separated by dots; none of these values may exceed 255 and at least one part of the address must equal '0'.

F08: DATA HAVE NOT BEEN LOADED
The load job was rejected by the PIT with a negative load result (DB_LC_LR_DATA NOT LOADED). This was caused by the fact that, for reasons that cannot be specified further, the PIT could not load data to the board (e.g. no connection to board). One solution might be to deactivate (DEACTIVATE-BSSU) and activate (ACTIVATE-BSSU) the board, since this also serves to load the board.

F09: TO EACH STATION NUMBER ITS USAGE HAS TO BE ENTERED

LANC - LAN configuration

Error messages and advisories

When adding or changing station number(s), you must specify the usage type and the STNOx and INOUTCHx parameters must be specified together. This determines whether a station number can be used for incoming calls only or can also be used for the WAML's callback function.

F10: THE SPECIFIED IP-ADDRESS HAS NOT BEEN CONFIGURED

The IP address specified in the command is not contained in the table selected. The address must first be configured in the table by means of the ADD action.

F11: THE ENTERED NETWORK INTERFACE HAS NOT BEEN CONFIGURED

The network interface specified in the command is not contained in the table selected. The interface must first be configured in the table by means of the ADD action.

F12: THE ENTERED IP-ADDRESS HAS BEEN ALREADY CONFIGURED

The IP address specified in the command is contained in the table selected. You can reconfigure this address by means of the CHANGE action or delete it using the DELETE action.

F13: DATA HAVE BEEN ALREADY CONFIGURED

The data in the global parameter table is already configured. You can change this data by means of the CHANGE action or delete the entire table using the DELETE action.

F14: THE ENTERED NETWORK INTERFACE HAS BEEN ALREADY CONFIGURED

The network interface specified in the command is contained in the table. You can reconfigure this interface by means of the CHANGE action or delete it from the table using the DELETE action.

F15: NO DATA HAVE BEEN CONFIGURED

The relevant table contains no entries; it is empty. You can configure entries by means of the ADD action.

F16: NO ANSWER FROM @@@

Instead of an acknowledgment of the load job, a message was received from an invalid task. It may be possible to correct the problem by repeating the job.

F17: LTU NUMBER @@@ DOES NOT HAVE ADMISSIBLE VALUE

The LTU number specified is not within the limiting values permitted in the system.

F18: THERE ARE FORMAL ERRORS IN THE MAC-ADDRESS @.@@.@@.@@.@@.@@

The MAC address specified is errored. Only characters from 0 to 9 and from A to F may be used. Moreover, the address must comprise 6 parts separated by dots; none of these values may exceed 'FF' and at least one part of the address must equal '0'.

F19: NO PLAUSIBLE EVENT FROM @@@

The acknowledgment from the task specified contains an incorrect event code. It may be possible to correct the problem by repeating the command.

F20: THE IP-ADDRESS 255.255.255.255 IN PARAMETER @@@@ is NOT ALLOWED

The IP address specified cannot be used in the parameter named.

F21: THE DYNAMIC BOARD-ID FOR WAML IS NOT AVAILABLE

This error message could indicate an inconsistency in the board's ADD data. Using 'DISPLAY-BCSU:TBL,..', check whether the board has been properly added and is operating. If yes, repeat the command.

F22: LOW WATERMARK MUST BE LESS THAN HIGH WATERMARK

An invalid limiting value was specified for the low watermark or high watermark.

F23: DATA HAVE NOT BEEN LOADED BECAUSE THE BOARD IS NOT IN STATE 'READY'

The relevant load job could not be executed because the WAML is not operating.
Using
'DISPLAY-BCSU:TBL,..', check whether the board has been properly added and
determine its current status.

F24: THIS IP-ADDRESS IST NOT ALLOWED FOR ATLANTIC-LAN. THE FOURTH PART
OF THE IP-ADDRESS MUST HAVE EVER THE VALUE '4'.

The value of the fourth part of the IP address for the Atlantic LAN interface on
each WAML is permanently defined as '4'. All other values are therefore invalid.

F25: IT WAS NOT POSSIBLE TO READ THE WAML MAC-ADDRESS, THE BOARD IS NOT IN STATE 'READY'

Due to a dump problem on the WAML board, it was not possible to read a MAC address.
Using 'DISPLAY-BCSU:TBL,..', check whether the board has been properly added and
determine its current status.

F26: THE ENTERED NET MASK CAN NOT BE USED IF DESTINATION=NET

At network IP addresses the network mask 255.255.255.255 is not allowed to use.
Type in a valid network mask.

F27: THE ENTERED STATION NUMBER IS ALREADY USED BY ANOTHER WAML BOARD AT PEN
<ltg>.<ltu>.<slot>.

The WAML station number added only once. Each WAML board must have its own station
number.

F28: THE ENTERED IP-ADDRESS IS ALREADY USED BY ANOTHER WAML BOARD AT PEN
<ltg>.<ltu>.<slot> TO ACCESS THE NETWORK INTERFACE <param>.

Each IP address must be unique within a system. Take care of it, if you try to add
more than one WAML board.

F29: THE PARAMETER VALUE 'OUT' MAY BE ENTERED ONLY FOR ONE STATION NUMBER.

The WAML uses the station number with specified OUT flag for its callback function.

128.4.2 Advisories

H01: THERE ARE NO DATA CONFIGURED IN TABLE '@@@@@@@@'

The relevant table contains no entries; it is empty. You can configure entries by
means of the ADD action.

H02: THE IP-ADDRESS @@@.@@@.@@@.@@@ OF THE NEXT ROUTER DO NOT CORRESPOND
TO A WAML INTERFACE.

The IP address specified does not match the IP address of a WAML network interface
or the WAML's network interface(s) has/have not yet been added. NO data can
currently be routed with this IP address. You can use the 'DISPLAY-
LANC:TABTYPE=NETWORK;' command to view the configured network interfaces (IP
addresses).

H03: BEFORE USING ACTION 'CHANGE, THE TABLE @@@@@@@@ MUST BE ADMINISTERED WITH THE VERB
'ADD'

H04: TABLE '@@@@@@@@' - NO DATA FOUND

The table specified contains no entries that match the command entered. The
relevant entry was not found.

H05: USER ADVISORY: THIS ACTION POSSIBLY MAY RESULT IN AN INCONSISTENT
CONFIGURATION OF THE LAN. FOR MORE INFORMATION READ THE AMO DESCRIPTION.

LANC - LAN configuration

Error messages and advisories

Changing these tables without taking into account the cross-references may result in an inconsistency in the LAN connectivity configuration. This could mean that when, for example, the IP routing table is deleted, no data packets can be assigned to a WAML interface by means of the WAML router function. Deleting a firewall table may mean that when a check is activated, the check result will be negative and a data connection will be rejected. Under such circumstances, it is the user's responsibility to determine the effect of his or her command; in such cases, the AMO LANC can provide no support.

H07: CHANGED CONFIGURATION DATA AVAILABLE - LOAD WAML BOARD WITH COMMAND 'EXEC-LANC' REQUIRED.

Changes were made to the WAML configuration data since the last load command. In order for these changes to become valid, they must be loaded to the board by means of the 'EXEC-LANC:...' command.

H08: THE NETWORK INTERFACE(S) @@@@ @@@@ @@@@ (PARAMETER 'ACTNETIF') IS/ARE NOT CONFIGURED IN THE NETWORK INTERFACE TABLE.

This message means that the network interfaces specified were activated in the global parameter table but have not yet been added to the network interface table. You can configure the specified network interfaces by means of the 'ADD-LANC::TABTYPE=NETWORK,...' command.

H09: THE NETWORK INTERFACE(S) @@@@ @@@@ @@@@ (PARAMETER 'ACTNETIF') IS/ARE STILL ACTIVE IN THE GLOBAL TABLE.

This message means that the network interface(s) specified has/have been deleted from the network interface table but is/are still activated in the global parameter table. You can deactivate the specified network interface(s) by means of the 'CHANGE-LANC:TABTYPE=GLOBAL, ACTNETIF=...' command. At least one active interface is required for operating the WAML.

H10: THE IP-ADDRESS IS CONFIGURED AS HOST, SO THE NET MASK (IPNMASK) IS NOT EFFECTIVE.

At host IP addresses the network mask is ignored and automatically the default value 255.255.255.255 shall be written in the database.

H11: THE IP-ADDRESS @@@.@@@.@@@.@@@ IS USED BY THE WAML AS DEFAULT ROUTER.

It is indicated that an entry in the IP routing table with the "wild card address" 0.0.0.0 has been added or changed.

129 LAUTH - Administration of Least Cost Routing Authorisation Codes

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO LAUTH administers the authorisation codes which are used to access alternate public carriers from a private network.

Up to 4 authorisation codes may be configured for each Internal Traffic Restriction (ITR) group.

The authorisation codes are used by the Least Cost Routing (LCR) feature and are referenced by the LCR outdial rules. See AMO LODR for the configuration of outdial rules.

The correct authorisation code must be configured to provide an ITR group with access to an alternate public carrier. No error is generated if a correct authorisation code is not configured.

The authorization codes are entered in human readable form and are stored in encrypted form on the system.

Due to data security there is no DISPLAY function. The configured codes will only be seen in encrypted form in REGEN. In DELETE and CHANGE the user has to enter the human readable form of the code as it was entered in ADD i.e. to be able to change or delete an entered code the human readable form has to be known by the user.

The encrypted form from REGEN can be used to regenerate the system. e.g. GENDB

129.1 Restrictions

This description is valid from SP300-V3.4

129.2 Interrelationships

- AMO LODR : Administration of LCR outdial rules
- GENERATION SEQUENCE : LAUTH --> LODR --> LDAT --> LDPLN

129.3 Functions of the AMO

- **ADD-LAUTH** : Add an authorisation code to an Internal Traffic Restriction (ITR) group.
- **CHANGE-LAUTH** : Change an existing authorisation code in an Internal Traffic Restriction (ITR) group.
- **DELETE-LAUTH** : Delete an existing authorisation code from an Internal Traffic Restriction (ITR) group.
- **REGENERATE-LAUTH** : Regenerate the authorisation codes configured for one or more Internal Traffic Restriction (ITR) groups in encrypted format.

129.3.1 ADD-LAUTH

Add a new LCR authorisation code to an ITR group.

The authorisation code to be added is specified by the ITR and INDEX parameters.

The authorisation code may be entered in either human readable or encrypted form, specified by the FORMAT parameter. The encrypted format is used by the regenerate command.

The authorisation code is stored in encrypted form on the system, which can be observed by the regenerate command.

Remarks:

- An authorisation code can only be added if a code is not already configured for the given ITR and INDEX.
- Users should use NORMAL branch to create new entries.
- ENCRYPT branch is only for regeneration of the system using the REGEN output.

Procedure Overview

Command Code	Parameter
ADD-LAUTH	ITR=<number>, INDEX=<number>, FORMAT=NORMAL/ENCRYPT; | FORMAT=NORMAL, CODE=<string>; | FORMAT=ENCRYPT, CRYPCODE=<string>;

Examples

1. To add a normal authorisation code to ITR group number 4.

Input:

```
ADD-LAUTH:4,1,NORMAL,2788991;
```

2. To add an encrypted authorisation code to ITR group number 4.

Input:

```
ADD-LAUTH:4,1,ENCRYPT,72JQD2520J;
```

129.3.2 CHANGE-LAUTH

Change an existing LCR authorisation code.

The authorisation code to be changed is specified by the ITR and INDEX parameters.

Remark:

To change the existing code, the human readable form of the old code has to be known by the user. Both old code and new code should be entered in human readable form.

Procedure Overview

Command Code	Parameter
CHANGE-LAUTH	ITR=<number>, INDEX=<number>, OLDCODE=<string>, CODE=<string>;

Example

To change an authorisation code.

Input:

```
CHANGE-LAUTH:4,1,2788991,2788992;
```

129.3.3 DELETE-LAUTH

Delete an existing LCR authorisation code.

The authorisation code to be deleted is specified by the ITR and INDEX parameters.

Remark:

LAUTH - Administration of Least Cost Routing Authorisation Codes

Parameter Description

To delete an existing code, the original human readable form of the has to be known by the user. OLDCODE should be entered in human readable form.

Procedure Overview

Command Code	Parameter
DELETE-LAUTH	ITR=<number>, INDEX=<number>, OLDCODE=<string>;

Example

To delete an authorisation code.

Input:

```
DELETE-LAUTH:4,1,2788992;
```

129.3.4 REGENERATE-LAUTH

Regenerate configured LCR authorisation codes.

The authorisation code table for the specified ITR group(s) is regenerated in encrypted form due to security reason. It therefore is not possible to see the configured codes in human readable form.

Procedure Overview

Command Code	Parameter
REGEN-LAUTH	[ITR=<number>;

Example

To regenerate the whole authorisation code table.

Input:

```
REGEN-LAUTH;
```

Output:

```
ADD-LAUTH:0,1,ENCRYPT,520HQVSTQP;  
ADD-LAUTH:4,1,ENCRYPT,LRC4;  
ADD-LAUTH:13,3,ENCRYPT,HSTTC4JOSEJTDL86I8KAHS;
```

129.4 Parameter Description

CODE	AUTHORISATION CODE DIGIT STRING

Type of Input : Single value, required
Possible Values : 1 to 22 numeric digits

CRYPCODE ENCRYPTED AUTHORISATION CODE

Type of Input : Single value,
required when FORMAT=ENCRYPT (ADD)
Possible Values : 1 to 22 alphanumeric characters

FORMAT FORMAT OF AUTHORISATION CODE TO BE ADDED

Type of Input : Single value, required (ADD)
Possible Values : NORMAL - Add normal authorisation code
(Parameter CODE mandatory)
ENCRYPT - Add encrypted authorisation code
(Parameter CRYPCODE mandatory)

INDEX INDEX OF AUTHORISATION CODE IN TRAFFIC RESTRICTION GROUP

Type of Input : Single value, required (ADD, CHANGE, DELETE, DISPLAY)
Possible Values : 1 to 4

ITR INTERNAL TRAFFIC RESTRICTION GROUP

Type of Input : Single value, required (ADD, CHANGE, DELETE, DISPLAY)
Single value, chained single values or ranges, optional (REGEN)
Possible Values : 0 to 15

OLDCODE ALREADY CONFIGURED AUTHORISATION CODE DIGIT STRING

Type of Input : Single value, required
Possible Values : 1 to 22 numeric digits

129.5 Error Messages and Advisories

129.5.1 Error Messages

F01: THERE IS ALREADY AN AUTHORISATION CODE CONFIGURED FOR THIS ITR/INDEX
F02: THERE IS NO AUTHORISATION CODE CONFIGURED FOR THIS ITR/INDEX
F03: THE "OLDCODE" DOES NOT MATCH THE CONFIGURED CODE

LAUTH - Administration of Least Cost Routing Authorisation Codes
Error Messages and Advisories

F04: THE "CRYP CODE" CANNOT BE DECRYPTED
--> PROMPT CRYP CODE

129.5.2 Advisories

H01: THERE IS NO AUTHORISATION CODE CONFIGURED FOR THIS ITR/INDEX
H02: THERE ARE NO AUTHORISATION CODES CONFIGURED FOR THIS (THESE) ITR GROUP(S)

129.5.3 Use of the Output Messages for Each Action

ADD	:	F01,	F04
CHANGE	:	F02,	F03
DELETE	:	F02,	F03
REGENERATE	:	H02	

130 LCSM - Configure Line in the Server

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO LCSM processes the data of lines between the line controller (LCX) of the servers and the terminal devices (Terminal, Fax, ...?).

No IBM link is possible with this AMO.

130.1 Restrictions

This description is valid from SP300-Rel6.3.

130.2 Interrelationships

- AMO UCSM : Configure Servers
- AMO BCSM : Configure Mounting Location of a Module in the Server

130.3 Functions of the AMO

- [ADD-LCSM](#) : Creation of Line Data in the Database
- [CHANGE-LCSM](#) : Changing the Line Data
- [DELETE-LCSM](#) : Deletion of Line Data
- [DISPLAY-LCSM](#) : Interrogating the Data of a (all) line(s)
- [REGENERATE-LCSM](#) : Regeneration

130.3.1 ADD-LCSM

Restriction:

There don't exist ASYNCH - or V24 - Lines in a Hipath 4000 V2.0 .

LCSM - Configure Line in the Server

Functions of the AMO

Procedure Overview

Command Code	Parameter
ADD-LCSM	[UNIT=<param>]
	,MLNTYPE=ASYNC,TYPENO=<number>,BAUD=<number>
	,LEN=<number>,STOPLEN=<param>,TRNSCLK=<param>
	,RCLK=<param>;
	|,MLNTYPE=V24,TYPENO=<number>,NORM=<param>
	,OPTYPE=<param>,SPEED=<param>,CLK=<param>
	,TIME=<number>,LNTYPE=<param>;

Example

Creation of line data for administration and data module 1 for an asynchronous line.

Input:

```
ADD-LCSM:A1,ASYNC,1,4800,7,SL1.5,INT,EXT;
```

Note

The module for the physical line must be present.

Note

If the length of stop has value SL1.5 the value SL1.5 is mapped internally to the value SL1.

130.3.2 CHANGE-LCSM

Restriction:

There don't exist ASYNCH - or V24 - Lines in a Hipath 4000 V2.0 .

Procedure Overview

Command Code	Parameter
CHANGE-LCSM	[UNIT=<param>]
	,MLNTYPE=ASYNC,TYPENO=<param>,[BAUD=<number>]
	,[LEN=<number>],[STOPLEN=<param>]
	,[TRNSCLK=<param>],[RCLK];
	\,MLNTYPE=V24,TYPENO=<param>,[NORM=<param>]
	,[OPTYPE=<param>],[SPEED=<param>]

Command Code	Parameter
	, [CLK=<param>], [TIME=<number>]
	, [LNTYPE=<param>];

Example

Creation of line data for the administration and data module 1 for an asynchronous line.

Input:

```
CHANGE-LCSM:A1,ASYNC,1,4800,5,SL1,INT,INT;
```

Note

If the length of stop has value SL1.5 the value SL1.5 is mapped internally to the value SL1.

130.3.3 DELETE-LCSM**Procedure Overview**

Command Code	Parameter
DELETE-LCSM	[UNIT=<param>], [MLNTYPE=<param>, [TYPENO=<number>]]

Example

Deletion of the data of the logical line 2 of line type ASYNC in the Administration and Data Module 1.

Input:

```
DELETE-LCSM:A1,ASYNC,2;
```

130.3.4 DISPLAY-LCSM**Procedure Overview**

Command Code	Parameter
DISPLAY-LCSM	[UNIT=<param>], [MLNTYPE=<param>, [TYPENO=<number>]]

Examples

1. Interrogation of the data of the logical line 1 of type ASYNC on the administration and data module.

Input:

```
DISPLAY-LCSM:A1,ASYNC,1;
```

LCSM - Configure Line in the Server

Functions of the AMO

Output:

```
MLNTYPE : ASYNC
TYPENO  : <1>
BAUD    : <4800>
LEN     : <5>
STOPLEN : <SL1>
TRNSCLK : <INT>
RCLK    : <INT>
```

- Interrogation of the data of all logical lines of type ASYNC on the administration and data module.

Input:

```
DISPLAY-LCSM:A1,ASYNC;
```

Output:

LIST OF THE LOGICAL LINES (LINE TYPE = ASYNC)

TYPENO	BAUD	LEN	STOPLEN	TRNSCLK	RCLK
1	4800	7	SL1.5	INT	INT
3	4800	7	SL1	INT	EXT

- Interrogation of the data of the logical line 3 of type V24 synchronous on the administration and Data module.

Input:

```
DISPLAY-LCSM:A1,V24,3;
```

Output:

```
MLNTYPE : V24
TYPENO  : <3>
NORM    : <V23>
OPTYPE  : <DTE>
SPEED   : <LOW>
CLK     : <INT>
TIME    : <100>
LNTYPE  : <DIALN>
```

- Interrogation of the data of all logical lines of type V24 synchronous on the administration and data module.

Input:

```
DISPLAY-LCSM:A1,V24;
```

Output:

LIST OF LOGICAL LINES (LINE TYPE = V24)

TYPENO	NORM	OPTYPE	SPEED	CLK	TIME	LNTYPE
2	V27	DTE	LOW	EXT	60	HDX
4	V27TO	DCE	HIGH	INT	100	FDX

130.3.5 REGENERATE-LCSM

Procedure Overview

Command Code	Parameter
REGENERATE-LCSM	[UNIT=<param>];

Example

Regeneration of the data of all lines of administration and data server 1.

Input:

```
REG-LCSM:UNIT=A1;
```

Output:

```
ADD-LCSM:A1,ASYNC,1,4800,7,SL1.5,INT,EXT;
:
.
```

130.4 Parameter Description

BAUD	Standardized transmission speed (baud rate)		
	Type of Input	: Single value, required (ADD) optional (CHANGE)	
	Possible Values	: 50, 100, 200, 300, 600, 1200, 2400, 4800, 9600, 19200	
CLK	Clock signal		
	Type of Input	: Single value, required (ADD) optional (CHANGE)	
	Possible Values	: EXT =external INT =internal	
LEN	Signal length (number of bits per signal)		
	Type of Input	: Single value, required (ADD) optional (CHANGE)	
	Possible Values	: 5 - 7	

LCSM - Configure Line in the Server

Parameter Description

LNTYPE	Line type	
	Type of Input	: Single value, required (ADD) optional (CHANGE)
	Possible Values	: HDX =HALF DUPLEX FDX =FULL DUPLEX
MLNTYPE	Line type (operation of synchronous lines (terminals) connected via V24 modems)	
	Type of Input	: Single value, required (ADD, CHANGE) optional (DISPLAY, DELETE)
	Possible Values	: ASYNC, V24
NORM	Standardized interface between server and line.	
	Type of Input	: Single value, required (ADD) optional (CHANGE)
	Possible Values	: V22, V23, V24XEN, V25BIS, V25CRN, V26, V27, V26BIS, V27BIS, V27TER, V29,
OPTYPE	Mode of operation of the interface	
	Type of Input	: Single value, required (ADD) optional (CHANGE)
	Possible Values	: DTE (Data Terminal Equipment), if a remote line is connected to the Server via a MODEM. DCE (Data Communication Equipment), if a data terminal device is connected (e.g. 9750) on the server (line end is simulated).
RCLK	Receiving clock	
	Type of Input	: Single value, required (ADD) optional (CHANGE)
	Possible Values	: EXT =external INT =internal
SPEED	Graduation of transmission speed for the interface specified in parameter NORM.	
	Type of Input	: Single value,

		required (ADD) optional (CHANGE)
	Possible Values	: LOW, HIGH,50,100,200,300,600,1200, 2400,4800,9600,19200
STOPLEN	Stop bits length	
	Type of Input	: Single value, required (ADD) optional (CHANGE)
	Possible Values	: SL1 =one bit SL1.5 =1,5 bits SL2 =two bits
TIME	Terminal runup time monitoring	
	Type of Input	: Single value, required (ADD) optional (CHANGE)
	Possible Values	: 1 - 255 sec.
TRNSCLK	Transfer clock	
	Type of Input	: Single value, required (ADD) optional (CHANGE)
	Possible Values	: EXT =external INT =internal
TYPENO	Type number, logical line number	
	Type of Input	: Single value, required (ADD, CHANGE) optional (DISPLAY, DELETE), but can be specified only if a MLNTYPE (line type) is also specified.
	Possible Values	: for MLNTYPE=ASY :1 - 8 for MLNTYPE=V24 :1 - 14
UNIT	Processor name of the server modules to be activated	
	Type of Input	: Single value, optional
	Possible Values	: A1 = Administration and Data Server (ADS)
	Default Value	: A1

130.5 Error Messages and Advisories

130.5.1 Error Messages

F01: THE LOGICAL LINE MLNTYPE <@@@> AND TYPENO <@> EXISTS ALREADY.
PLEASE USE FUNCTION "CHANGE-LCSM" OR "DELETE-LCSM".

F02: free

F03: THE LOGICAL LINE MLNTYPE <@@@> AND TYPENO <@> DOES NOT EXIST

F04: THE VALUE OF PARAMETER <@@@@@@@@> IS INVALID.

F05: THE VALUE OF PARAMETER TRNSCLK AND (OR) RCLK IS INVALID.

F06: THE LOGICAL LINE MLNTYPE <@@@> AND TYPENO <@> IS STILL ASSIGNED TO A PHYSICAL LINE.

F07: THERE DON'T EXIST ASNYCH OR V24 LINES IN A CPCI SHELF

F08: free

130.5.2 Advisories

H01: THERE ARE NO LOGICAL LINES OF MLNTYPE <@@@>.

H02: free

H03: THE LENGTH OF STOP WAS CHANGED TO SL1.

H04: THIS CONFIGURATION ALREADY EXISTS

131 LDAT - Administration of LCR Routes

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO LDAT creates *LCR route elements* (LRTEL) for each LCR route (LROUTE). These LCR route elements specify in which sequence the trunk groups are to be seized.

Each *LCR route element* is prioritized within the LCR route and assigned a trunk group from this route, an outdial rule and a LCR authorization. An associated gateway element consists of up to 5 gateway and sector path number entries.

Adding the first LCR route element to an LROUTE also adds the route itself. The route can then be assigned to individual *LCR digit patterns* using the AMO LDPLN.

Deleting the last LCR route element from an LROUTE also deletes the route itself.

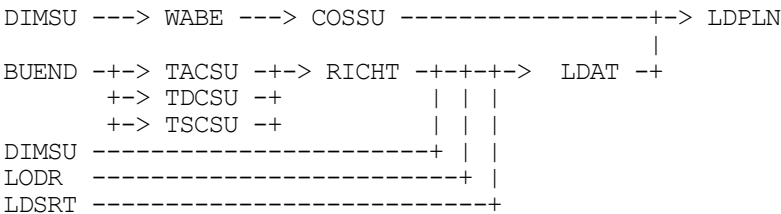
CHANGE the data of an LCR route element, ADD new LCR route elements and DELETE LCR route elements is also possible.

With the AMO LDAT, only those trunk groups can be used for an LCR route, which have previously been assigned to the route by means of the AMO RICHT.

131.1 Interrelationships

- AMO BUEND : Definition of trunk groups
- AMO TACSU : Allocation of analog circuits to trunk groups
- AMO TDCSU : Allocation of digital circuits to trunk groups
- AMO TSCSU : Allocation of X.21 circuits to trunk groups
- AMO RICHT : Grouping various trunk groups into routes
- AMO DIMSU : Administration of database layout
- AMO LODR : Administration of outdial rules
- AMO LDPLN : Administration of LCR digit patterns
- AMO LDSRT : Administration of LCR Digit String Restriction Tables
- AMO LPROF : Administration of LCR profiles

Generation sequence:



The LCR route type is derived from the AMO RICHT branch (parameter TYPE) in which the LCR route was defined.

All LCR routes which were defined as TYPE=CD are assigned the TYPE NWLCR (networking LCR, standard alternative routing), routes from the branch LROUTENEW are assigned the TYPE LCR.

The branch LRTEEXP in the AMO RICHT is used to assign new trunk groups and define additional services to existing LCR routes.

NWLCR routes are always expanded to include new trunk groups in the branch TYPE=CD in the AMO RICHT.

The LCR routes that were set up using the AMO LDAT assigned to individual digit patterns by means of the AMO LDPLN.

AMO LDSRT is used to construct LCR digit string restriction tables. These tables are assigned to route elements by AMO LDAT afterwards.

Volume 2 of the Service Manual, 'AMO Usage Examples', Section 'Networking' describes various configurations and how they are set up.

131.2 Functions of the AMO

- [ADD-LDAT](#) : Add route elements
- [CHANGE-LDAT](#) : Change individual route elements
- [DELETE-LDAT](#) : Delete entire routes, individual route elements or gateway enries belonging to a route element
- [DISPLAY-LDAT](#) : Display LCR routes
- [REGEN-LDAT](#) : Regenerate parameters

131.2.1 ADD-LDAT

For the features

- (i) LCR and
- (ii) LCR with closed numbering (NWLCR),

the LCR routes that were predefined using the AMO RICHT are assigned data for the device search.

For the LCR with its *LCR digit patterns*, the trunk groups that were assigned to a specific LCR route for one or more services using the AMO RICHT must be arranged according to specific (i.e. usually economical) considerations for path selection purposes.

The LCR route to be processed is specified with the parameter LROUTE.

The Parameter LSVC specifies the services (VCE, DTE or ALL) for which the route is installed.

If the route is defined in AMO RICHT using LSVC=ALL, only one maingroup will be installed for both services (check: DISP-RICHT;). All subsequent operations on this route using AMO LDAT must specify LSVC=ALL. If the services of the route have been defined separately from each other (1. using TYPE=LRTNEW, 2. using TYPE=LRTEXT), 2 different maingroups will be installed for this route. As the 2 maingroups may content different trunk groups, all LDAT operations must handle the services separately (except for DEL-LDAT:TYPE=LRTG).

LSVC=ALL is used, if the parameter is not entered.

Each LCR route is made up of individual *LCR route elements*, each of which constitutes a *routing alternative*.

The number of possible route elements per LCR route is unlimited.

EXCEPTION:

The maximum number of route elements per system (*DIMSU parameter LRTEL*) has been reached.

The route elements within an LCR route are prioritized (to ensure, for instance, that the cheapest routing alternative, the satellite or optical-fiber link etc. is used first) by assigning an *LCR priority* to every route element (parameter LVAL / LVALNEW).

Priority 1 is given the cheapest route element(s) within the LCR route.

The route elements are sorted in ascending order according to their priority. The priorities must be numbered consecutively; gaps are not allowed and will be prevented by the AMO, i.e. two adjacent route elements will always have either the same priority or a priority that differs by a factor of 1.

If the parameter LVAL/LVALNEW has not been specified, the AMO will use the LCR priority of the last element (i.e. 1 if no route element has been specified as yet). If the parameter LVAL has been specified, the specified route element is inserted after the last route element with the same LCR priority.

LDAT - Administration of LCR Routes

Functions of the AMO

If, at a later stage, it becomes necessary to insert a route element with a "new" LCR priority, not the above-described parameter LVAL but the parameter LVALNEW should be used. In this case, the new route element will be inserted before the first route element with the same LCR priority; at the same time, the LCR priority of all subsequent route elements is incremented by 1.

Only one of the two parameters LVAL or LVALNEW must be used at any given time.

Each LCR route element (parameter LRTEL) is either assigned a trunk group (parameter TGRP) which has previously been defined for this LCR route using the AMO RICHT or gateway entries (up to 5) consisting of gateway number and sector path number.

EXCEPTION :

It is not allowed to create a route element which is assigned neither a trunkgroup nor a gateway element.

It is possible to assign the same trunk group to several LCR route elements so that it can be used more than once for a device search within the same (LCR) route.

Each LCR route element must be assigned an outdial rule previously defined by means of the AMO LODR parameter ODR. This *outdial rule* must be terminated with an END command.

To enable or disable a specific route element for a particular user, each route element must be assigned at least one LCR authorization (using the parameter LAUTH). It is possible to assign more than one authorization to a route element.

Only users whose active *LCR class of service* contains this LCR authorization will be able to seize this route element.

The 8 LCR schedules can be locked or marked as expensive for each LCR route element using parameter LSCHED. Each schedule may be marked as expensive or locked exclusively. If the parameter is missing, all schedules are unlocked and not marked as expensive.

Each LCR route may assigned a network carrier (parameter CARRIER) and a corresponding zone (parameter ZONE). Both parameters must be entered together. If the parameters are missing, CARRIER=1 and ZONE=EMPTY is used. If a value different from EMPTY has been specified for a zone, WCHREG (parameter LATTR) will automatically be set and the advisory H15 will be displayed.

Each LCR route may be assigned a Destination Node Number (parameter DNNO), which will override the DNNO set for the route in AMO RICHT for number modification purposes.

Each LCR route may be assigned a maximum number of compression/decompression cycles (parameter VCCYC). The value of VCCYC will be without effect, if the value VOICO of parameter LATTR is not set. The value VOICO of parameter LATTR can not be set if the service of the route is not only VOICE.

Each LCR route element may be assigned a country- or network-specific LCR attribute (parameter LATTR). If LATTR is missing, no LCR attribute is assigned to this route.

To each LCR route element a central byte manipulation attribute (parameter CBMATTR) may be assigned, which specifies echo cancellation and a-law/m-law conversion.

To each LCR route element a specialized common carrier identifier (parameter SCCID) may be assigned, which is required to designate the specialized common carrier that point to a PRI trunk group. When OUTWATS is assigned as a call-by-call voice calling service and the LCR route element points to a NI-2 PRI trunk, a non-null SCCID value (0000-9999) must be assigned.

To each LCR route element a facility number (parameter FACILITY) must be assigned when the call-by-call PRI calling service is FX (Foreign Exchange Access) or TTA (Tie Trunk Access) (parameters SVCVCE and SVCNVCE). FACILITY value can be associated with only one service, SVCVCE or SVCNVCE. If for SVCVCE and SVCNVCE the values other than FX or TTA are entered, the FACILITY parameter is ignored if it is specified. Otherwise, it is set to empty.

To each LCR route element a service voice capability (parameter SVCVCE) may be assigned to designate the call-by-call voice capable PRI calling service to be used when the call being routed is a voice (speech) or voice-band call. This parameter is applicable only for LCR route elements that point to a PRI or CorNet-NQ trunk group. If FX or TTA is assigned to SVCVCE then FACILITY parameter must also be set. Parameter SVCVCE can be set if LSVCE is VCE or ALL.

To each LCR route element a non-voice capability (parameter SVCNVCE) may be assigned to designate the call-by-call non-voice capable PRI calling service to be used when the call being routed is a digital data (UDI) call. This parameter is applicable only for LCR route elements that point to a PRI or CorNet-NQ trunk group. If FX or TTA is assigned then the FACILITY parameter must also be set. Parameter SVCNVCE can be set if LSVCE is DTE or ALL.

LDAT - Administration of LCR Routes

Functions of the AMO

One of the values OUTWATS, WB0..WB9, FX and TTA for SVCVCE and one of the values OUTWATS, FX and TTA for SVCNVCE can not be entered together.

LCR digit string restriction tables (parameter LDSRT) may be assigned to each LCR route element which contain the dial numbers to be restricted for the route element. These tables are administered via AMO LDSRT.

A Class of trunk index may be assigned to each LCR route element (parameter COTIDX).

Procedure Overview

Command Code	Parameter
ADD-LDAT	LROUTE=<number>, [LSVC=<param>] {, (max 1) [LVAL =<number>] , [LVALNEW =<number>] } ,TGRP =<number> ,ODR =<number> ,LAUTH =<number> ,[LSCHED=<param>], {CARRIER = <number>, ZONE=<param> } ,[LATTR = <param>], [DNNO=<number>] ,[VCCYC=<number>], [CBMATTR=<param>] ,[SCCID=<key-num>], [FACILITY=<key-num>] ,[SVCVCE=<param>],[SVCNVCE=<param>] ,[LDSRT=<number>],[COTIDX = <number>], [GW1=<number>] ,[GW2=<number>], [GW3=<number>], [GW4=<number>] ,[GW5=<number>;

Examples

Input:

ADD-LDAT:21,,,,71,1,1; OR ADD-LDAT:21,,1,,71,1,1;
ADD-LDAT:21,,,,71,21,1; OR ADD-LDAT:21,,1,,71,31,1;
ADD-LDAT:21,,,,71,21,3; OR ADD-LDAT:21,,1,,71,31,3;
ADD-LDAT:21,,2,,71,1,3; OR ADD-LDAT:21,,2,,71,1,3;
ADD-LDAT:21,,2,,71,21,2; OR ADD-LDAT:21,,2,,71,31,2;
ADD-LDAT:21,ALL,1,,71,1,1,,1,EMPTY,NONE,,4,,,,,,,,1-8;

Display result:

Input:

DISPLAY-LDAT:LCR,21;

Output:

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					
|	LROUTE = 21				NAME = AMT S2 NAT.				SERVICE = ALL				|								
|	TYPE = LCR				DNNO OF ROUTE = 1 -1 -8								|								
|	SERVICE INFO =												|								
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					
	|	|	|	|	|	SCHEDULE	|	CARRIER	|	|	|	|									
|	LRTEL	|	LVAL	|	TGRP	|	ODR	|	LAUTH	|	ABCDEFGH	|	ZONE	|	LATTR	|	LDSRT	|	COTIDX	|	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					
|	1	|	1	|	71	|	1	|	1	|	*****	|	1	EMPTY	|	NONE	|		|	0	|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					
|	2	|	1	|	71	|	21	|	1	|	*****	|	1	EMPTY	|	NONE	|		|	0	|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					
|	3	|	1	|	71	|	21	|	3	|	*****	|	1	EMPTY	|	NONE	|		|	0	|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					
|	4	|	1	|	71	|	1	|	1	|	*****	|	1	EMPTY	|	NONE	|		|	0	|
	+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																				
|	|	GW1 = 1-8				GW2 =				GW3 =				|							
|	|	GW4 =				GW5 =								|							
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					
|	5	|	2	|	71	|	1	|	3	|	*****	|	1	EMPTY	|	NONE	|		|	0	|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					
|	6	|	2	|	71	|	21	|	2	|	*****	|	1	EMPTY	|	NONE	|		|	0	|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																					

131.2.2 CHANGE-LDAT

The LCR route element to be changed should be addressed by means of the LCR route (parameter LROUTE) and the *LCR route element number* (parameter LRTEL) which can be output with DISPLAY.

The LCR route element to be changed must already exist.

The element's position within the LCR route and its priority (parameter LVAL/LVALNEW in ADD command) can no longer be changed.

To be able to make a change, the respective element must first be deleted and then recreated (ADD) with another priority.

LDAT - Administration of LCR Routes

Functions of the AMO

The trunk group previously assigned to the LCR route element can be replaced by a new one (parameter TGRP). To be able to delete a trunk group (TGRP = 0), there must be at least one destination gateway entry configured in the selected LCR route element.

The outdial rule previously assigned to an LCR route element can be replaced by a new one (parameter ODR).

As far as the validity of outdial rules is concerned, the restriction for the ADD command applies, i.e. the outdial rule must be terminated with an END command.

The LCR authorization previously assigned to an LCR route element can be replaced by new authorization numbers (parameter LAUTH).

The LCR schedule previously assigned to an LCR route element can be replaced by a new one (parameter LSCHED).

The LCR carrier and corresponding zone previously assigned to an LCR route element can be replaced by a new one (parameter CARRIER and ZONE).

The DNNO previously assigned to an LCR route element can be replaced by a new one. In all pre-Unity versions when DNNO (in LDAT) was changed to 0, the DNNO was deleted and the DNNO from RICHT became active. According with the new features in Unity versions this behaviour is no longer possible. If the DNNO is not specified, the DNNO from AMO-RICHT gets active. DNNO 0-0-0 is also allowed as a normal DNNO.

The maximum number of voice compression cycles previously assigned to an LCR route element can be replaced by a new one (parameter VCCYC).

The LCR attribute previously assigned to an LCR route element can be deleted or replaced by a new one (parameter LATTR). In case the attribute WCHREG has been deleted, the zone (parameter ZONE) will automatically be set to EMPTY and the advisory H16 will be displayed.

The Central byte manipulation attribute can be replaced by a new one (parameter CBMATTR).

The specialized common carrier identification can be replaced by a new one (parameter SCCID). The rules specified in section 0.1.3.1 when adding a route element are also applied here.

The facility number can be replaced by a new one (parameter FACILITY).

Service voice capability can be replaced by a new one (parameter SVCVCE). The rules specified in section 0.1.3.1 when adding a route element are also applied here.

Service non-voice capability can be replaced by a new one (parameter SVCNVCE). The rules specified in section 0.1.3.1 when adding a route element are also applied here.

LCR digit string restriction tables can be replaced by new ones (parameter LDSRT).

Class of trunk index can be replaced by new one (parameter COTIDX).

Destination gateway entries can be replaced by new ones (Parameter GW1 GW5).

Procedure Overview

Command Code	Parameter
CHANGE-LDAT	LROUTE=<number>, [LSVC =<param>], LRTEL=<number> , { (min 1) TGRP=<number>, ODR=<number> , LAUTH =<number>, LSCHED=<param> , CARRIER =<number>, ZONE = <param> , LATTR = <param>, DNNO=<number> , VCCYC=<number>, CBMATTR=<param> , SCCID=<key-num>, FACILITY=<key-num> , SVCVCE=<param>, SVCNVCE=<param> , LDSRT=<number>, COTIDX=<number> , GW1=<number>, GW2=<number>, GW3=<number> , GW4=<number>, GW5=<number>};

Example

The result from the ADD example is changed.

Input:

```
CHANGE-LDAT:LROUTE=21,LRTEL=2,ODR=1;
CHANGE-LDAT:LROUTE=21,LRTEL=4,LAUTH=2;
CHANGE-LDAT:LROUTE=21,LRTEL=4,ODR=1,LSCHED=A&C&HE,LDSRT=2&5;
CHANGE-LDAT:LROUTE=21,LRTEL=5,LAUTH=2&5&8;
CHANGE-LDAT:LROUTE=21,LRTEL=1,TGRP=0,GW1=2-7;
```

and displayed again:

Input:

```
DISPLAY-LDAT:ALL,21;
```

Output:

```
+-----+
| LROUTE = 21                               NAME = AMT S2 NAT.           SERVICE = ALL |
```

LDAT - Administration of LCR Routes

Functions of the AMO

| TYPE = LCR										DNNO OF ROUTE = 1 -1 -8																			
| SERVICE INFO =																													
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
										| SCHEDULE | CARRIER |																			
| LRTEL | LVAL | TGRP | ODR | LAUTH | ABCDEFGH |										| ZONE | LATR | LDSRT | COTIDX |																			
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
| 1 | 1 |										| 1 | 1 | ***** | 1 | EMPTY | NONE |										| 0 |									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
|										| GW1 = 2-7 | GW2 =										| GW3 =									
|										| GW4 =										| GW5 =									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
| 2 | 1 | 71 |										| 1 | 1 | ***** | 1 | EMPTY | NONE |										| 0 |									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
| 3 | 1 | 71 | 21 |										| 3 | ***** | 1 | EMPTY | NONE |										| 0 |									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
| 4 | 1 | 71 | 1 |										| 2 | --*****E | 1 | EMPTY | NONE |										| 2, 3 | 0 |									
|										|										| 4, 5 |									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
|										| GW1 = 1-8 | GW2 =										| GW3 =									
|										| GW4 =										| GW5 =									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
| 5 | 2 | 71 | 1 |										| 2, 5 | ***** | 1 | EMPTY | NONE |										| 0 |									
|										| 8 |										|									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													
| 6 | 2 | 71 | 21 |										| 2 | ***** | 1 | EMPTY | NONE |										| 0 |									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																													

131.2.3 DELETE-LDAT

It is possible to delete all LCR route elements and its associated data (trunk groups, LCR priority, outdial rule, LCR authorization) from an LCR route simply by specifying the LCR route (TYPE=LROUTE and parameter LROUTE).

An LCR route cannot be deleted fully (using TYPE=LROUTE) as long as it is still assigned to one or several *LCR digit patterns* or assigned by LPROF to one or several LCR Profile.

TYPE=LRTEL can be used to delete individual LCR route elements from a specific LCR route by specifying the LCR route (parameter LROUTE) and the LCR route element number (parameter LRTEL) output with the DISPLAY command.

The deletion of individual route elements leads to gaps in the LRTEL and LVAL values. The AMO eliminates these gaps through renumbering. The LVALs of each route begin with 1. Elements which previously had the same VALs are assigned the same VALs again.

TYPE=LRTEL can also be used to delete one or more destination gateway entries belonging to the specified routing element. In this case parameter GWIDX has to be entered. Parameter GWIDX specifies the destination gateway entry to be deleted. The deletion of individual gateway entries may result with gaps. In this case gaps are eliminated by compressing the destination gateway list. It is not allowed to delete all gateway elements of a routing element which doesn't have an assigned trunk group.

TYPE=LRTEL cannot be used to delete all elements from a route.

TYPE=LROUTE,LSVC=ALL; can be used to delete LCR routes which has been defined using LSVC=ALL.

TYPE=LDSRT is used when no LDSR table is required by a route element.

Procedure Overview

Command Code	Parameter
DELETE-LDAT	KIND=LROUTE, LROUTE=<range> [, LSVC=<param>]; |KIND=LRTEL, LROUTE=<number> [,LSVC=<param>], LRTEL=<range>,[GWIDX=<number>]; |KIND=LDSRT,LROUTE=<number>, [LSVC=<param>], LRTEL=<number>;

Example

After one of the batches from the ADD example has been executed, the command

Input:

```
DEL-LDAT:LRTEL,21,,1,1;
```

Output:

```
F36: GATEWAY DATA FOR LRTG =21 LRTGEL=1 CAN NOT BE DELETED.
```

```
DATA FOR BUNDLE AND GATEWAY MAY NOT BE EMPTY AT THE SAME  
TIME FOR IP-LCR.
```

Input:

Functions of the AMO

DEL-LDAT:LRTEL,21,,1,1;

H22: GATEWAY INDEX 1 IS DELETED FROM SELECTED ROUTE ELEMENTS.

Output:

- RESULTING LVAL GAPS ARE ELIMINATED THROUGH RENUMBERING

Output:

| LROUTE = 21				NAME = AMT S2 NAT.								SERVICE = ALL			
| TYPE = LCR				DNNO OF ROUTE = 1 -1 -8											
| SERVICE INFO =															
|				|				SCHEDULE | CARRIER				|			
| LRTEL |	LVAL|	TGRP |	ODR|	LAUTH|	ABCDEFGH |	ZONE|				LATTR |	LDSRT|	COTIDX |			
| 1|		| 1|		71|		| 1| 1		| ***** | 1		EMPTY|		NONE |		| 0	
| 2|		| 1|		71|		| 2		| ---*****E | 1		EMPTY|		NONE |		2, 3| 0	
|				|				|				| 4, 5|			
|				GW1 = 1-8				GW2 =				GW3 =			
|				GW4 =				GW5 =							
| 3|		| 2|		71|		| 2, 5|		| ***** | 1		EMPTY|		NONE |		| 0	
|				| 8				|				|			
| 4|		| 2|		71|		21| 2		| ***** | 1		EMPTY|		NONE |		| 0	

-----+

The element parameters show clearly that the first and the third element were deleted and that the LVAL of the subsequent elements was decreased by 1. The deletion of the third element did not affect the LVAL numbering because no gap had been created.

131.2.4 DISPLAY-LDAT

In general, LCR routes can be displayed either individually according to the purpose for which they are used, e.g.

- LCR routes for LCR (TYP=LCR)
- LCR routes for LCR with closed numbering (TYP=NWLCR)

or independently of it (TYPE=ALL includes TYPE=LCR and TYPE=NWLCR).

For all LCR/NWLCR routes, the data of all associated LCR route elements (LCR priority, trunk groups, outdial rule, LCR authorization) can be displayed (TYPE=LCR, NWLCR or ALL without specifying any further parameters).

For specific LCR/NWLCR routes, the data of all associated LCR route elements can be displayed (TYPE=LCR, NWLCR or ALL with parameter LROUTE).

However, it is also possible to display LCR/NWLCLR routes in which one or several LCR route elements are assigned

specific trunk groups	(parameter TGRP)
specific outdial rules	(parameter ODR)
specific LCR authorizations	(parameter LAUTH)
a specific Destination Node Number	(parameter DNNO)
specific LCR attributes	(parameter LATTR)
specific LDSR tables	(parameter LDSRT)
specific Gateway Element	(parameter GW)

Lower levels of an DNNO may be zero, in this case routes to all nodes of that level will be displayed.

The range of LCR routes and the service to be searched through can be limited (parameter LROUTE, LSVCL). In this case, only those LCR routes will be output in which at least one element complies with the *search criteria*.

The values which result of the ADD and CHANGE commands will be displayed. The SCHEDULES will be displayed as an asteriks (*) when unlocked, a dash (-) when locked and the letter E when marked as expensive.

LDAT - Administration of LCR Routes

Functions of the AMO

LCR routes which are already assigned to a LCR dialling plan (AMO LDPLN) are marked with LDPLN in the first line.

The field SERVICE INFO is written by AMOs COP,COT,COSSU,LODR,LWPAR,TAPRO and RICHT and is only displayed by AMO-LDAT.

Procedure Overview

Command Code	Parameter
DISPLAY-LDAT	TYPE= LCR | NWLCR | ALL , [LROUTE=<number>] , [LSVC=<param>] , [TGRP=<number>] , [ODR=<number>] , [LAUTH=<number>] , [DNNO=<number>] , [LATTR=<param>] , [LDSRT=<number>] , [GW=<number>];

Examples

1. Display all routes

Input:

```
DIS-LDAT:TYPE=ALL;
```

2. Display all LCR routes

Input:

```
DIS-LDAT:TYPE=LCR;
```

3. Display all networking LCR routes

Input:

```
DIS-LDAT:TYP=NWLCR;
```

4. Display all LCR routes in which at least one route element uses trunk group 91.

Input:

```
DIS-LDAT:TYP=LCR,TGRP=91;
```

5. Display all LCR routes in which at least one route element uses trunk group 72 with an outdial rule between 50 and 59.

Input:

```
DIS-LDAT:TYPE=LCR,TGRP=72,ODR=50&&59;
```

6. Display all LCR routes in which at least one route element uses trunk group 91 with outdial rule 31 and LCR authorization 1.

Input:

```
DIS-LDAT:TYPE=LCR,TGRP=91,ODR=31,LAUTH=1;
```

7. Display all LCR routes in which at least one route element uses LDSRT 5.

Input:

```
DIS-LDAT:TYPE=LCR,LDSRT=5;
```

8. Display all LCR routes in which at least one route element uses the destination gateway entry GW = 1-8, where gateway number=1 and sector path number = 8.

Input:

```
DIS-LDAT:TYPE=LCR,GW=1-8;
```

131.2.5 REGEN-LDAT

For all LCR routes, the data of all associated LCR route elements (LCR priority, trunk groups, outdial rule, LCR authorization) can be regenerated (without specifying a parameter).

For specific LCR routes, the data of all associated LCR route elements can be regenerated by specifying the parameter LROUTE.

Since the route elements do not contain any information about the *sequence* in which the elements were 'added', the REGENERATED commands may sometimes differ from the original ADD commands for a route.

Procedure Overview

Command Code	Parameter
REGENERATE-LDAT	[LROUTE=<range>] ;

Example

After one of the batches from the ADD example has been executed, the command

Input:

```
REGEN-LDAT:21;
```

Output:

results in the second form of the first case (ADD):

```
ADD-LDAT:21,ALL,1,,71,1,1,,1,EMPTY,NONE,,4,,,,,,,,,,,,;
```

```
ADD-LDAT:21,ALL,1,,71,1,2,A&C&HE,1,EMPTY,NONE,,4,,,,,2&5,,1-8,,,,;
```

```
ADD-LDAT:21,ALL,2,,71,1,2&5&8,,1,EMPTY,NONE,,4,,,,,,,,,,,,;
```

```
ADD-LDAT:21,ALL,2,,71,21,2,,1,EMPTY,NONE,,4,,,,,,,,,,,,;
```

LDAT - Administration of LCR Routes

Parameter Description

Once route 21 has been deleted, the commands must be entered exactly in the regenerated sequence to arrive at the same result as previously.

131.3 Parameter Description

CARRIER	LCR carrier, always enter in combination with ZONE
Type of Input	: Single value, optional
Possible Values	: 1 - 9
Default Value	1
CBMATTR	Central Byte Manipulation Attributes
Type of Input	: single value, optional (ADD, CHANGE)
Possible Values	: AMC a-law/m-law conversion
	EC128 128 ms echo cancellation
	EC128AMC 128 ms echo cancellation with a-law/m-law conversion
	EC64 64 ms echo cancellation
	EC64AMC 64 ms echo cancellation with a-law/m-law conversion
	NOCBM No CBM attribute
Default value	NOCBM
COTIDX	Class of Trunk Index
Type of Input	: Single value, optional
Possible Values	: 0 - 255
Default Value	0
DNNO	Destination Node Number, overrides DNNO of the route
Type of Input	: Up to 3 values, linked by -, optional
Possible Values	: LEVEL2: 0 - 29
	LEVEL1: 0 - 253
	LEVEL0: 0 - 999
Default Value	No Entry
FACILITY	Facility number for the call-by-call services FX and TTA
Type of Input	: Single value, optional (ADD, CHANGE)

	Possible Values	: 0-9, up to 5 characters	
KIND	Deletion kind		
	Type of Input	: Single value, mandatory (DEL)	
	Possible Values	: LROUTE -	Delete all LCR route elements from an LROUTE (parameter LROUTE, mandatory)
		LRTEL -	Delete individual LCR route elements from an LROUTE (parameters LROUTE and LRTEL mandatory)
LATTR	LCR Attribute		
	Type of Input	: Up to 8 values, optional (ADD, CHANGE, DISP)	
	Possible Values	: NONE	no LCR-attributes
		NOLEV	no precedence level
		TRANSGR	Attribute TRANSGROUP
			e.g. France: indirect access to a private network using the public network
		WCHREG	route element with cdr
		NOTRANS	last node with cdr
		NOCHDISP	deactivate charge display
		INTBNECK	trunk is a bottleneck in the net
		INTCHARG	internal charge rates used
		EODSTCDR	end of dialling starts cdr
		MODEM	modem required
		VOICO	Voice compression is used for TGRP
		SUPPCPN	Suppress Calling Party Number
		TGPRIV	Trunk group to private node (only for 'all trunks busy' indication)
		TGPUB	Trunk group to public network (only for 'all trunks busy' indication)
		PRIMRTE	Trunk group only for Primary Route
		REROUTE	Trunk group only for Reroute
		ETEINCPL	End to End., send next digit
		ETEMIN0	End to End., repeat last digit
		ETEMIN1	End to End., repeat last but first digit
		ETEMIN2	End to End., repeat last but second digit
		ETEMIN3	End to End., repeat last but third digit
		ETEMINX	End to End., repeat all digits
		ETENORSP	End to End., no backward sign
		EXPRTG	Redirecting will be charged in any case

LDAT - Administration of LCR Routes

Parameter Description

	NOEXTRTE	Trunk group only in private Network routing
	OHKQ	Off hook queuing
	RETEINT	Reroute internal
	ALTGR	Alternate trunk group
	ONHKQ	On hook queuing
	PUBNUM	Send public number as calling party number
	PUBNAME	Send public name as calling party name
	DMCEND	End of DMC domain
	FLASH	MLPP-Level Flash
	FLASHOV	MLPP-Level flash override (high level)
	IMMED	MLPP-Level Immediate
	PRTY	MLPP-Level priority (low level)
	RTINE	MLPP-Level Routine
	RTINEP	MLPP-Level Routine but protected
LAUTH	Required LCR authorization (only relevant for LROUTE for LCR or LCR with closed numbering) This LCR authorization is checked against the LCOS1/2 assigned to one of the users. LCOS1/2 were set up by means of AMO COSSU,TYPE=LCOS. Type of Input : 1 to 16 Single values concatenated with &, mandatory (ADD) 1 to 16 Single values concatenated with &, optional (CHANGE) 1 to 10 Single values concatenated with & or &&, optional if TYPE=LCR/NWLCR (DISPLAY) Possible Values : numeric,1-64	
LDSRT	Number of LCR Digit String Restriction Tables Tables can be defined using AMO LDSRT Type of Input : 1 to 16 Single values concatenated with & or &&, optional (ADD, CHANGE, DISPLAY) Possible Values : numeric,1-16	
LROUTE	LCR route number must be defined using the AMO RICHT Type of Input : Single value, mandatory (ADD, CHANGE) Single value &, &&, mandatory (up to 10 individual concatenations or 5 individual range inputs) if KIND=LROUTE (DEL) Single value, mandatory if KIND=LRTTEL (DEL) Single value &, &&, optional (DISPLAY,REGEN) (up to 10 individual concatenations or 5 individual range inputs) Possible Values : 1-64000	

LRTEL	LCR route element number	
	Type of Input	: Single value, mandatory (CHANGE) Single value &, &&, mandatory (up to 10 individual concatenations or 5 individual range inputs) if KIND=LRTEL (DEL)
	Possible Values	: 1-16384, depending on the DIMSU value LRTEL
LSCHED	LCR schedule	
	Type of Input	: 1 to 8 Single values concatenated by &, optional (ADD, CHANGE)
	Possible Values	:
	A	disable element A
	AE	mark element A as expensive
	B	disable element B
	BE	mark element B as expensive
	C	disable element C
	CE	mark element C as expensive
	D	disable element D
	DE	mark element D as expensive
	E	disable element E
	EE	mark element E as expensive
	EMPTY	no entry
	F	disable element F
	FE	mark element F as expensive
	G	disable element G
	GE	mark element G as expensive
	H	disable element H
	HE	mark element H as expensive
LSVC	LCR service, use accordingly to AMO RICHT	
	Type of input	: single value, optional
	Possible values	: VCE voice DTE data terminal equipment ALL VCE and DTE
	Default value	: ALL
LVAL	LCR priority	
	Type of Input	: Single value, optional (ADD)

LDAT - Administration of LCR Routes

Parameter Description

	Possible Values	: 1-254
	Default Value	: 1 if LRTEL=1 else LVAL (LRTEL max)
LVALNEW	LCR PRIORITY TO BE INSERTED	
	Type of Input	: Single value, optional (ADD)
	Possible Values	: 1-254
GW1	Destination Gateway 1, consists of gateway number-sector path number	
	Type of Input	: 2 concatenated values with "-", optional (ADD, CHANGE)
	Possible Values	: 0-65535
GW2	Destination Gateway 2, consists of gateway number-sector path number	
	Type of Input	: 2 concatenated values with "-", optional (ADD, CHANGE)
	Possible Values	: 0-65535
GW3	Destination Gateway 3, consists of gateway number-sector path number	
	Type of Input	: 2 concatenated values with "-", optional (ADD, CHANGE)
	Possible Values	: 0-65535
GW4	Destination Gateway 4, consists of gateway number-sector path number	
	Type of Input	: 2 concatenated values with "-", optional (ADD, CHANGE)
	Possible Values	: 0-65535
GW5	Destination Gateway 5, consists of gateway number-sector path number	
	Type of Input	: 2 concatenated values with "-", optional (ADD, CHANGE)
	Possible Values	: 0-65535
GWIDX	Gateway Index	
	Type of Input	: Single value, & optional (DELETE) Up to 3 concatenated values with &
	Possible Values	: 1-5
GW	Destination Gateway, consists of gateway number-sector path number	

	Type of Input	: Single value, optional (DISPLAY) Up to 2 concatenated values with "-", first part is "gateway number" and second part is "sector path number"
	Possible Values	: 0-65535
ODR	Outdial rule	
	(only relevant for LROUTE for LCR or LCR with closed numbering) must be set up using the AMO LODR	
	Type of Input	: Single value, mandatory (ADD) Single value, optional (CHANGE) Single value &, &&, optional (up to 10 individual concatenations or 5 individual range inputs) if TYPE=LCR/NWLCCR (DISPLAY)
	Possible Values	: 1-4096
SCCID	Specialized common carrier identifier	
	Type of Input	: Single value, optional (ADD, CHANGE)
	Possible Values	: 0-9, 4 characters or *.
	Default value	*
SVCNVCE	Service non-voice	
	Type of Input	: Single value, optional (ADD, CHANGE)
	Possible Values	: FX Foreign exchange access NONE no attributes OUTWATS out Wide Area Telecommunication Service SDS Switched digital service TTA Tie trunk access VPN Virtual Private Network
SVCVCE	Service voice	
	Type of Input	: Single value, optional (ADD, CHANGE)
	Possible Values	: FX Foreign exchange access LDS Long distance service NONE no attributes OUTWATS out Wide Area Telecommunication Service TTA Tie trunk access VPN Virtual Private Network WB0 WATS Band 0

LDAT - Administration of LCR Routes

Parameter Description

		WB1	WATS Band 1
		WB2	WATS Band 2
		WB3	WATS Band 3
		WB4	WATS Band 4
		WB5	WATS Band 5
		WB6	WATS Band 6
		WB7	WATS Band 7
		WB8	WATS Band 8
		WB9	WATS Band 9
TGRP	Trunk group number must be assigned to LROUTE using the AMO RICHT		
	Type of Input	: Single value, mandatory (ADD) Single value, optional (CHANGE) Single value &, &&, optional (DISPLAY) (up to 10 individual concatenations or 5 individual range inputs)	
	Possible Values	: 1-512	
TYPE	LCR route type		
	Type of Input	: Single value, mandatory (DISPLAY)	
	Possible Values	: LCR - only LROUTES for LCR NWLCR - only LROUTES for LCR with closed numbering (networking LCR) ALL - LROUTES for LCR and NWLCR	
VCCYC	Maximum number of voice compression/decompressions cycles		
	Type of Input	: Single value, optional	
	Possible Values	: 1-15	
	Default Value	: 4	
ZONE	LCR zone, always enter in combination with CARRIER		
	Type of Input	: Single value, optional	
	Possible Values	: EMPTY no zone LOCAL local zone SHORT (NEAR) short distance zone 1 - 9 INTERN01 - internal zone 1 - 9 INTERN09 (INT) LONG01- long distance zone 1 - 50 LONG50 (DIST)	

	ABROAD01 -	abroad distance zone 1 - 99
	ABROAD99 (ABR)	
	TIE01 - TIE09	tie zone 1 - 9
Default Value	EMPTY	

131.4 Error Messages and Advisories

131.4.1 Error Messages

- F01: LROUTE <xxxx> HAS NOT BEEN DEFINED (AMO RICHT) .
- F02: NO LROUT MEMORY LEFT (AMO DIMSU, PARAMETER LROUT)
- F03: ADDING A LRTEL MUST NOT CREATE A GAP NEXT POSSIBLE VALUE = <xxx> .
- F04: LRTEL CANNOT BE APPENDED, BECAUSE LVAL MAX. = <xxx> HAS ALREADY BEEN REACHED.
- F05: LRTEL CANNOT BE INSERTED,
BECAUSE LVAL MAX. = <xxx> HAS ALREADY BEEN REACHED.
- F06: TRUNK GROUP <xxx> HAS NOT BEEN DEFINED FOR LROUTE <xxxx> AND THE ENTERED LSVC (AMO RICHT) .
- F07: ODR <xxxx> HAS NOT BEEN DEFINED, OR COMMAND SEQUENCE WAS NOT TERMINATED WITH END (AMO LODR) .
- F08: LRTEL <xxxx> HAS NOT BEEN SET UP.
- F09: TRUNK GROUP <xxx> HAS NOT BEEN SET UP (AMO BUEND) .
- F10: NO LRTEL HAS BEEN SET UP FOR LROUTE <xxxx> .
- F11: KIND=LROUTE MUST BE USED TO DELETE ALL LRTEL FROM LROUTE <xxxx> .
- F12: ATTRIBUTES PRIMRTE AND REROUTE CAN NOT BE SET AT THE SAME TIME CHECK PARAMETER LATTR AGAIN
- F13: THE TRUNK GROUP IS NOT OF THE APPROPRIATE TYPE
- F14: THE CONCATENATED VALUES FOR PARAMETER LSCHED CONFLICT WITH EACH OTHER A TIMEBAND CAN NOT BE DISABLED AND EXPENSIVE AT THE SAME TIME
- F15: LSVC=<xxxx> MUST BE USED, AS THIS ROUTE IS NOT INSTALLED FOR ALL SERVICES
- F16: LSVC=VCE/DTE MUST BE USED, AS THIS ROUTE HAS NOT BEEN INSTALLED FOR ALL SERVICES USING LSVC=ALL
- F17: LSVC=ALL MUST USED, AS THIS ROUTE HAS BEEN INSTALLED FOR ALL SERVICES USING LSVC=ALL
- F18: LSVC=<xxxx> CAN NOT BE USED, AS THIS ROUTE HAS NOT BEEN INSTALLED FOR THIS SERVICES
- F19: PARAMETER CARRIER AND ZONE HAS TO BE ENTERED BOTH IN COMBINATION

LDAT - Administration of LCR Routes

Error Messages and Advisories

- F20: LEVEL<x> OF DNNO MAY NOT EXCEED <xxx>
- F22: LATTR=VOICO MUST NOT BE USED FOR ROUTES WITH LSVC=DTE
- F23: ATTRIBUTES ETEUNVO, ETEMIN0,ETEMIN1, ETEMIN2, ETEMIN3, ETEMINX AND
ETENORSP CAN NOT BE SET AT THE SAME TIME
CHECK PARAMETER LATTR AGAIN
- F24: LRTEL @@@@@@@@@@@@@@ LSVC @@@@ HAS NOT BEEN SET UP
- F26: YOU HAVE NOT ENTERED A PROPER SCCID VALUE. IT SHOULD RANGE BETWEEN [0000,9999) OR
'*'
- F27: BEFORE SETTING FX OR TTA TO SVCVCE OR SVCNVCE PARAMETER A NON-NULL VALUE FOR
PARAMETER FACILITY MUST BE SET
- F28: DNNO LIKE X-0-Y (X AND Y ARE NOT 0) IS NOT ALLOWED
- F29: DNNO OF LRTEL MUST BE DIFFERENT FROM THE PHYSICAL NODE ID
- F30: FACILITY PARAMETER CAN RANGE BETWEEN 0 AND 99999
- F31: THE VALUE OF SERVICE PARAMETER (LSVC) AND USE OF SVCVCE AND SVCNVCE PARAMETERS
SHOULD BE CONSISTENT. SVCVCE CAN BE SET WHEN LSVC IS ALL OR VCE. SVCNVCE CAN BE
SET WHEN LSVC IS ALL OR DTE
- F32: THE TRUNKS (AMO-TDCSU) OF LRTEL HAVE OUTWATS AS DEDICATED SERVICE (PARAM DEDSVC)
AND LRTEL POINTS TO A NI-2 PRI TRUNK (PARAM PROTVAR). IN THIS CASE YOU MUST ENTER
A NON-NULL SCCID VALUE.
- F33: VALUES OUTWATS,WB0..WB9,FX AND TTA FOR SVCVCE(VOICE) AND VALUES OUTWATS, FX AND
TTA FOR SVCNVCE(NON-VOICE) CAN NOT BE USED TOGETHER
- F34: THE COT INDEX DOES NOT EXIST. PLEASE CONFIGURE BY MEANS OF AMO-COT FIRST
- F35: FIRST PART (GATEWAY NO) OF PARAMETER ^param^ MUST BE BETWEEN 1 AND 9999
- F36: GATEWAY DATA FOR LRTG =^lrtg^ LRTGEL=^lrtgel^ CAN NOT BE DELETED. DATA FOR BUNDLE
AND GATEWAY MAY NOT BE EMPTY AT THE SAME TIME FOR IP-LCR
- F37: BUNDLE AND GATEWAY DATA CAN BE EMPTY AT THE SAME TIME ONLY FOR LATTR VALUES WHICH
CONTAIN RERTEINT.
- F38: THE GATEKEEPER IS NOT ACTIVATED IN THE SYSTEM. CONFIGURATION OF GATEWAY ENTRIES
GW1..GW5 IS NOT PERMITTED. (CHA-ZANDE: TYPE=ALLDATA, GATEKPR=YES;)
- F39: NO LCR CAN BE DEFINED FOR THIS ROUTE SINCE IT HAS BEEN INSTALLED AS FAX FROM AMO
RICHT WHICH IS NOT A VALID SERVICE FOR LCR.

131.4.2 Advisories

- H01: LRTEL WITH LVAL <xxxx> WAS INSERTED. THE NUMBERING
OF ALL SUBSEQUENT ELEMENTS WAS CHANGED ACCORDINGLY.
- H02: LRTEL <xxxx> WAS SET UP FOR LROUTE <xxxx> WITH LVAL <xxx>.
- H03: LRTEL <xxxx> FOR LROUTE <xxxx> WAS CHANGED.
- H04: LROUTE <xxxx> <TO <xxxx>> HAS NOT BEEN SET UP (AMO RICHT).
- H05: NO ROUTE ELEMENTS HAVE BEEN CREATED FOR
LROUTE <xxxx> <TO <xxxx>> AS YET.

H07: LROUTE <xxxx> <TO <xxxx>> WAS NOT DELETED BECAUSE IT IS STILL ASSIGNED TO AT LEAST ONE LCR DIAL PATTERN (AMO LDPLN).

H08: LROUTE <xxxx> <TO <xxxx>> WAS DELETED.

H09: LRTEL <xxxx> <TO <xxxx>> WAS DELETED FROM LROUTE <xxxx>
- RESULTING LVAL GAPS ARE ELIMINATED THROUGH RENUMBERING.

H10: NO ENTRY FOR THE SPECIFIED SEARCH CRITERION.

H11: THE PARAMETER ZONE MUST BE CHECKED WITH AMO TTBL

H12: LRTE <xxx> MUST BE DELETED USING LSVC=ALL

H13: PARAMETER <xxxxx>: THE VALUE NONE IS WITHOUT ANY EFFECT,IF ENTERED IN COMBINATION WITH OTHER VALUES

H15: ATTRIBUTE:WCHREG(PARAMETER LATTR) IS SET IN LRTG @@@@ LRTGEL @@@@@ BECAUSE PARAMETER ZONE IS NOT EMPTY

H16: THE PARAMETER ZONE IS SET TO EMPTY IN LRTG @@@@ LRTGEL @@@@@ BECAUSE ATTRIBUTE:WCHREG(PARAMETER LATTR) NOT SET

H17: LDSRT PARAMETER WAS SET TO EMPTY IN LRTE @@@@ LRTEL @@@@@

H18: PARAMETER FACILITY WAS SET TO EMPTY SINCE A FACILITY NUMBER IS ONLY VALID FOR SVCVCE=FX OR TTA, OR SVCNVCE=FX OR TTA.

H19: PARAMETER FACILITY WAS IGNORED SINCE A FACILITY NUMBER CAN ONLY BE ENTERED TOGETHER WITH SVCVCE=FX OR TTA, OR SVCNVCE=FX OR TTA

H20: A DESTINATION GATEWAY ENTRY WITH ENTERED ROUTING DATA ALREADY EXISTS AND CAN NOT BE CONFIGURED AGAIN.

H21: PTHE DESTINATION GATEWAY TABLE WAS COMPRESSED, FREE ENRIES HAVE BEEN REMOVED.

H22: GATEWAY INDEX ^gw1^bis1^gw2^bis2^gw3^ ^amisare^ DELETED FROM SELECTED ROUTE ELEMENTS

H23: LROUTE ^lrtg1^bis^lrtg2^ WAS NOT DELETED BECAUSE IT IS STILL USED BY AMO LPROF.

H24: PARAMETER @@@@@@@@: THE VALUE @@@@@@@@ IS WITHOUT ANY EFFECT, IF ENTERED IN COMBINATION WITH OTHER MLPP VALUES

H25: NOT ALL TRUNKS ENTERED IN RICHT ARE CONFIGURED IN LDAT (LROUTE:@@@@) TOO THIS CAN LEAD TO PROBLEMS FOR TRUNK B-CHANNEL SEARCH, THIS IS ESPECIALLY IMPORTANT FOR IP-TRUNKING TO WORK !!CORRECTLY.ALL TRUNKS CONFIGURED IN RICHT SHOULD BE ENTERED IN LDAT!!

131.4.3 Messages per Action

ADD	F01, F02, F03, F04, F05, F06, F07, F10, F11, F12, F14, F15, F16, F17, F18, F19, F20, F22, F23, F26, F27, F28, F29, F30, F31, F32, F33, F34, F35, F37, F38, F39
	H01, H02, H11, H13, H15, H18, H19, H20, H21,H24 ,H25
CHANGE	F01, F06, F07, F08, F09, F10, F11, F12, F13, F14, F15, F16, F17, F18, F19, F20, F22, F23, F26, F27, F28, F29, F30, F31, F32, F33, F34, F35, F38, F39
	H03, H13, H15, H16, H18, H19, H20, H21, H24, H25

LDAT - Administration of LCR Routes
Error Messages and Advisories

DELETE	F11, F15, F16, F17, F18, F24, F36, F37 ,F39
	H04, H05, H07, H08, H09, H12, H17, H22, H21, H23, H25
DISPLAY	F20, F28, F29
	H04, H05, H10 ,H24 ,H25
REGENERATE	
	H04, H05

132 LDB - Load Data Base from Hard Disk

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO LDB enables the operator to reload the database of a hardware module (SWU, ADS) from hard disk. This is done by setting the database inconsistency bit in the boot communications area (BCA) of the controller concerned. The operator can then initiate a parametric load sequence by means of a hard restart, or with the aid of the AMO REST (Restart of a Functional System Unit).

NOTE: If the SWU is operating in duplex mode a hard restart activates the standby processor. The database can only be completely reloaded by calling the AMO LDB twice.

132.1 Restrictions

This description is valid from SP300-V3.1

132.2 Interrelationships

- AMO REST : Restart Hardware Modules
- AMO REGEN : Regenerate Customer Data from Data Base

132.3 Functions of the AMO

- EXECUTE-LDB : Execute or prepare a database load sequence

132.3.1 EXECUTE-LDB

Reload the database of a hardware module. The AMO must be loaded into the appropriate hardware module (parameter UNIT). The parameter LOAD determines whether a hard restart is to be initiated after setting the database inconsistency bit.

Please remember that a load sequence initiated by means of this AMO will necessarily terminate the action abnormally, since the host computer concerned immediately executes a hard restart.

For this reason, the end message

```
AMO-LDB -...  LOAD DATABASE  
EXECUTE COMPLETED;  
  
is not output.
```

Procedure Overview

Command Code
EXECUTE-LDB

Parameter
UNIT=<param>, [LOAD=<param>];

Examples

- 1. Load the database of the A1

Input:

```
EXECUTE-LDB:UNIT=A1;
```

Output:

```
H01: A HARD RESTART HAS BEEN INITIATED FOR MODULE A1
```

- 2. Prepare the database of the A1 for the load sequence

Input:

```
EXECUTE-LDB:UNIT=A1,LOAD=N;
```

Output:

```
H02: THE DATABASE FOR THE MODULE A1 HAS BEEN SET TO INCON-  
SISTENT.  
      INITIATE THE HARD RESTART MANUALLY.
```

132.4 Parameter Description

LOAD Flag for initializing load sequence

Type of Input : Single value, optional

Possible Values : Y, N

Default Value : Y

UNIT

Module to be reloaded

Type of Input : Single value, mandatory

Possible Values : BP = base processor

BPS = base processor standby

A1 = A1

132.5 Error Messages and Advisories

132.5.1 Error Messages

None

132.5.2 Advisories

H01: A HARD RESTART HAS BEEN INITIATED FOR MODULE @@@@

H02: THE DATABASE FOR THE MODULE @@@@ HAS BEEN SET TO INCONSISTENT.
INITIATE THE HARD RESTART MANUALLY.

LDB - Load Data Base from Hard Disk

Error Messages and Advisories

133 LDPLN - Administration of the LCR Dialing Plan

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO LDPLN (LCR dialing plan) administers the LCR dialing plan.

The LCR digit patterns (LDP) are sorted and stored in the database. A configured LCR route and an LCR authorization are assigned to each LDP for each DPLN group. An LDP can also be disabled for specific DPLN groups.

133.1 Interrelationships

- AMO DIMSU : Dimensioning of FLEXAMA memory
- AMO WABE : Administration of the digit analysis tables
- AMO COSSU : COS administration
- AMO RICHT : Route administration
- AMO LODR : Outdial rules
- AMO LDAT : LCR data

Generation sequence:

DIMSU --> WABE --> COSSU --> RICHT --> LODR --> LDAT --> LDPLN

133.2 Functions of the AMO

- [ADD-LDPLN](#) : Add LCR digit patterns
- [CHANGE-LDPLN](#) : Change LCR digit patterns
- [DELETE-LDPLN](#) : Delete LCR digit patterns
- [OPTIMIZE-LDPLN](#) : Optimize LCR dialing plan
- [DISPLAY-LDPLN](#) : Display LCR digit patterns
- [REGENERATE-LDPLN](#) : Regenerate LCR digit patterns

133.2.1 ADD-LDPLN

The ADD function is used to administer dialplans and to create a new LCR digit pattern.

AMO LDPLN administers up to 2048 dialplans in the 8 pools by using the dialplan number (1-2047). The dial plan number corresponds to the number of dialing plans in all pools(8*256-1). A dialplan number can be separately configured to each dialplan within a pool . A service information can be added to each dialplan number. Dialplan 0 can not be administered.

DIPLNUM >0 is only valid for configurations in relationship with HG3550 and AMO-GKREG. The DIPLNUM can only be assigned by means of AMO-GKREG and is only relevant for 'Admission Request' configurations of Remote Gateways (DIPLNUM range from 1 to 2047).

For all other (tradional) configurations, DIPLNUM must be zero.

DIPLNUM = 0: Means standard configuration if only TDM connections are used. The enhancement by additional dial plan numbers , means DIPLNUM = 1 - 2047 is only needed for IPDA configurations, respectively for IP connections.

LCR digit patterns are defined with parameter LDP.

So that individual digit patterns do not have to be created for all possible combinations within a certain digit range, there are special #wildcards#, to represent the digit ranges:

X - for any digit between 0 and 9, A and D or *

T - for timeout or # (=end-of-dial character)

Z - for any digit sequence followed by timeout or # (=end-of-dial character)

W - for send out dial tone

Y - is used to indicated the beginning of the Carrier Identification Code (CIC)

The digit sequence of any LCR digit pattern can be divided into up to 10 fields separated by '-'. These fields can be accessed directly by the the assigned outdial rule during outpulsing (see AMO LODR).

For example, 997-XXXX stands for all numbers from 997-0000 to 997-9999.

The first two field must contain a valid *routing code* (see AMO WABE). Wildcards can therefore not be used in the first field of the digit pattern. In the second field the wildcards will be truncated, and the checks will be done without the evaluation of them. Every LCR digit pattern can be

assigned to a specific DPLN group (parameter DPLN). Routing codes can have a maximum of 6 digits. The other digits can be divided into fields as required. The LCR digit pattern may not exceed 22 digits in length.

If no DPLN group is specified, the LCR digit pattern defined in parameter LDP is assumed to be valid for all DPLN groups.

A valid LDP structure contains either the values of the parameter LROUTE or the values of the parameter PROFIDX. If a value from type LROUTE or PROFIDX or GWNO was assigned to one LDPLN-entry then it's not possible (or only the deletion and reconfiguration) to change that from one type to other.

To integrate an LCR digit pattern into the CP-specific device search procedure, a valid LCR route (parameter LROUTE) or an LCR profile index (parameter PROFIDX) must be assigned to one digit pattern per DPLN group. See AMO RICHT, AMO LDAT (in case of parameter LROUTE), AMO LPROF (parameter PROFIDX) for further information. The number of LCR routes specified in parameter LROUTE must be the same as the number of DPLN groups specified in parameter DPLN. However, if only one LROUTE/PROFIDX/GWNO is specified, it is then valid for all specified DPLN groups.

If an LCR digit pattern for a DPLN group has not been assigned an LCR route, the pattern is not defined for the DPLN group

If an LCR digit pattern for a DPLN group has been assigned the *LCR route 0*, the pattern is explicitly disabled for the DPLN group

An LCR route is valid if it has been defined with AMO RICHT for LCR and if it has been assigned at least one *route element* with AMO LDAT.

All *LCR authorizations levels* (specified in parameter LAUTH) are assigned to each DPLN group of a digit pattern when specified in parameter DPLN. If parameter DPLN is not specified an LCR authorization level is assigned to the whole DPLN group. Therefore LCR digit patterns can be enabled or disabled for specific users within the same DPLN group. This pattern can be dialed successfully only by the users in the DPLN group who have this LCR authorization in their active *LCR class of service* (AMO COSSU, parameter LCOS).

To a DPLN group is possible to enter 1 to 16 LCR authorizations specified in parameter LAUTH. However, if only one LAUTH is specified, it is then valid for all specified DPLN groups.

A *serial pulse counter* can also be assigned to the LCR digit pattern (parameter SPC). The serial pulse counter specifies how many characters in a pulse are evaluated if the end of the LCRT digit pattern is open (wildcard Z). The default value of parameter SPC is the same as the maximum number of digits, i.e. 22.

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The position of the First Digit String and Sub Digit String in a LDPLN-entry can be set up with the SDSFIELD and FDSFIELD parameters.

SDS field index must be greater than FDS field index. Value 0 means, that no index has been specified.

The authorization for a call is based on the dialed number. Two types of dialing patterns exist, one, which can be used directly, and the other, which needs a special authorization before use. Via parameter PINDP this check request can be set.

Procedure Overview

Command Code	Parameter
ADD-LDPLN	LCRCONF=LCRADM, DIPLNUM=<number>, LWMPOOL=<number>, [DIALPLN=<number>, INFO=<string>];
ADD-LDPLN	LCRCONF=LCRPATT, DIPLNUM=<number>, LDP=<string>, [DPLN=<range>], { (max1) LROUTE=<number>, PROFIDX=<number>, GWNO=<number>} , LAUTH=<number>, [SPC=<number>] , [FDSFIELD=<number>], [SDSFIELD=<number>], [PINDP=<param>];

Example 1

The dialplan number 5 is needed to be allocated to the dialplan 30 in pool 3 and service info is inserted to label the dialplan number.

Input:

```
ADD-LDPLN:LCRADM,5,3,30,"LCRDIALPLANNO5";
```

Example 2

The dialplan number 40 is needed to be allocated in pool 3 (no dialplan is specified) and service info is inserted to label the dialplan number. In this case starting from first dialplan in pool 3, an empty dialplan will be sought till last dialplan(255) in the last pool(8)

Input:

```
ADD-LDPLN:LCRADM,40,3,,,"LCRDIALPLANNO40";
```

Example 3

A digit pattern which is valid for the characters 990000 through 999999 in DPLN groups 1&&5 is created. The routing code 99 must have a digit analysis result in the DPLN tables which is valid for LCR, e.g. CO. When users dial this code, their LCR authorization is checked (in this case 1) and LCR route 888, which has been created with AMO RICHT and AMO LDAT, is used as the route.

Input:

```
ADD-LDPLN:LCRPATT,0,99-XXXX,1&&5,888,,,1,;
```

Example 4

A digit pattern is created for all DPLN groups. LROUTE=1 and LAUTH=2 for all DPLN groups. The digit pattern represents all directory numbers with a maximum of 6 digits (SPC=6), which begin with routing code 98.

Input:

```
ADD-LDPLN:LCRPATT,2,98-Z,,1,,2,6;
```

133.2.2 CHANGE-LDPLN

The Change function is used to change the service info of a dialplan number.

The CHANGE function is used to change the data assigned to an existing LCR digit pattern (LCR routes and LCR authorizations per DPLN group, serial pulse counter).

The LCR digit pattern itself can no longer be corrected, nor can the *subdivision into fields* within the digit pattern be corrected any longer. This can be done only by using DELETE and ADD.

The desired LCR digit pattern may either be addressed via parameter LDP or the LCR digit pattern number (parameter LDPNO). If addressing via LDP is used, the digit pattern must be exactly identical.

The assignment of LCR digit pattern number to LCR digit pattern itself is static. When a LCR digit pattern is added, it is assigned some number. This LCR digit pattern number (LDPNO) can be found with DISPLAY.

The LCR route assigned to a DPLN group can be modified, i.e. it can be overwritten with a new valid LCR route, or explicitly disabled for the DPLN group by specifying LCR route 0.

The mandatory LCR authorization of an LCR digit pattern assigned to a DPLN group can be modified (parameter LAUTH).

Procedure Overview

At least one of the parameters DPLN, LROUTE, LAUTH and SPC must be specified.

Command Code	Parameter
CHANGE-LDPLN	LCRCONF=LCRADM, DIPLNUM=<number>, INFO=<string>;
CHANGE-LDPLN	LCRCONF=LCRPATT, DIPLNUM=<number>, { (min1) LDPNO=<number>, LDP=<text string>}, [DPLN=<range>]

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Command Code	Parameter
	, { (min1) LROUTE=<range>PROFIDX=<number>GWNO<number>, LAUTH=<range>, , SPC=<number>, FDSFIELD=<number>, SDSFIELD=<number> , PINDP=<param>};

Example 1

The service info the dialplan 40 is needed to be changed to "lcrservice40"

Input:

```
CHANGE-LDPLN:LCRADM,40,"LCRSERVICE40";
```

Example 2

In DPLN group 2, the LCR route of the first digit pattern is to be set to 889 and its corresponding LCR authorization to 4:

Input:

```
CHANGE-LDPLN:LCRPATT,2,1,,2,889,,4;
```

133.2.3 DELETE-LDPLN

The DELETE function is used to remove assignment of dialplan number to dial plan in a pool. Dialing plan numbers only without dialing patterns can be deleted.

The DELETE function is used to delete one or more LCR digit patterns from the LCR dialing plan.

The LCR digit patterns to be deleted are identified either via LCR digit pattern (parameter LDP) or their assigned numbers, which can be found with DISPLAY (parameter LDPNO).

Procedure Overview

Command Code	Parameter
DELETE-LDPLN	LCRCONF=LCRADM, DIPLNUM=<number>;
DELETE-LDPLN	LCRCONF=LCRPATT, DIPLNUM=<number>, { (min1) LDPNO=<range>, LDP=<textstring>;

133.2.4 OPTIMIZE-LDPLN

Using action OPTIMIZE the LCR dialing plan can be optimized to decrease the access/search times of Call Processing in the LCR dialing plan. If OPTIMIZE is called, an internal cache tree is created or refined.

Parameter LIMIT defines the linear search length for Call Processing (CP) within the LCR dialing plan to be achieved. The smaller the value of LIMIT the shorter is the CP access time.

The internal cache tree will be refined until this LIMIT is reached if there is no more cache tree memory available (AMO DIMSU, Parameter LDPLNC1 to LDPLNC8).

The internal cache tree memory can be released with OPTIMIZE-LDPLN : DIPLNUM=@@@@, ACTION=DELETE; .

After a generation of some LCR dialing patterns the optimize function should be called.

Procedure overview

Command Code	Parameter
OPTIMIZE-LDPLN	DIPLNUM=<number>, ACTION=REBUILD, [LIMIT=<number>]; | ACTION=DELETE;

133.2.5 DISPLAY-LDPLN

Branch TYPE=LDP:

All LCR digit patterns can be displayed with their associated data (Dial Plan Number, LCR routes and LCR authorizations per DPLN group, serial pulse counter) (no parameters specified).

Specific LCR digit patterns can be displayed with their associated data (parameter DIPLNUM parameter LDPNO or parameter LDP).

All or specific LCR digit patterns can be displayed with their associated data for specific DPLN groups (parameters DIPLNUM, LDPNO and DPLN).

LCR digit patterns which have been assigned one of the following can also be displayed:

specific LCR routes (parameter LROUTE)

specific LCR authorizations (parameter LAUTH)

specific serial pulse counters (parameter SPC)

In these cases, the range of the LCR digit patterns to be searched can also be limited (parameters LDPNO and DPLN).

Branch TYPE=CD:

All LCR digit patterns are displayed which would be “accessed” when the in parameter CD specified access code is entered. The corresponding Dial Plan Number (DIPLNU) LCR digit pattern (LDP) and LCR digit pattern numbers (LDPNO) are displayed.

Branch TYPE=STAT:

The actual linear search length in the LCR dialing plan will be calculated and displayed.

Branch TYPE=LCRADM:

All Dial Plan Numbers(except for dial plan number 0) and their attributes (pool number (LWMPOOL, Dial Plan(DIALPLN) and info(INFO)) can be displayed.

Procedure Overview

Command Code	Parameter
DISPLAY-LDPLN	TYPE=LDP, DIPLNUM=<number>, { (max1) LDPNO=<range>, LDP=<string> , { (max1) LROUTE=<range>, PROFIDX=<number>, GWN0=<number>}, [DPLN=<range>] , [LAUTH=<range>], [SPC=<range>]; | TYPE=CD, [CD=<keynum>]; | TYPE=STAT; | TYPE=LCRADM, DIPLNUM=<number>;

Example 1

All digit patterns which use an LROUTE between 800 and 900 in DPLN groups 2 through 4 are to be displayed:

Input:

DISPLAY-LDPLN:TYPE=LDP,DPLN=2&&4,LROUTE=800&&900;

Output:

+-----+-----+-----+-----+-----+-----+-----+-----+								
|	DIPLNUM:	0	|					|
|	LDPNO :	1	|	LDP :	99-XXXX			|
|			|	SPC :	22			|
+-----+-----+-----+-----+-----+-----+-----+-----+								
|			|	DPLN |	LROUTE |	LAUTH |	|	|
				+-----+-----+-----+-----+				
|			|	2 |	889 |	4 |	4 |	888 | 1 |
|			|	3 |	888 |	1 |	|	|
+-----+-----+-----+-----+-----+-----+-----+-----+								

Procedure Overview

Command Code	Parameter
REGENERATE-LDPLN	DIPLNUM=<number>, { (max1) LDPNO=<range>, LDP=<textstring>;

Example1:

All dialplan numbers with their attributes are to be generated:

Input:

REGENERATE-LDPLN:1&&2047;

Output:

ADD-LDPLN:LCRADM,1,1,1;
ADD-LDPLN:LCRADM,2,1,2;
ADD-LDPLN:LCRADM,5,3,40,"LCRSERV5";
ADD-LDPLN:LCRADM,50,8,200,"LCRSERV50";
ADD-LDPLN:LCRADM,2000,6,200,"LCRSERV2000";

Example2:

The first five digit patterns are to be regenerated:

Input:

REGENERATE-LDPLN:,1&5;

Output:

ADD-LDPLN:LCRPATT,0,98-Z,,1,,2,6;
ADD-LDPLN:LCRPATT,3,99-XXXX,1&2&3&4&5,888,,1,;

Due to syntactical correctness a LAUTH value 1 will be regeneratet for disabled routes (LRTG=0).

133.3 Parameter Description

ACTION	branching parameter for optimization action		
	Type of Input	: single value, mandatory	
	Possible Values	: REBUILD	Create/Refine the internal LCR cache tree
		DELETE	Deletion of the internal LCR cache tree
CD	Access code		
	Type of Input	: single value, optional	
	Possible Values	: keyed numeral, 22 digits	
DIALPLN	LCR Dialing Plan		

	Type of Input	: single value	optional	(ADD)
	Possible Values	: 0-255		
DIPLNUM	LCR Dialing Plan Number			
	Type of Input	: single value, ,& ,&&	mandatory,optional	(ADD,C HA,DIS P,REG, OPT)
		(up to 10 individual concatenations)		
	Possible Values	: 0-2047		
DPLN	Digit analysis group number			
	Type of Input	: single value, &, &&	optional	(ADD,C HAN,DI SP)
		(up to 16 individual concatenations or 8 individual range inputs)		
	Possible Values	: 0-15		
FDSFIELD	Index of the field in dialplan, which contains FDS (First Digit String)			
	Type of Input	single value, optional		
	Possible Values	1-10		
	Default Value	0		
GWNO	Gateway Number			
	Type of Input	: single value, &, &&	1 to 16 single values, concatenated with &, 1. parameter of a max-1-group	(ADD)
		single value, &, &&	optional	(CHAN)
		single value, &, &&	optional	(DISP)
	Possible Values	1-9999		
INFO	LCR Service information			
	Type of Input	: single value, ,	optional	(ADD)
		single value	mandatory	(CHAN)
	Possible Values	: string of max 40 characters		
LAUTH	LCR authorization			
	Type of Input	: single value, &, &&	mandatory	
		(up to 16 individual concatenations)		
				(ADD)

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Parameter Description

		single value, &, optional (up to 16 individual concatenations)	(CHAN)
		single value, &, optional &&, optional (up to 16 individual concatenations or 8 individual range inputs)	(DISP)
	Possible Values	: 1-64	
LCRCONF	LCR-configuration type		
	Type of Input	: single value mandatory	(ADDN)
		single value mandatory	(CHAN)
		single value mandatory	(DEL)
	Possible Values	: LCRADM LCR dialing plan administration LCRPATT LCR dialing pattern	
LDP	LCR digit pattern		
	Type of Input	: up to 10 single values linked with '-', mandatory	(ADD)
		LDP may contain a maximum of 22 digits (0-9,A-D,*,#).	
	Possible Values	: 0,...,9,A-D, *,# and also X,T,Z (wildcards) with X for any digit between 0 and 9, A-D, and also * T timeout or # (=end-of-dial character) Z for any digit sequence followed by timeout or # (=end-of-dial character) W send out dial tone Y is used to indicated the beginning of the Carrier Identification Code (CIC)	
LDPNO	Number of LCR digit pattern		
	Type of Input	: single value, mandatory	(CHAN)
		single value, &, mandatory	(DEL)
		single value, &, optional	(DISP,REG)
		(up to 16 individual concatenations)	
	Possible Values	: 1-2048	
LIMIT	Limit for the desired linear search length in the internal LCR cache tree		
	Type of Input	: single value, optional	
	Possible Values	: 1-2048	

Default Value : 20

LROUTE	LCR route number Defined by AMO RICHT, created with AMO LDAT		
Type of Input	: single value, &, 1 to 16 single values, concatenated with &, 1. parameter of a max-1-group	(ADD)	
	single value, &, optional	(CHAN)	
	single value, &, optional	(DISP)	
	&&, (up to 16 individual concatenations or 8 individual range inputs)		
Possible Values	: 0-65535	LCR route numbers created with AMO RICHT and AMO LDAT explicitly disables the LCR digit pattern.	
LWMPOOL	LCR pool number		
Type of Input	: single value	mandatory	(ADD)
Possible Values	: 1-8		
PINDP	PIN for dialing pattern requested		
Type of Input	single value, optional		
Possible Values	N NO		
	Y YES		
Default value	N		
PROFIDX	LCR profile index		
Type of Input	1 to 16 single values, concatenated with & or &&, 1. parameter of a max-1-group	(DISP)	
	1 to 16 single values, concatenated with &, 1. parameter of a max-1-group	(ADD,C HAN)	
Possible Values	1-500		
SDSFIELD	Index of the field in dialplan, which contains SDS (Sub Digit String)		
Type of Input	single value, optional		
Possible Values	2-10		
Default value	0		
SPC	Serial pulse counter		
	Number of possible external digits		
Type of Input	: single value, optional	(ADD,C HAN)	

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		single value, &, optional && (up to 16 individual concatenations or 8 individual range inputs)	(DISP)
Possible Values	:	1-22	
Default Value	:	22	(ADD)
TYPE	Type of display		
	Type of Input	: single value, required	
	Possible Values	: LDP	Display LCR digit patterns and their attributes
		CD	Query for LCR digit patterns which are related when dialing a specified access code
		STAT	Display statistic information about the internal LCR cache tree.
		LCRADM	Display information about Dial Plan Numbers

133.4 Error Messages and Advisories

133.4.1 Error Messages

- F01: DPLN <DPLN> IS ENTERED MORE THAN ONCE
Cause:
Parameter value for parameter DPLN entered twice.
Action:
Check parameter DPLN.
- F02: NUMBER OF VALUES FOR DPLN AND <PARAM> DIFFERENT
<PARAM> cannot have the values LROUTE and LAUTH.
Cause:
A number of PARAM>=LROUTE or LAUTH values which was neither 1 nor the number of specified DPLN groups was specified.
Action:
Check the number of values for DPLN, LROUTE and LAUTH.
- F03: IF PARAMETER LROUTE OR LAUTH ENTERED, PARAMETER DPLN IS REQUIRED
- F04: IF PARAMETER DPLN IS NOT ENTERED PARAMETER <PARAM> MAY ONLY GET ONE VALUE.
<PARAM> can have the values LROUTE aund LAUTH.
Cause:
Parameter DPLN was not specified, because an addition was to be made for all DPLN groups, or it was forgotten. In any case, more than one value was specified for LROUTE or LAUTH.

Action:

Check number of values of DPLN, LROUTE and LAUTH.

F05: THE FIRST FIELD OF A LDP MAY NOT CONTAIN A WILDCARD (X,T,Z) AND MORE THAN 6 DIGITS

Cause:

The first field of an LDP is the routing code of this LCR digit pattern.

Action:

It may therefore contain only digits 0-9 and *.

F06: THE LEADING DIGITS OF LDP ARE NOT DEFINED AS ROUTING CODE.

[FOR DPLN <DPLN1>[,<DPLN2>[...]]]

[WITH CPS <CPS1>[,<CPS2>[...]]].

Cause:

The first field of the current LCR digit pattern does not find a digit analysis result in the digit analysis tables administered by AMO WABE (in any DPLN and CPS values displayed).

Action:

Before an addition can be made to the LCR dialing plan, a digit analysis result relevant for LCR must be created for the routing code in the digit analysis tables, using AMO WABE.

F07: THE LEADING DIGITS OF LDP LEAD

TO NONE OF THE DIGIT ANALYSIS RESULTS RELEVANT FOR LCR

[FOR DPLN <DPLN1>[,<DPLN2>[...]]]

[WITH CPS <CPS1>[,<CPS2>[...]]].

(AMO-WABE, DAR)

Cause:

The first field of the current LCR digit pattern finds digit analysis results in the digit analysis tables, but they are not relevant for LCR.

Action:

If this routing number is to be assigned to LCR, the 'incorrect' digit analysis results must be changed into digit analysis results relevant for LCR, using AMO-DPLN (as specified in the error message).

F08: THE DIAL PATTERN LDP MAY NOT BE LONGER THAN 22 CHARACTERS

F09: THE LEADING DIGITS OF LDP ARE

ALREADY USED BY AMO RICHT AS ROUTING CODE

[FOR DPLN <DPLN1>[,<DPLN2>[...]]]

[WITH CPS <CPS1>[,<CPS2>[...]]].

Cause:

The first field of the current LCR digit pattern shows digit analysis results in the digit analysis tables, but they have already been used by AMO RICHT.

Action:

Specify another routing code or stop use by AMO RICHT.

F10: A CORRESPONDING VALUE FOR PARAMETER LAUTH MUST BE ENTERED BECAUSE THE LDP WAS RESTRICTED OR NOT YET EXISTING IN DPLN <DPLN>.

Cause:

The digit pattern LDPNO was restricted or does not yet exist for the specified DPLN. No LAUTH has therefore been assigned to the LROUTE. An LAUTH must be specified.

Action:

Specify the LAUTH assigned to the LROUTE.

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- F11: LDPNO <LDPNO> NOT YET EXISTING.
Cause:
The value of parameter LDPNO is outside the range created.
Action:
Give LDPNO the relevant value; it can be found with DISPLAY for the valid range or all LDPs.
- F12: LDP EXISTS ALREADY WITH LDPNO <LDPNO>.
Cause:
A same digit pattern has already been created with the LDPNO specified. Note: two digit patterns are the same if the shorter of the two has the same digit pattern as the longer over its entire length (e.g. 91-XX is the same as 91-XX-Z).
Action:
Correct LDP; there may be errors in the digit pattern design.
- F13: LDP CANNOT BE INSERTED - THERE IS NO FREE FICTIVE LINE.
- F14: LDP CANNOT BE ADDED - THERE IS NO FREE <PARAM>-MEMORY (AMO-DIMSU, PARAMETER <PARAM><PARAM>)
Occurs with: ADD, CHANGE
Cause:
There is no free FLEXAMA memory of the specified type <PARAM><PARAM>.
Action:
AMO DIMSU can be used to change the distribution of the FLEXAMA memory. Memory of the type specified in the error message must be made available.
- F15: LDP CANNOT BE ADDED/CHANGED - THERE IS NO MORE LDP-MEMORY (AMO-DIMSU, PARAMETER LDP)
- F16: THE LAST CHARACTER OF LDP MAY NOT BE W.
- F17: LROUTE <LROUTE> IS NOT DEFINED (AMO-RICHT).
Cause:
The LCR route specified in parameter LROUTE has not yet been created with AMO RICHT.
Action:
Correct parameter LROUTE or create with AMO RICHT before trying again.
- F18: LROUTE <LROUTE> IS NOT DEFINED FOR LCR.
Cause:
The route specified in parameter LROUTE has been created with AMO RICHT, but has not been defined for LCR.
Action:
Correct parameter LROUTE or change the route with AMO RICHT.
- F19: LROUTE <LROUTE> IS ILLEGAL: NO ROUTE ELEMENTS DEFINED (AMO LDAT)
Cause:
No route element has been defined with AMO LDAT for the LCR route specified in parameter LROUTE.
Action:
Correct parameter LROUTE or use LDAT to create route elements for the LCR route.
- F20: SPC < <SPC> ILLEGAL: LESS THAN LENGTH OF LDP
Cause:

An SPC value which is less than the length of the LDP was specified. The wildcards T and Z are not counted as being part of the length of a dial pattern.

Action:

Correct SPC value.

F21: ILLEGAL CHARACTER IN DIALING PATTERN LDP:

LDP MAY ONLY CONTAIN THE CHARACTERS 0 TO 9, A TO D, *, #
AND THE WILDCARDS X,T,Z.

Cause:

Illegal character in digit pattern.

Action:

Correct digit pattern.

F22: THERE IS NO LDP.

F23: CHANGE OF LAUTH IN DPLN <DPLN> NOT POSSIBLE, BECAUSE THE LDP IS RESTRICTED OR NOT YET EXISTING IN THIS DPLN.

Cause:

Only a LAUTH to which a valid LROUTE has been assigned can be changed.

Action:

Specify valid LROUTE.

F24: W MAY ONLY BE IN A FIELD ALONE.

F25: EITHER PARAMETER LDP OR PARAMETER LDPNO MAY BE ENTERED

F26: THE SPECIFIED DIALING PATTERN WAS NOT FOUND.

F27: THERE IS NO MORE LCR DIALPLAN CACHE MEMORY AVAILABLE.

PLEASE TRY TO INCREASE THIS MEMORY USING AMO DIMSU, PARAMETER LDPLNC@
OR TRY REORGANIZE THE CACHE BY MEANS OF DELETE AND REBUILD.

F28: Either LROUTE or PROFIDX or GWNO MAY BE ENTERED. BOTH TOGETHER ARE NOT ALLOWED.

F29: PROFIDX @@@@ IS NOT DEFINED (AMO-LPROF).

F30: THE PARAMETER PPPPPP HAS BEEN ASSIGNED TO THE ENTERED LDPNO/LDP.

Help: DISP-LDPLN:TYPE=LDP,DIPLNUM=@@@,{(max 1) LDPNO=, LDP=},PPPPPP=<value>;

F31: THE MARKER Y MAY NOT BE IN A FIELD ALONE.

F32: THE MARKER Y MUST BE THE FIRST CHARACTER IN A FIELD.

F33: THE MARKER Y CAN APPEAR ONLY ONCE IN AN LDP.

F34: THE DIPLNUM @@@@ DOES NOT EXIST.

F35: DIPLNUM @@@@ CAN NOT BE DELETED , BECAUSE IT IS STILL ASSIGNED TO AT LEAST ONE LCR DIAL PATTERN

F36: NO VALID DIALING PATTERN FOR DIPLNUM @@@@ AVAILABLE

F37: DIPLNUM @@@@ IS RESERVED FOR @@@ NUMBERING PLAN. NO LCR PATTERN MAY BE ADDED FOR DIPLNUM @@@@.

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- F38: DIPLNUM @@@@ IS RESERVED FOR @@@ NUMBERING PLAN. CONFIGURE IT WITH: ADD-LDPLN:LCRADM,@@@@,8,@@@@,'@@@ NUMBERING PLAN';
- F39: DIPLNUM @@@@ IS ALREADY ASSIGNED
- F40: ENTRY COULD NOT BE DELETED COMPLETELY SUCCESSFUL. IT MAY CAUSE INCONSISTANCY IN DATABASE.
- F41: The entered parameter @@@@@@@@@@ contains more values than allowed.

133.4.2 Advisories

- H01: THE LEADING DIGITS OF LDP ARE NOT DEFINED
[FOR DPLN <DPLN1>[,<DPLN2>[...]]]
[WITH CPS <CPS1>[,<CPS2>[...]]].
Cause:
The first field of the current LCR digit pattern does not find a digit analysis result in the digit analysis tables administered by AMO WABE (in any DPLN and CPS values displayed).
- H02: PARAMETER LAUTH IN DPLN <DPLN> WILL BE IGNORED BECAUSE THE LDP WILL BE RESTRICTED FOR THIS DPLN (LROUTE=0)
Cause:
An LROUTE is to be restricted. An LAUTH was assigned to this LROUTE, but will be ignored.
- H03: THE LEADING ROUTING DIGITS OF LDP LEAD
TO NONE OF THE DIGIT ANALYSIS RESULTS RELEVANT FOR LCR
[FOR DPLN <DPLN1>[,<DPLN2>[...]]]
[WITH CPS <CPS1>[,<CPS2>[...]]].
(AMO-WABE, DAR)
Cause:
The first field of the current digit pattern finds digit analysis results in the digit analysis tables, but they are not relevant for LCR.
- H04: NO MATCHING LCR DIALING PATTERN FOUND.
- H05: THE LEADING DIGITS OF LDP ARE ALREADY USED BY AMO RICHT AS ROUTING CODE FOR SERVICE=VOICE
[FOR DPLN <DPLN1>[,<DPLN2>[...]]]
[WITH CPS <CPS1>[,<CPS2>[...]]].
Cause:
The first field of the current digit pattern shows digit analysis results in the digit analysis tables, but they have already been used by AMO RICHT.
- H07: LDP HAS BEEN ADDED
[FOR DPLN <DPLN1>[,<DPLN2>[...]]]
[WITH CPS <CPS1>[,<CPS2>[...]]].
- H08: FOR CHANGE OF THE SPC THE PARAMETER DPLN IS NOT NECESSARY AND WILL BE IGNORED
Cause:
Parameters DPLN and SPC were specified. DPLN will be ignored because parameter SPC is independent of the digit analysis group number.
- H09: LDPNO <LDPNO> HAS BEEN CHANGED

```
[FOR DPLN <DPLN1>[,<DPLN2>[...]]]
[WITH CPS <CPS1>[,<CPS2>[...]]].
```

- H10: THERE IS NO LDP.
- H11: LDPNOS <LDPNOMIN>[THROUGH <LDPNOMAX>] DO NOT EXIST.
Cause:
The value of parameter LDPNO is outside the range created.
- H12: LDPNO <LDPNO> HAS BEEN DELETED.
- H13: THE ACTUAL MAXIMAL LINEAR SEARCH LENGTH IS <LEN>.
- H14: THE LCR DIALPLAN CACHE HAS BEEN DELETED.
- H15: DIPLNUM @@@@ IS ALREADY ASSIGNED.
- H16: DIALPLAN IS ALREADY USED
- H17: STARTING FROM LWMPOOL @ AND DIALPLAN @@@,NO EMPTY DIAL PLAN IS FOUND FOR
DIPLNUM @@@@.START SEARCHING FROM LWMPOOL 1 AND DIALPLAN 1.
- H18: DIPLNUM @@@@ IS NOT ASSIGNED
- H19: THE DIALING PLAN NUMBER @@@@ WAS ALLOCATED TO DIALING PLAN @@@
IN LCR-POOL @ .
- H20: DIPLNUM @@@@ IS ALLOCATED TO @@@ NUMBERING PLAN.

133.4.3 Use of the Output Messages for Each Action

ADD	: F01, F02, F04, F05, F06, F07, F09, F12, F13, F14, F16, F17, F18, F19, F20, F21, F29, F31, F32, F33, H01, H02, H03, H05, H07, H15, H16, H17, H19,
CHANGE	: F01, F02, F06, F07, F09, F14, F17, F18, F19, F20, F22, F23, F26, F28, F29, F30, F34, H01, H02, H03, H05, H06, H08, H09, H10, H11
DELETE	: F22, F26, H10, H11, H12 ,H18
OPTIMIZE	: F27, H13, H14
DISPLAY	: F22, F25, F26, H04, H10, H11
REGENERATE	: H10, H11

LDPLN - Administration of the LCR Dialing Plan

Error Messages and Advisories

134 LDSRT - Administration of LCR Digit String Restriction Tables

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

By means of AMO LDSRT it is possible to block calls to certain dial numbers. The LCR restriction tables are assigned to LCR route elements by the help of AMO LDAT. When an LDSR table is assigned to an LCR route element all dial numbers included in LDSR table are not allowed for that route element.

More than one LDSR tables can be assigned to one route element. There are 16 LDSR tables and up to 5120 dial numbers, which constitute from two parts, can be stored. The first part is called First Digit String (FDS) with 1-5 digits while the second part is called Second Digit String (SDS) with 1-8 digits. The limit of the amount of SDSs is administrated by AMO DIMSU.

All dial numbers with the FDS are combined to a dial number group and stored in a LDSRT. In one LDSRT it is possible to store 16 FDS groups. AMO LDSRT handles one FDS and 20 SDS input values at once. The SDS values will be split into packages of up to 20 if they are more than 20 for one FDS.

It is possible to enter SDS ranges in the user interface, however, SDS numbers will be stored in the database as single values. In order to decrease the memory requirements the ranges will be stored as compressed values. For example, the user has entered 089 for FDS and 6000&&7110 for SDS. The range of SDS will be compressed and the resulted numbers will be stored in the database as follows:

Split Values:	
FDS	SDS Sub Range/Single Value
089	6000-6999 => 6 7000-7099 => 70 7100-7109 => 710 7110 => 7110

134.1 Interrelationships

- AMO DIMSU: Administration of data layout.

The memory is allocated by means of this AMO. To increase memory enter

```
ADD-DIMSU:LCRDSR=<memory size>.
```

- AMO LDAT: Administration of LCR routes

LDSR tables are used by AMO LDAT to restrict dial numbers for routes.

134.2 Functions of the AMO

- [ADD-LDSRT](#) : Add FDS and SDS numbers to the tables.
- [DELETE-LDSRT](#) : Delete tables or table entries.
- [DISPLAY-LDSRT](#) : Display LDSR tables.
- [REGEN-LDSRT](#) : Regenerate ADD commands.

134.2.1 ADD-LDSRT

The following cases are valid:

1. Adding one FDS to one LDSRT.
Adding one FDS means that all dial numbers beginning with this FDS and ending with any possible SDS number are restricted. It is not possible to reduce this dial number area by adding an SDS number. If this is required, first the FDS must be deleted and then the SDS must be added.
2. Adding one or more SDSs to one FDS of one LDSRT.
Adding one or more SDS depends on whether the corresponding FDS exists or not. If it exists, the list of existing SDSs will be expanded by the new SDSs. If the FDS does not exist, the FDS will be created and the SDSs will be added. The SDSs are added in blocks of 20 elements.

Procedure Overview

Command Code	Parameter
ADD-LDSRT	LDSRT=<number>,FDS=<number>, [SDS=<number>];

Examples

At the beginning there is no memory allocated for the LDSRT.

Input:

```
ADD-LDSRT:LDSRT=1,FDS=089,SDS=6000&&7110;
```

Output:

```
ADD-LDSRT:LDSRT=1,FDS=089,SDS=6000&&7110;
H500: AMO LDSRT STARTED
F01: FDS AND/OR SDS NUMBERS COULD NOT BE ADDED BECAUSE THERE IS
NO ENOUGH MEMORY
      INCREASE MEMORY VIA ADD-DIMSU:LCRDSR=<?>;
AMO-LDSRT-26          LCR DIGIT STRING RESTRICTION TABLE
ADD NOT COMPLETED;>
```

We have to increment memory by means of AMO DIMSU:

Input:

```
ADD-DIMSU:LCRDSR=100;
```

Output:

```
ADD-DIMSU:LCRDSR=100;
H500: AMO DIMSU STARTED
H00: +-----+
      | LCRDSR.ACTUAL   : 100      |
      |               .PREVIOUS: 0      |
      +-----+
AMO-DIMSU-26          DIMENSIONING OF FEATURES, SWITCHING UNIT
ADD COMPLETED;
<
```

Now it is possible to add.

1. Case 1

```
ADD-LDSRT:2,18678;
```

Input:

```
DISPLAY-LDSRT:2;
```

Output:

```
+-----+
|
| LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 2
|
+-----+
| FDS | SDS |
+-----+
| 18678 | ALL |
+-----+
```

2. Case 2

Example 1

Input:

```
ADD-LDSRT:LDSRT=1,FDS=089,SDS=6000&&7110;
```

Input:

LDSRT - Administration of LCR Digit String Restriction Tables

Functions of the AMO

DISPLAY-LDSRT;

Output:

+-----+					
|	LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 1				
+-----+					
|	FDS	SDS			
+-----+					
|	089	6	70	710	7110
+-----+					

Example 2

Input:

ADD-LDSRT:1,200,6985&&7205;

Input:

DISP-LDSRT;

Output:

+-----+						
|	LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 1					
+-----+						
|	FDS	SDS				
+-----+						
|	089	6	70	710	7110	
+-----+						
|	200	6985	6986	6987	6988	6989
+-----+						
|		699	70	71	7200	7201
+-----+						
|		7202	7203	7204	7205	
+-----+						

134.2.2 DELETE-LDSRT

The following cases are valid:

1. Deleting all data. All LDSR tables will be cleared.
2. Deleting one or several LDSRTs. One or more LDSR tables can be cleared. That is, all FDS and SDS entered in specified LDSRT(s) will be deleted inclusively. If the LDSRT to be deleted is used by a route element, an advisory message (delete this table also from the route element) will be displayed.

3. Deleting one FDS and all corresponding SDSs of an LDSRT. The FDS entry and the corresponding SDSs will be deleted from the specified LDSRT. In order to delete the FDS, LDSRT must be entered before FDS.
4. Deleting one or more SDSs of an FDS of an LDSRT. The specified SDSs of FDS will be deleted from the LDSRT. If the last SDS of the FDS is deleted from the table, the FDS will also be deleted. To delete SDS numbers, LDSRT and FDS must be entered before SDS.

Procedure Overview

Command Code	Parameter
DELETE-LDSRT	[LDSRT=<number>], [FDS=<number>], [SDS=<number>];

Example

1. Case1

Input:

```
DELETE-LDSRT;
```

Output:

```
DELETE-LDSRT;
H500: AMO LDSRT STARTED
H01: LDSRT 1 WAS DELETED
H01: LDSRT 2 WAS DELETED
H05: NO ENTRY WAS FOUND IN LDSRT 3
H05: NO ENTRY WAS FOUND IN LDSRT 4
H05: NO ENTRY WAS FOUND IN LDSRT 5
H05: NO ENTRY WAS FOUND IN LDSRT 6
H05: NO ENTRY WAS FOUND IN LDSRT 7
H05: NO ENTRY WAS FOUND IN LDSRT 8
H05: NO ENTRY WAS FOUND IN LDSRT 9
H05: NO ENTRY WAS FOUND IN LDSRT 10
H05: NO ENTRY WAS FOUND IN LDSRT 11
H05: NO ENTRY WAS FOUND IN LDSRT 12
H05: NO ENTRY WAS FOUND IN LDSRT 13
H05: NO ENTRY WAS FOUND IN LDSRT 14
H05: NO ENTRY WAS FOUND IN LDSRT 15
H05: NO ENTRY WAS FOUND IN LDSRT 16
AMO-LDSRT-199          LCR DIGIT STRING RESTRICTION TABLE
DELETE COMPLETED;
>
```

2. Case 2

Input:

```
DEL-LDSRT:1&&2;
```

Output:

```
DEL-LDSRT:1&&2;
H500: AMO LDSRT STARTED
H01: LDSRT 1 WAS DELETED
H01: LDSRT 2 WAS DELETED
```

LDSRT - Administration of LCR Digit String Restriction Tables

Functions of the AMO

```
AMO-LDSRT-143      LCR DIGIT STRING RESTRICTION TABLE
DELETE COMPLETED;
<
```

3. Case 3

The content of LDSR Table 1 before Delete is executed:

Input:

```
DISPLAY-LDSRT:1;
```

Output:

+-----+-----+-----+		
|	LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 1	
+-----+-----+-----+		
|	FDS	SDS
+-----+-----+-----+		
|	068	32
+-----+-----+-----+		
|	312	4595690
+-----+-----+-----+		

Input:

```
DEL-LDSRT:1,068;
```

Output:

```
DEL-LDSRT:1,068;
H500:  AMO LDSRT STARTED
H04:  FDS 068 FROM LDSRT 1 WAS DELETED
AMO-LDSRT-143      LCR DIGIT STRING RESTRICTION TABLE
DELETE COMPLETED;
<
```

Control with DISPLAY:

Input:

```
DISP-LDSRT:1;
```

Output:

+-----+-----+-----+		
|	LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 1	
+-----+-----+-----+		
|	FDS	SDS
+-----+-----+-----+		
|	312	4595690
+-----+-----+-----+		

4. Case 4

The content of LDSR Table 6 before Delete is executed:

LDSRT - Administration of LCR Digit String Restriction Tables

Functions of the AMO

Input:

DISPLAY-LDSRT:6;

Output:

+-----+ | | LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 6 | +-----+						
| FDS |	| SDS					|
+-----+	+-----+					
| 300 |	21	22	23	24	25	|
+-----+	+-----+					
|	26	27	28	29	30	|
+-----+	+-----+					
|	31	32	33	34	35	|
+-----+	+-----+					
|	36	37	38	39	40	|
+-----+	+-----+					
| 300 |	41	42	43	44	45	|
+-----+	+-----+					
|	46	47	48	49		|
+-----+	+-----+					

Input:

DEL-LDSRT:6,300,31&&43;

Output:

DEL-LDSRT:6,300,31&&43;

H500: AMO LDSRT STARTED

AMO-LDSRT-143 LCR DIGIT STRING RESTRICTION TABLE

DELETE COMPLETED;<

Control with DISPLAY:

Input:

DISP-LDSRT:6;

Output:

+-----+ | | LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 6 | +-----+						
| FDS |	| SDS					|
+-----+	+-----+					
| 300 |	21	22	23	24	25	|
+-----+	+-----+					
|	26	27	28	29	30	|
+-----+	+-----+					
|	44	45	46	47	48	|
+-----+	+-----+					
|	49					|
+-----+	+-----+					

134.2.3 DISPLAY-LDSRT

The following cases are valid:

- 1. Displaying all data. All LDSR tables (1-16) are displayed.
- 2. Displaying all SDSs of all FDSs of one or more LDSRTs. A single value or a range for LDSRT is entered and these LDSRTs are displayed.
- 3. Displaying all SDSs of one or more FDSs of one LDSRT. An LDSRT and a single value or a range for FDS is entered and the SDSs of specified FDS and LDSRT are displayed. In order to display the FDS and associated SDSs, LDSRT must be entered before FDS.
- 4. Displaying one or more SDSs of one FDS of one LDSRT. An LDSRT, an FDS and a single value or range for SDS are entered. The specified SDSs are displayed for the FDS and LDSRT entered. To display SDS numbers, LDSRT and FDS must be entered before SDS.

If all SDSs are restricted for an FDS then ALL will appear instead of SDS values.

Procedure Overview

Command Code	Parameter
DISPLAY-LDAT	[LDSRT=<number>], [FDS=<number>], [SDS=<number>];

Examples:

- 1. Case 1

Input:

DISPLAY-LDSRT;

Output:

+-----+				
|	| LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 1			
+-----+				
|	FDS	SDS		
+-----+				
|	089	6	70	710
				7110
+-----+				
|	312	4595690		
+-----+				
+-----+				
+-----+				
|	| LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 2			
+-----+				
|	FDS	SDS		

LDSRT - Administration of LCR Digit String Restriction Tables

Functions of the AMO

+-----+-----+-----+-----+-----+-----+-----+								
|	18678	|	ALL	|	|	|		
+-----+-----+-----+-----+-----+-----+-----+								
+-----+-----+-----+-----+-----+-----+-----+								
|	LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 6					|		
+-----+-----+-----+-----+-----+-----+-----+								
|	FDS	|	SDS				|	
+-----+-----+-----+-----+-----+-----+-----+								
|	300	|	21	22	23	24	25	|
+-----+-----+-----+-----+-----+-----+-----+								
|		|	26	27	28	29	30	|
+-----+-----+-----+-----+-----+-----+-----+								
|		|	31	32	33	34	35	|
+-----+-----+-----+-----+-----+-----+-----+								
|		|	36	37	38	39	40	|
+-----+-----+-----+-----+-----+-----+-----+								
|	300	|	41	42	43	44	45	|
+-----+-----+-----+-----+-----+-----+-----+								
|		|	46	47	48	49		|
+-----+-----+-----+-----+-----+-----+-----+								

2. Case 2

Input:

DISPLAY-LDSRT:1&&7;

Output:

+-----+-----+-----+-----+-----+-----+-----+										
|	LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 1									|
+-----+-----+-----+-----+-----+-----+-----+										
|	FDS	|	SDS							|
+-----+-----+-----+-----+-----+-----+-----+										
|	089	|	6	70	710	7110				|
+-----+-----+-----+-----+-----+-----+-----+										
|	312	|	4595690							|
+-----+-----+-----+-----+-----+-----+-----+										

+-----+-----+-----+-----+-----+-----+-----+						
|	LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 2					|
+-----+-----+-----+-----+-----+-----+-----+						
|	FDS	|	SDS			|
+-----+-----+-----+-----+-----+-----+-----+						
|	18678	|	ALL			|
+-----+-----+-----+-----+-----+-----+-----+						

H05: NO ENTRY WAS FOUND IN LDSRT 3
H05: NO ENTRY WAS FOUND IN LDSRT 4
H05: NO ENTRY WAS FOUND IN LDSRT 5

+-----+-----+-----+-----+-----+-----+-----+						
|	LCR DIGIT STRING RESTRICTION TABLE (LDSRT) : 6					|

LDSRT - Administration of LCR Digit String Restriction Tables

Functions of the AMO

FDS	SDS					
300	21	22	23	24	25	
	26	27	28	29	30	
	31	32	33	34	35	
	36	37	38	39	40	
300	41	42	43	44	45	
	46	47	48	49		

H05: NO ENTRY WAS FOUND IN LDSRT 7

3. Case 3

Input:

DISPLAY-LDSRT:1,312;

Output:

FDS	SDS					
312	4595690					

4. Case 4

Input:

DISPLAY-LDSRT:6,2,23&&34;

Output:

FDS	SDS					
6	23	24	25	26	27	
	28	29	30	31	32	
	33	34				

134.2.4 REGEN-LDSRT

The following cases are valid:

1. Regenerating all data.ADD commands for all LDSR tables (1-16) are regenerated.
2. Regenerating all SDSs of all FDSs of one or more LDSRTs. A single value or a range for LDSRT is entered and add commands for these LDSRTs are regenerated.
3. Regenerating all SDSs of one or more FDSs of one LDSRT. An LDSRT and a single value or a range for FDS is entered and the add commands of specified FDS and LDSRT are regenerated. In order to regenerate the FDS and associated SDSs, LDSRT must be entered before FDS.
4. Regenerating one or more SDSs of one FDS of one LDSRT. An LDSRT, an FDS and a single value or range for SDS are entered. Add commands for the specified SDSs are regenerated. To regenerate SDS numbers, LDSRT and FDS must be entered before SDS.

Procedure Overview

Command Code	Parameter
REGENERATE-LDAT	[LDSRT=<number>], [FDS=<number>], [SDS=<number>];

Examples

1. Case 1

Input:

REGEN-LDSRT;

Output:

ADD-LDSRT:1,068,6&70&710&7110;

ADD-LDSRT:1,312,4595690;

ADD-LDSRT:2,18678,;

ADD-

LDSRT:6,300,21&22&23&24&25&26&27&28&29&30&31&32&33&34&35&36&37&38&39&40;

ADD-LDSRT:6,300,41&42&43&44&45&46&47&48&49;

2. Case 2

Input:

REGEN-LDSRT:1&4;

Output:

ADD-LDSRT:1,068,6&70&710&7110;

ADD-LDSRT:1,312,4595690;

ADD-LDSRT:2,18678,;

3. Case 3

LDSRT - Administration of LCR Digit String Restriction Tables

Parameter Description

Input:

REGEN-LDSRT:1,068&312;

Output:

ADD-LDSRT:1,068,6&70&710&7110;

ADD-LDSRT:1,312,4595690;

4. Case 4

Input:

REGEN-LDSRT:6,300,26&&39;

Output:

ADD-LDSRT:6,300,26&27&28&29&30&31&32&33&34&35&36&37&38&39;

134.3 Parameter Description

FDS	First Digit String number
Type of Input	: 1 to 16 single values, concatenated with & or &&, optional (DISPLAY / REGENERATE) single value, mandatory (ADD) single value, optional (DELETE)
Possible Values	: 0 - 9, up to 5 characters
LDSRT	Number of LCR Digit String Restriction Table
Type of Input	: 1 to 16 single values, concatenated with & or &&, optional (DELETE / DISPLAY / REGENERATE) single value, mandatory (ADD)
Possible Values	: numeric, 1-16
SDS	Sub Digit String number
Type of Input	: 1 to 20 single values, concatenated with & or &&, optional
Possible Values	: 0 - 9, up to 8 characters

134.4 Error Messages and Advisories

134.4.1 Error Messages

F01: FDS AND/OR SDS NUMBERS COULD NOT BE ADDED BECAUSE THERE IS NO ENOUGH MEMORY INCREASE MEMORY VIA ADD-DIMSU:LCRDSR=<?>;.

F02: THE FOLLOWING SDS NUMBERS FOR FDS ^fds^ WERE NOT ADDED TO LDSRT <XX> BECAUSE IT ALREADY EXISTS, OR AN SDS EXISTS THAT COVERS IT, OR AN SDS EXISTS WHICH IS PART OF IT.

F03: THE FDS <XXXXX> WAS NOT FOUND IN LDSRT <XX>

F04: THE FOLLOWING SDS NUMBERS FOR FDS <XXXXX> WERE NOT DELETED FROM LDSRT <XX> BECAUSE IT DOES NOT EXIST, OR AN SDS EXISTS THAT COVERS IT, OR AN SDS EXISTS WHICH IS PART OF IT.

F05: YOU HAVE NOT ENTERED A PROPER VALUE FOR FDS AND/OR SDS,OR THE VALUE RANGE WAS NOT GIVEN IN ASCENDING ORDER. FDS MUST BE IN RANGE [0,99999], MAXIMUM 5 DIGITS AND SDS MUST BE IN RANGE [0,99999999], MAXIMUM 8 DIGITS.

F06: YOU HAVE NOT ENTERED THE REQUIRED PARAMETERS. BEFORE ENTERING FDS IT IS NEEDED TO SPECIFY LDSRT. BEFORE ENTERING SDS IT IS NEEDED TO SPECIFY LDSRT AND FDS.

F07: THE FDS <XXXXX> WAS NOT ADDED SINCE IT ALREADY EXISTS IN LDSRT <XX>

F08: FDS CAN NOT BE ADDED SINCE LDSR TABLE @@ IS FULL (MAX. 16 FDS ENTRIES FOR ONE TABLE)

134.4.2 Advisories

H01: LDSRT <XX> WAS DELETED.

H02: LDSRT <XX> IS USED BY LRTGEL <XXXXX> OF LRTG <XXXX>. ALSO DELETE LDSRT NUMBER FROM LRTGEL BY USING AMO-LDAT.

H03: NO (SPECIFIED) SDS FOUND FOR FDS <XXXXX> IN LDSRT <XX>.

H04: FDS <XXXXX> FROM LDSRT <XX> WAS DELETED.

H05: NO ENTRY WAS FOUND IN LDSRT <XX>.

H06: NO SPECIFIED FDS WAS FOUND IN LDSRT <XX>

H07: NO ENTRY WAS FOUND IN ANY OF THE LDSR TABLES.

134.4.3 Messages per Action

ADD	F01, F02, F05, F07
DELETE	F03, F04, F05, F06
	H01, H02, H04, H05

LDSRT - Administration of LCR Digit String Restriction Tables
Error Messages and Advisories

DISPLAY	F05, F06
	H03, H05, H06, H07
REGENERATE	F05, F06

135 LEMAN - Change Station Attributes and DID-INDIAL Number

The description of this AMO is only available in html format!

136 LIN - Administrates Location Identification Number (LIN)

The description of this AMO is only available in html format!

137 LIST - List Files

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

Output of files, file portions, or even random disk areas to printer (PT-80).

Partially qualified file names may be specified.

137.1 Restrictions

This description is valid from SP300- E V3.0

137.2 Interrelationships

- AMO-complex FIDES : File and device service (see System AMO Section 'ISY startup system')

137.3 Functions of the AMO

- [START-LIST](#) : Output of Files

137.3.1 START-LIST

Procedure Overview

Command Code	Parameter
START-LIST	FILENAME=<string>, [ADR=<number>], [LEN=<number>] , FORMAT=<param>, [SEL=<param>], [ANS=<param>] , [DIALOG=<param>], [UNIT=<param>];

Example

The first 20 bytes of the code file from AMO file :PDS/APSN/S/DATE@ are to be output in hexadecimal format. Output text format.

Input:

LIST - List Files
Parameter Description

```
START-LIST:":PDS:APSN/S/DATE@/",",,20,H,Y;  
Output:  
  
LIST ?  
<:PDS:APSN/S/DATE@/C> ?  
ANS = y  
  
<:PDS:APSN/S/DATE@/D> ?  
ANS = n  
  
DEV NAME : PDS  
FILE NAME: :PDS:APSN/S/DATE@/C  
TYPE      : RMX  
ADDRESS   : H'00000000'  
  
0000 :6E 25 00 08 4E 44 41 54 40 43 30 03 0A 00 00  
0010 :00 00 00 00  
  
LIST TERMINATED  
STATUS  = H'0000
```

137.4 Parameter Description

ADR	Start address	
	Relative starting address of the data area to be output.	
	Type of Input	: Single value optional
	Possible Values	: Decimal starting address max. 9 digits
	Default Value	: File start
ANS	Answer	
	For each file, an enquiry is made as to whether or not the file is to be output	
	Type of Input	: Single value optional
	Possible Values	: Y = Output file N = Do not output file I = Terminate the action C = Output all other files
DIALOG	Dialog mode	
	Output text on terminal when FIDES function is called by programs.	
	Type of Input	: Single value optional

	Possible Values	: Y = yes	
	Default Value	: N	
FILENAME	Name of MML-CMD file (test file) Name of the file to be listed		
	Type of Input	: Single value mandatory	
	Possible Values	: Fully or partially qualified hard disk file name (max. 32 digits) cartridge file name (max. 17 digits)	
FORMAT	Desired output format		
	Type of Input	: Single value mandatory	
	Possible Values	: H = Hexadecimal output T = Text output B = Both output simultaneously S = Output in 80 characters/line, no header M = Output of a file already edited using MMI	
LEN	Length of dumps Length of the file area to the output.		
	Type of Input	: Single value optional	
	Possible Values	: Filetype = RMX / PHYSICAL : Number of bytes Filetype = SAM : Number of records max. 5 digits	
	Default Value	: To the end of the file	
SEL	User confirmation for output of partially qualified files		
	Type of Input	: Single value optional	
	Possible Values	: Y = yes, query with parameter ANS N = no query, all lists are to be output	
	Default Value	: Y	
UNIT	Functional system unit i.e. server code loaded.		
	Type of Input	: Single value optional	

LIST - List Files

Error Messages and Advisories

Possible Values	: A1	= Administration and Data Server (ADS)
Default Value	: A1	

137.5 Error Messages and Advisories

137.5.1 Error Messages

F01: DEVICE <&> CANNOT BE RESERVED AS IT IS ALREADY ACTIVATED
F02: ABORTED BY USER
F03: ERROR IN FIDES
F04: NO VOLUME IN DEVICE <devname>
F05: VOLUME IN DEVICE <devname> IS WRITE PROTECTED

137.5.2 Advisories

H01: <format1>
 <format2>
 :
 :
 <format3>
 <format4>
 :
 :
 <format5>
 <format6>

137.5.3 Output Formats

<format1>

LIST ?

<format2>

<filename>

<format3>

DEV NAME : <devnam>
FILE NAME: <filename>
TYPE : <physical/sam/rmx>
ADDRESS : H'<adr>'

```
<format4>  
<wanted file content>  
  
<format5>  
CONTINUE ?  
  
<format6>  
LIST FINISHED
```

LIST - List Files

Error Messages and Advisories

138 LODR - Administration of LCR Outdial Rules

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

LODR is used to create complete LCR outdial rules (ODR) consisting of several outdial rule commands. The commands are identified by a number allocated to each *ODR* and assigned to the LCR route elements with AMO *LDAT*.

Possible values of ODR:

- DTMF - Set output pulse mode to DTMF
- SENDCIC - Send Carrier Identification Code
- ECHO - Output pulse all the digits of a specified field

Using the LCR digit pattern detected as being associated (and defined with AMO LDPLN); The field number must be specified in parameter FIELD.

- ECHOALL - Output pulse all the digits of all remaining fields

Using the LCR digit pattern detected as being associated (and defined with AMO LDPLN).

- NPI - Network plan identifier

Subscribers willing to communicate located in different networks using different dialing plans need a conversion of their subscriber number to get in contact. It can not be expected that dialing plans can be exchanged during a connection via public or private networks.

To avoid network looping and to ensure proper routing within least cost routing the current 3 digit node number has to be enhanced by a Domain and Sub-domain number. A conversion of the PNP address to the international E.164 address is also necessary on interfaces from Hicom 300 networks to other networks.

Signalling from foreign networks also requires a subsequent conversion.

The outdial rule element NPI is always to be used in connection with the element TON. Both parameters are set together. An ODR with only TON or only NPI does not make sense. Notice that NPI and TON may be set in an ODR only one time.

The following NPI/TON combinations are allowed:

NPI = ISDN	NPI = PRIVATE	NPI = UNKNOWN NPI = LANDMOB NPI = DATA NPI = MARITMOB NPI = NATIONAL NPI = TELEX
• TON = INTERNATIONAL	• TON = LEVEL2 (regional)	• TON = UNKNOWN
• TON = NATIONAL	• TON = LEVEL1 (regional)	•
• TON = SUBSCR	• TON = LOCAL	•
• TON = UNKNOWN	• TON = UNKNOWN	•

Table 2

Table 1: ETSI: allowed NPI/TON - combinations

- OUTCODE - Outpulse the authorization code (AMO LAUTH)

Outpulse the authorization code for network access stored with AMO LAUTH;
the network operator's number must be specified in parameter INDEX.

OUTCODE is only available, if feature package 'LCR COMFORT' or 'NETWORKING COMFORT' is included.

- OUTCOEX - Outpulse the class of external

The class-of-external's number must be specified in parameter COEX.

- OUTCSN - Outpulse the call serial number

The network operator's number must be specified in parameter INDEX.

OUTCODE is only available, if feature package 'LCR COMFORT' or 'NETWORKING COMFORT' is included

- OUTPULSE - Outpulse specific digits

The digits must be specified in parameter DGTS.

- CPNLIN - order to send an up to a 22-digit CPN or LIN via DTMF tones on an analog E&M tie trunk. The digits must be specified in parameter DGTS.

- NWOP - The network operator command, when assigned to an outdial rule, requires further configuration of the parameter OPTYPE to indicate the type of operator to be requested. The following values may be assigned to this parameter:
 - PRINOP = request principal operator (e.g., when the user dials 0, 0+ or 01+)
 - ALTOP = request alternate operator (e.g., when the user dials 00 or 00+)

- PAUSE - Start a pause timer for a specified duration

The timer value must be specified in parameter TIME.

- SENDCOMP - Sending complete

Send info element sending complete

- SENDNOW - Send second digit block now

It interrupts the execution of an out dial rule: The Setup message to DIUS7 contains the digits of the current dialling plan which have been processed prior to the interruption. On reception of the Setup_Ack message from DIUS7 LCR checks if further out dial rule commands have to be processed. If so the out dial rule is continued and the remaining digits are sent to DIUS7 in an info message. The new command SENDNOW is allowed only once in an out dial rule, because an out dial rule can be continued on reception of a Setup_Ack only.

- TON - Type of number

(according to NPI - Network plan identifier, see Table 1) As a single value TON cannot be added into the ODR.

- WAITANS - Wait for dialing tone

The timer value must be specified in parameter TIME.

- END - The end of the ODR command sequence

138.1 Restrictions

This description is valid from HiPath 4000 V1.0.

138.2 Interrelationships

- AMO DIMSU : Defining the max. number of LCR outdial rules
(ADD-DIMSU:TYPE=CC,LODR=0..4096;)
 - AMO COSSU : Administration of class of externals for *COEX*
 - AMO CTIME : Definition of the LCR end-of-dial timer value
(ADD-CTIME:TYPE=CP,LCREOD=3..30 sec, default=10 sek)
 - AMO LDAT : Administration of LCR route elements
(ADD-LDAT:ODR=1..4096)
 - AMO LAUTH : Administration of the authorization code for privatenetworks
- GENERATION SEQUENCE : DIMSU --> COSSU --> CTIME --> LODR --> RICHT --> LDAT
--> LAUTH

138.3 Functions of the AMO

- [ADD-LODR](#) : Add the outdial rules with their associated outdial rule commands
- [DELETE-LODR](#) : Delete the outdial rules with their associated outdial rule commands
- [DISPLAY-LODR](#) : Display the outdial rules with their associated outdial rule commands
- [REGENERATE-LODR](#) : Regenerate the outdial rules with their associated outdial rule commands

138.3.1 ADD-LODR

Create outdial rule commands (CMD).

An outdial rule consists of several different outdial rule commands (e.g. Wait for Dialing Tone, Outpulse Specific Digits, etc.).

The ADD command is used to enter an outdial rule command in an outdial rule.

The new outdial rule command can

- be added to the outdial rule (without parameter *CMDPOS*, without parameter *REPLACE*)
- be inserted in the outdial rule (with parameter *CMDPOS*, without parameter *REPLACE*)
- replace an existing outdial rule command (with parameter *CMDPOS*, with parameter *REPLACE*)

Bild Bild Parameter *CMDPOS* may not be specified if the command is being appended. The AMO determines the current end of the outdial rule and appends the new CMD there.

The *CMDPOS* parameter, which must be specified when inserting and replacing, determines the position at which the new outdial rule command is to be inserted (parameter *REPLACE=NO*) or the old outdial rule command is to be replaced (parameter *REPLACE=YES*).

The AMO cannot add new outdial rule commands after an *END* command. If the outdial rule has an *END* command, new commands can only be inserted or existing commands overwritten.

If the outdial rule command to be inserted is an *END* command, all commands after its insertion point are automatically deleted.

When an already existing outdial rule command is to be modified, it must be overwritten in its entirety, i.e. it is not possible to correct only the parameter value (e.g. timer value, digit string) assigned to a command (e.g. Wait for Dialing Tone, Outpulse Specific Digits).

If the new outdial rule command is an *END* command, all commands after its insertion point are automatically deleted.

An outdial rule is completed with an

END command.

The AMO LDAT ensures that only outdial rules with *END* commands are assigned to an LCR route element.

For this reason, *END* commands may not be overwritten in outdial rules that have already been assigned.

With the parameter *INFO* you can add a max. 50 character long text string for service interests for each ODR. If the first character of the *INFO* string is ' ' (space) then the *INFO* string is deleted.

Procedure Overview

Command Code	Parameter
ADD-LODR	ODR=<number>, [CMDPOS=<number>], [REPLACE =<ident>], [INFO=<string>],

LODR - Administration of LCR Outdial Rules

Functions of the AMO

Command Code	Parameter
	|CMD=CPNLIN,DGTS=<string>;
	|CMD=DTMF;
	|CMD=ECHO, FIELD=<number>;
	|CMD=ECHOALL;
	|CMD=NPI,NPI=<ident>,TON=<ident>;
	|CMD=NWOP,OPTYPE=<ident>;
	|CMD=OUTCODE, INDEX=<number>;
	|CMD=OUTCOEX, COEX=<number>;
	|CMD=OUTCSN, INDEX=<number>;
	|CMD=OUTPULSE,DGTS=<string>;
	|CMD=PAUSE, TIME=<number>;
	|CMD=SENDCIC;
	|CMD=SENDCOMP;
	|CMD=SENDNOW;
	|CMD=WAITANS, TIME=<number>;
	|CMD=END;

Example

1. In a *PABX* , outdial rules 1 through 4 must be created as follows:

```
ADD-LODR:ODR=1,CMD=ECHOALL;
ADD-LODR:ODR=1,CMD=END;

ADD-LODR:ODR=2,CMD=ECHO, FIELD=1;
ADD-LODR:ODR=2,CMD=ECHO, FIELD=2;
ADD-LODR:ODR=2,CMD=END;

ADD-LODR:ODR=3,CMD=OUTPULSE,DGTS=131;
ADD-LODR:ODR=3,CMD=PAUSE, TIME=3;
ADD-LODR:ODR=3,CMD=TOGGLE;
ADD-LODR:ODR=3,CMD=OUTCODE, INDEX=1;
ADD-LODR:ODR=3,CMD=OUTCSN, INDEX=1;
ADD-LODR:ODR=3,CMD=OUTPULSE,DGTS=060212155;
```

```
ADD-LODR:ODR=3,CMD=ECHO,FIELD=2;
ADD-LODR:ODR=3,CMD=END;

ADD-LODR:ODR=4,CMD=OUTPUTSE,DGTS=060255;
ADD-LODR:ODR=4,CMD=ECHO,FIELD=2;
ADD-LODR:ODR=4,CMD=END;

ADD-LODR:ODR=5,INFO=TEST;
ADD-LODR:ODR=5,INFO= ;
```

138.3.2 DELETE-LODR

Delete outdial rules (ODR) or outdial rule commands (*CMD*).

One or more specified outdial rules can be deleted in their entirety (i.e. with all associated outdial rule commands) (TYPE=ODR and parameter ODR).

One or more specified outdial rule commands (e.g. Wait for Dialing Tone, Outputse Specific Digits, etc.) can be deleted from an outdial rule (TYPE=CMD and parameter ODR). The outdial rule command to be deleted is specified according to its position, which can be found with DISPLAY (parameter CMDPOS). It is to be considered, that if NPI (TON) is going to be deleted in the ODR, then TON (NPI) will be deleted as well.

An outdial rule may be completely deleted only if it is no longer assigned to an LCR route element (via AMO LDAT), so that consistency is retained with the AMO LDAT.

For the same reason, individual outdial rule commands may only be deleted from an outdial rule which has already been assigned providing the rule remains complete, i.e. an END command may not be deleted in this case.

Note:

To delete the INFO string of an ODR you should use the following command:

```
ADD-LODR:ODR=<x>,INFO=' ';
```

Procedure Overview

Command Code	Parameter
DELETE-LODR	TYPE=ODR, ODR=<range>; | TYPE=CMD, ODR=<number>, CMDPOS=<range>;

Examples

1. Deleting outdial rules 1 through 3 :

```
DELETE-LODR:TYPE=ODR,ODR=1&&3;
```

2. Deleting outdial rule 4, commands 2 through 5 :

```
DELETE-LODR:TYPE=CMD,ODR=4,CMDPOS=2&&5;
```

138.3.3 DISPLAY-LODR

Display the following outdial rule commands.

All created outdial rules can be displayed with their associated outdial rule commands (DISPLAY-LODR without parameters).

Specific outdial rules can be displayed with their associated outdial rule commands (parameter ODR).

The following outdial rule commands exist:

CPNLIN
DTMF
ECHO
ECHOALL
NPI
NWOP
OUTCODE
OUTCOEX
OUTCSN
OUTPULSE
PAUSE
SENDIC
SENDCOMP
SENDNOW
TON
WAITANS
END

The saved INFO strings can be displayed. Depending on the parameter FORMAT the INFO string can be displayed in long or short format. In short format only the ODR-number and the INFO string is output if available. It is possible to search for any text pattern using the parameter INFOPAT. In this case only those ODRs are displayed in appropriate output format which contain the given text pattern.

Note

Advance provision is made with '*' for every outdial rule which has not been assigned to a route element.

Procedure Overview

Command Code	Parameter
DISPLAY-LODR	[ODR=<range>], [INFOPAT=<string>], [FORMAT=<ident>];

Examples

Display outdial rules 1 through 3 with their outdial rule commands.

Input:

DISPLAY-LODR:ODR=1&&3;

Output:

ODR	CMDPOS	CMD	PARAMETER
1	1	WAITANS	5 SEC
	2	OUTPULSE	1234567890123456789012
	3	PAUSE	3 SEC
	4	OUTPULSE	131
	5	ECHO	2
	6	DTMF	
	7	END	
ODR	CMDPOS	CMD	PARAMETER
2 *	1	WAITANS	5 SEC
	2	OUTPULSE	131
	3	OUTCODE	INDEX 1
	4	OUTCSN	INDEX 1
	5	ECHOALL	
	6	END	
	* = READY FOR USE BY AMO LDAT		
ODR	CMDPOS	CMD	PARAMETER
3	1	WAITANS	5 SEC
	2	OUTPULSE	131

DISPLAY-LODR:5,,S;

ODR : INFO
5 :TEST

138.3.4 REGENERATE-LODR

Regenerate outdial rules

All existing outdial rules can be regenerated with their associated outdial rule commands (REGEN-LODR without parameters).

Specific outdial rules can be regenerated with their associated outdial rule commands (parameter ODR).

Procedure Overview

Command Code	Parameter
REGEN-LODR	[ODR=<range>];

EXAMPLE

Regenerate outdial rules 1 through 3 with their outdial rule commands.

Input:

REGEN-LODR:ODR=1&&3;

Output:

ADD-LODR:1,,,WAITANS,5;
ADD-LODR:1,,,OUTPULSE,1234567890123456789012;
ADD-LODR:1,,,PAUSE,3;
ADD-LODR:1,,,OUTPULSE,131;
ADD-LODR:1,,,ECHO,2;
ADD-LODR:1,,,DTMF;
ADD-LODR:1,,,END;
ADD-LODR:2,,,WAITANS,5;
ADD-LODR:2,,,OUTPULSE,131;
ADD-LODR:2,,,OUTCODE,1;
ADD-LODR:2,,,OUTCSN,1;
ADD-LODR:2,,,ECHOALL;
ADD-LODR:2,,,END;
ADD-LODR:3,,,WAITANS,5;
ADD-LODR:3,,,OUTPULSE,131;

138.4 Parameter Description

CMD	OUTDIAL RULE COMMAND
Type of Input	: single value, mandatory (ADD)
Possible Values	: DTMF Set outpulse mode to DTMF
	CPNLIN Send an up to 22 digit CPN or LIN
	ECHO Outpulse all the digits of a specified field
	ECHOALL Outpulse all the digits of all remaining fields

	END	The end of the ODR command sequence	
	NPI	Network plan identifier	
	NWOP	Network operator	
	OUTCODE	Outpulse the authorization code (AMO LAUTH)	
	OUTCOEX	Outpulse the class-of-external	
	OUTCSN	Outpulse the call serial number	
	OUTPULSE	Outpulse specific digits	
	PAUSE	Start a pause timer for a specified duration	
	SENDKEYP	Dialinformation will be sent as a keypadinformation element.	
	SENDCOMP	Sending complete	
	SENDNOW	Send second digit block now	
	WAITANS	Wait for dialing tone	
CMDPOS	POSITION OF THE COMMAND IN THE OUTDIAL RULE		
	When a CMD is added, overwritten or deleted, its exact position is determined (and can be displayed with DIS-LODR)		
	Type of Input	: single value, optional single value, &, &&, mandatory (up to 10 individual concatenations or 5 individual range inputs if TYPE=CMD)	(ADD) (DEL)
	Possible Values	: 1-100	
COEX	NUMBER OF THE CLASS OF EXTERNAL TO BE OUTPULSED (see AMO COSSU)		
	Type of Input	: single value, mandatory if CMD=OUTCOEX	(ADD)
	Possible Values	: 1-16	
DGTS	DIGIT STRING FOR OUTPULSE		
	Type of Input	: string (up to 22 digits), mandatory if CMD=OUTPULSE	(ADD)
	Possible Values	: 0-9, *,A-D	
FIELD	FIELD NUMBER TO BE OUTPULSED		
	Type of Input	: single value, optional mandatory if CMD=ECHO	(ADD)
	Possible Values	: 1-10	

LODR - Administration of LCR Outdial Rules

Parameter Description

	Note	: FIELD=1 usually corresponds to the routing code, which is not normally outpulsed		
FORMAT	Format of output			
	Type of Input	: single value,	optional	
	Possible Values	S :Short output format L : Long output format		
INDEX	INDEX (I.E. TO NETWORK OPERATOR'S NUMBER)			
	This parameter identifies a specific commercial communication network for which its operator has defined an authorization code for network access (see AMO LAUTH) and/or outpulsing of an automatically incremented control number for each network access (protection against misuse).			
	Type of Input	: single value,		(ADD)
		mandatory if CMD=OUTCODE		
		mandatory if CMD=OUTCSN		
	Possible Values	: 1-4		
INFO	Service information text			
	Type of Input	: single value,	optional	
	Possible Values	50 character long free text string		
INFOPAT	Service informations text pattern			
	Type of Input	: single value,	optional	
	Possible Values	50 character long free text string		
NPI	NETWORK PLAN IDENTIFIER			
	Type of Input	single value,	mandatory, conditional	(ADD)
	Possible Values	: DATA	Data numbering plan	
		ISDN	ISDN numbering plan	
		LANDMOB	Land mobile numbering plan	
		MARITMOB	Maritime mobile numbering plan	
		NATIONAL	National number	
		PRIVATE	Private numbering plan	
		TELEX	Telex numbering plan	
		UNKNOWN	Unknown	
	Default Value	: UNKNOWN		
ODR	OUTDIAL RULE NUMBER			
	Type of Input	: single value,	mandatory	(ADD)

		single value, &, mandatory && (up to 10 individual concatenations or 5 individual range inputs)	if TYPE=ODR (DEL)
		single value, mandatory if TYPE=CMD (DEL)	
		single value, &, &&, optional (up to 10 individual concatenations or 5 individual range inputs)	(DIS,R EGEN)
	Possible Values	: 1-4096 (AMO DIMSU, parameter ODR)	
OPTYPE	Operatator type		
	Type of Input	: single value, mandatory	
	Possible Values	: ALTOP Request alternate operator PRINOP Request principal operator	
	Default Value	: -	
REPLACE	REPLACE OR INSERT THE COMMAND		
	Type of Input	single value, optional	(ADD)
	Possible Values	: YES CMD is to be overwritten (CMDPOS mandatory) NO CMD is to be inserted (CMDPOS mandatory) or added (without CMDPOS)	
	Default Value	: NO	
TIME	TIMER VALUE IN SECONDS		
	Type of Input	: single value, mandatory if CMD=WAITANS mandatory if CMD=PAUSE	(ADD)
	Possible Values	: 1-255	
TON	TYPE OF NUMBER		
	Type of Input	single value, mandatory if CMD = NPI	(ADD)
	Possible Values	: LEVEL1 Area level 1 regional LEVEL2 Area level 2 regional INTERNAT International number LOCAL Local	

LODR - Administration of LCR Outdial Rules

Error Messages and Advisories

	NATIONAL	National number	
	SUBSCR	Local subscriber number	
	UNKNOWN	Unknown	
Default Value	: UNKNOWN		
TYPE	TYPE OF DELETE		
Type of Input	: single value,	mandatory	(DEL)
Possible Values	: ODR	Delete entire outdial rule (parameter ODR mandatory)	
	CMD	Delete individual outdial rule commands from an outdial rule (parameters ODR and CMDPOS mandatory)	

138.5 Error Messages and Advisories

138.5.1 Error Messages

F01: ODR NUMBERS LARGER THAN <@@@> (*lwrmax*) CANNOT BE PROCESSED
(*AMO DIMSU, PARAMETER ODR*)
--> *PROMPT ODR*

F02: ODR <@@@@> (*lwr*) ONLY HAS <@@@@@> (*maxstel*) COMMANDS
--> *PROMPT CMDPOS*

F03: THE PARAMETER CMDPOS MUST BE SPECIFIED WHEN REPLACE=YES
--> *PROMPT CMDPOS*

F04: ODR <@@@@> (*lwr*) CAN NOT BE CHANGED BECAUSE IT IS STILL
REFERENCED TO BY AT LEAST ONE LCR ROUTE ELEMENT
(*AMO LDAT*)
--> *NO PROMPT * END AMO*

F05: COEX <@@@@> (*coex*) DOES NOT YET EXIST (*AMO COSSU*)
--> *PROMPT COEX*

F06: ODR <@@@@> (*lwr*) CAN NOT BE EXTENDED.
REASON: THERE IS NO MORE FREE MEMORY (*AMO DIMSU*)
--> *NO PROMPT * END AMO*

F07: ODR <@@@@> (*lwr*) DOES NOT EXIST OR HAS NOT BEEN ADDED
--> *PROMPT ODR*

F08: ODR <@@@@> (*lwr*) CAN NOT BE DELETED BECAUSE IT IS STILL
REFERENCED TO BY AT LEAST ONE LCR ROUTE ELEMENT
(*AMO LDAT*)
--> *NO PROMPT * END AMO*

F09: IN ORDER THAT THE ODR <@@@@> (*lwr*) CAN BE TOTALLY DELETED,
THE PARAMETER CMDPOS MUST NOT BE INCLUDED
--> *NO PROMPT * END AMO*

F10: CMD=END CAN NOT BE DELETED IN ODR <@@@> (lwr) BECAUSE IT IS STILL REFERENCED TO BY AT LEAST ONE LCR ROUTE ELEMENT (AMO LDAT)
--> NO PROMPT * END AMO

F12: ODR <@@@> (lwr) HAS ALREADY BEEN ENDED WITH CMD=END AND CAN ONLY BE EXTENDED USING INSERT
--> NO PROMPT * END AMO

F13: THE COMMAND CMD=END CAN NOT BE INSERTED INTO AN OUTDIAL RULE
--> NO PROMPT * END AMO

F14: THE COMMAND CMD=SENDNOW MAY ONLY APPEAR ONCE IN AN ODR
--> NO PROMPT * END AMO

F15: THE COMMAND CMD=NPI CAN NOT BE INSERTED INTO AN OUTDIAL RULE
--> NO PROMPT * END AMO

F17: AN ODR MUST CONTAIN BOTH NPI AND TON BEFORE THE COMMAND CMD=END
--> NO PROMPT * END AMO

F18: THE COMMAND NPI CAN NOT BE CHANGED TO SOMETHING ELSE WHEN THE ODR IS COMPLETE (CMD=END AT END OF ODR)
--> NO PROMPT * END AMO

F19: THE COMMAND TON CAN NOT BE CHANGED TO SOMETHING ELSE WHEN THE ODR IS COMPLETE (CMD=END AT END OF ODR)
--> NO PROMPT * END AMO

F20: OUTCSN/OUTCODE CANNOT BE USED BECAUSE THE FEATURE PACKAGE 'TRUNK/NETWORKING COMFORT' WERE NOT CONTRACTED. PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES. PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO USE THIS FEATURE.

F21: not used

F22: not used

F23: THE COMMAND NPI CAN NOT OCCURE MORE THAN ONCE IN A ODR

F25: MAXIMUM NUMBER OF INFO FIELDS ARE USED, NUMBER HAS TO BE INCREASED BY MEANS OF ADD-DIMSU:INFO=<?>;

F26: NOT ENOUGH MEMORY FOR INFO FIELD IN DATAPOOL TO WRITE THE INFO. INCREASE BY MEANS OF ADD-DIMSU:DPINFO=<?>;

F27: INFO INDEX OUT OF RANGE

F28: THE SERVICE INFORMATION (PARAM INFO) HAS NOT BEEN ENTERED DUE TO LACK OF LWR:@@@@.

F29: The maximal amount of CMD's in an ODR is 100. For further modification set REPLACE to YES.

138.5.2 Advisories

H01: ODR <@@@@> (lwr1) <@@@@> (bis) <@@@@> (lwr2) NOT YET ADDED
--> NO PROMPT * END AMO

H02: THERE ARE NO OUTDIAL RULES CONFIGURED
--> NO PROMPT * END AMO

H03: THE NEXT FREE ODR IS <@@@@> (lwr)
--> NO PROMPT * END AMO

H04: ODR <@@@@> (lwr) HAS BEEN DELETED
--> NO PROMPT * END AMO

H05: AN ODR MUST CONTAIN BOTH NPI AND TON BEFORE THE COMMAND CMD=END
--> NO PROMPT * END AMO

H06: HODR ^lwrell^ IS BEING DELETED AS WELL

H07: NO MATCHING PATTERN FOUND IN INFO FIELDS

138.5.3 Use of the Output Messages for Each Action

ADD	: F01, F02, F03, F04, F05, F06, F11, F12, F13, F14, F15, F16,
F17,	
	F18, F19, F23, F24, F25, F26, F28
	: H03, H05
DELETE	: F02, F07, F08, F09, F10, F12, F21
	: H01, H04, H06
DISPLAY	: F07
	: H01, H02, H03, H07
REGENERATE	: H01

139 LOGBK - Logbook

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO LOGBK can be used to display logbook data and perform searches of same. To enable reconstruction of the administration operations in the system, each individual AMO usage is recorded in the logbook on the hard disk.

139.1 Interrelationships

None.

139.2 Functions of the AMO

- [DISPLAY-LOGBK](#) : Output logbook data (last entry first)
- [START-LOGBK](#) : Output logbook data (oldest entry first)

139.2.1 DISPLAY-LOGBK

The Display action displays the recorded logbook data.

Procedure Overview

Command Code	Parameters
DISPLAY-LOGBK	[STIME=<string>], [ETIME=<string>], [NOUN=<string>], [DEV=<param>] , [TSN=<number>] , [UID=<number>] , [TYPE=<param>] , [TEXT=<string>] , [ANS=<param>] ;

If no parameters are specified, the entire logbook is displayed. The AMO LOGBK can also be used to perform queries in which the logbook can be searched for specific criteria. The search criteria is defined by parameter entries.

Searching for a text string (parameter TEXT) must be limited by further parameters, otherwise the entire logbook must be searched which slows the operation.

During a search according to STIME and/or ETIME, only the data records whose time stamps lie between STIME and ETIME are displayed. Gaps may occur in the output, if data records have an invalid time stamp or if the system clock was reset.

The direction of output can also be controlled with the STIME and ETIME parameters. If ETIME is specified greater than STIME, the direction of output is forward (oldest entries first). If ETIME is specified smaller than STIME, the direction of output is backward (newest entries first).

AMO execution is halted at some locations and the user asked whether (s)he wants to continue the program. This dialog can be deactivated (either at the beginning or during operation) by entering the value C for the ANS parameter.

Example

Search logbook for AMO BUEND and display matches

Input:

```
DISPLAY-LOGBK:NOUN=BUEND,ANS=C;
```

Output:

```
P4714 DEV:CON1 TSN:1234 UID=1 NOUN:BUEND TYPE:END TIME:96-07-10 11:57:03
ADD PERFORMED;
```

```
P4713 DEV:CON1 TSN:1234 UID=1 NOUN:BUEND TYPE:CONTINUE TIME:96-07-10 11:56:59
ADD-BUEND:23,,30,;
```

```
P4712 DEV:CON1 TSN:1234 UID=1 NOUN:BUEND TYPE:OUTPUT TIME:96-07-10 11:56:44
F01: TGRP 22 ALREADY EXISTS
```

```
P4711 DEV:CON1 TSN:1234 UID=1 NOUN:BUEND TYPE:START TIME:96-07-10 11:56:43
ADD-BUEND:22,,30,;
```

4 MATCHES

Note

Each individual log unit is output with a preceding header line. Each header line contains information about each MML input and MML output. This includes the logging number (P-Number), the calling device, the session number, the user ID, the AMO noun, the MML type (START, CONTINUE, OUTPUT or END) and the time stamp.

139.2.2 START-LOGBK

Same as [DISPLAY-LOGBK](#) action, except forward search direction (oldest entry first).

139.3 Parameter Description

ANS	Answer to question CONTINUE (Y/N/C)
Type of Input	: Single value, optional
Possible Values	: Y = Continue
	N = Don't continue
	C = Continue without further questions
Default Value	: Y
Dialog mode can be deactivated from the very beginning by entering the value C for the ANS parameter.	
DEV	Administrative device
The output set is limited to data records of the given device.	
Type of Input	: Single value, optional
Possible Values	: CON1 = Console 1
	CON2 = Console 2
	CON3 = Console 3
	CON4 = Console 4
	CON5 = Console 5
	CON6 = Console 6
	FAS = Remote operation
	USER = Internal user
Default Value	: No limitation
ETIME	End time as "YY-MM-DD/hh:mm:ss"
The output set is limited to data records with time stamp not older than the given end time.	
Type of Input	: Single value, optional
Possible Values	: YY : Last 2 digits of year - 00 to 99
	MM : Month of year - 01 to 12
	DD : Day of month - 01 to 31
	hh : Hour - 00 to 23
	mm : Minute - 00 to 59

LOGBK - Logbook
Parameter Description

ss : Second - 00 to 59
Default Value : No limitation

Data with an invalid time stamp (there was no valid time set-up in the system) will only be given whenever parameter ETIME was not entered.

NOUN AMO noun
The output set is limited to data records of the given AMO.
Type of Input : Single value, optional
Possible Values : Any text string up to 5 chars.
Default Value : No limitation

STIME Start time as "YY-MM-DD/hh:mm:ss"
The output set is limited to data records with time stamp not younger as the given start time.
Type of Input : Single value, optional
Possible Values : YY : Last 2 digits of year - 00 to 99
MM : Month of year - 01 to 12
DD : Day of month - 01 to 31
hh : Hour - 00 to 23
mm : Minute - 00 to 59
ss : Second - 00 to 59
Default Value : No limitation

TEXT Text pattern
The output set is limited to data records which match the given text pattern.
Type of Input : Single value, optional
Possible Values : Any text string up to 20 chars.
Default Value : No limitation

The search takes a long time and therefore should be limited by further criteria to increase the speed of the operation.

TSN Task sequence number
The output set is limited to data records of the given session.
Type of Input : Single value, optional
Possible Values : 0 to 9999
Default Value : No limitation

TYPE Type of MML

The output set is limited to data records which match the given type of MML.

Type of Input	: Single value, optional
Possible Values	: START = MML input (AMO start commands)
	CONTINUE = MML input after AMO prompting
	OUTPUT = MML outputs
	END = MML end messages
Default Value	: No limitation

This query is recommended in combination with text-based searches.

UID	User ID
	The output set is limited to data records of the given user ID.
Type of Input	: single value, optional
Possible Values	: 1 to 40
Default Value	: No limitation

139.4 Error Messages and Advisories

139.4.1 Error Messages

F01: PARAMETER <par> MUST BE IN THE FORM: "YY-MM-DD/HH:MM:SS"
F02: ACCESS ERROR; DMS ERROR CODE :<xxxxxx>

139.4.2 Advisories

H10 H10: LOGBK STORAGE SPACE IS LIMITED.
FOR OLDER ENTRIES, PLEASE DOWNLOAD "LOGBOOK" FROM PORTAL LOGS

140 LPROF - Configuration of LCR Profiles

The description of this AMO is only available in html format!

141 LRNGZ - List of Central Speed Dialing Numbers

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The central speed dialing facility (SPDC) is used to simplify dialing. Long call numbers (destination numbers) - usually external numbers - can be transmitted by means of a speed dialing number.

The allocation of speed dialing numbers to destination numbers is stored in the central speed dialing lists.

Up to 16 of these lists (0 to 15) can be set up, each with a maximum of 1000 speed dialing numbers.

Each user can access up to 2 of these lists, which are allocated to him with parameters SPDC1 (List 1) and SPDC2 (LIST 2) of a subscriber AMO (e.g. AMO SCSU or SBCSU).

The AMO LRNGZ is used to set up the lists and to allocate speed dialing numbers to each of them. The allocation of destination numbers is carried out using AMO ZRNGZ.

The SPDC feature is accessed by dialing a code following the speed dialing number.

There are two versions of access.

- a) Access of both lists via only one dialing code (digit analysis result SPDC1 in AMO WABE).

In this case the speed dialing numbers of the lists, allocated to the user (parameter SPDC1 and SPDC2 of the subscriber AMO) must be different, since it is the speed dialing number which determines whether the 1st or 2nd list is dialed. The administrator of the switch has to take care of the so called „unambiguousness“ of the speed dialing number ranges. Because of the various combinations of speed dialing lists, allocated to the users (any two lists out of the available lists 0 to 15 can be allocated to any user), AMO LRNGZ is not able to check the unambiguousness.

In the case of 3 digit speed dialing numbers a user can access a maximum speed dialing number range of 000 to 999, divided over the two allocated lists. Therefore with this version of access a user has access to maximum 1000 speed dialing numbers.

LRNGZ - List of Central Speed Dialing Numbers

Restrictions

- b) Access of both lists via 2 dialing codes (digit analysis results SPDC1 and SPDC2 in AMO WABE). Via dialing code of digit analysis result SPDC1, the user has access to the 1st list, allocated to the user (parameter SPDC1 of the subscriber AMO) and via dialing code of SPDC2 to the 2nd list (parameter SPDC2 of the subscriber AMO)

In this case the speed dialing numbers of the lists, allocated to the user can be the same, i.e. the speed dialing number ranges can overlap, since the Lists are accessed via the dialing code (digit analysis results SPDC1 and SPDC2 in AMO WABE) and not via the speed dialing number.

In the case of 3 digit speed dialing numbers a user can access a maximum speed dialing number range range of 000 to 999 per list. Therefore with this version of access a user has access to maximum 2000 speed dialing numbers.

The AMO DIMSU is used to establish how many lists (parameter SPDCL) and destinations (parameter SPDCLD) can be set up in the system.

141.1 Restrictions

This description is valid from SP300-V3.4

141.2 Interrelationships

- AMO DIMSU : Define the number of lists and speed dialing numbers permitted
- AMO SCSU/SBCSU : Configure subscriber in the SWU
- AMO ZRNGZ : Central speed dialing destinations

141.3 Functions of the AMO

- [ADD-LRNGZ](#) : Create lists
- [CHANGE-LRNGZ](#) : Change the speed dialing number range and extend a list
- [DELETE-LRNGZ](#) : Cancel and reduce a list
- [DISPLAY-LRNGZ](#) : Interrogate the speed dialing numbers of a list
- [REGENERATE-LRNGZ](#) : Aligned output of the speed dialing number allocations

141.3.1 ADD-LRNGZ

The speed dialing numbers are allocated in ascending, consecutive order.

List lengths are determined by the lowest and the highest speed dialing number.

Procedure Overview

Command Code	Parameter
ADD-LRNGZ	LST=<number>, SPDMIN=<number>, SPDMAX=<number>;

141.3.2 CHANGE-LRNGZ

Change the range of speed dialing numbers in a list of central speed dialing numbers.

1. Change the range of speed dialing numbers in a list.
2. Change the number of speed dialing numbers in a list (extension)

Procedure Overview

Command Code	Parameter
CHANGE-LRNGZ	LST=<number>
	, TYPE=SPDNO, SPDNO=<number>; (1)
	|, TYPE=CNT, NO=<number>; (2)

141.3.3 DELETE-LRNGZ

Cancel a list of central speed dialing numbers or a range of central speed dialing numbers in a list.

1. Cancel a list.
2. Change the number of speed dialing numbers in a list (shortening)

Procedure Overview

Command Code	Parameter
DELETE-LRNGZ	TYPE=LST, LST=<number>, DEL=<param>; (1)
	| TYPE=SPDNO, LST=<number>, SPDNO=<number>; (2)

Examples

- 1. Cancel list 00. It is to be canceled only if no more station users in the system can access it.

Input:

```
DELETE-LRNGZ:TYPE=LST,LST=00,DEL=N;
```

Output:

```
F08: USERS CAN STILL ACCESS THE LIST.  
AMO-LRNGZ -...      SPEED CALL DIALING CENTRAL,LISTS  
DELETE NOT COMPLETED;
```

- 2. Cancel speed dialing numbers 170-199 in list 2.

Input:

```
DELETE-LRNGZ:TYPE=SPDNO,LST=2,SPDNO=170;
```

141.3.4 DISPLAY-LRNGZ

Interrogate the range of speed dialing numbers of one or of all lists of the central speed dialing register with output in list format.

- 1. All lists in the system.
- 2. A specific list.

Only the created lists are displayed, i.e. lists that are not created do not result in a negative output.

Procedure Overview

Command Code	Parameter
DISPLAY-LRNGZ	TYPE=SYS; (1)
	| TYPE=LST,LST=<number>; (2)

Example

Interrogating the speed dialing number ranges of all lists in the system.

Input:

```
DISPLAY-SPDC:TYPE=SYS;
```

Output:

```
LST : 00   SPDNO RANGE:  00 TO  99  
LST : 01   SPDNO RANGE:  00 TO  99  
LST : 02   SPDNO RANGE:  00 TO  99  
LST : 03   SPDNO RANGE:  00 TO  99  
LST : 04   SPDNO RANGE:  00 TO  99  
LST : 05   SPDNO RANGE:  00 TO  49
```

```
LST : 06   SPDNO RANGE: 00 TO 49
LST : 07   SPDNO RANGE: 00 TO 49
LST : 08   SPDNO RANGE: 00 TO 49
LST : 09   SPDNO RANGE: 00 TO 49
LST : 10   SPDNO RANGE: 00 TO 49
LST : 11   SPDNO RANGE: 00 TO 49
LST : 12   SPDNO RANGE: 00 TO 49
LST : 13   SPDNO RANGE: 00 TO 49
LST : 14   SPDNO RANGE: 00 TO 24
LST : 15   SPDNO RANGE: 00 TO 24
```

141.3.5 REGENERATE-LRNGZ

1. All lists in the system.
2. Only one specific list.

Procedure Overview

Command Code	Parameter
REGENERATE-LRNGZ	TYPE=SYS; (1)
	| TYPE=LST, LST=<number>; (2)

Example

Interrogating the speed dialing number ranges of all lists in the system for regeneration.

Input:

```
REGENERATE-LRNGZ:TYPE=SYS;
```

Output:

```
ADD-LRNGZ:00, 00, 99;
ADD-LRNGZ:02, 00, 45;
ADD-LRNGZ:03, 00, 99;
ADD-LRNGZ:05, 00, 24;
ADD-LRNGZ:06, 00, 99;
ADD-LRNGZ:15, 00, 99;
```

141.4 Parameter Description

DEL	Is the list to be canceled if it can still be used by subscribers?
Type of Input	: single value, optional
Possible Values	: N -> List should not be canceled Y -> List should be canceled

LRNGZ - List of Central Speed Dialing Numbers

Error Messages and Advisories

LST	Number from a list of the central speed dialer Type of Input : single value, required Possible Values : 0 to 15
NO	Number of speed dialing numbers by which the list is to be expanded Type of Input : single value, optional Possible Values : 0 to (1000 - list length)
SPDMAX	Last speed dialing number in the list Type of Input : single value, required Possible Values : 00 to 99; 000 to 999 whereby: SPDMAX >= KRMIN
SPDMIN	First speed dialing number in the list Type of Input : single value, required Possible Values : 00 to 99; 000 to 999
SPDNO	First speed dialing number to be canceled (DELETE) New first speed dialing number in the list (CHANGE) (subsequent speed dialing numbers listed in ascending, consecutive order to the end of the list) Possible Values : 00 to 99; 000 to 999 (DELETE) whereby: SPDMIN <= SPDNO <= SPDMAX (CHANGE) whereby: SPDNO <= (1000 - (list length + NO))
TYPE	Branch parameter Type of Input : single value, required Possible Values : SPDNO, CNT (CHANGE) SYS, LST(DISPLAY,REGEN) LST, SPDNO (DELETE)

141.5 Error Messages and Advisories

141.5.1 Error Messages

F03: THE NEW START ABBREVIATED NUMBER MUST HAVE 3 DIGITS, SINCE THE LIST CONTAINS MORE THAN 100 DESTINATIONS.

F04: EXPANSION FOR EXISTING NUMBERING SCHEME TOO LARGE. MAXIMUM EXPANSION = @@@.
F05: EXPANSION IS TOO LARGE.
ONLY xxx ABBREVIATED NUMBERS STILL FREE.
(DIS-DIMSU:USER; -> PARAMETER SPDCL)
F08: USERS CAN STILL ACCESS THE LIST.
F09: NO EXPANSION POSSIBLE.
ALL ABBREVIATED NUMBERS (@@@@) ORDERED HAVE BEEN ASSIGNED.
F11: NO NEW LIST POSSIBLE.
ALL LISTS ORDERED (xx) HAVE ALREADY BEEN SET UP.
(DIS-DIMSU:USER; -> PARAMETER SPDCL)
F12: NO NEW LIST POSSIBLE.
ALL ABBREVIATED NUMBERS ORDERED (xxxx) HAVE ALREADY BEEN ASSIGNED.
(DIS-DIMSU:USER; -> PARAMETER SPDCL)
F13: SPDMIN IS LARGER THAN SPDMAX.
F14: SPDMIN AND SPDMAX DO NOT HAVE THE SAME NUMBER OF DIGITS.
F15: ABBREVIATED NUMBER NOT FOUND.
LIST CONTAINS ABBREVIATED NOS. @@@ TO @@@.
F20: LIST HAS NOT BEEN SET UP.
F21: LIST HAS ALREADY BEEN SET UP.
F22: DELETION OF COMPLETE LIST ONLY POSSIBLE WITH TYPE=LST.
F23: NEW START ABBREVIATED NUMBER IS TOO LARGE.
LARGEST POSSIBLE START ABBREVIATED NUMBER = @@@.
F24: NEW LIST IS TOO LARGE.
ONLY @@@ ABBREVIATED NUMBERS STILL FREE.
F25: ADMISSIBLE LIST NUMBERS: 0 TO @@
F27: SYSTEM STORAGE SPACE USED UP. NO MEMORY AVAILABLE FOR NEW LIST.
F28: SYSTEM STORAGE SPACE USED UP.
NO MEMORY AVAILABLE FOR LIST EXPANSION.
F29: LST 0..9 CANNOT BE DELETED SINCE CSDTYPE IS SET TO 4DIG IN AMO-ZAND. CHECK BY
DISP-ZAND:TYP=ALLDATA2.

141.5.2 Advisories

H01: NO LISTS CREATED
H02: LIST HAS NOT BEEN CREATED
H03: LIST CAN STILL BE ACCESSED BY USERS

141.5.3 Use of the Output Messages for Each Action

ADD	: F11, F12, F13, F14, F21, F24, F25, F27
CHANGE	: F03, F04, F05, F09, F20, F23, F25, F28
DELETE	: F08, F15, F20, F22, F25, H03

LRNGZ - List of Central Speed Dialing Numbers

Error Messages and Advisories

DISPLAY	:	F25,	H01,	H02
REGENERATE	:	F25,	H01,	H02

142 LSCHD - LCR Schedules

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The Least Cost Routing feature has a set of Schedules that are used when configuring route elements with AMO LDAT. Using the AMO LSCHD up to 8 schedules, identified by the letters A to H, can be defined. These will typically cover the week in bands corresponding to call charging rates. When configuring an LCR route an entry may be made against each schedule to indicate whether or not the route maybe used during the times encompassed by that Schedule, and if so whether or not a special tone must be applied to indicate that the route is an expensive one. The following table shows an example configuration. There is an entry for each day / hour combination which shows the Schedule and the minute past the hour at which changeover to that Schedule will occur. Should the Schedule remain unchanged from the previous hour then no changeover will occur and the minute field will have no relevance.

HOURL	SUN	MON	TUE	WED	THU	FRI	SAT
• 00	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C
• 01	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C
• 02	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C
• 03	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C
• 04	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C
• 05	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C
• 06	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C
• 07	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C
• 08	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 09	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 10	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 11	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 12	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 13	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 14	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 15	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 16	• 00 C	• 00 A	• 00 A	• 00 A	• 00 A	• 00 A	• 00 C
• 17	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 C
• 18	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 C
• 19	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 C
• 20	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 C
• 21	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 C
• 22	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 B	• 00 C
• 23	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C	• 00 C

Each Internal Traffic Restriction group has its own LCR Schedule table.
The table is implemented as a static FIXAMA table.

142.1 Restrictions

This description is valid from SP300-V3.4

142.2 Interrelationships

- AMO LDAT : LCR Route Definitions
- GENERATION: : LAUTH --> LSCHD-->LODR-->LDAT-->LDPLN
SEQUENCE

142.3 Functions of the AMO

- [CHANGE-LSCHD](#) : Enables the existing configuration to be altered.
- [DISPLAY-LSCHD](#) : Display the current table configuration
- [REGENERATE-LSCHD](#) : Produce the series of CHANGE-LSCHD commands
necessary required to produce the current configuration.

142.3.1 CHANGE-LSCHD

Change Schedule.
Procedure Overview

Command Code	Parameter
CHANGE-LSCHD	ITR=<number>, DAY=<param>, HOUR=<number>, {SCHED=<letter>, MINUTE=<number>;

Examples

1. For ITR group 1, configure all of Saturday and Sunday as schedule C.

Input:

CHANGE-LSCHD: ITR=1, DAY=SAT&SUN, HOUR=0&&23, SCHED=C, MINUTE=0;

- For ITR groups 1 to 3, put the hours 7am until 4:59pm, Monday to Friday into schedule A.

Input:

```
CHANGE-
LSCHD: ITR=1&&3, DAY=MON&TUE&WED&THUR&FRI, HOUR=7&&16, SCHED=A
MINUTE=0;
```

- Change the above so that schedule A does not begin until 9:30.

Input:

```
CHANGE-LSCHD: ITR=1&&3, DAY=MON&TUE&WED&THUR&FRI, HOUR=9, MINUTE=30;
```

142.3.2 DISPLAY-LSCHD

Display the schedule table for one or more ITR groups.

Procedure Overview

Command Code	Parameter
DISPLAY-LSCHD	[ITR=<number>] ;

Example

Display the schedule table for ITR group 10.

Input:

```
DISPLAY-LSCHD: ITR=10;
```

Output:

LCR SCHEDULE FOR ITR GROUP 10								
HR	SUN	MON	TUE	WED	THU	FRI	SAT	
00	00 C	00 C	00 C	00 C	00 C	00 C	00 C	00 C
01	00 C	00 C	00 C	00 C	00 C	00 C	00 C	00 C
02	00 C	00 C	00 C	00 C	00 C	00 C	00 C	00 C
03	00 C	00 C	00 C	00 C	00 C	00 C	00 C	00 C
04	00 C	00 C	00 C	00 C	00 C	00 C	00 C	00 C
05	00 C	00 C	00 C	00 C	00 C	00 C	00 C	00 C
06	00 C	00 C	00 C	00 C	00 C	00 C	00 C	00 C
07	00 C	00 C	00 C	00 C	00 C	00 C	00 C	00 C
08	00 C	00 A	00 A	00 A	00 A	00 A	00 A	00 C
09	00 C	00 A	00 A	00 A	00 A	00 A	00 A	00 C
10	00 C	00 A	00 A	00 A	00 A	00 A	00 A	00 C
11	00 C	00 A	00 A	00 A	00 A	00 A	00 A	00 C
12	00 C	00 A	00 A	00 A	00 A	00 A	00 A	00 C
13	00 C	00 A	00 A	00 A	00 A	00 A	00 A	00 C
14	00 C	00 A	00 A	00 A	00 A	00 A	00 A	00 C

LSCHD - LCR Schedules

Functions of the AMO

15	00 C	00 A	00 A	00 A	00 A	00 A	00 C
16	00 C	00 A	00 A	00 A	00 A	00 A	00 C
17	00 B	00 B	00 B	00 B	00 B	00 B	00 C
18	00 B	00 B	00 B	00 B	00 B	00 B	00 C
19	00 B	00 B	00 B	00 B	00 B	00 B	00 C
20	00 B	00 B	00 B	00 B	00 B	00 B	00 C
21	00 B	00 B	00 B	00 B	00 B	00 B	00 C
22	00 B	00 B	00 B	00 B	00 B	00 B	00 C
23	00 C	00 C	00 C	00 C	00 C	00 C	00 C

142.3.3 REGENERATE-LSCHD

Generate the list of CHANGE commands required to configure the LCR Schedule table for one or more ITR groups. In order to reduce the output REGENERATE will produce commands using an hour range where possible. The actual number of lines output will depend upon the amount of variation in the table.

Procedure Overview

Command Code	Parameter
REGENERATE-LSCHD	[ITR=<number>] ;

Example

Regenerate LCR Schedules for ITR group 10.

Input:

```
REGENERATE-LSCHD: ITR=10;
```

Output:

```
CHANGE-LSCHD:10,SUN,0&&16,C,0;
CHANGE-LSCHD:10,SUN,17&&22,B,0;
CHANGE-LSCHD:10,SUN,23,C,0;
CHANGE-LSCHD:10,MON,0&&7,C,0;
CHANGE-LSCHD:10,MON,8&&16,A,0;
CHANGE-LSCHD:10,MON,17&&22,B,0;
CHANGE-LSCHD:10,MON,23,C,0;
CHANGE-LSCHD:10,TUE,0&&7,C,0;
CHANGE-LSCHD:10,TUE,8&&16,A,0;
CHANGE-LSCHD:10,TUE,17&&22,B,0;
CHANGE-LSCHD:10,TUE,23,C,0;
CHANGE-LSCHD:10,WED,0&&7,C,0;
CHANGE-LSCHD:10,WED,8&&16,A,0;
CHANGE-LSCHD:10,WED,17&&22,B,0;
CHANGE-LSCHD:10,WED,23,C,0;
CHANGE-LSCHD:10,THU,0&&7,C,0;
CHANGE-LSCHD:10,THU,8&&16,A,0;
CHANGE-LSCHD:10,THU,17&&22,B,0;
CHANGE-LSCHD:10,THU,23,C,0;
```

```
CHANGE-LSCHD:10,FRI,0&&7,C,0;
CHANGE-LSCHD:10,FRI,8&&16,A,0;
CHANGE-LSCHD:10,FRI,17&&22,B,0;
CHANGE-LSCHD:10,FRI,23,C,0;
CHANGE-LSCHD:10,SAT,0&&23,C,0;
```

142.4 Parameter Description

ITR	Internal Traffic Restriction group
Type of Input	: single value, chained single values, ranges optional (DISPLAY, REGENERATE)
Possible Values	: 0 - 15
DAY	Day(s) that change is to affect
Type of Input	: single value, chained single values
Possible Values	SUN, MON, TUE, WED, THU, FRI, SAT
HOURL	Hour(s) which change is to affect
Type of Input	: single value, range
Possible Values	: 00 - 23
SCHED	LCR Schedule
Type of Input	: single value, group parameter with MINUTE
Possible Values	: A, B, C, D, E, F, G, H
MINUTE	Minute at which schedule switchover is to occur
Type of Input	: single value, group parameter with SCHED
Possible Values	: 00 - 59

142.5 Error Messages and Advisories

142.5.1 Error Messages

none

142.5.2 Advisories

none

142.5.3 Use of the Output Messages for Each Action

CHANGE	: None
DISPLAY	: None
REGENERATE	: None

143 LSSM - Switch Circuit or Line in the Server

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO LSSM (Line Switch of Service Modules) is used to place into service or remove from service the specified line or specified channel of a line. This requires that the hardware already be allocated and that a channel already be created.

According to the module type the physical line termination units can be assigned as following:

LCU/LBU

The first 2 line-numbers (out of 8) are valid for the 2 line termination units.

PSIO

The PSIO will not be marketed any longer.

LCR/LCS0

The following shows the sequence of the physical lines on a modul:

1. Delta-channel

no valid channel

1. B-channel of the 1. Delta-channel

2. B-channel of the 1. Delta-channel

2. Delta-channel

no valid channel

1. B-channel of the 2. Delta-channel

2. B-channel of the 2. Delta-channel

LAN

TCP - Line 1 up to TCP - Line 6 can be switched.

Messages

The messages of dependability, which are the results of a test, are not output via AMO LSSM. These messages are displayed directly on the output device of dependability.

143.1 Restrictions

This description is valid from HiPath 4000 V2.0.

143.2 Interrelationships

- AMO UCSM : Configure server
- AMO BCSM : Configure slot for module in the server
- AMO LCSM : Configure circuit/line in the server

143.3 Functions of the AMO

- [ACTIVATE-LSSM](#) : Activate a line or channel either with or without a prior test
- [DEACTIVATE-LSSM](#) : Deactivate a line or channel either with o without prior blocking
- [TEST-LSSM](#) : Testing of lines or channels (these must already be deactivated)
- [DISPLAY-LSSM](#) : Displaying state of lines/channels

143.3.1 ACTIVATE-LSSM

Procedure Overview

Command Code	Parameter
ACTIVATE-LSSM	[UNIT=<param>], LN=<number>, [TYPE=<param>];

Examples

1. Activation of Line 9 Without Test.

Input:

```
ACTIVATE-LSSM:A1,9,ANT;
```

Remark: Line 8 - Line 63 (no TCP - Lines) only can be switched.

2. Activation of TCP-Line 5.

Input:

```
ACTIVATE-LSSM:A1,5,LAN;
```

Remark: In a cPCI - Shelf LAN lines only (TCP - Line 1 till TCP - Line6) can be switched.

143.3.2 DEACTIVATE-LSSM

Procedure Overview

Command Code	Parameter
DEACTIVATE-LSSM	[UNIT=<param>], LN=<number>, [TYPE=<param>];

Examples

1. Deactivation of Line 24.

Input:

```
DEACTIVATE-LSSM:A1,24;
```

Remark: Line 8 - Line 63 (no TCP - Lines) only can be switched.

2. Deactivation of TCP-Line 5.

Input:

```
ACTIVATE-LSSM:A1,5,LAN;
```

Remark: In a cPCI - Shelf LAN lines only (TCP - Line 1 till TCP - Line6) can be switched.

143.3.3 TEST-LSSM

Procedure Overview

Command Code	Parameter
TEST-LSSM	[UNIT=<param>], LN=<number>;

Example

Testing of line 10.

Input:

```
TEST-LSSM:A1,10;
```

Remark:

In a cPCI - Shelf LAN only (TCP - Line 1 till TCP - Line6) can be tested.
Otherwise only Line 8 - Line 63 (no TCP - Lines) can be tested.

143.3.4 DISPLAY-LSSM

Procedure Overview

Command Code	Parameter
DISPLAY-LSSM	[UNIT=<param>], [TYPE=<param>;

143.4 Parameter Description

LN	Physical line number
Type of Input	: Single value, required
Possible Values	: 1 - 6 TCP - Lines in a cPCI - Shelf 8 - 63 other kind of channels
TYPE	Spec. of the type of activation or deactivation job
Type of Input	: Single value, optional
Possible Values	: AT,ANT,LAN
	AT = Activation with test
	ANT = Activation without test
	LAN = Activation of a TCP-Line (LAN)
Default Value	: ANT (ACTIVATE)
UNIT	Processor name of the service module to be activated
Type of Input	: Single value, optional
Possible Values	: A1 = Adminis. & Data Server (ADS)

143.5 Error Messages and Advisories

143.5.1 Error Messages

F01: THE SPECIFIED LINE <@@> IS INVALID

F02: LINE <@@> WAS NOT CREATED

F03: THIS LOGICAL LINE OR LOGICAL DEVICE IS NOT ASSIGNED

F04: LINE <@@> WAS NOT ACTIVATED AS LBC IS BLOCKED

F05: LINE <@@> WAS NOT ACTIVATED AS THE MODULE IS BLOCKED

F06: LINE <@@> WAS NOT ACTIVATED AS THE MODULE IS CROSS-BLOCKED

F07: LINE <@@> WAS NOT ACTIVATED AS THE MODULE IS NOT MOUNTED
F08: LINE <@@> WAS ALREADY ACTIVATED
F09: THE TEST WAS TERMINATED WITH A NEGATIVE OUTCOME
F10: LSCR COULD NOT ACTIVATE LINE <@@>
F11: LINE <@@> WAS NOT DEACTIVATED, AS LBC IS BLOCKED
F12: LINE <@@> WAS NOT DEACTIVATED AS THE MODULE IS BLOCKED
F13: LINE <@@> WAS NOT DEACTIVATED AS THE MODULE IS CROSS-BLOCKED
F14: LINE <@@> WAS ALREADY DEACTIVATED
F15: LSCR COULD NOT DEACTIVATE LINE <@@>
F16: LINE <@@> WAS NOT TESTED AS LBC IS BLOCKED
F17: LINE <@@> WAS NOT TESTED AS THE MODULE IS BLOCKED
F18: LINE <@@> WAS NOT TESTED AS THE MODULE IS CROSS-BLOCKED
F19: LINE <@@> WAS NOT TESTED AS THE MODULE IS NOT MOUNTED
F20: LINE <@@> IS NOT DEACTIVATED
F21: LSCR COULD NOT TEST LINE <@@>
F22: SWU NOT AVAILABLE
F23: IN A CPCI SHELF ONLY LINE 1 - 6 CAN BE SWITCHED
F24: ONLY LINE 8 - LINE 63 CAN BE SWITCHED
F25: IN A CPCI SHELF ONLY LINE 1 - 6 CAN BE TESTED
F26: FOR LINES 8 TO 63 (LAN CHANNELS) THE PARAMETER LAN IS NOT ALLOWED
F27: IN A CPCI - SHELF FOR PARAMETER TYPE NEITHER AT NOR ANT IS NOT ALLOWED
F28: IN AN OLD SHELF FOR PARAMETER TYPE THE VALUE LAN IS NOT ALLOWED
F29: THE LAN LINE ASSIGNED TO THE DEVICE, ON WHICH THE AMO WAS CALLED, CANNOT BE SWITCHED OFF.

143.5.2 Advisories

H01: ACTIVATION OF LINE <@@> WAS TRIGGERED
H02: DEACTIVATION OF LINE <@@> WAS TRIGGERED
H03: TESTING OF LINE <@@> WAS TRIGGERED
H04: THERE EXIST ONLY LAN CONFIGURATIONS IN A CPCI SHELF

LSSM - Switch Circuit or Line in the Server

Error Messages and Advisories

144 LWCMD - Loadware Diagnosis Command

	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

For purpose of diagnosis AMO-LWCMD sends executable commands in ASCII format to the module which should be diagnosed. The AMO receives also ASCII formatted strings from the board and displays them on the User Terminal without further manipulation.

The commands which can be sent to the board are board specific.

The AMO-LWCMD should only be used by trained system technicians. Therefore the AMO is protected by the use of password class 3 (product specialist).

144.1 Interrelationships

Direct communications partner for the AMO is PP. PP exchanges the messages with the CDG loadware in both (send and receive) directions.

144.2 Functions of the AMO

- [EXEC-LWCMD](#) : Send Loadware command directly to the board.

144.2.1 EXEC-LWCMD

The action EXEC sends a command to a configured board, addressed by the right LTU-number, mounting SLOT of module and board TYPE. The AMO communicates with the board over PP which collects the dump data from the board and sends them back to the AMO.

The AMO displays the received ASCII formatted dump data (max. 192kbyte in 8kbyte segments) without manipulation, except the case, that no CR/LF information has been detected within 80 characters (one COMTES line). In this case the AMO continues the dump in a new line.

LWCMD - Loadware Diagnosis Command

Functions of the AMO

The input parameter TIMER can be chosen between 1..100sec. If PP does not answer within the defined time the AMO terminates with an error message. A timer default value is set to 20sec. While collecting data from the CDG V4.0 board PP has also got a timer running. There are different error messages implemented for each case of timeout.

Note

The loadware command for the CDG V4.0 board (see examples) can contain double-quote characters. The HICOM User Terminal interface does not allow special characters such as the double-quote in TEXTSTRING parameters. Therefore the user has to enter two single-quote characters instead. The AMO transforms the single-quotes back into a double-quote and sends the corrected command to the CDG V4.0 board (via PP).

Example:

- The double-quote is not allowed to be entered:
`EXEC-LWCMD:1,79,CDG,"execute 4 1 2 1 1 "PRA 1 test-link"`
- The user has to enter two single-quotes instead:
`EXEC-LWCMD:1,79,CDG,"execute 4 1 2 1 1 ''PRA 1 test-link''"`

Procedure Overview

Command Code	Parameter
EXEC-LWCMD	LTU=<param>, SLOT=<param>, | TYPE=<CDG>, CMD=<string>, [TIMER=<param>];

Examples

Here is an example of the format that would be sent to the board. (Further required commands would be supplied by development for specific cases).

The following example shows the dump of a board which is configured at LTU=2, SLOT=43. The board shall dump all verbs of commands which are available (command 'help'). The Usertimer shall be set to 30 seconds.

Input:

```
exec-lwcmd:2,43,cdg,"help",30;
```

Output:

RETURNED DATA FROM CDG LTU= 2 SLOT= 43

CDG Loadware Version: C43AAC
 CDG Eprom Version: V30113-D878-L1
 CDG Extender Version: EXBOOT_X140CDG5
 CDG DataBase: DB-File: CDG_1304.CDB, Version: 33.0

Free memory : 925988
 Function ID = 3 (Full Integration)
 Current date: 15/04/1999
 Current time: 17:44:47

Commands:

Backup_DB	Help
CallBackRequest	Id_Request
CallCounters [Reset]	Reload [Keep_DB]
Date [DD MM YYYY]	Restart [Discard_DB]
Execute Obj-id Meth-id [params]	Show [Obj-id]
Extended Id_Request	St(atus) [C(lear)]
Flog [C(lear)]	Time [HH MM SS]

3

144.3 Parameter Description

CMD	Board command	
	Type of Input	: single value : mandatory
	Possible Values	textstring max. 240 char.
LTU	Line Trunk Unit	
	Type of Input	: single value mandatory
	Possible Values	: 1..15 and 17..99
SLOT	Mounting slot of module	
	Type of Input	: single value mandatory
	Possible Values	: 1..121

A suitable module must be configured for the slot addressed by PEN (AMO BCSU).

The possible Slot values depend on the systems architecture and can be found in the BCSU AMO description.

		TIMER	Supervisor Timer to PP	
		Type of Input	:	single value optional
		Possible Values	:	1..100 in seconds
TYPE	Board type			
	Type of Input	single value mandatory		
	Possible Values	CDG	CDG V4.0 board	
		CMIV30	CMI V3.0	

144.4 Error Messages and Advisories

144.4.1 Error Messages

- F01: AMO HAS BEEN STARTED TWICE
AMO EXECUTABLE IF RUNNING TASK HAS PERFORMED
OR
AMO WAS ABORTED (USE ANOTHER SWU AMO TO ATTEMPT PROCESS RESET)
- F02: BOARD NOT ACESSIBLE
- F03: AT THIS SLOT THERE IS NO, A WRONG OR A NOT
EXECUTABLE MARKED MODULE
- F04: INVALID COMMAND FOR MODULE
- F05: MAXIMUM DISPLAYABLE DUMP DATA (192K) EXCEEDED
- F06: DISPLAY STOPPED BY USER BREAK
- F07: MODULE DOES NOT RESPOND WITHIN THE DEFINED TIME
- F08: DATATRANSFER STOPED AFTER DISPLAY OF <DUMPLEN> BYTE
- F09: AMO EXCEPTION ERROR: COULD NOT SEND MESSAGE TO PP
- F10: AMO EXCEPTION ERROR: ERROR WHILE RECEIVING PP MESSAGE
- F11: RECEIVED DATA FROM BOARD INVALID
- F12: PP-TIMER EXPIRED
- F13: TIMER IN PP EXPIRED
- F14: LTU <ltu> HAS NOT BEEN ASSIGNED
- F15: No SLC24 board assigned to slot <ltu>-<slot>

Error message F07 is also displayed if a timeout occures at PP while waiting for response to the initial message ('START' condition) to the board. The PP internal timer is in default settings half as big (10s) as the AMO-LWCMD message timer.

Error message F11 contains of three possible additional error reasons: Z1, Z2 and Z3. They shall give a deeper view of the reason why the AMO stops displaying the dump data if the reveived dump header is inconsistant for AMO-LWCMD to the system technician.

144.4.2 Advisories

none

LWCMD - Loadware Diagnosis Command

Error Messages and Advisories

145 LWPAR - Loadware Parameters for Networking Modules

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO LWPAR is used to parameterize the loadware for analog and digital networking (NW) circuits of the following modules:

Analog Circuits

- TMBS = Trunk Module Bothway Satellite = Satellite PABX traffic with loop signaling, bothway
- TMIPI = Trunk Module Inter PABX Incoming = Incoming inter-PABX traffic
- TMIPO = Trunk Module Inter PABX Outgoing = Outgoing inter-PABX traffic
- TMBCT = Trunk Module Bothway Alternating Current Tone Frequency = Satellite PABX traffic with AC voice frequency signaling system no. 1 (WTK1), bothway
- TMEM = Trunk Module E&M (ear & mouth) - signaling = Satellite PABX traffic with AC voice frequency signaling system no. 1 (WTK1) via E&M interface, bothway

The tables for the loadware parameters are part of the standard data base.

For the analog networking circuits, the blocks in question must be assigned the appropriate circuit type and, if required, adapted by the AMO LWPAR.

Assignment to circuit types is completely unrestricted.

A maximum of 80 different parameter blocks can be assigned. (0 - 79) Parameter blocks are assigned to the analog circuits with AMO TACSU, parameter LWPAR.

Digital Circuits

The branch TYPE=DIUS2 is valid for the following modules: DIUS2, DIUS7, SLMN and VCM.

The branch TYPE=CDG is valid for the module CDG.

The branch TYPE=TMD is valid for the module TMD (BOS or MOS mode).

The parameter blocks are assigned to the digital circuits (e.g. DIU-S2, CDG or TMD) with the AMO TDCSU, parameter LWPAR.

LWPAR - Loadware Parameters for Networking Modules

Restrictions

Circuits of the DIUC module

- DIUC = Digital Interface Unit Channel-associated signaling = the digital module for the PCM30 interface.

Parameter blocks are assigned to the DIUC circuits with AMO BCSU, parameter LWPAR1 and LWPAR2.

The parameter blocks are permanently assigned for digital circuits (0-25 for DIUS2, 0-49 for CDG, 200 blocks for TMD-MOS and 200 for TMD-BOS) and DIUC circuits (1-6), and for this reason the AMO LWPAR function ADD is not provided for the digital circuits and DIUC circuits. Any required alterations of the parameter blocks are carried out with the function CHANGE.

The AMO LWPAR must be called before the AMO TACSU or TDCSU. In order for parameterizing to take effect, the parameter blocks must be loaded to the respective module. This applies for both initial assignment of a parameter block and for subsequent alterations of parameters. Loading of the parameter blocks is carried out automatically at the time of initial startup of the circuit; for subsequent alterations it is carried out by deactivating and then reactivating the circuit involved using AMO DSSU. What circuits definitely have been changed will be told by advisory H04.

What circuits of the CDG board have been changed - if there is any - will be told by advisories H06 resp. H07.

Copying digital parameter blocks

There are predefined standard parameter blocks on the HD for digital circuits DIUS2, CDG and TMD which can be copied from HD to DB by the help of command COPY-LWPAR. The parameter SOURCE may be used to specify whether the parameter block is to be copied within the DB (from source to target position) or from the HD to DB. The target block (parameter BLNONEW) will be overwritten in the copy process without precaution.

Morover there are country specific combinations (called variants) of these standard parameter blocks on the HD which can be copied at once by using the command

"COPY-LWPAR:TYPE=DIUS2/CDGVAR, VARN0=x;"

145.1 Restrictions

This description is valid from HiPath 4000 V1.0.

145.2 Interrelationships

- AMO DSSU : Device switch of switching unit
- AMO TACSU : Configuration of analog trunk circuits in the SWU
- AMO TDCSU : Configuration of digital trunk circuits in the SWU
- AMO REFTA : Reference Clock Table
- AMO BCSU : Board Configuration in the SWU

145.3 Functions of the AMO

- [ADD-LWPAR](#) : Assign a parameter block for an analog circuit type
- [CHANGE-LWPAR](#) : Change the data of an assigned parameter block for a circuit type
- [DELETE-LWPAR](#) : Cancel the assignment of a parameter block for an analog circuit type and the standard data base of the block
- [DISPLAY-LWPAR](#) : Interrogate the contents of parameter blocks
- [COPY-LWPAR](#) : Copying parameter blocks
- [REGENERATE-LWPAR](#) : Regenerate parameter blocks

145.3.1 ADD-LWPAR

ADD the assignment of a parameter block to an analog circuit type and in some cases overwrite parameters, the standard settings of which do not match.

It is possible to define a maximal 50 character long help text called „service information“ for each parameter block (par. INFO). The service information can be deleted by typing a blank as first character of parameter INFO.

Procedure Overview

Command Code	Parameter
ADD-LWPAR	| TYPE=NWWTK, BLNO=<number> , [EDP=<number>], [CTYPE=<param>] , [DGTPRMSI=<key-num>], [DGTPRMS=<key-num>] , [DGTPRMST=<key-num>], [COS=<param>] , [SPDC1=<number>], [SPD1=<number>]

LWPAR - Loadware Parameters for Networking Modules

Functions of the AMO

Command Code

Parameter

```
, [SPD2=<number>], [SPD3=<number>]  
, [SPD4=<number>], [SPD5=<number>]  
, [SPD6=<number>], [COS1=<param>], [COS2=<param>]  
, [COS3=<param>], [COS4=<param>], [COS5=<param>]  
, [PUTM=<number>], [PATM=<number>]  
, [SPDCDSS=<param>], [DGTPR=<key-num>]  
, [DGTPRC=<key-num>], [DEV=<param>], [INFO=<string>;
```

145.3.2 CHANGE-LWPAR

CHANGE assigned parameter blocks.

If a parameter block assigned for a certain analog circuit type is to be changed to another analog circuit type, a DELETE and new ADD of the block is required.

The parameter blocks are permanently assigned for digital circuits (0-9 for DIUS2, 0-49 for CDG, 200 for TMD-BOS and 200 for TMD-BOS) and DIUC circuits (1-6), and for this reason the AMO LWPAR function ADD is not provided for the digital circuits and DIUC circuits. Any required alterations of the parameter blocks are carried out with the function CHANGE.

Note

For parameters for which linked single values can be entered, all values which can be entered must be specified, since values which are not specified are automatically set to default values when CHANGE is carried out.

After a CHANGE of the circuit parameters for a certain block, the circuits assigned to this block must be manually deactivated and then reactivated in order to load the altered block (AMO DSSU).

Mapping tables of the digital CDG parameter blocks

The input branch TYPE=CDG,CDGTYPE=MAPPING allows the specification of four mapping tables, one for each CDG parameter block. These mapping tables may be activated or deactivated by the help of argument LCOSMAP (value=Y,N) in branch TYPE=CDG,CDGTYPE=CONF.

- TBL=LCOSVRRG: Conversion of HICOM specific LCOS (LCR Class Of Service, *Voice*) to the RRG values (Route Restriction Group) specific for the Realitis DX system and vice versa. The table has 32 entries and is initialized as follows:

LCOS	RRG
1	0
2	1

LCOS	RRG
3	2
...	...
31	30
32	31

One can (simultaneously) change several entries describing the LCOS - RRG correspondence by concatenating (at most 8) values of the input in a single AMO command. Repetition of the LCOS input values is not allowed.

Uniqueness is required for RRG values in order to ensure a correct mapping function. However it is possible to add RRG values which have multiple occurrences in the table. In this case the user is noticed by the advisory message H19 and by displaying the table entries with multiple occurrences.

Before downloading the table any multiplicities of these values have to be eliminated.

- TBL=LCOSDRRG: Conversion of HICOM specific LCOSD (LCR Class Of Service, *Data*) to the RRG values (Route Restriction Group) specific for the Realitis DX system and vice versa. See previous paragraph for further details.
- TBL=TRGCBG: Conversion of HICOM specific TRG (Traffic Restriction Group) to the CBG values (Call Barring Group) specific for the Realitis DX system. The table has 16 entries and is initialized as follows:

TRG	CBG
0	0
1	1
2	2
...	...
14	14
15	15

One can (simultaneously) change several entries describing the TRG - RRG correspondence by concatenating (at most 8) values of the input in a single AMO command. Repetition of the TRG input values is not allowed.

Uniqueness is required for CBG values in order to ensure a correct mapping function. However it is possible to add CBG values which have multiple occurrences in the table. In this case the user is noticed by the advisory message H19 and by displaying the table entries with multiple occurrences.

Before downloading the table any multiplicities of these values have to be eliminated.

LWPAR - Loadware Parameters for Networking Modules

Functions of the AMO

- TBL=DXTGITR: Conversion of trunk groups specific for the Realitis DX system to the HICOM specific Internal Traffic Restriction (ITR) and vice versa. The table has 32 entries and is initialized as follows:

DXTGPOS	DXTG	ITR	Primary
0	255	0	
1	255	0	
2	255	0	
...	255	0	
30	255	0	
31	255	0	

To a given ITR one can assign several DXTG entries at once by concatenating several (at most 8) DXTGPOS - DXTG pairs in the input of a single AMO command. Uniqueness is required in the resulting DXTG fields.

One of the DXTG entries belonging to the same ITR should be marked as PRIMARY. This can be selected by explicitly specifying parameter PRIMDXTG in the AMO input. The default in its absence is the entry with the lowest DXTGPOS.

Either all or none of the parameters DXTGPOS, DXTG and ITR must be specified. If none of DXTGPOS, DXTG, ITR and PRIMDXTG is given the whole mapping table will be deleted, i.e. reset to its default initialization.

CDG Version 6:

The most parameters of CDG Version 6 are in branch TYPE=CONF2, and the timer AROB (TAROB) is stored in the TIMER branch. Depending on the value of parameter PROT either the value of parameter DASSOPN or the value of VMSYSTAD is stored in the CDG structure. The actions DISPLAY and REGENERATE show the actual parameter name and value of these fields from DB. If the value of PROT is DASS then parameter DASSOPN is displayed, if PROT is equal DPNSSN then VMSYSTAD is displayed.

Procedure Overview

Command Code	Parameter
CHANGE-LWPAR	TYPE=DIUS2,BLNO=<number> , {LNTYPE=<param>, VERSION=<param> , QUAL=<param>, MASTER=<param> , DCHAN1=<number>, DCHAN2=<number> , PATTERN=<hex>, QUAL1=<number> , QUAL2=<number>, SMD=<param> , PERMACT=<param>, FCBAB=<hex>

Command Code
Parameter

```
,CDG=<param>,FIXEDTEI=<number>
,CNTRNR=<number>,TEIVERIF=<param>
,CRC4REP=<param>,DEV=<param>,INFO=<string>;

|TYPE=DIUC,BLNO=<number>
,{LNTYPE=<param>,COPA=<param>
,QUAL=<param>,QUAL1=<number>,QUAL2=<number>
,SUPPTIM=<number>,STABTIM=<number>
,FCBAB=<hex>,MFCB=<hex>,COPTYPE=<param>
,DEV=<param>,INFO=<string>;

|TYPE=NWWTK,BLNO=<number>
,{EDP=<number>,CTYPE=<param>
,DGTPRMSI=<key-num>,DGTPRMS=<key-num>
,DGTPRMST=<key-num>,COS=<param>
,SPDC1=<number>,SPD1=<number>
,SPD2=<number>,SPD3=<number>
,SPD4=<number>,SPD5=<number>
,SPD6=<number>,COS1=<param>,COS2=<param>
,COS3=<param>,COS4=<param>,COS5=<param>
,PUTM=<number>,PATM=<number>
,SPDCDSS=<param>,DGTPR=<key-num>
,DGTPRC=<key-num>,DEV=<param>,INFO=<string>;

|TYPE=CDG,BLNO=<number>,
CDGTYPE=CONF,{(min 1) PATTERN=<number>
,PROT=<param>,BCHCONF=<number>
,EQVIRC=<number>,VCHCONF=<number>
,NSIMSGS=<number>,SADRTM=<param>
,MAXTMS=<number>,RESTLNK=<param>
,RESTALL=<param>,BCHNEG=<param>
,CRC4C=<param>,CRC4REP=<param>
,TEMPSIG=<param>,NSITR=<param>
,NSIOUT=<param>,CDGCF=<param>
,CONVBN=<param>,TIDOP=<param>
,C3CONF=<param>,CONACK=<param>
,LSCF=<param>,DEFID=<param>
,DASSOPN=<key-num>,DEV=<param>,
INFO=<string>,LCOSMAP=<param>,DEFPASSW=<number>;
CDGTYPE=CONF2,{(min 1) ATCPN=<number>,ICPN=<number>,
APCPN=<number>,DASSCPN=<number>,AROB=<param>,
SCCONF=<param>,VMSYSTAD=<number>;
CDGTYPE=TIMER,{(min 1) TBID=<number>
```

LWPAR - Loadware Parameters for Networking Modules

Functions of the AMO

Command Code	Parameter
	<pre>,TROPTBR=<number>,TROPTNR=<number> ,TDPNSSC=<number>,TWEOS=<number> ,TSABMR=<number>,T301=<number> ,T302=<number>,T303=<number> ,T304=<number>,T305=<number> ,T308=<number>,T309=<number> ,T310=<number>,T313=<number> ,T314=<number>,T316=<number> ,T322=<number>,TAMOST=<number> ,TIPL=<number>,IPLDS=<param> ,TAROB=<number>,RES3=<number> ,RES4=<number>,RES5=<number>; CDGTYPE=MAPPING, |TBL=LCOSVRRG,[LCOS=<number>],[RRG=<number>]; |TBL=LCOSDRRG,[LCOS=<number>],[RRG=<number>]; |TBL=TRGCBG,[TRG=<number>],[CBG=<number>]; |TBL=DXTGITR,[DXTGPOS=<number>],[DXTG=<number>], |ITR=<number>],[PRIMDXTG=<number>]; |TYPE=TMD, |TMDTYPE=TMDMOS,BLNO=<number>{(min 1) OPMODE=<param>, CABLETYP=<number>,OESDISTH=<number>,OESREQTH=<number>, SESDISTH=<number>,SESREQTH=<number>,ACKTIM=<number>, DLVTIM=<number>,OCTMAX=<number>,RETMAX=<number>, WINDOW=<number>,CRIDC=<number>,NSFIV=<number>, NSFTSC=<number>,TTSC=<number>; |TMDTYPE=TMDBOS,BLNO=<number>{(min 1) OPMODE=<param>, CABLETYP=<number>,OESDISTH=<number>,OESREQTH=<number>, SESDISTH=<number>,SESREQTH=<number>;</pre>

Example

See function DISPLAY in [Section 145.3.4, "DISPLAY-LWPAR"](#).

145.3.3 DELETE-LWPAR

DELETE the assignment of a parameter block to a certain analog circuit type and initialize the block. DELETE is not necessary for the parameter blocks of digital modules.

Note

Before deleting a parameter block, the assignments for the circuits assigned for this block must be deleted or changed to a different block (use the AMO TACSU or TDCSU, parameter LWPAR).

The service information can be deleted by typing a blank as first character of parameter INFO

ADD-LWPAR:TYPE=<LWPAR-TYPE>,BLNO=<x>,INFO=' '; in case of analog blocks

CHANGE-LWPAR:TYPE=<LWPAR-TYPE>,BLNO=<x>,INFO=' '; in case of digital blocks

The deletion of a CDG or a TMD block results in resetting the block parameters to their default value.
The mapping tables of the CDG blocks can be deleted one by one using the function CHANGE.

Procedure Overview

Command Code	Parameter
DELETE-LWPAR	TYPE=ANALOG,BLNO=<number>;
	| TYPE=CDG,BLNO=<number>;
	| TYPE=TMD,
	| TMDTYPE=TMDMOS,BLNO=<number>;
	| TMDTYPE=TMDBOS,BLNO=<number>;

145.3.4 DISPLAY-LWPAR

Display the contents of the parameter blocks for digital circuits (e.g. DIUS2, CDG or TMD) and for analog NW circuits.

Procedure Overview

Command Code	Parameter
DISPLAY-LWPAR	[INFOPAT=<string>],[FORMAT=<param>],[DEV=<param>],
	| [TYPE=DIUS2],[BLNO=<number>],[SOURCE=<param>;
	| [TYP=DIUC],[BLNO=<number>;
	| [TYPE=NWWTK],[BLNO=<number>;
	| [TYPE=CDG],[BLNO=<number>],[LWPARREF=<param>],
	| [SOURCE=<param>;
	| [TYPE=TMD],
	| TMDTYPE=TMDMOS,[BLNO=<number>;
	| TMDTYPE=TMDBOS,[BLNO=<number>;

LWPAR - Loadware Parameters for Networking Modules

Functions of the AMO

Command Code

Parameter

```
| [TYPE=DIUS2VAR], [VARNO=<number>];  
  
| [TYPE=CDGVAR], [VARNO=<number>];
```

Note

The saved INFO strings (service information) can be displayed. Depending on the parameter FORMAT the INFO string can be displayed in long or short format. In short format only the block number and the INFO string is output if available. It is possible to search for any text pattern using the parameter INFOPAT. In this case only those blocks are displayed in appropriate output format which contain the given text pattern.

For selecting one or more parameter blocks one has the parameters INFOPAT, DEV, TYPE and BLNO. The selection criteria may be combined, thus only parameter blocks satisfying all specified conditions will be displayed.

In case of parameter blocks of type DIUS2 and CDG the set of search conditions can be complemented by the parameter SOURCE (search on HD or in DB).

Important: while searching for parameter blocks on the HD only the selection parameter DEV is taken into consideration.

The structure of the TMD block doesn't contain the fields for DEVICE and INFO. If between the search criterias one of them is present, the AMO sends the message H21, and these values are ignored.

The **mapping tables** of the CDG parameter blocks are displayed only if at least one table entry deviates from the default setting.

- In the tables LCOSVRRG, LCOSDRRG und TRGCBG all entries are marked with "<" which have multiple occurancies.
Attention: before downloading these tables any multiplicities in the tables have to be eliminated.
- In the table DXTGITR the so called PRIMARY entries are marked with a "*".

Example

1. Add a new CDG parameter block with BLNO=15.

Input:

```
CHANGE-LWPAR:TYPE=CDG,BLNO=15,CDGTYPE=CONF,INFO=TEST BLNO 15  
CDG;
```

Output:

```
DISPL-LWPAR:TYPE=CDG,BLNO=15;
```

LWPAR - Loadware Parameters for Networking Modules

Functions of the AMO

```

+-----+
| LOADWARE PARAMETERS   CIRCUIT TYPE: CDG      SOURCE:DB    BLOCK: 15 |
+-----+

| [R]UNWD   = DPACN      [R]PATTERN = 213          |
| [C]BCHNEG = Y          [C]CRC4C   = N            [C]CRC4REP = N      |
| [C]TEMPSIG= Y          [C]NSITR   = Y            [C]NSIOUT  = Y      |
| [C]CDGCF   = Y          [C]CONVBN  = N            [C]TIDOP   = Y      |
| [C]C3CONF  = Y          [C]CONACK  = Y            [B]LSCF    = N      |
| [C]NSIMSGS= 150        [C]SADRTM  = NSAP          [C]MAXTMS  = 500    |
| [C]RESTLNK= Y          [C]RESTALL = Y              |
| [C]AROB    = N          [C]SCCONF  = N            [C]ATCPN   = 12     |
| [C]ICPN    = 11         [C]APCPN   = 14           [C]DASSCPN  = 13     |
| [C]T301    = 180 SEC    [C]T302    = 10 SEC      [C]T303    = 4 SEC   |
| [C]T304    = 15 SEC    [C]T305    = 30 SEC      [C]T308    = 4 SEC   |
| [C]T309    = 90 SEC    [C]T310    = 10 SEC      [C]T313    = 4 SEC   |
| [C]T314    = 4 SEC     [C]T316    = 120 SEC     [C]T322    = 4 SEC   |
| [C]TBID    = 5 SEC     [C]TDPNSSC = 500 MSEC    [C]TROPTBR = 10 SEC |
| [C]TWEOS   = 60 SEC    [C]TAMOST   = 60          [C]TROPTNR = 30 SEC |
| [C]DEFID   = B010      [C]TSABMR   = 200 MSEC   [C]TAROB   = 10 SEC |
| [R]PROT    = DPNSSN [C]VMSYSTAD = 0              |
| [R]BCHKONF = 16&&30                                         |
| [R]EQVIRC  = 1&&30                                         |
| [R]VCHCONF = 16&&30                                         |
|
|                      RES3 = 0      RES4 = 0      RES5 = 0      |
| DEV  = INDEP          TIPL = 10              IPLDS = A        |
| LCOMAP(Y=ENABLED,N=DISABLED) = N          DEFPASSW = 9999    |
| INFO =                                                         |
+-----+

| DEFC: CIRCUIT SPECIFIC DATA WITHOUT BOARD LEVEL SWITCHING   |
|      (CIRCUIT LEVEL SWITCHING BY AMO-DSSU NEVERTHELESS REQUIRED) |
| DEFR: CIRCUIT SPECIFIC DATA WITH BOARD LEVEL SWITCHING       |
|      (PLUS CIRCUIT LEVEL SWITCHING BY AMO-DSSU REQUIRED)        |
| DEFB: BOARD SPECIFIC DATA                                     |
|      (BOARD LEVEL SWITCHING REQUIRED)                           |
+-----+

<

```

2. Display block 15 in short format.

LWPAR - Loadware Parameters for Networking Modules

Functions of the AMO

Input:

```
DISP-LWPAR:TYPE=CDG,BLNO=15,FORMAT=S;
```

Output:

```
+-----+
| BLNO  CIRC.TYPE          INFO          SOURCE: DB          |
+-----+-----+-----+-----+
|  15   | CDG              | TEST BLNO 15 CDG          |
+-----+-----+-----+-----+
```

<

3. Adding mapping tables in block 15, circuit type CDG

Input:

```
CHANGE-LWPAR:CDG,15,MAPPING,LCOSVRRG,1&2&3&4,51&51&53&54;
CHANGE-LWPAR:CDG,15,MAPPING,TRGCBG,1&2&3&4,22&22&23&24;
CHANGE-LWPAR:CDG,15,MAPPING,DXTGITR,1&2&3&4,21&22&23&24,1,21;
DISP-LWPAR:TYPE=CDG,BLNO=15;
```

Output:

```
+-----+
| LOADWARE PARAMETERS  CIRCUIT TYPE: CDG    SOURCE:DB    BLOCK: 15 |
+-----+-----+-----+-----+
| [R]UNWD   = DPACN    [R]PATTERN = 213          |
| [C]BCHNEG = Y        [C]CRC4C   = N            [C]CRC4REP = N    |
| [C]TEMPSIG= Y        [C]NSITR   = Y            [C]NSIOUT  = Y    |
| [C]CDGCF  = Y        [C]CONVBN  = N            [C]TIDOP   = Y    |
| [C]C3CONF = Y        [C]CONACK  = Y            [B]LSCF    = N    |
| [C]NSIMSGS= 150      [C]SADRTM  = NSAP          [C]MAXTMS  = 500  |
| [C]RESTLNK= Y        [C]RESTALL = Y            |
| [C]AROB   = N        [C]SCCONF  = N            [C]ATCPN   = 12   |
| [C]ICPN   = 11       [C]APCPN   = 14          [C]DASSCPN  = 13   |
| [C]T301   = 180 SEC  [C]T302   = 10 SEC      [C]T303   = 4 SEC  |
| [C]T304   = 15 SEC  [C]T305   = 30 SEC      [C]T308   = 4 SEC  |
| [C]T309   = 90 SEC  [C]T310   = 10 SEC      [C]T313   = 4 SEC  |
| [C]T314   = 4 SEC   [C]T316   = 120 SEC     [C]T322   = 4 SEC  |
| [C]TBID   = 5 SEC   [C]TDPNSSC = 500 MSEC   [C]TROPTBR = 10 SEC |
| [C]TWEOS  = 60 SEC  [C]TAMOST  = 60          [C]TROPTNR = 30 SEC |
| [C]DEFID  = B010    [C]TSABMR  = 200 MSEC   [C]TAROB   = 10 SEC |
| [R]PROT   = DPNSSN  [C]VMSYSTAD = 0          |
| [R]BCHKONF = 16&&30          |
+-----+-----+-----+-----+
```

LWPAR - Loadware Parameters for Networking Modules

Functions of the AMO

```

| [R]EQVIRC = 1&&30 |
| [R]VCHCONF = 16&&30 |
| RES3 = 0 RES4 = 0 RES5 = 0 |
| DEV = INDEP TIPL = 10 IPLDS = A |
| LCOSMAP(Y=ENABLED,N=DISABLED) = N DEFPASSW = 9999 |
| INFO = |
+-----+
| DEFC: CIRCUIT SPECIFIC DATA WITHOUT BOARD LEVEL SWITCHING |
| (CIRCUIT LEVEL SWITCHING BY AMO-DSSU NEVERTHELESS REQUIRED) |
| DEFR: CIRCUIT SPECIFIC DATA WITH BOARD LEVEL SWITCHING |
| (PLUS CIRCUIT LEVEL SWITCHING BY AMO-DSSU REQUIRED) |
| DEFB: BOARD SPECIFIC DATA |
| (BOARD LEVEL SWITCHING REQUIRED) |
+-----+
| CIRC.TYPE: CDG TABLE : LCOS <-> RRG BLNO : 15 |
| MAPPING: LCOSVRRG |
+-----+-----+-----+-----+
| LCOS - RRG | LCOS - RRG | LCOS - RRG | LCOS - RRG |
+-----+-----+-----+-----+
| 1 - 51 < | 9 - 8 | 17 - 16 | 25 - 24 |
| 2 - 51 < | 10 - 9 | 18 - 17 | 26 - 25 |
| 3 - 53 | 11 - 10 | 19 - 18 | 27 - 26 |
| 4 - 54 | 12 - 11 | 20 - 19 | 28 - 27 |
| 5 - 4 | 13 - 12 | 21 - 20 | 29 - 28 |
| 6 - 5 | 14 - 13 | 22 - 21 | 30 - 29 |
| 7 - 6 | 15 - 14 | 23 - 22 | 31 - 30 |
| 8 - 7 | 16 - 15 | 24 - 23 | 32 - 31 |
+-----+
| CIRC.TYPE: CDG TABLE : TRG <-> CBG BLNO : 15 |
| MAPPING: TRGCBG |
+-----+-----+-----+-----+
| TRG - CBG | TRG - CBG | TRG - CBG | TRG - CBG |
+-----+-----+-----+-----+
| 0 - 0 | 4 - 24 | 8 - 8 | 12 - 12 |
| 1 - 22 < | 5 - 5 | 9 - 9 | 13 - 13 |
| 2 - 22 < | 6 - 6 | 10 - 10 | 14 - 14 |
| 3 - 23 | 7 - 7 | 11 - 11 | 15 - 15 |

```

LWPAR - Loadware Parameters for Networking Modules

Functions of the AMO

+-----+									
| CIRC.TYPE: CDG		TABLE : DXTG <-> ITR						BLNO : 15	
|		MAPPING: DXTGITR						|	
+-----+									
| POS	DXTG	-	ITR	PRIM	| POS	DXTG	-	ITR	PRIM
+-----+									
| 0		-			| 1	21	-	1	*
| 2	22	-	1		| 3	23	-	1	
| 4	24	-	1		| 5		-		
| 6		-			| 7		-		
| 8		-			| 9		-		
| 10		-			| 11		-		
| 12		-			| 13		-		
| 14		-			| 15		-		
| 16		-			| 17		-		
| 18		-			| 19		-		
| 20		-			| 21		-		
| 22		-			| 23		-		
| 24		-			| 25		-		
| 26		-			| 27		-		
| 28		-			| 29		-		
| 30		-			| 31		-		
+-----+									

145.3.5 COPY-LWPAR

Only the standard parameter blocks of type DIUS2, CDG and TMD resp. their country specific combinations (called variants) can be copied. Analog parameter blocks can not be copied.

For copying single blocks (TYPE=DIUS2/CDG/TMD) it must be specified by the help of parameter SOURCE whether

- an existing block within the DB (from source to target position)
- or a standard parameter block from HD to DB is to be copied.

The target block (parameter BLNONEW) will be overwritten in the copy process without precaution. As default value SOURCE=DB is assumed.

The country specific variants (TYPE=DIUS2VAR/CDGVAR) contain assignments which blocks have to be copied at once from HD to DB.

The standard parameter blocks on the HD to be copied are stored in the following data subsystems:

- ":PDS:APSU/DSLWTM0", ":PDS:APSU/DSLWT20" and ":PDS:APSU/DSLWCD0" for standard parameter blocks
- ":PDS:APSU/DSLWT2V" and ":PDS:APSU/DSLWCDV" for country specific variants.

The contents of these data subsystems can not be modified by AMO LWPAR.

Procedure Overview

Command Code	Parameter
COPY-LWPAR	TYPE=DIUS2,BLNOOLD=<number>, [BLNONEW=<number>],
	[SOURCE=<param>];
	|TYPE=CDG,BLNOOLD=<number>, [BLNONEW=<number>],
	[SOURCE=<param>];
	|TYPE=TMD,
	|TMDTYPE=TMDMOS,BLNOOLD=<number>, [BLNONEW=<number>],
	[SOURCE=<param>];
	|TMDTYPE=TMDBOS,BLNOOLD=<number>, [BLNONEW=<number>],
	[SOURCE=<param>];
	|TYPE=DIUS2VAR,VARNO=<number>;
	|TYPE=CDGVAR,VARNO=<number>;

Note: the COPY command are not regenerated.
Only the actual DB state after executing the COPY function can be regenerated.

145.3.6 REGENERATE-LWPAR

REGENERATE parameter blocks of a certain circuit type or all circuit types.

All 10 data blocks (0 to 9) are regenerated for TYPE=DIUS2.

All 6 data blocks (1 to 6) are regenerated for TYPE=DIUC.

For TYPE=CDG all data blocks are regenerated which deviate from the standard data base.

For analog circuit types, only those data blocks are regenerated which

LWPAR - Loadware Parameters for Networking Modules

Parameter Description

have been assigned to a circuit type, and of these only those block parameters are regenerated which deviate from the standard data base.

Procedure Overview

Command Code	Parameter
REGENERATE-LWPAR	[TYPE=<param>];

Example

Regenerate the parameter block 15.

Input:

REGEN-LWPAR:CDG;

Output:

CHANGE-LWPAR:CDG,15,CONF,213,,,,,,,,,,,,,,,,,,,,,"TEST BLNO
15 CDG",,;
CHANGE-LWPAR:CDG,15,TIMER,5,,,,,,,,,,,,,,,,,,,,;
CHANGE-LWPAR:CDG,15,MAPPING,LCOSVRRG,1&2&3&4,51&51&53&54;
CHANGE-LWPAR:CDG,15,MAPPING,TRGCBG,1&2&3&4,22&22&23&24;
CHANGE-LWPAR:CDG,15,MAPPING,DXTGITR,1&2&3&4,21&22&23&24,1,21;

145.4 Parameter Description

ACKTIM	Acknowledgement timer: timer specifies the period between transmission of a command frame and the expected receipt of the response or acknowledgement. Value is specified in tenth of seconds.
Type of Input	single value, 7. parameter of a min-1-group
Possible Values	10-50
Default Value	10
APCPN	Analogue pstn call priority number
Type of Input	single value, 3. parameter of a min-1-group
Possible Values	numeric, 0-16
Default Value	14
AROB	Automatic redirection on busy
Type of Input	single value, 5. parameter of a min-1-group
Possible Values	N Y

Default Value

ATCPN	Analogue trunk call priority number
Type of Input	single value, 1. parameter of a min-1-group
Possible Values	numeric, 0-16
Default Value	12
BCHCONF	DPNSS B Chanel X/Y Configuration
Type of Input	: 0 to 30 single values, concatenated with & or &&, optional
Possible Values	: numeric, 0-30
Default Value	:
BCHNEG	B Channel Negotiation
Type of Input	: single value, optional
Possible Values	: N no Y yes
Default Value	: Y
BLNO	Parameter block number
Type of Input	: Single value, mandatory (CHANGE) Single value or range, optional (DISPLAY)
Possible Values	: 0 - 200 (TMD circuit type) 0 - 25 (DIUS2 circuit type) 0-255 (CDG, DIUS2 circuit type) 0-49 (CDG circuit type) 0-78 (NWWTK networking wtk set type) 1-200 (TMD circuit type) 1-6 (DIUC modul type)
BLNONEW	New parameter block number
Type of Input	single value, optional
Possible Values	numeric, 0-49 COPY, TYPE=CDG numeric, 0-9 COPY, TYPE=DIUS2 numeric, 1-200 COPY, TYPE=TMD
BLNOOLD	Old parameter block number
Type of Input	single value, mandatory
Possible Values	numeric, 0-255 TYPE=CDG numeric, 0-200 TYPE=TMD

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Parameter Description

C3CONF	3-party conference hold allowed from conference master. Type of Input : Single value, 21. parameter of a min-1-group, optional Possible Values : Y Yes N No
CABLETYP	type of cable for tmd span Type of Input : single value, 2. parameter of a min-1-group Possible Values : numeric, 1-7 Default Value : 3
CBG	Call barring group (Realitis DX) Type of Input : 1 to 8 single values, concatenated with &, optional Possible Values : numeric, 0-127
CDG	CDG is connected to DIUS2 (conversion from CORNET to DPNSS1 or DASS2, used in Italy and the UK, for example). Type of Input : Single value, optional Possible Values : Y Yes N No Default Value : N
CDGCF	CDG Transit Working on Call Forward Type of Input : single value, optional Possible Values : Y YES N NO Default Value : Y
CDGTYPE	Type of CDG Type of Input: : single value, mandatory Possible Values : CONF Configuration parameter TIMER Timer and reserve parameter MAPPING Mapping tables HICOM <-> Realitis DX CONF2 Configuration - extension for CDG 6.0
CNTRNR	(CouNT Receiver Not Ready) The number of status queries sent to the partner in regard to "receiver not ready" is defined. Type of Input : Single value, optional Possible Values : 0 - 255

	Default Value	: 255
CONACK	Connect ack sent by protocol handler	
	Type of Input	: Single value, 22. parameter of a min-1-group, optional
	Possible Values	: N
		: Y
		:
CONVBN	Conversion back-notify from cornet-n	
	Type of Input	single value, 19. parameter of a min-1-group
	Possible Values	N no
		Y yes
		:
COPA	Adaptation of diuc to various pcm30 central offices	
	Type of Input	single value, 2. parameter of a min-1-group
	Possible Values	CO1G digital access to tdm central office 1 g
		CO2G dig. access to tdm central office 2g or tne 2g
		COIT identifier for l1 error handling
		TNE1A dig.access to remote equipment 1 g (ver.tne 1a)
		TNE1B dig.access to remote equipment 1g (ver.tne 1b)
		: ZERO basic initialization, no parameters set
		:
COPTYPE	Copper line type	
	Type of Input	single value, 10. parameter of a min-1-group
	Possible Values	COAX75 coax 75 Ohm
		STP120 shielded twisted pair 120 Ohm
COS	Class-of-service marks / features	
	The values CDRAC, CDRC, and CDRS cannot be linked with NCDR.	
	The values EXTEND and PU cannot be linked.	
	The values OVR and KN cannot be linked.	
	Type of Input	: maximum of 5 linked single values, optional
	Possible Values	: CDRAC Call data registration on attendant console
		CDRC Central call data registration
		CDRS Call data registration at station
		NCDR No call data registration
		EXTEND Extend
		PU Pickup
		OVR Override

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Parameter Description

		KN	Call waiting
	Default Value	: NCDR, PU, KN	
COS1	EMS/System class-of-service assignment (EMS COS:LOC)		
COS2	EMS/System class-of-service assignment (EMS COS:AREA)		
COS3	EMS/System class-of-service assignment (EMS COS:NAT)		
COS4	EMS/System class-of-service assignment (EMS COS:CONT)		
COS5	EMS/System class-of-service assignment (EMS COS:INT)		
	for system as a main PABX or satellite PABX TA and RTA are not valid values here, since they have the identical meaning in the system and EMS, and can therefore be passed through.		
	Note	: Overall COS 'CO' supplements loadware; RTA for outward restriction is always set as per the basic DB initialization.	
	Type of Input	: max. 6 linked single values, optional	
	Possible Values	: RTA1: RESTRICTED TRUNK ACCESS 1 RTA2: RESTRICTED TRUNK ACCESS 2 RTA3: RESTRICTED TRUNK ACCESS 3 RTA4: RESTRICTED TRUNK ACCESS 4 RTA5: RESTRICTED TRUNK ACCESS 5 RTA6: RESTRICTED TRUNK ACCESS 6	
	Default Value	: RTA1	
CRC4C	CRC4 CorNet NQ		
	Type of Input	: Single value, optional	
	Possible Values	: Y N NO	
	Default Value	: N	
CRC4REP	Layer-2 CRC4-Reporting		
	Type of Input	: Single value, optional	
	Possible Values	: Y, N	
	Default Value	: N	
CRIDC	Carrier Identification Code		
	Type of Input	: Single value, optional	
	Possible Values	: 0000-9999s	
	Default Value	:	
	Note	: mandatory when block is used for CVN	

CTYPE	Evaluate digit pre-setting for corresponding existing connection type (incoming) (see parameters DGTPRMS, DGTPRMST, DGTPRMSI) The value N cannot be linked with any other value. Type of Input : Maximum of 3 linked single values, optional Possible Values : HOME, CO, TOLL, N Default Value : N
DASSCPN	DASS call priority number Type of Input : single value, 4. parameter of a min-1-group, optional Possible Values : numeric, 0-16 Default Value : 13
DASSOPN	DASS operator number Type of Input : single value, optional Possible Values : 0-9,*,#,A-D, up to 22 characters
DCHAN1	Definition of timeslot for first data channel Type of Input : Single value, optional Possible Values : 0 - 31 (0= no data channel) Default Value : 16
DCHAN2	ATTENTION: This function has <u>not</u> been implemented! Definition of timeslot for a second data channel If DCHAN2>0, DCHAN1 may not be 0. Furthermore, DCHAN1 and DCHAN2 must have different values, except when both parameters have the value 0. The specified DCHAN2 number may not be configured as a device. A second D-channel is useful, for example, if a system user leases from the post office 10 B-channels of an S2-path as nailed connections via local exchanges to a certain remote system and, due to extensive signaling, defines one of these 10 B-channels as a 'private channel'. In both systems, the additional D-channel must be made known using loadware parameters and COT. Type of Input : Single value, optional Possible Values : 0 (0= no second data channel) Default Value : 0 Note : DCHAN2 may not be 0 if the parameter block is allocated to a circuit which has been assigned a class of trunk (AMO TDCSU, parameter COTNO) in which the circuit parameter PRDC (private D channel; AMO COT, parameter PAR) is specified. The speed dialing codes to be pre-set (DGTPR and DGTPRC) are only evaluated if the correct value for parameter SPDCDSS (SPD for DGTPR, SPDC for DGTPRC) has been specified.
DEFID	ROP, default call identity length used in CorNet-NQ Type of Input: single value, optional Possible Values B001 1 digit

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Parameter Description

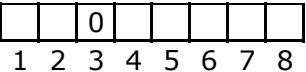
		B010	2 digits
		B011	3 digits
		B100	4 digits
	Default Value	: B010	
DEFPASSW	Default password for DPNSS protocol		
	Type of Input	single value, optional	
	Possible Values	numeric, up to 6 characters	
DEV	Kind of device on trunk		
	Type of Input	single value, optional (CHANGE)	
		single value, optional (ADD/DISPLAY)	
	Possible Values	see parameter values DEV in AMOs TDSCU, TACSU, TSCSU	
	This parameter indicates for what kind of device the LWPAR block is suitable. All values are accepted, no check is performed. The user is asked to use the right device types.		
DGTPR	Speed dialing code to be pre-set for seizure from satellite PABX (valid for SPD 1-15)		
	If only one speed dialing code has been assigned in the system, and if both speed dialing codes (DGTPR,DGTPRC) are to be evaluated in accordance with parameter SPDCDSS, DGTPR must be equal to DGTPRC and lead to DAR 'SPDC1' in the DPLN. If two speed dialing codes have been assigned, DGTPR must lead to DAR 'SPDC2' in the DPLN.		
	Type of Input	: Single value (up to 6 digits), optional	
	Possible Values	: 0 - 9, *, #	
	Default Value	: none	
DGTPRC	Speed dialing code (central) to be pre-set for seizure from satellite PABX		
	If only one speed dialing code has been assigned in the system, and if both speed dialing codes (DGTPR,DGTPRC) are to be evaluated in accordance with parameter SPDCDSS, DGTPRC must be equal to DGTPR.		
	DGTPRC must lead to DAR 'SPDC1' in the DPLN.		
	Type of Input	: Single value (up to 6 digits), optional	
	Possible Values	: 0 - 9, *, #	
	Default Value	: none	
The following digit pre-setting parameters DGTPRMS, DGTPRMSI and DGTPRMST are evaluated only if the corresponding parameter value (CO, HOME, TOLL) of the parameter CTYPE is set. The entry '*' signifies that no digit pre-setting should be assigned. Pre-set digits are set according to line signal processing of the recorded dial information and handled by call processing as dialed digits.			
DGTPRMS	Digit pre-setting after incoming seizure for connection type CO		
DGTPRMSI	Digit pre-setting after incoming seizure for connection type HOME or RF_CO		
DGTPRMST	Digit pre-setting digit after incoming seizure for connection type TOLL		

	Type of Input	: Single value, optional
	Possible Values	: 0 - 999999 or *
	Default Value	: *
DLVTIM	Data link verification timer: timer specifies maximum period of link inactivity (no frames exchanged). Value is specified in tenth of seconds.	
	Type of Input	single value, 8. parameter of a min-1-group
	Possible Values	50-600
	Default Value	30
DXTG	Realitis DX trunk group Number(s)	
	Type of Input	1 to 8 single values, concatenated with &, optional
	Possible Values	numeric, 0-255
DXTGPOS	Position of given DXTG number(s) in TTB table	
	Type of Input	1 to 8 single values, concatenated with &, optional
	Possible Values	numeric, 0-31
EDP	Pause between EOD preliminary pulse and recognized dial end	
	Type of Input	: Single value, optional
	Possible Values	: 100 - 450 ms
	Default Value	: 100 ms
EQVIRC	DPNSS Equipped Virtual Channels	
	Type of Input	: 0 to 30 single values, concatenated with & or &&, optional
	Possible Values	: numeric, 0-30
	Default Value	:
FCBAB	Parameterization of frame code and answering byte	
	Type of Input	: Single value, optional
	Possible Values	: two-digit, hexadecimal
	Default Value	: DFH
	The hex value to be entered is based on the following context:	
	In the byte to be parameterized, the answer byte is parameterized in bits 1 and 4 through 8 by counting down from the bit with the highest value. Bit 2, which is free, is used to store information on the frame code. This bit position evaluates the loadware in regard to "bit 1" for the frame code.	
	The hex value to be entered is thus derived from the bit pattern for the parameterization of the answer byte (AB) and the frame code(FC).	

LWPAR - Loadware Parameters for Networking Modules

Parameter Description

Byte to be parameterized:



(bit with lowest value on the right!)

bits 1 and 4 through 8 of the AB are entered.

Bit 2 : here bit 1 of the FC is entered.

Bit 3 is free.

FIXEDTEI Option to specify a value other than 0 for "FIXED TEI" for point-to-point connections

Type of Input : Single value, optional

Possible Values : 0 - 63

Default Value : 0

FORMAT Format of output

Type of Input: single value, optional

Possible Values L long output format
 S short output format

Default Value : L

ICPN Internal call priority number

Type of Input : Single value, 2. parameter of a min-1-group, optional

Possible Values : numeric, 0-16

Default Value : 11

INFO Service Informations

Type of Input: single value, optional

PossibleValues : text, up to 50 characters

INFOPAT Service info text pattern

Type of Input: single value, optional

Possible Values : text, up to 50 characters

IPLDS The default intrude level assumed by CDG for DPNSS party

Type of Input single value, 21. parameter of a min-1-group, optional

Possible Values A intrusion allowed
 NA intrusion not allowed

ITR HICOM internal traffic restrictions number

Type of Input single value, optional

Possible Values numeric, 0-15

LCOS	LCR Class of service (Hicom)	
	Type of Input	1 to 8 single values, concatenated with &, optional
	Possible Values	numeric, 1-32
LCOSMAP	Enable mapping of LCOS and TRG values?	
	Type of Input	single value, optional
	Possible Values	YES No
LNTYPE	Line type	
	Type of Input	: max.two linked single values, optional
	The values COPPER AND OWG may be set only alternatively	
	Possible Values	: COPPER 4-wire copper connection OWG Optical wave guide AERIAL aerial connection
	Default Value	: COPPER
LSCF	loadware saved compressed in flash	
	Type of Input	: single value, optional
	Possible Values	: Y YES N NO
	Default Value	: N N
LWPARREF	output lwpar reference information	
	Type of Input	single value, optional
	Possible Values	Y N
MASTER	Meaning of Layer 2 message (e.g. DIUS2)	
	(Command / Response : Master, Slave)	
	Type of Input	: Single value, optional
	Possible Values	: Y Master N Slave
	Default Value	: N
MAXTMS	DPNSS Maximum Transit Message Size	
	Type of Input	: single value, optional
	Possible Values	: numeric, 0-2048

LWPAR - Loadware Parameters for Networking Modules

Parameter Description

	Default Value	: 500
MFCB	Parameterization of multiple frame code	
	Type of Input	: Single value, optional
	Possible Values	: two-digit, hexadecimal
	Default Value	: FEH
	Note	: Value H'0B must be specified for use in France.
NSFIV	NSF IE Code to Access VPN Calling service	
	Type of Input	: Single value, optional
	Possible Values	: 0-31
	Default Value	: 1
NSFTSC	NSF IE Code to Activate CA-TSC	
	Type of Input	: Single value, optional
	Possible Values	: 0-31
	Default Value	: 9
NSIMSGS	msg size nsi to non nsi switchover	
	Type of Input	: single value, optional
	Possible Values	: numeric, 100-2048
	Default Value	150
NSIOUT	Insert nsi dpnss outgoing	
	Type of Input	: single value, optional
	Possible Values	: Y YES N NO
	Default Value	Y
NSITR	NSI CORNET-NQ Transit	
	Type of Input	: single value, optional
	Possible Values	: Y YES N NO
	Default Value	Y
OCTMAX	Maximum number of octets in an information field. Value is specified in number of octets.	
	Type of Input	single value, 9. parameter of a min-1-group
	Possible Values	3-260

	Default Value	260
OESDISTH	Out of frame errored seconds disqualification threshold. Number of OES before disqualification of the reference clock occurs. Value is specified in seconds.	
	Type of Input	single value, 3. parameter of a min-1-group
	Possible Values	1 - 65535
	Default Value	30
OESREQTH	Out of frame errored seconds requalification threshold. Maximum number of OES which may occur during the requalification interval before requalification of the reference clock source will occur. Value is specified in seconds	
	Type of Input	single value, 4. parameter of a min-1-group
	Possible Values	1 - 65535
	Default Value	4
OPMODE	Board operation mode	
	Type of input	0 to 6 single values, concatenated with &,
	Possible Values	BDETON bipolar violation detection on
		BISUB8ON bipolar 8 substitution on
		FRAMEESF extended framing
		NETUSER user will emulate network end of the digital span
		TABSON digital link switch enable tabs
		TIMLOOP loopback state - TMD frame timing driven by loop
PATM	Pause time for DTMF dialing (dual tone multifrequency signaling)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 255 ms
	Default Value	: 40 ms
PATTERN	Idle bit pattern for the B-channels on the route	
	Type of Input	. Single value, optional
	Possible Values	: two-digit, hexadecimal
	Default Value	: D5H
PERMACT	PCM link is permanently active	
	Type of Input	: Single value, 11. parameter of a min-1-group, optional
	Possible Values	: Y, N
	Default Value	: Y

LWPAR - Loadware Parameters for Networking Modules

Parameter Description

PRIMDXTG	Primary Realitis DX trunk group number Type of Input : single value, optional Possible Values : numeric, 0-254
PROT	Protocol - relevant for CORNET-N protocol only Type of Input : single value, optional Possible Values : DASS dass/cornet-n DPNSS dpnss/cornet-n Default Value : DPNSSN
PUTM	Pulse time for DTMF dialing (dual tone multifrequency signaling) Type of Input : Single value, optional Possible Values : 20 - 100 ms Default Value : 60 ms
QUAL	Activate CRC4 procedures on the DIUC (e.g. use in Denmark). The two parameters QUAL1 and QUAL2 which are only evaluated if QUAL is set to ON are also included in these procedures. Type of Input : Single value, optional Possible Values : ON Ascertain transmission quality OFF Do not ascertain transmission quality Default Value ON
QUAL1	Time (sec.) for transmission quality worse than 10 If an error occurs during the specified time, the path is taken out of service! This parameter is only in effect if parameter QUAL=ON. Type of Input : Single value, optional Possible Values : 0 - 255 sec. Default Value : 10 sec.
QUAL2	Time (min.) for transmission quality worse than 10 If an error occurs during the specified time, the route is taken out of service! This parameter is only in effect if parameter QUAL=ON. Type of Input : Single value, optional Possible Values : 0 - 255 min. Default Value : 10 min.
RES3	Reserve 3 - may be used for test purpose

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Parameter Description

	Type of Input	: single value, optional
	Possible Values	: 0 - 65535
	Default Value	: 0
RES4	Reserve 4 - may be used for test purpose	
	Type of Input	: single value, optional
	Possible Values	: 0 - 65535
	Default Value	: 0
RES5	Reserve 5 - may be used for test purpose	
	Type of Input	: single value, optional
	Possible Values	: 0 - 65535
	Default Value	: 0
RESTALL	restart all laps at startup	
	Type of Input	: single value, optional
	Possible Values	: N NO Y YES
	Default Value	: Y
RESTLNK	restart link at startup	
	Type of Input	: single value, optional
	Possible Values	: N NO Y YES
	Default Value	: Y
RETMAX	Maximum number of retransmissions. Maximum number of retransmissions before an error is re-reported.	
	Type of Input	single value, 10. parameter of a min-1-group
	Possible Values	1-10
	Default Value	3
RRG	Route restriction group (realitis DX)	
	Type of Input	1 to 8 single values, concatenated with &, optional
	Possible Values	numeric, 0-127
SADRTM	DASS-CorNet subaddress translation methode	
	Type of Input	: single value, optional
	Possible Values	: NSAP network service access point USER user specified

LWPAR - Loadware Parameters for Networking Modules

Parameter Description

	Default Value	: NSAP
SCCONF	Station controlled conference	
	Type of Input	: single value, 6. parameter of a min-1-group
	Possible Values	: N no Y yes
	Default Value	:
SESDISTH	severely errored seconds disqualification threshold. Number of sequential SES before disqualification of the reference clock occurs. Value is specified in tenth of seconds	
	Type of Input	single value, 5. parameter of a min-1-group
	Possible Values	numeric, 1-65535
	Default Value	10
SESREQTH	Severely errored seconds requalification threshold. Number of sequential seconds with SES absent before requalification of the reference clock occurs. Value is specified in tenth of seconds	
	Type of Input	single value, 6. parameter of a min-1-group
	Possible Values	numeric, 1-65535
	Default Value	10
SMD	Layer 1 configuration (subscriber module digital)	
	If circuits are allocated with the device type S2COD (AMO TDCSU), SMD must be declared as N (no). If Y (yes) is entered, then all allocated circuits entered in the reference clock table (AMO REFTA) must have a priority of '0'.	
	Type of Input	: Single value, optional
	Possible Values	: Y SMD N TMD
	Default Value	: N
SOURCE	Location of LWPAR block; indicates where the block has to be copied from	
	Type of Input	single value, optional
	Possible Values	HD Harddisk DB Database
SPD1	Assignment of the 16 speed dialing groups from the system to the	
SPD2	6 speed dialing groups for WTK (AC voice frequency signaling)	
SPD3	Type of Input	: Single value, optional

LWPAR - Loadware Parameters for Networking Modules

Parameter Description

SPD4	Possible Values	: 0	Assignment to central SPD
SPD5		1 - 15	Assignment to certain SPD groups
SPD6	Default Value	: 1	
SPDC1	Central 1 automatic dialer		
	Type of Input	single value, optional	
	Possible Values	numeric, 0-16	
SPDCDSS	Parameter indicat. that the spdc from the ss is not transm.		
	Type of Input	0 to 2 single values, concatenated with &, 21. parameter of a min-1-group	
	Possible Values	NO	no
		SPD	speed dialing
		SPDC	speed dialing, central
STABTIM	Stabilization time for pos. messages and message pairs for a PCM link		
	The timer only goes into effect if message delay is switched on in central system data (AMO ZAND, branch ALLDATA, parameter MSGDELAY).		
	Type of Input	: Single value, optional	
	Possible Values	: 30-180 sec	
	Default Value	: 180 sec	
SUPPTIM	Suppression time for further error messages for PCM link		
	The timer only goes into effect if message delay is switched on in central system data (AMO ZAND, branch ALLDATA, parameter MSGDELAY).		
	Type of Input	: Single value, optional	
	Possible Values	: 10-60 sec	
	Default Value	: 60 sec	
T301	Timer T301		
	Type of Input	: single value, optional	
	Possible Values	: 0-255	
	Default Value	180 sec	
T302	Timer T302		
	Type of Input	: single value, optional	
	Possible Values	: 0-255	
	Default Value	10 sec	

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Parameter Description

T303	Timer T303	
	Type of Input	: single value, optional
	Possible Values	: 0-255
	Default Value	4 sec
T304	Timer T304	
	Type of Input	: single value, optional
	Possible Values	: 0-255
	Default Value	15 sec
T305	Timer T305	
	Type of Input	: single value, optional
	Possible Values	: 0-255
	Default Value	30 sec
T308	Timer T308	
	Type of Input	: single value, optional
	Possible Values	: 0-255
	Default Value	4 sec
T309	Timer T309	
	Type of Input	: single value, optional
	Possible Values	: 0-255
	Default Value	90 sec
T310	Timer T310	
	Type of Input	: single value, optional
	Possible Values	: 0 - 255
	Default Value	10 sec
T313	Timer T313	
	Type of Input	: single value, optional
	Possible Values	: 0 - 255
	Default Value	4 sec
T314	Timer T314	
	Type of Input	: single value, optional
	Possible Values	: 0 - 255
	Default Value	4 sec

T316	Timer T316
Type of Input	: single value, optional
Possible Values	: 0 - 255
Default Value	120 sec
T322	Timer T322
Type of Input	: single value, optional
Possible Values	: 0 - 255
Default Value	4 sec
TAMOST	Timer AMO Supervision Timeout
Type of Input	: single value, optional
Possible Values	: 0-255
Default Value	60 sec
TAROB	Timer for automatic redirection on busy
Type of Input	: single value, 22. parameter of a min-1-group
Possible Values	: numeric, 1-63
Default Value	10
TBID	timer callback interdigit
Type of Input	: single value, optional
Possible Values	: :numeric, 1-20
Default Value	: 5 SEC : :
TBL	Mapping tables between HICOM and Realitis DX
Type of Input	single value, mandatory
Possible Values	DXTGITR Trunk-trunk barring LCOSDRRG Mapping table LCOSD to RRG LCOSVRRG Mapping table LCOSV to RRG TRGCBG Mapping table TRG to CBG
TDPNSSC	Timer DPNSS Collision
Type of Input	: single value, optional
Possible Values	: numeric, 0-50 in 100msec steps (range 0-5000 msec)
Default Value	: 5 (500 msec)
TEIVERIF	TEI is verified upon request by the partner.

LWPAR - Loadware Parameters for Networking Modules

Parameter Description

	Type of Input	: Single value, optional	
	Possible Values	: Y, N	
	Default Value	: N	
TEMPSIG	Temporary Signaling Connection		
	Type of Input	: single value, optional	
	Possible Values	: Y	YES
		N	NO
	Default Value	: Y	
TIDOP	DPNSS trunk identity (TID) option		
	Type of Input	: single value, optional	
	Possible Values	: Y	YES
		N	NO
	Default Value	: N	
TIPL	Timer to delay the sending of IPL Req after call is conn.		
	Type of Input	: single value, 20. parameter of a min-1-group	
	Possible Values	: numeric, 0-60, 63	
TMDTYPE	TMD board type		
	Type of Input	: single value, mandatory	
	Possible Values	TMDMOS	Board type MOS
		TMDBOS	Board type BOS
TRG	Traffic restrictions group (Hicom)		
	Type of Input	1 to 8 single values, concatenated with &, optional	
	Possible Values	numeric, 0-15	
TROPTBR	Timer ROPT Release - both end released		
	Type of Input	: single value, optional	
	Possible Values	: numeric, 1-100	
	Default Value	10	
TROPTNR	Timer ROPT Release - neither end released		
	Type of Input	: single value, optional	
	Possible Values	: numeric, 0-100	
	Default Value	0	

TSABMR	Timer DPNSS SABMR Retransmission
Type of Input	: single value, optional
Possible Values	: numeric, 0-255
Default Value	0 SEC
TTSC	TSC (Temporary Signalling Connection) Timer.
Type of Input	: Single value, optional
Possible Values	: 4-12
Default Value	: 4
TWEOS	Timer wait for EOS from CORNET
Type of Input	: single value, optional
Possible Values	: numeric, 1-100
Default Value	60 SEC
TYPE	Selection of circuit types to be processed (memory addressing)
Type of Input	: Single value, mandatory (CHANGE) Single value, optional (DISPLAY, REGENERATE)
Possible Values	: ANALOG Circuit analog - NWWTK (DELETE) CDG Cornet dpnss1 gateway CDGVAR Country specific variants for cdg blocks DIUC DIUC modul DIUS2 DIU-S2 modul DIUS2VAR Country specific variants for diu-s2 blocks NWWTK Networking wtk set type TMD TMDN64 module
UNWD	user/network definition
Type of Input	: single value, optional
Possible Values	: DPACN dpnss:a/cornet: network DPACU dpnss:a/cornet: user DPBCN dpnss:b/cornet: network DPBCU dpnss:b/cornet: user
Default Value	DPACN
VARNO	Number of country specific variant on hard disk
Type of Input	1 to 2 single values, concatenated with &&, optional (DISPLAY) ingle value, mandatory (COPY)
Possible Values	numeric,1-255

LWPAR - Loadware Parameters for Networking Modules

Error Messages and Advisories

VCHCONF	dpnss virtual channels x/y configuration
Type of Input	: 0 to 30 single values, concatenated with & or &&, optional
Possible Values	: numeric, 1-30
Default Value	:
VERSION	Version of module (e.g. DIUS2)
Type of Input	: Single value, optional
Possible Values	: S1 US version S2 S2 version
Default Value	: S2
VMSYSTAD	Version of DIU-S2 module
Type of Input	single value, 2. parameter of a min-1-group
Possible Values	numeric, up to 22 characters
WINDOW	Maximum number of outstanding information(I) frames. when this figure is reached, transmission is suspended until a response frame is received. Value is specified in number of frames.
Type of Input	single value, 11. parameter of a min-1-group
Possible Values	1-127
Default Value	7

145.5 Error Messages and Advisories

145.5.1 Error Messages

F01: IF DCHAN2 IS ENTERED > 0, DCHAN1 MUST BE GREATER THAN 0
F02: DCHAN1 AND DCHAN2 MUST HAVE DIFFERENT VALUES
F03: BLOCK <blockno> IS OF CIRCUIT TYPE <circtype>
F04: PARAMETER LNCD: SET THE VALUES "DLPT" AND "DLCD" ALTERNATIVELY ONLY
F05: BLOCK <blockno> IS NOT ALLOCATED
F06: BLOCK <blockno> IS ALREADY ALLOCATED
F07: BLOCK <blockno> IS ALLOCATED TO THE CIRCUIT WITH PEN <gg-u-sss-cc>
F08: PARAMETER COS: "CDRAC", "CDRS", "CDRC" CANNOT BE CHAINED WITH "NCDR"
F09: PLEASE USE THE VALUES "RTA1" TO "RTA6", "TA" AND "RTA" ALTERNATIVELY ONLY
F10: PARAMETER PARTCD: USE THE VALUES "400E" AND "EMD" ALTERNATIVELY ONLY
F11: PARAMETER PARTCD: USE THE VALUES "ASAT" AND "CSAT" ALTERNATIVELY ONLY
F12: PARAMETER COS: USE THE VALUES "EXTEND" AND "PU" ALTERNATIVELY ONLY
F13: PARAMETER COS: USE THE VALUES "OVR" AND "KN" ALTERNATIVELY ONLY

- F14: INADMISSIBLE INPUT VALUE FOR THE PRE-SET DIGIT
- F15: LPAR:PARAMETER CTYPE: "HOME", "CO", "TOLL" CANNOT BE CHAINED WITH "N"
- F16: DEVICE TYPE "S2COD" (AMO TDCSU) IS NOT PERMITTED FOR ANY OF THE ALLOCATED CIRCUITS IF PARAMETER SMD IS CHANGED FROM "N" TO "Y"
- F17: IF PARAMETER SMD IS SET TO "Y", ALL ALLOCATED CIRCUITS MUST THEN HAVE THE PRIORITY VALUE "0" (AMO REFTA)
- F18: PARAMETER TONES: "DTN1", "DTN2", "DTNT", "DTE" CANNOT BE CHAINED WITH "NULL"
- F19: PARAMETER SPDCDSS: "SPD", "SPDC" CANNOT BE CHAINED WITH "N"
- F20: IF THE VALUE <SPD/SPDC> HAS BEEN SPECIFIED FOR SPDCDSS, THEN THE PARAMETER <DGTPR/DGTPRC> MUST CONTAIN A VALID CODE
- F21: IF THE VALUE SPDC IS SPECIFIED IN PARAMETER SPDCDSS, SPDC1 MUST THEN BE SET TO 0 (ZERO)
- F22: IF ONLY A SINGLE SPEED DIALING CODE HAS BEEN ASSIGNED, THEN THE VALUES OF DGTPR AND DGTPRC MUST BE IDENTICAL
- F23: <DGTPR/DGTPRC> DOES NOT LEAD TO DAR <SPDC1/SPDC2> IN THE DPLN
- F24: PARAMETER LNTYPE: USE THE VALUES "COPPER" AND "OWG" ALTERNATIVELY ONLY
- F25: PARAMETER LNTYPE: AERIAL IN ITSELF IS NOT ALLOWED AS A SINGLE VALUE
- F26: PARAMETERS SMD AND MASTER MUST BOTH BE SET TO „Y“ OR „N“
- F27: NOT ENOUGH MEMORY FOR INFO FIELD IN DATAPOOL TO WRITE THE INFO, INCREASE AT LEAST BY @@ WITH THE HELP OF COMMAND
ADD-DIMSU:DPINFO=<>;
- F28: MAXIMUM NUMBER OF INFO FIELDS ARE USED, NUMBER HAS TO BE INCREASED AT LEAST BY @@ WITH THE HELP OF COMMAND
ADD-DIMSU:INFO=<>;
- F29: INDEX OUT OF RANGE
- F30: BLNO=@@ IS STILL ASSIGNED TO AT LEAST ONE CIRCUIT OF A CDG BOARD AND HENCE CANNOT BE DELETED. DISPLAY SETTINGS WITH
DISPLAY-LWPAR:TYPE=CDG,BLNO=@@,LWPARREF=YES;
- F31: COULD NOT LOAD DATA SUBSYSTEM @@@@ FROM HARD DISK.
- F32: @@@@ NOT FOUND ON HARD DISK!
- F33: @@@@ OF TYPE @@@@ NOT IN THE RANGE FROM @ TO @@@.
- F34: AN ERROR OCCURED WHILE COPYING THE @@@@ @@@.
- F35: FOLLOWING VALUES CAN NOT BE CONFIGURED BECAUSE THEY ALREADY EXIST IN THE MAPPING TABLE:
@@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@
- F36: THE INPUT VALUES FOR PARAMETER @@@@@@ MUST BE DIFFERENT.
- F37: THE SPECIFIED VALUE FOR PARAMETER PRIMDXTG HAS NOT BEEN CONFIGURED, BECAUSE DXTG = @@@ IS NOT CONFIGURED IN THE MAPPING TABLE.
- F38: EITHER ALL OR NONE OF THE PARAMETERS DXTGPOS, DXTG AND ITR MUST BE SPECIFIED. PLEASE CHECK INPUT BECAUSE THE ERROR COULD HAVE RESULTED FROM WRONG DXTGPOS OR DXTG FIELD VALUES.
- F39: THE GIVEN BLNO IS BIGGER THAN WITH AMO DIMSU,PARAMETER TBLMAX RESERVED MEMORY.
- F41: THE TMD BLOCK TYPE HAS NO DEV AND INFO FIELD, AND THE SEARCH CRITERIAS BY INFOPAT, DEV AND FORMAT ARE IGNORED.

145.5.2 Advisories

- H01: NO BLOCK IS ALLOCATED FOR THE SPECIFIED PARAMETERS
- H02: NO ANALOG BLOCK IS ASSIGNED
- H03: BLOCK <blockno> IS OF CIRCUIT TYPE <circtype>

LWPAR - Loadware Parameters for Networking Modules

Error Messages and Advisories

H04: SWITCH PEN <gg-u-sss-cc> OFF AND ON TO LOAD CIRCUIT PARAMETERS
H05: PARAMETERS SMD AND MASTER MUST BOTH BE SET TO "Y" OR "N"
H06: THE CHANGES WILL BECOME EFFECTIVE ONLY AFTER SWITCHING OFF AND SWITCHING ON THE FOLLOWING CDG CIRCUITS. (RESTART-DSSU)
H07: THE CHANGES WILL BECOME EFFECTIVE ONLY AFTER SWITCHING OFF AND SWITCHING ON THE FOLLOWING CDG BOARDS. (DEACTIVATE/ACTIVATE-BSSU)
H08: NO MATCHING SERVICE INFO FIELDS WERE FOUND FOR THE PATTERN GIVEN
H09: IF THE PARAMETER INFOPAT OR FORMAT IS PRESENT IN THE COMMAND LINE, THEN THE VALUE FOR PARAMETER LWPARREF IS IGNORED
H10: THE PARAMETERS OF BLNO @@ HAVE BEEN RESET TO THEIR DEFAULT VALUE.
H11: @@@@=0 --> NO CHANNEL CONFIGURED. FURTHER PARAMETER VALUES ARE IGNORED.
H12: THE FOLLOWING BLNO ARE OVERWRITTEN IN THE DATA BASE WHILE COPYING THE VARIANT @@@:
H13: NO ENTRY FOUND.
H14: BLNNEW @@@ OF TYPE @@@@ HAS BEEN OWERWRITTEN.
H15: THE PARAMETER @@@@@@ AND @@@@@@ DO NOT HAVE THE SAME NUMBER OF VALUES. THE REST OF THE LONGER PARAMETER WILL BE IGNORED.
H16: FOR THE SPECIFIED DXTG=255 THE ITR MUST BE ZERO. THE AMO IGNORES THE INPUT AND CONTINUES WITH ITR=0 FOR THIS DXTG.
H17: CAUSED BY THE RECONFIGURATION THE PRIMARY DXTG HAS BEEN CHANGED FOR ITR = @@@. THE NEW VALUE FOR PARAMETER PRIMDXTG IS @@@.
H18: PARAMETER PRIMDXTG IS IGNORED BECAUSE THE ITR BELONGING TO THIS DXTG AND THE ENTERED ITR ARE DIFFERENT.
H19: SINCE UNIQUENESS OF THE <RRG/CBG> VALUES IS REQUIRED YOU HAVE TO ELIMINATE ANY MULTIPLICITIES BEFORE DOWNLOADING THE <LCOSVRRG/LCOSDRRG/TRGCBG> TABLE. THE FOLLOWING VALUES HAVE MULTIPLE OCCURRENCES:
@@@ @@@ @@@ @@@ @@@ @@@ @@@ @@@
H20: BDETON IS ONLY POSSIBLE, IF BISUB8ON IS SET TOO. BISUB8ON WAS NOT SET AND HAS NOW BEEN SET AUTOMATICALLY BY AMO.
H21: IF THE PARAMETER TYPE IS SET TO TMD THEN THE VALUES FOR THE PARAMETERS INFOPAT, FORMAT AND DEV ARE IGNORED.
H22: IF THE PARAMETER LNTYPE IS NOT COPPER
THEN THE VALUE FOR THE PARAMETER COPTYPE IS IGNORED.

146 MFCTA - Administration of Multifrequency Code Tables

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO MFCTA allows the user to CHANGE, DISPLAY, REGENERATE and COPY the MFC variant tables and MFC signal conversion tables.

These are allocated when creating (adding) an MFC circuit, with the aid of the parameter MFCVAR of the AMO TACSU.

The tables exist in the CC and in the LTG(s), and are initialized with the aid of COPY the invariable basic initialized tables from the hard disc.

The existing initialization tables on harddisc can be displayed with the command

DISPLAY-MFCTA: , HD; . The number of MFC tables in database are configured using AMO DIMSU, parameter MFCVAR.

For this reason, the AMO does not contain an ADD branch.

The contents of the CC tables are transferred to the corresponding DH (device handler) tables by means of an LTG 1:1 update.

The MFC tables (MFCVAR = 1 - up to 10 (AMO DIMSU, parameter MFCVAR)) are subdivided in:

1. MFC Variant Table
2. MFC Signal Conversion Table for Backward Mode
3. MFC Signal Conversion Table for Forward Mode

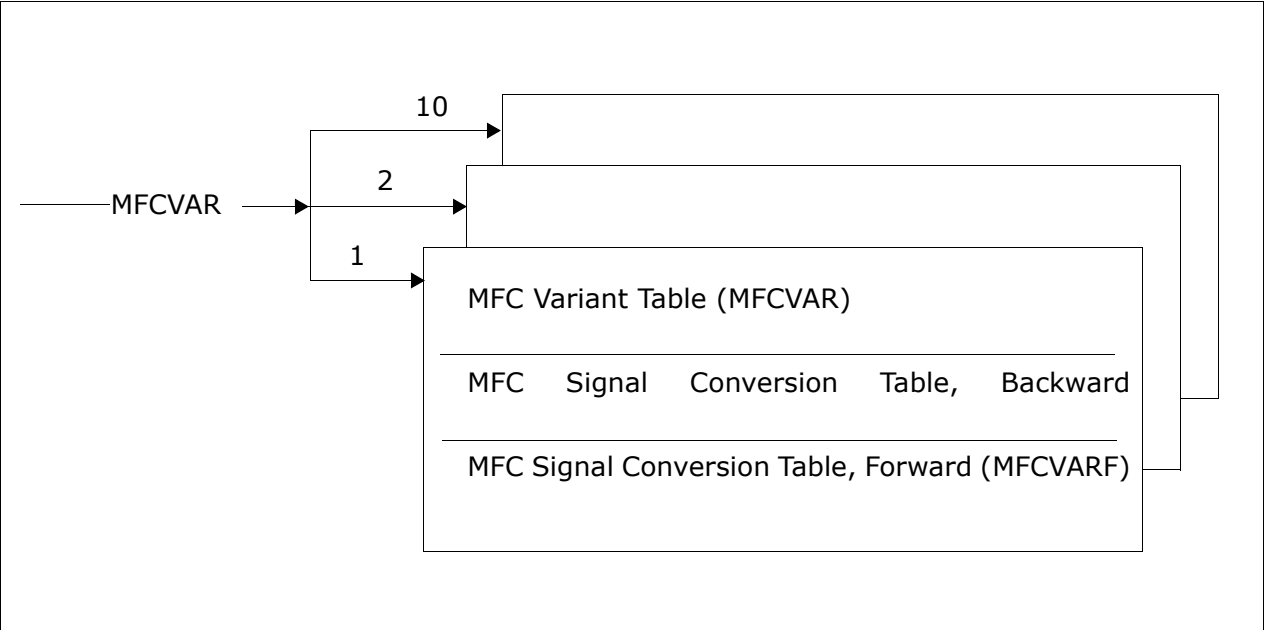


Figure 14 Memory Layout of the MFC Tables

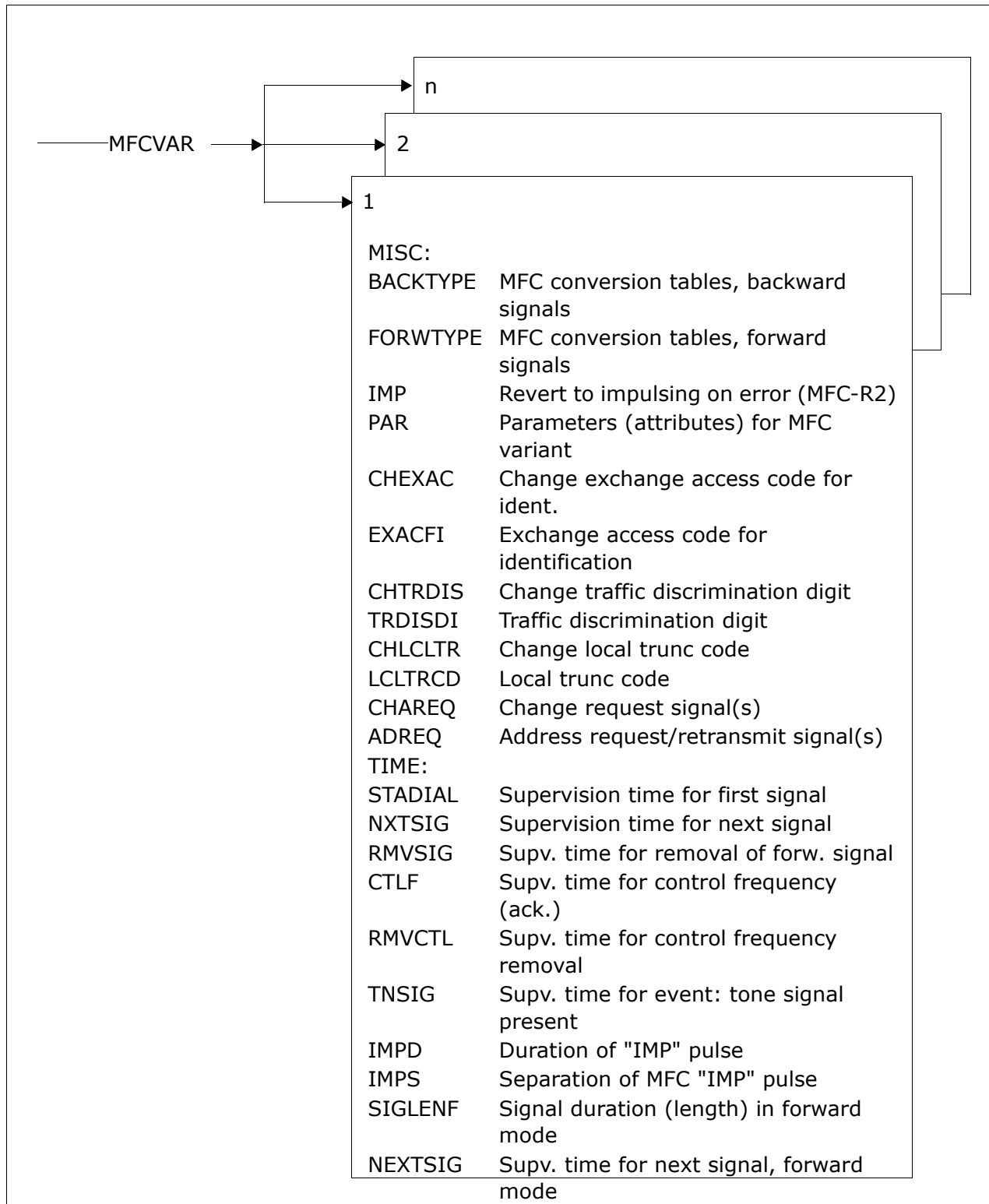


Figure 15 MFC Variant tables

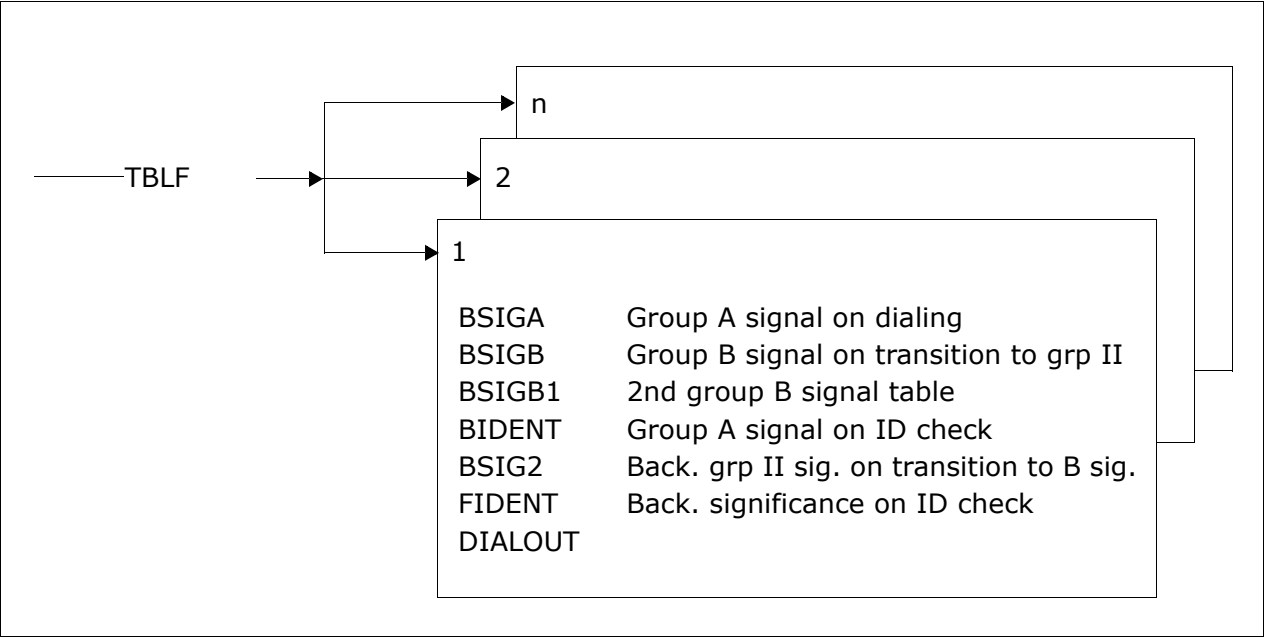


Figure 16 MFC Signal conversion table on forward mode

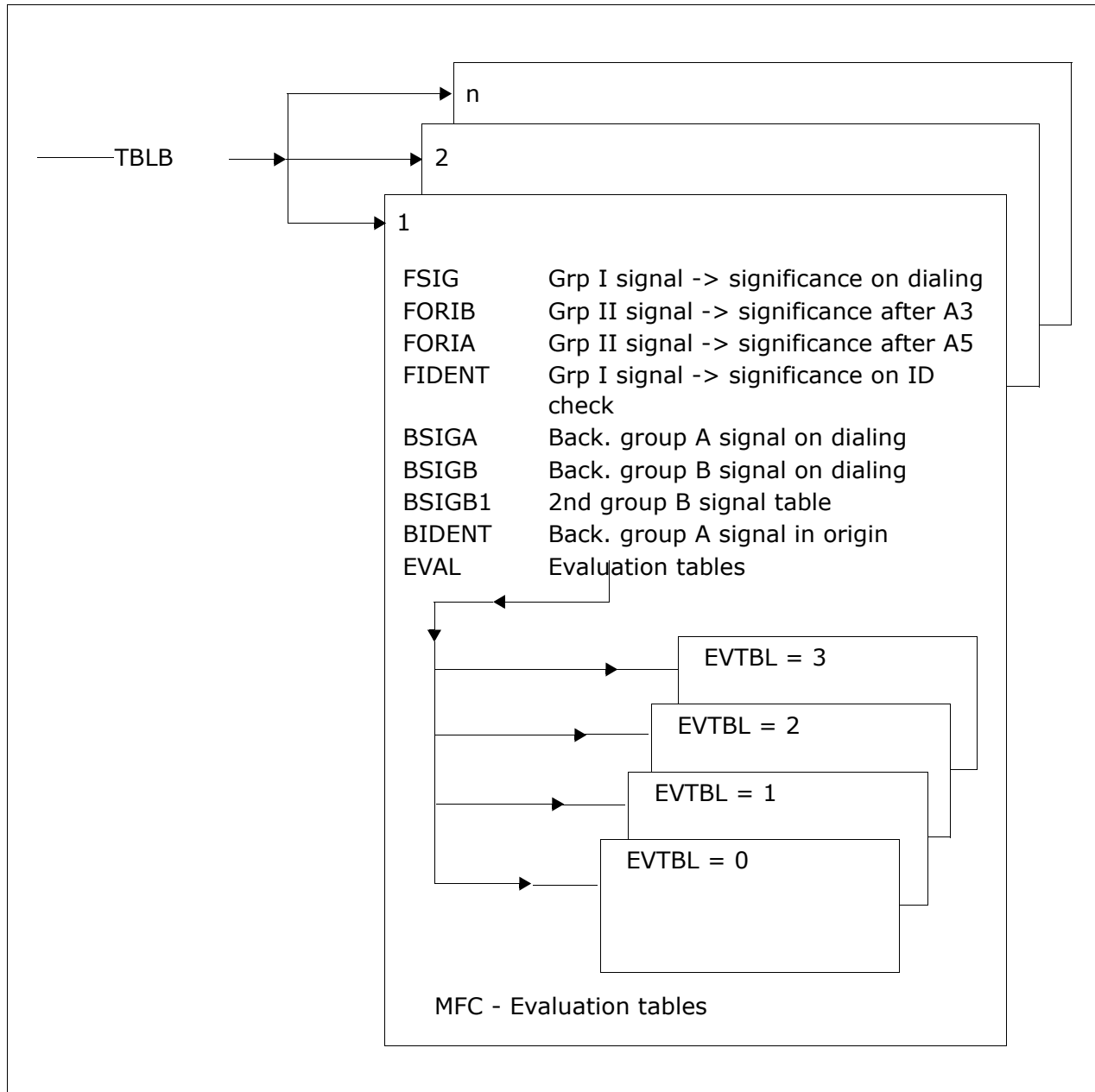


Figure 17 MFC Signal conversion tables on backward mode

146.1 Restrictions

This description is valid from HiPath 4000 V1.0.

146.2 Interrelationships

- AMO TACSU : Configuration of analog trunk circuits in the SWU
- AMO DIMSU : Memory configuration

146.3 Functions of the AMO

- [CHANGE-MFCTA](#) : Change MFC tables
- [DISPLAY-MFCTA](#) : Interrogate MFC tables
- [REGENERATE-MFCTA](#) : Regenerate MFC tables
- [COPY-MFCTA](#) : Copy MFC basic initialized tables

146.3.1 CHANGE-MFCTA

The action CHANGE allows the user to update data contained in existing, initialized MFC tables.

Procedure Overview

Command Code	Parameter
CHANGE-MFCTA	MFCVAR=<number>, TYPE=MFCVAR ,OPT=MISC,{BACKTYPE=<param>,FORWTYPE=<param> ,IMP=<number>,PAR=<param>} ,CHEXAC=<param>,[EXACFI=<keynum>] ,CHTRDIS=<param>,[TRDISDI=<keynum>] ,CHLCLTR=<param>,[LCLTRCD=<keynum>] ,CHAREQ=<param>,[ADREQ=<keynum>]; |,OPT=SUPERV,{STADIAL=<number>,NXTSIG=<number> ,RMVSIG=<number>,CTLF=<number> ,RMVCTL=<number>,TNSIG=<number> ,IMPD=<number>,IMPS=<number> ,SIGLENF=<number>,NEXTSIG=<number> ,SPAU=<number>,SLEN1=<number> ,SLEN2=<number>,MFPPULS=<number> ,MFPPAUSE=<number>,IMP2=<number> ,MAXDGTS=<number>,WAITREC=<number>; |TYPE=TBLEB

Command Code	Parameter
	<pre> ,OPT=FSIG,PHYSIG=<number>,{SIG=<param>, ,IDX=<number>; |,OPT=FORIB,EODTYPE=<param>,PHYSIG=<number> ,{ORIG=<param>,IDX=<number>; |,OPT=FORIA,PHYSIG=<number>,{STNCAT=<param> ,DINFO=<param>,ADINFO=<number> ,COEX=<number>,COEXTRAN=<number> ,CATTRANS=<param>,ANICAT=<param>; |,OPT=FIDENT,PHYSIG=<number>,SIG=<param>; |,OPT=BSIGA|BSIGB|BSIGB1|BIDENT,EODTYPE=<param> ,{BSIG=<number>,INFO=<param>; |,OPT=EVAL,EVTBL=<number> ,CHADGT=Y,[DGTS=<hex>]; |,CHADGT=N; |TYPF=TBLEF ,OPT=BSIGA|BSIGB|BSIGB1|BIDENT ,PHYSIG=<number>,SIGN=<param>; |,ART=BSIG2,FSIG2=<param>,{PHYSIG=<number> ,IDX=<number>,CATEGORY=<number>; |,OPT=FIDENT,{ID=<hex>,CNT=<number> ,PABXID=<hex>,PCNT=<number> ,POS1=<number>,POS2=<number> ,POS3=<number>,POS4=<number> ,ANBEG=<number>,ANEND=<number> ,APOS=<number>,BSDIRNO=<hex> ,BSDIRCNT=<number>,FILLCHAR=<number>; |OPT=DIALOUT,PHYSIG=<number>,{(min 1) DIGIT=<number>,INFO=<param>; </pre>

146.3.2 DISPLAY-MFCTA

This function allows the user easy access to the contents of the MFC tables according to different criteria.

The parameter MFCVAR specifies the MFC tables to be displayed. The parameter TYPE restricts the information output from the variant tables, backward and forward signal tables to the type desired. The parameter OPT enables the user to restrict the display output to specified table types (MISC to FIDENT).

Using TYPE=HD the list of MFC initialization tables on harddisc can be displayed.

Procedure Overview

Command Code	Parameter
DISPLAY-MFCTA	[MFCVAR=<number>], [TYPE=MFCVAR], [OPT=MISC|SUPERV]; | [TYPE=TBLB], [OPT=FSIG|FORIB|FORIA|FIDENT|BSIGA |BSIGB|BSIGB1|BIDENT|EVAL]; | [TYPE=TBLF], [OPT=BSIGA|BSIGB|BSIGB1|BIDENT |BSIG2|FIDENT]; | [TYPE=ALL]; | [TYPE=HD];

Note:

Default value is TYPE=ALL.

Examples:

1. Display diverse data

Input:

DISPLAY-MFCTA:MFCVAR=2&3,TYPE=MFCVAR,OPT=MISC;

2. Display the supervision time of the evaluation

Input:

DISPLAY-MFCTA:MFCVAR=1,TYPE=MFCVAR,OPT=SUPERV;

3. Display the table 'Group I signal on dialing'
(MFC signal conversion table for BACKWARD mode)

Input:

DISPLAY-MFCTA:MFCVAR=3,TYPE=TBLB,OPT=FSIG;

4. Display the table 'Group II signal after A3'
(MFC signal conversion table for BACKWARD mode)

Input:

DISPLAY-MFCTA:MFCVAR=1,TYPE=TBLB,OPT=FORIB;

Descriptions for the output of the table with OPT = FORIB

N	= NOPO	Not possible; an error will be output.
S	= SIG	Apply the backward signal from group B assigned to the dialing result in the BSIGB table.
E	= EVAL	Refer to the appropriate EVAL table (0..3).
C	= COEX	Class of externals

5. Display the table 'Group II signal after A5'
(MFC signal conversion table for BACKWARD mode)

Input:

```
DISPLAY-MFCTA:MFCVAR=1,TYPE=TBLB,OPT=FORIA;
```

6. Display the table 'Group I signal on ID check'
(MFC signal conversion table for BACKWARD mode)

Input:

```
DISPLAY-MFCTA:MFCVAR=1,TYPE=TBLB,OPT=FIDENT;
```

7. Display the table 'Group A signal on dialing'
(MFC signal conversion table for BACKWARD mode, OPT=BSIGA)

The output tables for OPT=BSIGB/BSIGB1/BIDENT have the same output format as for OPT=BSIGA.

Input:

```
DISPLAY-MFCTA:MFCVAR=1,TYPE=TBLB,OPT=BSIGA;
```

8. Display the table 'Evaluation table'
(MFC signal conversion table for BACKWARD mode)

Input:

```
DISPLAY-MFCTA:MFCVAR=1,TYPE=TBLB,OPT=EVAL;
```

9. Display the table 'Group A signal on dialing'
(MFC signal conversion table for FORWARD mode, OPT=BSIGA)

The output tables for OPT=BSIGB/BSIGB1/BIDENT have the same output format as for OPT=BSIGA.

Input:

```
DISPLAY-MFCTA:MFCVAR=2,TYPE=TBLF,OPT=BSIGA;
```

10. Display the table 'Back. group II signal on transition to B signal'
(MFC signal conversion table for FORWARD mode)

Input:

```
DISPLAY-MFCTA:MFCVAR=1,TYPE=TBLF,OPT=BSIG2;
```

11. Display the table 'Significance on ID check'
(MFC signal conversion table for FORWARD mode)

Input:

```
DISPLAY-MFCTA:MFCVAR=1,TYPE=TBLF,OPT=FIDENT;
```

The REGENERATE action compares the contents of the MFC tables with those of the basic initialization tables on the hard disk, and outputs any discrepancies in the form of position-oriented commands for regenerating.

The parameter MFCVAR specifies the MFC tables to be displayed. The parameter TYPE restricts the information output from the variant tables, backward and forward signal tables to the type desired. The parameter OPT enables the user to restrict the display output to specified table types (MISC to FIDENT).

Command Code	Parameter
REGENERATE-MFCTA	[MFCVAR=<number>] , TYPE=MFCVAR, [OPT=MISC SUPERV] ; TYPE=TBLB, [OPT=FSIG FORIB FORIA FIDENT BSIGA , BSIGB BSIGB1 BIDENT EVAL] ; TYPE=TBLF, [OPT=BSIGA BSIGB BSIGB1 BIDENT BSIG2 FIDENT] ; [TYPE=ALL] ;

Default value is TYPE=ALL.

Regenerate miscellaneous data (MFC variant table)

```
REGENERATE-MFCTA:MFCVAR=2,TYPE=MFCVAR,OPT=MISC;
```

COPY-MFCTA: 1,2;
CHANGE-
MFCTA:2,MFCVAR,MISC,SOCFB,SOCFF,10,RSV1&RSV2&RSV3,N,,N,,N,,Y,2AB
D0;

146.3.4 COPY-MFCTA

With the aid of the COPY action, the user can overwrite the MFC tables with the contents of the basic initialization tables on the hard disk.

Only complete MFC table sections can be copied, i.e. both the MFC variant tables and the MFC signal conversion tables are copied for forward and backward signaling.

By specifying MFCVARI=0, the user can delete the contents of a specified file. This is done by overwriting the MFC table with zeroes (empty fields). The MFC table 0 is initialized with zeroes on the hard disk.

The parameter MFCVAR is optional. If MFCVAR is not declared, the AMO searches for a free table element (i.e. not initialized). If the search is successful, the advisory message H1 is output; if unsuccessful, the advisory message H2 is output.

If the user specifies MFCVARI=0, then he must also declare MFCVAR, otherwise the input will be requested by output of the error message F3.

The COPY commands for all table elements with MFCVARI > 0 are output in the REGENERATE action.

Procedure Overview

Command Code	Parameter
COPY-MFCTA	MFCVARI=<number>, [MFCVAR=<number>];

146.4 Parameter Description

ADINFO	Additional information
Type of Input	: Single value, optional
Possible Values	: 0 - 99
	1 - 16 for STNCAT=INFO
Default Value	0
ADREQ	Address request/retransmit signal(s)
	Number of request signals and request signals for SOCOTEL
	The CCITT-R2 standard allows the dialed number to be repeated with this code once the MFC signal exchange has begun (request last or penultimate signal from the central office/exchange).

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

Type of Input : Single value, optional
Possible Values : 0 - 9, A - F, *, #, of max. 6 digits
For SOCOTEL (MFCTYPB/MFCTYPF=SOCFB/SOCEB/SOCFF/SOCEF),
at least 1 request signal must be set.

ANBEG

Begin position of A number in CPB
Type of Input : Single value, optional
Possible Values : 0 - 44
Default Value : 0
Type of Input : Single value, optional

ANEND

End position of A number in CPB
Position for insertion of A number
Type of Input : Single value, optional
Possible Values : 0 - 44
Default Value : 0

ANICAT

Ani category
Type of input : single value, optional
Possible values:

ANI1	ani kategorie 1	DB_MFC_ANI1
ANI10	ani kategorie 10	DB_MFC_ANI10
ANI2	ani kategorie 2	DB_MFC_ANI2
ANI3	ani kategorie 3	DB_MFC_ANI3
ANI4	ani kategorie 4	DB_MFC_ANI4
ANI5	ani kategorie 5	DB_MFC_ANI5
ANI6	ani kategorie 6	DB_MFC_ANI6
ANI7	ani kategorie 7	DB_MFC_ANI7
ANI8	ani kategorie 8	DB_MFC_ANI8
ANI9	ani kategorie 9	DB_MFC_ANI9
NULL	no evaluation	DB_MFC_NULL

APOS

Position for insertion of A number
Type of Input : Single value, 11. parameter of a min-1-group
Possible Values : 0 - 44
Default Value : 0

BACKTYPE

MFC conversion tables, backward signals
Type of Input : Single value, optional
Possible Values : ANIBACKW ani backward
ANIFORW ani forward

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

MFPBACKW	mfp backw co -> system
MFPFORW	MFP mode forward system -> co
MFRPB	multi frequency packed backward
MFRPF	multi frequency packed forward
MFRSB	multi frequency shuttle backward
MFRSF	multi frequency shuttle forward
NULL	no evaluation
R1	ccitt-r1 mode
R2BKWD	Operation on CCITT-R2 mode CCITT-R2 standard operation PABX=terminal exchange Transmitter: Forward
R2FORW	Operation on CCITT-R2 mode PABX=origin Transmitter: Forward Receiver : Backward
SOCE6B	MFC SOCOTEL forward mode, Spain (CO sends dial signals to PABX) Transmitter: Control freq. (2 out of 6) Receiver : MFC signals
SOCE6F	MFC SOCOTEL forward mode, Spain (CO sends dial signals to PABX) Transmitter: MFC signals Receiver : Control freq. (2 out of 6)
SOCEB	MFC SOCOTEL (2 out of 5), Spain backward (PABX sends dial signals to CO) Transmitter: MFC signals (2 out of 5) Receiver : Control frequency
SOCEF	MFC SOCOTEL forward mode, Spain (CO sends dial signals to PABX) Transmitter: MFC signals Receiver : Control freq. (2 out of 5)
SOCFB	MFC SOCOTEL (2 out of 6), France backward (PABX sends dial signals to CO) Transmitter: MFC signals (2 out of 6) Receiver : Control frequency
SOCFF	MFC SOCOTEL forward mode, France (CO sends dial signals to PABX)

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

Transmitter: MFC signals

Receiver : Control freq. (2 out of 6)

BSDIRCNT	length of basic directory number
Type of Input:	single value, optional
Possible Values:	numeric, 0-22
BSDIRNO	basic directory number
Type of Input:	single value, optional
Possible Values:	0-9,*,#,A-D, up to 22 characters
BSIG	Backward signal to be transmitted
Type of Input	: Single value, optional
Possible Values	: 0 - 15
IF BSIG = 0 in the table BSIGA for BACKTYPE = R2BKWD, then no BSIG will be send to CO. For SOCOTEL BSIG = 0 is interpreted as control frequency.	
CATEGORY	Physical grp II signal to be transmitted (on identification)
Type of Input	: Single Value, optional
Possible Values	: 0 - 15
CATTRANS	station category in case of transit
Type of Input:	single value, optional
Possible Values:	A-K
ATND	attendant console
ATND1	attendant console 1
ATND2	attendant console 2
DATA	data transfer
DATA1	data transfer 1
DATA2	data transfer 2
DATANTLL	data no toll
FWDCO	call forwarding to central office (co)
IGNFWD	ignore call forwarding
INFO	info
LOCLCALL	local call
NOMEAN	no meaning
NOMENTLL	no meaning, no toll
PRIO	with priority
PRIO1	with priority 1

	PRIO2	with priority 2
	PRIONTLL	priority, no toll
	SATELLIT	sattelite
	TESTEQ	test equipment
	TOLLCALL	toll call
	TRANSIT	transit
CHADGT	Change digits (Y/N)?	
	Type of Input	: Single value, mandatory
	Possible Values	: N,NO [no],no, criterion for req. sig./digit entry changes
		Y,YES [yes],yes, criterion for req. sig./digit entry changes
CHAREQ	Change request signal(s)	
	Type of Input	: Single value, mandatory
	Possible Values	: N,NO [no], no, criterion for req. sig./digit entry changes
		Y,YES [yes], yes, criterion for req. sig./digit entry changes
CHEXAC	Change exchange access code for identification (Y/N)?	
	Type of Input	: Single value, mandatory
	Possible Values	: N,NO [no], no digits to be changed. If there is a value entered for the succeding parameter EXACFI this value is ignored.
		Y,YES [yes], digits are to be changed according tor the parameter EXACFI; if nothing is specified number of digits and the digits themselves will be set to 0.
CHLCLTR	Change local trunc code (Y/N)?	
	Type of Input	: Single value, mandatory
	Possible Values	: N,NO [no], no digits to be changed. If there is a value entered for the succeding parameter LCLTRCD this value is ignored.
		Y ,YES [yes], digits are to be changed according tor the parameter LCLTRCD; if nothing is specified LCLTRCD will be deleted.
CHTRDIS	Change traffic discrimination digit for identification (Y/N)?	
	Type of Input	: Single value, mandatory
	Possible Values	: N,NO [no], no digits to be changed. If there is a value entered for the succeding parameter TRDISDI this value is ignored.
		Y,YES [yes], digits are to be changed according tor the parameter TRDISDI; if nothing is specified the TRDISDI will be deleted.

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Parameter Description

CNT	Number of valid postions on the ID sequence Type of Input : Single value, optional Possible Values : 0 - 22 Default Value : Number of specified hexadecimal digits of the parameter ID If CNT is less than the number of characters specified with ID, then only the value entered for CNT is taken into account. If CNT is greater than the number of characters specified with ID, then the value entered for ID is boosted by adding zeroes ('0') to the hexadecimal number. If CNT=0, ID is deleted.
COEX	Class of external Type of Input : Single value, optional Possible Values : 0 - 16
COEXTRAN	Class of external in case of transit Type of Input : Single value, optional Possible Values : 0 - 12
CTLF	Supervision time for control frequency (removal) Only used for SOCOTEL (BACKTYPE/FORWTYPE=SOCFB/SOCEB/SOCFF/SOCEF) Type of Input : Single value, optional Possible Values : 0-999999 0 = Deactivate supervision
DGTS	Evaluation table digit(s) Number of digits + digits of an evaluation table Type of Input : Single value, optional Possible Values : 0 - 9, A - F, of max 6 hexadecimal digits No input is interpreted as meaning no digits. (Number of digits and the digits themselves will be set to 0.)
DIGIT	mfc-signal see CCITT Q.441 Type of Input: single value, optional Possible Values: numeric, 0-15
DINFO	Dialing Information Type of Input : Single value, optional

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Parameter Description

Possible Values :	ADINFO	Additional information (reserved)
	ANO	Transfer to A-party number
	DGT	Transfer dialed digits
	IDEND	End of A-party number transfer
	IDREF	Send A-party number request refused
	IDSEND	Send A-party number
	INCO	Dialing incomplete
	NOPO	Not possible
	NULL	No evaluation
	TRACE	Malicious call trace

EODTYPE End-of-dial signal type (digit analysis result)

Type of Input 1 to 20 single values, concatenated with &, mandatory

Possible Values	ADVICE	station returning advisory / recorded info
	BSYCO	Device busy on CO call
	BSYTIE	Device busy on tie/house call
	BUSY	Device busy
	CONG	Congestion / exchange busy
	DIDDND	station has do not disturb for indial
	DND	Do not disturb is active
	STNCL	station/subscriber class
	ETEMIN1	End to End, repeat second last digit (n-1)
	ETEMIN2	End to End, repeat second last digit (n-2)
	ETEMIN3	End to End, repeat second last digit (n-3)
	ETEMINX	End to End, repeat all digits
	ETENORSP	End to End, no backward signal
	FRCHG	Device free, call charges
	FRNCHG	Device free, no call charges
	IDENT	Changeover to identity check state
	INCO	Dialing incomplete
	MCIDFC	subscriber call tracing and free of charge
	NASS	Call fwd. LODEN / station no. LODEN not assigned)
	NAUTH	Connection does not have required authorization
	NAVA	Not available (finding or hunt restrictions)
	NOPO	Not possible
	NVAL	Not valid
	OVR	override busy station
	TEST	Connection to test circuit
	TRACE	Malicious call trace

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

	TRANS	Through-connection (transit) to ATND console
EVTBL	Pointer to MFC evaluation tables	
	Type of Input	: Single value, mandatory
	Possible Values	: 0 - 3
EXACFI	Exchange access code for identification	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 9, A - D, *, #, of max. 6 digits
FILLCHAR	fill character at minimal digit position	
	Type of Input:	single value, optional
	Possible Values:	hexadecimal, up to 1 characters
FORWTYPE	MFC conversion tables, forward signals (see parameter BACKTYPE for description)	
FSIG2	Group state for forward signal	
	Type of Input	1 to 23 single values, concatenated with &, mandatory
	Possible Values	ANI1-10 ani kategorie 1-10
	AXINT	Call extension by ATND with intervention/announcement
	AXNOI	call extension by atnd without intervention/ann.
	AXRLS	Call extension by ATND with speed release
	COIN	Coin
	DATA	Data transmission
	DATANTLL	data connection, no toll
	FWDCO	Forwarding to CO
	INATC	International call
	INATCLPR	internation call into private network
	INFO	Reference to ADINFO
	LOC	Local-Call
	LOCCLPR	local call into private network
	LOCNV	Local-Data-Call
	LOCS	Local service
	NATC	National call
	NATCLPR	national call into private network
	NATS	National service
	NOPO	Not possible

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

PRISTN	Priority station or CO subscriber
SATCONN	satellite connection
STN	Station
STNCAT1	Reserved
STNCAT2	Reserved
STNCAT3	Reserved
STNNTLL	station no toll
STNPRONT	station with priority, no toll
STPRIO1	Station/subscriber with prio 1
TEST	Connection to test circuit
TOLLC	Toll-Call
TOLLOP	Toll operator
ROUTINE	MLPP routine call
PRTY	MLPP priority call
IMMED	MLPP immediate call
FLASH	MLPP flash call
FLASHOV	MLPP flash override call
PROT	MLPP protected call

ID Identification signal sequence

Type of Input : Single value, optional

Possible Values : 0 - 9, A - F, of max. 22 hexadecimal digits
MFC signal sequence of 1 - 22 hexadecimal digits

Default Value : blank signal sequence

IDX iIndex to evaluation table

Type of Input : Single value, optional

Possible Values : 0 - 3 Evaluation table 0 to 3
4 Toll call
5 Local call
6 - 99 Preliminaries

Default Value : 0

IMP Revert to impulsing on error (MFC R2)

If BACKTYPE/FORWTYPE=SOCFB/SOCEB this parameter is of no significance

Type of Input : Single value, optional

Possible Values : 0 - 15

IMP2 Error with call forwarding to attendant

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Parameter Description

	Type of Input	: Single value, optional
	Possible Values	: 0 - 15
IMPD	Duration of "IMP" pulse	
	Only used for BACKTYPE/FORWTYPE=R2BKWD.	
	If BACKYPE/FORWTYPE=SOCFB/SOCEB/SOCFF/SOCEF, this parameter is of no significance.	
	Type of Input	: Single value, optional
	Possible Values	numeric, 0-999999
IMPS	Seperation of MFC "IMP" pulse	
	Only used for BACKTYPE/FORWTYPE=R2BKWD.	
	If BACKYPE/FORWTYPE=SOCFB/SOCEB/SOCFF/SOCEF, this parameter is of no significance.	
	Type of Input	: Single value, optional
	Possible Values	: numeric, 0-999999
INFO	Additional information to aid programming	
	Type of Input	: Single value, optional
	Possible Values	BSIG End signal exchange, changeover to B signal
		: DIAL Dialing incomplete
		END End exchange of signals
		IDENT Changeover to identity check state
		INFOA Reserved
		INFOB Reserved
		INFOC Reserved
LCLTRCD	Local trunc code	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 9, A - D, *, #, of max. 6 digits
MAXDGTS	maximum number of a-digits from CO	
	Type of Input:	single value, optional
	Possible Values:	numeric, 0-22
MFCVAR	MFC table	
	Type of Input	: 1 to 3 single values, concatenated with & or &&, mandatory (CHANGE)
		1 to 3 single values, concatenated with & or &&, optional (DISPLAY / REGENERATE)
		single value, optional (COPY)
	Possible Values	: numeric, 1-10

MFCVARI	Number of MFC table to COPY Type of Input : Single value, mandatory Possible Values : 0 - 255										
MFPPAUSE	Pause duration for MFP signaling (5ms steps) Type of Input : Single value, optional Possible Values : 0 -1270 ms										
MFPPULS	Pulse duration for MFP mode (5ms steps) Type of Input : Single value, optional Possible Values : 0 -1270 ms										
NEXTSIG	Supervision time for next signal, forward mode Type of Input : Single value, optional Possible Values : numeric, 0-999999										
NXTSIG	Supervision time for next signal Type of Input : Single value, optional Possible Values : numeric, 0-999999										
OPT	Branch parameter, MFC table option Type of Input for DISPLAY,TYPE=MFCVAR / REGENERATE,TYPE=MFCVAR 1 to 2 single values, concatenated with &, optional Type of Input for DISPLAY,TYPE=TBLF / REGENERATE,TYPE=TBLF 1 to 7 single values, concatenated with &, optional Type of Input for DISPLAY,TYPE=TBLB / REGENERATE,TYPE=TBLB 1 to 9 single values, concatenated with &, optional Type of Input for CHANGE,TYPE=MFCVAR / CHANGE,TYPE=TBLB / CHANGE,TYPE=TBLF single value, mandatory Possible Values for TYPE=TBLB (backward mode): <table> <tr> <td>BIDENT</td><td>Back. group A signal in origin</td></tr> <tr> <td>BSIGA</td><td>Back. group A signal on dialing</td></tr> <tr> <td>BSIGB</td><td>Back. group B signal on dialing</td></tr> <tr> <td>BSIGB1</td><td>2nd Group B signal table</td></tr> <tr> <td>EVAL</td><td>Evaluation tables</td></tr> </table>	BIDENT	Back. group A signal in origin	BSIGA	Back. group A signal on dialing	BSIGB	Back. group B signal on dialing	BSIGB1	2nd Group B signal table	EVAL	Evaluation tables
BIDENT	Back. group A signal in origin										
BSIGA	Back. group A signal on dialing										
BSIGB	Back. group B signal on dialing										
BSIGB1	2nd Group B signal table										
EVAL	Evaluation tables										

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

FIDENT	Group I signal on ID check
FORIA	Group II signal after A5
FORIB	Group II signal after A3
FSIG	Group I signal on dialing

Possible Values for TYPE=TBLF (forward mode):

BIDENT	Group A signal on ID check
BSIGA	Group A signal on dialing
BSIGB	Group B signal on transition to grp II
BSIGB1	2nd group B signal table
BSIG2	Back grp II sig on transition to B sig
DIALOUT	Evaluation of digits to send
FIDENT	Back. significance on ID check

Possible Values for TYPE=MFCVAR

MFCVAR	miscellaneous data for a specified variant
SUPERV	supervision parameters for evaluation

ORIG	Originating party signal handling option
Type of Input	: Single value, single value, optional
Possible Values	: COEX Class of externals
	EVAL Evaluation of dialed number,
	NOPO Not possible (error listing is output)
	SIG apply the backward signal from group b

PABXID	PABX identification sequence
Type of Input	: Single value, optional
Possible Values	: 0 - 9, A - F, of max. 22 hexadecimal digits
	MFC signal sequence of 1 - 22 hexadecimal digits
Default Value	: blank signal sequence

PAR	Parameters (attributes) for MFC variant
Type of Input	: 1 to 17 single values, concatenated with &, optional
Possible Values	AMTC2 Electro mechanical exchange of type C2
	AMTC3 Electro mechanical exchange of type C3
	CATTOID change category to identifier
	CHKIDDGT check first digit at ident
	CHRGSIM activate call charging simulateion
	EOFSEL send dialing end to lw
	FRELBU forward release if busy
	FRELSB forward release if station busy

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

IDBEFBS	identify before b station
IDCAT	Station/subscriber category number transfer.
IDNOCAT	identification without station/sub. category
IGNI15	ignore i-15 as first sign
KATTOA	category is part of A number
MFCMO	mfc monitoring message for test
MFRP3	mfr-packet protocol 3
MFRPE	mfr-packet with echo blocking
MFRPRES	reserved parameter 1 for MFRP
NOB11	no B11-Signal at incoming long distance seizure
NOMFCMO	supress mfc monitoring message
NONE	No attribute NONE is used to delete resp. override values of the parameter PAR. If NONE is used in combination with other values, only the values after NONE will be accepted.
NOTNER	Backward release on error without alerting tones or MFC register signals (e.g. as for Belgium).
PRIOSUB	subscriber with override authorization
RSV1	Reserve attribute 1 for diverse country-specific adaptations.
RSV2	Reserve attribute 2 for diverse country-specific adaptations.
RSV3	Reserve attribute 3 for diverse country-specific adaptations.
RSV4	Reserve attribute 4 for diverse country-specific adaptations.
RSV5	Reserve attribute 5 for diverse xcountry-specific adaptations.
SOCEBWS	extended backwardsignal (socotel)
SOCTEST	exchange simulation ibercom,mfc-socotel (spain)
SPCMA	Programmable exchange of type SPC with A number
SPCOA	Programmable exchange of type SPC w/o A number
TRANSWB	without b-signal at transit if b-number available
WBEOAAN	wait between end of address and answer
TSTSTATE	activate test states
MLPP	Multi-Level Precedence and Preemption Service

PCNT Number of valid position in the PABX ID
 Type of Input : Single value, optional
 Possible Values : 0 - 22

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

Default Value : Number of specified hexadecimal digits of the parameter PABXID
If PCNT is less than the number of characters specified with PABXID, then only the value entered for PCNT is taken into account.
If PCNT is greater than the number of characters specified with PABXID, then the value entered for ID is boosted by adding zeroes ('0') to the hexadecimal number.
If PCNT=0, ID is deleted.

PHYSIG Supervision physical forward signal
Grp I forward signal on dialing (TYPE=TBLB, OPT=FSIG)
Grp I forward signal, significance after A5 (TYPE=TBLB, OPT=FORIA)
Grp I forward signal on ID check (TYPE=TBLB, OPT=FIDENT)
Grp II forward signal, significance after A3 (TYPE=TBLB, OPT=FORIB)
Type of Input : Single value, concatenated single values(max.16)
optional (for TYPE=TBLF, OPT=BSIG2)
mandatory (else)
Possible Values : 0 - 15

POS1 Position for the insertion of various id sig. blocks, e.g. PABXID
POS2 Position for the insertion of various id sig. blocks, e.g. PABXID
POS3 Position for the insertion of various id sig. blocks, e.g. PABXID
POS4 Position for the insertion of various id sig. blocks, e.g. PABXID
Type of Input : Single value, optional
Possible Values : 0 - 22
Default Value : 0

RMVCTL Supervision time for control frequency removal
Only used for SOCOTEL (BACKTYPE/FORWTYPE=SOCFB/SOCEB/SOCFF/SOCEF)
Type of Input : Single value, optional
Possible Values : 0 - 999999 milliseconds
0 = Deactivate supervision

RMVSIG Supervision time for removal of forward signal
Type of Input : Single value, optional
Possible Values : 0 - 999999 milliseconds
0 = Deactivate supervision

SIG Logical significance of an MFC signal (on dialing)
For SOCOTEL (BACKTYPE/FORWTYPE=SOCFB/SOCEB/SOCFF/SOCEF) only the values SIG = DGT0 - DGT15 may be allowed for the forward signal (not verified by the AMO)

Type of Input	: Single value, mandatory
Possible Values	: DGT0 - DGT15 Number of called station
	REJ Request rejected i.e information requested is not available
	EOD End of dialing / pulsing or end of identification
	NOPO Not possible
	EVAL Evaluation of dialed number pointer to evaluation table (parameter IDX)
	GR2 group II signal
	IDALLWD ident allowed

SIGLENF	Signal duration (length) in forward mode
Type of Input	: Single value, optional
Possible Values	: 0 - 999999 milliseconds
	0 = Deactivate supervision

SIGN	Backward signal name
Type of Input	: Single value, mandatory
Possible Values	: INCO Dialing incomplete
	MIN1 Repeat second last digit (N - 1)
	MIN2 Repeat third last digit (N - 2)
	MIN3 Repeat fourth last digit (N - 3)
	RPTALL Repeat all digits from beginning
	BSIG End signal exchange, change to B sig
	BUSY Station busy
	BSYINT Station busy on internal call
	BSYCO Station busy on CO call
	BSYLCL Station busy on local call
	BSYTOLL Station busy on toll call
	CONG Congestion / exchange busy
	STNCL Station/subscriber class
	IDENT Send station number of A station
	TRACE Start malicious call trace
	NOTERM No terminal connection
	NEWNO Number changed
	FRCHG Station free, call charges
	FRNCHG Station free, no call charges
	FAULT Station or station port fault
	OLDSTN Previous station/subscriber

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

NOPO	Not possible
NVAL	Not valid
NOT	Send notification tone
FPTYC	First Party Control
CPTYC	Calling Party Control
BSYNOVR	No override at busy station
BSIGN2	B-signal (reserved)
BSIGN3	B-signal (reserved)
GRADIG	Send digits group 'a'
GRCDIG	Send digits group 'c'
ALLDIG	Send all digits
CALLCLS	Send call class

SLEN1 extended send time 1
Type of Input : Single value, optional
Possible Values : 0 - 999999 milliseconds

SLEN2 extended send time 2
Type of Input : Single value, optional
Possible Values : 0 - 999999 milliseconds

SPAU Pause duration until send of next signal
Type of Input : Single value, optional
Possible Values : 0 - 999999 milliseconds

STADIAL Supervision time for first signal i.e. start dial supervision
Type of Input : Single value, optional
Possible Values : 0 - 999999 milliseconds
 0 = Deactivate supervision

STNCAT Station/subscriber category
Type of Input : Single value, optional
Possible Values : STN Station
 PRISTN Priority station or CO subscriber
 ANI1-10 ani kategorie 1-10
 DATA Data transfer
 AXRLS Call extention by ATND with speed rel.
 TOLL Toll Call
 LOC Local Call

MFCTA - Administration of Multifrequency Code Tables

Parameter Description

LOCNV	Local Data Call (non-voice)
LOCCLPR	local call to private network
TEST	Connection to test circuit
COIN	Coin
AXINT	Call ext. by ATND with intervention/ann
AXNOI	Call ext. by ATND without intervention/ announcement
STPRIO1	Station/subscriber with priority 1
TOLLOP	Toll operator
FWDCO	Forwarding to CO
INFO	Reference to additional information
NOPO	Not possible
STNCAT1	Reserved
STNCAT2	Reserved
STNCAT3	Reserved
STNNTLL	station no toll
STNPRONT	station with priority, no toll
DATANTLL	data connection no toll
NATCLPR	national call into private network
INATCLPR	international call into private network
SATCONN	satellite connection
ROUTINE	MLPP routine call
PRTY	MLPP priority call
IMMED	MLPP immediate call
FLASH	MLPP flash call
FLASHOV	MLPP flash override call
PROT	MLPP protected call

TNSIG Supervision time for event: Tone signal present
Type of Input : Single value, optional
Possible Values : 0 - 999999 milliseconds
 0 = Deactivate supervision

TRDISDI Traffic discrimination digit for identification
Type of Input : Single value, optional
Possible Values : 0 - 9, A - D, *, #, of max. 6 digits

TYPE Branch parameter
Type of Input : Single value

		mandatory (CHANGE)
		optional (DISPLAY, REGENERATE)
Possible Values	:	MFCVAR MFC variant table
		TBLB MFC conversion table, backward signals
		TBLF MFC conversion table, forward signals
		ALL Output all MFC information (DISPLAY and REGENERATE)
		HD Display a list of all existion MFC initialization tables on harddisk (only DISPLAY)

146.5 Error Messages and Advisories

146.5.1 Error Messages

F01: DMS ERROR: READING FILE MFCTAC0; DMS ERROR CODE: @@ HEX <text>
F02: ANBEG IS GREATER THAN ANEND
F03: FOR MFCVARI=0 MFCVAR MUST ALSO BE SPECIFIED
F04: CHANGE FOR MFCVAR=<x> NOT POSSIBLE.
FIRST THE TABLE MUST BE INITIALIZED BY MEANS OF COPY
F05: MFCVARI=@@@ does not exist on HD.
A list of all exisition initialization tables can be displayed using
DISPLAY-MFCTA:,HD;
F06: No free MFC tables found. Try to allocate memory for additional
MFC tables using AMO DIMSU (parameter MFCVAR)
F07: Illegal value for parameter MFCVAR=@@@. MFCVAR may be in range
from 1 to @@ (see AMO DIMSU, parameter MFCVAR)

146.5.2 Advisories

H01: COPY EXECUTED FROM MFCVARI=@@@ TO MFCVAR=@@@
H02: MFCVAR @@@ has been changed.

146.5.3 Use of the Output Messages for Each Action

CHANGE	:	F01, F02, F04, F07 H02
DISPLAY	:	F01

MFCTA - Administration of Multifrequency Code Tables

Error Messages and Advisories

REGENERATE : F01

COPY : F01, F03, F05, F06, F07
H01,

147 NAVAR - Administration of Static Night Switch Option Data

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

When night service is in effect, an attendant group (ATNDGR) is represented by a night option. All calls to the attendant group are signalled on an available device that is allocated to this night option. The allocation of the devices to the *night options* is carried out by means of this AMO.

The feature "Centralized Attendant Services" also offers the option of assigning an attendant group to a night option (instead of a specific device). This attendant group can then function as a night switch for the entire attendant traffic of the ATNDGR which needs to be represented. An attendant group which takes on the duties of another attendant group is a "centralized attendant services group" (CASGR). A CASGR can be an ATNDGR within the same PABX (CASINT) or even within the same integrated network (CASEXT).

Thus, this AMO provides a range of night options, which can be identified by their option number. Using AMO VFGR, it is then possible to allocate up to 8 of these night options to each ATNDGR. The night option that represents a given ATNDGR when the night service is active can be individually defined via screen menu at an attendant console (ATND) in that ATNDGR.

A night option can assume the following configurations:

- a) "None" Night Option (Dummy Option, Blank Option)
Only one option can be defined as a dummy option. It can be allocated to an ATNDGR as a night option if the particular ATNDGR does not wish to have night service.
- b) General Answering from any Station Option/ Universal Night Answer/
Night bell pick-up
Options of this type consist of exactly one device created especially for "general answering from any station" by means of AMO SSC.
- c) Station Option
Options of this type consist of up to 10 assigned local stations of the own node.
Incoming calls are allocated cyclically.
- d) CASINT option
Options of this type consist of an ATNDGR in the same PABX as the ATNDGR to be represented, which is identified by its

NAVAR - Administration of Static Night Switch Option Data

Restrictions

attendant group number (ATNDGR). An internal CASGR may only be assigned to one night option. However, an internal CASGR does not have to be assigned as such using the AMO VFGR, since its presence is not verified by this AMO.

e) CASEXT option

Options of this type consists of an ATNDGR within an integrated network, which is identified by its attendant group dialing code and the destination number of the PABX to which it belongs. An external CASGR may only be assigned to one night option. However, neither the attendant group dialing code (AMO VFGKZ) nor the destination number (AMO RICHT) must have been specifically assigned, since the presence is not verified by this AMO.

The parameter CD is need to enter a 22 digit number. For open numbering this number consits of the tie trunk access code and attendant code. For closed numbering the attendant code of the ATNDGR for the target switch is used. This identification number must exist in the digit translation as a digit analysis = NETWORK along with the corresponding target number.

147.1 Restrictions

This description is valid for HICOM 300E V2.0.

147.2 Interrelationships

- AMO ACSU : Attendant Console Configuration
- AMO SCSU/SBCSU : Subscriber Configuration of Switching Unit
- AMO VFGR : Attendant Console Groups
- AMO SSC : Special Subscriber Configuration

147.3 Functions of the AMO

- [ADD-NAVAR](#) : Create Night Option
- [CHANGE-NAVAR](#) : Change the Night Option Data
- [DELETE NAVAR](#) : Cancel the Night Options
- [DISPLAY-NAVAR](#) : Interrogate All Static Data of All Night Options

- **REGENERATE-NAVAR** : Regenerate the Current Status of the Night Option Data

147.3.1 ADD-NAVAR

A night option is identified by its option number.

A maximum of 128 night options in total are possible.

Procedure Overview

Command Code	Parameter
ADD-NAVAR	NOPTNO=<number> , TYPE=NONE | , TYPE=GENANS, GENANSNO=<number>; | , TYPE=STN, STNO=<number>; | , TYPE=CASINT, ATNDGR=<number>; | , TYPE=CASEXT, CD=<number>;

147.3.2 CHANGE-NAVAR

By means of the function CHANGE NAVAR, it is possible to change a set of devices allocated to a night option.

A distinction must be made between two types of changes:

- **Change the Option Type**
This corresponds to a complete redefinition of the night option and is therefore possible only by means of the DELETE and ADD functions.
- **Change the Set of Devices (for TYPE=STN only)**
The parameter FUNCT is used to describe the type of change, i.e., it is possible to remove devices from the set (FUNCT=DEL) and to add devices to the existing set (FUNCT=ADD). In particular, by using FUNCT=DEL and by specifying several options for parameter NOPTNO, it is possible to search for a device within several options and to remove this device from all of them. This is necessary, for example, if the device concerned is to be cancelled.
In order to preserve the clarity, however, only several night options or several devices can be specified. It is also impossible to simultaneously add/remove several devices to/from several

NAVAR - Administration of Static Night Switch Option Data

Functions of the AMO

options.

If the first device in a night option assigned to an attendant group is deleted (FUNCT=DEL), the number of the new first device will be displayed at the ATND.

Procedure Overview

Command Code	Parameter
CHANGE-NAVAR	[NOPTNO=<number>], FUNCT=<param> , TYPE=STN, STNO=<number>;

Example

Search all night options for station 3100 and remove it.

Input:

```
CHANGE-NAVAR:FUNCT=DEL, TYPE=STN, STNO=3100;
```

Note

In this case the NOPTNO is missing.

147.3.3 DELETE NAVAR

It must be noted that a night option to be cancelled must not be to allocated any ATNDGR (cancel by means of AMO VFGR, parameter NOPT1 - NOPT8).

Procedure Overview

Command Code	Parameter
DELETE-NAVAR	NOPTNO=<number>;

147.3.4 DISPLAY-NAVAR

The function DISPLAY-NAVAR provides an overview of the devices allocated to the night options.

The attendant console group to which the option is allocated as a night option and group-specific night option number (NOPT) and name (NOPTNAME) under which it is listed there are also displayed.

The active night option of an ATND group is marked with an asterisk '*' (behind the group-specific night option number NOPT).

SG provides the number of the subgroup via which the night option is implemented internally (for traffic measurement).

Procedure Overview

Command Code	Parameter
DISPLAY-NAVAR	[NOPTNO=<number>];

Example

Interrogate all existing night options

Input:

DISPLAY-NAVAR;;

Output:

NOPT- NO	TYPE	DEVICES	ATND GR	NOPT	NOPTNAME	SG
1	STN	2104 3100 3110	0	1	NIGHT OPTION 1	1
2	GENANS	0	0	2*	NIGHT OPTION 2	2
3	STN	2103 3110	1	1	NIGHT OPTION 1	3
4	STN	4302	1	7*	NIGHT OPTION 7	4
6	STN	4306 4307	2	1*	NIGHT OPTION 1	5
7	STN	2115	1	8	NIGHT OPTION 8	6
8	NONE					7
9	STN	4308				8
10	CASINT	ATNDGR=1	2	2	NIGHT OPTION 2	
11	CASEXT	CD=123456789090				

147.3.5 REGENERATE-NAVAR

Procedure Overview

Command Code	Parameter
REGENERATE-NAVAR	[NOPTNO=<number>];

147.4 Parameter Description

ATNDGR	ATND group number of internal centralized ATND service
Type of Input	: single value, mandatory
Possible Values	: 0 - 15
	AMO NAVAR does not verify, whether the ATNDGR has already been assigned by AMO VFGR.
CD	Code for external centralized ATND service

NAVAR - Administration of Static Night Switch Option Data

Parameter Description

	Type of Input	: single value, mandatory
	Possible Values	: 1 - 22 digits long AMO NAVAR does not verify, whether the CD has already been assigned by AMO VFGKZ.
FUNCT	Whether devices are to be added or removed	
	Type of Input	: single value, mandatory
	Possible Values	: DEL = delete device ADD = add device
GENANSNO	Device number of preassigned universal night answer station	
	Type of Input	: single value, mandatory
	Possible Values	: 0 to 15
NOPTNO	Number of the night switch option	
	Type of Input	: single value, concatenated single values, range (except ADD) optional (CHANGE, DISLPAY, REGENERATE) mandatory (ADD, DELETE)
	Possible Values	: 1-128
	Default Value	: 1&&128
STNO	Station number	
	Type of Input	: single value, concatenated single values mandatory
	Possible Values	: DNs of created stations. In total, no more than 10 stations may be allocated to an option.
TYPE	Night answer category	
	Type of Input	: single value, mandatory
	Possible Values	: NONE dummy option STN station option GENANS general answering from any station option (universal night answer) CASINT internal centralized ATND service group CASEXT external centralized ATND service group
	Note	: It is not possible to assign SET600 devices (see AMO SBCSU) to a night option of TYPE=STN (F10 will be output).

147.5 Error Messages and Advisories

147.5.1 Error Messages

F01: NIGHT OPTION <nnn> ALREADY ASSIGNED
 F02: NIGHT OPTION <nnn> NOT ASSIGNED
 F03: NIGHT OPTION <nnn> CANNOT BE DELETED, AS IT IS STILL ASSIGNED TO
 ATND GROUP <gg>
 F04: DEVICE TYPE ENTERED DOES NOT MATCH NIGHT OPTION <nnn> SPECIFIED
 F05: DEVICE <xxxxxx> IS ALREADY INCORPORATED IN NIGHT OPTION <nnn>
 F06: NIGHT OPTION <nnn> CANNOT BE ASSIGNED, SINCE NO PROVISION HAS BEEN MADE
 FOR FURTHER NIGHT STATIONS (AMO DIMSU: PARAMETER NSTN)
 F07: NIGHT OPTION <nnn> CANNOT BE ASSIGNED, AS A "NONE" OPTION
 ALREADY EXISTS
 F09: NIGHT OPTION <nnn> CONTAINS TOO MANY DEVICES
 F10: DEVICE <xxxxxx> IS NOT OF THE DEVICE TYPE SPECIFIED
 (Note: It is not possible to assign SET600 devices (see AMO SBCSU) to a night
 option of TYPE=STN.)
 F11: THERE IS NO DEVICE <xxxxxx> IN NIGHT OPTION <nnn>
 F12: THE SPECIFIED RANGE(S) DO(ES) NOT CONTAIN A VALID NIGHT OPTION
 F13: STNO <xxxxxx> IS THE ANALOG SIDE OF A MODEM
 F14: THE SIMULTANEOUS SPECIFICATION OF A NUMBER OF NIGHT OPTIONS
 AND DEVICES IS INADMISSABLE
 F15: DEVICE <xxxxxx> NOT ASSIGNED FOR ANSWERING FROM ANY STATION (GENANS)
 F16: DELINKING THE FINAL DEVICE FROM NIGHT OPTION <nnn> IS INADMISSIBLE.
 USE DELETE FUNCTION!
 F17: THE SPECIFICATION OF SEVERAL NIGHT OPTIONS WHEN ADDING NIGHT ATND'S IS
 ILLOGICAL
 F18: NIGHT OPTION <nnn> IS THE ACTIVE OPTION OF ATND GROUP <gg>. NO DEVICE
 MAY BE REMOVED (AT FIRST THE NIGHT OPTION MUST BE DEACTIVATED)
 F19: NIGHT OPTION <nnn> CANNOT BE ASSIGNED SINCE INSUFFICIENT SUBGROUPS ARE
 AVAILABLE (AMO DIMSU: PARAMETER SG)
 F20: NIGHT OPTION <nnn> CANNOT BE ALLOCATED MEMORY
 F21: DEVICE <xxxxxx> HAS BEEN SPECIFIED A NUMBER OF TIMES
 F22: NIGHT OPTION <nnn> HAS BEEN SPECIFIED A NUMBER OF TIMES
 F23: DEVICE <xxxxxx> IS NOT PRESENT IN ANY NIGHT OPTION IN THE (ONE OF THE) RANGE(S)
 SPECIFIED
 F24: STNO <xxxxxx> INVALID (WITNESS FACILITY)
 F25: SPECIFIED CENTRALIZED ATND SERVICE ALREADY ASSIGNED IN NOPTNO <nnn>
 F26: STNO <xxxxxx> CANNOT BE ADDED TO A NIGHT OPTION, AS LONG ACKST=TE IS) SET IN
 THE AMO SCSU
 F27: STNO <xxxxxx> IS A SPECIAL <amo> SUBSCRIBER WHICH IS NOT ALLOWED IN A NIGHT
 OPTION.
 F28: ONS GROUP MEMBERS (STNO =<stno>) CAN NOT BE ASSIGNED AS NIGHN STATION
 F29: THERE IS ANOTHER NOPTNO WITH THE SAME CD.

147.5.2 Advisories

H01: NIGHT OPTION <nnn> NOT YET ASSIGNED
H02: RANGE <nnn> TO <nnn> DOES NOT CONTAIN ANY ASSIGNED NIGHT OPTION
H03: NIGHT SERVICE NEEDS TO BE ACTIVATED
(ADD-ACTDA:TYPE=ATNDGR,ATNDGR=<gg>,ACT=ACT;)

Output Texts

<nnn> Night option number
<gg> ATND group number (assigned by AMO VFGR)
<xxxxxx> Code of devices
<amo> SCSU, SBSCU, SS SCU

147.5.3 Use of Output Texts for Each Action

ADD : F01 , F06, F07, F10, F13, F15, F19, F20, F21,
F22, F24, F25, F26, F27, F28

CHANGE : F02, F04, F05, F06, F09, F10, F11, F12, F13,
F14, F15, F16, F18, F20, F21, F22, F23, F24,
F26, F27, F28 H03

DELETE : F02, F03, F12, F23,

REGENERATE : None

DISPLAY : H01, H02,

148 PASSW - Password

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

Passwords and password classes regulate the user's access to the various AMO functions. The AMO PASSW is used to administrate the user passwords and to assign these passwords to password classes in accordance with the user's authorizations. A total of 15 passwords can be defined. Each password can consist of up to 8 uppercase letters, digits or special characters. The passwords are stored in encoded format.

The following table can be used as an aid for assigning user passwords to password classes:

User	Password class
Password administrator	5
Sales rep.	4
Product specialist	3
System administrator	2
Customer	1

Each AMO function (verb-noun combination) is (only) assigned one password class. In addition to the above-mentioned password classes there is class 0 whose functions are accessible without specifying a password. Higher classes automatically include lower classes (i.e. class-5 users can access all AMO functions).

With the exception of REGENERATE, all functions of the AMO PASSW belong to password class 5.

The password HICOM is assigned password class 5 by default. This password should be changed immediately to protect the system against access from unauthorized users. The password should have a length of at least six characters. At least one of these characters should be either a digit or a special character. The passwords should be changed at regular intervals by the password administrator.

The password HICOM is assigned password class 5 by default. This password should be changed immediately to protect the system against access from unauthorized users. The password should have a length of at least six characters.

PASSW - Password
Restrictions

The AMO PASSW is also used to administrate the terminal lock function. After a number of attempts for entering the correct user’s password, the terminal will be locked for a specific time. If the lock time equals zero, then the lock function is inactive.

148.1 Restrictions

This description is valid from SP300-V3.4

148.2 Interrelationships

None

148.3 Functions of the AMO

- [ADD-PASSW](#) : Creating a password
- [CHANGE-PASSW](#) : Changing a password
- [DISPLAY-PASSW](#) : Displaying the password table
- [DELETE-PASSW](#) : Canceling a password
- [REGENERATE-PASSW](#) : Regenerating the password table

148.3.1 ADD-PASSW

1. Adding a new password and assigning it to a password class.
2. Reloading the entire password table. The associated data is copied from a backup file which was previously generated by means of the function REGENERATE-PASSW.
3. Changing number of attempts and lock time.

Procedure Overview

Command Code	Parameter
ADD-PASSW	TYPE=PSWD, PWN=<string>, PWC=<number>; (1)
	| TYPE=TBL; (2)

Command Code	Parameter
	|TYPE=LOCK, {COUNT=<number>,TIME=<number>; (3)

Examples

1. Assigning the password EXAMPLE to password class 1.

Input:

```
ADD-PASSW:PSWD,EXAMPLE,1;
```

2. Reloading the entire password table by means of the generated backup file.

Input:

```
ADD-PASSW:TBL;
```

3. Changing number of attempts to 7 and lock time to 1 hour

Input:

```
ADD-PASSW:LOCK,7,1;
```

148.3.2 CHANGE-PASSW

An old password is replaced by a new password with the same password class.

Procedure Overview

Command Code	Parameter
CHANGE-PASSW	PWO=<string>,PWN=<string>;

Example

The password EXAMPLE is to be replaced by the password SECRET.

Input:

```
CHANGE-PASSW:EXAMPLE,SECRET;
```

148.3.3 DISPLAY-PASSW

All user passwords and the associated password classes are displayed.

Procedure Overview

Command Code	Parameter
DISPLAY-PASSW	;

Example

Input:

DISPLAY-PASSW;;

Output:

PASSWORD	CLASS
-----	-----
HICOM	5
SECRET	1
XYZZXY	3
X1X7C2X0	2
ELEKTRON	1
QUANTEN	1
ASW3521	2
ARTHUR	4
WILLEMMI	5

1 HOURS TERMINAL LOCK AFTER 7 ATTEMPTS OF ENTERING CORRECT
PASSWORD

148.3.4 DELETE-PASSW

This function cancels an existing user password. If the password to be canceled has been assigned to password class 5, it will only be canceled if there is at least one other password with password class 5. This ensures that at least one password with password class 5 exists.

Procedure Overview

Command Code	Parameter
DELETE-PASSW	PWO=<string>;

Example

Canceling the password SECRET from the password table.

Input:

DELETE-PASSW:SECRET;

148.3.5 REGENERATE-PASSW

Regenerating the password table and lock information. Unlike other AMO functions, this function does not use the ADD command format for output but encodes the passwords and then transfers them to a backup file. The contents of the backup file can be reloaded by using the command ADD-PASSW:TBL;

Procedure Overview

Command Code	Parameter
REGENERATE-PASSW	;

Example

Regeneration of the password table.

Input:

```
REGENERATE-PASSW;
```

Output:

```
ADD-PASSW:TBL;
ADD-PASSW:LOCK,7,1;
```

148.4 Parameter Description

COUNT	Number of attempts for entering the correct password Type of Input : Single value, optional Possible Values : 1-99
PWC	Password class Type of Input : Single value, mandatory Possible Values : 1-5 Password class 5 is the highest password class without any restrictions.
PWO PWN	Old password, New password Type of Input : Single value, mandatory Possible Values : max. 8 characters (upper case letters, digits or special characters)
TIME	Lock time in hours Type of Input : Single value, optional Possible Values : 0 = lock function inactive 1-240
TYPE	Branching parameter Type of Input : Single value, mandatory Possible Values : PSWD = create new password

PASSW - Password

Error Messages and Advisories

TBL	= reload password table
LOCK	= change lock function

148.5 Error Messages and Advisories

148.5.1 Error Messages

F01: PASSWORD ALREADY EXISTS
F02: PASSWORD DOES NOT EXIST
F04: NEW PASSWORD ALREADY EXISTS
F05: NO FURTHER PASSWORDS CAN BE ASSIGNED
F06: FILE ACCESS ERROR; DMS ERROR CODE: @@@@
F07: BACKUP FILE FOR PASSWORDS DOES NOT EXIST
F08: THE LAST PASSWORD WITH PASSWORD CLASS 5 MAY NOT BE CANCELED

148.5.2 Advisories

None

148.5.3 Use of the Output Messages for Each Action

DISPLAY	: None
CHANGE	: F02, F04
ADD	: F01, F05, F06, F07
DELETE	: F02, F08
REGENERATE	: F06

149 PATCH - Administration and Activation

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

Using the AMO PATCH, patch files (PF) which are on the hard disk (HD) can be added into a patch catalog, thus making them known to administration. PFs and Patch Catalog are located in: PDS: area of HD.

In addition, with the AMO PATCH the operator can delete patch files and their catalog entry and output information on patches in protocol form.

The group-id can be changed from all catalogued patches.

The AMO PATCH is used to activate or deactivate a software patch cataloged in the patch catalog on the hard disk. Adding into the patch catalog may be carried out when activating or deactivating the patch.

Patches can be activated and deactivated as MegaPatch or SinglePatch. Activating of many Patches will be faster with MegaPatch.

Patching is possible for:

- Resident subsystems on central processors: (de)activation possible on the hard disk (in the PGLIB) as well as in the main memory.

There are three possibilities for activation:

- In the main memory only
- In the main memory and on the hard disk (in the PGLIB)
- On hard disk only (in the PGLIB)

An activation on hard disk only is also possible for unloaded subsystems.

Patch activation can be carried out with securing (TEST=YES) or without securing (TEST=NO), with the following checks being carried out depending on the TEST parameter entered

Activation	Consistency check	Address check
secured (TEST = YES)	Yes	Yes
not secured (TEST = NO)	No	Yes

Table 3 Patch Activation Tests

The functions of the different tests are as follows:

- **Consistency test:**
In case of a valid subsystem header, APS-ID and subsystem are checked against the subsystem header. If the dummy correction version entry is valid, values of the subsystem correction version between the dummy and the source correction version are allowed.
- **Address check:**
A check is made to determine whether all patch addresses given in the patch file are located in the corresponding subsystems. This check is only carried out when (de)activating a patch.

One significant feature of patch technology is the possibility to return a system to its original status (as it was before initiation of the patch functions) at any time. The deactivation function can be used for this purpose. The "old data" stored in the patch file can be re-imported into the system software using this function. This "old data" must therefore always be available in the patch file, i.e. it is either supplied with the patch or is automatically read from the system software and stored in the patch file as part of the patch activation.

Old data	not present	present	
TEST parameter	Y/N	N	Y
Action	Data securing in patch file	Data securing in patch file	-

Table 4 Concept of Data Securing during Patch Activation

During (de)activation in the RAM of patches for resident subsystems on central processors, the checksum is always corrected in the JOTA. In addition, the activation status is entered in the patch catalog for every patch.

Structure of a patch file in E-file format

```

/****SOH2*****/
PATCH#           :   xxxxxx.xxx<
MRCAT#           :   xxxxxx<
TR#              :   xxxxxxxx<
DATE             :   xx.xx.xx<
AUTHOR           :   xxxxxxxxxxxxxxxxxxxxxx<
RESPONSIBLE      :   xxxxxxxxxxxxxxxxxxxxxx<
CONTACT          :   xxxxxxxxxxxxxxxxxxxxxx<
PROCESSOR        :   xxxxx<
APS-NAME         :   xxxxxxxxxxxxxx<
SUBSYSTEM        :   xxxxxxxxxxxxxxxxxxxxxx<
SRC-MODULE       :   xxxxxxxxxxxxxxxxxxxxxx<
SRC-PROCEDURE    :   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx<
PATCH AREA SUSY :   xxxxxxxxxxxxxxxxxxxxxx<
CODE AREA (B,E)  :   xxxxxxxxxxxxxxxxxxxxxx<
DATE AREA (B,E)  :   xxxxxxxxxxxxxxxxxxxxxx<
BASIC PATCH      :   xxxxxxxxxxxxxx<
ACTIVATION       :   xxxxx
RELATED PATCHES  :   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx<
ERROR DESCRIPT.  :   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx<
ERROR DESCRIPT.  :   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx<
ERROR DESCRIPT.  :   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx<
****EOH*****/

PRO PATCH:

BYTE 0xxxx:0xxxx LENGTH 0xxxx

/* OLD  DATA           = "reserved area (by blanks) for old data"
                        */

/* NEW  DATA           = */

BYTE 0xxxx:0xxxx = 0xx,0xx,0xx,0xx,0xx,0xx,0xx,.....

```

Restrictions and Notes

- Only patches in E-file format are supported
- Patch only in central subsystems in OMF286
- No data cross-check
- Interrupted (de)activation sequences are not recorded

149.1 Interrelationships

no relations

149.2 Functions of the AMO

- [ADD-PATCH](#) : Add (catalog) patch files
- [DELETE-PATCH](#) : Delete patch files and associated catalog entries
- [DISPLAY-PATCH](#) : Display patch data
- [ACTIVATE-PATCH](#) : Activate (and catalog) patches
- [DEACTIVATE-PATCH](#) : Deactivate (and delete) patches
- [CHANGE-PATCH](#) : Change the group-id of catalogued patch files
- [REGENERATE-PATCH](#) : Only the activation of optional patches is regenerated

149.2.1 ADD-PATCH

The specified patch files which must be in the PATCHINPUT area on the hard disk (:PDS:PATCHINPUT/<patno>) are catalogued. If the command does not contain a patch number, it applies to all patch files in the specified area. The parameter TEST enables a "hard" activation without consistency check. Patches may be supplied with a group-identification.
Optional patches can't be added.

Procedure Overview

Command Code	Parameter
ADD-PATCH	[PATNO=<string>], [TEST=<param>] , [GRPID=<string>];

Example

Input:

```
ADD-PATCH:D60001&D60002&D60005,,KV15TS07;  
ADD-PATCH:TESTPATCH,N;
```

149.2.2 DELETE-PATCH

Depending on the TYPE parameter, the following data is deleted

- All system patches (SYS)
- All patches of a APS (APS)
- All patches of a subsystem (SUSY)
- All patches of a group (GRP)

- Single patches (PATCH)

Optional patches can't be deleted explicit. They are deleted from the administration with the DEACT-Command. A copy of the deactivated patches remains in the :pds:opt directory.

Procedure Overview

Command Code

DELETE-PATCH

Parameter

```
TYPE=SYS;
|TYPE=APS,APSSIGN=<param>;
|TYPE=SUSY,SUSYNAME=<string>;
|TYPE=GRP,[GRPID=<string>];
|TYPE=PATCH,PATNO=<string>;
```

Example:

Input:

```
DELETE-PATCH:SYS;
DELETE-PATCH:APS,S;
DELETE-PATCH:SUSY,ZMCLAY00;
DELETE-PATCH:PATCH,PA60001&PA60002;
DELETE-PATCH:GRP,KV15*;
```

Output:

```
DELETE ALL PATCHES WITH GROUP IDENTIFIER KV15TS06 ? (Y/N)
```

Input:

Y

Note

In DELETE-PATCH:GRP is at the end of the string for group identifier allowed an asterisk as wildcard symbol.

149.2.3 DISPLAY-PATCH

Depending on the TYPE parameter, the following data is displayed.

- All system patches (SYS)
- All patches of a APS (APS)
- All patches of a subsystem (SUSY)
- All patches of a group (GRP)
- Single patches (PATCH)
- All optional patches and all activation flags in the DB

PATCH - Administration and Activation

Functions of the AMO

Procedure Overview

Command Code	Parameter
DISPLAY-PATCH	TYPE=SYS; TYPE=APS,APSSIGN=<param>; TYPE=SUSY,SUSYNAME=<string>; TYPE=GRP,GRPID=<string>; TYPE=PATCH,PATNO=<string>; TYPE=OPT;

Example:

Input:

DISPLAY-PATCH:SYS;

Output:

SUBSYSTEM	GROUP	PATNO	H	RAM	DATE
			D	A|VMS|TCS|BP|G|	HHMM |DDMMYY |
ZMIPTCH0.D.10.031		D60007	X	X|---	1107 |210892 |
ZMIPTCH0.D.10.031	KV15TS06	D60001	X	X|---	0944 |280692 |
ZMDAMCJA.D.10.035	KV15TS07	D60002	X	X|---	1457 |150792 |
ZMDSIG00.D.10.033	KV15TS07	D60005	X	X|---	1505 |150792 |
ZMIPTCH0.D.10.031		DERPATCH	X	X|---	1748 |180692 |
ZMDAMCJA.D.10.035		*PATCHAMC	X	X|---	0821 |010892 |

Note

The asterisk "*" indicates a patch that has been added with TEST=N.

The plus "+" indicates a patch that has been activated by MegaPatch.

The activation status of a patch is shown in the columns HD and RAM. The column RAM is subdivided into ADS (for module A1), VMS (V1, V2 and V3), TFS (T1, T2 and T3) and in column BP (processors BPA and BPB). In the last column the GP(LTG) status is presented generally, i.e. the symbol X is displayed when the patch is activated in at least one GP.

The date shows the last relevant access on patch file, i.e. adding of the patch, (de)activation on HD. (De)activation only in RAM are not signed.

Input:

DISPLAY-PATCH:GRP,KV15TS07

Output:

Functions of the AMO

SUBSYSTEM			GROUP	PATNO	H	RAM			DATE		
					D						
					A	VMS	TCS	BF	G	HHMM	DDMMYY
ZMDAMCJA.D.10.035	KV15TS07	D60002	X	X	---	---	--	-		1457	150792
ZMDSIG00.D.10.033	KV15TS07	D60005	X	X	---	---	--	-		1505	150792

Input:

```
DISPLAY-PATCH:GRP,*;
```

Output:

SUBSYSTEM	GROUP	PATNO	H	RAM	DATE
			D	A|VMS|TCS|BP|G	HHMM | DDMMYY
ZMPTCH0.D.10.031		D60007	X|X|---	---	1107 | 210892
ZMPTCH0.D.10.031		DERPATCH	X|X|---	---	1748 | 180692
ZMDAMCJA.D.10.035		*PATCHAMC	X|X|---	---	0821 | 010892
ZMPTCH0.D.10.031	KV15TS06	D60001	X|X|---	---	0944 | 280692
ZMDAMCJA.D.10.035	KV15TS07	D60002	X|X|---	---	1457 | 150792
ZMDSIG00.D.10.033	KV15TS07	D60005	X|X|---	---	1505 | 150792

Note

In DISPLAY-PATCH:GRP is at the end of the string for group identifier allowed an asterisk as wildcard symbol.

Input:

```
DISPLAY-PATCH:PATCH,D60007;
```

Output:

[illegible]

149.2.4 ACTIVATE-PATCH

Activation of single patches (TYPE=PATCH)

The specified patches are activated. If no patch numbers are specified, all patches found in :PDS:PATCHINPUT/ will be added and activated.

The parameter DEST specifies where the patch is activated:

- in the main memory only (DEST = RAM)
- in the main memory and on HD for resident subsystems (DEST = HD&RAM)
- on HD for resident subsystems only (DEST = HD).

If the parameter DEST is not specified, patch broadcasting is automatic. If a patch is only to be (de)activated in a specific system unit (processor), DEST must be specified.

The parameter TEST enables a "hard" activation without consistency check.

Activation on HD is carried out secured by means of a patch sequence (similar to ROLL_OUT) using PBO calls. Patching is always in the non-current version of the subsystem. Following this, the current and non-current versions are exchanged by means of changing the TAB. When the patch sequence is closed, the TAB is written back and the patch is thus active. For subsystems without reserve versions (ABS_ONLY), a "RES version" is automatically set up. When the patch sequence is closed, in this case the subsystem version which is no longer current is deleted. As a result, the TAB also has the status RES_ONLY. If an error occurs during patch activation, the patch sequence is automatically deleted (TAB is not switched over). The consistency of the PGLIB is also retained in the event of an error in patch activation.

The parameter GRPID only takes effect when adding a patch.

Activation of all patches of a group (TYPE=GRP)

All patches with the specified group identifier are activated. The patches must be added with that group identifier previously. It's possible to activate patches by 16 different group IDs.

Note

The activation status of a patch is not significant. The activation is performed once more, if the patch is still active.

Activate patches with MegaPatch

The patches can be activated as single or all together (MegaPatch). The manner of activation depends on the activation sign ACTSG. The default value is MEGA. Activation by MegaPatch will be used for many

patches. The activation will be much faster, if their are only patches from one subsystem (or only some few subsystems). All the patches recording to the same subsystem will be picked up and activated all at once by using the MegaPatch option (subsystem is copied only once). After activating all patches of one subsystem the patches of the next subsystem will be activated. Therefore the process is much faster for activating many patches.

The single-patch-process activates one patch after the other.

Activation of optional Patches

- Optional Patches are located in the directory ":PDS:OPT/". It isn't possible to use the command "ADD-PATCH" for optional Patches.
- The activation flag in the DB is set during the activation of optional patches. (Formerly done by AMO PSA resp. AMO PSS)
- Optional Patches are always activated on Harddisc and on all available target processors.
- The group ID's can't be chosen for free. The group ID is generated from the value of the field ACTIVATION in the patch header. (e.g.: group ID D0017 for the value 17 in the header field ACTIVATION of a ADP patch.)
- The parameter TEST isn't possible for optional patches. They are always activated secure and with all checks.

Procedure Overview

Command Code

ACTIVATE-PATCH

Parameter

```
TYPE=PATCH, [PATNO=<string>], [DEST=<param>]
, [TEST=<param>], [GRPID=<string>], [ACTSG=<param>];
| TYPE=GRP, GRPID=<string>, [DEST=<param>]
, [TEST=<param>], [ACTSG=<param>];
| TYPE=OPT, APSSIGN=<param>, ACTFLAG=<number>;
```

Example:

Input:

```
ACTIVATE-PATCH:PATCH,,,,,TS15KV07;
```

Note

All patches found in :PDS:PATCHINPUT/ will be added to the catalog. The catalog entry will be supplied with the group name "TS15KV07". Patch broadcasting applies to this example (HD and all target processors valid for subsystem).

PATCH - Administration and Activation

Functions of the AMO

Input:

```
ACTIVATE-PATCH:PATCH,DERPATCH,A1,N;
```

The patch will be activated in processor A1 without consistency-check.

Input:

```
ACTIVATE-PATCH:PATCH,PS30001,HD&BPA;
```

Patch on HD and processor BPA applies to this example.

Input:

```
ACTIVATE-PATCH:PATCH,D60001,RAM;
```

Patch at all target processors valid for subsystem (not on HD).

Input:

```
ACTIVATE-PATCH:GRP,KV15TS07;
```

All patches with group identifier KV15TS07 will be activated.

```
ACTIVATE-PATCH:GRP,KV15TS06&KV15TS07;
```

All patches with group identifier KV15TS06 and KV15TS07 will be activated.

```
ACTIVATE-PATCH:PATCH,D60001&D60002&D60003,, ,SINGLE;
```

Patch activated with Single Patch.

Input:

```
ACTIVATE-PATCH:OPT,D,12;
```

Activate all optional patches for ADP with activation flag 12.

```
ACTIVATE-PATCH:OPT,S,27&33&34;
```

Activate all optional patches for SWU with activation flags 27, 33, 34.

149.2.5 DEACTIVATE-PATCH

The specified patches are deactivated. This action is the opposite of the action ACTIVATE. Depending on the DEL parameter (DEL = Y), the patch(es) will be deleted after deactivation.

Note

The activation status of a patch is not significant. The deactivation is performed too, if the patch is not active. Only the "old data" must be available in the patch file.

Deactivate patches with MegaPatch

The patches can be deactivated as single or all together (MegaPatch). The manner of deactivation depends on the activation sign ACTSG. The default value is MEGA. Deactivation by MegaPatch will be used for many patches. The deactivation will be much faster, if their are only patches from one subsystem (or only some few subsystems). All the patches recording to the same subsystem will be picked up and deactivated all at once by using the MegaPatch option (subsystem is copied only once). After deactivating all patches of one subsystem the patches of the next subsystem will be deactivated. Therefore the process is much faster for deactivating many patches.

The single-patch-process deactivates one patch after the other.

Deactivate optional patches

- The activation flag in the DB is reset during the activation of optional patches. (Formerly done by AMO PSA resp. AMO PSS)
- Optional Patches are always deactivated on Harddisc and on all available target processors.
- Optional patches are always deactivated secure and with all checks.
- Optional patches are always removed from the administration. A copy of the patch remains in the directory ":PDS:OPT/"
- All patches with the same activation flag and APSSIGN are removed from the administration.

Procedure Overview

Command Code

DEACTIVATE-PATCH

Parameter

```
TYPE=PATCH,PATNO=<string>,[DEST=<param>]
,[TEST=<param>],[DEL=<param>],[ACTSG=<param>];
|TYPE=GRP,GRPID=<string>,[DEST=<param>]
,[TEST=<param>],[DEL=<param>],[ACTSG=<param>];
|TYPE=OPT,APSSIGN=<param>,ACTFLAG=<number>;
```

Example

Input:

```
DEACTIVATE-PATCH:PATCH,S30001,BPA;
```

Input:

```
DEACTIVATE-PATCH:PATCH,DERPATCH,, ,Y;
```

Input:

```
DEACTIVATE-PATCH:PATCH,S30001&S30002&S30003;
```

PATCH - Administration and Activation

Functions of the AMO

The patches will be deactivated with the Megapatch process.

Input:

```
DEACTIVATE-PATCH:PATCH,S30001&S30002&S30003,,,,SINGLE;
Patch deactivated with Single Patch.
```

Input:

```
DEACTIVATE-PATCH:OPT,D,12;
Deactivate all optional patches for ADP with activation flag 12.

DEACTIVATE-PATCH:OPT,S,27&33&34;
Deactivate all optional patches for SWU with activation flags 27, 33, 34.
```

149.2.6 CHANGE-PATCH

The group-id can be changed with the command change. The patch files must be catalogued to use this command on the patches. To change the group-id you must give the name of the patches and the new group-id as input. Optional patches can't be changed.

Note:

The patch files can have a different group-id and get now a new group-id.

Procedure Overview:

Kommandocode	Parameter
CHANGE-PATCH	TYPE=PATCH, PATNO=<string>, GRPID=<string>

Example

Input:

```
DISPLAY-PATCH:GRU,*;
PATCH V135
```

SUBSYSTEM	GROUP	PATNO	H	RAM	DATE
			D	A|VMS|TCS|BP|G	HHMM DDMMYY
ZCACP0.S.20.030	+	PS20435	X|-|---	---|X-|-|	1529 140799
ZLCSYSL0.D.20.028	+A2906ADS	PD20058	X|-|---	---|X-|-|	1545 290699
ZDAADS00.D.20.028	+A2906ADS	PD20059	X|-|---	---|X-|-|	1545 290699
ZAACMSE0.D.20.028	+A2906ADS	PD20060	X|-|---	---|X-|-|	1545 290699
ZCACP0.S.20.030	+NEWGRU	PS20167	-|-|---	---|--|-|	1535 140799

PATCH - Administration and Activation

Functions of the AMO

| ZCACP0.S.20.030	|+NEWGRU	| PS20337	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEWGRU	| PS20626	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEWGRU	| PS20674	| - | - | - - - | - - - | - |	1535 140799	|
| ZEEP0.S.20.030	|+NEWGRU	| PS20678	| - | - | - - - | - - - | - |	1536 140799	|
+-----+-----+-----+-----+-----+					
| ZCACP0.S.20.030	|+NEWGRU1	| PS20446	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEWGRU1	| PS20468	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEWGRU1	| PS20469	| - | - | - - - | - - - | - |	1535 140799	|
+-----+-----+-----+-----+-----+					

CHANGE-

PATCH:PATCH,PS20446&PS20468&PS20469&PS20674&PS20678&PS20167&PS20337,NEWGRU2;

H500: AMO PATCH STARTED

PATCH V135

CHANGE PERFORMED;

<

DISPLAY-PATCH:GRU,*;

H500: AMO PATCH STARTED

PATCH V135

SUBSYSTEM	GROUP	PATNO	H	RAM	DATE
			D		
			A	VMS	TCS
			BP	G	HHMM DDMMYY
+-----+-----+-----+-----+-----+					
| ZCACP0.S.20.030	|+	| PS20435	|X|	| - | - | - - - | - - - | - |	1529 140799
+-----+-----+-----+-----+-----+					
| ZLCSYSL0.D.20.028	|+A2906ADS	| PD20058	|X|	| - | - | - - - | - - - | - |	1545 290699
| ZDAADS00.D.20.028	|+A2906ADS	| PD20059	|X|	| - | - | - - - | - - - | - |	1545 290699
| ZAACMSE0.D.20.028	|+A2906ADS	| PD20060	|X|	| - | - | - - - | - - - | - |	1545 290699
+-----+-----+-----+-----+-----+					
| ZCACP0.S.20.030	|+NEUGRU	| PS20626	| - | - | - - - | - - - | - |	1535 140799	|
+-----+-----+-----+-----+-----+					
| ZCACP0.S.20.030	|+NEUGRU2	| PS20167	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEUGRU2	| PS20337	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEUGRU2	| PS20446	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEUGRU2	| PS20468	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEUGRU2	| PS20469	| - | - | - - - | - - - | - |	1535 140799	|
| ZCACP0.S.20.030	|+NEUGRU2	| PS20674	| - | - | - - - | - - - | - |	1535 140799	|
| ZEEP0.S.20.030	|+NEUGRU2	| PS20678	| - | - | - - - | - - - | - |	1536 140799	|
+-----+-----+-----+-----+-----+					

DISPLAY PERFORMED;

149.2.7 REGENERATE-PATCH

Only the activation of optional patches is regenerated.

Command Code

REGENERATE-PATCH

Parameter

TYPE=OPT, [APSSIGN=<param>];

Example:

PATCH - Administration and Activation

Parameter Description

Input:

REGEN-PATCH:OPT, S;

Output:

ACT-PATCH:OPT, S, 7&13&241&316;

149.3 Parameter Description

ACTFLAG	ActivationFlag like the activation flag in DB and the value for ACTIVATION in the patch header
	Type of Input : Single value, mandatory max. 16 values
	Possible Values : ADP: 1- 511, & SWU: 1 - 2047, &
ACTSG	Activationsign
	Type of Input : Single value, mandatory
	Possible Values : SINGLE = Singlepatch process MEGA = Megapatch process
	Default Value MEGA
APSSIGN	1st character of APS name
	Type of Input : Single value, mandatory
	Possible Values : D = IS S = ISU
DEL	ID specifying whether the patch should be deleted after deactivation
	Type of Input : Single value, optional
	Possible Values : Y, N
	Default Value : N
DEST	Destination of patch (de)activation
	Type of Input : Single value, linked single values, max. 16 values optional
	Possible Values : HD = PGLIB RAM = all possible target processors BPA = Base Processor A BPB = Base Processor B A1 = Administration and Data Server (ADS) V1, V2, V3 = Voice Mail Service (VMS) T1, T2, T3 = Tele-Communications Service (TCS)

		GP1A	= LTG1 A Side
		GP1B	= LTG1 B Side
		GP2A	= LTG2 A Side
		GP2B	= LTG2 B Side
		GP3A	= LTG3 A Side
		GP3B	= LTG3 B Side
		GP4A	= LTG4 A Side
		.	= .
		.	= .
		GP29B	= LTG29 B Side
		GP30A	= LTG30 A Side
		GP30B	= LTG30 B Side
		GP31A	= LTG31 A Side
		GP31B	= LTG31 B Side
		GP32A	= LTG32 A Side
		GP32B	= LTG32 B Side
GRPID	Default Value	: HD&RAM	
	patch group identifier		
	Type of Input	: Single value	
		linked single values (ACTIVATE)	
		max. 16 values	
PATNO		optional	
	Possible Values	: string, max 10 characters.	
	Patch number		
	Type of Input	: Single value, linked single values,	
		max. 16 values	
SUSYNAME		optional	
	Possible Values	: all possible filenames, max 12 characters.	
	Name of subsystem		
	Type of Input	: Single value, mandatory	
	Possible Values	: Name of subsystem	
TEST	ID specifying whether the patch should be (de)activated secured		
	Type of Input	: Single value, optional	
	Possible Values	: Y, N	
	Default Value	: Y	
TYPE	Disired patch adnistration option		
	Type of Input	: Single value, mandatory	
	Possible Values	: ACTIVATION: GRP, PATCH, OPT	
		CHANGE: PATCH	

PATCH - Administration and Activation

Error Messages and Advisories

DEACTIVATION: GRP, PATCH, OPT

DELETE: SYS, APS, SUSY, GRP, PATCH

DISPLAY: SYS, APS, SUSY, GRP, PATCH, OPT

149.4 Error Messages and Advisories

149.4.1 Error Messages

F01: @@@@PATCH NOT ADDED
F02: <patno>: PATCH ALREADY ADDED
F03: <patno>: PATCH NOT FOUND IN INPUT AREA
F04: NO PATCHES ADDED
F06: <patno>: PATCH NOT FOUND IN PATCH ADMINISTRATION AREA:
F09: <patno>: ERROR WHILE GETTING JOLI-NR.
PROCEDURE: LO_P_READ_WRITE_BCA EC: @@@@
F10: <patno>: ERROR WHILE WRITING IN RAM
PROCEDURE: MC_P_RAM_WR EC: @@@@
F11: <patno>: ERROR WITH SETTING PATCH ACTIV FLAG
PROCEDURE: MC_P_SET_RPAF EC: @@@@ :
F12: <patno>: ERROR WHILE CREATING PATCH SEQUENCE FROM SUSY: @@@@@@
PROCEDURE: MC_P_PTC_OPN_RES_RW EC: @@@@
F13: <patno>: ERROR WHILE CLOSING PATCH SEQUENCE FROM SUSY: @@@@@@
PROCEDURE: MC_P_PTC_CLS EC: @@@@
F14: <patno>: ERROR WHILE CANCEL PATCH SEQUENCE FROM SUSY: @@@@@@
PROCEDURE: MC_P_PTC_CAN EC: @@@@
F15: <patno>: ERROR WHILE READING LOADDATA FROM SUSY: @@@@@@
PROCEDURE: MC_P_PTC_UPD_RES EC: @@@@
F16: <patno>: DEFECT PATCH ENTRY BY PBO REPORTED
EC: @@@@
F17: <patno>: ERROR WHILE CANCEL PATCH SEQUENCE
PROCEDURE: MC_P_PTC_CAN EC: @@@@
F18: <patno>: ERROR WHILE READING LOADDATA FROM SUSY @@@@@@
PROCEDURE: MC_P_OMF_RD_RES EC: @@@@
F21: <patno>: PATCH HEADER FORMAT INCORRECT
F22: <patno>: KEYWORD <patno>: @ NOT FOUND
F23: <patno>: LENGTH OF @@@@ DATA IN @@@. ENTRY INCORRECT
F24: <patno>: ADDRESSES OF @@@. ENTRY DO NOT MATCH
F25: <patno>: ERROR IN @@@. ENTRY
(The displayed entry is incorrect, except "error in 901. entry": In this case there are more than 900 allowed entries in the patch file.)
F26: <patno>: ADDRESSES OF @@@. AND @@@. ENTRY OVERLAP
F27: <patno>: INVALID PATCH NAME
F32: <patno>: @@@@@@ DOES NOT EXIST
F33: <patno>/@@@@@: SUBSYSTEM HEADER INCORRECT
F34: <patno>/@@@@@: SUSY APS ID DOES NOT MATCH INFORMATION FROM SUBSYSTEM HEADER

F35: patno>: DEACTIVATION IMPOSSIBLE DUE TO MISSING OLD DATA
F36: <patno>: ADDRESS ERROR IN @@@. ENTRY
F37: <patno>: NO ENTRY FOR @@@@@@@@
F41: CAN NOT PROCESS PATCH CATALOG
F42: CAN NOT CREATE SUBSYSTEM BACKUP
F43: ERROR WITH CREATING PATCHINFORMATION LIST
PROZEDUR: ON_P_CREATE_SEGMENT EC: @@@@
F44: OVERLAP ADRESS AREAS IN PATCH
@@@@@@@@@@@@ AND @@@@@@@@@@ PRESENT
F45: ERROR WITH CREATING ADRESS LIST
F46: @@@@@@@@@@@@@@ERROR WHILE COPYING PATCHFILE PROCEDURE: OD_P_WRITE EC: @@@@
F47: @@@@@@@@@@@@@@ERROR WHILE COPYING PATCHFILE PROCEDURE: OD_P_CLOSE EC: @@@@
F48: @@@@@@@@@@@@@@DEACTIVATION NOT POSSIBLE. THE NEW DATA IN PATCH DON'T MATCH THE
DATA ON HD. PERHAPS ANOTHER PATCH IS ACTIVATED AT AN ADDRESS OF THE ACTUAL
PATCH.
F54: <patno>: ERROR WHILE SENDING DATA TO RESIDENT TASK
PROCEDURE: ON_P_SEND_MSG_P_NO_FREE EC: @@@@
F55: <patno>: ERROR WHILE RENAMING PATCHFILE
PROCEDURE: OD_P_RENAME EC: @@@@
F56: <patno>: IS AN OPTIONAL PATCH
PATCH IS NOT ACTIVATED RESP. NOT DEACTIVATED
USE "ACT-PATCH:OPT" RESP. "DEACT-PATCH:OPT"
F57: OPTIONAL GROUP NOT POSSIBLE
F58: @@@@@@@@@@@@@@ERROR WHILE COPYING PATCHFILE PROCEDURE: OD_P_OPEN_BYTE_FILE EC:
@@@@
F59: @@@@@@@@@@@@@@ERROR WHILE COPYING PATCHFILE PROCEDURE: OD_P_CREATE_BYTE_FILE
EC: @@@@
F60: @@@@@@@@@@@@@@ERROR WHILE COPYING PATCHFILE PROCEDURE: OD_P_READ EC: @@@@
F61: ERROR WHILE SEEKING IN KATALOG-HEADER
PROCEDURE: OD_P_SEEK EC: @@@@
F62: ERROR WHILE WRITING KATALOG-HEADER
PROCEDURE: OD_P_WRITE EC: @@@@
F63: ERROR WHILE CREATING PATCHKATALOG
PROCEDURE: OD_P_CREATE_BYTE_FILE EC: @@@@
F64: ERROR WHILE OPENING PATCHKATALOG
PROCEDURE: OD_P_OPEN_BYTE_FILE EC: @@@@
F65: ERROR WHILE FIRST SEEKING IN PATCHKATALOG
PROCEDURE: OD_P_SEEK EC: @@@@
F66: ERROR WHILE READING FIRST FROM PATCHKATALOG
PROCEDURE: OD_P_READ EC: @@@@
F67: ERROR WHILE SEEKING A KATALOG LINE
PROCEDURE: OD_P_SEEK EC: @@@@
F68: ERROR WHILE READING A KATALOG LINE
PROCEDURE: OD_P_READ EC: @@@@
F69: ERROR WHILE SEEKING A KATALOG LINE
PROCEDURE: OD_P_SEEK EC: @@@@
F70: ERROR WHILE WRITING A KATALOG LINE
PROCEDURE: OD_P_WRITE EC: @@@@
F71: ERROR WHILE SEEKING THE LAST KATALOG LINE
PROCEDURE: OD_P_SEEK EC: @@@@
F72: ERROR WHILE READING THE LAST KATALOG LINE
PROCEDURE: OD_P_READ EC: @@@@
F73: ERROR WHILE SEEKING ACTUAL KATALOG LINE

PATCH - Administration and Activation

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PROCEDURE: OD_P_SEEK EC: @@@@
F74: ERROR WHILE WRITING ACTUAL KATALOG LINE
PROCEDURE: OD_P_WRITE EC: @@@@
F75: ERROR WHILE SEEKING THE FIRST FREE KATALOG LINEc
PROCEDURE: OD_P_SEEK EC: @@@@
F76: ERROR WHILE TRUNCATE PATCHKATALOG
OD_P_TRUNCATE EC: @@@@
F77: ERROR WHILE CLOSING PATCHKATALOG
PROCEDURE: OD_P_CLOSE EC: @@@@
F78: UNEXPECTED EVENT OF RESIDENT TASK
EC: @@@@
F79: <patno>: ERROR WHILE SEEKING IN PATCHFILE
PROCEDURE: OD_P_SEEK EC: @@@@
F80: <patno>: ERROR WHILE READING FROM PATCHFILE
PROCEDURE: OD_P_READ EC: @@@@
F81: <patno>: ERROR WHILE OPENING PATCHFILE
PROCEDURE: OD_P_OPEN_BYTE_FILE EC: @@@@
F82: <patno>: ERROR WHILE OPENING PATCHFILE
PROCEDURE: OD_P_OPEN_BYTE_FILE EC: @@@@
F83: <patno>: ERROR WHILE READING FIRST FROM PATCHFILE
PROCEDURE: OD_P_READ EC: @@@@
F84: <patno>: ERROR WHILE CLOSING PATCHFILE
PROCEDURE: OD_P_CLOSE EC: @@@@
F85: <patno>: ERROR WHILE READING SUSY-REC
PROCEDURE: OD_P_COMBINED_READ EC: @@@@
F86: <patno>: ERROR WHILE READING ACTUAL APS DIRECTORY NAME
PROCEDURE: OD_P_COMBINED_READ EC: @@@@
F87: <patno>: ERROR WHILE WRITING OLD DATA
EC: @@@@
F88: <patno>: ERROR WHILE SEEKING IN PATCHFILE
PROCEDURE: OD_P_SEEK EC: @@@@
F89: <patno>: ERROR WHILE WRITING IN PATCHFILE
PROCEDURE: OD_P_WRITE EC: @@@@
F90: <patno>: ERROR WHILE SEEKING IN PATCHFILE
PROCEDURE: OD_P_SEEK EC: @@@@
F91: <patno>: ERROR WHILE WRITING IN PATCHFILE
F92: @@@@@@@@@@@@@@ERROR WITH INDICES EC: @@@@
PROCEDURE: OD_P_WRITE EC: @@@@
F93: <patno>: ERROR WHILE DELETING PATCHFILE
PROZEDUR: OD_P_S_DELETE_FILE EC: @@@@
F94: <patno>: ERROR WHILE RENAMING PATCHFILE
PROCEDURE: OD_P_GET_FILE_STATUS EC: @@@@
F95: <patno>: ERROR WHILE CHECKING CONSISTENCE
PROCEDURE: MC_P_READ_CREATOR EC: @@@@
F96: ERROR WHILE READING PATCHINPUT DIRECTORY
PROCEDURE: OD_P_COMBINED_READ EC: @@@@
F97: ERROR WHILE READING PATCHINPUT DIRECTORY
EC: @@@@
F98: <patno>: ERROR WITH BUILDING SEGMENT CHAIN
PROCEDURE: ON_P_CREATE_SEGMENT EC: @@@@
F99: ERROR WITH BUILDING CHAIN TABLE
PROCEDURE: ON_P_CREATE_SEGMENT EC: @@@@

149.4.2 Advisories

H01: <patno>: PATCH @@@@ @@@@@@@@@@@@@@
H02: @@@@@@@@@@@@@@PATCH ALREADY ADDED
H03: NO PATCHES FOR THIS APS
H04: NO PATCHES FOR THIS SUBSYSTEM
H05: <patno>: PATCH NOT ADDED
H06: NO VALID PATCH FILES IN INPUT AREA
H07: ANOTHER PATCH PROCESS IS ACTIVE
(This message is also displayed, if AMO PATCH was interrupted, e.g. by CANCEL or by the system exception handler, before. After starting one of the IS-AMOs, e.g. DISPLAY-DATE, AMO PATCH can be starting correctly again.)
H08: CAN NOT PROCESS ALL PATCHES
REPEAT COMMAND
H09: NO PATCHES FOR THIS GROUP
H10: NO PATCHES ADDED
H11: ACTIVATED PATCHES ON HD WITH MEGAPATCH:
H12: ACTIVATED PATCHES IN RAM
H13: NOT PERFORMED PATCHES OF THE GROUP @@@@@@@@@@@@@@:
H14: <patno>: NEXT TRY TO SAVE OLD DATA!
H15: NO CORRESPONDING PATCH FOUND IN PATCH ADMINISTRATION AREA
H16: NO CORRESPONDING PATCH AVAILABLE FOR FLAG @@@@
H17: SAVE CHANGES OF ACTIVATION-FLAGS WITH EXEC-UPDAT"
H18: THE ACTIVATION-FLAGS ARE ALREADY SYNCHRONIZED
H19: FLAG @@@@@ HAS BEEN ADDED TO DB
H20: FLAG @@@@@ HAS BEEN DELETED FROM DB
H21: FLAG @@@@@ IS MISSING FROM DB
H22: FLAG @@@@@ HAS NO CORRESPONDING PATCH IN CATALOG
H26: FLAG @@@@@ WAS ACTIVATED, ALTHOUGH NO CORRESPONDING PATCH IS AVAILABLE
H27: SAVE CHANGES OF ACTIVATION-FLAGS WITH EXEC-UPDAT" WITHOUT UPDATE IN CASE OF RELOAD THE PATCH(ES) WOULD BE ACTIVATED AGAIN"
H28: THE ACTIVATION-FLAGS ARE NOT SYNCHRONIZED (INCONSISTENCY BETWEEN CATALOG AND DB)
H31: <patno>: SAVING OLD DATA IN PATCH FILE
H32: <patno>: OVERWRITING OLD DATA IN PATCH FILE
H33: ONLY 16 GROUPS POSSIBLE
H41: CATALOG VERSION UNKNOWN
H42: USE AMO-VERSION @@@@
H43: ACTIVATION STATUS OF RAM PATCHES MAY BE INCONSISTENT
H44: PGLIB DIRECTORY LOCKED
H51: <patno>: DID NOT CHANGE RAM
H52: @@@@@@@@@@@@/@@@@@@@@TIMEOUT DURING MESSAGE EXCHANGE
WITH PATCH-TASK
H53: @@@@@@@@@@@@@@ALREADY DEACTIVATED ON HD. IS AGAIN DEACTIVATED.
H54: @@@@@@@@@@@@@@ALREADY ACTIVATED ON HD. IS AGAIN ACTIVATED.
H61: NO MORE MEMORY AVAILABLE
H62: ATTENTION! PATCH IN WRONG DIRECTORY!
PROCESSING WILL CONTINUE!
H71: ANOTHER PATCH PROCESS IS ACTIVE. PLEASE WAIT ...

PATCH - Administration and Activation

Error Messages and Advisories

150 PERSI - Personal Identification

The AMO PERSI is used to administer personal data. The cross-reference to the person is invariably established via the station number.

Names

Each station number can be assigned either one or several (any number of) names; the name entered first will be displayed on DIGITE displays. All other names are used for ETD functions. The name can also be made up of 2 parts:

1. Surname, simple or composite, e.g. Hr. Meier, Fr. Dr. Huber
2. Name, and additional information, e.g. Anna, Dept. A3
The characters of the "surname" are separated from those of the "name" by means of a "*".

Display at Optiset/OptiPoint:

The DIGITE has a 24-character display. The type of display, e.g. station number plus name or name only is defined by means of AMO ZAND, TYPE=ALLDATA, DISPMODE-MODE1 to MODE5 (see [Examples](#)). There is no verification of the last name. The number of blanks between the station number and the name is exactly one.

When configuring or changing a network wide subscriber name (parameter NAME, NEWNAME), which doesn't correspond to a person but e.g. to the geographical location ("ENTRANCE ADMIN.BLDG5") of a terminal the display of the subscriber name can be incorrect, if a blank occurs in the subscriber name, and DISPMODE=MODE5 (see AMO ZAND) is activated. The reason for this is, that blanks are used to separate family names and first names, and errors can occur due to the network protocol, when the subscriber name is transferred. This can be avoided, if blanks are replaced by special characters e.g. "-", ".", "," or "_" in the geographical identification of the terminal.

Examples

Input: Dr. v. Ritter*Martin

Display

MODE1: 32857 DR. V. RITTER M.

MODE2: 32857

MODE3: DR. V. RITTER MARTIN

MODE4: DR. V. RITTER

MODE5: # DR. V. RITTER

Display at OpenStage:

The OpenStage devices have different display sizes. The type of the display is controlled internally in OpenStage devices. The ZAND parameter **DISPMODE** is not evaluated at OpenStage devices.

The data configured via AMO-PERSI are transferred to the OpenStage device without any modification. If the name display field is too short, the OpenStage device shortens the name itself (no specification by the system).

Organizational unit

Each name can be assigned an organizational unit (for ETD functions). If a station number has not been assigned a name, no org. unit can be assigned.

If station number has been assigned several names, but not everyone of these names has been assigned an organizational unit, the organizational unit which was assigned last is automatically assigned to the remaining names.

Personal identification number (PIN)

The PIN is used for personal identification of a person to the system. Each station number can be assigned any number of PINs. The length of a particular PIN type is determined centrally. The PIN length may or may not be the same for the types of PINs described above. Each PIN (except COSXCD) must be unique throughout the system.

The same class of service changeover code (COSXCD) can be assigned to any number of stations. When a COSXCD that was previously assigned to a station is configured, the system outputs advisory message H38 to notify the user of this fact, and the command is still executed. If the user does not want the COSXCD to be assigned to multiple stations, he can delete the COSXCD for the station with DEL-PERSI:TYPE=PIN,PIN=number,STNO=number ;

In the case of PINC, it must also be determined at which position on the magnetic/chip card the PINC begins. (PIN pointer)

A 'Class of PIN' (COPIN) must be introduced for each type of PIN to be able to implement the PIN display feature and to be able to differentiate between the various types of PINs.

The COPIN defines the characteristics and functions of individual PIN applications such as the type of PIN (PINM, PINC, COSXCD, PCODE etc.), PIN length, PIN texts and various flags used to disable or enable specific functions.

The "class of PIN" (COPIN) is used for each PIN type in order to implement the PIN display feature and in order to distinguish between the different PIN types.

The characteristics of the COPINs (1 through 15) are summarized in the so-called COPIN table in which the following default values are assigned to the type of PIN:

PINTYPE (=COPIN)		PIN	COTYPE	PIN Meaning of a type of PIN
1	=	PIN1	MOBILE	Manual identification
2	=	PIN2	BUSLONG	Identification of business calls (remains active until manual deletion or timeout).
3	=	PIN3	BUSSHRT	Identification of business calls
4	=	PIN4	PRIVSHRT	Identification of private calls
5	=	PIN5	PCODE	Identification of a project for a call (project code = PCODE).
6	=	PINC	PINCARD	Identification by means of a magnetic/chip card which is inserted into the card reader of the terminal.
7	=	COSXCD	COSXCD	Identification of users which are authorized to activate COS changeover from the terminal.
8	=	SI	SI	Pin for service id
9	=	CDRAC	PCODE	CDR account code
10	=	PIN10	PCODE	PIN for dialing pattern check
11	=	PIN11	MOBILE	Manual identification
12	=	PIN12	MOBILE	Manual identification
13	=	PIN13	MOBILE	Manual identification
14	=	PIN14	MOBILE	Manual identification
15	=	PIN15	MOBILE	Manual identification COPIN 15 is used for ONS groups. Therefore this COPIN is treated in a special way in CDR: The PIN number is not showing up in the CDR records.

The COPIN table allows the administration of all entries except the timer administration (AMO CTIME) using the AMO PERSI. Please note that the type of PIN can only be changed for COPINs 1-5,10-15 and that for the PIN card only COPIN 6 is used, COS changeover only COPIN 7 is used whereas for service id only COPIN 8 and CDR account code only COPIN 9 is used.

Each PIN has at least one COPIN for identification of the PIN type. However, a PIN may also be valid for several PIN types. Such a PIN is assigned more than one COPIN.

For data protection reasons, manually keyed-in PINs are not displayed, instead a wildcard '*' is displayed for each character.

To allow the user to check whether he has entered the PIN or PCODE correctly, he can use the parameter PINDISP or parameter DISPPIN (TYPE=COPIN) which allows each type of PIN to be administered separately.

The parameter COSXCOS2 is used for COS changeover to COS2 with or without a COSXCD.

a) Company code (COCO)

If several companies share a system, a 1- to 4-digit COCO on the magnetic/chip card indicates the card owner's company code. As a result of this, several companies can be assigned the same PIN.

The company code pointer (CPOINT) marks the position at which the COCO begins on the ID card. This position may coincide with that of the PIN.

The COCO is assigned for each ITR group since the STNs are categorized into ITR groups if several companies share the same system.

b) STNO-Code calling number conversion for code calling system, multiple (CCMS).

Some CCMSs have a repertory of code calling numbers which differs from the system's station number plan. Since individual persons are paged via their station numbers, it is necessary to convert the STNOs into CCMS code calling numbers. During conversion, several station numbers may be assigned the same code calling number, but not vice-versa.

A maximum of 2 CCMSs can be connected to the system. This is why, during STNO-Code calling number conversion the relevant CCMS is identified by its code (or else by the DPLN group it belongs to).

The size of the memories to be used for PERSI data (NAME, ORG, PIN) is defined by means of AMO DIMSU. For each 'STNO-Code calling number' conversion one table is available for each CCMS (1000 entries).

This AMO is non-resident and is only called down by the AM.

c) project code (PCODE)

The PCODE is used to assign call charges to specific projects. For this reason, it is not assigned to any of the users.

The PCODE is activated with the same code as the PIN.

The PCODE remains active only for the duration of a call.

The PCODE can also be entered while a PIN is active (mobile STN). In this case, the data and the classes of service of the PIN's home station are valid.

d) service id (SI)

The service id is used to sign off resp. sign on a station.

The service id is activated with the sign off resp. sign on code.

e) CDR account code (CDRAC)

The CDR account code is used as account code for incoming and outgoing call, which are listed in the call charge data output.

f) modulo check algorithm

The validity check on a PIN or project code cannot only be performed by comparing the entry in the PIN/Project code table created by the PERSI AMO but also using a modulo check algorithm. It is possible to define 3 modulo check algorithms in the system (action CHANGE TYPE=MODULO), see also FUE "Verifying the PIN/PCODE".

With which of the 3 algorithms the check is to be carried out can be specified individually for each type of PIN.

150.1 Interrelationships

- AMO SCSU/SBCSU : SWU Station Configuration
- AMO DIMSU : Feature Set
- AMO RICHT : Routes
- AMO WABE : Digit analysis

150.2 Functions of the AMO

- [ADD-PERSI](#) : Create general and individual user data for personal identification
- [CHANGE-PERSI](#) : Change personal identification data
- [DELETE-PERSI](#) : Cancel personal identification data
- [DISPLAY-PERSI](#) : Interrogate data for personal identification
- [REGENERATE-PERSI](#) : Regenerate personal identifications

150.2.1 ADD-PERSI

1. Definition of general PIN data

Create length of pins for each PIN type.

Create pin-display for each PIN type.

Create class of service changeover to COS2 with COSXCD.

Create number of failed attempts to enter the pin

NOTE: Attempts only works when TRACE=YES in COPIN. **Should the number of attempts be exceeded the interface is not locked, but a F2754 message logged to HISTA.**

PERSI - Personal Identification

Functions of the AMO

2. Assigning a company code to an ITR group
3. Assigning the name and PIN to the STNO; assigning org. unit to name.
4. STNO-Code calling number conversion for CCMS.
If a range of station numbers is to be specified, the parameter ALLOC can be used to determine whether the specified code calling number is to be assigned to all station numbers (ALLOC=SAME) or whether, starting with the specified code calling number, each station number is to be assigned a new code calling number in ascending order (ALLOC=ASCEND).
5. Create project code (PCODE)
6. Create service id (SI)
7. Create account code (CDRAC)

Procedure Overview

Command Code	Parameter
ADD-PERSI	| TYPE=SYS, { PINLEN=<number>, PINPOINT=<number> (1)
	, COSLEN=<number>, PIN1LEN=<number>
	, PIN2LEN=<number>, PIN3LEN=<number>
	, PIN4LEN=<number>, PIN5LEN=<number>, SILEN=<number>
	, CDRACLEN=<number>, PIN10LEN=<number>
	, PIN11LEN=<number>, PIN12LEN=<number>
	, PIN13LEN=<number>, PIN14LEN=<number>
	, PIN15LEN=<number>
	, PINDISP=<number>, COSXCOS2=<string>
	, ATTEMPTS=<number>;
	| TYPE=COCO, ITR=<number>, COCO=<string> (2)
	, CPOINT=<number>;
	| TYPE=STN, STNO=<number> (3)
	, { NAME=<string>, ORG=<string>
	, PINC=<string>, COSXCD=<string>
	, PIN1=<string>, PIN2=<string>
	, PIN3=<string>, PIN4=<string>
	, PIN5=<string>, PIN10=<string>
	, PIN11=<string>, PIN12=<string>

Command Code	Parameter
	, PIN13=<string>, PIN14=<string>
	, PIN15=<string>
	, [PININDIV=<param>], [CHARCON=<param>];
	| TYPE=CCMS, CCMSCD=<key-num>, [DPLN=<number>] (4)
	, STNO=<number>, CCNO=<key-num>
	, [ALLOC=<param>];
	| TYPE=PCODE, PCODE=<string>, [PINTYPE=<number>]; (5)
	| TYPE=SI, SI=<string>; (6)
	| TYPE=CDRAC, CDRAC=<number>; (7)

Examples

1. Create the length of the personal ID number (card) (=8) and the pointer to the personal ID number (card) (=7) (the manual personal ID numbers and the codes for class of service changeover remain blocked).

Input:

```
ADD-PERSI:TYPE=SYS,PINCLEN=8,PINPOINT=7;
```

2. Create the personal ID number (card) for directory number.3123
Name=Schmidt MEIER*JUERGEN
PINC- No. 6000006, organizational unit=PN KD3

Input:

```
ADD-PERSI:TYPE=STN,STNO=3123,NAME=SCHMIDT MEIER*JUERGEN,  
PINC=6000006,,,ORG=PN KD3;
```

3. Create a STNO-Code calling number allocation for CCMS with code *7, with station number range 2500-2520, with code calling number 300 to be allocated in ascending order.

Input:

```
ADD-  
PERSI:TYPE=CCMS,CCMSCD=*7,STNO=2500&&2520,CCNO=300,ALLOC=ASCE  
ND;
```

4. Create the pin display for pin type 1 and 3

Input:

```
ADD-PERSI:TYPE=SYS,PINDISP=1&3;
```

PERSI - Personal Identification

Functions of the AMO

5. Create a project code

Input:

```
ADD-PERSI:TYPE=PCODE,PCODE=600600;
```

6. Create the same pin for pinc and pin1 (length of pinc, pin1 and pin4=8)

Input:

```
ADD-  
PERSI:TYPE=STN,STNO=2100,PINC=21000000,PIN1=21000000,PININDIV  
=YES;
```

150.2.2 CHANGE-PERSI

1. Change the length entries for each pin type. Any type of PIN can be deactivated by specifying "0" as PIN length.
(this is only possible if the relevant PINs have not been created already)
2. Change the pointer indicating the card personal ID number
3. Change the company code or the pointer indicating the company code
4. Change one of the assigned names
5. Change one of the assigned ORG entries. This entry will be automatically changed for all names to which it is assigned.
6. Change one of the assigned ORG entries for all names assigned to the specified station number(s).
7. Change one of the assigned ORG entries for a specific name.
8. Change specific codes
(OLDCODE and NEWCODE must be of equal length)
If the same COSXCD is assigned to several different station numbers, the code can be changed only for the station concerned by specifying the station number. If the station number is omitted, the code will be changed for all station numbers.
9. Change the code-calling number associated with a registered station number for a particular CCMS.
10. Change the COPIN in the COPIN table
11. Change the modulo check algorithm

Procedure Overview

Command Code	Parameter
CHANGE-PERSI	| TYPE=SYS, { PINCLN=<number>, COSLEN=<number> (1)
	, PIN1LEN=<number>, PIN2LEN=<number>
	, PIN3LEN=<number>, PIN4LEN=<number>
	, PIN5LEN=<number>, SILEN=<number>
	, CDRACLEN=<number>, PIN10LEN=<number>
	, PIN11LEN=<number>, PIN12LEN=<number>
	, PIN13LEN=<number>, PIN14LEN=<number>
	, PIN15LEN=<number>
	, COSXCOS2=<string>, ATTEMPTS=<number>;
	| TYPE=PINPOINT, PINPOINT=<number>; (2)
	| TYPE=COCO, ITR=<number>, { COCO=<string> (3)
	, CPOINT=<number>;
	| TYPE=NAME, STNO=<number>, [OLDNAME=<string>] (4)
	, NEWNAME=<string>;
	| TYPE=ORGSYS, OLDORG=<string>, NEWORG=<string>; (5)
	| TYPE=ORGSTNO, STNO=<number>, OLDORG=<string> (6)
	, NEWORG=<string>;
	| TYPE=ORGNAME, STNO=<number>, NAME=<string> (7)
	, NEWORG=<string>;
	| TYPE=PIN, OLDPIN=<string>, NEWPIN=<string> (8)
	, [STNO=<number>];
	| TYPE=CCMS, CCMSCD=<key-num>, [DPLN=<number>] (9)
	, STNO=<number>, CCNO=<key-num>
	, [ALLOC=<param>];
	| TYPE=COPIN, COPIN=<number>, (10)

PERSI - Personal Identification

Functions of the AMO

Command Code	Parameter
	, {COTYPE=<param>, PINTEXT=<string>
	, CDRTEXTS=<param>, CDRTEXT=<string>
	, DISPRSTN=<param>, PINTEST=<param>
	, TRKCD=<number>, TRKCDTYP=<param>
	, PINDUR=<param>, TRANSFER=<param>
	, IDHOME=<param>, DISPID=<param>
	, TRACE=<param>, PINEXT=<param>
	, DISPPIN=<param>, PINNKEY=<param>
	, DEACKEY=<param>, POSCHKN=<number>
	, COSHOME=<param>, PINLCOS2=<param>, DPTEST=<param>
	, DISPTRKC=<param>, PARARNGM=<param>;
	| TYPE=MODULO, MODULO=<number> (11)
	, {VALENCE=<number>, TYPESUM=<param>
	, MODULUS=<number>, CHKNLEN=<param>
	, TYPECKN=<param>;

Notes:

CHANGE-PERSI:TYPE=ORGSYS or TYPE=ORGSTNO:

If several OLDORGs are to be changed to a NEWORG (new organizational unit), the NEWORG must be specified only once. All remaining OLDORGs will then be assigned this NEWORG.

CHANGE-PERSI:TYPE=ORNAME:

If a NEWORG is to be allocated for several names (change existing ORG to another), then the NEWORG need be entered only once. All remaining names are then allocated the new organizational unit.

CHANGE-PERSI:TYPE=NAME:

If the first name (i.e. the name which is displayed on the screen) is to be changed, the parameter OLDNAME can be omitted and the name which used to be the first name is overwritten with the first NEWNAME.

CHANGE-PERSI:TYPE=PIN:

If the same COSXCD is assigned to several different stations, the STNO parameter needs to be specified only when changing the COSXCD.

Examples

Assignment of station number.3109 designated 'FLIERL*GABI' to a new organizational unit designated 'PN V8332'.

Input:

CHANGE-PERSI:TYPE=ORGNAME,STNO=3109,NAME=FLIERL*GABI,NEWORG=PN
V8332;

150.2.3 DELETE-PERSI

1. All assigned company codes are deleted for the specified traffic relation groups.
2. Delete all name entries (NAME and ORG) of a station DN
3. Delete Name(s) and ORG allocated to a station DN
4. Delete the specified ORG for all assigned names.
5. Delete all ORG units which are assigned to all names of a station number.
6. Delete the ORG unit which is assigned to a specific name of a station number.
7. Delete all codes indicated
Only for the PIN types specified under PINTYPE, or for all PIN types if the parameter is not specified.
If the same COSXCD is assigned to several different station numbers, the code can be deleted only for the station concerned by specifying the station number. If the station number is omitted, the code will be deleted for all station numbers.
8. Delete the codes assigned to the station numbers specified
Only for the PIN types specified under PINTYPE, or for all PIN types if the parameter is not specified.
9. Delete station(s) from STNO/CCNO table for a particular CCMS.

Procedure Overview

Command Code	Parameter
DELETE-PERSI	TYPE=COCO, ITR=<number>; (1)
	TYPE=ALLNAME, STNO=<number>; (2)
	TYPE=NAME, STNO=<number>, NAME=<string>; (3)
	TYPE=ORGSYS, ORG=<string>; (4)

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Functions of the AMO

Command Code	Parameter
	TYPE=ORGSTNO, STNO=<number>; (5)
	TYPE=ORGNAME, STNO=<number>, NAME=<string>; (6)
	| TYPE=PIN, PIN=<number>, [PINTYPE=<number>] (7)
	, [STNO=<number>];
	| TYPE=STN, STNO=<number>, [PINTYPE=<string>]; (8)
	| TYPE=CCMS, CCMSCD=<key-num>, [DPLN=<number>] (9)
	, STNO=<number>;

Note

When NAMES or an organizational units which have been assigned to NAMES are deleted, the surname and the name (but not any additional information) are compared with the station number entry.

The NAME may be abbreviated. Care should, however, be taken to specify as many letters as necessary to ensure that a specific station number entry is unique (see example of input).

If several entries of the same name exist for the same station number, the first of these entries will be deleted.

Examples

1. Delete name 'RICCATO*' from directory no.3100

Input:

```
DELETE-PERSI:TYPE=NAME,STNO=3100,NAME=RICCATO*;
```

Output:

```
H01: NAME TO BE DELETED RICCATO IS ONLY NAME FOR  
ORG : ORG IS DELETED
```

2. Delete pin 12345678

Input:

```
DELETE-PERSI:TYPE=pin,pin=12345678;
```

3. The personal ID numbers (card) assigned to station number 7580 are to be deleted

```
DELETE-PERSI:TYPE=STN,STNO=7580,PINTYPE=6;
```

4. Delete the PINs, names and ORG assigned to station 2100.

Input:

```
DELETE-PERSI:TYPE=ALLNAME,STNO=2100;
DELETE-PERSI:TYPE=TLN,STNO=2100;
```

150.2.4 DISPLAY-PERSI

1. Interrogation of general personal ID data
(PIN length and pointer, COCO and pointer)
(Pin display for each pin type and class of service changeover)
2. Display the names and the assigned ORG for the specified/all station numbers.
3. Display PIN for all station numbers or for the the specified station number(s).
4. Interrogation of STNO/CCNO entries for a particular CCMS.
5. Display the specified/all PINs for the specified/all pin typs.
6. Display the specified/all COPINs of the COPIN table
7. Display all modulo check algorithms

Procedure Overview

Command Code	Parameter
DISPLAY-PERSI	TYPE=SYS; (1)
	| TYPE=NAME, [STNO=<number>]; (2)
	| TYPE=STN, [STNO=<number>], PINTYPE=<string>; (3)
	| TYPE=CCMS, CCMSCD=<key-num>, [DPLN=<number>] (4)
	, [STNO=<number>];
	| TYPE=PIN, [PIN=<string>], [PINTYPE=<string>]; (5)
	| TYPE=COPIN, [COPIN=<number>]; (6)
	| TYPE=MODULO; (7)

Examples

1. Interrogating the general PERSI data.

Input:

PERSI - Personal Identification

Functions of the AMO

DISPLAY-PERSI:TYPE=SYS;

Output:

COPIN				
1	PIN1LEN	10		
2	PIN2LEN	8		
3	PIN3LEN	6		
4	PIN4LEN	10		
5	PIN5LEN	6		
6	PINCLN	8	PINPOINT	10
7	COSLEN	4	COSXCOS2	N
8	SILEN	10		
9	CDRACLEN	5	COSXCOS2	N
10	PIN10LEN	4		
11	PIN11LEN	2		
12	PIN12LEN	2		
13	PIN13LEN	2		
14	PIN14LEN	2		
15	PIN15LEN	2		
ATTEMPTS		5	(NUMBER OF FAILED ATTEMPTS)	
ITR	COCO	CPOINT		
04	SIE	4		
06	SIE	4		
07	AGFA	8		
08	BMW	6		

2. Interrogation of personal ID of station nos. 3100 to 3104

Input:

DISPLAY-PERSI:TYPE=NAME,STNO=3100&&3104;

Output:

STNO		CHRISTIAN AND SURNAME	ORGANIZATIONAL UNIT
3100	RICCATO*		PNEA 41
3101	BINDER*		
3102	DUMONT*		
3103	BULLE*		
3104	TEAM ASSISTANT*		

3. Interrogation of directory numbers of card personal ID numbers 12345678, 23456789 and 20007777

Input:

DISPLAY-PERSI:TYPE=PIN,PIN=12345678&23456789&20007777

Output:

+-----+-----+-----+-----+-----+-----+																				
|	PIN	|	STNO	|	PINTYPE												|			
|		|		|	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	|
+-----+-----+-----+-----+-----+-----+																				

| 12345678	| 7580	| X X . . . . .	|
| 23456789	| 4500	| X X . . . . .	|
| 20007777	| 7580	| X X . . . . .	|
+-----+-----+-----+-----+			

4. Interrogation of card personal ID numbers to station numbers 4700 and 5600

Input:

DISPLAY-PERSI:TYPE=STN,STNO=4700&5600,PINTYPE=6;

Output:

STNO		PIN	PINTYPE
			1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
| 4700	|	| 10000009	| . . . . . X
| 5600	|	| 12345678	| X X
| 5600	|	| 23456789	| X X

5. Interrogation of STNO/CCNO conversion table for CCMSCD=922 (CCMS) and STNO=2100&&2110

Input:

DISPLAY-PERSI:TYPE=CCMS,CCMSCD=922,STNO=2100&&2115;

Output:

STNO	CCNO
2100	2105
2101	2108

6. Interrogation of specified pin typs.

Input:

DISPLAY-PERSI:TYPE=PIN,PINTYPE=1&3&5;

Output:

PIN	STNO	PINTYPE
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
1111	4711	X . X
1234	4712	X X X
12345	----	 X

7. Interrogation of the pin 4444444.

Input:

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Functions of the AMO

DISPLAY-PERSI:TYPE=PIN,PIN=44444444;

Output:

PIN	STNO	PINTYPE														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
44444444	4712	.	.	.	.	.	.	X	.	.	.	.	.	.	.	.

8. Interrogation of all pins with the assigned station number 4711

Input:

DISPLAY-PERSI:TYPE=STN,STNO=4711;

Output:

STNO	PIN	PINTYPE														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4711	1111	X	.	X	.	.	.	.	.	.	.	.	.	.	.	.
	22222	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.

9. Interrogation of all COPINs of the COPIN table

The example shows the initialisation of the COPIN table.

Input:

DISPLAY-PERSI:TYPE=COPIN;

Output:

COPIN	COPIN-PARAMETER														
1	COTYPE	=	MOBILE												
	PINTEXT	=	'MAN. PIN MOBILE USER'												
	PIN1LEN	=	0												
	CDRTEXTS	=	NO												
	CDRTEXT	=	'												
	DISPRSTN	=	NO						IDHOME	=	NO				
	PINTEST	=	TABLE						DISPID	=	PERMDISP				
	TRKCD	=	0						TRACE	=	NO				
	TRKCDTYP	=	NO						PINEXT	=	NO				
	PINDUR	=	TIME						DISPPIN	=	NO				
	TRANSFER	=	ALL						PINNKEY	=	NO				
	DEACKY	=	NO						POSCHKN	=	1				
	COSHOM	=	NO						PINLCOS2	=	NO				
	DPTEST	=	NO						DISPTRKC	=	NO				
	PARARNGM	=	NO												
2	COTYPE	=	BUSLONG												
	PINTEXT	=	'BUSINESS PIN, LONG '												
	PIN2LEN	=	0												
	CDRTEXTS	=	YES												
	CDRTEXT	=	'+'												
	DISPRSTN	=	YES						IDHOME	=	NO				
	PINTEST	=	TABLE						DISPID	=	TIMEDISP				

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Functions of the AMO

	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = PERM	DISPPIN = NO
	TRANSFER = NO	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
3	COTYPE = BUSSHRT	
	PINTEXT = 'BUSINESS PIN, 1 CALL'	
	PIN3LEN = 0	
	CDRTEXTS = YES	
	CDRTEXT = '+ 1 '	
	DISPRSTN = YES	IDHOME = NO
	PINTEST = TABLE	DISPID = TIMEDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = UNICD	PINEXT = NO
	PINDUR = ONE	DISPPIN = NO
	TRANSFER = NO	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
4	COTYPE = PRIVSHRT	
	PINTEXT = 'PRIVATE PIN, 1 CALL '	
	PIN4LEN = 0	
	CDRTEXTS = YES	
	CDRTEXT = '+ 2 '	
	DISPRSTN = YES	IDHOME = NO
	PINTEST = TABLE	DISPID = TIMEDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = UNICD	PINEXT = NO
	PINDUR = ONE	DISPPIN = NO
	TRANSFER = NO	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
5	COTYPE = PCODE	
	PINTEXT = 'PROJECT CODE, 1 CALL'	
	PIN5LEN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' '	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = LENGTH	DISPID = PERMDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = YES
	PINDUR = ONE	DISPPIN = YES
	TRANSFER = NO	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
6	COTYPE = PIN CARD	
	PINTEXT = 'ID CARD, MOBILE USER'	
	PINCLN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' '	

PERSI - Personal Identification

Functions of the AMO

	DISPRSTN = NO	IDHOME = NO
	PINTEST = TABLE	DISPID = PERMDISP
	TRKCD = -	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = PERM	DISPPIN = NO
	TRANSFER = ALL	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
7	COTYPE = COSXCD	
	PINTEXT = 'COS SWITCHOVER CODE '	
	COSLEN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' ,	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = TABLE	DISPID = TIMEDISP
	TRKCD = -	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = -	DISPPIN = NO
	TRANSFER = NO	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
8	COTYPE = SI	
	PINTEXT = 'PIN FOR SERVICE ID '	
	SILEN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' ,	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = TABLE	DISPID = TIMEDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = -	DISPPIN = NO
	TRANSFER = NO	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
9	COTYPE = PCODE	
	PINTEXT = 'CDR ACCOUNT CODE '	
	CDRACLEN = 5	
	CDRTEXTS = NO	
	CDRTEXT = ' ,	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = LENGTH	DISPID = PERMDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = YES
	PINDUR = ONE	DISPPIN = YES
	TRANSFER = NO	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
10	COTYPE = PCODE	
	PINTEXT = 'FAC, 1 CALL '	
	PIN10LEN = 0	

PERSI - Personal Identification

Functions of the AMO

	CDRTEXTS = NO	
	CDRTEXT = ' ,	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = LENGTH	DISPID = PERMDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = YES
	PINDUR = ONE	DISPPIN = YES
	TRANSFER = NO	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
11	COTYPE = MOBILE	
	PINTEXT = 'MAN. PIN MOBILE USER'	
	PIN11LEN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' ,	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = TABLE	DISPID = PERMDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = TIME	DISPPIN = NO
	TRANSFER = ALL	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
12	COTYPE = MOBILE	
	PINTEXT = 'MAN. PIN MOBILE USER'	
	PIN12LEN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' ,	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = TABLE	DISPID = PERMDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = TIME	DISPPIN = NO
	TRANSFER = ALL	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
13	COTYPE = MOBILE	
	PINTEXT = 'MAN. PIN MOBILE USER'	
	PIN13LEN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' ,	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = TABLE	DISPID = PERMDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = TIME	DISPPIN = NO
	TRANSFER = ALL	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	
14	COTYPE = MOBILE	

PERSI - Personal Identification

Functions of the AMO

	PINTEXT = 'MAN. PIN MOBILE USER'	
	PIN14LEN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' '	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = TABLE	DISPID = PERMDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = TIME	DISPPIN = NO
	TRANSFER = ALL	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	

15	COTYPE = MOBILE	
	PINTEXT = 'MAN. PIN MOBILE USER'	
	PIN15LEN = 0	
	CDRTEXTS = NO	
	CDRTEXT = ' '	
	DISPRSTN = NO	IDHOME = NO
	PINTEST = TABLE	DISPID = PERMDISP
	TRKCD = 0	TRACE = NO
	TRKCDTYP = NO	PINEXT = NO
	PINDUR = TIME	DISPPIN = NO
	TRANSFER = ALL	PINNKEY = NO
	DEACKY = NO	POSCHKN = 1
	COSHOME = NO	PINLCOS2 = NO
	DPTEST = NO	DISPTRKC = NO
	PARARNGM = NO	

10. Display all modulo check algorithms. The example shows the initialisation.

Input:

DISPLAY-PERSI:TYPE=MODULO;

Output:

MODULO	MODULO CHECK ALGORITHM PARAMETER		
1	VALENCE = 1-1-1-1-1-1-1-1-1-1-1		
	TYPESUM = SUMPRO	MODULUS = 10	
	CHKNLEN = 1	TYPECHKN = COMPREM	
2	VALENCE = 2-1-2-1-2-1-2-1-2-1-2-1		
	TYPESUM = SUMPRO	MODULUS = 10	
	CHKNLEN = 1	TYPECHKN = COMPREM	
3	VALENCE = 2-1-2-1-2-1-2-1-2-1-2-1		
	TYPESUM = SUMPRO	MODULUS = 10	
	CHKNLEN = 1	TYPECHKN = COMPREM	

150.2.5 REGENERATE-PERSI

1. Regeneration of the general or of all general and individual user data for personal identification, of the CCMS data, project codes and service ids.
2. Regeneration of the individual user data for personal identification.
3. Regeneration of project codes
4. Regeneration of service ids
5. Regeneration of CDR account codes
6. Regeneration of COPINs
7. Regeneration of modulo check algorithm

If no parameter is specified, all general and individual user data as well as all CCMS data is regenerated for personal identification.

If parameter STNO is omitted, all names, organizational units, and PINs in the system are regenerated.

Procedure Overview

Command Code	Parameter
REGENERATE-PERSI	[TYPE=SYS]; (1)
	| TYPE=STN, [STNO=<number>]; (2)
	| TYPE=PCODE; (3)
	| TYPE=SI; (4)
	| TYPE=CDRAC; (5)
	| TYPE=COPIN; (6)
	| TYPE=MODULO; (7)

1. Regenerate all entries

Input:

REG-PERSI;;

Output:

PERSI - Personal Identification

Functions of the AMO

```
ADD-PERSI:CCMS,922,,33&2100,2105,GLEICH;
ADD-PERSI:ALG,7,3,5,6,5,5,5,6,10,5,4,2,2,2,2,1&2,JA;
ADD-
PERSI:STN,3110,"SCHMIDT*HANNES","ORG1","60231100"&"70244817",
,,,,,,,,,YES,;
ADD-PERSI:PCODE,"600600"&"606060",5;

ADD-PERSI:SI,"5005005005";

ADD-PERSI:CDRAC,12345;

CHANGE-PERSI:COPIN,1,MOBILE,"MAN. PIN MOBILE
USER",NO,,NO,TABLE,0,
NO,TIME,ALL,NO,PERMDISP,NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,2,BUSLONG,"BUSINESS PIN, LONG ",YES,"+
0",YES,TABLE,0,
NO,PERM,NO,NO,TIMEDISP,NO,NO,NO,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,3,BUSSHRT,"BUSINESS PIN, 1 CALL",YES,"+
1",YES,TABLE,0,
UNICD,ONE,NO,NO,TIMEDISP,NO,NO,NO,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,4,PRIVSHRT,"PRIVATE PIN, 1 CALL ",YES,"+
2",YES,TABLE,0,
UNICD,ONE,NO,NO,TIMEDISP,NO,NO,NO,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,5,PCODE,"PROJECT CODE, 1
CALL",NO,,NO,LENGTH,0,
NO,ONE,NO,NO,PERMDISP,NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;

CHANGE-PERSI:COPIN,6,, "ID CARD, MOBILE
USER",NO,,NO,TABLE,,NO,,ALL,NO,PERMDISP,
NO,NO,NO,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,7,, "COS SWITCHOVER CODE
",NO,,NO,TABLE,,NO,,NO,NO,TIMEDISP,
NO,NO,NO,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,8,,,,,,,,,,,,,YES,,,,,,,,;
CHANGE-PERSI:COPIN,9,, "CDR ACCOUNT CODE
",NO,,NO,LENGTH,0,NO,ONE,NO,NO,PERMDISP,
NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,10,PCODE,"FAC, 1 CALL
",NO,,NO,LENGTH,0,NO,ONE,NO,NO,
PERMDISP,NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,11,MOBILE,"MAN. PIN MOBILE
USER",NO,,NO,TABLE,0,
NO,TIME,ALL,NO,PERMDISP,NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,12,MOBILE,"MAN. PIN MOBILE
USER",NO,,NO,TABLE,0,
NO,TIME,ALL,NO,PERMDISP,NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,13,MOBILE,"MAN. PIN MOBILE
USER",NO,,NO,TABLE,0,
NO,TIME,ALL,NO,PERMDISP,NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,14,MOBILE,"MAN. PIN MOBILE
USER",NO,,NO,TABLE,0,
NO,TIME,ALL,NO,PERMDISP,NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;
CHANGE-PERSI:COPIN,15,MOBILE,"MAN. PIN MOBILE
USER",NO,,NO,TABLE,0,
NO,TIME,ALL,NO,PERMDISP,NO,YES,YES,NO,NO,1,NO,NO,NO,NO,NO;

CHANGE-PERSI:MODULO,1,2-1-2-1-2-1-2-1-2-1-2-
1,SUMPRO,10,1,COMPREM;
CHANGE-PERSI:MODULO,2,2-1-2-1-2-1-2-1-2-1-2-
1,SUMPRO,10,1,COMPREM;
CHANGE-PERSI:MODULO,3,2-1-2-1-2-1-2-1-2-1-2-
1,SUMPRO,10,1,COMPREM;
```

150.3 Parameter Description

ALLOC	Allocation of code-calling number see AMO usage example Personal Identification Number, Multiple Code Calling System CCM Type of Input : Single value, optional If the CCNO contains a * or # , the parameter ALLOC is automatically set to SAME Possible Values : ASCEND, SAME ASCEND (code-calling numbers are allocated to station numbers one by one in ascending order) SAME (one and the same code-calling number is allocated to several station numbers) Default : ASCEND
ATTEMPTS	Number of failed attempts to enter the PIN If the parameter TRACE is set to NO in the COPIN of the PIN entered, the number of failed attempts will not be counted. Type of Input : Single value, Group condition Possible Values : 0 - 255 0 every wrong PIN is evaluated Basic init. : 5
CCNO	Code-calling number see AMO usage example Personal Identification Number, Multiple Code Calling System CCM Type of Input : Single value, mandatory Possible Values : 0-9,*,#,1 to 6 digits
CCMSCD	Multiple code-calling code Can be interrogated using AMO-WABE DISPLAY (CCMS, CCMSURG) see AMO usage example Personal Identification Number, Multiple Code Calling System CCM Type of Input : Single value, mandatory Possible Values : 0-9,*,#,A,B,C,D,1 to 6 digits
CDRAC	CDR account code Type of Input : Single value, linked single values, mandatory Possible Values : 1- to 12 numeric characters
CDRACLEN	Length of CDR account code Type of Input : Single value, optional Possible Values : 1 to 12 (basic initialization = 5)

PERSI - Personal Identification

Parameter Description

CDRTEXT	Additional text for call detail recording Is not sent to the call detail recording system if CDRTEXTS=YES. see AMO usage example Personal Identification Number, Additional Text for Call Data Recording Type of Input : Single value, Group condition Possible Values : Letters, digits, special characters 1 to 10 positions The PIN and the additional text together should have no more than 12 positions, otherwise the additional text will be truncated during call detail recording. The CDRTEXT will be deleted by input of a blank.
CDRRMSTN	name changed to DISPRSTN from EV3.0
CDRTEXTS	Send additional text to call detail recording system The additional text is selected using the parameter CDRTEXT. see AMO usage example Personal Identification Number, Additional Text for Call Data Recording Type of Input : Single value, Group condition Possible Values : YES, NO
CHARCON	Character conversion of name Type of Input Singel value, Group condition Possible Values NEUTRAL no character conversion RUSSCYR character conversion of the name to cyrillic
CHKNLEN	Length of check number The check number will be specified by the length and position within the pin, i.e. length and position of the check number must non be greater than the length of pin for all pin types, whose pin will be checked with this algorithm. see AMO usage example Personal Identification Number, Algorithmic "MODULO-N" Verification Type of Input : single value, Group condition Possible Values : 1 1-digit check number 2 2-digit check number
COCO	Company code Type of Input : Single value, mandatory Possible Values : Any combination of letters or digits, beginning with a letter 1- to 4-character
COPIN	Class of PIN, index to COPIN table Type of Input : Single value mandatory (CHANGE) optional (DISPLAY) Possible Values : 1 - 15

COSHOME	Use actual COS of home station during identification on remote station Type of Input : Single value, optional Possible Values : YES, NO
COSXCOS2	Class of service changeover to cos2 with cosxcd code (AMO WABE, digit analyses result ACOSX) Type of Input : Single value, optional Possible Values : YES, NO
COTYPE	COPIN Type for network-wide transfer of the COPIN using the CORNET protocol Type of Input : Single value, Group condition Possible Values : NONE No identification MOBILE Mobile station PCODE Project code BUSLONG Business call, long BUSSHRT Business call, short PRIVSHRT Private call, short
CPOINT	Pointer to company code on magnetic/chip card (indicates point in PIN code at which company code starts) Type of Input : Single value, mandatory Possible Values : 3 to 22
DEACKEY	Deactivate pin after cancel or delete key Type of Input : Single value, Group condition Possible Values : YES, NO
DISPID	Displaying the ID on the digite display see AMO usage example Personal Identification Number, User Identification Display on Digite Type of Input : Single value, Group condition Possible Values : PERMDISP Permanent display TIMEDISP ID is displayed for 5 seconds
DISPPIN	Displaying the pin on the digite display Type of Input : Single value, Group condition Possible Values : YES, NO
DISPRSTN	Displaying the remote station number to the call partner The function of the transmission of the remote station number,until EV2.0 AMO PERSI parameter CDRRMSTN, can be administrated with AMO DITPP from EV3.0. Type of Input : Single value, Group condition

PERSI - Personal Identification

Parameter Description

	Possible Values	: YES	
		NO	(has an effect only if TRANSFER=ALL)
DISPTRKC	Display trunk access code after activation of PIN with automatic trunk access		
	Type of Input	: Single value, Group condition	
	Possible Values	: YES	trunk access code will be displayed
		NO	text "IDENTIFICATION xxxxxx" will be displayed
DPLN	Digit analysis group		
	Type of Input	: Single value, optional	
		If DPLN is not specified, and if the CCMS code in DPLN leads to DPLN group branch, the parameter DPLN is prompted.	
	Possible Values	: 0 to 15	
DPTEST	PIN type is valid for dailing pattern check		
	Type of Input	Single value, Group condition	
	Possible Values	YES, NO	
IDHOME	PIN identifcaation only possible at home station		
	Type of Input	: Single value, Group condition	
	Possible Values	: YES, NO	
ITR	Traffic relation group number		
	Type of Input	: Single value, linked single values, Area(s), mandatory	
	Possible Values	: 0 - 15	
MODULO	Modulo check algorithm see AMO usage example Personal Identification Number, Algorithmic "MODULO-N" Verification		
	Type of Input	: single value, mandatory	
	Possible Values	: 1	Modulo check algorithm 1
		2	Modulo check algorithm 2
		3	Modulo check algorithm 3
MODULUS	Modulus The total of digits of the products will be divided through the modulus. see AMO usage example Personal Identification Number, Algorithmic "MODULO-N" Verification		
	Type of Input	: single value, Group condition	

	Possible Values	: 2-99
NAME	Surname, christian name and supplementary info for the station	
	Type of Input	: Single value, linked single values, mandatory Group parameters (ADD) The parameters NAME, PINC, PINM and COSXCD form one group. At least one group parameter must be specified. Up to 3 linked single values (ADD) Up to 12 linked single values (CHANGE, DELETE)
	Possible Values	: max. 30 alphanumerical characters, upper and lower case letters Additional information items may be delimited by any number of separators. 1 to 31 positions * must not be used as the first character.
OLDPIN	Old or	
NEWPIN	New pin	
	Type of Input	: Single value, max. of 12 linked values, single values, mandatory
	Possible Values	: letters, digits, special characters except # 1- to 12-character
OLDNAME	Old or	
NEWNAME	New surname, christian name and supplementary info for the station	
	Type of Input	: Single value, up to 12 linked single values optional surname, name; for a description see introd. a)
	Possible Values	: max. 30 alphanumerical characters, letters Additional information items may be delimited by any number of separators. 1 to 31 positions * must not be used as the first character.
OLDORG	Old or	
NEWORG	New organizational unit	
	Type of Input	: Single value, linked single values, maximum of 12 linked single values, required (CHANGE)
	Possible Values	: 1- to 25-character

PERSI - Personal Identification

Parameter Description

ORG	Organizational unit Type of Input : Single value, linked single values, optional, may only be entered for a station name (ORG cannot be entered alone). maximum of 3 linked single values (ADD) maximum of 12 linked single values (DELETE) Possible Values : 1- to 25-character
PARARNGM	PIN for master of a parallel ringing group Type of Input : Single value, Group condition Possible Values : YES, NO
PCODE	Project code Type of Input : Single value, max. of 12 linked values, single values, mandatory Possible Values : letters, digits, special characters except # 1- to 12-character
PINC	Personal ID number-card
PIN1	Personal ID of pin type 1
PIN2	Personal ID of pin type 2
PIN3	Personal ID of pin type 3
PIN4	Personal ID of pin type 4
PIN5	Personal ID of pin type 5
PIN10	Personal ID of pin type 10
PIN11	Personal ID of pin type 11
PIN12	Personal ID of pin type 12
PIN13	Personal ID of pin type 13
PIN14	Personal ID of pin type 14
PIN15	Personal ID of pin type 15
COSXCD	Code for class of service changeover Type of Input : Single value, linked single values, optional group parameters (ADD) Parameters NAME, PINC, PIN1, PIN2, PIN3, PIN4, PIN5,COSXCD, PIN10, PIN11, PIN12, PIN13, PIN14 and PIN15 form a group. At least one of these parameters must be specified. Max. of 8 linked single values(ADD) Max. of 12 linked single values(DELETE,DISPLAY) Possible Values : 1- to 12-character

PINCLEN	Length of pin (card)
PIN1LEN	Length of pin type 1
PIN2LEN	Length of pin type 2
PIN3LEN	Length of pin type 3
PIN4LEN	Length of pin type 4
PIN5LEN	Length of pin type 5
PIN10LEN	Length of pin type 10
PIN11LEN	Length of pin type 11
PIN12LEN	Length of pin type 12
PIN13LEN	Length of pin type 13
PIN14LEN	Length of pin type 14
PIN15LEN	Length of pin type 15
COSLEN	Length of codes for class of service changeover
	Type of Input : Single value, mandatory
	Parameters PINCLEN, PIN1LEN, PIN2LEN, PIN3LEN, PIN4LEN, PIN5LEN, SILEN, COSLEN, PIN10LEN, PIN11LEN, PIN12LEN, PIN13LEN, PIN14LEN and PIN15LEN a group. At least one of these parameters must be specified.
	Possible Values : 1 to 12 (basic initialization = 0)
PINDISP	Display personal identification number
	Type of Input : 1 to 12 single values, concatenated with & or &&
	Possible Values : numeric, 1-7, 10-15
PINDUR	Duration of the activated PIN see AMO usage example Personal Identification Number, Duration of PIN Activation
	Type of Input : Single value, Group condition
	Possible Values : PERM PIN is permanently active
	TIME PIN is deactivated after timeout.
	ONE PIN can only be deleted manual or after timeout (the time can be set using the AMO CTIME parameters PIN1VO and PIN1NV (e.g. 1 for COPIN). PIN activated for 1 call
PINEXT	PIN of the forwarding station is retained
	Type of Input : Single value, Group condition
	Possible Values : YES, NO

PERSI - Personal Identification

Parameter Description

PININDIV	PIN entries will be evaluated one by one for this command, i.e. each specified PIN will only be assigned to the specified PINTYPE even though other PINTYPES might have the same length. If this parameter is omitted, every specified PIN will be assigned both to the specified PINTYPE and to all other PINTYPES of the same length.		
	Possible Values	: YES	
PINLCOS2	PIN input locked if COS2 is activ at remote station		
	Type of Input	: Single value, optional	
	Possible Values	: YES, NO	
PINNKEY	PIN entry on name keys and individual speed dialing facility		
	Type of Input	: Single value, Group condition	
	Possible Values	: YES, NO	
PINPOINT	Personal ID number - pointer		
	This indicates the point on the magnetic or chip card at which the PINC begins		
	Type of Input	: Single value, mandatory	
	Possible Values	: 3 to 22 (basic initialization = 3)	
PINTEST	PIN test see AMO usage example Personal Identification Number, Verifying the PIN/PCODE		
	Type of Input	: Single value, Group condition	
	Possible Values	: NOCHECK	no check of pin length and pin code not allowed for COPIN type PCODE
		LENGTH	check of pin length, pin code not checked
		TABLE	Check against the PIN table which contains all existing PINs
		MODULO1	Modulo check algorithm 1
		MODULO2	Modulo check algorithm 2
		MODULO3	Modulo check algorithm 3
PINTEXT	COPIN description text		
	Type of Input	: Single value, Group condition	
	Possible Values	: Letters, digits, special characters	
		1 to 20 positions	
PINTYPE	Type of PIN		
	Type of Input	: Single value, linked single values, area(s) optional (ADD, DELETE, DISPLAY PIN) mandatory (DISPLAY STN)	
	Possible Values	: 1 - 7, 10-15 (ADD, DISPLAY STN, LOESCHEN STN)	

		1 - 15	(DISPLAY PIN, LOESCHEN PIN)
	Default	: 5	(ADD PKZ)
POSCHKN	Position of check number The check number will be specified by the length and position within the pin, i.e. length and position of the check number must not be greater than the length of pin for all pin types, whose pin will be checked with this algorithm. see AMO usage example Personal Identification Number, Algorithmic "MODULO-N" Verification		
	Type of Input	: single value, optional	
	Possible Values	: 1 - 12 (1 = exterior left position)	
SI	Pin for service id		
	Type of Input	: Single value, max. of 12 linked values, single values, mandatory	
	Possible Values	: letters, digits, special characters except # 1- to 12-character	
SILEN	Length of pin for service id		
	Type of Input	: Single value, mandatory Parameters PINCLEN, PIN1LEN, PIN2LEN, PIN3LEN, PIN4LEN, PIN5LEN, SILEN, COSLEN, CDRACLEN, PIN10LEN, PIN11LEN, PIN11LEN, PIN12LEN, PIN13LEN, PIN14LEN and PIN15LEN a group. At least one of these parameters must be specified.	
	Possible Values	: 1 to 12 (basic initialization = 0)	
STNO	Station number		
	Type of Input	: Single value, mandatory (ADD, CHANGE) Single value, linked single values area(s), optional (DISPLAY, REGEN) Single value, mandatory (DELETE) Single value, linked single values, areas max. 12 values in TYPE=PSM except: max. 12 values single values for TYPE=ALLNAME, ORGSTNO and STNO	
	Possible Values	: 1- to 6-digits The upper and lower limits of an area must have the same number of digits (DISPLAY, REGENERATE)	

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Parameter Description

TRACE	Trace the PIN user The maximum number of failed attempts is determined using the parameter ATTEMPTS in the branch TYPE=SYS. see AMO usage example Personal Identification Number, Detecting PIN/PCODE Hackers Type of Input : Single value, Group condition Possible Values : YES, NO	
TRANSFER	Transfer of COSs and/or key contents from the home station. see AMO usage example Personal Identification Number, COS and Key Function Transfer Type of Input : Single value, Group condition Possible Values : ALL Transfer key contents and COSs COS Function will be not support from Call Processing Transfer of COSs only (COS, ITR and DPLN group etc.) NO No transfer	
TRKCD	Trunk access code for automatic dialing The type of automatic trunk access is determined using the parameter TRKCDTYP. When adding the trunk access code by means of the AMO WABE, CPS=4 must be set up as the AC code if TRKCDTYP=PINCD. The AMO PERSI does not cross-check the trunk access code against the digit analysis result. see AMO usage example Personal Identification Number, Automatic Exchange Seizure Type of Input : Single value, Group condition Possible Values : 0 - 9, *, #, A - D 1 to 6 positions	
TRKCDTYP	Type of automatic trunk access see AMO usage example Personal Identification Number, Automatic Exchange Seizure Type of Input : Single value, Group condition Possible Values : UNICD Autom. dialing of a universal trunk access code following PIN input. Automatic trunk access after input of PIN/PCODE. The user can then immediately dial the number of the external party. PINCD Autom. dialing of a trunk access code requires PIN entry. It is impossible for the user to access a trunk with this trunk access code without first having entered a PIN/PCODE. NO No autom. trunk access The TRKCD is no evaluated.	

The value entered for UNICD or PINCD is removed.

TYPE	Branch parameter
	Type of Input : Single value, mandatory
	Possible Values : SYS, COCO, STN, CCMS, PCODE, SI, CDRAC (ADD)
	COCO, ALLNAME, NAME, ORGSYS, ORGSTNO, ORGNAME, PIN, STN, CCMS (DELETE)
	SYS, PINPOINT, COCO, NAME, ORGSYS, ORGSTNO, ORGNAME, PIN, CCMS, COPIN, MODULO (CHANGE)
	SYS, NAME, STN, CCMS. CCMS, PIN, COPIN, MODULO (DISPLAY)
	SYS, STN, PCODE, SI, CDRAC, COPIN, MODULO (REGENERATE)
TYPECHKN	Type of check number
	After modulo division, the check number can be the rest of division or the complement of the remainder to modulus. see AMO usage example Personal Identification Number, Algorithmic "MODULO-N" Verification
	Type of Input : single value, Group condition
	Possible Values : RESTDIV : rest of division
	COMPREM : complement of the remainder to modulus
TYPESUM	Type of sum of the products
	The sum will be build from the products of the single PIN-digits and their valence. see AMO usage example Personal Identification Number, Algorithmic "MODULO-N" Verification
	Type of Input : : single value, Group condition
	Possible Values : : SUMPRO : Sum of the products
	CHKSUMPR : Checksum of the products
VALENCE	Valence per digit
	Each PIN-digit will be multiplied by its valence see AMO usage example Personal Identification Number, Algorithmic "MODULO-N" Verification
	Type of Input : : 12 linked single values, Group condition
	Possible Values : : digit 0 - 9, always 12 linked digit number (z.B. 2-1-2-1-2-1-2-1-2-1-2-1)

150.4 Error Messages and Advisories

150.4.1 Error Messages

F01: STNO <xxxxxx> IS NOT A STATION NUMBER

F02: STATION <xxxxxx> HAS NOT BEEN ADDED

F03: THE MAXIMUM NUMBER OF <xxxxx> NAMES CAN NOT BE PASSED OVER.
(EXTENSION WITH AMO DIMSU, PARAMETER NAME)

F04: THE MAXIMUM NUMBER OF <xxxxx> ORGS CAN NOT BE PASSED OVER.
(EXTENSION WITH AMO DIMSU, PARAMETER ORG)

F05: <c----c> <x----x> DOES NOT CORRESPOND TO THE PRESENT LENGTH,
<l----l> = <ll>

F06: <c----c> <x----x> ALREADY ASSIGNED TO A <t----t>

F07: THE MAXIMUM NUMBER OF <xxxxx> PINS CAN NOT BE PASSED OVER.
(EXTENSION WITH AMO DIMSU, PARAMETER ID)

F08: NAME <n----n> IS NOT ENTERED UNDER STNO <xxxxxx>

F09: OLDORG <o----o> WAS NOT FOUND IN THE SYSTEM

F10: OLDORG <o----o> WAS NOT FOUND UNDER STNO <xxxxxx>

F11: <x----x> WAS NOT FOUND <a----a>

F12: <x----x> HAS ALREADY BEEN ENTERED IN THE SYSTEM

F14: <x----x> HAS INVALID LENGTH

F15: RANGE LIMITS HAVE DIFFERENT LENGTHS

F16: <x----x> AND <x----x> HAVE DIFFERENT LENGTHS

F17: LENGTH ENTRY CANNOT BE CHANGED -
ALL PINS OF PIN TYPE <c----c> MUST FIRST BE DELETED

F18: BLOCKING NOT POSSIBLE - ALL PINS OF PIN TYPE <c----c> MUST FIRST BE DELETED

F19: <l----l> IS ALREADY ADDED

F20: FOR ITR <xx> COCO AND FPOINT ARE NOT ADDED

F23: <c----c> IS BLOCKED

F24: NAMES MUST NOT BEGIN WITH *

F25: NAMES MUST NOT CONTAIN ONLY BLANKS

F26: CODE <kkkkkk> DOES NOT LEAD TO DAR CCMS

F27: CODE <kkkkkk> LEADS TO DPLN GROUP BRANCH

F28: STATION NUMBER <xxxxxx> HAS NOT BEEN ASSIGNED WITHIN THE SYSTEM

F29: NO ROUTE TO TMOM ASSIGNED

F30: RANGE OF STATION NUMBERS MUST NOT EXCEED 100

F31: NO FURTHER STNO/CCNO ENTRY ALLOWED FOR THIS CCMS

F32: STATION NUMBER <xxxxxx> ALREADY IN STNO/CCNO TABLE

F33: NO STATION NUMBER FOUND IN RANGE <xxxxxx>-<xxxxxx>

F34: STATION NUMBER <xxxxxx> NOT FOUND IN STNO/CCNO TABLE

F35: SPECIFIED CCNO IS INVALID

F36: NAME <xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx> IS ALREADY ASSIGNED TO STNO <xxxxxx>

F37: STATION <xxxxxx> IS MAPPED TO STATION NO. <xxxxxx> VIA AMO-RUFUM;
PLEASE USE THIS AMO FOR FURTHER PROCESSING.

F38: NONE OF THE AVAILABLE PIN TYPES LEADS TO PCODE

F39: PIN TYPE <aa> DOES NOT LEAD TO PCODE (CHANGE-PERSI:TYPE=COPIN, COTYPE=PCODE)

F40: PCODE ENTRY <x----x> ALREADY EXISTS

F41: <c----c> LEADS TO PIN TYPE PCODE. ASSIGNMENT TO STATION NUMBER IS NOT PERMISSIBLE

F42: ORG. UNITS CAN ONLY BE ASSIGNED TO NAMES (ONE ORG. UNIT PER NAME)

F43: <p----p> CANNOT BE CHANGED IF <p----p> = <w----w>

F44: <p----p> = <w----w> IS NOT VALID IF <p----p> <g> <w----w>

F45: PIN, PCODE AND SI MUST NOT CONTAIN #

F46: FOR OLDPIN <a----a> PIN TYPE <aa> IS ASSIGNED.
THE PIN MUST CONTAIN ONLY DIGITS.

F47: STNO <xxxxxx> IS AN ATTENDANT CONSOLE.
ATTENDANT CONSOLES CANNOT BE ASSIGNED PINS.

F48: COSHOME PARAMETER CANNOT BE ASSIGNED 'NO' FOR COPIN@@ WHICH IS USED BY ONS GROUP MEMBERS (STNO=@@@@@@).

F49: COPIN PARAMETER HAS TO BE SPECIFIED OTHERWISE COMMAND CANNOT PROCESSED SUCCESSFULLY.

F50: PIN IS IN USE AT A FOREIGN STATION @@@@@@@@@@@@@@ DELETING OF PIN CODE IS NOT ALLOWED.

F51: PIN IS IN USE AT A MASTER STATION @@@@@@@@@@@@@@ DELETING OF PIN CODE IS NOT ALLOWED.

F52: THE STATION @@@@@@@@@@@@@@ IS MASTER STATION OF AN ONS DELETING OF PIN 15 IS NOT ALLOWED.

150.4.2 Advisories

H01: NAME <n----n> TO BE DELETED IS ONLY NAME FOR ORG <o----o>: ORG IS DELETED

H02: ORG <o----o> AND ALL ASSOCIATIONS TO THE NAMES ARE DELETED

H03: NO VALUES FOR <c----c> ENTERED IN SYSTEM

H04: NO NAMES OR ORGANIZATIONAL UNITS IN SYSTEM

H05: NO NAMES OR ORGANIZATIONAL UNITS FOR THE STATION NUMBERS SPECIFIED

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H06: NONE OF THE SPECIFIED OR NO <c----c> AT ALL HAS BEEN ENTERED
IN THE SYSTEM

H07: STATION NUMBERS SPECIFIED ARE NOT ASSIGNED OR DO NOT HAVE A STATION DAR

H13: NO <c----c> FOR STATION NUMBERS SPECIFIED

H15: SAME ASSIGNMENT - <c----c>/STATION NUMBER

H16: IN ITR <xx>: COMPANY CODE <ffff> WAS ENTERED

H17: @@@@ IS ALREADY BLOCKED

H18: NO <c----c> ASSIGNED

H20: NO ENTRY IN STNO/CCNO TABLE

H21: PIN TYPE <aa> CORRESPONDS TO PINC (WHICH IS NOT DISPLAYED)

H22: PIN TYPE <aa> CORRESPONDS TO PCODE (WHICH IS PERMANENTLY DISPLAYED)

H23: PIN DISPLAY IS ACTIVATED FOR PIN TYPE <aa>

H24: PIN DISPLAY WAS DELETED FOR PIN TYPE <aa>

H25: PIN DISPLAY WAS NOT ACTIVATED FOR ANY PIN TYPE EXCEPT PCODE

H26: FOR PIN <x----x> PIN TYPE <aa> HAS NOT BEEN ASSIGNED

H27: FOR STNO <xxxxxx> NO PIN HAS BEEN ASSIGNED PIN TYPE <aa>

H29: NO PIN HAS BEEN ASSIGNED FOR STNO <xxxxxx>

H30: <c----c> LEADS TO PIN TYPE PCODE. ASSIGNMENT TO STATION NUMBER IS NOT PERMISSIBLE
AND WILL BE IGNORED

H31: ONLY ONE ORG. UNIT CAN BE ASSIGNED TO A NAME.
SUPERNUMERARY ORG. UNITS BE IGNORED.

H32: THE FIRST NAME FOR STATION NUMBER <xxxxxx> HAS BEEN CHANGED

H33: THE SAME NAME WAS ENTERED AGAIN AND HAS BEEN DELETED

H34: NAMES IN EXCESS OF THE NUMBER OF NEW NAMES EXPECTED HAVE BEEN IGNORED

H35: NO NAMES WAS ASSIGNED FOR STATION NUMBER <xxxxxx>,
ALL NEW NAMES HAVE BEEN ENTERED

H36: <d----d> <x----x> WAS ASSIGNED TO ALL <b----b> OF THE SAME LENGTH.

H38: COSXCD <x----x> ALREADY ASSIGNED TO A STATION NUMBER,
COMMAND WILL BE EXECUTED.

H39: THE PCODE CAN NOT BE CHECKED AGAINST THE TABLE FOR
PIN NETWORKWIDE, COMMAND WILL BE EXECUTED.

H40: FOR COTYPE=SI ONLY PINNKEY CAN BE CHANGED,
ALL OTHER PARAMETERS WILL BE IGNORED.

H41: ALTHOUGH IN USE AT A FOREIGN STATION, PIN CODE IS DELETED.

Output Texts

<xxxxxx>	internal DN
<x----x>	personal ID number
<n----n>	name

```

<o----o>      organizational unit
<xxxxx>      max. no. of NAMES, ORGs or PINs in the system
<b----b>      PINTYPES/PCODETYPES
<c----c>      PINC/COSXCD/PIN1/PIN2/PIN3/PIN4/PIN5/PIN/SI/PCODE/
CDRAC/PIN10/PIN11/
              PIN12/PIN13/PIN14/PIN15
<d----d>      PIN/PCODE
<l----l>      PINCLAE/COSLEN/PIN1LEN/PIN2LEN/PIN3LEN/PIN4LEN/
PIN5LEN/SILEN/
              CDRACLEN/PIN10LEN/PIN11LEN/PIN12LEN/PIN13LEN/
PIN14LEN/PIN15LEN
<p----p>      COTYPE/PINDUR/DISPPIN/PINEXT/COPIN/TRANSFER/DEACKEY
<w----w>      PCODE/NO/6/7
<t----t>      STATION NUMBER/PCODE/SI
<a----a>      IN THE SYSTEM / UNDER STATION NUMBER
<m----m>      NAME/OLDNAME/NEWNAME
<aa>         pin type
<g>          = / no entry
<ll>         length of personal ID number
<xx>         TRAFFIC RELATION GROUP, length specification for
codes
<ffff>       COMPANY CODE
<kkkkkk>     CCMS CODE

```

150.4.3 Use of the Output Messages for Each Action

```

ADD           : H16, H21, H22, H23, H24, H25, H30, H36, H38,
               F01, F02, F03, F04, F05, F06, F07, F15, F19, F23,
               F25, F26, F27, F28, F29, F30, F31, F32, F33, F35,
               F37, F38, F39, F40, F41, F42, F45

CHANGE        : H08, H21, H24, H28, H31, H32, H33, H34, H35, H40
               F01, F02, F04, F08, F09, F10, F11, F12, F14, F15,
               F16, F17, F18, F20, F24, F25, F26, F27, F28, F29,
               F30, F34, F35, F37, F43, F44, F45, F46

DELETE        : H01, H02, H26, H27, H29,
               F01, F02, F08, F09, F11, F14, F15, F20, F25, F26,
               F27, F28, F28, F30, F34, F37, F45

DISPLAY       : H03, H05, H06, H07, H13, H17, H20,
               F14, F15, F26, F27, F29, F45

```

PERSI - Personal Identification

Error Messages and Advisories

151 PETRA - Tracer Control via AMO

Interrelationships	Parameter Description
AMO Functions	Error Messages and Advisories

The AMO PETRA can be used to create, interrogate and stop trace procedures in circuits on peripheral modules of the SWU. Furthermore, memory contents can be displayed on these modules.

All received data can be displayed on the service terminal in its entirety or in part.

The periphery (PP) of an LTG collects these data, divided according to TRACE and DUMP values, in one memory segment each. Upon request by the AMO, PP forwards this data to the AMO.

The TRACE data can then be displayed entirely or in part as often as required using AMO PETRA. The DUMP data, on the other hand, are passed on directly to the terminal by the AMO.

Most peripheral modules can be operated with AMO PETRA.

If an attempt is made to activate the loadware TRACER in an untraceable module, the input is acknowledged by the AMO with the error message "F05: BOARD HAS NO PERIPHERAL TRACER". (Using the addressing specified, the module type is determined and compared with the value in the UBGDAT)

The same applies for the DUMP also.

151.1 Interrelationships

None

151.2 AMO Functions

- [ADD-PETRA](#) : Creating the TRACER in one circuit
- [DISPLAY-PETRA](#) : Retrieving TRACE memory
Retrieval and output of DUMP memory
- [OUTPUT TRACE-DATA](#) : Output TRACE memory
- [DEACTIVATE-PETRA](#) : Deactivating a created TRACER
- [STOP-PETRA](#) : Stopping the TRACE memory allocation

151.2.1 ADD-PETRA

151.2.1.1 Creation of TRACE processes on standard modules (STD)

The create command is used to activate the trace procedure in a circuit. This causes one, several, or all processes (0...15) of the circuit to send the TRACE data to the periphery (PP). Several TRACE procedures can be activated in sequence. These are executed in parallel. All results are marked for each LTG by the PP according to the sender and are collected in a common TRACE buffer. If the buffer overflows, this buffer is written again starting at the beginning (cyclic memory).

Each peripheral circuit requires its own job to activate the TRACER. The initiation of a circuit that has already been activated does not cause a fault; this permits activation of other processes of the same circuit.

Note:

In each case, only those processes which were specified in the last command are activated; previously activated processes, that were not specified in the last command, are deactivated.

Procedure Overview

Kommandocode	Parameter
ADD-PETRA	TYPE=STD, [LTG=<number>], LTU=<number> , SLOT=<number>, [CCT=<number>], PROC1=<number> , [PROC2=<number>];

Example

The processes 1, 3, 5 to 9 and 11 are to be traced from the LTG=1, LTU=2, SLOT=19, and circuit number=5.

Input:

```
ADD-PETRA:STD,1,2,19,5,1&3&5&&9&B;
```

151.2.1.2 Trace processes on special modules (HEX)

On some modules (e.g. CMI) the trace process is activated with longer commands. This is possible with the branch HEX. 64 Byte in one command are possible.

The parameter LENGTH shows the number of HEX-Values. The parameter CCT is not estimated by all modules (you must not use this parameter in relation with the module CMI).

Procedure Overview

Kommandocode	Parameter
ADD-PETRA	TYPE=HEX, [LTG=<number>], LTU=<number>, SLOT=<number> , [CCT=<number>], LENGTH=<number>, [HEX01=<number>] , [HEX02=<number>] ... [HEX64=<number>];

Example

The module is waiting for the command A157BD300F.

Input:

ADD-PETRA:HEX,,2,43,,5,A1,57,BD,30,0F;

151.2.1.3 Installation of TRACE processes on LTUR modules

In the ROLM modules of an LTUR shelf, trace processes are not set up by specifying the processes; rather, the trace process is activated using a trace control code 2 bytes long. These are specified as 2 concatenated single values, input as parameter PROC: PROC= <byte 1> & <byte 2>.

The composition of the 2 byte trace control code is as follows (taken from "LTUR trace Function - Component spec, ROLM Systems, author: Esther Poon"):

- Byte I:

T on off	TRACE Class / Trigger code

Figure 18 Structure of the Trace Control Code

a) T-on/off = 1: Activation of trace functions

1	on off	all ckt	snd only	rcv only	int task		
7	6	5	4	3	2	1	0

Figure 19 Trace Functions

ON/OFF BIT: when set, the indicated trace state is to be reset (if it was on).

SEND ONLY BIT: when set, only messages sent are to be traced.

RECEIVE ONLY BIT: when set, only messages received are to be traced.

ALL CIRCUIT BIT: when set, the trace state is to be indicated for all circuits on the indicated trace object. If this bit is set the circuit number from the message is ignored.

INTERNAL TASK BIT: when set, internal functions (other than the mailbox messages) of the indicated trace object are to be reported.

b) T-on/off = 0: Stop conditions for trace functions



Figure 20 Trace-Classes and Trigger Code

There are 4 trace classes (bit 6 - 4) for setting the conditions which deactivate the trace functions and these trace classes have their specific trace trigger code (bit 3 - 0).

Class Code	Trace Class Definition	Trace Trigger Code
000	OV2	N/A
001	ERR CODE	specified error code
010	STATE CODE	specified state number
others	not defined	

OV2: when set, the trace is to be reset when the overload threshold 2 is encountered.

ERR CODE: when set, the trace is to be reset when the specified error code (bit 3 - 0) of the given task/module occurs.

STATE CODE: when set, the trace is to be reset when the specified state (bit 3 - 0) of the given task/module occurs.

• Byte II:

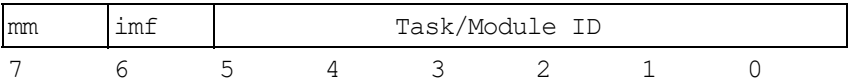


Figure 21 Task/Module ID

MM (MAIN MICRO) BIT: when set, the trace state is to be set for the indicated components in the main micro.

IMF (IMF/DFE Server) BIT: when set, the trace state is to be set for the indicated components in the IMF/DFE Server.

TASK/MODULE ID (bit 5 - 0): when either MM BIT or IMF BIT is set, the Task/Module ID defines the various task or modules which should be activated/deactivated for tracing.

The following is an overview of the possibilities for byte II.

Byte	II	mm	imf	Task/Module ID	Meaning of Task/Module ID
00		0	0	0	No task in neither MM nor IMF
40		0	1	0	No task/module in IMF/DFE Server
41		0	1	1	I_ICONFIG
42		0	1	2	I_Restart
43		0	1	3	I_IPRC sender
44		0	1	4	I_IPRC receiver
45		0	1	5	IMF/DFE engine interface
4A		0	1	10	RLI/DFE
4B		0	1	11	State messaging circuit state machine
4D		0	1	13	I_Card state machine
4E		0	1	14	TTI_BS state machine
4F		0	1	15	DID_BS state machine
51		0	1	17	ATI_BS state machine
52		0	1	18	DIR_BS state machine
7F		0	1	3F	All tasks/modules in IMF/DFE Server
80		1	0	0	No task/module in MAIN
81		1	0	1	M_ICONFIG
82		1	0	2	M_Restart
83		1	0	3	M_IPRC sender
84		1	0	4	M_IPRC receiver
85		1	0	5	Connection management
86		1	0	6	Config assimilator
8A		1	0	10	RLI dependability
8B		1	0	11	RCC
8C		1	0	12	DFE
8D		1	0	13	M_Card state machine
8E		1	0	14	TTI circuit state machine
8F		1	0	15	DID circuit state machine
90		1	0	16	COT circuit state machine
91		1	0	17	ATI circuit state machine
92		1	0	18	T1 circuit state machine
BF		1	0	3F	All tasks/modules in MAIN

Procedure Overview

Kommandocode

ADD-PETRA

Parameter

TYPE=LTUR, [LTG=<number>], LTU=<number>
, [SLOT=<number>], CCT=<number>, BYTE1=<hex>
, BYTE2=<hex>;

Example

The processes 1, 3, 5 to 9 and 11 are to be traced from the LTG=1, LTU=2, SLOT=19, and circuit number=5.

Input:

ADD-PETRA:STD,1,2,19,5,1&3&5&9&B;

An LTUR module in LTG=1, LTU=4, SLOT=133, circuit number=3, should be set up with the trace control code A8 and 7F for tracing.

Input:

ADD-PETRA:LTUR,1,4,133,3,A8,7F;

151.2.2 DISPLAY-PETRA

- 1. Retrieving the TRACE data.
- 2. Retrieval and output of the DUMP data.

The command with 'TRACE' parameter is used to transfer the data that has been compiled in a trace segment of the peripheral processing system (PP) by the 'ADD' command.

A message causes the PP to transfer the data segment with the collected TRACE data to the AMO.

The received segment is available only once. With the next interrogation job, the AMO receives a completely new segment with completely new data from the PP.

The trace data received by the PP can be output on the screen with the command "OUTPUT-PETRA" (see also the following section).

By specifying the 'DUMP' parameter, the memory contents of a module are displayed on the console.

A message via the PP causes the modules to send their dump data to the periphery (PP) as of a specific address, and in a specific length, where the data are collected in one segment. After the last data has arrived there, they are all sent to this AMO and displayed on the terminal.

The maximum length for the data area of a DUMP job is 2048 bytes since no separate data segment is created in the periphery for a DUMP. Newer modules with an extended DUMP-Area (e.g. STHC, SLTX) can work with DUMP jobs until 8154 Byte.

Currently, only one DUMP job at a time can be executed. Additional jobs are accepted without an error message, however, they are not executed by the periphery.

On modules with Motorola-Processor, the address is splitted to the parameter SEG and ADR. The input for the address 86754890 for example is SEG=8675 and ADR=4890 (DISP-PETRA:DUMP,1,3,37,86,8675,4890,2048)

Procedure Overview

Command Code	Parameter
DISPLAY-PETRA	TYPE=TRACE, [LTG=<number>]; | TYPE=DUMP, [LTG=<number>], LTU=<number>, SLOT=<number> , CPU=51, SEG1=<param>, ADR=<hex> , [NO=<number>];

```
| TYPE=DUMP, [LTG=<number>], LTU=<number>, SLOT=<number>
| , CPU=<param>, SEG=<hex>, ADR=<hex>
| , [NO=<number>];
```

Examples

1. The TRACE memory is to be retrieved from the LTG=1.

Input:

```
DISP-PETRA:TRACE,1;
```

2. A memory dump is to be requested and output from the module with slot 37 and LTU number 3 in the LTG 1.

Input:

```
DISP-PETRA:DUMP,1,3,37,86,1234,5678,217;
```

Output:

```
DUMP FUER    LTG  1    LTU  3    EBT  37
1234:5670                                44 69 65 73 20 69 73 74  ....Dies ist
1234:5680    20 65 69 6E 20 44 55 4D  50 20 20 20 20 20 20 20  ein DUMP
1234:5690    20 20 20 20 20 20 20 20  20 20 20 20 20 20 20 20
                  "  "                      "  "

1234:56F0    00 01 02 03 04 05 06 07  08 09 0A 0B 0C 0D 0E 0F  ....
1234:5700    10 11 12 13 14 15 16 17  18 19 1A 1B 1C 1D 1E 1F  ....
1234:5710    20 21 22 23 24 25 26 27  28 29 2A 2B 2C 2D 2E 2F  ....
1234:5720    30 31 32 33 34 35 36 37  38 39 3A 3B 3C 3D 3E 3F  0123456789;<=>?
1234:5730    40 41 42 43 44 45 46 47  48 49 4A 4B 4C 4D 4E 4F  @ABCDEFGHJKLMN
1234:5740    44 55 4D 50 20 45 6E 64  65 20 20 20 20 20 20 20  DUMP Ende
1234:5750    20
```

3. A memory dump in the MAIN/MICRO processor is to be requested and output from the ROLM module with slot 127 and LTU number 4 in LTG 1.

Input:

```
DISP-PETRA:DUMP,1,4,127,MM,3220,652A,46;
```

Output:

```
DUMP FOR    LTG  1    LTU  4    EBT  127
3220:6520                                26 8A 47 06 3C 03  ....&.G.<.
3220:6530    74 04 3C 04 75 2D 83 3E  0E 00 FF 73 0B 82 3E 71  t.<.u->...s..>q
3220:6540    00 00 75 04 FF 06 0E 00  B8 A1 00 1E 50 B8 12 00  ..u.....P...
3220:6550    1E 50 9A 44                                .P.D
```

151.2.3 OUTPUT TRACE-DATA

After executing the command DISPLAY-PETRA the message H3 and the prompt "*" is displayed asking the user to insert the parameter NO and CONT.

Instead of restarting the AMO, it is based on the DISPLAY action. This makes it possible to examine the data which were retrieved once, any number of times.

The rest of the AMO run is controlled with the second parameter CONT. As long as the parameter value is 'Y', further DISPLAY commands can be input. After 'N' the AMO is terminated and the internal PETRA data segment released.

Each individual data record of a module is 16x8 bit long, the first byte contains the LTU No., the second the PBC No., followed by 14 bytes of TRACE data. For TROSS51 modules these consist of individual 3 byte trace entries (1 empty bit, 2 bit flags, 5 bit circuit code and a 16 bit address); in the case of L3X and Rolm modules, on the other hand, the 14 bytes constitute one trace entry.

Procedure Overview

Command Code

Parameter

[NO=<number>], [CONT=<param>];

Examples

- 1. The previously retrieved TRACE data are to be displayed and the AMO is subsequently to be ended.

Input:

,N;

- 2. The last 100 of the data retrieved using the DISPLAY command are to be displayed.

Input:

100;

Output:

```
TRACE DATA FROM LTG 1
LTU  SLOT  CCT  DATA
  1    1    0  9234 A345 D678 ABCD 88EF 99FA
  1    1    5  9234 D678 ABCD 88EF E7E7
LTU  PBC  CIRCUIT  STATE  PROC    BOARD HEADER  L3X HEADER  DATA
  4   11    0        3     4      8020 075      85 1 1   9A5A5A5
  4   11    0        1     4      8620 0 3      4320A5  A5A5A5A5
LTU  SLOT  CCT  TR-TAG  DATA
  3   79    0        0  010203040506 07080910111213
LTU  SLOT  CCT  DATA
  2   13    1  D432 A345 BADE AFFE 8080 8085 8086
  2   37    0  FEDE BAFF E969 DAEF 9111 8194 C711 A921 B368 8926 B764
```

151.2.4 DEACTIVATE-PETRA

This command is used to deactivate the TRACE procedures again on the circuits.

For each circuit, a separate command must be given which is used to deactivate the TRACER for all processes on this circuit.

Procedure Overview

Command Code

DEACTIVATE-PETRA

Parameter

[LTG=<number>], LTU=<number>, SLOT=<number>, CCT=<number>;

Example

The TRACER is to be deactivated on module LTG=1, LTU=2, SLOT=19, circuit number=5.

Input:

DEACT-PETRA:1,2,19,5;

151.2.5 STOP-PETRA

Stopping the TRACE memory allocation:

This command is used to force the release of the buffer segment in the periphery.

If the PP subsequently receives a TRACE data record from a module, the PP sends the command "deactivate tracer" to the module, thus stopping further tracing.

This command should be input at the end of all TRACE procedures in order to make the memory area of the trace data segment in the PP available again and prevent the modules continuously sending trace data and overloading the dynamics.

Procedure Overview

Command Code

STOP-PETRA

Parameter

[LTG=<number>];

Example

The TRACE memory allocation and the trace function in LTG=1 is to be stopped.

Input:

STOP-PETRA:1;

151.3 Parameter Description

ADR	Address of DUMP
	Type of Input : Single value, mandatory
	Possible Values : 0 to FFFF
BYTE1	
	Type of Input : Single value, mandatory
	Possible Values : 0 to FF
BYTE2	
	Type of Input : Single value, mandatory
	Possible Values : 0 to FF
CCT	Circuit number of a module
	Type of Input : Single value, mandatory
	Possible Values : 0 to 63
CONT	Switch for ending the AMO
	Type of Input : Single value, optional
	Possible Values : Y the AMO will not be ended
	: N the AMO will be ended
	Default Value : Y
CPU	CPU type
	Type of Input : Single value, mandatory
	Possible Values : 86 for 8086
	51 for 8051
	MM for MAIN MICRO on a LTUR module
	IMF for IMF/DFE on a LTUR module
	HDLC for HDLC processor on a LTUR module
HEX01	1. Byte of trace job
	Type of input: Single Value, mandatory
	Possible Values 0 bis FF
	Default Value 0
HEX02	2. Byte of trace job
	Type of input: Single Value, mandatory
	Possible Values 0 bis FF
	Default Value 0
HEX64	64. Byte of trace job

	Type of input:	Single Value, mandatory
	Possible Values	0 bis FF
	Default Value	0
LENGTH		Number of Trace jobs
	Type of Input	: Single Value, mandatory
	Possible Values	: 1 to 64
LTG		Number of the line trunk group
	Type of Input	: Single value, optional
	Possible Values	: 1 to 32
	Default Value	: 1 (for Hicom 370)
LTU		Number of the line trunk unit
	Type of Input	: Single value, mandatory
	Possible Values	: 1-15 and 17-99
NO		Length in bytes of the DUMP area to be output for DISPLAY or number of the TRACE data to be output for OUTPUT
	Type of Input	: Single value, optional
	Possible Values	: 0 to 8154 in DISPLAY 0 to 1024 in OUTPUT
	Default Value	: 8154 in DISPLAY 1024 in OUTPUT
PROC1		Receive processes to be logged unless on
	Input Type	: Single value, linked single value or range of values, mandatory
	Possible Values	: 0 to F
PROC2		Send processes to be logged unless on
	Input Type	: Single value, linked single value or range of values, mandatory
	Possible Values	: 0 to F
	Default Values	: no process
SEG		Hexadecimal segment value for dump address on 8086 and ROLM modules (for MM, IMF or HDLC)
	Type of Input	: Single Value, mandatory
	Possible Values	: 0 to FFFF
SEG1		Symbolic segment specification for 8051
	Type of Input	: Single value, mandatory
	Possible Values	: CSEG code segment DSEG data segment XSEG extra segment
SLOT		Specification of the slot in the LTU

PETRA - Tracer Control via AMO

Error Messages and Advisories

Type of Input : Single value, mandatory

Possible Values : 1 to 121

A suitable module must be configured for the slot addressed by PEN (AMO BCSU).

The possible Slot values depend on the systems architecture and can be found in the BCSU AMO description.

TYPE Type of display, Type of module

Type of Input : Single Value, mandatory in ADD, optional in DISPLAY

Possible Values in the branch DISPLAY:

TRACE retrieveTRACE-Memory (Default value)

DUMP retrieve and output DUMP memory

Possible Values in the branch ADD:

STD (Standard module)

HEX (Trace job in HEX format)

LTUR (LTUR-module)

151.4 Error Messages and Advisories

151.4.1 Error Messages

F01: CIRCUIT NOT PRESENT

The addressed circuit is not available, not active or larger than the maximum permissible value for this module.

F02: BOARD NOT PRESENT

The addressed module is not available or not active.

F03: LTU NOT PRESENT

The line trunk unit is not available, not active or larger than the maximum permissible value for this type of system.

F04: LTG NOT PRESENT

The line trunk group is not available, not active or larger than the maximum permissible value for this type of system.

F05: BOARD HAS NO PERIPHERAL TRACER

The module type determined for the specified address appears in the internal AMO table of untraceable modules. This also means that no message appears for new untraceable modules not yet included in the table (please notify PETRA developer).

F06: UNEXPECTED TRACE TYPE: <xxxxxxxxxxxxxxxx> <xxxxxxxxxxxxxxxx>

Trace type is invalid; the trace item data are output for diagnostic purposes (please notify PETRA developer).

F07: MOUNTING POSITION @@@T IN LTU-TYPE @@T CANNOT BE OCCUPIED

The entered mounting position (SLOT) is not valid for the current shelf type (LTU).

F08: INVALID PROCESS-VALUE, PERMITTED RANGE: 0H TO FH

Only a maximum value of 15 processes is permitted to be entered for not ROLM modules.

F09: INVALID TRACE-DATA FOR LTUR; PLEASE ENTER 2 CHAINED VALUES

Only two chained single values (0 - FF) are permitted to be entered as trace data for ROLM modules (e.g. LTUR).

F10: PROCESSOR-IDENTIFICATION NOT ALLOWED FOR MODULE

The entered processor type is not valid for the selected module.

F11: BOARD HAS NO DUMP FUNCTION

F12: SPECIFIED LENGTH SMALLER THAN NUMBER OF INPUT HEX-VALUES

151.4.2 Advisories

H01: BUFFER EMPTY (DESIRED TRACE DATA NOT PRESENT)

If this message does not appear until 20 seconds after sending the output job, this means that a trace buffer segment is not yet assigned in the PP.

If this message occurs immediately after input, however, then a trace buffer segment has been assigned in the PP but is still empty.

H02: BUFFER EMPTY (DESIRED DUMP DATA NOT PRESENT)

H03: OUTPUT TRACE DATA WITH: NUMBER, CONTINUATION

Here, the user is prompted to display the data delivered by PP as often as he wishes.

H04: TRACE BUFFER CONTAINS <xxxxx> TRACE ITEMS

This is the information about the number of trace items that have been received and can be output.

H05: RAM ADDRESS AREA H'4000 - H'7000 NOT ACCESSIBLE FOR IMF/DFE PROCESSOR

This is the information about a not accessible storage area for an IMF/DFE processor on a LTUR module.

H99: THE PARAMETER 'TRACEID' AND 'TRCIDTYP' HAVE TO BE INPUT BOTH

152 PRODE - Protocol Descriptor for Networking

The AMO PRODE can be used to copy, change, display and regenerate tables for the protocol handler.

Use of this AMO requires well-founded specialized knowledge with respect to protocol conversion. The protocol handler uses these tables to convert system-specific messages to external signaling messages in accordance with the D-channel protocol (ISO layer 3, OSI transport layer) and vice versa. Further details see in example of use ISDN Protocol Variants.

In the system database, the tables consist of general entries, which are used by all protocols, and protocol-specific entries.

The protocols defined are linked to protocol variants.

When assigning a trunk circuit with the AMO TDCSU, the circuit is allocated one of these protocol variants.

In addition to the protocol tables (general PRODE entries) the variant also determines the implementation of the protocol (coding, error handling and interworking).

From SP300-V3.3 onward, the basic initialization of the PD tables is relocated from the database to the HD itself. The following command is sufficient to initialize the memories for the PD tables:

```
COPY-PRODE:PVCD,1;
```

The above command thus describes the database with the basic initialization data for the PD tables, initializes the general entries and loads all associated PDs.

The protocol descriptor tables consist of a general section and the PD tables. This applies both to the database (DB) and the hard disk (HD).

The general part is designated as a table of variants (VARTAB). The relationship between the protocol descriptors (PD) and the protocol variants is defined in it.

The hard disk contains up to 40 versions of these tables of variants, each of which is assigned to a country. On the HD the tables of variants are designated protocol variant combination descriptors (PVCD).

The PVCDs and PDs on the hard disk can be interrogated by way of the following commands:

```
DISPLAY-PRODE:HD,PVCDSHRT;
```

```
DISPLAY-PRODE:HD,PDSHORT;
```

PRODE - Protocol Descriptor for Networking

The PVCDs or PDs are numbered for HD access and are addressed by the PVCDNO or PDNO.

To inquire the relationship between protocol variant and PD,

```
DISPLAY-PRODE:HD,PVCDLONG,<pvcldno>;
```

is used.

Note: the regenerated PRODE commands of a certain system version may not be transferred to other (newer) versions due to incompatibility.

References to protocols stored on the hard disk:

PDNO	PDSTRING	IDENT	VERSION
1	ECMA QSIG BC	H/08	B0-EJ0.20.002
2	SWISSNET 2 BC	H/08	B0-EG0.10.001
3	CORNET HICOM V2.2 / V2.3	H/08	B0-EL0.20.001
4	CORNET-N 1.3f (IM)	H/08	B0-EL0.20.004
5	1TR6 N0 REF-T (USER-SIDE)	H/40	B0-EL0.20.001
6	1TR6 N1 REF-T (USER-SIDE)	H/41	B0-EL0.20.001
7	ANALOG	H/11	B0-EL0.20.001
8	FRANKREICH VN3 NUMERIS	H/08	B0-EL0.10.001
9	S0-BUS DSS1 ETS 300 403)	H/08	B0-EJ0.20.001
10	S0-BUS DKZN1 N0	H/40	B0-EL0.20.002
11	S0-BUS 1TR6 N0	H/40	B0-EL0.20.001
12	S0-BUS DKZN1 N1	H/41	B0-EL0.20.002
13	S0-BUS 1TR6 N1	H/41	B0-EL0.20.001
14	EURO-ISDN REF-T USER-SIDE	H/08	B0-EJ0.20.004
15	EXPO-92 SPANIEN JULIO, 89	H/08	B0-EG0.10.002
16	PRE-EURO-ISDN FINNLAND	H/08	B0-EG0.10.001
17	PRE-EURO-ISDN PORTUGAL	H/08	B0-EG0.10.001
18	PRE-EURO-ISDN BELGIEN	H/08	B0-EG0.10.001
19	PRE-EURO-ISDN DAENEMARK	H/08	B0-EG0.10.001
20	1TR6 N1 REF-Q (NET-SIDE)	H/41	B0-EL0.20.001
21	EURO-ISDN 1TR67 REF-T	H/08	B0-EJ0.20.004
PDNO	PDSTRING	IDENT	VERSION
22	EURO-ISDN OESTERREICH	H/08	B0-EJ0.20.004
23	FRANKREICH VN4 NUMERIS	H/08	B0-EJ0.20.001
24	NEDERLAND	H/08	B0-EG0.10.001
25	CHINA CSN-7 REF-T	H/08	B0-EH0.10.006
26	ENGLAND MCL-ISDN	H/08	B0-EF0.30.004
27	BASIC ACCESS T0 AUSTRALIA	H/08	B0-EF0.30.002
28	PRIM. ACCESS T2 AUSTRALIA	H/08	B0-EF0.30.002
29	ECMA QSIG SS	H/08	B0-EL0.20.001
30	SS7-ISUP REF-T USER-SIDE	H/08	B0-EI0.20.001
31	ETSI QSIG Third ed. SS	H/08	B0-EL0.20.001
32	ISO QSIG Second ed. SS	H/08	B0-EL0.20.001
33	EURO-ISDN REF-T NET-SIDE	H/08	B0-EJ0.20.004
34	NI-2 PRI (SR-4619)	H/08	B0-EL0.20.009
35	NI-2 PRI (SR-4619 (NET))	H/08	B0-EL0.20.003
36	NI-2 PRI MAINTENANCE	H/43	B0-EL0.20.002
37	AT&T 4ESS (TR41459)	H/08	B0-EL0.20.005
38	AT&T 4ESS (TR41459) MAINT	H/03	B0-EL0.20.002
39	MCI 014-0018-04.3D-ER	H/08	B0-EL0.20.004

|	40	|	CORNET-N 1.3f (US)	|	H/08	|	B0-EL0.20.005	|
|	41	|	S0-BUS NI-BRI GR-268-CORE	|	H/08	|	B0-EL0.20.005	|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+								

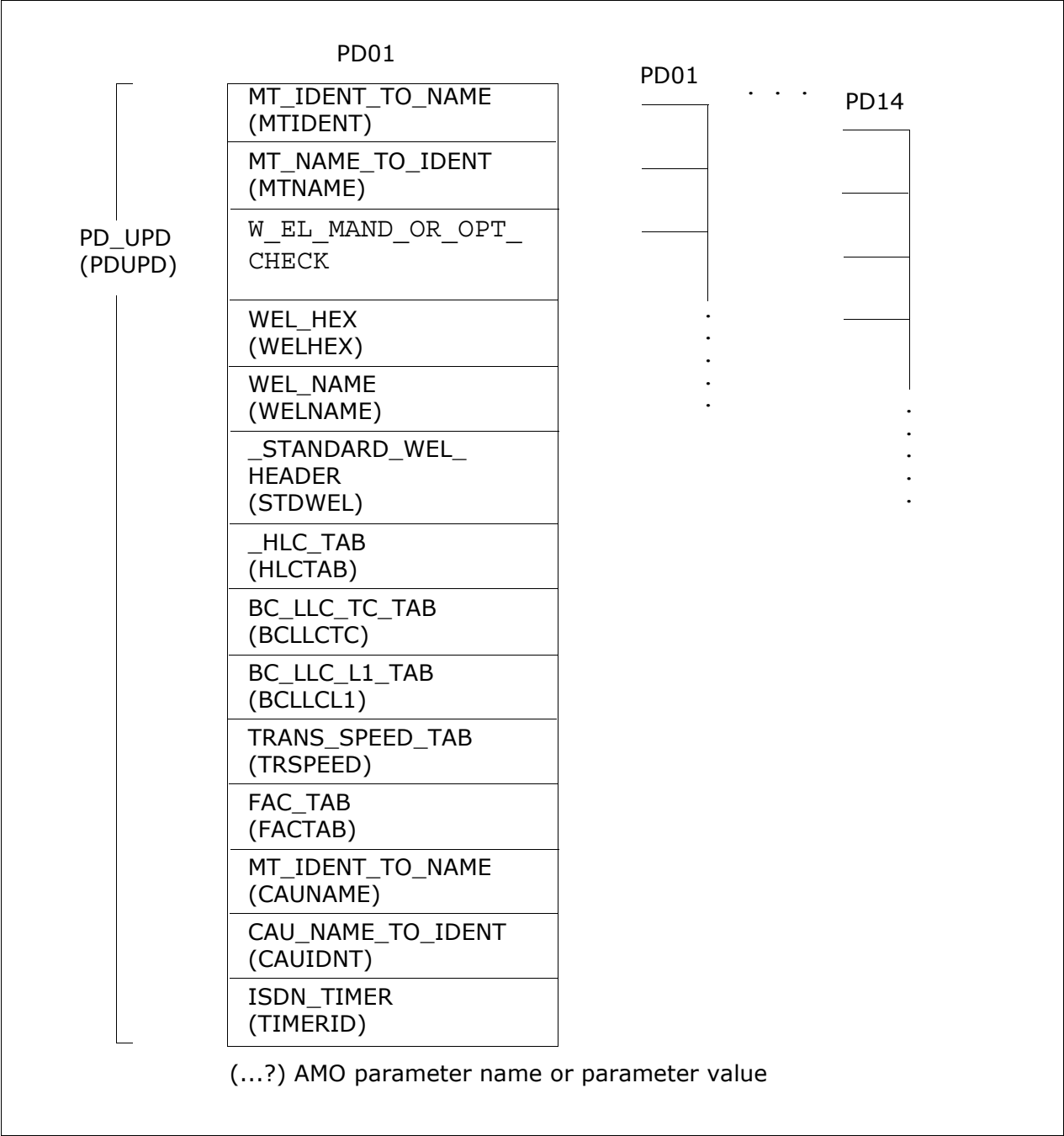


Figure 22 Memory structure of protocol descriptions DB_M_NW_PD_UPD_ARY)

MT_IDENT_TO_NAME : Conversion tab., message identifier to message name
MT_NAME_TO_IDENT : Conversion tab., message name to message identifier

PRODE - Protocol Descriptor for Networking

Interrelationships

W_EL_MAND_OR_OPT	: Mandatory/optional I elements of messages
WEL_HEX	: Conversion tab., I element name to I element identifier
	and code set
WEL_NAME	: Conversion tab., I element identifier to I element name
STANDARD_WEL	: Default initializing value for I elements
HLC_TAB	: Table for I element, high-layer compatibility
BC_LLC_TC_TAB	: Table for I element, bearer capability and low-layer compatibility
BC_LLC_L1_TAB	: Table for I element, bearer capability and low-layer compatibility
TRANS_SPEED_TAB	: Table for I element, bearer capability and low-layer compatibility
FAC_TAB	: Table for I element, network-specific facilities
CAU_IDENT_TO_NAME	: Conversion tab., cause identifier to cause name
CAU_NAME_TO_IDENT	: Conversion tab., cause name to cause identifier
TIMER	: Table for ISDN timer

152.1 Interrelationships

- AMO TDCSU Configuration of digital trunk circuits in SWU
If a protocol descriptor which is not part of the standard database has been assigned by AMO TDCSU, it must first be added and activated by means of AMO PRODE.

152.2 Functions of the AMO

- [COPY-PRODE](#) : Copy a protocol descriptor
- [CHANGE-PRODE](#) : Change a protocol descriptor
- [DISPLAY-PRODE](#) : Interrogate the protocol descriptor contents
- [REGENERATE-PRODE](#) : Regenerate the memory contents of PDs which differ from the standard database (corresponds to using the option COPY initialized tables and CHANGE changed tables).

152.2.1 COPY-PRODE

With the COPY function a complete protocol variant combination description (PVCD) or an individual protocol description (PD) can be loaded from the hard disk. The list of PVCDs and PDs on the hard disk can be displayed with the aid of the DISPLAY function.

When a PVCD is copied, the table of variants (VARTAB) in the database is initialized and all the PDs required for the PVCD are loaded. A maximum of 14 PDs can be used in a PVCD. The loaded PDs are activated automatically.

When individual PDs are copied, either an already loaded PD can be overwritten or free space can be searched or assigned for the PD. When an individual PD is loaded, it is deactivated.

This function makes it easier to set up a new protocol, assuming that only a relatively small amount of data has to be changed with respect to an existing PD.

If, during copying of an individual PD, a destination (parameter PDNAME) is specified, and if this is used or activated, a corresponding advisory is issued.

Note

After an individual PD has been copied, the CHANGE command for activation of the PD must be entered in order to set the active bit and to make the protocol available to CP. The command for activating the PD is: 'CHANGE-PRODE:PD,<pdname>,ORG,,Y;' .

Procedure Overview

Command Code	Parameter
COPY-PRODE	TYPE=PVCD, PVCDNO=<number>; | TYPE=PD, PDNO=<number>, [PDNAME=<param>];

Example 1:

Copy PVCD 1 (basic initialization for Germany)

Input:

COPY-PRODE:PVCD,1;

Example 2:

Copy PD 2 to pos. PD13

Input

COPY-PRODE:PD,2,PD13;

152.2.2 CHANGE-PRODE

The function CHANGE is used to alter the PD memory contents both in the general part (VARTAB) and in the individual protocol descriptions (PD). A PD can also be activated or deactivated.

PRODE - Protocol Descriptor for Networking

Functions of the AMO

Following selection of the table (using the parameters SEC and the sequential parameter PDBLK), addressing to the bytes to be changed is carried out with the aid of parameters NO and Bxx, SETNO and Bxx (SEC=WELMAND) or CS, NO and Bxx (SEC=WELNAME). A more detailed description of the addressing arithmetic is provided in the examples below.

Only a PD loaded by means of COPY can be changed.

To prevent the call processing CP reading out inconsistent data when a PD (protocol file) is changed, the PD is deactivated automatically with the first CHANGE command. Via circuits using a deactivated PD no connections can be established or released. The existing connections are not interrupted.
The PD must be explicitly reactivated with the final CHANGE command (param. ACTIVE) (see example).

Procedure Overview

Command Code	Parameter
CHANGE-PRODE	KIND=VARTAB,PROTVAR=<string>,{PDNORM=<param>, PDA1=<param>,PDA2=<param>}; |KIND=PD,PDNAME=<param>, SEC=ORG,{IDENT=<hex>,ACTIVE=<param>, PDSTRING=<string>}; |SEC=WELMAND,SETNO=<number>,{B00=<hex> to B59=<hex>}; |SEC=WELNAME,CS=<number>,[NO=<number>], {B00=<hex> to B59=<hex>}; |SEC=TIMER,TIMERID=<param>,TIMESEC=<number>, TIMEMS=<number>; |SEC=RESTP,PDBLK=<param>,[NO=<number>], {B00=<hex> to B59=<hex>};

Examples:

1. Change PD memory contents (BCLLCTC) for PD PD03. With the normal procedure, a maximum of 500 (NO parameters) + 60 (Bxx parameters) = 560 bytes are addressable.

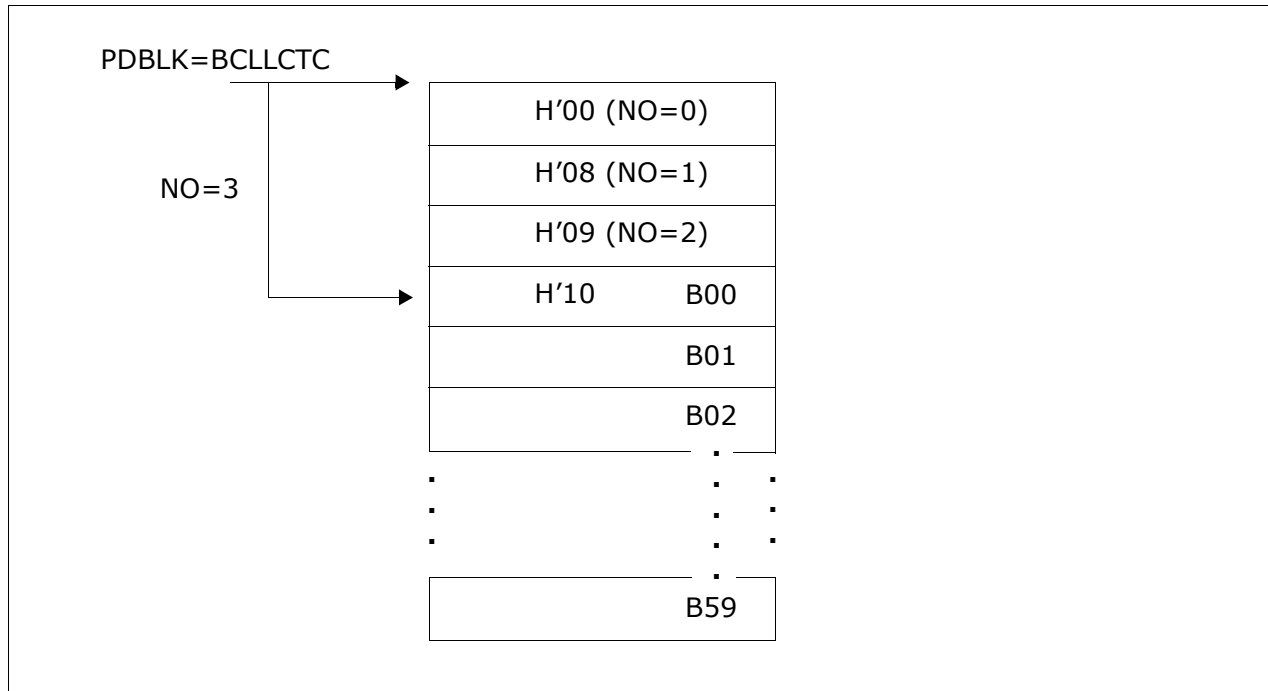


Figure 23 Diagram of memory addressing for the BCLLCTC table

The AMO checks whether the memory area addressed with parameter PDBLK is exceeded by sequential parameters NO and Bxx (error message F6).

Input:

```
CHANGE-
PRODE:KIND=PD, PDNAME=PD03, SEC=RESTP, PDBLK=BCLLCTC, NO=3, B00=02,
      B01=04, B02=02, B11=03;
```

2. Addressing the WELHEX table results in the memory area being exceeded.

Input:

```
CHANGE-
PRODE:KIND=PD, PDNAME=PD03, SEC=RESTP, SEC=WELHEX, NO=120, B00=53, B01=54,
      B02=45, B03=56, B04=45;
```

Output:

```
F06: AREA EXCEEDED FOR WELHEX; MAX(NO + B..?) = ...
```

3. Activating protocol PD08.

Input:

CHANGE-PRODE:PD,PD08,ORG,,Y;

152.2.3 DISPLAY-PRODE

The contents of the database (SRC=DB) and the hard disk (SRC=HD) can be interrogated.
An overview of the PVCDs contained on the HD can be output from the HD (KIND=PVCDSHRT).
The contents of a PVCD can also be output in detail from the HD (KIND= PVCDLONG). For the DB this output corresponds to the output of the table of variants (KIND=VARTAB)
Both for the HD and the DB an overview of the existing or the loaded PDs can be displayed by means of KIND=PDSHORT.
The contents of a PD can also be output in detail for both HD and DB (KIND=PDLONG). In this case the wanted table is specified by means of parameter PDBLK.
Processing is block by block, with specification of the start address (parameter NO) and the wanted number of blocks to be output (parameter BNO). The blocks correspond to the parameter values for CHANGE.
It is possible to selectively output a block or to output everything by omitting parameters NO and BNO.
If a non-defined PD is displayed, it is rejected with advisory H7.

Procedure Overview

Command Code	Parameter
DISPLAY-PRODE	SRC=HD, KIND=PVCDSHRT, [PVCDNO=<number>]; |KIND=PVCDLONG, PVCDNO=<number>; |KIND=PDSHORT, [PDNO=<number>]; |KIND=PDLONG, PDNO=<number>, PDBLK=WELMAND, [SETNO=<number>]; | PDBLK=MTNAME, [NO=<number>], [BNO=<number>]; | PDBLK=MTIDENT, [NO=<number>], [BNO=<number>]; | PDBLK=WELHEX, [NO=<number>], [BNO=<number>]; | PDBLK=WELNAME, [CS=<number>], [NO=<number>], [BNO=<number>]; | PDBLK=STDWEL, [NO=<number>], [BNO=<number>];

Command Code	Parameter
	| PDBLK=HLCTAB, [NO=<number>], | BNO=<number>; | PDBLK=BCLLCTC, [NO=<number>], | BNO=<number>; | PDBLK=BCLLCL1, [NO=<number>], | BNO=<number>; | PDBLK=TRSPEED, [NO=<number>], | BNO=<number>; | PDBLK=FACTAB, [NO=<number>], | BNO=<number>; | PDBLK=CAUIDNT, [NO=<number>], | BNO=<number>; | PDBLK=CAUNAME, [NO=<number>], | BNO=<number>; | PDBLK=TIMER, [TIMERID=<param>; | SRC=DB, | KIND=VARTAB; | KIND=PDSHORT; | KIND=PDLONG, PDNAME=<param>, | PDBLK=WELMAND, [SETNO=<number>; | PDBLK=MTNAME, [NO=<number>], | BNO=<number>; | PDBLK=MTIDENT, [NO=<number>], | BNO=<number>; | PDBLK=WELHEX, [NO=<number>], | BNO=<number>; | PDBLK=WELNAME, [CS=<number>], | NO=<number>], [BNO=<number>; | PDBLK=STDWEL, [NO=<number>], | BNO=<number>; | PDBLK=HLCTAB, [NO=<number>], | BNO=<number>; | PDBLK=BCLLCTC, [NO=<number>], | BNO=<number>; | PDBLK=BCLLCL1, [NO=<number>], | BNO=<number>; | PDBLK=TRSPEED, [NO=<number>], | BNO=<number>; | PDBLK=FACTAB, [NO=<number>] | BNO=<number>; | PDBLK=CAUIDNT, [NO=<number>], | BNO=<number>; | PDBLK=CAUNAME, [NO=<number>],

PRODE - Protocol Descriptor for Networking

Functions of the AMO

Command Code	Parameter
	[BNO=<number>]; [PDBLK=TIMER, [TIMERID=<param>];

Examples

Input:

DISP-PRODE:HD,PVCDSHRT;

Output:

PVCDNO	DESCRIPTION	VERSION
1	DEUTSCHLAND	B0-EL0.20.001
2	SCHWEIZ SUISSE SVIZZERA	B0-EL0.20.001
3	FRANCE	B0-EL0.20.001
4	ESPANA	B0-EL0.20.001
5	SUOMI	B0-EL0.20.001
6	PORTUGAL	B0-EL0.20.001
7	BELGIQUE / BELGIE	B0-EL0.20.001
8	DANSK	B0-EL0.20.001
9	OESTERREICH	B0-EL0.20.001
10	ETSI-LAND	B0-EL0.20.001
11	NEDERLAND	B0-EL0.20.001
12	CHINA	B0-EL0.20.001
13	ENGLAND	B0-EL0.20.001
14	AUSTRALIA	B0-EL0.20.001
15	SS7-LAND	B0-EL0.20.001
16	UNITED STATES OF AMERICA	B0-EL0.20.001

Input:

DIS-PRODE:DB,PDSHORT;

Output:

PDNAME	PDSTRING	IDENT	ACTIV	VERSION
PD01	CORNET-N 1.3f (IM)	H/08	Y	B0-EL0.20.004
PD02	NI-2 PRI MAINTENANCE	H/43	Y	B0-EL0.20.002
PD03	ECMA QSIG SS	H/08	Y	B0-EL0.20.001
PD04	EURO-ISDN 1TR67 REF-T	H/08	Y	B0-EJ0.20.004
PD05	EURO-ISDN REF-T USER-SIDE	H/08	Y	B0-EJ0.20.004
PD06	EURO-ISDN REF-T NET-SIDE	H/08	Y	B0-EJ0.20.004
PD07	S0-BUS DSS1 ETS 300 403)	H/08	Y	B0-EJ0.20.001
PD08	ETSI QSIG Third ed. SS	H/08	Y	B0-EL0.20.001
PD09	ISO QSIG Second ed. SS	H/08	Y	B0-EL0.20.001
PD10	CORNET-N 1.3f (US)	H/08	Y	B0-EL0.20.005
PD11		H/FF	N	
PD12		H/FF	N	
PD13		H/FF	N	
PD14		H/FF	N	

152.2.4 REGENERATE-PRODE

The regenerate function relates back to COPYing a PVCD and possibly CHANGE commands. This means that in REG-PRODE only differences compared with the initialization files are output from the HD.

Procedure Overview

Command Code	Parameter
REGENERATE-PRODE	;

Examples

Input:

```
REGEN-PRODE;
```

Output:

```
COPY-PRODE:PVCD,1;
CHANGE-PRODE:PD,PD02,ORG,,,OWN PD 2;
COPY-PRODE:PD,1,PD05;
COPY-PRODE:PD,1,PD10;
CHANGE-PRODE:PD,PD10,TIMER,T30X2,11111,111;
CHANGE-PRODE:PD,PD10,ORG,,Y,OWN PD 1;
```

152.3 Parameter Description

ACTIVE	Release or blocking of the protocol for the CP	
	Type of Input	: Single value, optional
	Possible Values	: YES, NO
KIND	Branch parameter for selecting wanted output data	
	Type of Input	: Single value, mandatory (DISPLAY, CHANGE)
	Possible Values	: 1st function DISPLAY
	PVCDSHRT	Brief interrogation of protocol variant combination description
	PVCDLONG	Interrogation of a protocol variant combination description (complete).
	PDSHORT	Brief interrogation of the protocol descriptions
	PDLONG	Detailed interrogation of a protocol description
	VARTAB	Interrogation of the protocol variant descriptions
		2nd function CHANGE

PRODE - Protocol Descriptor for Networking

Parameter Description

	VARTAB	Changing the protocol variant description
	PD	Changing the protocol description
BNO	Number of blocks (with max. of 60 bytes) to be output (see function DISPLAY-PRODE)	
	Type of Input	: Single value, optional
	Possible Values	: 1 to 8
	Default Value	: 8
Bxx	Contents of the xxth byte (B00 to B59)	
	Type of Input	: Single value, optional
	Possible Values	: Two-digit hexadecimal
	Group Condition	: At least one byte must be specified
CS	Code set, used for further classification of the WELNAME table	
	Type of Input	: Single value, optional (DISPLAY)
		: Single value, mandatory (CHANGE)
	Possible Values	: 0-7
	Default Value	: 0
IDENT	Identifier of the protocol	
	Type of Input	: Single value, optional (CHANGE)
	Possible Values	: Two-digit hexadecimal
		00 to FE
NO	Number of the byte for memory addressing	
	Type of Input	: Single value, optional
	Possible Values	: 0 to 500
	Default Value	: 0
SRC	Branch parameter for selecting the origin of the	
	Type of Input	: Single value, mandatory (DISPLAY)
	Possible Values	: HD Data to be output is on HD
		DB Data to be output is in DB
PDA1	Name of first alternative protocol descriptor to be used	
	Type of Input	: Single value, optional
	Possible Values	: See parameter PDNAME
PDA2	Name of second alternative protocol descriptor to be used	
	Type of Input	: Single value, optional
	Possible Values	: See parameter PDNAME
PDBLK	Name used for addressing the PD table	
	Type of Input	: Single value, mandatory
	Possible Values	: MTNAME, MTIDENT, WELHEX, STDWEL, HLCTAB, BCLLCTC, BCLLCL1, TRSPEED, FACTAB, CAUNAME,CAUIDNT WELNAME,TIMER, WELMAND

The parameter values are the set values of the memory	
PDNAME	Name of the protocol in the database
Type of Input	: Single value, optional (COPY) Single value, mandatory (CHANGE,DISPLAY)
Possible Values	: PD01, PD02, PD03, PD04, PD05, PD06, PD07, PD08, PD09, PD10, PD11, PD12, PD13, PD14
PDNORM	Name of the standard protocol descriptor to be used
Type of Input	: Single value, optional
Possible Values	: See parameter PDNAME
PDNO	Number of the protocol on HD
Type of Input	: Single value, mandatory (COPY) Single value, &, &&, optional (DISPLAY)
Possible Values	: 1-50 The value specified is checked with the files on the HD.
PDSTRING	Text string for the description of a protocol
Type of Input	: Single value, optional
Possible Values	: Text, 25 chars.
PROTVAR	Protocol variant
Type of Input	: Single value, mandatory (CHANGE)
Possible Values	: ANALOG "analog protocol"
	CORNV2 CorNet protocol from SP300-V2.3
	CORNV2R CorNet protocol from SP300-V2.3
	CORNV3 CorNet protocol from SP300-V3.1
	CORNV3R CorNet protocol from SP300-V3.1
	CORNV33 CorNet protocol from SP300-V3.3
	CORNV33R CorNet protocol from SP300-V3.3
	ECMA1 Protocol ECMA QSIG V1
	ECMA1R Protocol ECMA QSIG V1 reserved
	ECMAV2 Protocol Cornet-NQ Issue 2.1 Dec.96 basis ETSI
	ECMAV2R Protocol qsig etsi ETS 300 172 3rd. with SS 2nd.
	ETSI Standard-EURO-ISDN
	SWISNET2 Swissnet2,Swiss CO protocol
	FRA Numeris, French cornet co protocol
	SPA Protocol Spain
	FIN Protocol Finland
	POR Protocol Portugal
	BEL Protocol Belgium

PRODE - Protocol Descriptor for Networking

Parameter Description

DEN	Protocol Denmark
NDL	Netherlands
GB	Great Britain
AUST0	Australia T0
AUST2	Australia T2
Q931R5	Q931 reserve 5
Q931R6	Q931 reserve 6
Q931R7	Q931 reserve 7
Q931R8	Q931 reserve 8
CSN7	China 1
CSN7R2	China 2
PSS1V2	Protocol Cornet-NQ Issue 2.1 Dec.96 basis ETSI
PSS1V2R	Protocol qsig iso ISO/IEC 11572 2nd. with SS
RES3	Reserve protocol 3
RES4	Reserve protocol 4
RES5	Reserve protocol 5
RES6	Reserve protocol 6
EDSGER	Protocol EDSS1 Germany
EDSAUT	Protocol EDSS1 Austria
EDSSUI	Protocol EDSS1 Switzerland
EDSFRA	Protocol EDSS1 France
ETSI	Standard Euro ISDN
EDSR3	Protocol EDSS1 Reserve 3
EDSR4	Protocol EDSS1 Reserve 4
EDSR5	Protocol EDSS1 Reserve 5
EDSR6	Protocol EDSS1 Reserve 6
EDSR7	Protocol EDSS1 Reserve 7
EDSR8	Protocol EDSS1 Reserve 8
EDSS1NET	Protocol EDSS1 net side
EDSS1NETR	Protocol EDSS1 net side
SBEDSR1	Station protocol EDSS1 Reserve 1
SBEDSR2	Station protocol EDSS1 Reserve 2
SBEDSR3	Station protocol EDSS1 Reserve 3
SBEDSR4	Station protocol EDSS1 Reserve 4
SBQ9311	Station protocol Q931-1
SBDS1	Station protocol DSS1
SS7ISUP	SS7-Isup Ref-T user side

		SBNIBRI	SBNIBRI protocol
		ATT4ESS	AT&T ISDN PRI
		ATT4ESSR	AT&T ISDN PRI reserve
		MCI250	DMS-250 ISDN PRI
		MCI250R	DMS-250 ISDN PRI reserve
		MCI600	DEX600 ISDN PRI
		MCI600R	DEX600 ISDN PRI reserve
		SPRINT	SPRINT ISDN PRI
		SPRINTR	SPRINT ISDN PRI reserve
		NI2	National ISDN PRI
		NI2R	National ISDN PRI reserve
		NI2NET	National ISDN PRI net side
		NI2NETR	National ISDN PRI net side, reserve
		CORNUS	Protocol CORNET-N for US
		CORNUSR	Protocol CORNET-N for US, reserve
PVCDNO	PVCD number of protocol on HD		
	Type of Input	: Single value, mandatory (COPY) Single value, &, &&, optional (DISPLAY)	
	Possible Values	: 1-40 The value specified is checked with the files on the HD.	
SETNO	Number for addressing the WELMAND table		
	Type of Input	: Single value, optional (DISPLAY) Single value, mandatory (COPY)	
	Possible Values	: 0-255	
	Default Value	: 0	
SEC	Branch parameter for selecting the memory area		
	Type of Input	: Single value,mandatory (CHANGE)	
	Possible Values	: ORG administration part WELMAND WELMAND table WELNAME WELNAME table TIMER TIMER table RESTP other tables defined by PDBLK	
TIMEMS	Time in milliseconds		
	Type of Input	Single value, mandatory	
	Possible Values	0-999	
TIMERID	Identification of timer		
	Type of Input	: Single value, mandatory (CHANGE) Single value, optional (DISPLAY)	
	Possible Values	: T301, T302, T303, T304, T305, T306, T307,	

PRODE - Protocol Descriptor for Networking

Error Messages and Advisories

T308, T309, T310, T311, T312, T313, T314,
T316, T317, T318, T319, T320, T321, T322,
T323, T382, T384, T385, T386, T30X2, T408

Description of **Timer T311** (the same terminology is in force as written in ITU-T Q.931 cahpter 9.2 "Timers in the user side"):

Timer Number:	T311		
Time-out value:	5 .. 9 s (T303 < T311 < T310)		
State of call:	U9 Incoming Call Proceeding		
Cause for start:	CALL PROC sent		
Normal stop	ALERT or DISC sent		
At the first expiry:	Send ALERT		
At the second expiry:	Timer is not restarted		
Cross Reference:	Optional		
TIMESEC	Time in seconds of timer defined by parameter TIMERID		
	Type of Input	: Single value, mandatory	
	Possible Values	: 0-65535	
TYPE	Branch parameter for COPY		
	Type of Input	: Single value, mandatory	
	Possible Values	: PVCD	All PDs belonging to a PVCD must be loaded
		PD	A specific PD must be loaded

152.4 Error Messages and Advisories

152.4.1 Error Messages

- F01: A PD may only be copied if a PVCD is already loaded.
- F03: PD @@@@ cannot be copied because all 14 locations are already used.
- F04: PD @@@@ does not exist on HD.
- F05: PVCD @@@ does not exist on HD.
- F06: Area exceeded for @@@@@@@; MAX(NO + B= @@@
- F07: Index for table welmand exceeded: max(setnr) = @@@
- F09: There is no PD loaded in @@@@.
- F10: DMS error: Reading file <file>; DMS error code: <dmscode>
<dmstext>
- F11 Table welname can only be changed via the inverse table welhex for cs 1 to 4.

152.4.2 Advisories

H02: PD @@@@ has been overwritten by copying.
H03: PD @@ has been stored to location @@@@.
H04: IMPORTANT! PD @@@@ is now deactivated. The PD has to be activated with the following command:
CHANGE-PRODE:PD,@@@@,ORG,,Y;
H05: Upper limit @@@ of memory has been exceeded.
H06: There are none of the wanted PVCDs on HD.
H07: There are none of the wanted PDs on HD.
H08: There is no PVCD loaded.
H09: There is no PD stored in @@@@.
H10: Important! ACTIVE=YES in the command line is ignored. The PD has to be activated with the following command:
CHANGE-PRODE:PD,@@@@,ORG,,Y;

153 PSTAT - Peripheral Statistics

General information about PSTAT	Interrelationships	Parameter description
Restrictions	Functions of the AMO	Fault Messages and Advisories

153.1 General information about PSTAT

1. The AMO PSTAT is used to display and reset the counters of the peripheral statistics.
2. The control tables of the peripheral statistics can also be displayed and changed.

When the peripheral statistics are called, the fault analysis (FA-LTG) reacts to error messages, to eradicate the causes of faults that could adversely affect the system and jeopardize normal operation. Such faults can be hardware faults or software errors which frequently occur and place an unnecessary load on the system, e.g. recurrence of line alarms. Units at which these faults originate are eliminated after a statistical overload by means of a force remove.

The statistical evaluation of faults also prevents message data overflow producing an unnecessarily high system loading.

The statistics counters are not cross-signaled to other processors or stored on hard disk. For all restarts, except for a simple soft restart, the contents of the statistics counter are lost.

The peripheral statistics are designed for use within the system as a whole, but they are implemented to respond only to signals from the peripherals. The statistics are implemented as a separate program package inside the FA-LTG subsystem and are called from this subsystem (TOOL of the FA-LTG).

In the peripheral statistics for fault analysis, each peripheral element (module, circuit, terminal) has up to 4 fault counters.

The task of the peripheral statistics is to record the statistics (increment counter), inform the caller (FA-LTG) if the counter limit is exceeded and to monitor the statistics counters. The dependability reaction on overload is covered solely by the fault analysis (FA-LTG). At present, the statistics counters of levels BOARD and CIR are used as follows:

- COUNT1 so-called pairs of module restore and module remove messages
COUNT2 Messages which could cause message data overflow

PSTAT - Peripheral Statistics

General information about PSTAT

- COUNT3 These counters can be byte- or word-counters:
- COUNT4 used as byte-counter, they also display messages which could cause message data overflow;
used as word-counter (at DIUS2, DIUS7, STMA, DIUC, DIUC64, and STMD2) they serve as
reference clock counters

Both types of faults are counted individually for module, circuit and terminal in separate counters. If the thresholds are exceeded, the corresponding modules, circuits or terminals are removed from service by FA-LTG. Removal is signaled with STAT-OVERFLOW.

The statistics counters are then decremented again at set intervals.

The threshold values have been set to a level high enough to block out only those elements which would excessively load the system.

153.1.1 Quality counter DIUCAS

A second module level (BOARD1) has been introduced for the DIUC module to count the line alarms for all circuits of the single physical line of a DIUC module. These counters do not result in an automatic removal of the module, they merely serve as a quality counter for line evaluation.

A further level, BOARD2, relates to fault counters of the second physical line of a DIUC-64 module (circuits 32 to 63).

The statistics counters of the BOARD1 and BOARD2 levels are currently used for the following fault types:

- COUNT1 local alarms
- COUNT2 remote alarms
- COUNT3 AIS (Alarm Indication Signal)
- COUNT4 automatic removal

The AMO PSTAT is used to display and reset the counters of the peripheral statistics. Resetting is permissible only for counters on the levels BOARD1 and BOARD2.

153.1.2 Control tables

The control tables of the peripheral statistics can also be displayed and changed.

Since both the various boards and the terminals must be processed in the same way by the peripheral statistics, they are divided into different classes. These control tables contain the following information for each level, class and counter:

COUNTLOC	Position of the logical counter inside the counter structure (FA-LTG uses byte and word counters.) This value cannot be changed using AMO PSTAT.
MAXCOUNT	Threshold of the peripheral statistics The value 0 means that the counter is inactive.
COUNTACT	Value by which the counter is reduced until the threshold is reached
TIME	Time interval after which the time components become active
DECREM	Value by which the counter is decremented after the time interval

With the AMO PSTAT, also significant values of the veco-statistics can be displayed or changed.

153.1.3 Veco-statistics

The Veco-statistics serve to prevent multiple messages, caused by systematic errors or errors in frequently used program parts of the call-processing. It is the objective, to avoid these multiple signalings for the same object outside the dependability complex.

With the statistics switched on, a message will be issued on the first occurrence of an error, and thereafter, when the error-frequency surpasses the adjusted threshold, or a multiple thereof, within the statistic period. When the statistic period is reached, the counter is reset.

With the veco statistics switched on, the message display can be controlled by the parameter MODE:

- MODE = MSGON: error messages will periodically be displayed, according to the given parameters;
- MODE = MSGOFF: there is no periodic display, the statistics, however, are active and can be displayed.

The following significant values of the veco statistics can be displayed and changed by this AMO:

- switch off the veco statistics or switch it on (with or without message display);
- display or change the thresholds of the statistics counters;
- statistics period
- device-related suppression of message-display;
- the counter values can be displayed.

153.1.4 Lock- and Stabilisation Times

If any equipment (board, circuit, device or LTUC) becomes defect, several trials are made to reactivate this equipment, before it is finally locked. After every deactivation, this equipment is locked for an adjustable time ("locktime"). When the equipment has been reactivated, it must stay stable for an adjustable observation time ("stabilisation time"), before it is finally put back in service. If the equipment becomes defect within the stabilisation time, a further trial is made to reactivate the equipment after the next lock time. In total, a maximum of 8 reactivation trials is possible. The lock times should be in ascending order. A lock time = 0 means, that no further reactivation trials are made. The lock- and stabilisation times can be processed by AMO PSTAT.

153.2 Restrictions

This description is valid as from HiPath 4000 V2.0

153.3 Interrelationships

None

153.4 Functions of the AMO

- **CHANGE-PSTAT** : Reset a statistics counter
Change a control table
Change the veco parameters
Change the lock times
Change the stabilisation times
- **DISPLAY-PSTAT** : Display a statistics counter
Display a control table
Display the veco statistics table
Display the lock times
Display the stabilisation times
- **REGENERATE-PSTAT** : Regenerate a control table
Regenerate the veco parameters
Regenerate the lock times
Regenerate the stabilisation times

153.4.1 CHANGE-PSTAT

1. Reset a counter:
The statistics counter of levels BOARD1 and BOARD2 (quality counter for DIUC) can be reset.
2. Change the control table data:
The entries in the control tables for the first two counters of levels BOARD and CIR can be changed.
3. Switch on or switch off the veco statistics:
When switching on, the display of error messages can be activated or suppressed, and the statistics period (the time interval, after which the counters are reset) can be changed.
4. Change the message display thresholds:
These thresholds can be changed for each error class individually.
5. Change the switch condition of the veco statistics:
For every CP- or DH-device type, the display of error messages can be activated or suppressed individually.
6. Change the lock times for the automatic reactivation.
Up to 8 lock times can be changed for the automatic reactivation of boards / circuits / terminal devices / LTUCs.
7. Change the stabilisation times for the automatic reactivation.
One stabilisation time is possible for the equipment classes board / circuit / terminal device / LTUC.

Note

When changing the control table, the statistics counters on all levels are reset for all modules in the overall system. In doing so, the call processing system is deactivated for several seconds. For this reason, the change should not be made during the busy hour. On the levels BOARD and CIR, the boards are divided into classes (see result of example 4 "display of control tables"). If for the values of the control tables are changed displayed for one board, the alteration, or display-output relates to all boards of the same class.

Procedure overview

Command Code	Parameter	
CHANGE-PSTAT	TYPE=RESET,	
	LEVEL=BOARD1, PEN=<number>, [FAULT=<param>];	
	| LEVEL=BOARD2, PEN=<number>, [FAULT=<param>];	(1)
	| TYPE=CTRLTAB,	
	LEVEL=BOARD, BOARD=<param>, [FAULT=<param>],	

PSTAT - Peripheral Statistics

Functions of the AMO

Command Code	Parameter	
	[MAXCOUNT=<number>], [COUNTACT=<number>],	
	[TIME=<number>] , [DECREM=<number>;	
	| LEVEL=CIR, LINE=<param>, [FAULT=<param>],	
	[MAXCOUNT=<number>], [COUNTACT=<number>],	
	[TIME=<number>] , [DECREM=<number>;	(2)
	| TYPE=VECOGEN, [PERIOD=<number>], [MODE=<param>;	(3)
	| TYPE=VECOEVL, [ERROR=<param>], MAXCOUNT=<number>;	(4)
	| TYPE=VECOSWCH, [ERROR=<param>], [CPTYPE=<hex>], [DHTYPE=<hex>], SWITCH=<param>;	(5)
	| TYPE=LOCKTIM, LEVEL=<param>, { (min 1) TIM1=<number>, TIM2=<number>, TIM3=<number>, TIM4=<number>, TIM5=<number>, TIM6=<number>, TIM7=<number>, TIM8=<number>;	(6)
	| TYPE=STABTIM, LEVEL=<param>, STIM=<number>;	(7)

Examples

1. Reset of all BOARD1-level counters for module DIUC at PEN 1-6-1.

Input:

```
CHANGE-PSTAT:TYPE=RESET,LEVEL=BOARD1,PEN=1-6-1;
```

Output:

```
H01: DIU-CAS 1-6-1 BOARD1 COUNTER RESET.
```

2. Reset of counter COUNT2 of BOARD1 level for module DIUC at PEN 1-6-1.

Input:

```
CHANGE-PSTAT:TYPE=RESET,LEVEL=BOARD2,PEN=1-6-1,FAULT=COUNT2;
```

Output:

```
H01: DIU-CAS 1-6-1 BOARD2 COUNTER COUNT2 RESET.
```

3. The fault counter COUNT1 of level BOARD for DIUC64 is deactivated by setting the threshold to 0 (valid as from Hicom 300 V3.2).

Input:

```
CHANGE-  
PSTAT:TYPE=CTRLTAB,LEVEL=BOARD,BOARD=DIUC64,FAULT=COUNT1,MAXC  
OUNT=0;
```

Output:

```
H02: THE CONTROL TABLE APPLIES FOR THE MODULE(S) : DIUC  
DIUC64
```

Since the same control tables are used for DIUC and DIUC64 on the BOARD level, the change affects both types of module.

4. The threshold for COUNT2 of the CIR level for DIUC is set to 201. If the threshold is reached, the fault counter must be reduced by 100.

Input:

```
CHANGE-
PSTAT:TYPE=CTRLTAB,LEVEL=CIR,LINE=DIUC,FAULT=COUNT2,MAXCOUNT=
201,COUNTACT=100;
```

Output:

```
H02: THE CONTROL TABLE APPLIES FOR THE MODULE(S):  DIUC
DIUC64    DIUS2
```

5. The lock times 3 and 4 for terminal devices are changed, a maximum of 4 reactivation trials shall take place.

Input:

```
CHANGE-PSTAT:TYPE=LOCKTIM,LEVEL=DEV,TIM3=5,TIM4=10,TIM5=0;
```

153.4.2 DISPLAY-PSTAT

1. Display counters. In SP300-V3.1, only levels BOARD and BOARD1 of the statistics counter of DIUC modules can be displayed.
2. Display of control table.
3. Display the veco statistics.
4. Display the lock times.
5. Display the stabilisation times

Procedure overview

Command Code	Parameter	
DISPLAY-PSTAT	TYPE=COUNTER,	
	LEVEL=BOARD, PEN=<number>;	
	| LEVEL=BOARD1, PEN=<number>;	
	| LEVEL=BOARD2, PEN=<number>;	
	| LEVEL=CIR, PEN=<number>;	(1)
	| TYPE=CTRLTAB, [BOARD=<param>;	
	LEVEL=BOARD, [BOARD=<param>;	
	| LEVEL=BOARD1, [BOARD=<param>;	
	| LEVEL=BOARD2, [BOARD=<param>;	
	| LEVEL=CIR, [LINE=<param>;	(2)

PSTAT - Peripheral Statistics

Functions of the AMO

Command Code	Parameter	
	| TYPE=VECO, [ERROR=<param>];	(3)
	| TYPE=LOCKTIM;	(4)
	| TYPE=STABTIM;	(5)

Examples

1. Display of counter on BOARD level for DIUC module in PEN 1-6-1.

Input:

```
DISPLAY-PSTAT:TYPE=COUNTER,LEVEL=BOARD1,PEN=1-6-1;
```

Output:

```
+-----+-----+-----+
!   PEN           ! LEVEL ! COUNT1 ! COUNT2 ! COUNT3 ! COUNT4 !
+-----+-----+-----+
! 1-6- 1         ! BOARD1 !    10 !    14 !     0 !    12 !
+-----+-----+-----+
```

2. Display of all control tables for DIUC on level BOARD.

Input:

```
DISPLAY-PSTAT:TYPE=CTRLTAB,LEVEL=BOARD,BOARD=DIUC;
```

Output:

```
+-----+-----+-----+
!                                     !
! CONTROL TABLES FOR THE LEVEL BOARD !
!                                     !
+-----+-----+-----+
!   BOARD   !   ! CURRENT VALUE WITH DEFAULT BELOW IF DIFFERENT !
! BOARD     ! FAULT +-----+-----+-----+-----+-----+
!           !   ! COUNTLOC ! MAXCOUNT ! COUNTACT !   TIME   !   DECREM !
+-----+-----+-----+
! DIUC      ! COUNT1 ! BYTE1 !    21 !    10 !    2 !    4 !
! DIUC64    +-----+-----+-----+-----+-----+
!           ! COUNT2 ! BYTE2 !    5 !    0 !    2 !    2 !
!           +-----+-----+-----+-----+-----+
!           ! COUNT3 ! BYTE3 !    0 !    0 ! 65535 !    0 !
!           +-----+-----+-----+-----+-----+
!           ! COUNT4 ! BYTE4 !   19 !   10 ! 65535 !    0 !
+-----+-----+-----+
```

3. Display of all control tables for level CIR, other modules (valid as from SP300-V3.2)

Input:

```
DISPLAY-PSTAT:TYPE=CTRLTAB,LEVEL=CIR,LINE=DIUC;
```

Output:

```
+-----+-----+-----+
!                                     !
! CONTROL TABLES FOR THE LEVEL CIR !
!                                     !
+-----+-----+-----+
```

!	!	! CURRENT VALUE WITH DEFAULT BELOW IF DIFFERENT						!
! LINE	! FAULT							!
!	!	! COUNTLOC	! MAXCOUNT	! COUNTACT	!	! TIME	!	! DECREM
! DIUC	! COUNT1	! BYTE1	!	21	!	10	!	2
! DIUC64	!	!	!	!	!	!	!	4
!	! COUNT2	! BYTE2	!	11	!	4	!	10
!	!	!	!	!	!	!	!	2
!	! COUNT3	! WORD3	!	301	!	65535	!	65535
!	!	!	!	!	!	!	!	0
!	! COUNT4	! WORD3	!	301	!	65535	!	65535
!	!	!	!	!	!	!	!	0

4. Display of all control tables for level CIR, modules which can not be specified by name .

Input:

DISPLAY-PSTAT:TYPE=CTRLTAB,LEVEL=CIR,LINE=OTHER;

Output:

! CONTROL TABLES FOR THE LEVEL CIR								
!	!	! CURRENT VALUE WITH DEFAULT BELOW IF DIFFERENT						!
! LINE	! FAULT							!
!	!	! COUNTLOC	! MAXCOUNT	! COUNTACT	!	! TIME	!	! DECREM
! OTHER	! COUNT1	! BYTE1	!	21	!	10	!	10
!	!	!	!	!	!	!	!	4
!	! COUNT2	! BYTE2	!	11	!	0	!	10
!	!	!	!	!	!	!	!	2
!	! COUNT3	! BYTE3	!	5	!	0	!	2
!	!	!	!	!	!	!	!	2
!	! COUNT4	! BYTE4	!	5	!	0	!	2
!	!	!	!	!	!	!	!	2

5. Display of all control tables for LEVEL=BOARD

Input:

DISPLAY-PSTAT:TYPE=CTRLTAB,LEVEL=BOARD;

Output:

DISP-PSTAT:CTRLTAB,BOARD;

H500: AMO PSTAT STARTED

! CONTROL TABLES FOR THE LEVEL BOARD								
!	!	! CURRENT VALUE WITH DEFAULT BELOW IF DIFFERENT						!
!	!							!

PSTAT - Peripheral Statistics

Functions of the AMO

! BOARD	! FAULT							
!	!	! COUNTLOC	! MAXCOUNT	! COUNTACT	!	! TIME	!	! DECREM
! OTHER	! COUNT1	! BYTE1	!	21	!	10	!	2
!								4
!	! COUNT2	! BYTE2	!	11	!	6	!	2
!								2
!	! COUNT3	! BYTE3	!	21	!	10	!	2
!								4
!	! COUNT4	! BYTE4	!	19	!	10	!	2
!								4
! CDG	! COUNT1	! BYTE1	!	21	!	10	!	2
!								4
! DIUN2								
! DIUN4	! COUNT2	! BYTE2	!	11	!	6	!	2
!								2
! DIUS2								
! STMA2T	! COUNT3	! BYTE3	!	41	!	20	!	1
!								5
! VCM								
! STMIIGW	! COUNT4	! BYTE4	!	0	!	0	!	65535
!								0
! DIUC	! COUNT1	! BYTE1	!	0	!	10	!	2
!								4
! DIUC64	!	!	!	21	!	!	!	!
!								
!	! COUNT2	! BYTE2	!	11	!	6	!	2
!								2
!	! COUNT3	! BYTE3	!	0	!	0	!	65535
!								0
!	! COUNT4	! BYTE4	!	0	!	0	!	65535
!								0
! SLMB16	! COUNT1	! BYTE1	!	21	!	10	!	2
!								4
!	! COUNT2	! BYTE2	!	11	!	6	!	2
!								2
!	! COUNT3	! BYTE3	!	0	!	0	!	65535
!								0
!	! COUNT4	! BYTE4	!	0	!	0	!	65535
!								0
! SLMC	! COUNT1	! BYTE1	!	21	!	10	!	2
!								4

PSTAT - Peripheral Statistics Functions of the AMO

! SLMO								
! SLMQ	! COUNT2	! BYTE2	! 11	! 6	! 2	! 2	!	
! SLMS								
! SIMU16	! COUNT3	! BYTE3	! 41	! 20	! 1	! 5	!	
! SLMY								
! STHC	! COUNT4	! BYTE4	! 0	! 0	! 65535	! 0	!	
! STMAS	!	!	!	!	!	!	!	
! STMIHFA	!	!	!	!	!	!	!	
! TMDN	! COUNT1	! BYTE1	! 21	! 10	! 2	! 4	!	
! DIU2U								
!	! COUNT2	! BYTE2	! 11	! 6	! 2	! 2	!	
!								
!	! COUNT3	! BYTE3	! 0	! 0	! 65535	! 0	!	
!								
!	! COUNT4	! BYTE4	! 0	! 0	! 65535	! 0	!	
! WAML1	! COUNT1	! BYTE1	! 21	! 10	! 2	! 4	!	
! WAML2								
!	! COUNT2	! BYTE2	! 11	! 6	! 2	! 2	!	
!								
!	! COUNT3	! BYTE3	! 10	! 65535	! 2	! 2	!	
!								
!	! COUNT4	! BYTE4	! 10	! 65535	! 2	! 2	!	
! NCUI	! COUNT1	! BYTE1	! 61	! 10	! 2	! 4	!	
! STMI								
!	! COUNT2	! BYTE2	! 61	! 6	! 2	! 2	!	
!								
!	! COUNT3	! BYTE3	! 21	! 10	! 2	! 4	!	
!								
!	! COUNT4	! BYTE4	! 19	! 10	! 2	! 4	!	

AMO-PSTAT-22 PERIPHERAL STATISTICS
DISPLAY COMPLETED;

Input:

PSTAT - Peripheral Statistics

Functions of the AMO

DISPLAY-PSTAT:TYPE=CTRLTAB,LEVEL=BOARD1;

Output:

! CONTROL TABLE FOR THE LEVEL BOARD1									
! CURRENT VALUE WITH DEFAULT BELOW IF DIFFERENT									
! BOARD	! FAULT								
		! COUNTLOC	! MAXCOUNT	! COUNTACT	! TIME	! DECR			
! DIUC	! COUNT1	! BYTE1	! 255	! 0	! 65535	! 0			
! DIUC64	! COUNT2	! BYTE2	! 255	! 0	! 65535	! 0			
	! COUNT3	! BYTE3	! 255	! 0	! 65535	! 0			
	! COUNT4	! BYTE4	! 255	! 0	! 65535	! 0			

Input:

DISPLAY-PSTAT:TYPE=CTRLTAB,LEVEL=BOARD2;

Output:

! CONTROL TABLE FOR THE LEVEL BOARD2									
! CURRENT VALUE WITH DEFAULT BELOW IF DIFFERENT									
! BOARD	! FAULT								
		! COUNTLOC	! MAXCOUNT	! COUNTACT	! TIME	! DECR			
! DIUC64	! COUNT1	! BYTE1	! 255	! 0	! 65535	! 0			
	! COUNT2	! BYTE2	! 255	! 0	! 65535	! 0			
	! COUNT3	! BYTE3	! 255	! 0	! 65535	! 0			
	! COUNT4	! BYTE4	! 255	! 0	! 65535	! 0			

Input:

DISPLAY-PSTAT:TYPE=CTRLTAB,LEVEL=CIR;

Output:

! CONTROL TABLE FOR THE LEVEL CIR									
! CURRENT VALUE WITH DEFAULT BELOW IF DIFFERENT									
! LINE	! FAULT								
		! COUNTLOC	! MAXCOUNT	! COUNTACT	! TIME	! DECR			
! OTHER	! COUNT1	! BYTE1	! 21	! 10	! 1	! 2			

PSTAT - Peripheral Statistics

Functions of the AMO

!		!	COUNT2	!	BYTE2	!	11	!	6	!	1	!	1	!
!		!	COUNT3	!	BYTE3	!	0	!	0	!	65535	!	0	!
!		!	COUNT4	!	BYTE4	!	0	!	0	!	65535	!	0	!
!	VCM	!	COUNT1	!	BYTE1	!	21	!	10	!	1	!	2	!
!		!	COUNT2	!	BYTE2	!	11	!	6	!	1	!	1	!
!		!	COUNT3	!	BYTE3	!	0	!	0	!	65535	!	0	!
!		!	COUNT4	!	BYTE4	!	0	!	0	!	65535	!	0	!
!	SLMB16	!	COUNT1	!	BYTE1	!	21	!	10	!	1	!	2	!
!		!	COUNT2	!	BYTE2	!	11	!	6	!	1	!	1	!
!		!	COUNT3	!	BYTE3	!	21	!	10	!	1	!	2	!
!		!	COUNT4	!	BYTE4	!	0	!	0	!	65535	!	0	!
!	SLMC	!	COUNT1	!	BYTE1	!	21	!	10	!	1	!	2	!
!	SLMU16	!	COUNT2	!	BYTE2	!	11	!	6	!	1	!	1	!
!	SLMQ	!	COUNT3	!	BYTE3	!	5	!	0	!	2	!	2	!
!	STMAPSW	!	COUNT4	!	BYTE4	!	0	!	0	!	65535	!	0	!
!	DIUS2	!	COUNT1	!	BYTE1	!	41	!	20	!	1	!	8	!
!		!	COUNT2	!	BYTE2	!	41	!	20	!	1	!	5	!
!		!	COUNT3	!	WORD3	!	301	!	65535	!	65535	!	0	!
!		!	COUNT4	!	WORD3	!	301	!	65535	!	65535	!	0	!
!	DIUC	!	COUNT1	!	BYTE1	!	41	!	20	!	1	!	8	!
!	DIUC64	!	COUNT2	!	BYTE2	!	41	!	20	!	1	!	5	!
!		!	COUNT3	!	WORD3	!	301	!	65535	!	65535	!	0	!
!		!	COUNT4	!	WORD3	!	301	!	65535	!	65535	!	0	!
!	SLMY	!	COUNT1	!	BYTE1	!	21	!	10	!	1	!	2	!
!		!	COUNT2	!	BYTE2	!	11	!	6	!	1	!	1	!
!		!	COUNT3	!	BYTE3	!	5	!	0	!	2	!	2	!
!		!	COUNT4	!	BYTE4	!	5	!	0	!	2	!	2	!
!	STMANW20	!	COUNT1	!	BYTE1	!	41	!	20	!	1	!	8	!
!		!	COUNT2	!	BYTE2	!	41	!	20	!	1	!	5	!
!		!	COUNT3	!	WORD3	!	301	!	65535	!	65535	!	0	!

PSTAT - Peripheral Statistics

Functions of the AMO

```
!          +-----+-----+-----+-----+-----+-----+
!          ! COUNT4 !   WORD3 !       301 !   65535 !   65535 !       0 !
!          +-----+-----+-----+-----+-----+-----+
```

6. Display the veco statistics

Input:

```
DISPLAY-PSTAT:TYPE=VECO;
```

Output:

```
+-----+
| STATISTICS PERIOD FROM 13.02.92, 12:00 TILL 14.02.92, 09:13 !
| MODE = ONWMSG                                         PERIOD = 24 HOURS |
+-----+-----+-----+-----+-----+-----+
| ERROR | LEVEL | COUNTER | SWITCH | CPTYPE | DHTYPE |
+-----+-----+-----+-----+-----+-----+
| CPBCHL | 10 | 0 | ON | ----- | ----- |
| CPDEV | 10 | 0 | ON | 0-48 | ----- |
| CPKONS | 10 | 0 | ON | 0-48 | ----- |
| CPNOANSW | 10 | 0 | ON | 0-48 | ----- |
| CPNWCR | 10 | 0 | ON | ----- | ----- |
| CPSBCRI | 10 | 0 | ON | ----- | ----- |
| DHCONF | 10 | 0 | ON | ----- | 0-5A |
| DHDEV | 10 | 0 | ON | ----- | 0-5A |
| DHLINE | 10 | 0 | ON | ----- | 0-5A |
| DHLINK | 10 | 0 | ON | ----- | 0-5A |
| DHNWCR | 10 | 0 | ON | ----- | ----- |
| DHSBCRI | 10 | 0 | ON | ----- | ----- |
| DHSIU | 10 | 0 | ON | ----- | ----- |
+-----+-----+-----+-----+-----+-----+
```

7. Display the lock-times

Input:

```
DISPLAY-PSTAT:LOCKTIM;
```

Output:

```
+-----+
| LOCK TIMES (MINUTES) |
| OF THE REPEATED AUTOMATIC REACTIVATION |
+-----+-----+-----+-----+-----+-----+
| LEVEL | TIM1 | TIM2 | TIM3 | TIM4 | TIM5 | TIM6 | TIM7 | TIM8 |
+-----+-----+-----+-----+-----+-----+
| BOARD ACTUAL | 02 | 03 | 09 | 15 | 00 | 00 | 00 | 00 |
| INIT | 02 | 03 | 05 | 09 | 20 | 20 | 20 | 20 |
+-----+-----+-----+-----+-----+-----+
| CIR ACTUAL | 02 | 03 | 05 | 09 | 15 | 00 | 00 | 00 |
| INIT | 02 | 03 | 05 | 09 | 20 | 20 | 20 | 20 |
+-----+-----+-----+-----+-----+-----+
| DEV ACTUAL | 02 | 03 | 05 | 09 | 20 | 20 | 20 | 20 |
| INIT | 02 | 03 | 05 | 09 | 20 | 20 | 20 | 20 |
+-----+-----+-----+-----+-----+-----+
| LTUC ACTUAL | 02 | 03 | 05 | 09 | 20 | 20 | 20 | 20 |
| INIT | 02 | 03 | 05 | 09 | 20 | 20 | 20 | 20 |
+-----+-----+-----+-----+-----+-----+
```

Note:

The INIT-values displayed are the initial values after the first start of the switch. At this state, the INIT and ACTUAL values are identical. The INIT values can not be changed by the AMO PSTAT.

153.4.3 REGENERATE-PSTAT

1. Regeneration of the control tables

The differences between the current control table and the default initialization are output as CHANGE commands.

The output can be restricted to a specific level and/or to a certain type of module.

2. Regeneration of the control parameters of the veco statistics.

3. Regeneration of the lock times.

The CHANGE-command is only output, if at least one of the actual lock times TIM1 - TIM8 for the entered level differs from the init-value.

4. Regeneration of the stabilisation times .

The change-COMMAND is only output, if the stabilisation time for the entered level differs from the init-value.

5. Regeneration of all types.

Overview of Procedures

Command Code	Parameter	
REGENERATE-PSTAT	[TYPE=CTRLTAB],	
	LEVEL=BOARD, [BOARD=<param>;	
	| LEVEL=CIR, [LINE=<param>;	(1)
	| [TYPE=VECO], [ERROR=<param>;	(2)
	| [TYPE=LOCKTIM], [LEVEL=<param>;	(3)
	| [TYPE=STABTIM], [LEVEL=<param>;	(4)
	| [TYPE=ALL];	(5)

Examples

1. Regeneration of all control tables whose values deviate from the basic initialization.

Input:

```
REGENERATE-PSTAT;
```

Output:

```
CHANGE-PSTAT:CTRLTAB,BOARD ,DIUC ,COUNT1, 0, ,
,
CHANGE-PSTAT:CTRLTAB,CIR ,DIUC ,COUNT2, 201, 100,
,
CHANGE-PSTAT:VECOGEN, 24,STATOFF ;
CHANGE-PSTAT:VECOLEV,CPBCHL , 10;
CHANGE-PSTAT:VECOSWCH,CPBCHL , ,ON ;
CHANGE-PSTAT:VECOLEV,CPDEV , 24;
CHANGE-PSTAT:VECOSWCH,CPDEV , 0&&4E, ,ON ;
CHANGE-PSTAT:VECOLEV,CPKONS , 10;
CHANGE-PSTAT:VECOSWCH,CPKONS , 0&&4E, ,ON ;
CHANGE-PSTAT:VECOLEV,CPNOANSW, 10;
CHANGE-PSTAT:VECOSWCH,CPNOANSW, 0&&4E, ,ON ;
CHANGE-PSTAT:VECOLEV,CPNWCR , 10;
CHANGE-PSTAT:VECOSWCH,CPNWCR , ,ON ;
CHANGE-PSTAT:VECOLEV,CPSBCRI , 10;
CHANGE-PSTAT:VECOSWCH,CPSBCRI , ,ON ;
CHANGE-PSTAT:VECOLEV,DHCONF , 10;
CHANGE-PSTAT:VECOSWCH,DHCONF , 0&&4C,ON ;
CHANGE-PSTAT:VECOLEV,DHDEV , 10;
CHANGE-PSTAT:VECOSWCH,DHDEV , 0&&4C,ON ;
CHANGE-PSTAT:VECOLEV,DHLINE , 10;
CHANGE-PSTAT:VECOSWCH,DHLINE , 0&&4C,ON ;
CHANGE-PSTAT:VECOLEV,DHLINK , 10;
CHANGE-PSTAT:VECOSWCH,DHLINK , 0&&4C,ON ;
CHANGE-PSTAT:VECOLEV,DHNWCR , 10;
CHANGE-PSTAT:VECOSWCH,DHNWCR , ,ON ;
CHANGE-PSTAT:VECOLEV,DHSBCRI , 10;
CHANGE-PSTAT:VECOSWCH,DHSBCRI , ,ON ;
CHANGE-PSTAT:VECOLEV,DHSIU , 10;
CHANGE-PSTAT:VECOSWCH,DHSIU , ,ON ;
CHANGE-PSTAT:LOCKTIM,BOARD,02,03,09,15,00,00,00,00;
CHANGE-PSTAT:STABTIM,CIR,15;
CHANGE-PSTAT:STABTIM,DEV,10;
```

- 2. Regenerate the control tables for board type DIUS2.

Input:

```
REGENERATE-PSTAT:TYPE=CTRLTAB,BOARD=DIUS2;
No deviation from default values for DIUS2 (no output).
```

153.5 Parameter description

BOARD	Module type for determination of class of table
Type of input	: Single value mandatory (CHANGE) optional (CHANGE,REGENERATE)

Possible Values : LEVEL = BOARD CDG DIUC DIUC64 DIUN2 DIUN4
 DIU2U
 DIUS2 NCUI SLMB16 SLMC SLMO
 SLMQ SLMS SLMU16 SLMY STHC
 STMA2T STMAS STMI STMIHFA STMIIGW
 STMI2IGW TMDN VCM
 WAML1 WAML2 OTHER
 LEVEL = BOARD1 DIUC DIUC64
 LEVEL = BOARD2 DIUC64

The value OTHER is not valid for the actions CHANGE and REGENERATE.

COUNTACT	Counter action Action on reaching counter limit Type of Input : Single value, optional Possible Values : 0 Counter remains unchanged 2 to 254 Reset by n (only even values permitted) 255 Reset to 0
CPTYPE	CP device type Type of Input : Single value, linked single values, ranges, up to 12 values, hexadecimal, optional Possible Values : 0 to 48 Default value : all device types
DECREM	Decrement Decrement on reaching the interval defined with TIME Type of Input : Single value, optional Possible Values : 0 Counter remains unchanged 2 to 254 Reset by n (only even values permitted) 255 Reset to 0
DHTYPE	DH device type Type of Input : Single value, linked single values, ranges, up to 12 values, hexadecimal, optional Possible Values : 0 to 5A Default value : all device types

PSTAT - Peripheral Statistics

Parameter description

ERROR	Class of errors where the command is effective	
Type of Input	: 1 to 12 single values, concatenated with &,optional (DISPLAY, TYPE=VECO) 1 to 13 single values, concatenated with &,optional (CHANGE, TYPE=VECOLEVEL / VECOSWCH) 1 to 4 single values, concatenated with &,optional (REGENERATE, TYPE=VECO)	
Possible Values	: CPBCHL cp_bchl CPDEV cp_dev CPKONS cp_kons CPNOANSW cp_no_answ CPNWCR cp_nwcr CPSBCRI cp_sbcri DHCONF dh_conf DHDEV dh_dev DHLINE dh_line DHLINK dh_link DHNWCR dh_nwcr DHSBCRI dh_sbcri DHSIU dh_siu	
Default value	: all error classes	
FAULT	Fault counter in table	
Type of Input	: Single value, optional	
Possible Values	: COUNT1 counter 1 COUNT2 counter 2 COUNT3 counter 3; only LEVEL=BOARD1 or BOARD2 COUNT4 counter 4; only LEVEL=BOARD1 or BOARD2 Meanings for levels BOARD and CIR: COUNT1 Pairs counter COUNT2 Flood of messages Meanings for levels BOARD1 and BOARD2: COUNT1 local alarms COUNT2 remote alarms COUNT3 AIS (Alarm Indication Signal) COUNT4 automatic removal of module	
Default value	: all counters	

LEVEL	Table level
Type of Input	: Single value, mandatory (CHANGE,TYPE=CTRLTAB/LOCKTIM/RESET/STABTIM; DISPLAY,TYPE=COUNTER/CTRLTAB; REGENERATE,TYPE=CTRLTAB) Single value, optional (REGENERATE, TYPE=LOCKTIM/ STABTIM)
Possible Values	: BOARD Module level BOARD1 Module level 1 BOARD2 Module level 2 CIR Circuit level DEV Device level LTUC LTUC-level For CHANGE/REGENERATE, TYPE=CTRLTAB only BOARD and CIR are permissible. For CHANGE, TYPE=RESET, only BOARD1 and BOARD2 are permissible. For DISPLAY, TYPE=COUNTER and CTRLTAB only BOARD, BOARD1, BOARD2 and CIR are permissible. For CHANGE/REGENERATE, TYPE=LOCKTIM and STABTIM, BOARD, CIR, DEV und LTUC are permissible.
LINE	Line Type for Determination of Class of Table
Type of Input	: Single value, mandatory (CHANGE, TYPE=CTRLTAB, LEVEL=CIR) Single value, optional (DISPLAY/ REGENERATE, TYPE=CTRLTAB, LEVEL=CIR)
Possible Values	: CDG cdg DIUC diuc DIUC64 diuc64 DIUN2 diun2 DIUN4 diun4 DIUS2 dius2 NCUI ncui OTHER all other SLMB16 slmb16 SLMC slmc SLMO slmo SLMQ slmq SLMS slms, slms2, stmd2 (q2163-x100) SLMU16 slmu16 SLMY slmy STHC0 sthc (sircuit 0-15) STHC16 sthc (circuit 16-19) STMANW20 stma networking 2.0

PSTAT - Peripheral Statistics

Parameter description

	STMANW21	stma networking 2.1
	STMAPSW	stma port-switching
	STMI	stmi
	STMI2IGW	stmi2-igw (HG3550-2)
	TMDNBOS	tmdn64 bos
	TMDNMOS	tmdn64 mos
	VCM	vcm
MAXCOUNT	Threshold of statistics counter	
Type of Input	: Single value,	optional (TYPE = CTRLTAB) mandatory (TYPE = VECOLEVL)
Possible Values	: 0 1 to 255	Counter is deactivated Threshold is n (at TYPE = CTRLTAB only odd values permitted)
MODE	Operation mode of VECO	
Type of Input	: Single value, optional	
Possible Values	: ONWMSG ONWOMSG STATOFF	veco statistics with periodic statistics printout veco statistics without periodic printout VECO Statistics off
Default value	: no change of mode	
PEN	Pen of a module or of a circuit	
Type of Input	: 3 single values, linked with -, mandatory at LEVEL=BOARD, BOARD1 or BOARD2 : 4 single values, linked with -, mandatory bei LEVEL=CIR	
Possible Values	: g-uu-sss for LEVEL = BOARD, BOARD1 or BOARD2 gg-u-sss-cc for LEVEL = CIR g uu sss cc	= LTG 1 (no other value) = LTU 1 to 15 in HHS (Host Shelf) 16 not defined 17 to 99 in P (Access Point Shelf) = Slot 1 to 121 = Circuit number 0 to 254

A suitable module must be configured to the slot addressed by PEN (AMO BCSU).

The possible LTU and Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description.

The possible Line values depend on the module type and its functionality.

They can be listed using DISP-BCSU: TYPE=PEN1 [,LTG=, LTU=, SLOT=, CCT=]; which will also output the actual PEN status (e.g. NOT CONNECTED).

PERIOD	Distance of periodic outputs (hours)
Type of Input	: Single value, optional
Possible Values	: 1 - 65535
Default value	: 24
STIM	Stabilisation time
Type of Input	: Single value, mandatory
Possible Values	: 10 - 30
SWITCH	State for single error class
Type of Input:	: Single value, mandatory
Possible Values	: ON Threshold signalling on OFF Threshold signalling off
TIME	Size of time interval as multiple of Basic time (currently 60 seconds)
Type of Input	: Single value, optional
Possible Values	: 1 to 65535
TIM1...TIM 8	Lock time 1...8
Type of Input	: Single value, optional
Possible Values	: 1 - 60 (TIM1) 0 - 60 (TIM2 - TIM8)
The Parameters TIM1...TIM8 form a group. At least 1 parameter is to be entered.	
TYPE	Branch Parameter
Type of Input	: Single value, optional (REGENERATE) Single value, mandatory (other branches)
Possible Values	: CTRLTAB, RESET, VECOGEN, VECOLEVL, VECOSWCH, LOCKTIM, STABTIM (CHANGE) COUNTER ,CTRLTAB, VECO, LOCKTIM, STABTIM (DISPLAY) CTRLTAB, VECO, LOCKTIM, STABTIM, ALL (REGENERATE)
Default value	: ALL

153.6 Fault Messages and Advisories

Explanation of the variable message fields

<pen> : <ltg>-<ltu>-<slot>
<ltg>-<ltu>-<slot>-<cir>
<fault> : value specified for parameter FAULT
no text, if parameter FAULT not specified
<ltg> : number of the actual LTG
<name> : name of parameter (DECREM, MAXCOUNT or COUNTACT)
<board> : name of module type
<time> : parameter TIM1 ... TIM8
<n> : numbers 1...7

153.6.1 Fault Messages

F01: PEN <pen> INVALID.
F02: LTG <ltg> IS NOT ASSIGNED.
F03: LTU <ltg>-<ltu> IS NOT ASSIGNED.
F04: BOARD ^ltg^-^ltu^-^ebt^ IS NOT ASSIGNED.
F05: MODULE <pen> IS NO DIU-CAS.
F06: LTG <ltg> IS NOT AVAILABLE.
F07: PARTNER TASK IN LTG <ltg> DOES NOT RESPOND.
F08: NEGATIVE ACKNOWLEDGEMENT BY PARTNER TASK IN LTG <ltg>.
F09: THE PARAMETER <name> MUST BE ODD OR ZERO.
F10: THE PARAMETER <name> MUST BE EVEN OR EQUAL TO 255.
F11: FOR <level> <board>, THE COUNTERS OF FAULT LEVELS 3 AND 4 MUST NOT BE MODIFIED
F12: AFTER ENTRY "0", NO FURTHER LOCKTIME ENTRIES ARE POSSIBLE.
F13: PARAMETERS <time> CAN ONLY BE ENTERED,
IF THE LOCK-TIMES 1 - <n> ARE GREATER THAN ZERO.
TO DISPLAY, ENTER:
DISPLAY-PSTAT:LOCKTIM;

153.6.2 Advisories

H01: BOARD <pen> <level> COUNTER <fault> RESET.
H02: THE CONTROL TABLE APPLIES TO <board> [...]
H04: THE FAULT COUNTER HAS BEEN DEACTIVATED.

H05: THE FAULT COUNTER HAS BEEN ACTIVATED.

H06: INCREASING THE LOCK TIME TO $\geq$ 10 MINUTES MAY ACTIVATE THE ALARM
ASSIGNED TO THIS <level>.

H07: THE LOCK TIME MAY BE TOO SHORT, A SECOND REACTIVATION COULD RESULT.

153.6.3 Use of the messages per action

DISPLAY	:	F01	to	F08
CHANGE	:	H01	to	H07
	:	F01	to	F13

PSTAT - Peripheral Statistics

Fault Messages and Advisories

154 PTIME - Timers for Peripheral Processing

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	Appendix 2 Initblocks general

The following modules or device types use timers which are set using AMO PTIME.

1. SLMA (Q2041, Q2141, Q2157)

These modules are parameterized in the branch TYPE=SLMA. The preset values apply to all modules of the above type used in the system, can be changed by AMO and are preinitialized in the database.

Changeable parameters of specified modules:

(see Procedure Overview CHANGE-PTIME)

Q2041 only the parameters RNGON0 to RNGON5.

Q2141 und Q2157: all parameters

On interrogation of the peripheral timers of SLMA the values of all parameters added in the database are displayed, but only the values of parameter RNGON0 to RNGON5 are valid for all SLMA types. The other parameters RNGON61 to FLASH are only valid for SLMA type Q2141 and Q2157 (see Output example DISPLAY-PTIME:SLMA;)

Note:

All parameter RUFAN../RUFAB., except RUFAN5, will be also valid for the Optiset-/OptiPoint family. These timers will be not loaded onto the module and medd therefore no deactivation/activation with AMO DSSU.

2. SLMA1 (Q2141, Q2157, Q2146, Q2191, Q2184, Q2227, Q2246, Q2480)

These modules are parameterized in the branch TYPE=SLMA1. A maximum of 16 different parameter blocks are allowed for this module (parameter TBLK= 0 to 15). When configuring the terminals (only on these modules) with the aid of AMO SCSU, these modules are assigned the parameter CIRCIDX = 0 to 15.

The 16 parameter blocks are initialized with valid values (blocks 0 and 1 are preinitialized for "Spain" and block 2 is preinitialized for "France"). Blocks 3 and 15 are initialized in accordance with generally valid values (for values see Parameter Description). For

any applications (e.g. other countries) which have not been prepared the initialized times must be checked and, if necessary, changed for each parameter.

In the case of the SLMA1 module, trunk-specific parameterizations are possible (up to 16 different parameter blocks).

Note:

When **DIAL** parameter in AMO SCSU is set to **VAR**, flash timing for SLMAV works between 80ms (even if default value for **FLASHMIN** is set to 40ms in AMO PTIME:SLMA1) to the value of the parameter **FLASHMAX** in AMO PTIME.

To use a flash timing less than 80ms with analog stations connected to a SLMAV board, then you need to change other settings.

The **DIAL** and **CCTIDX** parameters in AMO SCSU must be set to **DTMF** and table number from AMO PTIME, branch SLMA1, respectively. For example, DIAL=DTMF,CCTIDX=3.

Timing values used will be get from table block 3 (AMO PTIME:SLMA1).

FLASHMIN in AMO PTIME:SLMA1 must be set to desired value, in case it is set to greater value.

3. Analog trunk circuits of device type TSAC

Six different parameter blocks are reserved under TYPE = TSAC for this case. Parameter TBLK = 0 to 5 specifies the timer blocks which are assigned DEV = TSAC and CIRCIDX = 0 to 5 during circuit configuration. These 6 parameter blocks are initialized with the same, valid values.

By default, AMO TACSU assigns block 0.

4. Analog trunk circuits with extended circuit data on the loadware (AMO TACSU)

A maximum of 32 different parameter blocks can be created in the database for these circuits under TYPE = REST. These blocks are initialized with CIRCIDX = 0 to 31 upon configuration of the circuits using AMO TACSU.

This applies to all devices listed in the parameter description of parameter DEV. For each device type, there is a parameter set with valid values on the hard disk (see Appendix).

The database also contains 32 parameter blocks which have been initialized as "empty" parameter blocks. Using the COPY-PTIME command the "initialized" blocks can be copied into these "empty" blocks and subsequently changed. Upon configuration of these circuits, AMO TACSU scans the 32 parameter blocks in the DB to find a parameter set suitable for the device to be configured. If no

suitable parameter set is found, the associated set will be copied from the hard disk into the DB and assigned the corresponding CIRCIDX.

If a suitable parameter set is found in the DB, the device will be assigned the corresponding CIRCIDX (e.g. when the second device of the same type is being configured). Provided that suitable parameters have been initialized, neither the AMO PTIME nor the parameter CIRCIDX must be specified in the AMO TACSU.

If different initializations are required for a device type, the "initialized" parameter block can be copied several times from the hard disk into "empty" parameter blocks in the DB and subsequently changed. In this case, the parameter CIRCIDX must be assigned selectively when configuring the circuits with the aid of AMO TACSU, or else AMO TACSU will assign the first parameter found.

Parameter P12 (AMO PTIME: REST) is used to program the extra impedance index for AMO TACSU on TMANI circuits (extends AMO TACSU, COEX parameter).

Note:

The times for the branches SLMA (only modules Q2141 and Q2157), SLMA1, TSAC and REST are loaded onto the modules when the respective circuits are taken into operation. If a subsequent change is required, all affected circuits must be deactivated and (re-)activated (unconditional loading) using the AMO DSSU (not valid for Optiset/OptiPoint).

154.1 Restrictions

This description is valid from HiPath 4000 V1.0

154.2 Interrelationships

- AMO DSSU : Device Switch of Switching Unit
- AMO SCSU : Subscriber Configuration of SWU
- AMO TACSU : Configuration of Analog Trunk Circuits in the SWU

154.3 Functions of the AMO

- [CHANGE-PTIME](#) : Change peripheral timers
- [DISPLAY-PTIME](#) : Interrogate peripheral timers
- [COPY-PTIME](#) : Copy an init block into a timer block
- [REGENERATE-PTIME](#) : Regenerate peripheral timers

154.3.1 CHANGE-PTIME

This action can be used to change the preinitialized values. In the branch TYPE = REST, the parameter ARTLSP was given a neutral name (LONG, SHORT, PARA) because the various parameters have different meanings depending on the type of device used. Device-specific definitions are given in the Appendix.

Procedure Overview

Command Code	Parameter
CHANGE-PTIME	<pre>TYPE=SLMA, { RNGON0=<number>, RNGOFF0=<number>, RNGON11=<number> , RNGOFF11=<number>, RNGON12=<number>, RNGOFF12=<number> , RNGON2=<number>, RNGOFF2=<number>, RNGON31=<number> , RNGOFF31=<number>, RNGON32=<number>, RNGOFF32=<number> , RNGON5=<number> , RNGON61=<number>, RNGOFF61=<number>, RNGON62=<number> , RNGOFF62=<number>, RNGON63=<number>, RNGOFF63=<number> , FLASHMAX=<number>, ONHOOK=<number>, FLASHMIN=<number> , SPCL=<number>, FLASH=<number>, INTERDIG=<number>} ; | TYPE=SLMA1, TBLK=<number>, { FLASHMIN=<number>, FLASHMAX=<number> , ONHOOK=<number>, INTERDIG=<number> , SPCL=<number>, FLASH=<number>} ; , PULSED=<number>, PAUSED=<number>} ; | TYPE=TSAC, TBLK=<number>, { IMPTYPE1=<number>, IMPTYPE2=<number>, RLSPFW=<number> , RLSPBK=<number>, ASSTYPE1=<number>, ASSTYPE2=<number>} ;</pre>
	<pre>| TYPE=REST, TBLK=<number> , BTYPE=LONG, { L1=<number>, L2=<number>, L3=<number>, L4=<number></pre>

Command Code	Parameter
	<pre> , L5=<number>, L6=<number>, L7=<number>; |, BTYPE=SHORT, {S1=<number>, S2=<number>, S3=<number>, S4=<number> , S5=<number>, S6=<number>, S7=<number>, S8=<number> , S9=<number>, S10=<number>, S11=<number>, S12=<number> , S13=<number>, S14=<number>;} |, BTYPE=PARA, {P1=<number>, P2=<number>, P3=<number>, P4=<number> , P5=<number>, P6=<number>, P7=<number>, P8=<number> , P9=<number>, P10=<number>, P11=<number>, P12=<number> , P13=<number>, P14=<number>;} </pre>

154.3.2 DISPLAY-PTIME

If parameter DEV is not specified, all parameter blocks (0 - 31) which were copied into the DB will be output.

Procedure Overview

Command Code	Parameter
DISPLAY-PTIME	<pre> TYPE=SLMA; |TYPE:SLMA1; |TYPE:TSAC; |TYPE=REST, [DEV=<param>] </pre>

Example

Interrogate the SLMA module resp. Optiset/OptiPoint timers:

Input:

```
DISPLAY-PTIME:SLMA;
```

Output:

```
SLMA TIMERS:
=====
```

```

RNGON0   = 1000 MS.   RNGOFF0  = 4000 MS.   RNGON11  =   300 MS.
RNGOFF11 =   400 MS.   RNGON12  =   300 MS.   RNGOFF12 = 4000 MS.
RNGON2   = 1000 MS.   RNGOFF2  = 1000 MS.   RNGON31  =   300 MS.
RNGOFF31 =   400 MS.   RNGON32  =   300 MS.   RNGOFF32 = 1000 MS.
RNGON5   =   500 MS.
RNGON61  =   200 MS.   RNGOFF61 =   200 MS.   RNGON62  =   200 MS.
RNGOFF62 =   200 MS.   RNGON63  =   200 MS.   RNGOFF63 = 4000 MS.
FLASHMIN =    40 MS.   FLASHMAX  =   110 MS.   ONHOOK   =   100 MS.
INTERDIG =   100 MS.   SPCL      = 1000 MS.   FLASH    =   600 MS.

```

PTIME - Timers for Peripheral Processing
Functions of the AMO

H01: CAUTION: THE MODIFIED TIME PARAMETERS WERE NOT LOADED INTO
THE CIRCUIT MODULES.
PLEASE PULL AND REPLUG THE MODULES CONCERNED.

Note:

Ignore the displayed values for RNGON61 to FLASH for the "old" SLMA modules Q2041, because they can't be loaded on the modules. They are only valid for the "new" SLMA modules Q2141 and Q2157.

Example

Interrogate individual SLMA1 module timers:

Input:

DISPLAY-PTIME:SLMA1;

Output:

```
SLMA1 TIMERS:
=====
TBLK = 0;  FLASHMIN = 50 MS.  FLASHMAX = 130 MS.
           ONHOOK   = 150 MS.  INTERDIG = 100 MS.
           SPCL     = 1000 MS. FLASH     = 600 MS.
           PULSED   = 0 MS.   PAUSED   = 0 MS.

TBLK = 1;  FLASHMIN = 50 MS.  FLASHMAX = 1000 MS.
           ONHOOK   = 1100 MS. INTERDIG = 50 MS.
           SPCL     = 50 MS.  FLASH     = 0 MS.
           PULSED   = 0 MS.  PAUSED   = 0 MS.

TBLK = 2;  FLASHMIN = 190 MS. FLASHMAX = 350 MS.
           ONHOOK   = 500 MS. INTERDIG = 2000 MS.
           SPCL     = 2000 MS. FLASH     = 2000 MS.
           PULSED   = 0 MS.  PAUSED   = 0 MS.

TBLK = 3;  FLASHMIN = 40 MS.  FLASHMAX = 110 MS.
           ONHOOK   = 200 MS.  INTERDIG = 300 MS.
           SPCL     = 1500 MS. FLASH     = 1000 MS.
           PULSED   = 0 MS.  PAUSED   = 0 MS.

H01: CAUTION: THE MODIFIED TIME PARAMETERS WERE NOT
LOADED INTO THE CIRCUIT MODULES.
PLEASE PULL AND REPLUG THE MODULES
CONCERNED.
```

Example

Interrogate the timers for device type TSAC:

Input:

DISPLAY-PTIME:TSAC;

Output:

PTIME - Timers for Peripheral Processing

Functions of the AMO

TSAC TIMERS:

=====

TBLK = 0;	IMPTYPE1 = 60 MS.	IMPTYPE2 = 140 MS.	RLSPFW = 700 MS.
	RLSPBK = 2300 MS.	ASSTYPE1 = 100 MS.	ASSTYPE2 = 120 MS.
TBLK = 1;	IMPTYPE1 = 40 MS.	IMPTYPE2 = 80 MS.	RLSPFW = 120 MS.
	RLSPBK = 120 MS.	ASSTYPE1 = 35 MS.	ASSTYPE2 = 35 MS.
TBLK = 2;	IMPTYPE1 = 800 MS.	IMPTYPE2 = 800 MS.	RLSPFW = 4000 MS.
	RLSPBK = 4000 MS.	ASSTYPE1 = 800 MS.	ASSTYPE2 = 800 MS.
TBLK = 3;	IMPTYPE1 = 100 MS.	IMPTYPE2 = 200 MS.	RLSPFW = 1000 MS.
	RLSPBK = 1000 MS.	ASSTYPE1 = 40 MS.	ASSTYPE2 = 40 MS.
TBLK = 4;	IMPTYPE1 = 120 MS.	IMPTYPE2 = 220 MS.	RLSPFW = 2000 MS.
	RLSPBK = 2000 MS.	ASSTYPE1 = 120 MS.	ASSTYPE2 = 150 MS.
TBLK = 5;	IMPTYPE1 = 140 MS.	IMPTYPE2 = 240 MS.	RLSPFW = 500 MS.
	RLSPBK = 500 MS.	ASSTYPE1 = 700 MS.	ASSTYPE2 = 700 MS.

Example

Interrogate the timers for the remaining device types e.g. DEV = DIDLRB:

Input:

DISPLAY-PTIME:REST,DIDLRB;

Output:

REST TIMERS:

=====

INIBLOCK: 52	DEVICE: DIDLRB	TBLOCK: 0	

LONGTIME:			
L1 = 300,	L2 = 600,	L3 = 10000,	L4 = 2000,
L5 = 0,	L6 = 0,	L7 = 0,	
SHORTTIME:			
S1 = 32,	S2 = 32,	S3 = 32,	S4 = 32,
S5 = 32,	S6 = 32,	S7 = 30,	S8 = 20,
S9 = 72,	S10 = 80,	S11 = 12,	S12 = 70,
S13 = 0,	S14 = 0,		
SHORT-PARA:			
P1 = 1,	P2 = 1,	P3 = 0,	P4 = 0,
P5 = 2,	P6 = 2,	P7 = 4,	P8 = 0,
P9 = 90,	P10 = 0,	P11 = 2,	P12 = 0,
P13 = 0,	P14 = 0,		

154.3.3 COPY-PTIME

Copying a timer block (REST branch) from the hard disk to the DB. (for TBLK see Appendix)

PTIME - Timers for Peripheral Processing

Functions of the AMO

If INIBLOCK = 0 is specified, this command has the same effect as a DELETE command.

In this case, the parameter TBLK is mandatory. See also "Explanations" given in the Introduction

Procedure Overview

Command Code	Parameter
COPY-PTIME	INIBLOCK=<number>, [TBLK=<number>];

154.3.4 REGENERATE-PTIME

Procedure Overview

Command Code	Parameter
REGENERATE-PTIME	;

Example

Regenerate the peripheral timers.

Input:

REG-PTIME;

Output:

```
CHANGE-PTIME:SLMA, 1000, 4000, 300, 400, 300, 4000, 1000, 1000, 300, 400,
                300, 1000, 500, 200, 200, 200, 200, 200, 4000, 40,
                110, 200, 100, 1000, 600;
CHANGE-PTIME:QSWES,0, 60,140, 700,2300,100,120;
CHANGE-PTIME:QSWES,1, 40, 80, 120, 120, 35, 35;
CHANGE-PTIME:QSWES,2,800,800,4000,4000,800,800;
CHANGE-PTIME:QSWES,3,100,200,1000,1000, 40, 40;
CHANGE-PTIME:QSWES,4,120,220,2000,2000,120,150;
CHANGE-PTIME:QSWES,5,140,240, 500, 500,700,700;
CHANGE-PTIME:SLMA1, 0, 50, 130, 150, 100, 1000, 600,0,0;
CHANGE-PTIME:SLMA1, 1, 50, 1000, 1100, 50, 50, 0,0,0;
CHANGE-PTIME:SLMA1, 2, 190, 350, 500, 2000, 2000, 2000,0,0;
CHANGE-PTIME:SLMA1, 3, 40, 110, 200, 300, 1500, 1000,0,0;
...
...
CHANGE-PTIME:SLMA1,16, 40, 110, 200, 100, 1000, 600,0,0;
COPY-PTIME: 11, 1;
COPY-PTIME: 17, 0;
CHANGE-PTIME:REST,0 ,LONG,200 , , , , , , ,10000 ;
COPY-PTIME: 18, 0;
CHANGE-PTIME:REST,0 ,SHORT,100 , , , , , , , ,
                , , , , , , , ;
COPY-PTIME: 19, 0;
CHANGE-PTIME:REST,0 ,PARA,1 , , , , , , ,
```

...
...
...

154.4 Parameter Description

TYPE	Desired peripheral processing timers options
Type of Input	: Single value, mandatory
Possible Values	: REST
	SLMA (resp. Optiset/OptiPoint)
	SLMA1
	TSAC

Parameters for the branch TYPE = SLMA:

Peripheral timers for SLMA modules resp. Optiset/OptiPoint, only ring timers.

The following condition must be satisfied:
FLASHMIN < FLASHMAX < ONHOOK.

FLASH	Time between detecting and reporting flash key
Type of Input	: Single value, optional
Possible Values	: 0 - 2000 ms
Default Value	: 600 ms
FLASHMAX	Maximum flash time
Type of Input	: Single value, optional
Possible Values	: 20 - 2000 ms
Default Value	: 110 ms
FLASHMIN	Minimum flash time
Type of Input	: Single value, optional
Possible Values	: 20 - 2000 ms
Default Value	: 40 ms
INTERDIG	Interdigit pause
Type of Input	: Single value, optional
Possible Values	: 50 - 2000 ms

PTIME - Timers for Peripheral Processing

Parameter Description

	Default Value	: 100 ms
ONHOOK	Minimum time for detection of on-hook state	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 2000 ms
	Default Value	: 200 ms
RNGOFF0	Inter-ring pause, single burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 60000 ms
	Default Value	: 4000 ms
RNGOFF11	Inter-ring pause, double burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 400 ms
RNGOFF12	Inter-ring pause, double burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 60000 ms
	Default Value	: 4000 ms
RNGOFF2	Inter-ring pause, single burst ring 2 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 60000 ms
	Default Value	: 1000 ms
RNGOFF31	Inter-ring pause 1, double burst ring 2 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 400 ms
RNGOFF32	Inter-ring pause 2, double burst ring 2 (also Optiset/OptiPoint)	

	Type of Input	: Single value, optional
	Possible Values	: 20 - 60000 ms
	Default Value	: 1000 ms
RNGOFF61	Inter-ring pause 1, triple burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 60000 ms
	Default Value	: 200 ms
RNGOFF62	Inter-ring pause 2, triple burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 60000 ms
	Default Value	: 200 ms
RNGOFF63	Inter-ring pause 3, triple burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 60000 ms
	Default Value	: 4000 ms
RNGON0	Ring times, single burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 60000 ms
	Default Value	: 1000 ms
RNGON11	Ring times, double burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 300 ms
RNGON12	Ring times , double burst ring 1 (also Optiset/OptiPoint)	
	Type of Input	: Single value, optional
	Possible Values	: 20 - 999 ms
	Default Value	: 300 ms

PTIME - Timers for Peripheral Processing

Parameter Description

RNGON2	Ring times, single burst ring 2 (also Optiset/OptiPoint) Type of Input : Single value, optional Possible Values : 20 - 60000 ms Default Value : 1000 ms
RNGON31	Ring time 1 , double burst ring 2 (also Optiset/OptiPoint) Type of Input : Single value, optional Possible Values : 20 - 999 ms Default Value : 300 ms
RNGON32	Ring time 2 , double burst ring 2 (also Optiset/OptiPoint) Type of Input : Single value, optional Possible Values : 20 - 999 ms Default Value : 300 ms
RNGON5	Alerting tone (<u>not</u> Optiset/OptiPoint) Type of Input : Single value, optional Possible Values : 20 - 999 ms Default Value : 500 ms
RNGON61	Ring time 1, triple burst ring 1 (also Optiset/OptiPoint) Type of Input : Single value, optional Possible Values : 20 - 60000 ms Default Value : 200 ms
RNGON62	Ring time 2, triple burst ring 1 (also Optiset/OptiPoint) Type of Input : Single value, optional Possible Values : 20 - 60000 ms Default Value : 200 ms
RNGON63	Ring time 3, triple burst ring 1 (also Optiset/OptiPoint)

Type of Input : Single value, optional
 Possible Values : 20 - 60000 ms
 Default Value : 200 ms

SPCL Cleardown timeout for special station during power-out on a/b wires

Type of Input : Single value, optional
 Possible Values : 50 - 2000 ms
 Default Value : 1000 ms (TBLK 0-15)

Parameters for the branch TYPE = SLMA1:

FLASH Time between detecting and reporting flash key

Type of Input : Single value, optional
 Possible Values : 0 - 2000 ms
 Default Value : 600 ms

FLASHMAX Maximum flash time

Type of Input : Single value, optional
 Possible Values : 110 - 2000 ms
 Default Value : 130 ms (TBLK=0 , Spain)
 1000 ms (TBLK=1 , Spain)
 350 ms (TBLK=2 , France)
 110 ms (TBLK=3 - 15)

FLASHMIN Minimum flash time

Type of Input : Single value, optional
 Possible Values : 20 - 2000 ms
 Default Value : 50 ms (TBLK=0 , Spain)
 50 ms (TBLK=1 , Spain)
 190 ms (TBLK=2 , France)
 40 ms (TBLK=3 - 15)

INTERDIG Interdigit pause

Type of Input : Single value, optional
 Possible Values : 50 - 2000 ms
 Default Value : 100 ms

ONHOOK Minimum time for detection of on-hook state

Type of Input : Single value, optional

PTIME - Timers for Peripheral Processing

Parameter Description

	Possible Values	: 150 - 2000 ms
	Default Value	: 150 ms (TBLK=0 , Spain) 1100 ms (TBLK=1 , Spain) 500 ms (TBLK=2 , France) 200 ms (TBLK=3 - 15)
PAUSED	SLMAR call charge pulse - pause duration (in 10 ms steps)	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 2550 ms
	Default Value	: 0 ms
PULSED	SLMAR call charge pulse - pulse duration (in 10 ms steps)	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 2550 ms
	Default Value	: 0 ms
SPCL	Cleardown timeout for special station during power-out on a/b wires	
	Type of Input	: Single value, optional
	Possible Values	: 50 - 2000 ms
	Default Value	: 1000 ms (TBLK 0-15)
TBLK	Timer block	
	Type of Input	: Single value, optional
	Possible Values	: 0 - 15

Parameters of the branch TYPE = TSAC:

ASSTYPE1	Assessment time for pulses to be received for IMPTYPE1. This establishes up to which length incoming pulses are evaluated as IMPTYPE1. Longer pulses are evaluated as IMPTYPE2 or, if the timer for evaluation range IMPTYPE2 (ASSTYPE2) has expired, result in timer overflow 1.	
	Type of Input	: Single value, optional
	Possible Values	: 35 bis 800 ms
	Default Value	: 100 ms
ASSTYPE2	Assessment time for pulses to be received for IMPTYPE2. The timer is started after it expires for ASSTYPE1 and establishes up to which length pulses are evaluated as IMPTYPE2. The maximum pulse length is the sum of ASSTYPE1 and ASSTYPE2.	
	Type of Input	: Single value, optional
	Possible Values	: 35 bis 800 ms
	Default Value	: 120 ms

IMPTYPE1 Length of pulses to be sent for type 1 (in ms) for

- Seizure (TIE - 1)
- Start-of-pulse signal
- Answer
- Seizure acknowledgement

Type of Input : Single value, optional

Possible Values : 40 to 800 ms in steps of 20ms

Default Value : 60 ms

IMPTYPE2 Length of pulse to be sent for type 2 (in ms) for

- Gate seizure(TIE - 2)
- End-of-selection

IMPTYPE2 must always be larger than IMPTYPE1.

Type of Input : Single value, optional

Possible Values : 80 to 800 ms in steps of 20ms

Default Value : 140 ms

RLSPBK Length of backward release/release
acknowledgement pulse to be sent

Type of Input : Single value, optional

Possible Values : 120 bis 4000 ms

Default Value : 2300 ms

RLSPFW Length of forward release pulse to be sent

Type of Input : Single value, optional

Possible Values : 120 bis 4000 ms

Default Value : 700 ms

TBLK Timer block

Block in which the specified times are entered.

Type of Input : Single value, optional

Possible Values : 0 bis 5

Description of the parameters of branch TYPE = REST:

BTYPE Branching parameter for addressing LONGTIME, SHORTTIME and SHORTPARA-TBL for all
remaining device types (TYPE=REST)

Type of Input : Single value, mandatory

PTIME - Timers for Peripheral Processing

Parameter Description

	Possible Values	: LONG, SHORT, PARA
DEV	Device types	
	Device type to be specified for DISPLAY-PTIME:TYPE=REST	
	Type of Input	: Single value, optional
	Possible Values	: see APPENDIX 1
TBLK	Timer block	
	Block in which the specified times are to be entered.	
	Type of Input	: Single value, mandatory
	Possible Values	: 0 bis 31

Note on the parameters LONG, SHORT, PARA for BTYPE

The above parameters are described in APPENDIX 2 because they vary with the device type used.

L1 - L 7	Parameters for LONG timer
S1 - S14	Parameters for SHORT timer
P1 - P14	Parameters for PARA

Description of the parameters of branch TYPE = REST:

INIBLOCK	Initialization block number in file on hard disk (see Appendix)
	Type of Input : numerical, mandatory
	Possible Values : 0 - 255
	If INIBLOCK = 0, a timer block will be deleted.
	In this case, the parameter TBLK must be specified.
TBLK	Number of timer block in database
	Block in which the specified times are entered.
	Type of Input : Single value, mandatory (for INIBLOCK = 0) Single value, optional (for INIBLOCK > 0)
	Possible Values : 0 to 31

154.5 Error Messages and Advisories

154.5.1 Error Messages

F01: INIT BLOCK @@@ IS NOT PRESENT.
 (@@@ = <block>)

F02: NO FREE TIMER BLOCK AVAILABLE.
 (RELEASE A TIMER BLOCK WHICH IS NOT IN USE !).

F03: BLOCK @@@ IS ASSIGNED TO THE TRUNK CIRCUIT WITH THE PEN @@-@@-@@@-@@.
 (@@@ = <block>, @@-@@-@@@-@@ = <ltg>-<ltu>-<ebt>-<satz>)

F04: ERROR WHILE RELOADING THE TIMER BLOCK VALUES:
 ERROR CODE: @@@@
 (@@@@ = <code>)

F05: CONDITION: FLASHMIN < FLASHMAX < ONHOOK NOT MET.

F06: TBLK @@ IS NOT INITIALIZED.
 (@@ = <tblock>)

154.5.2 Advisories

H01: CAUTION: THE MODIFIED TIME PARAMETERS WERE NOT LOADED INTO
 THE CIRCUIT MODULES.
 PLEASE PULL AND REPLUG THE MODULES CONCERNED.

H02: TIMER BLOCK @@ ASSIGNED.
 (@@ = <block>)

H03: NO TBLK FOR THIS DEVICE TYPE AVAILABLE.

H04: IF INIT_BLOCK = 0 (DELETING A TIMER BLOCK).
 PARAMETER TBLK IS MANDATORY

PTIME - Timers for Peripheral Processing

Error Messages and Advisories

154.6 Appendix 2 Initblocks general

Appendix 2, Part 1: Initblocks 0 till 20	Appendix 2, Part 2: Initblocks 21 till 40	Appendix 2, Part 3: Initblocks 41 till 60
Appendix 2, Part 4: Initblocks 61 till 80	Appendix 2, Part 5: Initblocks 81 till 100	Appendix 2, Part 6: Initblocks 101 till 115, 119 till 123

Parameter values of Initblocks at the Harddisk

NOTE: County specific timers for TMANI can be found under PTIMES of the TMANI under Volume 2: System Components (Hardware, Software)

PTIME	DEVICE(s)	PTIME	DEVICE(s)
0	GW	81	A3CISL
0	MAINEM	82	A3CIST
0	MAINLPNW	88	ANDIDL1
0	MAINVFSS	89	ANDIDL2
0	MOSIG	90	ANDIDL3
0	DP	91	ANDIDL4
0	LNSEL	92	ANDIOL1
0	OGN2	93	ANDIOL2
0	N2S	87	ANMOSIG
0	TSBR	12	BW
0	TSAUST	51	BWA
0	TSEMU	27	BWALS70
0	TSEMCOF	34	BWCHINA
0	TSEMCON	57	DIUTYP3
0	TSEML1	54	BWCISL
0	TSEML	55	BWCIST
0	TSEMUSD	44	BWCSK
0	TSEMUSI	45	BWCSU
0	TSEMUSW	46	BWDC
0	TSD	15	BWEDS
0	TSILP	37	BWELS
0	TSIM	38	BWELSC
0	TSIFD	32	BWFIN
0	TSAC	4	BWFS
0	SATEM	53	BWGR
0	SATLPNW	1	BWGS
0	SATVFSS	16	BWLD

Appendix 2 Initblocks general

PTIME	DEVICE(s)	PTIME	DEVICE(s)
0	SFS	17	BWLG
0	ITT2	18	BWLRS
0	ITT4	2	BWLS
0	ITTIC	47	BWMDK
1	BWGS	19	BWMFR
2	BWLS	9	BWMSCH
3	ICF	42	BWPOLO
4	BWFS	43	BWPOL1
5	TSRTT	33	BWRSA
6	ICLLP	11	BWSR
7	ICLFB	96	CISCOMB
8	ICLIB	110	CISCOMB2
9	BWMSCH	94	CISIND
10	ICLCH	109	CISIND2
11	BWSR	108	CISNORK2
12	BW	95	CISNORKA
13	TSC	85	DFADAS1
14	DIDIT	80	DFADASE
15	BWEDS	28	DIDALS70
16	BWLD	35	DIDBELG
17	BWLG	14	DIDIT
18	BWLRS	22	DIDIT
19	BWMFR	52	DIDLRB
20	DODFR	30	DIDN2
21	SOCFR	50	DIUCBRAZ
22	DIDIT	49	DIUCQ421
23	NDIDIT	36	DODBELG
24	DODIT	20	DODFR
25	TSEMD	24	DODIT
26	TSEMI	31	DODN2
27	BWALS70	0	DP
28	DIDALS70	41	EB5NAL
29	NDIDN2	77	EMCONT
30	DIDN2	104	EMCONT2
31	DODN2	78	EMDISC
32	BWFIN	105	EMDISC2
33	BWRSA	0	GW
34	BWCHINA	3	ICF
35	DIDBELG	10	ICLCH
36	DODBELG	7	ICLFB
37	BWELS	8	ICLIB
38	BWELSC	6	ICLLP

PTIME	DEVICE(s)	PTIME	DEVICE(s)
39	SOCSPA	0	ITT2
40	TSTFZ	0	ITT4
41	EB5NAL	0	ITTIC
42	BWPOLO	0	LNSEL
43	BWPOL1	0	MAINEM
44	BWCSK	0	MAINLPNW
45	BWCSU	0	MAINVFSS
46	BWDK	0	MOSIG
47	BWMDK	0	N2S
48	OB	23	NDIDIT
49	DIUCQ421	29	NDIDN2
50	DIUCBRAZ	48	OB
51	BWA	106	OB2
52	DIDLRB	0	OGN2
53	BWGR	58	PRC2600
54	BWCISL	103	QSEMCONT
55	BWCIST	0	SATEM
56	TSEMHUN	0	SATLPNW
57	DIUTYP3	0	SATVFSS
58	PRC2600	86	SFADASJ
67	TSEMU2	83	SFCISL
68	TSEML12	84	SFCIST
69	TSEML2	0	SFS
70	TSEMI2	21	SOCFR
71	TSEMD2	75	SOCFR2
72	TSEMUSD2	39	SOCSPA
73	TSEMUSI2	115	T1EMW
74	TSEMUSW2	79	TMLRUD
75	SOCFR2	111	TMCOT8
76	TSC2	114	TMD24DID
77	EMCONT	113	TMD24GSR
78	EMDISC	112	TMDID8
79	TMLRUD	0	TSAC
80	DFADASE	0	TSAUST
81	A3CISL	0	TSBR
82	A3CIST	13	TSC
83	SFCISL	76	TSC2
84	SFCIST	97	TSC3
85	DFADAS1	98	TSC4
86	SFADASJ	99	TSC5
87	ANMOSIG	100	TSC6
88	ANDIDLP1	101	TSC7

Appendix 2 Initblocks general

PTIME	DEVICE(s)	PTIME	DEVICE(s)
89	ANDIDL2P2	102	TSC8
90	ANDIDL2P3	0	TSD
91	ANDIDL2P4	0	TSEMCOF
92	ANDIOLP1	0	TSEMCON
93	ANDIOLP2	25	TSEMD
94	CISIND	71	TSEMD2
95	CISNORKA	56	TSEMHUN
96	CISCOMB	107	TSEMHUN2
97	TSC3	26	TSEMI
98	TSC4	70	TSEMI2
99	TSC5	0	TSEML
100	TSC6	0	TSEML1
101	TSC7	68	TSEML12
102	TSC8	69	TSEML2
103	QSEMCONT	0	TSEMU
104	EMCONT2	67	TSEMU2
105	EMDISC2	0	TSEMUSD
106	OB2	72	TSEMUSD2
107	TSEMHUN2	0	TSEMUSI
108	CISNORK2	73	TSEMUSI2
109	CISIND2	0	TSEMUSW
110	CISCOMB2	74	TSEMUSW2
111	TMCOT8	0	TSIFD
112	TMDID8	0	TSILP
113	TMD24GSR	0	TSIM
114	TMD24DID	5	TSRTT
115	T1EMW	40	TSTFZ

154.6.1 Appendix 2, Part 1: Initblocks 0 till 20

(0): DB_AM_DEV_NULL: NULL

Longtimer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(1): DB_AM_DEV_ASGS : BWGS

Longtime r	Default (ms)	Description	Remark
L1	200	signal key duration (50-1000 ms)	
L2	600	CO release time minimum (50-1000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	150	min. time release acknowledgement from CO after release from PBX (50-1000 ms)	
L5	0	reserve	
L6	5000	splash ring after early guard (1000-15000 ms)	
L7	10000	remote blocking after CO don't release (1000-30000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	200	PBX release time (40-250 ms)	
S2	70	min. time for charge pulse (16-500 ms)	
S3	90	minimum charge pulse pause (16-500 ms)	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	1	for incoming seizure	

Parameter	Default	Description	Remark
		0 without loop monitoring and early guard	
		1 with early guard and ringing current	
P2	0	call charge recording	
		0 without	
		1 with 50 Hz	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(2): DB_AM_DEV_HKZU: BWLS

Longtimer	Default (ms)	Description	Remark
L1	200	signal key duration (50-1000 ms)	
L2	4	dial tone transmission delay (4-2000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	4	delay for through-connection of speech path after answer (4-800 ms)	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	0	reserve	
S2	70	min. time for charge pulse (16-250 ms)	
S3	90	minimum charge pulse pause (16-500 ms)	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	call charge recording	

Parameter	Default	Description	Remark
		0 without	
		1 with	
P3	0	if used as a station line (BW only)	
		0 grounding of one wire	
		1 grounding of both wires	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(3): DB_AM_DEV_LSF : ICF

Longtimer	Default (ms)	Description	Remark
L1	300	min. release time CO (48-1200 ms)	
L2	600	potential gap on backward release (400-800 ms)	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	200	time between seizure acknowledgement and start-of-dial signal (100-300 ms)	
L7	152	min. time for end-of-digit (100-200 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	32	potential reversal on seizure acknowledgement (20-250 ms)	
S2	32	potential reversal on start-of-dial signal (20-250 ms)	
S3	32	potential reversal on end-of-dial signal (20-250 ms)	
S4	32	potential gap on seizure acknowledgement (20-250 ms)	
S5	32	potential gap on start-of-pulsing signal (20-250 ms)	
S6	32	potential gap on end-of-dial (20-250 ms)	
S7	30	min. time for incoming seizure (10-70 ms)	
S8	20	min. dial pulse length (5-50 ms)	
S9	72	dial pulse tolerance (30-110 ms)	
S10	100	min. time for CO signaling (50-200 ms)	
S11	12	min. duration of dialing pause (4-80 ms)	

Shorttimer	Default (ms)	Description	Remark
S12	70	min. time after seizure acknowledgement (4-100 ms)	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	1	seizure acknowledgement	
	0	delay dial	
	1	temporary	
	2	permanent	
	3	gap	
P2	1	start-of-dial	
	0	gap	
	1	temporary	
	2	permanent	
	3	delay dial	
P3	0	end-of-dial	
	0	gap	
	1	temporary	
	2	permanent	
P4	0	backward release	
	0	reversal	
	1	gap	
P5	1	open-circuit potential	
	1	+ / A	
	2	- / A	
P6	0	dial pulse frequency	
	0	10 Hz	
	1	20 Hz	
P7	0	after flash signal from the DID line if the subscriber is busy	
	0	override	
	1	call AC	
	2	no reaction	
P8	0	seizure inhibition	

Parameter	Default	Description	Remark
		0 A/B potential free	
		1 A/B potential reversed	
		2 A/B potential same as for open circuit	
P9	0	if CO don't release	
		0 line alarm	
		1 no line alarm	
P10	0	supervision time after release	
		0 line alarm after 30 sec. on missing release acknowledgement	
		n line alarm after n*30 sec.	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	forward release from CO	
		0 process	
		1 ignore	

(4): DB_AM_DEV_ASFS: BWFS

Longtimer	Default (ms)	Description	Remark
L1	748	forced pause between end-of-dial and answer (300-1000 ms)	
L2	20	min. time for DID pulse (16-44 ms)	
L3	80	min. time for 50 Hz release pulse (60-200 ms)	
L4	328	max. time for charge pulse (100-500 ms)	
L5	400	time for reestablishment of circuit (100-800 ms)	
L6	250	duration of circuit establishment pulse (100-800 ms)	
L7	1000	max. seizure pulse length until recognition of seizure acknowledge from CO (80-5000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	132	minimum charge pulse pause (80-200 ms)	
S2	60	min. time for charge pulse (40-80 ms)	
S3	100	max. time for DID pulse (80-132 ms)	
S4	16	min. time for DID Pulse pause (12-32 ms)	
S5	84	max. time for DID pulse pause (68-88 ms)	
S6	80	max. time for call tracing pre-pulse (40-120 ms)	
S7	28	min. time for recognition of seizure acknowledgement (12-80 ms)	
S8	28	min. time for establishment acknowledgement (12-80 ms)	12 ms for F2-CO
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	answering with	
		0 - / A	
		1 + / A	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(5): DB_AM_DEV_QSFS: TSRTT

Longtimer	Default (ms)	Description	Remark
L1	12000	ringing pause supervision (5000-32000 ms)	
L2	100	signal key duration (50-500 ms)	
L3	300	min. ringing time (60-500 ms)	
L4	328	max. charge pulse (160-500 ms)	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	132	minimum charge pulse pause (80-200 ms)	
S2	60	min. time for charge pulse (40-80 ms)	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	1	grounding	

Parameter	Default	Description	Remark
		1 a- wire	
		3 a- and b- wire	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(6): DB_AM_DEV_LSLN: ICLLP

Longti-mer	Default (ms)	Description	Remark
L1	500	forced pause between ringing or busy tone to CO (100-12000 ms)	
L2	220	release interruption (ICLLP only) (80-1000 ms)	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	40	min. time for incoming seizure from CO (20-250 ms)	
S2	24	min. time for DID pulse (12-40 ms)	
S3	96	DID pulse tolerance (40-120 ms)	
S4	16	min. time for DID pulse pause (12-40 ms)	
S5	112	DID pulse pause tolerance (40-200 ms)	
S6	120	min. time for release from CO (40-250 ms)	
S7	160	end-of-dial interruption (ICLLP only) (60-240 ms)	
S8	60	difference between end-of-dial and release interruption (S7-S6) (20-250 ms)	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	4	end-of-dial signal to CO (after answer from DH)	
		0 no independent	
		1-6 independent after 1-6 digits	
P2	0	CO-traffic	
		0 release	
		1 reserve	
P3	0	Internal-traffic	
		0 release	
		1 reserve	
		2 reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(7): DB_AM_DEV_LSLP: ICLFB

Longtimer	Default (ms)	Description	Remark
L1	500	forced pause between ringing or busy tone to CO (100-12000 ms)	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	40	min time for incoming seizure from CO (20-250 ms)	
S2	24	min. time for DID pulse (12-40 ms)	
S3	96	DID pulse tolerance (40-120 ms)	
S4	16	min. time for DID pulse pause (12-40 ms)	
S5	112	DID pulse pause tolerance (40-200 ms)	
S6	120	min. time for release from CO (40-250 ms)	
S7	0	reserve	
S8	60	difference between end-of-dial and release interruption (S7-S6) (20-250 ms)	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	4	end-of-dial signal to CO (after answer from DH)	
		0 no independent	
		1-6 independent after 1-6 digits	
P2	0	CO-traffic	
		0 release	
		1 reserve	
P3	0	internal-traffic	
		0 release	
		1 reserve	
		2 reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(8): DB_AM_DEV_LSLU: ICLIB

Longtimer	Default (ms)	Description	Remark
L1	500	forced pause between ringing or busy tone to CO (100-12000 ms)	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	40	min. time for incoming seizure from CO (20-250 ms)	
S2	24	min. time for DID pulse (12-40 ms)	
S3	96	DID pulse tolerance (40-120 ms)	
S4	16	min. time for DID pulse pause (12-40 ms)	
S5	112	DID pulse pause tolerance (40-200 ms)	
S6	120	min. time for release from CO (40-250 ms)	
S7	0	reserve	
S8	60	difference between end-of-dial and release interruption (S7-S6) (20-250 ms)	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	4	end-of-dial signal to CO after answer from DH	
		0 no independent	
		1-6 independent after 1-6 digits	
P2	0	CO-traffic	
		0 release	
		1 reserve	
P3	0	internal-traffic	
		0 release	
		1 reserve	
		2 reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(9): DB_AM_DEV_HKZCH: BWMSCH

Longtimer	Default (ms)	Description	Remark
L1	10000	supervision of subsequent ringing (1000-30000 ms)	
L2	500	forced pause between ringing or busy tone to CO (100-12000 ms)	
L3	240	ground pulse to CO (24-3000 ms)	
L4	120	flash to CO (24-2000 ms)	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	140	AC ring detection 25/50 Hz (80-250 ms)	only if P3=0
S2	200	AC ring detection 16 2/3 Hz (80-250 ms)	only if P3=1
S3	144	S1 + 4 (80-250 ms)	
S4	204	S2 + 4 (80-250 ms)	
S5	40	min. time for incoming seizure from CO (20-250 ms)	
S6	120	min. time for release from CO (40-250 ms)	
S7	24	min. time for DID pulse (12-40 ms)	
S8	96	DID pulse tolerance (40-120 ms)	
S9	16	min. time for DID pulse pause (12-40 ms)	
S10	112	DID pulse pause tolerance (40-200 ms)	
S11	60	AC ring detection of pause (12-250 ms)	
S12	60	release 1 (20-250 ms)	

Shorttimer	Default (ms)	Description	Remark
S13	80	release 2 (20-250 ms)	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	for "transparent" call	
		0 proceed answer with rng_off	
		1 proceed answer with rng_on	
P2	0	on release	
		0 no signal to CO	
		1 signal to CO	
P3	0	ringing AC	
		0 25/ 50 Hz	
		1 16 2/3 Hz	
P4	0	hardware	
		0 with COFI	
		1 with SICOFI	
P5	0	on release	
		0 backward	
		1-2 reserve	
P6	4	end-of-dial signal to CO	
		0 after message from DH	
		1-6 independent after 1-6 digits	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(10): DB_AM_DEV_LSLCH: ICLCH

Longti-mer	Default (ms)	Description	Remark
L1	10000	supervision of subsequent ringing (1000-30000 ms)	
L2	500	forced pause betw. ringing or busy tone to CO (100-12000 ms)	
L3	240	ground pulse to CO (24-3000 ms)	
L4	120	flash to CO (24-2000 ms)	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	140	ringing AC detection 25/50 Hz (80-250 ms)	only if P3=0
S2	200	ringing AC detection 16 2/3 Hz (80-250 ms)	only if P3=1
S3	144	S1+ 4 (80-250 ms)	
S4	204	S2 + 4 (80-250 ms)	
S5	40	noise pulse inhibit for seizure by CO (20-250 ms)	
S6	120	noise pulse inhibit for release by CO (40-250 ms)	
S7	24	min. DID pulse (12-40 ms)	
S8	96	DID pulse tolerance (40-120 ms)	
S9	16	min. DID pulse pause (12-40 ms)	
S10	112	DID pulse pause tolerance (40-200 ms)	
S11	60	AC ring detection of pause (12-250 ms)	
S12	60	release 1 (20-250 ms)	

Shorttimer	Default (ms)	Description	Remark
S13	80	release 2 (20-250 ms)	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	for "transparent" call	
	0	proceed answer with RNG_OFF	
	1	proceed answer with RNG_ON	
P2	0	on release	
	0	no signal to CO	
	1	signal to CO	
P3	0	AC ring	
	0	25/ 50 Hz	
	1	16 2/3 Hz	
P4	0	hardware	
	0	with COFI	
	1	with SICOFI	
P5	0	on release	
	0	backward	
	1-2	reserve	
P6	4	end-of-dial signal to CO	
	0	after message from DH	
	1-6	independet after 1-6 digits	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(11): DB_AM_DEV_ASSR : BWSR

Longtimer	Default (ms)	Description	Remark
L1	200	PBX release time (40-1000 ms)	
L2	200	CO release time minimum (50-1000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	150	min. time release acknowledgement from CO after release from PBX (50-1000 ms)	
L5	4	dial tone transmission delay (4-2500 ms)	
L6	5000	splash ring after early guard (1000-15000 ms)	
L7	10000	remote blocking after CO do not release (1000-30000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	100	signal key duration (50-250 ms)	
S2	70	min. time for charge pulse (16-250 ms)	
S3	90	minimum charge pulse pause (16-250 ms)	
S4	250	min. ringing time (20-250 ms)	
S5	0	answer supervision time outgoing (in seconds) (1-250 s)	
S6	0	release supervision time (in seconds) (1-250 s)	
S7	4	delay for through-connection of speech path (4-250 ms)	
S8	40	min. time for reversal of polarity at CO (20-200 ms)	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	for incoming seizure	
	0	without loop monitoring and early guard	
	1	with early guard and ringing current	
P2	0	call charge recording	
	0	without	
	1	charge with 50 Hz/12 Hz/16 Hz	
	2	silent reversal	
P3	0	if used as a station line (BW only)	
	0	grounding of one wire	
	1	grounding of both wires	
P4	0	function	
	0	with loop supervision	
	1	without loop supervision	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	if CO do not release	
	0	line alarm	
	1	no line alarm	
P14	0	release by CO	
	0	process	
	1	ignore	

(12): DB_AM_DEV_ASLS : BW

Longtimer	Default (ms)	Description	Remark
L1	100	signal key duration (50-1000 ms)	
L2	600	CO release time minimum (50-1000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	150	min. time release acknowledgement from CO after release from PBX (50-1000 ms)	
L5	150	difference between min. and max. charge pulse time (20-1000 ms)	
L6	5000	splash ring after early guard (1000-15000 ms)	
L7	10000	remote blocking after CO do not release (1000-30000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	200	PBX release time (40-250 ms)	
S2	70	min. time for charge pulse (50-250 ms)	
S3	90	minimum charge pulse pause (16-250 ms)	
S4	90	answer supervision time outgoing (in seconds) (1-250 s)	
S5	90	release supervision time (in seconds) (1-250 ms)	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S14	0	reserve	

Parameter	Default	Description	Remark
P1	1	for incoming seizure	
	0	without loop monitoring and early guard	
	1	with early guard and ringing current	
P2	0	call charge recording	
	0	without	
	1	with 50 Hz	
P3	0	if used as a station line (BW only)	
	0	grounding of one wire	
	1	grounding of both wires	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(13): DB_AM_DEV_QSTF: TSC

Longti-mer	Default (ms)	Description	Remark
L1	1000	forward release (300-4000 ms)	
L2	1000	backward release (200-4000 ms)	
L3	6500	remote blocking begin (400-10000 ms)	
L4	1000	remote blocking end (200-4000 ms)	
L5	4300	evaluation range for release signals (200-8000 ms)	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	100	max. time for recognition of seizure pulse type2 (40-252 ms)	
S2	100	max. time for recognition of seizure pulse type1 (40-240 ms)	
S3	100	max. time for recognition of dial pulses (40-240 ms)	
S4	100	min. time for end-of-digit detection (40-240 ms)	
S5	140	sending time seizure, seizure type tie2 (60-252 ms)	
S6	60	sending time seizure, seizure type tie1 (24-200 ms)	
S7	60	sending time seizure, seizure type not specified (24-200 ms)	
S8	60	sending time seizure acknowledgement (24-200 ms)	
S9	60	sending time start-of-dial signal (24-200 ms)	
S10	60	sending time end-of-dial (24-200 ms)	
S11	60	sending time answer (24-200 ms)	

Shorttimer	Default (ms)	Description	Remark
S12	200	min. interval between signals to be sent (40-252 ms)	
S13	0	Glaretime (should: 40 ms)	only TMEW LWVAR=5/6/8
S14	0	Time between receive seizure and send seizure acknowledgement	only TMEW LWVAR=5/6/8
		0-6 send seizure acknowledgement controlled by DH	
		8-255 Time between seizure and send seizure acknowledgement (plus LW-delay from 25 ms)	If S14<>0, than DH-Timer: cha-dtim1:typedh=tie,reset4=20;

Parameter	Default	Description	Remark
P1	0	0 Standard TF-signaling	only TMEW LWVAR=5/6/8
		1 BOT signaling	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(14): DB_AM_DEV_ASLSR : DIDIT

Longti-mer	Default (ms)	Description	Remark
L1	600	time between end-of-dial and answer (100-1200 ms)	
L2	200	pause between answer and through-connection of speech path, if ringing at time of answer (100-3000 ms)	
L3	600	time between answer and release (100-1000 ms)	
L4	200	noise pulse inhibit for long distance exchange rering (40-800 ms)	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	52	min. time for incoming seizure (20-250 ms)	
S2	12	min. time for DID pulse (12-40 ms)	
S3	112	DID pulse tolerance (40-120 ms)	
S4	16	min. time for DID pulse pause (12-40 ms)	
S5	90	DID pulse pause tolerance (40-200 ms)	
S6	50	min. time for release from CO (40-250 ms)	
S7	40	min. time of ring current reception (8-100 ms)	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	end-of dial signal to CO	
		0 after message from DH	
		1-6 independent after 1-6 digits	
P2	0	through-connection	
		0 immediately with answer -also when ringing tone is applied	
		1 delayed by long_time L2 after answer	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(15): DB_AM_DEV_ASEC : BWEDS

Longtimer	Default (ms)	Description	Remark
L1	352	PBX release time (40-1000 ms)	
L2	600	CO release time minimum (50-1000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	150	min. time release acknowledgement from CO after release from PBX (50-1000 ms)	
L5	4	dial tone transmission delay (4-3000 ms)	
L6	5000	splash ring after early guard (1000-15000 ms)	
L7	10000	remote blocking after CO do not release (1000-30000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	100	signal key duration (50-250)	
S2	70	min. time for charge pulse (16-250 ms)	
S3	90	minimum charge pulse pause (16-250 ms)	
S4	250	min. ringing time (20-250 ms)	
S5	0	answer supervision time outgoing (in seconds) (1-250 s)	
S6	0	release supervision time (in seconds) (1-250 s)	
S7	4	delay for through-connection of speech path (4-250 ms)	
S8	40	min. time for reversal of polarity (20-200 ms)	
S9	180	switch over time for high impedance monitoring (in seconds) (60-250 s)	
S10	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	for incoming seizure	
	0	without loop monitoring and early guard	
	1	with early guard and ringing current	
P2	0	call charge recording	
	0	without	
	1	with 50 Hz	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	if CO do not release	
	0	line alarm	
	1	no line alarm	
P14	0	release from CO	
	0	process	
	1	ignore	

(16): DB_AM_DEV_ASDCL : BWLD

Longtimer	Default (ms)	Description	Remark
L1	352	PBX release time (40-1000 ms)	
L2	200	CO release time minimum (50-1000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	150	min. time release acknowledgement from CO after release from PBX (50-1000 ms)	
L5	4	delayed start-of-dial (4-3000 ms)	
L6	5000	splash ring after early guard (1000-15000 ms)	
L7	10000	remote blocking after CO do not release (1000-30000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	100	signal key duration (50-250)	
S2	70	min. time for charge pulse (16-250 ms)	
S3	90	minimum charge pulse pause (16-250 ms)	
S4	250	min. ringing time (20-250 ms)	
S5	0	answer supervision time outgoing (in seconds) (1-250 s)	
S6	0	release supervision time (in seconds) (1-250 s)	
S7	4	delay for through-connection of speech path (4-250 ms)	
S8	40	min. time for reversal of polarity (20-200 ms)	
S9	180	switchover time for high impedance monitoring (in seconds) (60-250 s)	
S10	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	for incoming seizure	
	0	with ring current	
	1	with early guard	
P2	0	call charge recording	
	0	without	
	1	50 Hz	
P3	0	if used as a station line (BW only)	
	0	grounding of one wire	
	1	grounding of both wires	
P4	0	function	
	0	normal	
	1	without loop supervision	
P5	0	0 for HW Q2288-X240-1..4	narrowband filter
	1	1 for HW Q2288-X240-5...	wideband filter
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	if CO do not release	
	0	line alarm	
	1	no line alarm	
P14	0	release from CO	
	0	process	
	1	ignore	

(17): DB_AM_DEV_ASGCL : BWLG

Longtimer	Default (ms)	Description	Remark
L1	352	PBX release time (40-1000 ms)	
L2	200	CO release time minimum (50-1000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	150	min. time release acknowledgement from CO after release from PBX (50-1000 ms)	
L5	4	dial tone transmission delay (4-3000 ms)	
L6	5000	splash ring after early guard (1000-15000 ms)	
L7	10000	remote blocking after CO do not release (1000-30000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	100	signal key duration (50-250)	
S2	70	min. time for charge pulse (16-250 ms)	
S3	90	minimum charge pulse pause (16-250 ms)	
S4	250	min. ringing time (20-250 ms)	
S5	0	answer supervision time outgoing (in seconds) (1-250 s)	
S6	0	release supervision time (in seconds) (1-250 s)	
S7	4	delay for through-conn. of speech path (4-250 ms)	
S8	40	min. time for reversal of polarity (20-200 ms)	
S9	180	switchover time for high impedance monitoring (in seconds) (60-250 s)	
S10	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	for incoming seizure	
	0	with ring current	
	1	with early guard	
P2	0	call charge recording	
	0	without	
	1	16 Hz	
P3	0	if used as a station line (BW only)	
	0	grounding of one wire	
	1	grounding of both wires	
P4	0	function	
	0	normal	
	1	without loop supervision	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	release from CO	
	0	process	
	1	ignore	

(18): DB_AM_DEV_ASQRS: BWLRS

Longti-mer	Default (ms)	Description	Remark
L1	150	min. ringing time (ringing noise suppression) (280-1000 ms)	
L2	250	gap supervision time (50-600 ms)	
L3	3900	supervision of subsequent ringing (1500-15000 ms)	
L4	210	min. time for reversal of polarity (100-1000 ms)	
L5	10000	remote blocking (1000-30000 ms)	
L6	160	delay for through-connection of speech path (50-800 ms)	
L7	408	max. charge pulse (30-1000 ms)	

Shortti-mer	Default (ms)	Description	Remark
S1	100	signal key duration (20-350 ms)	
S2	50	min. time for charge pulse (28-250 ms)	
S3	30	minimum charge pulse pause (8-250 ms)	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	operation as	
		0 trunk circuit	
		1 tie circuit without loop supervision	
		2 HKZ with loop supervision	
		3 trunk circuit with reversal	
P2	0	ring tripping	
		0 not delayed	
		1 delayed	
		2 loop and voice switching only in call pause	
P3	0	grounding	
		0 b wire	
		1 both wires	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	1	call charge release: registration of pulses after release	
		A) error advisory message + trunk blocking:	
		0 no further call charge recording	
		1 max. 1 charge pulse during 2 seconds	
		2 all charge pulses during 2 seconds	
		B) only error advisory message, no trunk blocking:	
		3 no further call charge recording	
		4 max. 1 charge pulse during 2 seconds	
		5 all charge pulses during 2 seconds	
		C) no error advisory message, only trunk blocking:	
		6 no further call charge recording	
		7 max. 1 charge pulse during 2 seconds	
		8 all charge pulses during 2 seconds	

Parameter	Default	Description	Remark
		D) nor error advisory message nor trunk blocking:	
		9 no further call charge recording	
		10 max. 1 charge pulse during 2 seconds	
		11 all charge pulses during 2 seconds	
		12 all charge pulses during seizure lookout	
P13	0	reserve	
P14	0	release from CO	
		0 process	
		1 ignore	
		2 line alarm	

(19): DB_AM_DEV_HKZFR: BWMFR

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reseizure guard time after outgoing call 200 ms - 5 s (standard: 2s)	only for HKZ-Hungary in DIUC64 LWVAR=F
L3	0	reseizure guard time after incoming call 200 ms - 5 s (standard: 2s)	only for HKZ-Hungary in DIUC64 LWVAR=F
L4	0	recognition time : release from CO after release from PABX 10 ms - 5 s (standard: 100 ms)	only for HKZ-Hungary in DIUC64 LWVAR=F
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parame-ter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	

Parameter	Default	Description	Remark
P3	0	seizure direction	only for HKZ-Hungary in DIUC64 LWVAR=F
		0 bothway directed	
		1 outgoing directed	
		2 incoming directed	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(20): DB_AM_DEV_DODFR : DODFR

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

154.6.2 Appendix 2, Part 2: Initblocks 21 till 40

(21): DB_AM_DEV_SOCOTFR: SOCFR

Longti-mer	Default (ms)	Description	Remark
L1	0	recognition time	only for P=1
		0 recognition time of idle 5000 ms (default)	
		10-30000 recognition time of idle (for P3=1 default: 100 ms)	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	idle code on line	SICOFI = 0 $a_f=a_b=1$ idle code SICOFI = 1 $a_f=a_b=0$ idle code
		0 ABCD - Bits =1101	
		1 ABCD - Bits =1001	
P2	0	dial tone supervision	
		0 without	
		1 with	
P3	0	hotline	
		0 release with release supervision release from line possible	
		1 hotline-release only from subscriber of HICOM possible	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(22): DB_AM_DEV_DIDIT: DIDIT

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	125	sending time for charge pulse (0-255ms)	only DIUC64 LWVAR=F
S2	200	min. sending time for charge pulse (0-255ms)	only DIUC64 LWVAR=F
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	waiting time for charges from system after release from line and the last charge pulse sending out 0 means 500ms 1-255 time in 100ms-steps	only DIUC64 LWVAR=F
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	type of dialing (incoming)	

Parameter	Default	Description	Remark
		0 pulse dialing	
		1 MFV (DTMF) - dialing (start dial via device handler)	
P2	0	send seizure to system	
		0 normal handling	
		1 DID with DGTPR	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(23): DB_AM_DEV_NDIDIT : NDIDIT

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(24): DB_AM_DEV_DODIT : DODIT

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	recognition time for forced release and max. pulse length of end of dial busy 0 means 50ms - no recognition of eod-busy 1-255 recognition time in ms	only DIUC64 LWVAR=F
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	recognition time of alarm in idle	

Parameter	Default	Description	Remark
		0 5 min	
		1-255 recognition time in 1 sec. steps	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(25): DB_AM_DEV_QSEMDD : TSEMD

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	idle signal	only DIUC64 LWVAR=0/F/G
	0	idle signal 1101 B	
	1	idle signal 1001 B	
P2	0	Proceed to send signal at DC5 delay dial - incoming	only DIUC64 LWVAR=0/F/G

Parameter	Default	Description	Remark
		0 send signal immediately after seizure	
		1 after start-of-dial signal	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	seizure acknowledgement - outgoing	only DIUC64 LWVAR=0/F/G
		0 with seizure acknowledgement	
		1 without seizure acknowledgement	
P14	0	end-of-dial signal - incoming	only DIUC64 LWVAR=0/F/G
		0 without end-of-dial signal	
		1 with end-of-dial signal	

(26): DB_AM_DEV_QSEMIID : TSEMI

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	idle signal	only DIUC64 LWVAR=0/F/G
	0	idle signal 1101 B	
	1	idle signal 1001 B	
P2	0	Proceed to send signal at DC5 delay dial - incoming	only DIUC64 LWVAR=0/F/G

Parameter	Default	Description	Remark
		0 send signal immediately after seizure	
		1 after start-of-dial signal	
P3	0	Reserve	
P4	0	Reserve	
P5	0	Reserve	
P6	0	Reserve	
P7	0	Reserve	
P8	0	Reserve	
P9	0	Reserve	
P10	0	Reserve	
P11	0	Reserve	
P12	0	Reserve	
P13	0	seizure acknowledgement - outgoing	only DIUC64 LWVAR=0/F/G
		0 with seizure acknowledgement	
		1 without seizure acknowledgement	
P14	0	end-of-dial signal - incoming	only DIUC64 LWVAR=0/F/G
		0 without end-of-dial signal	
		1 with end-of-dial signal	

(27): DB_AM_DEV_HKZALS70: BWALS70

Longti-mer	Default (ms)	Description	Remark
L1	0	glare time after outgoing seizure (300 ms - standard calls 800 ms - satellite calls)	only DIUC
L2	300	delay time of through connection on speech channel after dial-end at DTMF dialing (outgoing) (10-30000 ms)	
L3	500	glare time after outgoing seizure (10-30000 ms)	
L4	2000	outgoing guard time after forward release (10-30000 ms)	
L5	100	min. recognition time for forward release before answer at incoming calls (1-30000 ms)	only TMBLN
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	seizure routing for transmission (only DIUC)	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(28): DB_AM_DEV_IKZALS70: DIDALS70

Longti-mer	Default (ms)	Description	Remark
L1	300	supervision of seizure acknowledgement for outgoing calls (300 ms - standard calls 800 ms - satellite calls)	only DIUC
L2	300	delay time of through connection on speech channel after dial-end at DTMF dialing (outgoing) (10-30000 ms)	only TMBLN
L3	500	glare time after outgoing seizure (10-30000 ms)	only TMBLN
L4	2000	outgoing guard time after forward release (10-30000 ms)	only TMBLN
L5	100	min. recognition time for forward release at incoming HKZ-calls (1-30000 ms)	only TMBLN
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	type of dialing (incoming)	
		0 pulse dialing	
		1 DTMFdialing (start dial via device handler)	
P2	0	reserve	
P3	0	direction of seizure	only DIUC
		0 bothway	
		1 outgoing	
		2 incoming	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(29): DB_AM_DEV_NDIDN2: NDIDN2

Longti-mer	Defaul t (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Defaul t (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parame-ter	Defaul t	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(30): DB_AM_DEV_DIDN2: DIDN2

Longti-mer	Defaul t (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Defaul t (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parame-ter	Defaul t	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(31): DB_AM_DEV_DODN2: DODN2

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	1	plug-in time for outgoing calls	

Parameter	Default	Description	Remark
		0 30	
		1 30 sec	
		2 1 Min	
		3 2 Min	
		4 4 Min	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(32): DB_AM_DEV_IKZSF: BWFIN

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	1	plug-in time for outgoing calls	

Parameter	Default	Description	Remark
		0 30	
		1 30 sec	
		2 1 Min	
		3 2 Min	
		4 4 Min	
P3	0	seizure routing for transmission	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(33): DB_AM_DEV_IKZRSA: BWRSA

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	min. recognition time for charge pulse (if P5=1) (0-255 ms)	
S2	0	glare time after outgoing seizure at seizure acknowledgement supervision time	
		0-5 supervision time = 100ms	
		6-255 supervision time in ms	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	type of dialing	

Parameter	Default	Description	Remark
		0 MFC - R2 - dialing	
		1 DTMF dialing (Wahlabruf über Device Handler)	
P2	0	reserve	
P3	0	seizure direction	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	0	call charge indication	
		0 ab bit = 11	
		1 ab bit = 01	
		6 ab bit = 10	
		7 no charge from CO	
P5	0	call charge pulse recognition fixed or variable	
		0 fixed (72 ms)	
		1 variable (länge siehe S1)	
P6	0	dial tone supervision	
		0 no supervision	
		1 with supervision	
P7	0	reserve	
P8	0	"message" interface to DH at answer	
		0 send answer to DH (if P4=0)	
		1 not send answer to DH (if P4=0)	
		2 send answer to DH (if P4=1)	
		3 not send answer to DH (if P4=1)	
P9	0	executive override from CO on incoming calls	
		0 with	
		1 without	
P10	0	release request from CO on outgoing calls	
		0 with (200 ms)	
		1 without	
		2 with (400 ms)	
P11	0	C-, D- bit supervision	
		0 with supervision	
		1 without supervision	
P12	0	reserve	
P13	0	reserve	

Parameter	Default	Description	Remark
P14	0	reserve	

(34): DB_AM_DEV_IKZVRC: BWCHINA

Longtimer	Default (ms)	Description	Remark
L1	1000	transmission time for rering, ringback and forced break (300-2000 ms)	*)
L2	300	min. transmission time for status line signals (300-2000 ms)	*)
L3	300	min. pause between 2 pulsed signals (operator signals, return-call-to-operator, metering pulse) (300-2000 ms)	*)
L4	5000	supervision interval for metering pulse collection 0 without collection 1-30000 with collection /time interval in ms	*)
L5	5000	min. recognition interval for operator signals and return call to operator signals 0 recognition interval endless 1-30000 with recognition interval /time in ms	*)
L6	300	forward release recognition at incoming calls (300-2000 ms)	*)
L7	0	delayed speech path through connection 0 no delayed 1-30000 delayed in ms	*)

Shorttimer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	

Shorttimmer	Default (ms)	Description	Remark
S14	0	reserve	

Parameter	Default	Description	Remark
P1	2	dialling method	*)
	0	rotary dialling without digit integration Seizure acknowledge will be sent immediately	only for DIUC Q2085-X2
	1	not used	
	2	no rotary dialling; seizure acknowledgement will be sent immediately	
	3	no rotary dialling; sending of seizure acknowledgement under DH-control	
	4	not used	
	5	pulse dialling with digit integration seizure acknowledgement will be sent immediately	only for DIUC Q2185
P2	0	release repetition on outgoing side	*)
	0	no release repetition	
	1-245	release repetition with restricted number of release repetition attempts (P2=number of attempts plus 1)	
	255	release repetition with unrestricted number of release repetition attempts	
P3	0	signalling direction	*)
	0	bothway directed	
	1	outgoing directed	
	2	incoming directed	
P4	60	line release supervision time	*)
	0	no line supervision	
	1-250	line release supervision time in minutes	if COFIDX=0 then line release supervision disabled in conversation state else line release supervision enabled in conversation state
P5	1	outgoing guard time	
		0-200 guard time in seconds	

Parameter	Default	Description	Remark
P6	0	dial tone supervision	
		0 no dial tone supervision	
		1 dial tone supervision	
P7	120	answer supervision in case of outgoing calls	
		0 no answer supervision	
		1-250 answer supervision in seconds	
P8	0	malicious call tracing (MCT)	
		0 no tracing	
		1 tracing after timeout in case of forward release	
		2 tracing with MCT-line signal	
P9	0	metering pulse recognition	*)
		0 no metering pulse recognition	
		1 with metering pulse recognition	
P10	0	forced break recognition	*)
		0 no forced break recognition	
		1 with forced break recognition	
		2 forced break simulation (automatic override)	
P11	0	recognition of rering or ringback	*)
		0 no recognition (output C=1)	
		1 recognition of rering and ringback	
		2 recognition of rering	
		3 recognition of ringback	
		4 no recognition (output C=0)	
P12	0	return-call-to-operator	*)
		0 no return-call-to-operator	
		1-200 return-call-to-operator by sending 1-200 pulses (default = 4)	
P13	0	sending called party on-hook (clear back)	*)
		0 before and after forward release	
		1 only before forward release	
		2 only after forward release	
P14	0	signaling variants between seizure and answer	*)

Parameter	Default	Description	Remark
	0	seizure acknowledgement before answer	
	1	seizure acknowledgement and called subscriber -free/busy	
	2	seizure acknowledgement, initial code acknowledgement and called subscriber reached	

*) in case of DIUC Q2085-X V3.2 refer to table "Restrictions in case of the use of DIUC Q2085-X V3.2"

(34): DB_AM_DEV_IKZVRC : BWCHINA

Restrictions in case of the use of DIUC Q2085-X V3.2

Parameter	Value	Remark
P1	3	use 1 instead of 3
P2	all	no evaluation : fix default value 0
P3	all	additional value possible 3 = outgoing directed trunk from HICOM-system to bothway directed trunk of remote system
P4	all	special meaning of this parameter 2 = metering pulse recognition (input C) 3 = recognition of operator signals (input C) 4 = recognition of metering pulses and operator signals (input C) 5 = no recognition of signals (input C) default = 5
P9	all	not used : refer to P4
P10	all	not used
P11	all	not used: refer to P4
P12	all	not used
P13	all	not used
P14	all	not used
L1	all	no evaluation: fix default value 150
L2	all	no evaluation : fix default value 400
L3	all	no evaluation i: fix default value 260
L4	all	no evaluation : fix default value 0
L5	all	no evaluation : fix default value 1200
L6	all	no evaluation: fix default value 100
L7	all	no evaluation : fix default value 0

(35): DB_AM_DEV_DIDBELG: DIDBELG

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(36): DB_AM_DEV_DODBELG: DODBELG

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(37): DB_AM_DEV_ASELS: BWELS

Longtimer	Default (ms)	Description	Remark
L1	352	PBX release time (40-1000 ms)	
L2	200	CO release time minimum (50-1000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	150	min. time release acknowledgement from CO after release from PBX (50-1000 ms)	
L5	4	dial tone transmission delay (4-3000 ms)	
L6	5000	splash ring after early guard (1000-15000 ms)	
L7	10000	remote blocking (1000-30000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	100	signal key duration (50-250 ms)	
S2	70	min. time for charge pulse (16-250 ms)	
S3	90	minimum charge pulse pause (16-250 ms)	
S4	125	min. ringing time (20-250 ms)	
S5	0	answer supervision time outgoing (in seconds) (1-250 s)	
S6	0	release supervision time (in seconds) (1-250 s)	
S7	4	delay for through-conn. of speech path (4-250 ms)	
S8	40	min. time for reversal of polarity (20-250 ms)	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	call charge recording	
		0 without	
		1 16 KHZ	
		2 silent reversal	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	release by CO	
		0 process	
		1 ignore	

(38): DB_AM_DEV_ASELSC: BWELSC

Longtimer	Default (ms)	Description	Remark
L1	352	PBX release time (40-1000 ms)	
L2	200	CO release time minimum (50-1000 ms)	
L3	10000	supervision of subsequent ringing (1000-15000 ms)	
L4	150	min. time release acknowledgement from CO after release from PBX (50-1000 ms)	
L5	4	dial tone transmission delay (4-3000 ms)	
L6	5000	splash ring after early guard (1000-15000 ms)	
L7	10000	remote blocking (1000-30000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	100	signal key duration (50-250 ms)	
S2	70	min. time for charge pulse (16-250 ms)	
S3	90	minimum charge pulse pause (16-250 ms)	
S4	125	min. ringing time (20-250 ms)	
S5	90	answer supervision time outgoing (in seconds) (1-250 s)	
S6	90	release supervision time (in seconds) (1-250 s)	
S7	4	delay for through-conn. of speech path (4-250 ms)	
S8	40	min. time for reversal of polarity (20-250 ms)	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	call charge recording	
		0 without	
		1 16 KHZ	
		2 silent reversal	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	release by CO	
		0 process	
		1 ignore	

(39): DB_AM_DEV_SMFSPA: SOCSPA

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	1	seizure direction	
		1 outgoing	
		2 incoming	

Parameter	Default	Description	Remark
P4	0	reserve	
P5	90	dial-end supervision for outgoing calls	
		0 without supervision	
		1-200 supervision in seconds	
P6	90	dial-end supervision for incoming calls	
		0 without supervision	
		1-200 supervision in seconds	
P7	60	answer supervision for incoming calls	
		0 without supervision	
		1-200 supervision in seconds	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(40): DB_AM_DEV__EM_TFZ : TSTFZ

Longti-mer	Default (ms)	Description	Remark
L1	60	recognition time for low-level signal (abcd=1101)	german: Tiefpegel
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	type of sending high-level signal	german: Hochpegel
	0	variant 1 (abcd=0001)	
	1	variant 2 (abcd=0101)	
P2	0	c-bit alarm supervision	

Parameter	Default	Description	Remark
		0 no supervision	
		1 with supervision	
P3	0	seizure direction	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	9	answer supervision for outgoing calls	
		0 no supervision	
		1-255 supervision in 10 seconds steps	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	9	answer supervision for incoming calls	
		0 no supervision	
		1-255 supervision in 10 seconds steps	
P12	0	seizure type	
		0 variant 1 regular type of normal seizure	
		1 variant 2 spezial type of normal seizure	
P13	0	reserve	
P14	0	reserve	

154.6.3 Appendix 2, Part 3: Initblocks 41 till 60

(41): DB_AM_DEV_EM_EB5_NAL: EB5NAL

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	

Parameter	Default	Description	Remark
P3	0	signaling direction	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	intercept to attendant for backward dialing on outgoing calls	
		0 no intercept to attendant	
		1 with intercept to attendant	(only test)
P9	1	override for EB5-system for incoming calls	
		0 intercept to attendant	
		1 override on busy subscriber	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	1	send blocking signal	
		0 blocking with a-bit	
		1 blocking with b-bit	
		2 blocking with c-bit	
P14	1	send block acknowledgement signal	
		0 no block acknowledgement signal	
		1 block acknowledgement signal with b-bit impulse	

(42): DB_AM_DEV_IKZPOLEN0: BWPOLO

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing method	
	0	pulse dialing	
	1	DTMF dialing with CO register	
	2	MFC dialing	
P2	0	reserve	

Parameter	Default	Description	Remark
P3	0	signaling direction	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	7	call charge indication	
		7 no charges from CO (basic version)	
		8 charges from CO (metering version) ab=00	
P5	0	reserve	
P6	0	dial tone supervision	
		0 without	
		1 with	
P7	20	answer supervision on outgoing calls	
		0 no supervision	
		1-200 supervision in 10 seconds steps	
P8	0	reserve	
P9	0	reserve	
P10	2	release request from CO on outgoing calls	
		2 with forced release (ab=10-metering version)	
		3 with clear back or forced release	
P11	0	idle code on line	
		0 idle code=54H for new systems at E10B (CCITT)	
		1 idle code=55H for old systems at E10A	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(43): DB_AM_DEV_IKZPOLEN1 : BWPOL1

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing method	
	0	pulse dialing	
	1	MFV dialing with CO register	
	2	MFC dialing	
P2	0	reserve	

Parameter	Default	Description	Remark
P3	0	signaling direction	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	7	call charge indication	
		7 no charges from CO (basic version)	
		8 charges from CO (metering version) ab=00	
P5	0	reserve	
P6	0	dial tone supervision	
		0 without	
		1 with	
P7	20	answer supervision on outgoing calls	
		0 no supervision	
		1-200 supervision in 10 seconds steps	
P8	0	reserve	
P9	0	reserve	
P10	2	release request from CO on outgoing calls	
		2 with forced release (ab=10-metering version)	
		3 with clear back or forced release	
P11	0	idle code on line	
		0 idle code=54H for new systems at E10B (CCITT)	
		1 idle code=55H for old systems at E10A	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(44): DB_AM_DEV_IKZCSFRK: BWCSK

Longti-mer	Default (ms)	Description	Remark
L1	40	seizure detection for incoming calls (10-200 ms)	
L2	200	supervision of seizure acknowledgement for outgoing calls (200-5000 ms)	
L3	100	alarm detection (100-10000 ms)	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	2	dialing method	

Parameter	Default	Description	Remark
		0 pulse dialing	
		1 MFV dialing with CO register	
		2 MFC dialing	
P2	120	clear back supervision time for outgoing calls after answer	
		0 no supervision	
		1-255 supervision time in 1-seconds steps	
P3	0	signaling direction	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	6	call charge simulation with answer for outgoing calls	
		6 without simulation (metering version)	
		7 with charge simulation (universal version)	
P5	0	release supervision on incoming calls	
		0 no supervision	
		1-255 supervision time in 10 seconds steps for slovak 12 =120 Sec.	
P6	0	dial tone supervision for outgoing calls	
		0 without	
		1 with	
P7	12	answer supervision for outgoing calls	
		0 no supervision	
		1-255 supervision time in 30 second steps	
P8	0	malicious call tracing	
		0 without	
		2 with MTC line signal	
P9	0	override from CO	
		0 ignore signal	
		1 override on subscriber	
		2 intercept to attendant	
P10	0	forced release from CO	
		0 possible	
		1 no possible	
P11	0	malicious call tracing switch off for outgoing calls if A-subscriber release	
		0 forward release after registration	
		1 wait or release from CO after registration	

Parameter	Default	Description	Remark
P12	0	reaction for wrong bit combination on incoming calls	
	0	send forced release - line signal	
	1	send busy tone from DH	not implemented
P13	0	send test seizure for outgoing calls	
	0	without	
	1	with, if no reaction of CO on forward release	
P14	0	czech / slovak signaling	
	0	czech signaling	
	1	slovak signaling	

(45): DB_AM_DEV_HKZCSFRU: BWCSU

Longtimer	Default (ms)	Description	Remark
L1	80	seizure detection for incoming calls (10-200 ms)	
L2	2000	supervision of seizure acknowledgement for outgoing calls (200-5000 ms)	
L3	10000	alarm detection (100-10000 ms)	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing method	

Parameter	Default	Description	Remark
		0 pulse dialing	
		1 MFV dialing with CO register	
		2 MFC dialing	
P2	0	clear back supervision time for outgoing calls after answer	
		0 no supervision	
		1-255 supervision time in 1-seconds steps	
P3	0	signaling direction	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	6	call charge simulation with answer for outgoing calls	
		6 without simulation (metering version)	
		7 with charge simulation (universal version)	
P5	0	supervision of forward release	
		0 no supervision	
		1-255 supervision time in 10 s.-steps for Slovak 12=120s	
P6	1	dial tone supervision for outgoing calls	
		0 without	
		1 with	
P7	0	answer supervision for outgoing calls	
		0 no supervision	
		1-255 supervision time in 30 seconds steps	
P8	0	malicious call tracing	
		0 without	
		2 with MTC line signal	
P9	0	override from CO	
		0 ignore signal	
		1 override on subscriber	
		2 intercept to attendant	
P10	0	forced release from CO	
		0 possible	
		1 no possible	
P11	0	reserve	
P12	0	reserve	
P13	0	send test seizure for outgoing calls	

Parameter	Default	Description	Remark
		0 without	
		1 with, if no reaction of CO on forward release	
P14	0	reserve	

(46): DB_AM_DEV_IKZDK: BWDK

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	signaling direction	

Parameter	Default	Description	Remark
		0 bothway	
		1 outgoing	
		2 incoming	
P4	10	call charge simulation for outgoing calls	
		9 call charge on a-bit; answer on b-bit	
		10 call charge on b-bit; no answer	
P5	0	reserve	
P6	1	dial tone supervision for outgoing calls	
		0 without	
		1 with	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	"rering" signal	
		0 evaluate	
		1 ignore	
P11	0	reserve	
P12	0	reserve	
P13	1	send inhibit	
		0 ab-bit = 11	
		1 ab-bit = 00	
P14	0	reserve	

(47): DB_AM_DEV_HKZDK : BWMDK

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	signaling drection	

Parameter	Default	Description	Remark
		0 bothway	
		1 outgoing	
		2 incoming	
P4	10	call charge simulation for outgoing calls	
		9 call charge on a-bit; answer on b-bit	
		10 call charge on a-bit; no answer	
P5	0	reserve	
P6	1	dial tone supervision for outgoing calls	
		0 without	
		1 with	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	"rering" signal	
		0 evaluate	
		1 ignore	
P11	0	reserve	
P12	0	reserve	
P13	1	send inhibit	
		0 ab-bit = 11	
		1 ab-bit = 00	
P14	0	reserve	

(48): DB_AM_DEV_OB: OB

Longti-mer	Default (ms)	Description	Remark
L1	200	min. time for a valid signal or signal (20-5000 ms)	TMSFP: 300 ms
L2	1500	sending time for outgoing seizure (400-3000 ms)	TMSFP: 1000 ms
L3	1500	sending time release or release acknowledge (400-3000 ms)	TMSFP: 1000 ms
L4	1000	ignore incoming signals after end of send /end of receive (500-2000 ms)	
L5	10000	outgoing guard time (5000-30000 ms)	
L6	10000	release acknowledgement supervision (5000-30000 ms)	
L7	1000	ignore incoming signals after end-of-dial (if P8=2 or 3) (500-5000 ms) max. time for valid signals and min. sending time for blocking (if P14= 1) (5-30 s)	only TMLBL only TMSFP: 10 s

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	listener / control channel 0 listener channel 1 control channel	only DIUC64 LWVAR=F/G
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	release	
		0 no release signal	
		1 release signal	
P2	0	release acknowledgement	
		0 no release acknowledgement	
		1 with release acknowledgement (if P1=1)	
P3	20	call time supervision	TMSFP: 0
		0 without supervision	
		1-255 supervision time in 30 sec. steps	
P4	0	direct inward dialing (pseudo-DID)	TMLBL
		0 no pseudo-function	
		1 with pseudo-function	only TMLBL X200
		2 selectiv ringing-Attention: LW-error	
P5	0	level switching	TMLBL,TMEMW,TMSFP
		0 without level switching	
		1 with level switching	
P6	0	line adaptation	only TMLBL
		0 real impedance with 3,3 kOhm (Party line) LIN_OFF, RX_OFF	for polen-trunk cofidx=0 long line for polen-trunk cofidx=1 short line for polen-station cofidx=4 long line for polen-station cofidx=5 short line
		1 real impedance no party line function LIN_ON, RX_OFF	no valid sicofi-data available
		2 complex impedance with 3,3 kOhm (Party line) LIN_OFF, RX_ON	for BRD-trunk cofidx=2 long line for BRD-trunk cofidx=3 short line for BRD-station cofidx=6 long line for BRD-station cofidx=7 short line
		3 complex impedance no party line function LIN_ON, RX_ON	no valid sicofi-data available
P7	1	answer supervision for incoming traffic	TMLBL,TMSFP
		0 without answer supervision	
		1-255 supervision time in 30 sec. steps	

Parameter	Default	Description	Remark
P8	0	subsequent ringing before answer (only if P1=0)	
		0 subsequent ringing results in release und new seizure	
		1 ignore subsequent ringing	
		2 subsequent ringing after EOD results in call to attendant	only on DITW with DTMF-DID or on digit initialization
		3 subsequent ringing after EOD busy results in override/camp-on, subsequent ringing after EOD-free results in call to attendant	only on DITW with DTMF-DID or on digit initialization
		12 simulation of subsequent ringing if EOD busy: call on attendant	only TMSFP
		13 simulation of subsequent ringing if EOD busy: override	only TMSFP
P9	0	subsequent ringing on state of call (only if P1=0)	
		0 subsequent ringing results in release und new seizure	
		1 ignore subsequent ringing	
		2 send 2 kHz continuous tone	only TMLBL
		3 send 2 kHz intermittent-tone	only TMLBL
P10	3	tone signal time (if P9=2 or 3)	only TMLBL
		0 sending time = 255 sec.	
		1-255 sending time in 1 sec. steps	
P11	0	tone-frequency (if P9=2 or3)	
		0 400/450 Hz	
		1 450 Hz	
		2 500/550 Hz	
		3 1000/2000 Hz	
P12	0	seizure signaling	TMSFP, DIUC64
		0 seizure with line signaling	
		1 outgoing seizure without line signaling, without refresh	
		2 outgoing seizure without line signaling, with refresh	only DIUC64 LWVAR=F/G
		3 automatic incoming seizure without line signaling, without refresh	only DIUC64 LWVAR=F/G
		4 automatic incoming seizure without line signaling, with refresh	only DIUC64 LWVAR=F/G

Parameter	Default	Description	Remark
P13	0	outgoing reseizure lockout for lines without release signal	only TMSFP
		0 without outgoing reseizure lockout time	
		1 with outgoing reseizure lockout time (L5)	
P14	0	out of service / blocking signaling	only TMSFP
		0 no signal	
		1 sending continuous signal	

(49): DB_AM_DEV_DIUCQ 421: DIUCQ421

Longtimer	Default (ms)	Description	Remark
L1	96	send seizure acknowledgement after detection (30-800 ms)	
L2	1000	message pulse on collect call (if P11=1 or 2) (100-5000 ms)	
L3	2000	finish character pulse on collect call (if P11=1 or 2) (100-5000 ms)	
L4	10000	detection of faulty bit combinations from line (1000-30000 ms)	
L5	200	detection time of forced release of CO on outgoing calls (100-800 ms)	
L6	400	max. time for charge pulse (300-800 ms)	
L7	5000	supervision of seizure acknowledgement after sending "seizure" (1000-10000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	60	min. time for charge pulse (0-255 ms)	
S2	0	min. time for dial-end signal (if P14<>0) (0-255 ms)	
S3	0	send dial-end signal (if P14<>0) (0-255 ms)	
S4	120	min. time for call-back signal or override signal via c-bit (0-255 ms)	
S5	0	release acknowledge supervision on outgoing traffic (only if P4=7)	
		0 without supervision	
		1 with release acknowledge supervision (L4)	
S6	4	Time after release forward, into the call charge pulses still are accepted	only DIUC64 LWVAR=F/G
		0 500 ms	
		1-255 time in seconds	

Shorttimmer	Default (ms)	Description	Remark
S7	0	time for clear back recognition on outgoing traffic (talk state) (only if P4=7)	
	0	normal recognition time: 60ms	
	1-255	delayed recognition time (time in seconds)	
S8	0	rering after clear back of B-subscriber (on incoming traffic)	
	0	line without rering signal	
	1	rering signal ignore	
	2	rering signal on a-bit (call to attendant)	
	3	rering signal on c-bit (call to attendant)	
S9	0	false answer signal on incoming traffic	
	0	false answer signal is not to be sent	
	1	false answer signal is to be sent	
S10	0	line with call trace signal for incoming and outgoing traffic (nur wenn P4=7)	
	0	line without call trace signal	
	1	line with call trace signal	
S11	0	answer supervision for outgoing traffic after end-of-dial	
	0	without answer supervision	
	1-225	with answer supervision (time in seconds)	
S12	0	absence from seizure acknowledge on outgoing traffic	
	0	keep seizure signal, after L7 blocking message to the system.	
	1	after L7 send idle code, after P5 line available for new outgoing seizures.	
S13	0	invalid bit combinations in talk state (incoming and outgoing traffic) (on outgoing traffic only if P4=0 oder P4=7)	
	0	will be ignored	
	1	will be considered as fault	
S14	0	time for release recognition on incoming traffic after end-of-dial	
	0	default recognition time: 100 ms	
	1	delayed recognition time: 240 ms	

Parameter	Default	Description	Remark
P1	2	dialing method after incoming seizure	
		0 digit dialing (start of-pulsing immediately)	
		1 MFV dialing (start of-pulsing via DH)	
		2 MFC dialing (start.of-pulsing immediately)	
P2	0	forced release from HICOM on incoming calls	
		0 without forced release	
		1 with forced release	
		2 with forced release before and after answer : in case of fault and by clear back of system	only DIUC64 LWVAR=F/G
P3	0	seizure routing	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	7	call charge indication on outgoing calls	
		0 call charge receive $a_b b_b = 11$	
		1 call charge receive $a_b b_b = 01$ (signalling without answer and backward release)	
		3 call charge receive $a_b b_b = 00$	
		6 call charge receive $a_b b_b = 10$	
		7 no call charge receive	
		8 call charge pulses on c-bit after answer	
		9 call charge pulses on c-bit before and after answer	
		16 call charge send $a_b b_b = 11$	only DIUC64 LWVAR=F/G
		32 call charge send and receive $a_b b_b = 11$	only DIUC64 LWVAR=F/G
P5	24	reseizure lookout time outgoing	
		1-255 multiple of 250 ms	
P6	0	outgoing dial tone supervision	
		0 no supervision	
		1 supervision	
P7	90	answer supervision at outgoing calls	
		0 no supervision	
		1-255 supervision	
P8	0	call charge simulation with answer from line	

Parameter	Default	Description	Remark
		0 no charge simulation	
		1 with charge simulation with answer	
P9	0	override signalling on incoming traffic	
		0 line without override signal	
		1 call to attendant on a-bit	
		2 call to attendant on b-bit	
		3 override on a-bit ignore	
		4 override on b-bit ignore	
		5 override on a-bit (begin and end recognition)	
		6 override on b-bit (begin and end recognition)	
		7 call to attendant on c-bit (only begin recognition)	
		8 automatic override 2.5s after end-of-dial	
		9 automatic call to attendant 2.5s after end-of-dial	
		10 override on a-bit (only begin recognition)	
		11 override on b-bit (only begin recognition)	
P10	1	forced release from CO on outgoing calls	
		0 without forced release	
		1 with forced release	
P11	0	answer procedure for collect call with answer subscriber B	
		0 send normal signal to CO	
		1 answer pulse (L2), finish char. (L3) send message to CO	
		2 message to CO if ready for collect call answer pulse (L2), finish char. (L3) send message to CO, if not ready for collect call	
P12	0	answer from line send to DH	
		0 answer from line send to DH	
		1 answer from line not send to DH	
P13	0	dialing pulse (only if P1=0)	
		0 dialing on a-bit	
		1 dialing on b-bit	
P14	0	end of dial / others	

Parameter	Default	Description	Remark
	0	without end of dial	
	1	with end of dial (ab bb = 10)	
	2	without end-of-dial, for use with ITALTECO, during the put-in-service-procedure a received 00-signal from line will be respond with 10-idle code, not processed like a wrong line signal	only DIUC64 LWVAR=F/G
	3	without end-of-dial, during the put-in-service-procedure send blocking signal 11 to line until incoming seizure 00 from line can be processed - for bothway or incoming directed trunks	only DIUC64 LWVAR=F/G only if P3=0/2

(50): DB_AM_DEV_DIUCBRAS: DIUCBRAZ

Longti-mer	Default (ms)	Description	Remark
L1	5000	release acknowledgement supervision after forward release (2000-20000 ms)	
L2	1000	pause between answer and backward release (collect call) (only for P11=1 or 2) (1000-10000 ms)	
L3	2000	pause between backward release and answer (collect call) (only for P11=1 or 2) (1000-10000 ms)	
L4	150	send time for short pulses (120-180 ms)	
L5	600	send time for long pulses (480-720 ms)	
L6	80	min. receive time for short pulses (60-100 ms)	
L7	300	max. receive time for short pulses (200-400 ms)	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing method	
		0 digit dialing	
		1 MFV dialing	
		2 MFC dialing	
P2	0	reserve	
P3	0	seizure routing	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	0	reserve	
P5	24	reseizure lookout time outgoing	
		1-255 multiple of 250 ms	
P6	0	outgoing dial tone supervision	
		0 no supervision	
		1 supervision	
P7	90	answer supervision on outgoing calls	
		0 no supervision	
		1-255 supervision	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	1	answer procedure for collect call	
		0 normal answer signal to CO	
		1 answer/clear back/answer to CO	
		2 answer to CO if ready for collect call	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(51): DB_AM_DEV_HKZA: BWA

Longti-mer	Default (ms)	Description	Remark
L1	200	time for flash or ground trunk (60-500 ms)	
L2	10000	supervision of subsequent ringing before answer in incoming traffic (4000-15000 ms)	
L3	100	gap recognition time for release (16-200 ms)	
L4	400	- delay for through-connection of speech path - delay for current supervision after answer in incoming traffic - minimum time for answer (100-2000 ms)	
L5	100	minimum time for for change resp. rechange of polarity recognition (16-200 ms)	
L6	125	minimum time for ring recognition (100-500 ms)	
L7	5000	minimum time for idle current supervision (100 - 30000 ms)	

Shortti-mer	Default (ms)	Description	Remark
S1	70	min. time for charge impulse (40-255 ms)	
S2	90	min. time for charge pulse pause (40-255 ms)	
S3	0	reserve	
S4	0	ANI - A-number identification procedure (incoming traffic)	
	0	not activated	
	1	between the 1st. and 2nd Ring (only if P14=3)	
	2	ANI with Pre-seizure before 1st. ring (set L6>125ms) (only if P14<>3)	
S5	0	Calling Party Release Control	

Shorttimer	Default (ms)	Description	Remark
		0 with Aufschalten_beginn Calling Party Release Control will be not activated	
		1 with Aufschalten_beginn Calling Party Release Control will be activated	
S6	0	answer procedure for collect calls (incoming traffic)	
		0 normal answer loop	
		1 1 sec. answer loop; loop interruption (S7); loop again	
		2 for authorized extensions: normal answer loop for unauthorized extensions: 1 sec. answer loop; loop interruption (S7); loop again	
S7	0	loop interruption in the collect call procedure	
		n loop interruption (in multiples of 100ms)	
S8	90	answer supervision in outgoing traffic (will be stoped after answer or with the first charge pulse)	
		0 without answer supervision	
		1-255 answer supervision in seconds (only if P7=2)	
S9	0	reanswer supervision (outgoing traffic) the called party can answer again in outgoing traffic	
		0 without disconnect supervision	
		1-255 reanswer supervision in seconds (only if P7=2)	
S10	6	reseizure guard time in seconds after outgoing call (1000-10000 ms)	
S11	6	reseizure guard time in seconds after incoming call (1000-10000 ms)	
S12	0	call time limit	
		0 no limit	
		1-255 maximum call time (multiple of 30 sec.)	
S13	0	very Low loop resistance in the begin of an outgoing call	
		0 8 ms	
		1 350 ms	
S14	0	delayed activation of line supervision	

Shorttimer	Default (ms)	Description	Remark
	0	1 sec	
	1	36 ms	

Parameter	Default	Description	Remark
P1	0	charge pulse	
	0	without charge pulse	
	1	with 12 kHz or 16 kHz charge pulse	
	2	reversal pulse	
	3	12 kHz answer pulse	
	4	wink answer	
P2	0	ground pulse to CO	
	0	grounding of one wire	
	1	grounding of both wires	
P3	1	gap recognition in incoming traffic	
	0	without supervision	
	1	forward release recognition	
P4	0	change of polarity recognition in incoming calls	
	0	no supervision	
	1	Forward release recognition (through change of polarity)	
P5	1	gap recognition in outgoing traffic	
	0	without supervision	
	1	Backward release recognition	
P6	1	outgoing dial tone supervision	
	0	no supervision	
	1	supervision	
P7	2	Change of polarity recognition in outgoing calls	

Parameter	Default	Description	Remark
		0 no supervision	
		1 backward release recognition (through change of polarity)	
		2 answer through change of polarity, Backward release recognition through rechange of polarity	
P8	1	line supervision	
		0 no supervision	
		1 supervision (P3, P4, P5 or P7=1 or P14)	
P9	2	ring recognition hardware (TMCOW version and edition number-dependent parameter)	
		0 ring recognition through narrow band circuit (13-33 Hz)	
		1 ring recognition through TRIC (23-80 Hz)	
		2 ring recognition through broad band circuit (13-80 Hz)	
P10	0	ESB for TRIC-Integrated Circuit	
		0 Default-value from LW-table	
		<>0 TRIC-CMD	
P11	0	TRIC-Power-Mode	
		0 Power-Down-Mode	
		1 Power-Up-Mode	
P12	6	transmission parameter board and country dependent parameter (SICOFI-table)	
P13	0	delay of 1 digit by DP-dialing	
		0 no delay	
		1 delay = 1s	
P14	0	outgoing seizure procedure and idle current supervision	

Parameter	Default	Description	Remark
	0	loop start without idle current supervision	
	1	loop start with idle current supervision (L7)	
	2	ground start without idle current supervision (earth calling)	
	3	(only if S4=0) ANI - Pre-seizure by short feed Interruption and current supervision (L7)	

(52): DB_AM_DEV_DIDLRB : DIDLRB

Longtimer	Default (ms)	Description	Remark
L1	300	min. release time (interrupt from CO) (48-1200 ms)	
L2	600	potential gap on backward release (P4=1) or on release acknowledgement (P4=2) (400-800 ms)	
L3	1000	delay release collect call (0-1000 ms)	
L4	2000	interrupt release collect call (0-2000 ms)	
L5	10000	delaying on message signalling (only if P11=3) (1000-32000 ms)	
L6	200	forced pause between seizure acknowledgement and start-of-pulsing (for USA) (0-400 ms)	
L7	152	dial queue supervision (0-400 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	32	reversal on time for seizure acknowledgement (20-100 ms)	
S2	32	reversal on time for start-of-pulsing (20-100 ms)	
S3	32	reversal on time for end-of-dial (20-100 ms)	
S4	32	potential gap on seizure acknowledgement	
S5	32	potential gap on start-of-pulsing signal (20-100 ms)	
S6	32	potential gap on end-of-dial (20-100 ms)	
S7	30	noise suppression on incoming seizure (20-100 ms)	
S8	20	min. dial pulse length and time for noise suppression (0-100 ms)	
S9	72	dial pulse tolerance (20-100 ms)	
S10	80	min. time for CO signaling (20-100 ms)	

Shorttimer	Default (ms)	Description	Remark
S11	12	min. dial pause and time for noise suppression (0-100 ms)	
S12	70	min. time between incoming seizure and sending the seizure acknowledgement (20-100 ms)	
S13	0	malicious call tracing / release from PSTN	
	0	line without malicious call tracing signal / release from PSTN will be accepted	
	1	line with malicious call tracing signal (reverse - 300ms - reverse) / release from PSTN will be accepted	
	2	line without malicious call tracing signal / release from PSTN in talk state will be ignored	
	3	line with malicious call tracing signal (reverse - 300ms - reverse) / release from PSTN in talk state will be ignored	
S14	1	level in dial state	
	0	level in dial state is like in talk state (level 0)	
	1	another level in dial state than in talk state possible (level 1 and 2 - depends on the SICOFI-block)	

Parameter	Default	Description	Remark
P1	1	seizure acknowledgement (Only used if COP-Parameter SACK is configured)	
	0	feeding gap until start-of-dialing	
	1	reversal temporary (S1)	
	2	reversal permanent	
	3	feeding gap (S4)	
P2	1	start-of-dialing (Only used if COP-Parameter SDL is configured)	
	0	feeding gap (S5)	
	1	reversal temporary (S2)	
	2	reversal permanent	
	3	feeding gap until start-of-dialing	
P3	0	End-of-dial (Only used if COP-Par. EOD is configured)	

Parameter	Default	Description	Remark
		0 feeding gap (S6)	
		1 reversal temporary (S3)	
		2 reversal permanent	
		3 no proceed End-of-dial	
P4	0	backward release	
		0 reversal	
		1 gap (L2)	
		2 forward release acknowledge with send feeding gap (L2) first, than reversal backward release only with reversal	
P5	2	open-circuit potential	
		1 plus on a-wire	
		2 minus on a-wire	
P6	2	dialing method	
		0 IWV frequency 10Hz (S8, S10)	
		1 IWV frequency 20Hz	
		2 DTMF	
		3 MFC-R2	
P7	4	flash or ground signaling of CO in case of busy	
		0 override by flash from CO	
		1 call to ATND by flash from CO	
		2 override by ground key (<3S)	
		3 call to ATND by ground key (<3S)	
		4 line without override	
		5 automat. override with wrong message	reversal - 150 ms - back-reversal ignore flash or ground key
		6 automat. override without wrong message	ignore flash or ground key
P8	0	Inhibit	
		0 A/B potential free	
		1 A/B potential reversed	
		2 A/B potential same as for open circuit	
P9	90	release supervision from CO	
		0 no supervision	
		1-255 in seconds	
P10	0	flash or ground signaling of CO (release B-STN)	

Parameter	Default	Description	Remark
		0 new seizure by flash from CO	
		1 call to ATND by flash from CO	
		2 call to ATND by ground key (<1S)	
		3 ignore	
P11	2	answer procedure	
		0 normal answer (reversal of polarity)	
		1 answer with release on Collect-Call: answer through reversal of polarity (L3), potential gab (L4), reanswer	
		2 answer with release on Collect-Call (depending on the user authorization): answer through reversal of polarity (L3), potential gab (L4), reanswer	
		3 delayed answer signaling	
		4 answer with release on Collect-Call: answer through reversal of polarity (L3), inversal of polarity (L4), reanswer through reversal of polarity	
		5 answer with release on Collect-Call (depending on the user authorization): answer through reversal of polarity (L3), inversal of polarity (L4), reanswer through reversal of polarity	
P12	6	impedance and level definition	
		0 BRA Brazilian	
		6 BRA Brazilian	
		8 RSA South African	
		9 GBR Great Britain	
		10-80 country dependent value	
P13	0	voltage feeding supervision on the PSTN	

Parameter	Default	Description	Remark
		0 no voltage feeding supervision on the PSTN (feeding default value: 33V; voltage feeding value will be automatically determined by current measuring; nominal current: 20 mA)	
		1 voltage feeding supervision on the PSTN; fixed voltage: -18V	
		2 voltage feeding supervision on the PSTN; fixed voltage: -23V	
		3 voltage feeding supervision on the PSTN; fixed voltage: -28V	
		4 voltage feeding supervision on the PSTN; fixed voltage: -33V	
		5 voltage feeding supervision on the PSTN; fixed voltage: -38V	
		6 voltage feeding supervision on the PSTN; fixed voltage: -43V	
		7 voltage feeding supervision on the PSTN; fixed voltage: -48V	
		8 voltage feeding supervision on the PSTN; fixed voltage: -53V	
P14	0	rering by flash from PSTN (between seizure and end-of-dial the flash from PSTN must be > (S8+S9) to recognition of flash)	
		0 without rering	
		1 with rering	

(53): DB_AM_DEV_IKZGRI: BWGR

Longtimer	Default (ms)	Description	Remark
L1	180	seizure detection for incoming calls (10-500 ms)	
L2	2000	reseizure lookout time outgoing after outgoing seizure (200-5000 ms)	
L3	1000	reseizure lookout time outgoing after incoming seizure (200-5000 ms)	
L4	40	backward release acknowledgement on outgoing calls without call tracing or after forward release (40-1000 ms)	
L5	5000	seizure acknowledgement supervision on outgoing calls (1-30000 ms)	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	100	min. acknowledge time for forward release after backward release on incoming calls (40-200 ms)	
S2	120	acknowledgement of simultaneous seizure after outgoing seizure (10-250 ms)	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing method	
		0 I WV- dial	
		1 MFV- dial	
P2	0	reserve	
P3	0	seizure routing for transmission	
		0 bothway	
		1 outgoing	
		2 incoming	
P4	0	reserve	
P5	0	reserve	
P6	1	dial tone supervision for outgoing calls	
		0 no supervision	
		1 with supervision	
P7	0	reserve	
P8	0	call tracing on outgoing calls	
		0 without	
		2 with MTC line signal	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(54): DB_AM_DEV_IKZGUSLOC: BWCISL

Longti-mer	Default (ms)	Description	Remark
L1	1000	seizure-acknowledge supervision-time (1000-30000 ms)	out
L2	30000	release guard supervision-time (1000-30000 ms)	out
L3	5000	alarm recognition-time (1000-30000 ms)	out/inc
L4	1000	blocking recognition-time (1000-30000 ms)	out
L5	1000	outgoing guard timer (1000-30000 ms)	out
L6	1000	delayed through connection on speech channel after answer only if P11 = 0 (ANI-request line signal is possible but will be ignored) (10-30000 ms) delayed through connection on speech channel after answer (10-30000 ms)	out inc for Kazakhstan : 10 ms
L7	1300/ 400	ANI-removal recognition-time (only if P11=1 or 2) (ANI-request line signal is possible and will be processed) (1000-30000 ms) <i>default: 1300</i> ANI-removal sending time (1000-30000 ms) <i>default: 400</i>	out inc

Shortti-mer	Default (ms)	Description	Remark
S1	20	seizure recognition-time (10-255 ms)	inc
S2	200	release or clear forward recognition after answer (10-255 ms)	inc
S3	20	release guard recognition-time (10-255 ms)	out
S4	0	TSL refresh time before answer (should: 100, if P4 or P5=1) (10-255 ms)	
S5	0	TSL refresh time after answer (should: 100, if P4 or P5=1) (10-255 ms)	

Shorttimer	Default (ms)	Description	Remark
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	type of dialing (incoming)	
	0	pulse dialing	
	2	MF dialing	
P2	0	reaction to b_busy from line (outgoing)	
	0	release	
	1	end of dial (b_busy) message send to DH	
P3	1	direction of seizure	
	1	outgoing	
	2	incoming	
P4	0	TSL-refresh in outgoing traffic	
	0	no refresh	
	1	with refresh - time administrable in S4 and S5	
P5	0	TSL-refresh in incoming traffic	
	0	no refresh	
	1	with refresh - time administrable in S4 and S5	
P6	0	supervision of dial tone (outgoing traffic)	
	0	no supervision	
	1	supervision	
P7	20	supervision of answer (outgoing traffic)	
	0	no supervision	
	1-255	multiples of 30 s.	

Parameter	Default	Description	Remark
P8	0	malicious call id. after sending clear forward (outgoing)	
		0 no MCID	
		1-255 multiples of 30 s. (with MCID: 4)	
P9	20	release supervision time (outgoing)	
		0 no supervision	
		1-255 multiples of 30 s.	
P10	0	reaction on receiving clear forward (incoming)	
		0 send clear back line signal and release message to DH	
		1 send "a hook on" message to DH used for bilateral calls	
P11	0	ani-request line signal activate ani-codogram transmission (outgoing)	
		0 no ani-request, line signal ani-request is possible but will be ignored from LW	
		1 ani-request line signal is possible and will be processed (ani-request message send to DH immediately after answer from line)	
		2 ani-request line signal is possible and will be processed (like 1 but after first answer > 2,8s ani-request message send to DH after answer removal from line)	
		3 line without ani-request, line signal ani-request is not possible and will be processed like answer.	
P12	0	busy override (incoming traffic)	
		0 no busy override	
		1 busy override	
P13	0	line testing (outgoing traffic)	
		0 no line testing	
		1 line testing	
P14	0	release-variant: output signal after receiving release message from DH	
		0 LONIIS output signal: 11 - release forward (out) output signal: 00 - clear back (in)	
		1 MGTS output signal: 00 - clear forward (out) output signal: 11 - seizure acknowledgement (in)	

(55): DB_AM_DEV_IKZGUSTOL: BWCIST

Longtimer	Default (ms)	Description	Remark
L1	1000	supervision-time for seizure-acknowledgement (1000-30000 ms)	
L2	30000	supervision-time for release guard after release forward (1000-30000 ms)	
L3	5000	recognition-time of faults (1000-30000 ms)	
L4	1000	recognition-time of blocking (1000-30000 ms)	
L5	1000	outgoing guard timer (1000-30000 ms)	
L6	0	delay-time of through connection on speech channel (0-30000 ms)	
L7	200	min. sending time of b-busy in case of simulated manual busy override (0-3000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	20	recognition-time for incoming seizure (10-255 ms)	
S2	150	recognition-time for release forward after answer (10-255 ms)	
S3	20	recognition-time for release guard (10-255 ms)	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	type of dialing (incoming traffic)	
	0	pulse dialing	
	2	MF dialing	
P2	0	reaction to b-busy from line (outgoing traffic)	
	0	release	
	1	end of dial (b-busy) message to DH	
	2	without end-of-dial (b-busy) message to DH	
P3	1	direction of seizure	
	1	outgoing	
	2	incoming	
P4	0	ring after B-free (outgoing traffic)	
	0	DH controlled transmission of ring request and ring request removal signaling dependent on P10 (default)	
	1	automatic ring request transmission (no DH control)	
P5	20	supervision of end of dial (outgoing traffic)	
	0	no supervision	
	1-255	multiples of 30 s.	
P6	0	supervision of dial tone (outgoing)	
	0	no supervision	
	1	supervision	
P7	6	supervision of answer (outgoing traffic)	
	0	no supervision	
	1-255	multiples of 30 s.	
P8	0	ring after b-free (incoming traffic)	
	0	LW ignores ring request signals (automatic ring) (default)	
	1	DH will be informed about recognition of 1 st ring but not about ring removal	
	2	DH will be informed about recognition of ring request and ring request removal (line signal controlled ring)	
P9	0	rering after b - on-hook (incoming traffic)	

Parameter	Default	Description	Remark
		0 DH will be informed about recognition of 1st rering but not about rering removal	
		1 DH will be informed about recognition of rering and rering removal (line signal controlled rering)	
P10	0	kind of ring and rering signals (outgoing traffic/incoming traffic)	
		0 periodically pulsed ring and rering (default)	
		1 fixed signals for ring and rering	
P11	0	reaction to AUSLOESEN from DH in dial state (incoming traffic)	
		0 b-busy transmission (default)	
		1 no change in line transmission	
P12	1	manual busy override (incoming traffic)	
		0 no busy override (line signal ignored)	
		1 simulated (time-controlled) busy override (line signal ignored) (default)	
		2 DH will be informed about recognition of 1st reset but not about reset removal	
		3 DH will be informed about recognition of reset and reset removal (line signal controlled busy override)	
P13	0	line testing (outgoing traffic)	
		0 no line testing	
		1 line testing	
P14	0	rering after reset and b-on hook (incoming traffic)	
		0 LW ignores rering request signals (default)	
		1 DH will be informed about recognition of 1st rering but not about rering removal	
		2 DH will be informed about recognition of rering request and rering request removal (line signal controlled rering)	

(56): DB_AM_DEV_TFUNG : TSEMHUN
(only for PZGTEMW7 and PZFDCASF)

Longti-mer	Default (ms)	Description	Remark
L1	600	transmission time of long pulses (10-30000 ms)	out/inc
L2	300	min. recognition time of long pulses (10-30000 ms)	out/inc
L3	1700	min. recognition time of blocking (10-30000 ms)	out/inc
L4	240	min. pause between 2 sending signals (10-30000 ms)	out/inc
L5	300	supervision of glare seizure (10-30000 ms)	out
L6	400	supervision of glare release (10-30000 ms)	out
L7	2000	supervision of seizure acknowledge (10-30000 ms)	out

Shortti-mer	Default (ms)	Description	Remark
S1	150	transmission time of short pulses (1-255 ms)	out/inc
S2	100	min. recognition time of short pulses (1-255 ms)	out/inc
S3	40	min. recognition time of dial pulses (1-255 ms)	inc
S4	200	min. recognition time of interdigit time (S2+S4) (1-255 ms)	inc
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	transmission of seizure acknowledge 0 no transmission (default) 1 transmission	inc
S9	0	supervision of seizure acknowledge 0 no supervision (default) 1 supervision with L7	out

Shorttimer	Default (ms)	Description	Remark
S10	0	recognition of dial pulse during interdigit time 0 digit is invalid (0F)(default) (TF-signaling for Hungary) 1 digit is valid (TF-signaling for Brasil FURNAS)	inc
S11	0	activation of calling party RLC with manual override 0 no (default) 1 activation	out
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	type of dialing	out/inc
		0 IWV	
		1 DTMF	
		2 MFC-R2	
P2	9	supervision of release guard after clear forward	out
		0 no supervision	
		1-255 multiples of 10 s (<i>default: 9 ≅ 90 sec.</i>)	
P3	0	direction of seizure	
		0 bidirectional (<i>default</i>)	
		1 outgoing	
		2 incoming	
P4	10	delay of clear forward after clear back	out
		0 send clear forward promptly	
		1-255 multiples of 10 s (<i>default: 10 ≅ 100 sec.</i>)	
P5	0	outgoing guard time	out/inc
		0 6s (<i>default</i>)	
		1-255 multiples of 250ms	
P6	0	supervision of dial tone	out
		0 no supervision (<i>default</i>)	
		1 supervision	
P7	9	supervision of answer	out
		0 no supervision	
		1-255 multiples of 10 s (<i>default: 9 ≅ 90 sec.</i>)	
P8	0	operator signals (override, rering)	out

Parameter	Default	Description	Remark
		0 line with no operator signals (<i>default</i>)	
		1 line with operator signals	
P9	0	override	inc
		0 ignore override from line (no automatic override) (<i>default</i>)	
		1 attendant intercept	
		3 ignore override (automatic override)	
		5 manual override (calling party RLC)	
		6 manual override, no sending of answer and clear back when B on-hook (first party RLC)	
P10	0	rering	inc
		0 line with no rering (<i>default</i>)	
		1 line with rering	
P11	0	supervision of clear forward after clear back	inc
		0 90s (<i>default</i>); after T/O blocking to DH, wait for release	
		1-255 multiples of 10 s; after T/O idle after outgoing guard time	
P12	0	startup	outgoing/bothway
		0 idle (<i>default</i>)	
		1 seizure with release	
P13	0	out of service	incoming/bothway
		0 no line signal (<i>default</i>)	
		1 continuous line signal	
P14	0	test procedure(seizure acknowledge or release guard fails to come)	out
		0 no test procedure (<i>default</i>)	
		1-255 multiples of 10s: time between testcycles	

(57): DB_AM_DEV_VRC_R2 : PRCR2

not used : refer to (34): DB_AM_DEV_IKZVRC: BWCHINA

(58): DB_AM_DEV_VRC_2600: PRC2600

Longti-mer	Default (ms)	Description	Remark
L1	300	min. time interval between reception and transmission of line signals (100-600 ms)	
L2	900	supervision for simultaneous on hook signal during transmission of clear up (100-900 ms)	
L3	300	min. time interval between transmission of two pulsed line signals (100-600 ms)	
L4	3000	supervision of release guard signal (1-32000 ms)	
L5	5000	supervision time for operator signals: rering, ring-back, forced break and return-call-to-operator signal 0 no supervision (only one message to system) 1-30000 ms supervision time (one message to system per interval)	
L6	0	reserve	
L7	0	delay of speech path through connection after first answer for incoming traffic 0 no delay 4-3000 ms delay time of speech path through connection	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	control of level attenuation	
		0 = control of level attenuation off	
		1 = control of level attenuation on	

Shorttimmer	Default (ms)	Description	Remark
S9	1	putting incoming or bothway directed line into service 0 no line signal 1 prolonged blocking line signal for 2 s	
S10	1	putting outgoing directed line into service 0 no line signal 1 repetitive release signal (once) without line supervision 2 repetitive release signal (corr. P2) with line supervision	
S11	0	line supervision in talk state (depends on P4) 0 without supervision 1 with supervision	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	1	dialling method	
	0	rotary dialling (with proceed-to-send: short pulse; immediately)	
	1	no rotary dialling without proceed-to-send	
	2	no rotary dialling (with proceed-to-send: short pulse; immediately)	
	3	no rotary dialling (with proceed-to-send: short pulse; under DH-control)	
	4	no rotary dialling (with proceed-to-send: long pulse; under DH-control)	
P2	3	release repetition on outgoing side	
	0	no release repetition	
	1-254	release repetition with restricted no. of release repetition attempts	
	255	release repetition with unrestricted no. of release repetition attempts	
P3	0	signalling direction	

Parameter	Default	Description	Remark
		0 no release repetition	
		1 outgoing directed	
		2 incoming directed	
P4	60	line release supervision time	
		0 no timer assigned	
		1-255 line release supervision time in minutes	
P5	2	guard time before new outgoing seizure	
		1-255 guard time in seconds	
P6	0	dial tone supervision	
		0 no dial tone supervision	
		1 dial tone supervision	
P7	90	answer supervision in outgoing traffic	
		0 no answer supervision	
		1-255 answer supervision time in seconds	
P8	3	recognition of operator signals: (rering, ringback, forced break)	
		1-10 number of pulses	
P9	3	transmission of operator signals: (rering, ringback, forced break)	
		1-10 number of pulses	
P10	0	forced break recognition	
		0 no forced break recognition	
		1 forced break recognition	
P11	0	recognition of rering or ringback	
		0 no recognition	
		1 recognition of rering and ringback	
		2 recognition of rering	
		3 recognition of ringback	
P12	0	return-call-to-operator	
		0 no return-call-to-operator recognition/transmission	
		1-10 return-call-to-operator transmission by sending 'n' pulse series on incoming trunk	
		n>0 return-call-to-operator recognition on outgoing trunk	
P13	0	echo suppression of 2600 Hz signals	

Parameter	Default	Description	Remark
		0 reception during transmission is evaluated	
		1 reception during transmission is suppressed	
P14	0	line criteria before answer (after proceed-to-send)	
		0 none	
		1 reserve	
		2 initial code acknowledge and reached-to-called-party	

THERE ARE NOT PTIME-BLOCKS (59-60)

154.6.4 Appendix 2, Part 4: Initblocks 61 till 80

THERE ARE NOT PTIME-BLOCKS (61-65)

(66): DB_AM_DEV_QSEMUSW : TSEMUSW

Longtimer	Default (ms)	Description	Remark
L1	600	Guard time for release after preemption (600- 5800 ms)	
L2	326	Minimum time for recognition of 345ms valid pulse (315- 375 ms)	
L3	345	Time for preemption transmission 345ms pulse (300- 390 ms)	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	34	Total tolerance time (+/-17ms) for recognition of pulse (8- 60 ms)	
S2	81	Minimum time for recognition of 100ms valid pulse (70- 130 ms)	
S3	100	Time for preemption transmission 100ms pulse (70- 130 ms)	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	

Shorttimmer	Default (ms)	Description	Remark
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	Trunk used as MLPP trunk	
	0	Not used as MLPP trunk	
	1	Used as MLPP trunk	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

The circuit type:

(67): DB_AM_DEV_QSEMAL_W2 : QSEMAL2 : TSEMU2

(68): DB_AM_DEV_QSEML1_W2 : QSEML12 : TSEML12

(69): DB_AM_DEV_QSEMSCH_W2 : QSEMSCH2 : TSEML2

are not longer allowed to use, they will substitute with QSEMCONT :
TSEMCONT

at the module TMEW2 Q2292-X**100**

The circuit type:

(70): DB_AM_DEV_QSEMID_W2 : QSEMID2 : TSEMI2

(71): DB_AM_DEV_QSEMDD_W2 : QSEMDD2 : TSEMD2

(72): DB_AM_DEV_QSEMUSD_W2 : QSEMUSD2 : TSEMUSD2

(73): DB_AM_DEV_QSEMUSI_W2 : QSEMUSI2 : TSEMUSI2

(74): DB_AM_DEV_QSEMUSW_W2 : QSEMUSW2 : TSEMUSW2

(75): DB_AM_DEV_SOCOTFR_W2 : SOCOTFR2 : SOCFR2

are not longer allowed to use, they will substitute with EMCONT2

at the module TMEW2 Q2292-X**100**

The circuit type:

(76): DB_AM_DEV_QSFT_W2 : QSTF2 : TSC2

is not longer allowed to use, it will substitute with QSTF3 : TF3

at the module TMEW2 Q2292-X**100**

(77): DB_AM_DEV_EMCONT: EMCONT

Longtimer	Default (ms)	Description	Remark
L1	5000	maximum recognition time for seizure acknowledge pulse (40-10000 ms)	
L2	180	maximum recognition time for release guard (40- 500 ms)	
L3	120	minimum recognition time for clear forward or release backward (0-600 ms)	
L4	85	transmission time of release guard (40- 500 ms)	
L5	100	minimum recognition time for seizure (0- 500 ms)	
L6	200	minimum recognition time for release acknowledge (0- 1000 ms)	
L7	400	minimum transmission time for answer (0- 1000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	80	min. recognition time for seizure acknowledge pulse (40- 200 ms)	
S2	100	min. transmission time for clear backward before release guard (0- 255 ms)	
S3	30	supervision time for glare seizure 0 2.4 s 1 - 255 time in ms	
S4	140	transmission time for wink start 0 300ms 60 - 255 time in ms	
S5	100	minimum transmission time for delay dial (0- 255 ms)	
S6	60	minimum recognition time for metering pulse (20 - 255 ms)	
S7	0	alarm recognition (only for Q2092-X200) 0 without alarm recognition 1 with alarm recognition	
S8	28	number of override impulses (0-50)	

Shorttimer	Default (ms)	Description	Remark
S9	0	allowed time for override impulse 0 without override 1 override without time limit (valid after eod_busy, eod_free and before end-of-dial) 2-60 s time in sec.	
S10	0	supervision time for ready line signal (seizure ackn.) (0-6s) 0 no supervision of ready signal 1-6 time in sec	
S11	0	supervision time for clearback line signal (0-6s) 0 no supervision of ready clearback signal 1-6 time in sec	
S12	1 s	retry timer for active phase of test procedure - time in sec. (1-10 s)	
S13	60 s	retry timer for passive phase of test procedure - time in sec. (1- 255 s)	
S14	1 s	supervision time for clear forward (blocking or alarm recognition) 0 no supervision of blocking 1- 255 supervision in sec	

Parameter	Default	Description	Remark
P1	0	seizure acknowledge	
	0	immediate dial	
	1	delay dial	
	2	Wink Start	
	3	continuous signal	
P2	0	test procedure	
	0	no test procedure	
	1	with test procedure	
P3	0	signalling direction	
	0	bothway directed (glare seizure: priority of incoming seizure)	
	1	outgoing directed	
	2	incoming directed	
	3	bothway directed (glare seizure: release of line)	

Parameter	Default	Description	Remark
P4	0	conversation supervision	
		0 endless (no supervision)	
		1-255 multiplied with 30 sec.	
P5	1	guard time before new outgoing seizure in seconds	
		0 500 msec	
		1-255 multiplied with 1 sec.	
P6	0	dial tone recognition	
		0 no dial tone recognition	
		1 dial tone recognition	
P7	120	answer supervision in case of outgoing directed traffic	
		0 no answer supervision	
		1-255 answer supervision in seconds	
P8	1	blocking as line signal, if bothway or incoming directed traffic	
		0 without blocking as line signal	
		1 with blocking as line signal	
P9	0	metering pulse recognition	
		0 no metering pulse recognition	
		1 metering pulse recognition	
P10	0	release guard as line signal	
		0 without release guard as line signal	
		1 with release guard as line signal	
P11	1	answer as line signal	
		0 without answer as line signal	
		1 with answer as line signal	
P12	0	dialing method	
		0 without digit pulsed	
		1 digit pulsed	
P13	2	special clear backward with pseudo-answer and backward release on incoming side before answer	
		0 not used	
		1 after called subscriber busy	
		2 after release from DH	
		3 after called subscriber busy or release from DH	
P14	0	inverse signaling	

Parameter	Default	Description	Remark
		0 normal signalling (idle state : M=OFF / E=OFF)	
		1 inverse signalling (idle state : M=ON / E=ON)	
		2 inverse signalling only on E-wire (idle state : M=OFF / E=ON)	
		3 inverse signalling only on M-wire (idle state : M=ON / E=OFF)	

(78): DB_AM_DEV_EMDISC: EMDISC

Longti-mer	Default (ms)	Description	Remark
L1	5000	supervision time for start dial signal after seizure on outgoing traffic (40-10000 ms)	out
L2	625	transmission time for long impulse on outgoing traffic (200- 2000 ms)	out
L3	300	transmission time for long pause on incoming traffic (clear back pulse train) (100-1000 ms)	in
L4	270	minimum recognition time for long impulse on incoming traffic (S3 + S4 + L4) (100-1000 ms)	in
L5	2000	maximum recognition time for long impulse on incoming traffic (L5 > S3 + S4 + L4) (4000- 5000 ms)	in
L6	400	recognition time for long pause on outgoing traffic (clear back pulse train) (50- 1000 ms)	out
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	100	transmission time for short impulse on incoming and outgoing traffic (40- 250ms)	out
S2	100	transmission time for short pause on incoming traffic (0- 255 ms)	in
S3	70	minimum recognition time for short impulse on incoming and outgoing traffic (40- 250 ms)	in/out
S4	60	maximum recognition time for short impulse on incoming and outgoing traffic (S3 + S4) (20- 250 ms)	in/out
S5	150	recognition time for short pause on outgoing traffic (EOD_free, EOD_busy) (20- 250 ms)	out
S6	50	supervision time for glare seizure on outgoing traffic (20- 255 ms)	in

Shorttimmer	Default (ms)	Description	Remark
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	start dial line signal	out
		0 no start dial line signal	
		1 with start dial line signal	
P2	0	restore procedure, if bothway or outgoing directed traffic	out
		0 no restore procedure	
		1 with restore procedure (put in service)	
		2 with restore procedure (line alarm)	
		3 with restore procedure (in service and line alarm)	
P3	0	signalling direction	in/out
		0 bothway directed (glare seizure: priority of incoming seizure)	
		1 outgoing directed	
		2 incoming directed	
		3 bothway directed (glare seizure: release of line)	
P4	0	end-of-dial line signal	in/out
		0 no End-of-dial line signal	
		1 with End-of-dial line signal (EOD_free and EOD_busy)	
P5	1	guard time before new outgoing seizure in seconds	in/out
		0 500 msec	
		1-255 multiplied with 1 sec.	
P6	0	dial tone recognition	out

Parameter	Default	Description	Remark
		0 no dial tone recognition	
		1 dial tone recognition	
P7	0	answer supervision in case of outgoing directed traffic	out
		0 no answer supervision	
		1-255 answer supervision in seconds	
P8	0	blocking as line signal, if bothway or incoming directed traffic	in
		0 without blocking as line signal	
		1 with blocking as line signal	
P9	0	forward release after EOD-busy (valid only when P4=1)	out
		0 without forward release	
		1 with forward release	
P10	0	reserve	
P11	0	reserve	
P12	0	dialing method	in/out
		0 MF-Dial (multifrequency)	
		1 DP-Dial (dial pulse)	
P13	5	reanswer supervision time on outgoing traffic	out
		0 immediate forward release to the line after clear back	
		1-254 delayed forward release to the line after clear back (... x 1s)	
		255 endless (no forward release to the line after clear back, waiting for release from DH)	
P14	40	supervision time for release forward after clear back on incoming traffic	in
		0 endless forward release supervision	
		1-255 alarm to DH after supervision time (... x 1s)	

(79): DB_AM_DEV_TMLRUD: TMLRUD

Longtimer	Default (ms)	Description	Remark
L1	700	release gap to tie (outgoing) (300- 1000 ms)	
L2	150	release gap minimum from tie (incoming) (50- 300 ms)	
L3	1000	blocking against new seizure (500- 5000 ms)	
L4	120	time between reversals by start of dial in time (100- 300 ms)	
L5	4000	time for recognition of line alarm by line supervision (2000- 6000 ms)	
L6	4000	waiting time for release acknowledge from tie (incoming) (2000- 6000 ms)	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	120	remote blocking pulse (outgoing) (80-255 ms)	only if P1=1.
S2	40	minimal time for seizure recognition (20- 40 ms)	only if P1=0 or P1=2. (for P1=1 minimal time for seizure recognition is S7 + S8)
S3	60	minimal time after outgoing seizure untill current recognition (outgoing) (40-100 ms)	only if P1=0. (for P1=1 or 2: see S9)
S4	200	maximal time for start of dial in time (outgoing) (100-250 ms)	
S5	40	minimal time for recognition of a line interruption (incoming) (10-80 ms)	
S6	20	time between potential-recognition and acknowledge to DH (outgoing) (10- 250 ms)	for P1=1 do S6=150m, for P1=0 or P1=2 do S6=20ms.
S7	110	remote blocking pulse minimum (incoming) (80- 200 ms)	
S8	40	remote blocking pulse tolerance (incoming) (10- 60 ms)	

Shorttimer	Default (ms)	Description	Remark
S9	100	maximal time after outgoing seizure until current recognition (outgoing) (50- 200 ms)	only if P1=1 or P1=2. (for P1=0 see S3)
S10	20	dialing pulse minimum (incoming) (10- 30 ms)	
S11	20	dialing pause minimum (incoming) (10- 30 ms)	
S12	20	recogniton of a saved potential after line alarm (incoming) (10- 50 ms)	
S13	0	reserve	
S14	130	interdigit time minimum (incoming) (100- 200 ms)	

Parameter	Default	Description	Remark
P1	0	operating mode	
	0	feeding with line supervision	
	1	feeding with remote blocking	
	2	loop without line supervision and remote blokkingrt	P2=1 only if P1=1
P2	0	send remote blocking (only valid if p1=1)	
	0	without blocking signal	
	1	with blocking signal	
P3	0	start of dial signal	
	0	without start of dial signal	
	1	with start of dial signal in time (L4, S4)	P3=1 only if P1=0 or P1=1
	2	with continuous start of dial signal	P3=2 only if P1=0 or P1=1
P4	2	end of dial and answer	
	0	without end of dial, without answer	
	1	with end of dial, without answer	P4=1 only if P1=0 or P1=1
	2	without end of dial, with answer	P4=2 only if P1=0 or P1=1
	3	with end of dial, with answer	P4=3 only if P1=0 or P1=1
P5	0	automatic end of dial signal (only valid if p1=0 or 1)	
	0	without	
	n	no. of digits till automatic end of dial (n=1...20)	P5=1 only if P4=1 or P4=3
P6	0	seizure acknowledge	

Parameter	Default	Description	Remark
		0 acknowledge with BEL_QUITTUNG (a dialtone receiver will be connected, digits will be send from DH after a valid dialtone)	P6=0 only if P3=0
		1 acknowledge with WAHLABRUF (digits will be send from DH immediately)	
P7	1	alarm in case of release supervision:	
		0 with alarm by release supervision (L6)	P7=0 only if P1=1 and P8=1
		1 without alarm	
		2 ignore release from tie line	P7=2 only for test
P8	0	backward release transmission after answer (incoming):	
		0 with feeding gap	P8=0 only if P1=0 or P1=1.
		1 with reversal	P8=1 only if P1=0 or P1=1
P9	0	backward release recognition after answer (outgoing):	
		0 ignore reversal after answer	P9=0 only if P1=0 or P1=1
		1 interpret reversal after answer as release	P9=1 only if P1=0 or P1=1.
P10	0	change of level by message PEGEL_SCHALTEN:	
		0 no change of level	
		1 change of level possible	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(80): DB_AM_DEV_DFADASE: DFADASE

Longti-mer	Default (ms)	Description	Remark
L1	300	max recognition time for answer (300-3000 ms)	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	100	verification of line signal end (20-200 ms)	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	send level for 2 VF fwd / bwd release signal 0 send level is equal 1 VF signals 1 send level is higher than 1VF signals	
S9	0	send level for 2 VF out of service signal 0 send level is equal 1 VF signals 1 send level is higher than 1VF signals	if P4=3 or 4
S10	0	incoming seizures during line supervision alarm	if P12=1
		0 no incoming seizure is accepted	
		1 - inc. dispatcher seizures accepted at once - inc. normal seizures are not accepted	
		2 - inc. dispatcher seizures accepted at once - inc. normal seizures accepted as 3rd f1 test pulse	
S11	0	LTG-alarm printout	

Shorttimmer	Default (ms)	Description	Remark
		0 only one LTG_ALARM type	HICOM version <V1.0 (ZEITUEBERLAUF_4 to DH)
		1 different LTG_ALARM types	HICOM version >= V1.0 (SPERREN to DH)
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	1	send level for VF signals	
		0 high =0 dBm0 (FW1) / low =-8,8 dBm0 (FW2)	
		1 standard=-4,4 dBm0 (FW1 + FW2)	
P2	0	restriction of normal calls by dispatcher dialling	for time limit refer to P9
		0 no dailling by dispatcher possible	
		1 restrict normal calls by dispatcher dialling	digit to be dialed by dispatscher corresponds the value of P3
		2 restrict normal calls by dispatcher dialling and transmit digit to remote switch (only outgoing traffic)	
P3	0	restriction of normal calls by initialisation	for time limit refer to P9
		0 no restriction	
		1 restriction of outgoing + incoming normal calls	
		2 restriction of outgoing normal calls	
		3 restriction of incoming normal calls	
P4	0	blocking transmission	
		0 no blocking	
		1 blocking with 1200Hz	
		2 blocking with 1600Hz	
		3 blocking with 1200/1600Hz	
		4 alternating blocking cycles for line frequency test	for timing refer to P10/P11
P5	0	speech path through connection befor answer	
		0 one way through connection	
		1 both way through connection	

Parameter	Default	Description	Remark
P6	0	post dialling	
	0	no post dialling	
	1	post dialling	
P7	4	answer supervision in outgoing traffic	
	0	no answer supervision	
	1-60	answer supervision time in 30 sec. steps	
P8	0	change of level attenuation	
	0	no change of level attenuation	
	1	change of level attenuation possible	
P9	12	time limit for restriction of normal calls	refer to P3
	0	no time limit for restriction	
	1-255	time limit for restriction of normal calls in 10 min. steps	
P10	4	transmission time of frequency in line test	only if P4=4
	0	10s test tone on	
	1-100	transmission time in multiples of 10s	
P11	1	pause time between frequencies in line test	only if P4=4
	0	10s test tone off	
	1-100	pause time in multiples of 10s	
P12	0	line supervision in idle	
	0	no line supervision	
	1	with line supervision	
P13	0	suppression of received line signals	
	0	during transmission received line signals are accepted	
	1	during transmission received line signals are suppressed	
P14	4	answer supervision for incoming traffic	
	0	no answer supervision	
	1-60	answer supervision time in multiples of 30s	

154.6.5 Appendix 2, Part 5: Initblocks 81 till 100

(81):DB_AM_DEV_A3GUSLOC: A3CISL

Longti-mer	Default (ms)	Description	Remark
L1	40	seizure acknowledge simulation time - outgoing (4-30000 ms)	
L2	30000	release guard supervision time- outgoing (1000-30000 ms)	
L3	10000	min. length of a qualified alarm (1000-30000 ms)	
L4	0	reserve	
L5	70	min. length of ANI-request as a qualified answer - outgoing (10-30000ms)	
L6	1000	speech channel through connection delay time (outgoing + P11 = 0 and incoming) (4-30000)	
L7	1300	min. length of a qualified ANI-removal - outgoing (1000-30000 ms)	only for outgoing and P11 = 1 or 2

Shortti-mer	Default (ms)	Description	Remark
S1	20	min. length of a qualified seizure (incoming) (10-255 ms)	
S2	70	min.length of a qualified clear forward (incoming) (10-255 ms)	
S3	20	min. length of a qualified release guard (outgoing) (10-255 ms)	
S4	180	min. length of a qualified release forward (incoming) (10-255 ms)	
S5	180	min. length of a qualified clear backward (outgoing) (10-255 ms)	
S6	0	Gain level transmit / receive	

Shorttimer	Default (ms)	Description	Remark
		0 - 3.5 dB / - 3.5 dB	
		1 - 4.0 dB / - 3.0 dB	
		2 - 4.5 dB / - 2.5 dB	
		3 - 5.0 dB / - 2.0 dB	
		4 - 5.5 dB / - 1.5 dB	
		5 - 6.0 dB / -1.0 dB	
		6 - 6.5 dB / -0.5 dB	
		7 - 7.0 dB / 0.0 dB	
S7	0	line signals for	
		0 LONIIS	
		1 ADASE-P	
S8	0	transmission of answer - incoming	
		0 continuous signal	
		1 pulsed signal (for testing purposes of ADASE-P)	
S9	1	SICOFI Version	
		0 SICOFI Version<>2.3	
		1 SICOFI Version=2.3 (SICOFI-power always on)	
S10	0	transmission of clearback - incoming	
		0 continuous signal	
		1 pulsed signal (for testing purposes of ADASE-P)	
S11	0	transmission of dispatcher forced clear - incoming	
		0 no	
		1 yes (for testing purposes of ADASE-P)	
S12	0	B-subscriber busy - incoming	
		0 transmission of clearback	
		1 busy tone (ADASE-P)	
S13	0	transmission of blocking signal after forward release - incoming	
		0 yes	
		1 no (for testing purposes of ADASE-P)	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing type (incoming)	

Parameter	Default	Description	Remark
		0 pulse dialing	
		1 DTMF	
		2 MF dialing	
P2	1	blocking time - 1 sec unit (outgoing) 1-255	
P3	0	digit received	
		0 through a- and b-wire	
		1 through a-wire	
		2 through b-wire	
P4	0	false signal handling (L3)	
		0 no action (outgoing and incoming)	
		1 system alarm with line testing (outgoing)	
		2 system alarm without line testing (outgoing and incoming)	
P5	1	outgoing guard time - 1 sec. unit (outgoing) 1 - 255	
P6	0	dial tone detection (outgoing)	
		0 no detection	
		1 dial tone has to be detected	
P7	20	answer supervision (outgoing)	
		0 no supervision	
		1-255 with supervision (30 sec. unit)	
P8	0	Malicious Call Identification after clear forward transmission (outgoing)	
		0 no MCID	
		1-255 with MCID (30 sec. unit)	
P9	20	delay time release forward transmission (outgoing)	
		0 no delay	
		1-255 with delay (30 sec. unit)	
P10	0	clear forward receiving handling (incoming)	
		0 send clear back line signal and release message to the system software	
		1 send "A On-hook" message to the system software	
P11	3	ANI-request (outgoing)	

Parameter	Default	Description	Remark
		0 ANI-request handling type 1 (after detection the ANI-request signal the trunk LW doesn't activate ANI-request process in the system software)	
		1 ANI-request handling type 2 (inform the system software after detection the ANI-request signal in talk state by the trunk loadware)	
		2 ANI-request handling type 3 (inform the system software after detection the answer removal signal by the trunk loadware)	
		3 No ANI-request	
P12	0	manual busy override (incoming)	
		0 no busy override	
		1 busy override	
P13	2	release guard missing handling (outgoing)	
		0 no action	
		1 system alarm with line testing	
		2 system alarm without line testing	
P14	0	release-variant (outgoing)	
		0 output signal:release forward	
		1 output signal:clear forward	

(82):DB_AM_DEV_A3GUSTOL: A3CIST

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	10000	min. length of a qualified alarm (1000-30000ms)	
L4	0	reserve	
L5	0	reserve	
L6	100	speech channel through connection delay time - incoming (4-30000)	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	20	min. length of a qualified seizure (incoming) (10-255 ms)	
S2	0	reserve	
S3	0	reserve	
S4	180	min. length of a qualified release forward (incoming) (10-255)	
S5	0	reserve	
S6	0	Gain level transmit / receive	
	0	- 3.5 dB / - 3.5 dB	
	1	- 4.0 dB / - 3.0 dB	
	2	- 4.5 dB / - 2.5 dB	
	3	- 5.0 dB / - 2.0 dB	
	4	- 5.5 dB / - 1.5 dB	
	5	- 6.0 dB / -1.0 dB	
	6	- 6.5 dB / -0.5 dB	
	7	- 7.0 dB / 0.0 dB	
S7	0	reserve	
S8	0	reserve	
S9	1	SICOFI Version	
	0	SICOFI Version<>2.3	
	1	SICOFI Version=2.3 (SICOFI-power always on)	

Shorttimer	Default (ms)	Description	Remark
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing type (incoming)	
	0	pulse dialing	
	1	DTMF	
	2	MF dialing	
P2	0	reserve	
P3	0	digit received	
	0	through a- and b-wire	
	1	through a-wire	
	2	through b-wire	
P4	0	false signal handling (L3)	
	0	no action (outgoing and incoming)	
	1	system alarm with line testing (outgoing)	
	2	system alarm without line testing (outgoing and incoming)	
P5	1	rering after B on-hook for manual busy override (P12=1)	
	0	no reaction to rering signal	
	1	start of ringing B-subscriber after rering signal (without reaction to rering removal signal)	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	manual busy override (incoming)	
	0	no busy override	
	1	busy override	

Parameter	Default	Description	Remark
P13	0	reserve	
P14	0	reserve	

(83): DB_AM_DEV_SFGUSLOC : SFCISL

Longti-mer	Default (ms)	Description	Remark
L1	2800	answer recognition time (outgoing) (10-30000 ms)	if P11=3: L1=70 ms.
L2	20000	release supervision time (outgoing) (1000-30000 ms)	
L3	5000	alarm recognition time (outgoing/incoming) (1000-30000 ms)	
L4	5000	blocking recognition time (outgoing) (1000-30000 ms)	
L5	500	outgoing guard timer (outgoing) (10-30000ms)	
L6	1000	delayed through connection of speech channel (only if P11 =0) (outgoing/incoming in any case) (1000-30000 ms)	P11=0 :
L7	1300	ANI-removal recognition time only if P11=1 or 2 (outgoing) (1000-30000 ms)	P11=1 or 2 :

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	5	glare time (outgoing, bidirectional: not requested); multiples of 50 ms (1-10)	
S9	0	half-way through connection of speech channel (incoming)	
		0 no half-way	
		1 half-way through connection	(only if P1=0)
S10	0	half-way through connection of speech channel (outgoing)	

Shorttimer	Default (ms)	Description	Remark
		0 no half-way	
		1 half-way through connection	(only if P1=0)
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing type (incoming)	
		0 pulse dialing	
		2 MF dialing	
P2	0	reserve	
P3	1	direction of seizure	
		0 bidirectional (not requested)	
		1 outgoing	
		2 incoming	
P4	0	reserve	
P5	0	reserve	
P6	0	supervision of dial tone (outgoing)	
		0 no supervision	
		1 supervision	
P7	20	supervision of answer (outgoing)	
		0 no supervision	
		1-120 multiples of 30 sec.	
P8	0	change of speech level attenuation (outgoing/incoming)	
		0 no change	
		1 change possible	
P9	0	reserve	
P10	0	reaction to AUSLOESEN from DH before answer (recovery release) (incoming)	
		0 only busy tone	
		1 send clear back signal	
P11	3	ANI-request signal activates ANi-codogram transmission (outgoing)	

Parameter	Default	Description	Remark
		0 no ANI-request, signal ANI-request is valid but will be ignored from LW	
		1 ANI-request signal is valid and will be processed type1: in talk state: send ANI-request message to DH after reception of ANI-request from line	
		2 ANI-request signal is valid and will be processed type2: in talk state: send ANI-request message to DH after reception of answer removal from line	
		3 line without ANI-request, signal ANI-request is not possible and will be processed like answer (L1=70 ms)	
P12	0	reserve	
P13	0	line testing (outgoing)	
		0 no line testing	
		1 line testing	
P14	0	seizure pulse (outgoing/incoming)	
		0 normal seizure pulse	
		1 short seizure pulse	

(84): DB_AM_DEV_SFGUSTOL: SFCIST

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	20000	release supervision time (outgoing) (1000-30000 ms)	
L3	5000	alarm recognition time (outgoing/incoming) (1000-30000 ms)	
L4	5000	blocking recognition time (outgoing) (1000-30000 ms)	
L5	500	outgoing guard timer (outgoing) (10-30000ms)	
L6	100	delayed through connection of speech channel (incoming) (4-30000 ms)	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	5	glare time for outgoing seizure (outgoing) 1-10 multiples of 50 ms	only for P3=0 and 2
S9	0	half-way through connection of speech channel (incoming)	
		0 no half-way	
		1 half-way through connection	(only if P1=0)
S10	0	half-way through connection of speech channel (outgoing)	
		0 no half-way	
		1 half-way through connection	(only if P1=0)
S11	0	reserve	
S12	0	reserve	

Shortti-mer	Defaul t (ms)	Description	Remark
S13	0	reserve	
S14	0	reserve	

Parame-ter	Defaul t	Description	Remark
P1	0	type of dialing (incoming)	
		0 pulse dialing	
		2 MF dialing	
P2	0	reaction to B-busy from line (outgoing)	
		0 release	
		1 end of dial (B-busy) message send to DH	
		2 ignore (no message to DH)	
P3	1	direction of seizure	
		0 bidirectional (not requested)	
		1 outgoing	
		2 incoming	
P4	0	transmit ring request after B-free (outgoing)	
		0 no ring request	
		1 ring request	
P5	20	end of dial supervision (outgoing)	
		0 no supervision	
		1-120 multiples of 30 s.	
P6	0	dial tone supervision (outgoing)	
		0 no supervision	
		1 supervision	
P7	6	answer supervision (outgoing)	
		0 no supervision	
		1-120 multiples of 30 sec.	
P8	0	change of speech level attenuation (outgoing/inco- ming)	
		0 no change	
		1 change possible	
P9	20	reanswer or disconnect supervision time upon clear- back (calling party release control/outgoing)	
		0 no supervision	
		1-120 multiples of 30 s.	

Parameter	Default	Description	Remark
P10	0	reserve	
P11	0	reserve	
P12	1	busy override (incoming)	only for P1=0 : pulse dialing
		0 no busy override	
		1 with busy override caused by LW	controled by fixed timer
P13	1	line testing (outgoing)	
		0 no line testing	
		1 line testing	
P14	0	seizure pulse (outgoing/incoming)	
		0 normal seizure pulse	
		1 short seizure pulse	

(85): DB_AM_DEV_DFADAS1: DFADAS1

Longtimer	Default (ms)	Description	Remark
L1	600	transmission time of long signals (release, release acknowledgement) (200-1000 ms)	
L2	200	min. pause between recognition of a signal and transmission of a signal resp. min. pause for transmission of two consecutive signals (150-400 ms)	
L3	200	min. recognition time for long signals resp. max. recognition time for short signals resp. max. recognition time for make (dial) (100-400 ms)	
L4	2000	min. recognition time for blocking resp. max. recognition time for long signals (800- 4000 ms)	long signals : release, release acknowledge
L5	0	reserve	
L6	500	seizure acknowledge ignore window (if P2=1) (100-1000 ms)	
L7	10000	release acknowledge supervision (if P5=1 and/or P12=1) resp. seizure acknowledge supervision (if P2=2) (2000-20000 ms)	

Shorttimer	Default (ms)	Description	Remark
S1	100	short signal sending time (seizure, seizure acknowledgement, answer) (40-120 ms)	
S2	35	minimum recognition time for short signals (32- 50 ms)	short signals: seizure, seizure acknowledge, answer, make for dialing
S3	100	minimum interdigit time (incoming traffic) resp. maximum break time (incoming traffic) (80-150 ms)	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	1	1st digit supervision (incoming traffic) 0 no 1st digit supervision 1-255 1st digit supervision time: (n * 30s)	

Shorttmer	Default (ms)	Description	Remark
S8	3	glare seizure supervision (n * 50 ms) (1-10)	
S9	1	speech path through connection before answer (incoming traffic)	
		0 bothway	
		1 one way through connection	
S10	1	speech path through connection before answer (outgoing traffic)	
		0 bothway	
		1 one way through connection	
S11	4	guard time against outgoing seizure (after an outgoing seizure) 1-40 guard time (n * 250 ms)	
S12	2	guard time against outgoing seizure (after an incoming seizure) 1-40 guard time (n * 250 ms)	
S13	0	signal recognition during transmission	
		0 possible	
		1 deactivated	
S14	1	Incoming seizure acceptance during guard time against outgoing seizure (S11 or S12)	
		0 no	
		1 yes	

Parameter	Default	Description	Remark
P1	0	transmission of seizure acknowledge (incoming traffic)	
		0 no	
		1 yes	
P2	1	seizure acknowledge supervision (outgoing traffic)	
		0 no	
		1 seizure acknowledge possible but will be ignored (L6)	
		2 yes (L7)	
P3	1	transmission of backward release (incoming traffic)	
		0 no	
		1 yes	

Parameter	Default	Description	Remark
P4	1	forward release acknowledge transmission (incoming traffic)	
	0	no	
	1	yes	
P5	0	backward release acknowledge supervision (incoming traffic)	
	0	no	
	1	yes (L7)	
P6	0	dial tone supervision (outgoing traffic)	
	0	without dial tone supervision	
	1	with dial tone supervision	
P7	4	answer supervision (outgoing traffic)	
	0	no answer supervision	
	1-255	supervision time (n * 30s)	
P8	0	change of speech level attenuation (outgoing/incoming)	
	0	no change of level	
	1	with change of level	
P9	0	out of service / blocking signaling (incoming/outgoing)	
	0	no signal	
	1	sending continuous signal (only for testing purposes)	
P10	0	transmit level control (outgoing/incoming)	sum tone level (600/750 Hz)
	0	- 6.5 dBm0	
	1	- 9.0 dBm0	
P11	1	backward release acknowledge transmission (outgoing traffic)	
	0	no	
	1	yes	
P12	0	forward release acknowledge supervision (outgoing traffic)	
	0	no	
	1	yes (L7)	
P13	0	maximum speaking time in talk state (incoming and outgoing traffic)	
	0	no limit	
	1-255	maximum speaking time: (n * 30s)	

Parameter	Default	Description	Remark
P14	0	test procedure (if seizure acknowledge or release acknowledge fails to come)	
	0	no test procedure	
	1-255	with test procedure: time between release and seizure: (n * 30 s)	

(86): DB_AM_DEV_SFADASJ: SFADASJ

Longtimer	Default (ms)	Description	Remark
	120	glare time (10-30000 ms)	
L2	1000	outgoing guard timer (outgoing) (10-30000 ms)	
L3	500	outgoing guard timer (incoming) (10-30000 ms)	
L4	1650	blocking recognition time (1000-30000 ms)	
L5	0	reserve	
L6	1000	delayed through connection of speech channel (1000-30000 ms)	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	2	type of VF signaling (outgoing/incoming)	

Parameter	Default	Description	Remark
		0 1600 Hz	
		1 2100 Hz	
		2 2600 Hz	
P2	0	supervision of dial tone (outgoing)	
		0 no supervision	
		1 supervision	
P3	20	supervision of answer (outgoing)	
		0 no supervision	
		1-120 multiples of 30 sec	
P4	0	half-way through connection of speech channel (outgoing)	
		0 no half-way	
		1 half-way through connection	
P5	0	half-way through connection of speech channel (incoming)	
		0 no half-way	
		1 half-way through connection	
P6	0	reaction to deactivation of circuit (outgoing/incoming)	
		0 no reaction	
		1 send continuous line signal until start up	
P7	0	receive split adjustment	
		0 short: for dial pulses	
		1 short: for seizure , answer , dial pulses	
P8	0	change of speech level attenuation (outgoing/incoming)	
		0 no change	
		1 change possible	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(87):DB_AM_DEV_ANHKZ: ANMOSIG

Longtimer	Default (ms)	Description	Remark
L1	200	flash or ground signal transmission time (60- 500 ms)	
L2	10000	periodical ringing supervision for release recognition from PSTN before answer (incoming traffic) (4000-15000 ms)	
L3	100	minimum time for release recognition from PSTN (feeding interruption) (see P01-high and P02-high) (20- 200 ms)	
L4	400	delay for speech path through-connection after answer; minimum time for answer; delay for line supervision activation after answer (incoming traffic) (100- 2000 ms)	
L5	400	maximum time for charge pulse (300-600 ms)	only if P4_LOW=7 or 8
L6	120	minimum time of ring recognition (100- 500 ms)	
L7	5000	idle supervision time (see P04-high) (500-30000 ms)	In Spain used also for chargerecognition while guard time after a call

Shorttimer	Default (ms)	Description	Remark
S1	40	minimum time for charge pulse (40- 200 ms)	
S2	90	minimum time for charge pause (40- 200 ms)	
S3	0	listener-/controlchannel	
		0 listener-channel	
		1 control-channel	
S4	0	line signaling	
		0 with HKZ-line signaling	
		1 without line signaling, without loop	
		2 without line signaling, with loop	
S5	0	dialing with V_ON 0 normal dialing with V_ON 1 dialing with V_OFF for France	

Shorttimer	Default (ms)	Description	Remark
S6	0	delayed activation of ring detection 0 without delay 1-10 delay (multiple of 500 ms) standard: 4	
S7	10	minimum time for polarity reversal recognition maximal time for reversal charge recognition (multiple of 10 ms) (1- 200)	
S8*	1	high: answer procedure for collect calls incoming traffic) (0- 2)	
		0 normal answer: loop (Brazil)	
		1 answer with loop (1 sec.), loop interruption (S8-low), back to answer (loop) (protection against collect calls)	
		2 if HICOM-party authorized: normal answer (loop) if HICOM-party unauthorized: answer with loop (1sec.), loop interruption (S8-low), back to answer (loop). (protection against collect calls is only for unauthorized users)	
		low: loop interruption time for collect calls (incoming traffic) (0- 10)	
		0 250 ms loop interruption	
		1 - 10 loop interruption (multiple of 500 ms)	
S9	0	reanswer supervision (outgoing traffic) (0- 255)	
		0 no supervision	
		1 - 255 reanswer supervision (in seconds) as long as the calling party remains off-hook, the called party has the possibility to hook on and off again. reanswer supervision can be activated only when P2-low = 2	
S10	2	guard time after an outgoing call (in seconds) (1- 30)	
S11	2	guard time after an incoming call (in seconds) (1- 30)	
S12	0	conversation time limit (0- 255)	

Shorttimer	Default (ms)	Description	Remark
		0 no limit	
		1 - 255 conversation time (multiple of 30 sec.) after the timer expired the conversation will be automatically disconnected.	
S13	0	outgoing seizure start with very low resistance (0- 1)	
		0 10 ms very low resistance	
		1 350 ms very low resistance (Australia)	
S14**	36	charge characteristic (12kHz / 16 kHz)	
		Belgium, Bulgaria, Poland, South Africa (16 kHz Standard)	
		S14 36	
		P12 36	
		Greece, Luxemburg, Norway (16 kHz)	
		S14 36	
		P12 70	
		France, Portugal (12 kHz Standard)	
		S14 50	
		P12 55	
		Hungary, Irland (12 kHz)	
		S14 30	
		P12 27	
		Italy (12 kHz)	
		S14 30	
		P12 53	
		Australia (12 kHz)	
		S14 50	
		P12 50	
		Spain (12 kHz)	
		S14 40	
		P12 55	
		Austria (12 kHz)	
		S14 30	
		P12 31	

Parameter	Default	Description	Remark
P1*	16	high: feeding interruption from PSTN (incoming traffic)	
		0 ignore	
		1 forward release recognition (I3)	
		low: polarity reversal from PSTN (incoming traffic)	
		0 ignore	
		1 forward release recognition (S3)	
P2*	18	high: feeding interruption from PSTN (outgoing traffic)	
		0 ignore	
		1 backward release recognition (I3)	
		low: polarity reversal from PSTN (outgoing traffic)	
		0 ignore	
		1 backward release recognition (S3)	
		2 polarity reversal: answer back to normal feeding: backward release	
P3*	0	high: answer loop (incoming traffic)	
		0 loop is closed, independent from the ring status	
		1 loop will be closed only during the ring pause	For France
		low: release recognition by feeding interruption from PSTN before answer (incoming traffic)	
		0 no release recognition	
		1 release recognition	For France
P4*	0	high: loop start and earth calling	
		0 loop start without idle supervision	
		1 loop start with idle supervision (L7). with loop disconnect during S10 or S11	
		2 earth calling	For Great Britain. P8 must be 1 or 2
		3 loop start without idle supervision, time for charge recognition after loop disconnect (Hicom releases) L7 < S10	For Spain

Parameter	Default	Description	Remark
		low: charge or answer pulse (outgoing traffic)	
		0 no charge and no answer pulse	
		1 50Hz charge pulse	
		2 12kHz charge pulse	
		3 16kHz charge pulse	
		4 reversal charge pulse	Time between polarity reversal and back to normal feeding < S7
		5 12kHz answer pulse	Feature for Syria No charge with additional 12kHz pulses.
		6 wink answer (reversal answer pulse)	Feature for Thailand Time between polarity reversal and back to normal feeding < S37 No charge with additional reversal pulses.
		7 12 kHz charge pulse. after release, only one charge pulse will be accepted	Feature for France Charge pulses shorter than 60ms or longer than 400ms will not be accepted. Fault message.
		8 12 kHz charge pulse. after release, all charge pulses will be accepted.	
		9 50 Hz charge pulse. after release, only one charge pulse will be accepted	
		A 50 Hz charge pulse. after release, all charge pulses will be accepted.	
P5	0	SICOFI-version	
		0 version ≠ V2.3 (SICOFI -Power ON only in seizure - slot)	
		1 version = V2.3 (SICOFI-Power always ON)	
P6*	1	high: ground pulse to PSTN (I1)	
		0 ground pulse on one wire (a or b)	
		1 ground pulse on both wires (a and b)	
		low: dial tone supervision (outgoing traffic)	
		0 no supervision	
		1 with supervision	
P7	0	answer supervision (outgoing traffic). answer supervision can be activated only when P2-low = 2.	

Parameter	Default	Description	Remark
		0 no supervision	
		1-255 answer supervision (in seconds)	
P8	0	supervision of PSTN-release after HICOM released	
		0 no supervision	
		1 with supervision of PSTN-release after HICOM released through loop disconnect for 600 ms. (disconnect clearing). (Great Britain). I3 must be greater than 600 ms.	
		2 with supervision PSTN-release after HICOM released through connection of high resistance (guarded clearing). (Great Britain).	
P9	0	charge simulation	
		0 no charge simulation	
		1-255 with charge simulation	
P10*	2	high: Delayed activation of line supervision	
		0 1 sec.	
		1 30ms	
		low: last look noise suppression (multiple of 4 ms) (0-8)	
P11	32	ring level (v)	
		0-255 ring level	
P12	36	12kHz- / 16kHz charge level (multiple of 0.02V) 50Hz charge level (multiple of 1V)	Default: 16kHz (See Short Timer S14) Set 30 Volt for 50 Hz
		0-255 charge level	
P13*	17	high: high current threshold value; low resistance loop	
		0 5MA	
		1-5 multiple of 10MA	
		low: low current threshold value; high resistance loop	
		0 0,5MA	
		1-5 multiple of 1MA	
P14**	0	transmission parameter board and country dependent parameter (input / balance impedance)	

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example: Parameter P13: high byte :1
low byte :1

} P13[Hex]=11 → P13[Dec]=17

** The parameter P12, short timers S1, S2 and S14 are used for 12kHz and 16 kHz charge recognition.
Any value changing of one of those parameter can influence the other parameter.
The parameter P12, short timer S1 and S2 are used for 50 Hz charge recognition.

(88): DB_AM_DEV_ANDIDLP1: ANDIDLP1

Longti-mer	Default (ms)	Description	Remark
L1	600	minimum time between end of dial and answer (100-1000 ms)	
L2	600	minimum time between answer and backward release (100-1000 ms)	
L3	0	reserve	
L4	200	delay time for speech path through-connection after rering and reanswer (100-1000 ms)	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	50	minimum time for incoming seizure (20-250 ms)	
S2	24	minimum length of dial pulse (8-32 ms)	
S3	96	maximum length of dial pulse (32-120 ms)	
S4	16	minimum length of dial pause (8-32 ms)	
S5	114	digit complete (32-200 ms)	
S6	120	release recognition from CO after dialing (40-250 ms)	
S7	200	minimum time for ring (on/off) recognition (40-255 ms)	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing method	
		0 rotary dialing	
		1 DTMF	
		2 MFC-R2	
P2	0	end of dial control	
		0 send eod controlled by SWU	
		1-6 send eod after n(1-6)-digits are received when P2>0, end of dial from system has priority	
P3	0	reserve	
P4	0	reserve	
P5	0	SICOFI-Version	
		0 Version ≠ V2.3	
		1 Version = V2.3 (SICOFI-Power must be ON continuously)	
P6	0	reserve	
P7	0	reserve	
P8	30	normal feeding supervision	
		0 no supervision	
		1-255 with supervision (in sec.) - after backward release - put into service	
P9	0	the way of speech path through connection	
		0 speech path through connection after rering and reanswer when ring is off	
		1 speech path through connection after rering and reanswer with delay (I4)	
P10*	2	last look noise suppression	
		high: reserve	
		low: last look noise suppression (multiply of 4ms) (0-8)	
P11	32	ring level (v) 0 - 255	
P12	0	reserve	
P13*	17	high/low current treshold value 0 - 5	

Parameter	Default	Description	Remark
		0 P13-high: 5 MA (low resistance loop)	
		1-5 P13-high: multiple of 10 MA	
		0 P13-low: 0.5 MA (high resistance loop)	
		1-5 P13-low: multiple of 0.1 MA	
P14	0	impedance index 0 - 255	
		Hardware-Variant: Q2159 - X110	<i>Level (in dBr) :</i> <i>A → D / D → A</i>
		0 Input Impedance:600 Ohm Balance Impedance:400+700 // 200nF	- 5 / - 2
		1 Input Impedance:600 Ohm Balance Impedance:400+700 // 200nF	- 6 / - 1
		2 Input Impedance:600 Ohm Balance Impedance:400+700 // 200nF	0 / - 7

* High and low bytes value are in hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example:Parameter P13:high byte value:1
low byte value:1



P13[Hex]=11 → P13[Dec]=17

(89):DB_AM_DEV_ANDIDLP2: ANDIDLP2

Longtimer	Default (ms)	Description	Remark
L1	0	reserve	
L2	600	minimum time between answer and backward release (100-1000 ms)	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S1	50	minimum time for incoming seizure (20-250 ms)	
S2	24	minimum length of dial pulse (8-32 ms)	
S3	96	maximum length of dial pulse (32-120 ms)	
S4	16	minimum length of dial pause (8-32 ms)	
S5	114	digit complete (32-200 ms)	
S6	120	release recognition from PSTN after dialing (40-250 ms)	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	dialing method	
		0 rotary dialing	
		1 DTMF	
		2 MFC-R2	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	SICOFI-Version	
		0 Version ≠ V2.3	
		1 Version = V2.3 (SICOFI-Power always ON)	
P6	0	reserve	
P7	0	reserve	
P8	30	normal feeding supervision - after backward release - put into service	
		0 no supervision	
		1-255 with supervision (in sec.)	
P9	0	reserve	
P10*	5	last look noise suppression	
		high: reserve	
		low: last look noise suppression (multiply of 4ms) (0-8)	
P11	32	ring level (V) 0 - 255	
P12	0	reserve	
P13*	17	high/low current treshold value 0 - 5	
		0 P13-high: 5 MA (low resistance loop)	
		1-5 P13-high: multiple of 10 MA	
		0 P13-low: 0.5 MA (high resistance loop)	
		1-5 P13-low: multiple of 0.1 MA	
P14	0	impedance index 0 - 255	

Parameter	Default	Description	Remark
		Hardware-Variant: Q2159 - X100	<i>Level (in dBr) :</i> <i>A → D / D → A</i>
	0	Input Impedance:150+830 // 72 nF Balance Impedance:150+830 // 72 nF	- 4 / - 3
	1	Input Impedance:150+830 // 72 nF Balance Impedance:150+830 // 72 nF	- 6 / - 1

* High and low bytes value are in hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example:Parameter P13:high byte value:1
low byte value:1

} P13[Hex]=11 → P13[Dec]=17

(90): DB_AM_DEV_ANDIDL3: ANDIDL3P3

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(91): DB_AM_DEV_ANDIDL4: ANDIDL4

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(92): DB_AM_DEV_ANDIOLP1: ANDIOLP1

Longti-mer	Default (ms)	Description	Remark
L1	100	flash signal transmission time (50-120 ms)	
L2	10000	wait for loop current after outgoing seizure (500-15000 ms)	
L3	1000	charge receive deactive time by outgoing seizure (100-2000 ms)	
L4	600	guard time against outgoing call (500-10000 ms)	
L5	500	charge receive time after forward release (outgoing traffic) (200-1000 ms)	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	40	minimum time for incoming seizure (10-250 ms)	
S2	16	minimum length of dial pulse (10-100 ms)	
S3	100	digit complete (30-200 ms)	
S4	40	minimum time for charge pulse (40-200 ms)	
S5	40	minimum time for charge pause (40-200 ms)	
S6	160	release recognition from PSTN after dialing (40-250 ms)	
S7	60	end of dial pulse transmission time (40-100 ms)	
S8	30	delay time against backward release (30-100 ms)	
S9	100	loop time by put into service (80-200 ms)	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	

Shorttimer	Default (ms)	Description	Remark
S13	0	reserve	
S14*	30	charge characteristic (20-250 ms)	
		Austria (12 kHz)	
		S14 30	
		P12 31	

*The parameter P12, short timers S1, S2 and S14 are used for 12 kHz and 16 kHz charge recognition .

Any value changing of one of those parameter can influence the other parameter.

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4*	2	high reserve	
		low metering	
		0 no metering	
		1 50Hz metering pulses	
		2 12kHz metering pulses	
		3 16kHz metering pulses	
P5	0	SICOFI-Version	
		0 Version ≠ V2.3	
		1 Version = V2.3 (SICOFI-Power always ON)	
P6	1	dial tone supervision	
		0 without dial tone supervision	
		1 with dial tone supervision	
P7	0	reserve	
P8	30	first digit supervision	
		1-255 multiple of 1 second	
P9	0	reserve	
P10*	2	last look noise suppression	
		high reserve	
		low last look noise suppression (multiple of 4ms)	
P11	32	ring level (v) 0 - 255	

Parameter	Default	Description	Remark
P12**	31	12 kHz/16 kHz charge level 50 Hz charge level (multiple of 1 V)	
P13	17	high/low current treshold value 0 - 5	
		0 P13-high: 5 MA	
		1-5 P13-high: 10 MA unit	
		0 P13-low: 0.5 MA	
		1-5 P13-low: 0.1 MA unit	
P14	0	impedance index 0 - 255	
		Hardware-Variant: Q2159 - X120	<i>Level (in dBr) :</i> <i>A → D / D → A</i>
		0 Input Impedance:220+820 // 115 nF Balance Impedance:220+1200 // 150 nF	- 3 / - 4
		1 Input Impedance:220+820 // 115 nF Balance Impedance:220+1200 // 150 nF	- 9 / + 2
		2 Input Impedance:220+820 // 115 nF Balance Impedance:220+1200 // 150 nF	- 6 / - 1

*High and low bytes value are in hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example:Parameter P13:high byte value:1
low byte value:1

} P13[Hex]=11 → P13[Dec]=17

**The parameter P12, short timers S1, S2 and S14 are used for 12kHz and 16 kHz charge recognition. Any value changing of one of those parameter can influence the other parameter.

(93): DB_AM_DEV_ANDIOLP2: ANDIOLP2

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(94): DB_AM_DEV_GUSIND: CISIND

Longti-mer	Default (ms)	Description	Remark
L1	2800	answer recognition time with ANI: 2800ms, without ANI: 70ms (P11=3) (100-30000ms)	(outgoing local)
L2	500	min. time between two signal transmissions (100-1000ms)	(incoming/outgoing , toll/local)
L3	0	reserve	
L4	2000	max.. recognition time for release pulse, min. blocking / alarm recognition time (1000-5000ms)	(incoming/outgoing , toll/local)
L5	500	outgoing guard time (incoming/outgoing , toll/local)) (100-5000ms)	
L6	1000	delayed through connection of speech channel (1000-3000ms)	only if P11=0 (ANI-request line signal possible but will be ignored) (incoming / outgoing local)
L7	3000	delay for ANI-removal to DH (1000-30000ms)	only if P11=1 or 2 (outgoing local)

Shortti-mer	Default (ms)	Description	Remark
S1	40	max. recognition time short pulses (S-pulses) and min. recognition time for long pulses (L-pulses) (28-60 ms)	(incoming/outgoing , toll/local)
S2	126	max. recognition time for L-pulses and min. recognition time for release pulses (R-pulses) (100-150 ms)	(incoming/outgoing , toll/local)
S3	90	max. recognition time for make/break pulses (60-100 ms)	(incoming , toll/local)
S4	0	reserve	
S5	40	glare time (40-150 ms)	(outgoing local)
S6	0	reserve	
S7	0	reserve	
S8	0	method of startup 0 no line signal for startup (incoming/outgoing , toll/local) 1 startup with seizure-disconnect line signal (outgoing/bothway) startup with disconnect line signal (incoming)	(incoming/outgoing , toll/local)

Shortti-mer	Default (ms)	Description	Remark
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	type of remote exchange	(outgoing local)
	0	modern exchange type (with register)	
	1	old exchange type (without register)	
P3	7	direction of seizure	(incoming / outgoing, toll/local)

Parameter	Default	Description	Remark
		0 outgoing directed, local or toll ascending traffic	
		1 incoming directed, local or toll ascending traffic	
		2* outgoing directed, toll descending traffic	
		3* incoming directed, toll descending traffic	
		4 incoming directed, toll descending traffic: with conversion toll->local protocol	
		5* combined, outgoing or incoming local traffic or outgoing toll ascending traffic or incoming toll descending traffic (glare priority: incoming traffic)	
		6* combined, outgoing or incoming local traffic or incoming ascending toll traffic or outgoing descending toll traffic (glare priority: outgoing traffic)	
		7 combined, outgoing or incoming local traffic or outgoing toll ascending traffic or incoming toll descending traffic with conversion toll->local protocol (seizure priority: incoming traffic)	
		8 combined, outgoing or incoming local traffic or outgoing toll ascending traffic or incoming toll ascending traffic or outgoing descending traffic (seizure priority: outgoing traffic)	
P4*	0	ring/ rering transmission after B-free	(outgoing toll)
P5	3	simulation of B-free	(incoming toll)
		0 no simulation	
		1-20 simulation of B-free after time in multiples of 10s	
P6	0	supervision of dial tone	(outgoing local)
		0 no supervision	
		1 supervision	
P7	20	supervision of answer	(outgoing local)
		0 no supervision	
		1-120 supervision time in multiples of 30s	
P8	0	reaction to AUSLOESEN / WE_BESETZT from DH before answer	(incoming toll / local)

Parameter	Default	Description	Remark
		0 only busy tone	
		1 send backward release signal	
P9*	0	DH changes for Rural toll traffic	
P10	1	blocking transmission	(incoming + bothway)
		0 no blocking transmission	
		1 blocking transmission	
P11	3	ANI-request signal activates codogram transmission	(outgoing local)
		0 ANI-request/-removal signal will be ignored by LW	
		1 ANI-START to DH with ANI-removal recognition (after answer)	
		2 ANI-START to DH with new ANI-request recognition (after answer)	
		3 no ANI-request/-removal line signal, line signal is answer (L1=70ms)	
P12*	0	ring-request evaluation before answer	(incoming toll)
P13	0	rering-request evaluation after clearback	(incoming desc. toll)
		0 line signal ignored	
		1 simulated rering (reseizure + digits)	
P14*	0	reset-request evaluation after B-busy local	(incoming toll)

* not implemented

(95): DB_AM_DEV_GUSNORKA: CISNORKA

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(96): DB_AM_DEV_GUSCOMB: CISCOMB

Longti-mer	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	

Parameter	Default	Description	Remark
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(97): DB_AM_DEV_QSTF3: TSC3

Longtimer	Default (ms)	Description	Remark
L1	1000	sending time for release forward pulse (200-4000)	
L2	1000	sending time for clear back pulse (200-4000)	
L3	6500	sending time for blocking begin pulse (400-10000)	
L4	360	sending time for blocking end pulse (200-4000)	
L5	4300	maximum time for recognition of clear back or blocking end pulse (200-8000ms)	
L6	500	time of ignore line signal after release from system by put into service	
L7	0	reserve	

Shorttimers	Default (ms)	Description	Remark
S1	100	recognition time for directional seizure (S2+S1), (40-252ms)	
S2	100	recognition time for normal seizure, seizure acknowledge, start of dial, end of dial, answer (40-240ms)	
S3	100	max. time of recognition for dial pulse (40-240ms)	
S4	100	recognition time for end of dial (40-240ms)	
S5	140	sending time for directional seizure pulse (60-252ms)	
S6	60	sending time for normal seizure pulse (24-200ms)	
S7	60	sending time for test seizure pulse (24-240ms)	
S8	60	sending time for seizure acknowledge pulse (24-200)	
S9	60	sending time for start of dial pulse (24-200ms)	
S10	60	sending time for end of dial pulse (24-200ms)	

Shorttimers	Default (ms)	Description	Remark
S11	60	sending time for answer pulse (24-200ms)	
S12	200	min. distance between 2 sending signals (40-252ms)	
S13	40	time for glare seizure (12-100ms)	
S14	0	reserve	

Parameter	Default	Description	Remark
P1-high*	0	2 / 4 wire voice	only 4 wire voice implemented
	0	4 wire voice	
	1	2 wire voice (fork)	
P1-low*	0	E&M - type	
	0	type IA (V)	
	1	DC5	
	2	type I	
	3	type II	
	4	HL / LL with type I	HL: high level supervision
	5	HL / LL with type IA (V)	LL: low level supervision
P2	0	Impedance-Index	
		level A->D [dB] level D->A [dB] A / μ -law	
	0	-3,5 -3,5 A	4 wire standard level C13
	1	-1,5 -1,5 A	Australia old
	2	+0,5 -4,5 A	GBR
	3	0 -6 μ	USA
	4	-4,5 -2,5 A	GUS
	5	-2,5 -4,5 A	BRD
	6	0 0 A	Australia new
	7	-7,0 0 A	standard level for 4-2 wire-converter with (-3,5/-3,5)
	8	0 -8,5 A	ITL railway + EVU
	9	+7 -16,0 A	Korea, Japan
	10	+4,3 -13,0 A	BRD, GUS, UNG C11-FDM
	11	+3,3 -12,0 A	GUS C11
P3-high*	0	low level-controlling (TP- low level)	only if P1-low = 4 or 5, only the alarm measuring is used (optional)

Parameter	Default	Description		Remark
		0	only line supervision	TP on ground = no alarm
		1	line supervision with going in service periodical	TP on ground = no alarm
		2	with alarm measuring	TP on ground = no alarm
		3	only line supervision with TP invert	TP on ground = alarm
		4	line supervision with going in service periodical with TP invert	TP on ground = alarm
		5	with alarm measuring with TP invert	TP on ground = alarm
P3-low*	0	Normal / Inversmode		only valid for highpegel-line
		0	Normal Signaling (Idle: M=OFF / E=OFF)	
		1	Inverse Signaling at M- and E-wire (Idle: M=ON / E=ON)	
		2	Inverse Signaling only at E-wire (Idle: M=OFF / E=ON)	
		3	Inverse Signaling only at M-wire (Idle: M=ON / E=OFF)	
P4		reserve		
P5-high*	0	Quad-SICOFI Version		Parameter depends from version of QUAD-SICOFI
		0	Version not equal V2.3 (switched on only at talk-state)	
		1	Version V2.3 (switched on always)	
P5-low*	4	Last Look (LL)		
		0-15	multiple of 1ms	
P6-high*	0	reaction of pulse dialing at recognition of line signal		out
		0	continue pulse dialing	
		1	suppress pulse dialing	
P6-low *		reserve		
P7	0	reserve		
P8	0	reserve		
P9	0	reserve		
P10	0	reserve		
P11	0	reserve		
P12	0	reserve		
P13	0	reserve		
P14	0	Highway / time slot release triggered by event		

Parameter	Default	Description	Remark
		0	Release of time slots / highways by receiving the event DB_EE_E_AUSLOESEN message
		1	Release of time slots / highways by receiving the event DB_EE_E_KOMMEND_BTBT message

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example: Parameter P3: high byte : 2
low byte : 0

} P3[Hex]=20 → P3[Dec]=32

(98): DB_AM_DEV_QSTF4 : TSC4

Longti-mer	Default (ms)	Description	Remark
L1	625	sending time for release forward	
L2	625	sending time for release backward	
L3	0	reserve	
L4	0	reserve	
L5	200	max. recognition time for short pulse	
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	40	min. recognition time for short pulse	
S2	200	max. recognition time for invalid pulse	
S3	0	reserve	
S4	100	recognition time for end of dial (dial pause)	
S5	0	reserve	
S6	100	sending time for normal seizure	
S7	100	sending time for test seizure	
S8	0	reserve	
S9	100	sending time for start dial seizure	
S10	0	reserve	
S11	100	sending time for answer	
S12	200	time of ignore line signal after release from system	
S13	40	time for glare seizure (12-200ms)	
S14	0	reserve	

Parameter	Default	Description	Remark
P1-high*	0	2 / 4 wire voice	only 4 wire voice implemented
	0	4 wire voice	
	1	2 wire voice (fork)	
P1-low*	0	E&M - type	

Parameter	Default	Description	Remark
		0 type IA (V)	
		1 DC5	
		2 type I	
		3 type II	
		4 HL / LL with type I	not used
		5 HL / LL with type IA (V)	not used
P2	0	Impedance-Index	
		level A->D [dB] level D->A [dB] A / μ -law	
		0 -3,5 -3,5 A	4 wire standard level C13
		1 -1,5 -1,5 A	Australia old
		2 +0,5 -4,5 A	GBR
		3 0 -6 μ	USA
		4 -4,5 -2,5 A	GUS
		5 -2,5 -4,5 A	BRD
		6 0 0 A	Australia new
		7 -7,0 0 A	standard level for 4-2 wire-con- verter with (-3,5/-3,5)
		8 0 -8,5 A	ITL railway + EVU
		9 +7 -16,0 A	Korea, Japan
		10 +4,3 -13,0 A	BRD, GUS, UNG C11-FDM
		11 +3,3 -12,0 A	GUS C11
P3-high*	0	low level-controlling	not used
		0 only line supervision	
		1 line supervision with going in service periodical	
		2 with alarm measuring	
P3-low	0	Normal / Inversmode	only valid for high level-line
		0 Normal Signaling (Idle: M=OFF / E=OFF)	
		1 Inverse Signaling at M- and E-wire (Idle: M=ON / E=ON)	
		2 Inverse Signaling only at E-wire (Idle: M=OFF / E=ON)	
		3 Inverse Signaling only at M-wire (Idle: M=ON / E=OFF)	
P4		reserve	

Parameter	Default	Description		Remark
P5-high*	0	Quad-SICOFI Version		Parameter depends from version of QUAD-SICOFI
		0	Version not equal V2.3 (switched on only at talk-state)	
		1	Version V2.3 (switched on always)	
P5-low*	4	Last Look (LL)		
		0-15	multiple of 1ms	
P6-high*	0	reaction of pulse dialing at recognition of line signal		out
		0	continue pulse dialing	
		1	suppress pulse dialing	
P6-low *	0	reserve		
P7	0	reserve		
P8	0	reserve		
P9	0	reserve		
P10	0	reserve		
P11	0	reserve		
P12	0	reserve		
P13	0	reserve		
P14	0	Highway / time slot release triggered by event		
		0	Release of time slots / highways by receiving the event DB_EE_E_AUSLOESEN message	Works via COP ACKB and ACKF
		1	Release of time slots / highways by receiving the event DB_EE_E_KOMMEND_BTBT message	This parameter must be set if the COP ACKB and/or ACKF are not set!

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example: Parameter P3: high byte :2
low byte :0

} P3[Hex]=20 → P3[Dec]=32

(99): DB_AM_DEV_ QSTF5 : TSC5

Longtimer	Default (ms)	Description	Remark
L1	1300	sending time for release forward pulse or clear back acknowledge pulse (200-4000 ms)	out
L2	600	sending time for clear back pulse (200-4000ms)	inc
L3	5000	outgoing guard time	out/inc
L4	10000	supervision time of clear back acknowledge (5000-30000ms)	inc
L5	5000	maximum time for recognition of clear back or blocking end pulse (200-8000ms)	out/inc
L6	10000	maximum time for recognition of blocking pulse (1000-30000ms)	inc
L7	5000	supervision time of seizure acknowledge (1000-30000ms)	out

Shorttimer	Default (ms)	Description	Remark
S1	120	maximum time of recognition for seizure acknowledge (40-252ms)	out
S2	120	maximum time of recognition for seizure (40-240ms)	inc
S3	200	maximum time of recognition for dial pulse (40-240ms)	inc
S4	200	recognition time for end of dial (dial pause) (40-240ms)	inc
S5	0	reserve	
S6	40	sending time of seizure (24-200ms)	out
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	200	minimum distance between 2 sending signals (40-252ms)	out/inc

Shorttimer	Default (ms)	Description	Remark
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1-high*	0	2 / 4 wire voice	only 4 wire voice implemented
	0	4 wire voice	
	1	2 wire voice (fork)	
P1-low*	0	E&M - type	
	0	type IA (V)	
	1	DC5	
	2	type I	
	3	type II	
	4	HL / LL with type I	not used
	5	HL / LL with type IA (V)	not used
P2	0	Impedance-Index	
		level A->D [dB] level D->A [dB] A / μ -law	
	0	-3,5 -3,5 A	4 wire standard level C13
	1	-1,5 -1,5 A	Australia old
	2	+0,5 -4,5 A	GBR
	3	0 -6 μ	USA
	4	-4,5 -2,5 A	GUS
	5	-2,5 -4,5 A	BRD
	6	0 0 A	Australia new
	7	-7,0 0 A	standard level for 4-2 wire-converter with (-3,5/-3,5)
	8	0 -8,5 A	ITL railway + EVU
	9	+7 -16,0 A	Korea, Japan
	10	+4,3 -13,0 A	BRD, GUS, UNG C11-FDM
	11	+3,3 -12,0 A	GUS C11
P3-high*	0	low level-controlling	not used
	0	only line supervision	
	1	line supervision with going in service periodical	
	2	with alarm measuring	

Parameter	Default	Description		Remark
P3-low*	0	Normal / Inversmode		only valid for highpegel-line
		0	normal signaling (Idle: M=OFF / E=OFF)	
		1	inverse signaling at M- and E-wire (Idle: M=ON / E=ON)	
		2	inverse signaling only at E-wirer (Idle: M=OFF / E=ON)	
		3	inverse signaling only at M-wire (Idle: M=ON / E=OFF)	
P4		reserve		
P5-high*	0	Quad-SICOFI Version		Parameter depends from version of QUAD-SICOFI
		0	Version not equal V2.3 (switched on only at talk-state)	
		1	Version V2.3 (switched on always)	
P5-low*	4	Last Look (LL)		
		0-15	multiple of 1ms	
P6-high*		reserve		
P6 - low*	0	seizure acknowledge		out/inc
		0	without seizure acknowledge	
		1	with seizure acknowledge	
P7-high*	0	clear back acknowledge		out
		0	no clear back acknowledge	
		1	clear back acknowledge while receiving clear back (after min time for clear back P12*100ms)	
		2	clear back acknowledge after end of clear back pulse	
P7-low*	0	receive clear back acknowledge		inc
		0	no waiting for clear back acknowledge	
		1	waiting for clear back acknowledge (after recognition of clear back acknowledge or supervision time out (L4) change to idle)	
		2	waiting for clear back acknowledge (after recognition of clear back acknowledge change to idle. After supervision time out (L4) alarmmessage to DH. Waiting for clear back acknowledge or new seizure.)	
P8-high*	0	going in service		out

Parameter	Default	Description	Remark
		0	without line signal
		1	send release forward
		2	send seizure, release repeatedly
P8-low*	0	blocking from line	inc
		0	blocking with continuous signal
		1	blocking beginn with long pulse, blocking end with seizure or release forward pulse
P9	7	maximum time of recognition for seizure acknowledge ($S1 < t < P9 \cdot 100\text{ms} + S1$) multiple of 100ms	out
P10	5	sending time for seizure acknowledge ($P10 \cdot 100\text{ms}$) multiple of 100ms	inc
P11	3	minimum time of recognition for release forward ($P11 \cdot 100\text{ms}$) multiple of 100ms	inc
P12	3	minimum time of recognition for clea back ($P12 \cdot 100\text{ms}$) multiple of 100ms	out
P13	3	minimum time of recognition for clear back acknowledge ($P13 \cdot 100\text{ms}$) multiple of 100ms	inc
P14	0	Highway / time slot release triggered by event	
		0	Release of time slots / highways by receiving the event DB_EE_E_AUSLOESEN message Works via COP ACKB and ACKF.
		1	Release of time slots / highways by receiving the event DB_EE_E_KOMMEND_BTBT message This parameter must be set if the COP ACKB and/or ACKF are not set!
		2	Release of time slots / highways by receiving the event DB_EE_E_AUSLOESEN message The M_ON will be sent 40ms after E_OFF fix independent from any message from DH.

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example! Parameter P3: high byte :2
low byte :0

} P3[Hex]=20 → P3[Dec]=32

(100): DB_AM_DEV_QSTF6: TSC6

Longti-mer	Default (ms)	Description	Remark
L1	700	sending time for release forward impulse (200-4000ms)	out
L2	2500	sending time for release backward impulse (200-4000ms)	in
L3	0	reserve	
L4	360	minimum recognition time for release backward impulse and maximum recognition time for seizure acknowledge, start dial signal, end-of-dial and answer (S1 + L4) (200-4000ms)	out
L5	400	minimum recognition time for release forward impulse and maximum recognition time for seizure and dial pulse (200-4000ms)	in
L6	0	reserve	
L7	0	reserve	

Shortti-mer	Default (ms)	Description	Remark
S1	40	minimum recognition time for seizure acknowledge, start dial signal, end-of-dial and answer (20-255ms)	out
S2	100	guard time for incoming seizure after release from DH (20-255ms)	out/in
S3	0	reserve	
S4	132	recognition time for end-of-digit (40-240ms)	in
S5	0	reserve	
S6	60	sending time for seizure impulse (24-200ms)	out
S7	24	minimum recognition time for dial impulses (12-240ms)	in
S8	60	sending time for seizure acknowledge impulse (24-200ms)	in
S9	60	transmission time for start dial signal impulse (24-200ms)	in
S10	60	sending time for end-of-dial impulse (24-200ms)	in

Shortti-mer	Default (ms)	Description	Remark
S11	60	sending time for answer impulse (24-200ms)	in
S12	0	reserve	
S13	36	minimum recognition time for seizure impulse (24-255ms)	in
S14	20	minimum recognition time for dial pause (12-255ms)	in

Parame-ter	Default	Description	Remark
P1-high*	0	2 / 4 wire voice	only 4 wire voice implemented
	0	4 wire voice	
	1	2 wire voice (Hybrid)	
P1-low*	0	E&M - type	
	0	type IA (V)	
	1	DC5	
	2	type I	
	3	type II	
	4	HL / LL with type I	HL: high level supervision
	5	HL / LL with type IA (V)	LL: low level supervision
P2	0	Impedance index	
		level A->D [dB] level D->A [dB] A / μ -law	
	0	-3,5 -3,5 A	4 wire standard level C13
	1	-1,5 -1,5 A	Australia old
	2	+0,5 -4,5 A	GBR
	3	0 -6 μ	USA
	4	-4,5 -2,5 A	GUS
	5	-2,5 -4,5 A	BRD
	6	0 0 A	Australia new
	7	-7,0 0 A	standard level for 4-2 wire-con- verter with (-3,5/-3,5)
	8	0 -8,5 A	ITL railway + EVU
	9	+7 -16,0 A	Korea, Japan
	10	+4,3 -13,0 A	BRD, GUS, UNG C11-FDM
	11	+3,3 -12,0 A	GUS C11

Parameter	Default	Description		Remark
P3	32	Low level supervision control / Normal / Inverse mode		LL only if P1-low = 4 or 5, only the alarm measuring is used (optional)
P3-high*	2	Low level supervision control (TP-low level)		
		0	only line supervision	TP on ground = no alarm
		1	line supervision with going in service periodical	TP on ground = no alarm
		2	with alarm measuring	TP on ground = no alarm
		3	only line supervision with TP invert	TP on ground = alarm
		4	line supervision with going in service periodical with TP invert	TP on ground = alarm
		5	with alarm measuring withTP invert	TP on ground = alarm
P3-low*	0	Normal / Inverse mode		
		0	Normal Signalling (Idle: M=OFF / E=OFF)	
		1	Inverse Signalling for M- and E-wire (Idle: M=ON / E=ON)	
		2	Inverse Signalling only for E-wire (Idle: M=OFF / E=ON)	
		3	Inverse Signalling only for M-wire (Idle: M=ON / E=OFF)	
P4		reserve		
P5-high*	0	Quad-SICOFI Version		Parameter depends on QUAD-SICOFI-Version
		0	Version different from V2.3 (on only in talk state)	
		1	Version V2.3 (always on)	
P5-low*	4	Last Look (LL)		
		0-15	(... x 1ms)	
P6	0	reserve		
P7	0	reserve		
P8	0	reserve		
P9	0	reserve		
P10	0	reserve		
P11	0	reserve		
P12	0	reserve		
P13	0	reserve		
P14	0	Highway / time slot release triggered by event		

Parameter	Default	Description	Remark
	0	Release of time slots / highways by receiving the event DB_EE_E_AUSLOESEN message	Works via COP ACKB and ACKF
	1	Release of time slots / highways by receiving the event DB_EE_E_KOMMEND_BTBT message	This parameter must be set if the COP ACKB and/or ACKF are not set!

* High and low bytes value are in hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example:Parameter P3:high byte value:2
low byte value:0

}

P3[Hex]=20 → P3[Dec]=32

154.6.6 Appendix 2, Part 6: Initblocks 101 till 115, 119 till 123

(101): DB_AM_DEV_QSTF7: TSC7

Long timer	Default (ms)	Description	Remark
L1	800	sending time for release forward impulse (200-4000 ms)	
L2	800	sending time for release backward impulse (200-4000 ms)	
L3	0	reserve	
L4	0	reserve	
L5	10000	max. recognition time for release (200-15000 ms)	
L6	500	time of ignore line signal after release from system by put into service	
L7	0	reserve	

Short timer	Default (ms)	Description	Remark
S1	220	recognition time for seizure type 2 (40-252ms)	
S2	180	recognition time for seizure type 1 seizure acknowledge, answer (40-240ms)	
S3	100	max. recognition time for dial pulse (40-240ms)	
S4	100	recognition time for end-of-digit (40-240ms)	
S5	70	sending time for seizure type 2 or 3 (60-252ms)	
S6	250	sending time for seizure type 1 (24-255ms)	
S7	70	sending time for test seizure pulse (24-240ms)	
S8	40	sending time for seizure acknowledge pulse (24-200ms)	
S9	0	reserve	
S10	0	reserve	
S11	100	sending time for answer pulse (24-200ms)	

Short timer	Default (ms)	Description	Remark
S12	200	min. distance between 2 sending signals, seizure acknowledge and answer (40-252ms)	
S13	40	time for glare seizure (12-100ms)	
S14	0	Time between receive seizure and send seizure acknowledgement 0: send seizure acknowledgement controlled by DH 1-255: Time between seizure and send seizure acknowledge (plus LW-delay from 40 ms)	If S14<>0, than DH-Timer: CHA- DTIM1: TYPEDH=TIE , RESET4=20;

Parameter	Default	Description				Remark
P1-high*	0	2 / 4 Draht voice				only 4 wire voice available
		0	4 Draht voice			
		1	2 Draht voice (Gabel)			
P1-low*	0	E&M - type				
		0	type IA (V)			
		1	DC5			
		2	type I			
		3	type II			
		4	HL / LL with type I			HL: high level supervion
		5	HL / LL with type IA (V)			LL: low level supervision
P2	0	Impedance-Index				
			level A->D [dB]	level D->A [dB]	A / μ-law	
		0	-3,5	-3,5	A	4 wire standard level C13
		1	-1,5	-1,5	A	Australia old
		2	+0,5	-4,5	A	GBR
		3	0	-6	m	USA
		4	-4,5	-2,5	A	GUS
		5	-2,5	-4,5	A	BRD
		6	0	0	A	Australia new
		7	-7,0	0	A	standard level for 4-2 wire-converter with (-3,5/-3,5)
		8	0	-8,5	A	ITL railway + EVU
		9	+7	-16,0	A	Korea, Japan
		10	+4,3	-13,0	A	BRD, GUS, UNG C11-FDM
11	+3,3	-12,0	A	GUS C11		
P3-high*	0	low level-controlling (TP-low level)				only if P1-low = 4 or 5

Parameter	Default	Description		Remark
		0	only line supervision	TP on ground = no alarm
		1	line supervision with going in service periodical	TP on ground = no alarm
		2	with alarm measuring	TP on ground = no alarm
		3	only line supervision with TP invert	TP on ground = alarm
		4	line supervision with going in service periodical with TP invert	TP on ground = alarm
		5	with alarm measuring with TP invert	TP on ground = alarm
P3-low*	0	Normal / Inversmode		only valid for high level-line
		0	Normal Signaling (Idle: M=OFF / E=OFF)	
		1	Inverse Signaling at M- and E-wire (Idle: M=ON / E=ON)	
		2	Inverse Signaling only at E-wire (Idle: M=OFF / E=ON)	
		3	Inverse Signaling only at M-wire (Idle: M=ON / E=OFF)	
P4	0	reserve		
P5-high*	0	Quad-SICOFI Version		Parameter depends from version of QUAD-SICOFI
		0	Version not equal V2.3 (switched on only at talk-state)	
		1	Version V2.3 (switched on always)	
P5-low*	4	Last Look (LL)		
		0-15	multiple of 1ms	
P6-high*	0	reaction of pulse dialing at recognition of line signal		out
		0	continue pulse dialing	
		1	suppress pulse dialing	
P7	0	reserve		
P8	0	reserve		
P9	0	reserve		
P10	0	reserve		
P11	0	reserve		
P12	0	reserve		
P13	0	reserve		
P14	0	Highway / time slot release triggered by event		

Parameter	Default	Description	Remark
		0 Release of time slots / highways by receiving the event DB_EE_E_AUSLOESEN message	Works via COP ACKB and ACKF
		1 Release of time slots / highways by receiving the event DB_EE_E_KOMMEND_BTBT message	This parameter must be set if the COP ACKB and/or ACKF are not set!

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example: Parameter P3: high byte: 2, low byte: 0 ==> P3[Hex]=20 --> P3[Dec]=32

(102): DB_AM_DEV_QSTF8: TSC8

Longtime r	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	

Parameter	Default	Description	Remark
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(103): DB_AM_DEV_QSEMCONT: QSEMCONT

Longtime r	Default (ms)	Description	Remark
L1	300	minimal transmit time for release (30 - 2000ms)	
L2	180	recognition tie for forward release, maximal time for break (DP) (10 - 2000ms)	
L3	180	recognition time for backward signals (10 - 2000ms)	If P6=0: t $\geq$ L3: backward release t<L3: backward impuls If P6=1: t $\geq$ L3: end of dial, backward release
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	40	time for glare seizure (10-255ms)	
S2	60	transmit time for backward pulsed signals (e.g.: seizure acknowledge, answer, etc.) (10-255ms)	only if P6=0
S3	80	maximal recognition time for make (DP) = minimal recognition time for interdigit pause (10-255ms)	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description				Remark
P1-high*	0	2 / 4 Wire voice				only 4 wire voice available
		0	4 Wire voice			
		1	2 Wire voice (hybrid)			
P1-low*	0	E&M - type				
		0	type IA (V)			
		1	DC5			
		2	type I			
		3	type II			
		4	HL / LL with type I			HL: high level supervision
		5	HL / LL with type IA (V)			LL: low level supervision
P2	0	Impedance-Index				
			evel A->D [dB]	level D->A [dB]	A / μ-law	
		0	-3,5	-3,5	A	4 wire standard level C13
		1	-1,5	-1,5	A	Australia old
		2	+0,5	-4,5	A	GBR
		3	0	-6	m	USA
		4	-4,5	-2,5	A	GUS
		5	-2,5	-4,5	A	BRD
		6	0	0	A	Australia new
		7	-7,0	0	A	standard level for 4-2 wire-converter with (-3,5/-3,5)
		8	0	-8,5	A	ITL railway + EVU
		9	+7	-16,0	A	Korea, Japan
		10	+4,3	-13,0	A	BRD, GUS, UNG C11-FDM
11	+3,3	-12,0	A	GUS C11		
P3-high*	0	low level supervision (TP- low level)				only if P1-low = 4 or 5
		0	only line supervision			TP on ground = no alarm
		1	line supervision with going in service periodical			TP on ground = no alarm
		2	with alarm measuring			TP on ground = no alarm
		3	only line supervision with TP invert			TP on ground = alarm
		4	line supervision with going in service periodical with TP invert			TP on ground = alarm
		5	with alarm measuring withTP invert			TP on ground = alarm
P3-low*	0	Normal / Inversmode				only valid for highpegel-line

Parameter	Default	Description		Remark
		0	Normal Signaling (Idle: M=OFF / E=OFF)	
		1	Inverse Signaling at M- and E-wire (Idle: M=ON / E=ON)	
		2	Inverse Signaling only at E-wire (Idle: M=OFF / E=ON)	
		3	Inverse Signaling only at M-wire (Idle: M=ON / E=OFF)	
P4	0	reserve		
P5-high*	0	Quad-SICOFI Version		Parameter depends from version of QUAD-SICOFI
		0	Version not equal V2.3 (switched on only at talk-state)	
		1	Version V2.3 (switched on always)	
P5-low*	4	Last Look (LL)		
		0-15	multiple of 1ms	
P6-high*	0	reserve		
P6-low*	0	Protocol		
		0	E&M continuous universal or CEPT-L1	
		1	E&M continuous loop converter	
P7	0	reserve		
P8	0	reserve		
P9	0	reserve		
P10	0	reserve		
P11	0	reserve		
P12	0	reserve		
P13	0	reserve		
P14	0	reserve		

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example: Parameter P3: high byte: 2, low byte: 0 ==> P3[Hex]=20 --> P3[Dec]=32

(104): DB_AM_DEV_EMCONT2: EMCONT2

Longtime r	Default (ms)	Description	Remark
L1	5000	maximum recognition time for seizure acknowledge pulse 40 - 10000 ms	out
L2	180	maximum recognition time for release guard 40 - 500 ms	out when P8-high=1 -> (L2 > L4)
L3	120	minimum recognition time for clear forward or release backward 100 - 600 ms	out/inc
L4	90	minimum transmission time for release guard 40 - 500 ms	inc when P8-high=1 -> (L2 > L4)
L5	100	minimum recognition time for seizure 20 - 500 ms	inc when P6-low=1-> (L5 > S3)
L6	200	minimum recognition time for release acknowledge 100 - 1000 ms	out
L7	400	minimum transmission time for answer 20 - 1000 ms	inc

Shorttime r	Default (ms)	Description	Remark
S1	80	minimum recognition time for seizure acknowledge pulse 40 - 200 ms	out
S2	100	minimum transmission time for clear backward before release guard 20 - 255 ms	inc
S3	30	supervision time for glare seizure	out
		02,4 seconds	inc
		4-255time in ms	
S4	140	transmission time for Wink start	inc
		0: 300ms impulse	
		60 - 255: time in ms	
S5	100	minimum transmission time for delay dial 20 - 255 ms	inc
S6	60	minimum recognition time for metering pulse 20 - 255 ms	out
S7	10	time to ignore pulsed dialing on incoming side after wink start or delay dial signal	inc
		0: not ignore	
		1 - 100: time to ignore in ms	

Shorttime r	Default (ms)	Description	Remark
S8	0	conversation supervision	out/inc
		0: endless	
		1 - 255: supervision time in 30 s.-steps	
S9	120	answer supervision in case of outgoing directed traffic	out
		0: no answer supervision	
		1 - 255: answer supervision in seconds	
S10	0	guard time before new outgoing seizure	out/inc
		0: 500 ms	
		1 - 255: guard time in 1 s.-steps	
S11	0	allowed time for override impulse	inc
		0 : without override	
		1: override without time limit	
		2 - 60: time in 1 s.-steps	
S12	1	retry timer for active phase of test procedure 1 - 10: time in 1 s.-steps	out only when P9- low=1
S13	60	retry timer for passive phase of test procedure 1 - 255	out only when P9- low=1
S14	1	supervision time for clear forward	inc (Blocking or alarm recognition)
		0: no supervision	
		1 - 255: supervision time in 1 s.-steps	

Parameter	Default	Description	Remark
P1-high*	0	2 / 4 wire voice	only 4 wire voice implemented
		0 4 wire voice	
		1 2 wire voice (Hybrid)	
P1-low*	0	E&M - type	
		0 type IA (V)	
		1 DC5	
		2 type I	
		3 type II	
		4 HL / LL with type I	HL: high level supervision
		5 HL / LL with type IA (V)	LL: low level supervision
P2	0	Impedance-Index	

Parameter	Default	Description			Remark	
			level A->D [dB]	level D->A [dB]	A / μ-law	
		0	-3,5	-3,5	A	4 wire standard level C13
		1	-1,5	-1,5	A	Australia old
		2	+0,5	-4,5	A	GBR
		3	0	-6	m	USA
		4	-4,5	-2,5	A	GUS
		5	-2,5	-4,5	A	BRD
		6	0	0	A	Australia new
		7	-7,0	0	A	standard level for 4-2 wire-converter with (-3,5/-3,5)
		8	0	-8,5	A	ITL railway + EVU
		9	+7	-16,0	A	Korea, Japan
		10	+4,3	-13,0	A	BRD, GUS, UNG C11-FDM
11	+3,3	-12,0	A	GUS C11		
P3-high*	0	Low level supervision control (TP- low level)			only when P1-low = 4 or 5	
		0	only line supervision		TP on ground = no alarm	
		1	line supervision with going in service periodical		TP on ground = no alarm	
		2	with alarm measuring		TP on ground = no alarm	
		3	only line supervision with TP invert		TP on ground = alarm	
		4	line supervision with going in service periodical with TP invert		TP on ground = alarm	
		5	with alarm measuring withTP invert		TP on ground = alarm	
P3-low*	0	Normal / Inverse mode				
		0	Normal Signalling (Idle: M=OFF / E=OFF)			
		1	Inverse Signalling for M- and E-wire (Idle: M=ON / E=ON)			
		2	Inverse Signalling only for E-wire (Idle: M=OFF / E=ON)			
		3	Inverse Signalling only for M-wire (Idle: M=ON / E=OFF)			
P4	0	reserve				
P5-high*	0	Quad-SICOFI Version			Parameter depends on QUAD-SICOFI-Version	
		0	Version different from V2.3 (<i>on only in talk state</i>)			
		1	Version V2.3 (<i>always on</i>)			
P5-low*	4	Last Look (LL				
		0-15	(... x 1ms)			

Parameter	Default	Description	Remark
P6-high*	0	reserve	
P6-low*	0	Seizure acknowledge	out/inc
		0	Immediate dial
		1	Delay dial
		2	Wink start
		3	Continuous signal
P7-high*	0	dial tone recognition	out
		0	no dial tone recognition
		1	dial tone recognition
P7-low*	0	signalling direction	out/inc
		0	bothway directed (glare seizure: priority of incoming seizure)
		1	outgoing directed
		2	incoming directed
		3	bothway directed (glare seizure: release of line)
P8-high*	0	release guard as line signal	out/inc
		0	without release guard as line signal
		1	with release guard as line signal
P8-low*	0	special clear backward with pseudo-answer and backward release on incoming side before answer	inc
		0	not used
		1	after called subscriber busy
		2	after release from DH
		3	after called subscriber busy or release from DH
P9-high*	0	metering pulse recognition	out
		0	no metering pulse recognition
		1	metering pulse recognition
P9-low*	0	test procedure	out
		0	no test procedure
		1	with test procedure
P10-high*	0	blocking as line signal, if bothway or incoming directed traffic	out/inc
		0	without blocking as line signal
		1	with blocking as line signal
P10-low*	1	answer as line signal	out/inc
		0	without answer as line signa
		1	with answer as line signal

Parameter	Default	Description			Remark
P11-high*	0	dialing method			out/inc
		0	DP	(dial pulse)	
		1	DTMF	(multifrequency)	
		2	MFC-R2		
P11-low*	0	metering pulse simulation by answer			out
		0	without simulation		
		1	with simulation		
P12	28	number of override impulses			out/inc
		0 - 50	number of impulses		
P13-high*	0	supervision time for ready line signal			out
		0	no supervision		
		1-15	supervision time in 1 s-steps		
P13-low*	0	supervision time for clearback line signal			out
		0	no supervision		
		1-15	supervision time in 1 s-steps		
P14	0	dial pulse recognition on incoming side after answer			inc
		0	no recognition after answer		
		1	recognition after answer		

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example: Parameter P3: high byte: 2, low byte: 0 ==> P3[Hex]=20 --> P3[Dec]=32

(105): DB_AM_DEV_EMDISC2: EMDISC2

Longtime r	Default (ms)	Description	Remark
L1	5000	supervision time for start dial signal after seizure (40 - 10000 ms)	out
L2	625	transmission time for long impulse (200 - 2000 ms)	out
L3	300	transmission time for long pause (clear back pulse train) (100 - 1000 ms)	inc
L4	270	minimum recognition time for long impulse (S3+S4+L4) (100 - 1000 ms)	inc
L5	2000	maximum recognition time for long impulse (L5 > S3+S4+L4) (400 - 5000 ms)	inc
L6	400	recognition time for long pause (clearback puls train) (50 - 1000 ms)	out
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	100	transmission time for short impulse 40 - 250 ms	out/inc
S2	100	transmission time for short pause 40 - 250 ms	inc
S3	70	minimum recognition time for short impulse 20 - 250 ms	out/inc
S4	60	maximum recognition time for short impulse $S3 < t < S3+S4$ 40 - 250 ms	out/inc
S5	150	recognition time for short pause (EOD-free and EOD-busy) 20 - 250ms	out
S6	50	supervision time for glare seizure 20-255ms	out
S7	0	guard time before new outgoing seizure	out/inc
		0: 500ms	
		1 - 255: guard time in 1 s.-steps	
S8	5	reanswer supervision time on outgoing traffic	out

Shorttime r	Default (ms)	Description	Remark
		0: immediate forward release to the line after clear back	
		1 - 254: delayed forward release to the line after clear back in 1 s.-steps	
		255: endless (no forward release to the line after clear back, waiting for release from DH)	
S9	0	answer supervision time on outgoing directed traffic	out
		0: no answer supervision	
		1 - 255: answer supervision in 10 s.-steps	
S10	40	supervision time for release forward after clear back on incoming traffic	inc
		0: endless forward release supervision	
		1 - 255: alarm to DH after supervision time in 1 s.-steps	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1-high*	0	2 / 4 wire voice	only 4 wire voice implemented
		0 4 wire voice	
		1 2 wire voice (Hybrid)	
P1-low*	0	E&M - type	
		0 type IA (V)	
		1 DC5	
		2 type I	
		3 type II	
		4 HL / LL with type I	not used
		5 HL / LL with type IA (V)	not used
P2	0	Impedance-Index	

Parameter	Default	Description			Remark	
			level A->D [dB]	level D->A [dB]	A / μ -law	
		0	-3,5	-3,5	A	4 wire standard level C13
		1	-1,5	-1,5	A	Australia old
		2	+0,5	-4,5	A	GBR
		3	0	-6	m	USA
		4	-4,5	-2,5	A	GUS
		5	-2,5	-4,5	A	BRD
		6	0	0	A	Australia new
		7	-7,0	0	A	standard level for 4-2 wire- converter with (-3,5/-3,5)
		8	0	-8,5	A	ITL railway + EVU
		9	+7	-16,0	A	Korea, Japan
		10	+4,3	-13,0	A	BRD, GUS, UNG C11-FDM
		11	+3,3	-12,0	A	GUS C11
P3-high*	0	Low level supervision control			not used	
	0	only line supervision				
	1	line supervision with periodic recovery				
	2	alarm processing				
P3-low*	0	Normal / Inverse mode				
	0	Normal Signalling (Idle: M=OFF / E=OFF)				
	1	Inverse Signalling for M- and E-wire (Idle: M=ON / E=ON)				
	2	Inverse Signalling only for E-wire (Idle: M=OFF / E=ON)				
	3	Inverse Signalling only for M-wire (Idle: M=ON / E=OFF)				
P4	0	reserve				
P5-high*	0	Quad-SICOFI Version			Parameter depends on QUAD-SICOFI-Version	
	0	Version different from V2.3 (<i>on only in talk state</i>)				
	1	Version V2.3 (<i>always on</i>)				
P5-low*	4	Last Look (LL)				
		0-15	(... x 1ms)			
P6-high*	0	reserve				
P6-low*	0	reserve				
P7-high*	0	dial tone recognition			out	
	0	no dial tone recognition				
	1	with dial tone recognition				

Parameter	Default	Description	Remark
P7-low*	0	signalling direction	out/inc
		0	Bothway directed (glare seizure: priority of incoming seizure)
		1	outgoing directed
		2	incoming directed
		3	bothway directed (glare seizure: release of line)
P8-high*	0	start dial line signal	out/inc
		0	no start dial line signal
		1	with start dial line signal
P8-low*	0	dialing method	out/inc
		0	DP-dial
		1	MFC-R2, SOCOTEL, DTMF
P9-high*	0	restore procedure, if bothway or outgoing directed traffic	out
		0	no restore procedure
		1	with restore procedure (put in service)
		2	with restore procedure (line alarm)
		3	with restore procedure (in service and line alarm)
P9-low*	0	forward release after EOD-busy (Valid only when P10-Low=1)	out
		0	without forward release
		1	with forward release
P10-high*	0	blocking as line signal, if bothway or incoming directed traffic	inc
		0	without blocking as line signal
		1	with blocking as line signal
P10-low*	0	end-of-dial line signal	out/inc
		0	no end-of-dial line signal
		1	with eod-of-dial line signal (EOD-free and EOD-busy)
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example: Parameter P3: high byte: 2, low byte: 0 ==> P3[Hex]=20 --> P3[Dec]=32

(106): DB_AM_DEV_OB2: OB2

Longtime r	Default	Description	Remark
L1	300ms	min. recognition time for signal change (10ms - 5s)	
L2	1s	sending time for seizure (0.4 - 3s)	
L3	1s	sending time for release and release acknowledge (0.4 - 3s)	
L4	1s	ignore of incoming signal or delayed sending of line signals after previous sende line signals or received line signals (0.4 - 3s)	
L5	10s	outgoing garde time (5 - 30s)	
L6	10s	supervision time for release acknowledge (5 - 30s)	
L7	10s	max. time for valid signal, min. recognition time for blocking if P9-low=1	

Shorttime r	Default	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	listener / control channel	
		0 listener channel 1 control channel	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	answer supervision time	
		0 no supervision	
		1-255 with supervision in 30 s.-steps	
S14	0	conversation supervision time	

Shorttime r	Default	Description	Remark
	0	no supervision	
	1 - 255	with supervision in 30 s.-steps	

Parameter	Default	Description				Remark
P1-high*	0	2 / 4 wire voice				only 4 wire voice implemented
		0	4 wirevoice			
		1	2 wire voice (fork)			
P1-low*	0	E&M - type				
		0	type IA (V)			
		1	DC5			
		2	type I			
		3	type II			
		4	HL / LL with type I			not used
		5	HL / LL with type IA (V)			not used
P2	0	Impedance-Index				
			level A->D [dB]	level D->A [dB]	A / μ-law	
		0	-3,5	-3,5	A	4 wire standard level C13
		1	-1,5	-1,5	A	Australia old
		2	+0,5	-4,5	A	GBR
		3	0	-6	m	USA
		4	-4,5	-2,5	A	GUS
		5	-2,5	-4,5	A	BRD
		6	0	0	A	Australia new
		7	-7,0	0	A	standard level for 4-2 wire-converter with (-3,5/-3,5)
		8	0	-8,5	A	ITL railway + EVU
		9	+7	-16,0	A	Korea, Japan
		10	+4,3	-13,0	A	BRD, GUS, UNG C11-FDM
11	+3,3	-12,0	A	GUS C11		
P3-high*	0	low level-controlling				not used
		0	only line supervision			
		1	line supervision with going in service periodical			
		2	with alarm measuring			

Parameter	Default	Description		Remark
P3-low*	0	Normal / Inversmode		only valid for high level-line
		0	Normal Signaling (Idle: M=OFF / E=OFF)	
		1	Inverse Signaling at M- and E-wire (Idle: M=ON / E=ON)	
		2	Inverse Signaling only at E-wire (Idle: M=OFF / E=ON)	
		3	Inverse Signaling only at M-wire (Idle: M=ON / E=OFF)	
P4		reserve		
P5-high*	0	Quad-SICOFI Version		Parameter depends from version of QUAD-SICOFI
		0	Version not equal V2.3 (switched on only at talk-state)	
		1	Version V2.3 (switched on always)	
P5-low*	4	Last Look (LL)		
		0-15	multiple of 1ms	
P6-high*	0	send of release acknowledge		
		0	no release acknowledge	
		1	with release acknowledge (P6-low=1)	
P6-low*	0	send receive of release signal		
		0	no release signal	
		1	with release signal	
P7-high*	0	rering after answer (P6-low=0)		
		0	release and incoming seizure	
		1	ignore	
P7-low*	0	rering befor answer		
		0	release and incoming seizure	
		1	ignore	
P8-high*	0	outgoing guard time at line without release signal (P6-low=0)		
		0	without guard time	
		1	with guard time (L5)	
P8-low*	0	seizure with/without line signal		
		0	seizure with line signal	
		1	outgoing seizure without line signal	
		2	automatic incoming seizure without line signal	
P9-high*	0	change of level attenuation signal		
		0	without change level	
		1	with change level	

Parameter	Default	Description	Remark
P9-low*	0	blocking signaling	
		0	no block signal
		1	with block signal
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.
Example: Parameter P3: high byte: 2, low byte: 0 ==> P3[Hex]=20 --> P3[Dec]=32

(107): DB_AM_DEV_TFUNG2: TSEMHUN2

Longtime r	Default (ms)	Description	Remark
L1	600	transmission time of long pulses (outgoing/incoming)	out/inc
		(10 - 30000 ms)	
L2	300	min.recognition time of long pulses (outgoing/incoming)	out/inc
		(10 - 30000 ms)	
L3	1700	min.recognition time of blocking (outgoing/incoming)	out/inc
		(10 - 30000 ms)	
L4	240	min. pause between 2 sending signals (outgoing/incoming)	out/inc
		(10 - 30000 ms)	
L5	300	supervision of glare seizure (outgoing)	out
		(10 - 30000 ms)	
L6	400	supervision of glare release (outgoing)	out
		(10 - 30000 ms)	
L7	0	reserve	

Shorttime r	Default	Description	Remark
S1	150	transmission time of short pulses (outgoing/incoming)	out/inc
		1 - 255 ms	
S2	100	min. recognition time of short pulses (outgoing/incoming) max. recognition time of dial pulses and dial pauses (S=10) (incoming)	out/inc
		1 - 255 ms	
S3	4	min. recognition time of dial pulses (incoming)	inc
		1 - 255 ms	
S4	200	min. recognition time of interdigit time (S2+S4) (incoming)	inc
		1 - 255 ms	
S5	9	supervision of release guard after clear forward (outgoing)	out
		0	no supervision
		1 - 255	multiples of 10 s
S6	10	delay of clear forward after clear back (outgoing)	
		0	send clear forward promptly
		1 - 255	multiples of 10 s
S7	0	outgoing guard time (outgoing/incoming)	out/inc
		0	6 s
		1 - 255	multiples of 250 ms

Shorttime r	Default	Description		Remark
S8	0	supervision of clear forward after clear back (incoming)		inc
		0	90 s; after T/O blocking to DH, wait for release	
		1 - 255	multiples of 10 s; after T/O idle after outgoing guard time	
S9	9	supervision of answer (outgoing)		g
		0	no supervision	
		1 - 255	multiples of 10 s	
S10	0	Reserve		
S11	0	Reserve		
S12	0	Reserve		
S13	0	Reserve		
S14	0	Reserve		

Parameter	Default	Description		Remark
P1-high*	0	2 / 4 wire voice		
		0	4 wire voice	
		1	2 wire voice (fork)	
P1-low*	0	E&M - type		
		0	type IA (V)	
		1	DC5	
		2	type I	
		3	type II	
		4	HL / LL with type I	not used
		5	HL / LL with type IA (V)	not used
P2	0	Impedance-Index		

Parameter	Default	Description			Remark	
			level A->D [dB]	level D->A [dB]	A / μ-law	
	0		-3,5	-3,5	A	4 wire standard level C13
	1		-1,5	-1,5	A	Australia old
	2		+0,5	-4,5	A	GBR
	3		0	-6	m	USA
	4		-4,5	-2,5	A	GUS
	5		-2,5	-4,5	A	BRD
	6		0	0	A	Australia new
	7		-7,0	0	A	standard level for 4-2 wire-converter with (-3,5/-3,5)
	8		0	-8,5	A	ITL railway + EVU
	9		+7	-16,0	A	Korea, Japan
	10		+4,3	-13,0	A	BRD, GUS, UNG C11-FDM
	11		+3,3	-12,0	A	GUS C11
P3-high*	0	low level-controlling			not used	
	0	only line supervision				
	1	line supervision with going in service periodical				
	2	with alarm measuring				
P3-low*	0	Normal / Inversmode			only valid for high level-line	
	0	Normal Signaling (Idle: M=OFF / E=OFF)				
	1	Inverse Signaling at M- and E-wire (Idle: M=ON / E=ON)				
	2	Inverse Signaling only at E-wirer (Idle: M=OFF / E=ON)				
	3	Inverse Signaling only at M-wire (Idle: M=ON / E=OFF)				
P4		reserve				
P5-high*	0	Quad-SICOFI Version			Parameter depends from version of QUAD-SICOFI	
	0	Version not equal V2.3 (switched on only at talk-state)				
	1	Version V2.3 (switched on always)				
P5-low*	4	Last Look (LL)				
	0-15	multiple of 1ms				
P6-high*	0	reserve				
P6-low*	0	transmission of seizure acknowledge (incoming)			inc	
	0	no transmission				
	1	transmission				

Parameter	Default	Description	Remark
P7-high*	0	supervision of dial tone (outgoing)	out
	0	no supervision	
	1	supervision	
P7-low*	0	direction of seizure	out/inc
	0	bidirectional	
	1	outgoing	
	2	incoming	
P8	0	supervision of seizure acknowledge (outgoing)	out
	0	no supervision	
	1-255	supervision	
P9	0	test procedure (seizure acknowledge or release guard fails to come) (outgoing)	out
	0	no test procedure	
	1-255	multiples of 10 s; time between testcycles	
P10-high*	0	out of service (incoming/bothway)	inc
	0	no line signal	
	1	continuous line signal	
P10-low*	0	startup (outgoing/bothway)	out
	0	idle	
	1	seizure with release	
P11-high*	2	type of dialing (outgoing/incoming)	out/inc
	0	IWV	
	1	DTMF	
	2	MFC-R2	
P11-low*	0	recognition of dial pulse during interdigit time (incoming)	inc
	0	digit is invalid (0F)	TF-signaling for Hungary
	1	digit is valid	TF-signaling for Brasil FURNAS
P12-high*	0	operator signals (override, rering) (outgoing)	out
	0	line with no operator signals	
	1	line with operator signals	
P12-low*	0	override (incoming)	inc

Parameter	Default	Description				Remark
		0	ignore override from line (no automatic override)			
		1	attendant intercept			
		2	ignore override (automatic override)			
		3	manual override (calling party RLC)			
		4	manual override, no sending of answer and clear back when B on-hook (first party RLC)			
P13-high*	0	rering (incoming)				inc
		0	line with no rering			
		1	line with rering			
P13-low*	0	activation of calling party RLC with manual override (outgoing)				out
		0	no			
		1	activation			
P14	0	reserve				

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value.

Example: Parameter P3: high byte: 2, low byte: 0 ==> P3[Hex]=20 --> P3[Dec]=32

(108): DB_AM_DEV_GUSNORK2: CISNORK2

Longtime r	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	

Parameter	Default	Description	Remark
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(109): DB_AM_DEV_GUSIND2: CISIND2

Longtime r	Default (ms)	Description	Remark
L1	2800	recognition of answer (P10-low=3) with ANI-2800 ms without ANI-70 ms (100-30000ms)	out: local
L2	500	minimum distance between 2 sending signals (100-1000ms)	out/in: toll/local
L3	0	reserve	
L4	2000	recognition time for blocking/line alarm (1000-5000ms)	out/in: toll/local
L5	500	outgoing guard time (100-5000ms)	out/in: toll/local
L6	1000	delayed speechpaththrough connection (1000-3000ms)	out/in: toll/local if P10-low=0
L7	3000	delayed message ANI-removal to DH (1000-30000ms)	out: local P10-low=1 or 2

Shorttime r	Default (ms)	Description	Remark
S1	40	max. recognition time for short pulses (S-pulses) min. recognition time for long pulses (L-pulses) (28-60ms)	out/in: toll/local
S2	130	max. recognition time for long pulses (S-pulses) min. recognition time for release pulses (R-pulses) (100-150ms)	out/in: toll/local
S3	90	max. recognition time for dial pulses (make and break) (60-100ms)	in: toll/local
S4	0	reserve	
S5	40	time for glare seizure (40-150ms)	out: toll/local
S6	20	answer supervision time 0: no supervision 1-120: supervision in 30 s.-steps	out: toll/local
S7	3	simulation of end-of-dial-free 0: no simulation 1-120: simulation after time in 10 s.-steps	in: toll
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description				Remark
P1-high*	0	2 / 4 wire voice				only 4 wire voice implemented
		0	4 wire voice			
		1	2 wire voice (fork)			
P1-low*	0	E&M - type				
		0	type IA (V)			
		1	DC5			
		2	type I			
		3	type II			
		4	HL / LL with type I			not used
		5	HL / LL with type IA (V)			not used
P2	0	Impedance-Index				
			level A->D [dB]	level D->A [dB]	A / μ-law	
		0	-3,5	-3,5	A	4 wire standard level C13
		1	-1,5	-1,5	A	Australia old
		2	+0,5	-4,5	A	GBR
		3	0	-6	m	USA
		4	-4,5	-2,5	A	GUS
		5	-2,5	-4,5	A	BRD
		6	0	0	A	Australia new
		7	-7,0	0	A	standard level for 4-2 wire-converter with (-3,5/-3,5)
		8	0	-8,5	A	ITL railway + EVU
		9	+7	-16,0	A	Korea, Japan
		10	+4,3	-13,0	A	BRD, GUS, UNG C11-FDM
		11	+3,3	-12,0	A	GUS C11
P3-high*	2	low level-controlling				not used
		0	only line supervision			
		1	line supervision with going in service periodical			
		2	with alarm measuring			

Parameter	Default	Description		Remark
P3-low*	0	Normal / Inversmode		only valid for high level line
	0	normal signaling (Idle: M=OFF / E=OFF)		
	1	invers signaling at M- and E-wire (Idle: M=ON / E=ON)		
	2	invers signaling only at E-wire (Idle: M=OFF / E=ON)		
	3	invers signaling only at M-wire (Idle: M=ON / E=OFF)		
P4	0	reserve		
P5-high*	0	Quad-SICOFI Version		Parameter depends from version of QUAD-SICOFI
	0	Version not equal V2.3 (switched on only at talk-state)		
	1	Version V2.3 (switched on always)		
P5-low*	4	Last Look (LL)		
	0-15	multiple of 1ms		
P6-high*	0	reserve		
P6-low*	0	put in service procedure		out/in: local/toll
	0	send no line signal		
	1	- seizure, release (outgoing, bothway directed P8=0,3,4) - release (inkoming directed P8=1,2)		
P7-high*	0	type of partner exchange		out: local/toll
	0	new exchange type (with register)		
	1	old exchange type (without register)		
P7-low*	0	dial tone supervision		out/in: local
	0	without dial tone supervision		
	1	with dial tone supervision		

Parameter	Default	Description				Remark
P8	3	seizure direction				out/in: toll/local
		0	outgoing directed (local or toll ascending)			
		1	incoming directed (local or toll ascending)			
		2	incoming directed (local descending, converting toll descending->local)			
		3	bothway directed (combined) (outgoing or incoming local or outgoing toll ascending or incoming toll descending with converting toll descending -> local) Priority of seizure:incoming			
		4	bothway directed (combined) (outgoing or incoming local or outgoing toll ascending or incoming toll ascending or outgoing local descending Priority of seizure: outgoing			
P9-high*	1	send blocking at incoming or bothway directed line				out/in: local/toll
		0	no blocking transmission			
		1	with blocking transmission			
P9-low*	1	reaction of message AUSLÖSEN WE_BESETZT from DH before answer				in: local/toll
		0	no reacktion			
		1	backward release transmission			
P10-high*	0	reaction of rering from line after backward release at incoming descending traffic				in: toll
		0	no reaction			
		1	simulated rering (release, seizure, dial)			
P10-low*	3	reaction auf ANI-request/removal from line				out: local
		0	ANI-request/removal will be ignored from LW			
		1	ANI-START message send to DH after recognition of ANI-removal (after answer)			
		2	ANI-START message send to DH after recognition of ANI-request (after answer)			
		3	line without ANI line signal means answer after L1=70 ms			
P11	0	reserve				
P12	0	reserve				
P13	0	reserve				

Parameter	Default	Description				Remark
P14	0	reserve				

* High und low byte values are hexadecimal, which have to be converted into decimal to get the corresponding parameter value
Example: Parameter P3: high byte: 1, low byte:10 ==> P9[Hex]=11 --> P9[Dec]=17

(110): DB_AM_DEV_GUSCOMB2: CISCOMB2

Longtime r	Default (ms)	Description	Remark
L1	0	reserve	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Paramete r	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	

Parameter	Default	Description	Remark
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(111): DB_AM_DEV_TMCOT8: TMCOT8

Longtime r	Default (ms)	Description	Remark
L1	600	RNGTM	
L2	600	DID	
L3	6000	INTRNGTM	
L4	150	BWGS	
L5	1000	TGTM	
L6	0	reserve	
L7	60000	PERMTM	

Shorttime r	Default (ms)	Description	Remark
S1	200	BUFERTM	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	1	COTGL1	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	
P8	0	reserve	

Parameter	Default	Description	Remark
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(112): DB_AM_DEV_TMD24_GSR: TMD24GSR

Longtime r	Default (ms)	Description	Remark
L1	250	HC LT0	
L2	600	CODISCTM	
L3	10000	INTRNGTM	
L4	150	MDISCTM	
L5	0	reserve	
L6	8000	IPERMTM	
L7	60000	PERMTM	

Shorttime r	Default (ms)	Description	Remark
S1	200	BUFERTM	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

(113): DB_AM_DEV_TMDID8: TMDID8

Longtime r	Default (ms)	Description	Remark
L1	300	CODISCTM	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	0	reserve	
S2	220	WINKTM	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Paramete r	Default	Description	Remark
P1	2	PROT2	
P2	1	PROT1	
P3	0	reserve	
P4	0	reserve	
P5	2	HC P4	
P6	0	reserve	
P7	0	reserve	

Parameter	Default	Description	Remark
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(114): DB_AM_DEV_TMD24_DID: TMD24DID

Longtime r	Default (ms)	Description	Remark
L1	200	TDID2	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	0	reserve	
S2	220	TDID1	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	2	PROT2	
P2	1	PROT1	
P3	0	reserve	
P4	0	HC P3	
P5	1	HC P4	
P6	0	HC P5	
P7	0	reserve	
P8	0	reserve	

Parameter	Default	Description	Remark
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(115): DB_AM_DEV_T1EMW: T1EMW

Longtime r	Default (ms)	Description	Remark
L1	600	Guard time interval (For Satellite Interface, this value must be changed to 1150ms)	
L2	0	reserve	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	0	reserve	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description	Remark
P1	0	reserve	
P2	0	reserve	
P3	0	reserve	
P4	0	reserve	
P5	0	reserve	
P6	0	reserve	
P7	0	reserve	

Parameter	Default	Description	Remark
P8	0	reserve	
P9	0	reserve	
P10	0	reserve	
P11	0	reserve	
P12	0	reserve	
P13	0	reserve	
P14	0	reserve	

(119): DB_AM_DEV_TMANI_HKZ: TMANI HKZ

Longtime r	Default (ms)	Description	Remark
L1	200	flash or ground signal transmission time (60- 500 ms)	
L2	10000	periodical ringing supervision for release re cognition from PSTN before answer (incoming traffic) (4000-15000 ms)	
L3	100	minimum time for release recognition from PSTN (feeding interruption) (see P01-high and P02-high) (20- 200 ms)	
L4	400	delay for speech path through-connection after answer; minimum time for answer; delay for line supervision activation after answer (incoming traffic) (100- 2000 ms)	
L5	400	maximum time for charge pulse (300-600 ms)	only if P4_LOW=7 or 8
L6	120	minimum time of ring rcognition (100- 500 ms)	
L7	5000	idle supervision time (see P04-high) (500-30000 ms)	In spain used also for charge recognition while guard time after a call

Shorttime r	Default (ms)	Description	Remark
S1	40	minimum time for charge pulse (40- 200 ms)	
S2	90	minimum time for charge pause (40- 200 ms)	
S3	0	listener-/controlchannel 0 listener-channel 1 control-channel	
S4	0	line signaling 0: with HKZ-line signaling 1: without line signaling, without loop 2: without line signaling, with loop	
S5	0	dialing with V_ON 0: normal dialing with V_ON 1: dialing with V_OFF for France	
S6	0	delayed activation of ring detection 0: without delay 1-10: delay (multiple of 500 ms) standard: 4	

Shorttime r	Default (ms)	Description	Remark
S7	0	minimum time for polarity reversal recognition maximal time for reversal charge recognition (multiple of 10 ms) (1- 200)	
S8	1	high: answer procedure for collect calls incoming traffic) (0- 2) 0: normal answer: loop (Brazil) 1: answer with loop (1 sec.), loop interruption (S8- low), back to answer (loop) (protection against collect calls) 2: if HiPath party authorized: normal answer (loop) if HiPath party unauthorized: answer with loop (1sec.), loop interruption (S8-low), back to answer (loop). (protection against collect calls is only for unauthorized users) low: loop interruption time for collect calls (incoming traffic) (0- 10) 0 250: ms loop interruption 1 - 10: loop interruption (multiple of 500 ms)	
S9	0	reanswer supervision (outgoing traffic) (0- 255) 0: no supervision 1 - 255: reanswer supervision (in seconds) as long as the calling party remains off-hook, the called party has the possibility to hook on and off again. reanswer supervision can be activated only when P2-low = 2	
S10	2	guard time after an outgoing call (in seconds) (1- 30)	
S11	2	guard time after an incoming call (in seconds) (1- 30)	
S12	0	conversation time limit (0- 255)	
S13	0	conversation time limit (0- 255) 0: no limit 1 - 255: conversation time (multiple of 30 sec.) after the timer expired the conversation will be automatically disconnected.	

Shorttime r	Default (ms)	Description	Remark
S14	0	charge characteristic (12kHz / 16 kHz) Belgium, Bulgaria, Poland, South Africa (16 kHz Standard) S14 36 P12 36 Greece, Luxemburg, Norway (16 kHz) S14 36 P12 70 France, Portugal (12 kHz Standard) S14 50 P12 55 Hungary, Irland (12 kHz) S14 30 P12 27 Italy (12 kHz) S14 30 P12 53 Australia (12 kHz) S14 50 P12 50 Spain (12 kHz) S14 40 P12 55 Austria (12 kHz) S14 30 P12 31	

	Description		Description
P1 High	Feeding interruption PSTN (incoming call)	P1 Low	Polarity Reversal From PSTN (incoming call)
P2 High	Feeding interruption PSTN (outgoing call)	P2 Low	Polarity Reversal From PSTN (outgoing call)
P3 High	Answer loop (incoming call)	P3 Low	Release recognition for feeding interruption of PSTN
P4 High	Loop start supervision and earth calling	P4 Low	charge or answer pulse (outgoing traffic)
P5 High	Line Interface parameters (OHS, SQ)	P5 Low	Line Interface parameters (DCV, MINI)
P6 High	Line Interface parameters (FOH / ILIM / FIR)	P6 Low	Dial Tone Supervision (outgoing call)
P7	Answer Supervision		
P8 High	Supervision of PSTN Release	P8 Low	Noise Supervision (x 4ms)
P9 High	Charge Simulation	P9 Low	Charge Level
P10	Busy Tone Configuration		
P11	Ring Frequency Range		
P12 High	Reserved	P12 Low	Dialing method
P13 High	Voltage Threshold	P13 Low	Current Threshold

	Description		Description
P14	Attenuation TX/RX		

	Default Value		Default Value		Default Value
P1	16	P1 High	1	P1 Low	0
P2	18	P2 High	1	P2 Low	2
P3	0	P3 High	0	P3 Low	0
P4	0	P4 High	0	P4 Low	0
P5	140	P5 High	8	P5 Low	12
P6	97	P6 High	6	P6 Low	1
P7	0	P7	0		
P8	2	P8 High	0	P8 Low	2
P9	0	P9 High	0	P9 Low	0
P10	0	P10	0		
P11	0	P11	0		
P12	0	P12 High	0	P12 Low	0
P13	0	P13 High	0	P13 Low	0
P14	0	P14	0		

(120): DB_AM_DEV_TMANI_DID_ITL: TMANI DID ITL

Longtime r	Default (ms)	Description	Remark
L1	600	minimum time between end of dial and answer (100-1000 ms)	
L2	600	minimum time between answer and backward release (100-1000 ms)	
L3	0	reserve	
L4	200	delay time for speech path through-connection after rering and reanswer (100-1000 ms)	
L5	0	reserve	
L6	0	reserve	
L7	00	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	50	minimum time for incoming seizure (20-250 ms)	
S2	24	minimum length of dial pulse (8-32 ms)	
S3	96	maximum length of dial pulse (32-120 ms)	
S4	16	minimum length of dial pause (8-32 ms)	
S5	114	digit complete (32-200 ms)	
S6	120	release recognition from CO after dialing (40-250 ms)	
S7	200	minimum time for ring (on/off) recognition (40-255 ms)	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

	Description		Description
P1	Dialing method		
P2	End of dial control		
P3	TSL Refresh		
P4 High	Reserved	P4 Low	Reserved
P5 High	Line Interface parameters (OHS, SQ)	P5 Low	Line Interface parameters (DCV, MINI)
P6 High	Line Interface parameters (FOH / ILIM / FIR)	P6 Low	Reserved
P7	Busy Tone Configuration		
P8	Normal feeding supervision		
P9	The way of speech path through connection		
P10 High	Charge Level	P10 Low	Noise supression
P11	Ring Frequency Range		
P12 High	Reserved	P12 Low	Reserved
P13 High	Voltage Threshold	P13 Low	Current Threshold
P14	Attenuation TX/RX		

	Default Values		Default Values		Description
P1	0	P1	0		
P2	0	P2	0		
P3	0	P3	0		
P4	0	P4 High	0	P4 Low	0
P5	12	P5 High	0	P5 Low	12
P6	64	P6 High	4	P6 Low	0
P7	10	P7	10		
P8	30	P8	30		
P9	0	P9	0		
P10	2	P10 High	0	P10 Low	2
P11	2	P11	2		
P12	0	P12 High	0	P12 Low	0
P13	0	P13 High	0	P13 Low	0
P14	0	P14	0		

(121): DB_AM_DEV_TMANI_DID_BEL: TMANI DID BEL

Longtime r	Default (ms)	Description	Remark
L1	0	reserve	
L2	600	minimum time between answer and backward release (100-1000 ms)	
L3	0	reserve	
L4	0	reserve	
L5	0	reserve	
L6	0	reserve	
L7	0	reserve	

Shorttime r	Default (ms)	Description	Remark
S1	50	minimum time for incoming seizure (20-250 ms)	
S2	24	minimum length of dial pulse (8-32 ms)	
S3	96	maximum length of dial pulse (32-120 ms)	
S4	16	minimum length of dial pause (8-32 ms)	
S5	114	digit complete (32-200 ms)	
S6	120	release recognition from PSTN after dialing (40-250 ms)	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

	Description		Description
P1	Dialing method		
P2 High	Reserved	P2 Low	Reserved

	Description		Description
P3 High	Reserved	P3 Low	Reserved
P4 High	Reserved	P4 Low	Reserved
P5 High	Line Interface parameters (OHS, SQ)	P5 Low	Line Interface parameters (DCV, MINI)
P6 High	Line Interface parameters (FOH / ILIM / FIR)	P6 Low	Reserved
P7	Busy Tone Configuration		
P8	Normal feeding supervision		
P9	The way of speech path through connection		
P10 High	Charge Level	P10 Low	Noise supression
P11	Ring Frequency Range		
P12 High	Reserved	P12 Low	Reserved
P13 High	Voltage Threshold	P13 Low	Current Threshold
P14	Attenuation TX/RX		

	Default Values		Default Values		Description
P1	1	P1	1		
P2	0	P2	0		
P3	0	P3	0		
P4	0	P4 High	0	P4 Low	0
P5	12	P5 High	0	P5 Low	12
P6	64	P6 High	4	P6 Low	0
P7	10	P7	10		
P8	30	P8	30		
P9	0	P9	0		
P10	12	P10 High	12	P10 Low	9
P11	5	P11	5		
P12	0	P12 High	0	P12 Low	0
P13	0	P13 High	0	P13 Low	0
P14	0	P14	0		

(122): DB_AM_DEV_TMANI_GS_USA: TMANI DID GS LS USA

Longtime r	Default (ms)	Description	Remark
L1	600	RNGTM	
L2	600	DID	
L3	6000	INTRNGTM	
L4	150	BWGS	
L5	1000	TGTM	
L6	0	reserve	
L7	60000	PERMTM	

Shorttime r	Default (ms)	Description	Remark
S1	200	BUFERTM	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

	Description		Description
P1	Loop supervision flag		
P2 High	Reserved	P2 Low	Reserved
P3 High	Reserved	P3 Low	Reserved
P4 High	Reserved	P4 Low	Reserved
P5 High	Line Interface parameters (OHS, SQ)	P5 Low	Line Interface parameters (DCV, MINI)

	Description		Description
P6 High	Line Interface parameters (FOH / ILIM / FIR)	P6 Low	Dial Tone Supervision (outgoing call)
P7 High	Reserved	P7 Low	Reserved
P8 High	Reserved	P8 Low	Noise Supervision (x 4ms)
P9 High	Reserved	P9 Low	Reserved
P10	Busy Tone Configuration		
P11	Ring Frequency Range		
P12 High	Reserved	P12 Low	Dialing method
P13 High	Voltage Threshold	P13 Low	Current Threshold
P14	Attenuation TX/RX		

	Default Values		Default Values		Default Values
P1	1	P1	1		
P2	0	P2 High	0	P2 Low	0
P3	0	P3 High	0	P3 Low	0
P4	0	P4 High	0	P4 Low	0
P5	12	P5 High	0	P5 Low	12
P6	64	P6 High	4	P6 Low	0
P7	0	P7 High	0	P7 Low	0
P8	2	P8 High	0	P8 Low	2
P9	0	P9 High	0	P9 Low	0
P10	15	P10	15		
P11	7	P11	7		
P12	0	P12 High	0	P12 Low	0
P13	0	P13 High	0	P13 Low	0
P14	0	P14	0		

(122): DB_AM_DEV_TMANI_GS_USA: TMANI DID GS LS USA

Longtime r	Default (ms)	Description	Remark
L1	600	Ring Pulse Recognition Time	
L2	600	CO Disconnection Time	
L3	6000	Maximum Time between CO Ringing Pulses	
L4	150	PBX Disconnection Time	
L5	1000	CO Tip Ground Signal Time	
L6	0	reserve	
L7	60000	CO Maximum Disconnection Start Time after PBX Disconnected First	

Shorttime r	Default (ms)	Description	Remark
S1	200	PBX Pause to Disconnection after CO Disconnected First	
S2	0	reserve	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

	Description		Description
P1	Loop supervision flag		
P2 High	Reserved	P2 Low	Reserved
P3 High	Reserved	P3 Low	Reserved
P4 High	Reserved	P4 Low	Reserved
P5 High	Line Interface parameters (OHS, SQ)	P5 Low	Line Interface parameters (DCV, MINI)

	Description		Description
P6 High	Line Interface parameters (FOH / ILIM / FIR)	P6 Low	Dial Tone Supervision (outgoing call)
P7 High	Reserved	P7 Low	Reserved
P8 High	Reserved	P8 Low	Noise Supervision (x 4ms)
P9 High	Reserved	P9 Low	Reserved
P10	Busy Tone Configuration		
P11	Ring Frequency Range (Index)		
P12 High	Reserved	P12 Low	Dialing method
P13 High	Voltage Threshold	P13 Low	Current Threshold
P14	Attenuation TX/RX		

	Default Values		Default Values		Default Values
P1	1	P1	1		
P2	0	P2 High	0	P2 Low	0
P3	0	P3 High	0	P3 Low	0
P4	0	P4 High	0	P4 Low	0
P5	12	P5 High	0	P5 Low	12
P6	64	P6 High	4	P6 Low	0
P7	0	P7 High	0	P7 Low	0
P8	2	P8 High	0	P8 Low	2
P9	0	P9 High	0	P9 Low	0
P10	15	P10	15		
P11	7	P11	7		
P12	0	P12 High	0	P12 Low	0
P13	0	P13 High	0	P13 Low	0
P14	0	P14	0		

(123): DB_AM_DEV_DIUCAPUL: Signalisation R2 for BWI (Bundeswehr)

Longtime r	Default (ms)	Description	Remark
L1	5000	release acknowledgement supervision after forward release (2000-20000 ms)	
L2	1000	pause between answer and backward release (collect call) (only for P11=1 or 2) (1000-10000 ms)	
L3	2000	pause between backward release and answer (collect call (only for P11=1 or 2) (1000-10000 ms)	
L4	0	reserve	
L5	600	send time for long pulses (480-720 ms)	
L6	450	pause time before sending seizure acknowledge (100-500 ms)	
L7	300	max. receive time for short pulses (200-400 ms)	

Shorttime r	Default (ms)	Description	Remark
S1	150	send time for short pulses (120-180ms)	
S2	80	min. receive time for short pulses (60-100ms)	
S3	0	reserve	
S4	0	reserve	
S5	0	reserve	
S6	0	reserve	
S7	0	reserve	
S8	0	reserve	
S9	0	reserve	
S10	0	reserve	
S11	0	reserve	
S12	0	reserve	
S13	0	reserve	
S14	0	reserve	

Parameter	Default	Description		Remark
P1	2	dialing method		
		0	digit dialing	
		1	MFV dialing	
		2	MFC dialing	
P2	0	reserve		
P3	0	seizure routing		
		0	bothway	
		1	outgoing	
		2	incoming	
P4	0	reserve		
P5	24	reseizure lookout time outgoing		
		1-255	multiple of 250 ms	
P6	0	outgoing dial tone supervision		
		0	no supervision	
		1	supervision	
P7	90	answer supervision on outgoing calls		
		0	no supervision	
		1-255	supervision	
P8	0	reserve		
P9	0	reserve for override a call – new feature *)		
P10	0	reserve		
P11	1	answer procedure for collect call		
		0	normal answer signal to CO	
		1	answer/clear back/answer to CO	
		2	answer to CO if ready for collect call	
P12	0	reserve		
P13	0	reserve		
P14	0	reserve		

155 RCSU - Recorder Configuration in SWU

	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO RCSU makes it possible to ADD static data for recorders as well as to DISPLAY, REGENERATE, DELETE, and CHANGE the associated data.

Recorders can be provided for in advance by entering the recorder data, but without activating the recorders (set ACT to 'N'). To activate a recorder with the ADD command, set the parameter ACT to 'Y'. Recorders already configured are activated or deactivated only by using AMO DSSU. When a random start recorder is deactivated, it should be an immediate deactivation (DEA-DSSU:DI,...) whereas the fixed start recorder may be deactivated either conditionally (DEA-DSSU:DC,...) or likewise immediately.

Since recorders can only have an attenuation value for an interface to a special device, this value is defaulted by the AMO and is inaccessible to the craftsperson. The attenuation is defaulted to multiple connections on a line basis.

Recorders may be connected to the following SLMA boards: SLMA, SLMAB, SLMA3, SLMA24.

When configuring a recorded announcement device on an SLMA2 board which resides on other than an LTUW shelf, only the first sixteen circuits can be used. Otherwise, all twenty four circuits of the SLMA24 board can be used on all other shelves.

There are three kinds of recorders: announcements, music recordings and music-on-hold recordings. The total number of recorders in the system may not exceed 255 but the maximal number of recorders is limited in each category: for recorded announcements by 206, for ACD Music by 32 and for music-on-hold by 150.

Each of the 206 ACD recorded announcements (RECAPL=ACDR) is assigned a unique logical recorder number (RECNUM) from 1 to 206. These logical numbers are used by AMO DNIT and AMO ACDRT to reference the ACD recorded announcements. Each of the 32 ACD Music recorders (RECAPL=MUSIC) is assigned a unique logical music number (MUSNUM) from 1 to 32 which is used by AMO ACDRT to reference the ACD Music recorders. For music-on-hold recorders (RECAPL=HMUSIC) the music number is called HMUSIC with the range 1 to 150.

RCSU - Recorder Configuration in SWU

Interrelationships

Because of the direct relationship between AMO DNIT and AMO ACDRT on one hand and AMO RCSU on the other hand cross-checks are made between these AMOs to ensure that recorders are created before being referenced and similarly to ensure that all references are removed before a recorder can be deleted or have critical recorder information changed.

The ACD recorded announcements that are CONTINUOUS, RANDOM start will be used for audible source recorders and will be referenced in the Directory Number Information Table set up by AMO DNIT for AUDSRCID. These audible source recorders may be assigned a length of announcement time (LENGTH) from 1 to 16 seconds. A suggested length would be between 1 1/2 and 2 times the announcement length. An additional 2 seconds will be added by the AMO for internal processing. This additional time will not be displayed. If the length is not input for the ADD action, a default value of 3 seconds will be assigned to the audible source id.

The ACD recorded announcements that are DEMAND, FIXED start will be referenced in the ACD Route Step Tables set up by AMO ACDRT for RTREC. The fixed start recorded announcement must be assigned a length of time (LENGTH) in seconds for that announcement. The range goes from 1 to 14, increments of 1, and from 15 to 90, increments of 5. An additional 2 seconds will be added by the AMO for internal processing. This additional time will not be displayed. There will be no default time for the length of the fixed start announcement time. Therefore, this parameter will be required for the ADD when assigning a FIXED start recorder with RECAPL set to ACDR and required for the CHANGE action if changing a recorder to a FIXED start recorder with RECAPL set to ACDR.

ACD music recorders as well as music-on-hold recorders must be set up as CONTINUOUS, RANDOM start. Music recorders may be referenced by step RTMUS in the ACD Route Step Tables set up by AMO ACDRT.

155.1 Interrelationships

The following relationships exist between AMO RCSU and other AMOs in assigning recorder devices for use on the switch:

- AMO ACDRT : A DEMAND, FIXED recorder with the ACD recorder application may be assigned in the ACD route step tables as a route to recorded announcement. An ACD Music recorder may be assigned as a route to music.
- AMO BCSU : This AMO configures the SLMA boards which support connection for a recorder device.

- AMO DNIT : A CONTINUOUS, RANDOM recorder with the ACD music application may be assigned as an audible source id in the DNI table.
- AMO DSSU : This AMO is used to activate and deactivate the boards used to support recorder devices.
- AMO SBCSU : This AMO shares the SLMA boards with AMO RCSU.
- AMO SCSU : This AMO shares the SLMA boards with AMO RCSU.
- AMO SSC : This AMO shares the SLMA boards with AMO RCSU.

155.2 Functions of the AMO

- [ADD-RCSU](#) : ADD static recorder data
- [CHANGE-RCSU](#) : CHANGE static recorder data
- [DELETE-RCSU](#) : DELETE static recorder data
- [DISPLAY-RCSU](#) : DISPLAY static recorder data
- [REGENERATE-RCSU](#) : REGENERATE static recorder data

155.2.1 ADD-RCSU

A new recorder is created by means of the function ADD-RCSU. Parameter PEN (Port Equipment Number) describes the physical port location to be associated with the created recorder. The remaining parameters describe the recorder attributes to be created.

A recorded announcement may be connected to either the SLMA or SLMAB, SLMA3, SLMA24 board. The recorder device must have the RANDOM start bit set for operation mode CONTINUOUS and the FIXED start bit set for operation mode DEMAND.

The following relationships exist in the 'ADD' command for AMO RCSU between parameters PEN (port equipment number) and NO (number):

- Neither parameter 'PEN' nor 'NO' is entered:

The AMO searches from the beginning of the system for the first available port suitable for a recorder device. The search is carried out in the Host System and in the Access Points¹ which belong to Source Group SRCGRP=1.

If a suitable port exists, a recorder is created there and the location at which the recorder is created is displayed.

1. An LTU shelf operating out of the Host System. The APs can be configured in the LTU range from 17 to 99.

See details at feature #9206 IPDA (IP Distributed Architecture).

RCSU - Recorder Configuration in SWU

Functions of the AMO

- Parameter 'PEN' is entered, parameter 'NO' is not entered:

The AMO checks whether the requested port is suitable for recorders. If the check is positive, the recorder is created at the specified port and the location at which the recorder is created is displayed. If for any reason the port is unsuitable, the recorder is not created and an error message is output. No search is made by the AMO for another suitable, available port.

- Parameter 'PEN' is not entered, parameter 'NO' is entered:

The AMO searches from the beginning to the end of the Host System for as many suitable ports as specified in NO and creates recorders there. All associated ports are output. Free ports are searched only in the Host System.

- Both parameter 'PEN' and parameter 'NO' are entered:

The AMO searches for as many suitable, to the same Source Group belonging ports as specified in NO and creates recorders. Parameter PEN describes the port at which the search for available ports starts. If PEN is entered and NO=1, the AMO will check if the port is suitable and available. If so, the recorder is created. But if the port fails, the AMO will search to the end of the system for another suitable, available port for this recorder. If a port still is not found, the AMO begins at the first port of the system and searches up to the PEN entered. If no available ports are found, an error message is output.

Only those LTUs are considered during the search which belong to the same Source Group like the PEN entered.

Procedure Overview

Command Code	Parameter
ADD-RCSU	[PEN=<GG-UU-BBB-SS>], [NO=<number>], [ACT=<param>] ,OPMODE=<param>,OPTYPE=<param> , [COFIDX=<number>], [CCTIDX=<number>], [CLASSMRK=<param>] |,RECAPL=ACDR, [RECNUM=<number>], [LENGTH=<number>]; |,RECAPL=ACDMUS, [MUSNUM=<number>]; |,RECAPL=HMUSIC, [HMUSIC=<number>];

Examples:

1. Create an on-demand, fixed start recorded announcement for ACD at PEN 1-2-13-05.

Input:

```
ADD-RCSU: PEN=1-2-13-05,OPMODE=DEMAND,OPTYPE=FIXED,RECAPL=ACDR,RECNUM=1,LENGTH=14;
```


Output:

H01: THE RECORDER HAS BEEN CONFIGURED AT PORT 01-02-013-05.

2. Create three continuous, random recording announcements for ACDMUS, beginning at 1-3-67-0.

Input:

ADD-RCSU: PEN=1-3-67-00, NO=3, OPMODE=CONT, OPTYPE=RANDOM, RECAPL=ACDMUS;

Output:

H01: THE RECORDER HAS BEEN CONFIGURED AT PORT 01-03-067-00.
H01: THE RECORDER HAS BEEN CONFIGURED AT PORT 01-03-067-01.
H01: THE RECORDER HAS BEEN CONFIGURED AT PORT 01-03-067-02.

155.2.2 CHANGE-RCSU

Parameters of a created recorder can be changed by means of the function CHANGE-RCSU. With the exception of PEN, all parameters are optional, but at least one of the optional parameters must be entered.

A recorder which is in the ready state cannot have data changed unless deactivated by AMO DSSU. When a random start recorder is deactivated, it should be an immediate deactivation (DEA-DSSU:DI,...) whereas the fixed start recorder can be deactivated conditionally (DEA-DSSU:DC,...) or immediate. To determine the status of the recorder, use AMO SDSU (DIS-SDSU:,,PEN,PER3,<LTG>,<LTU>,<SLOT>,<CIRC>;).

The entered parameters are checked together with the unchanged parameters, as in the case for the function ADD.

The recorder application type (RECAPL) may be changed. If changed to ACDR and the parameter RECNUM is not input, it will be defaulted to the first logical recorder number available for ACD recorded announcements. The LENGTH parameter will be defaulted if the OPTYPE is RANDOM; but if the recorder is FIXED, the LENGTH must be entered. If changed to ACDMUS, the parameter MUSNUM will be defaulted to the first available number for ACD music recorders.

A recorder that is referenced by either AMO DNIT or AMO ACDRT can not have the following parameters changed: OPMODE, OPTYPE, RECAPL, RECNUM or MUSNUM. The parameter LENGTH may be changed even if the recorder is referenced.

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Functions of the AMO

Procedure Overview

Command Code	Parameter
CHANGE-RCSU	PEN=<GG-UU-BBB-SS>, [OPMODE=<param>], [OPTYPE=<param>] , [COFIDX=<number>], [CCTIDX=<number>], [CLASSMRK=<param>] , [RECAPL=ACDR], [RECNUM=<number>], [LENGTH=<number>]; , [RECAPL=ACDMUS], [MUSNUM=<number>]; , [RECAPL=HMUSIC], [HMUSIC=<number>];

Examples:

1. Change the RECNUM of a recorded announcement for ACD at 1-2-13-5.

Input:

```
CHANGE-RCSU: PEN=1-2-13-05, RECAPL=ACDR, RECNUM=4;
```

Output:

```
H06: RECORDER AT PORT 01-02-013-05 HAS BEEN CHANGED.
```

2. Change RECAPL,OPMODE, and OPTYPE for recorder at 1-5-13-0;

Input:

```
CHANGE-RCSU: PEN=1-5-13-00, OPMODE=CONT, OPTYPE=RANDOM, RECAPL=ACDMUS;
```

Output:

```
H06: RECORDER AT PORT 01-05-013-00 HAS BEEN CHANGED.
```

155.2.3 DELETE-RCSU

Created recorders are deleted by means of the function DELETE-RCSU. Only the port location has to be entered to cancel a recorder.

A recorder which is in the ready state cannot be deleted unless deactivated by AMO DSSU. When a recorder is to be deleted, it should be deactivated immediate (DEA-DSSU:DI,...).

To determine the status of the recorder, use AMO SDSU (DIS-SDSU:,,PEN,PER3,<LTG>,<LTU>,<SLOT>,<CIRC>;).

A recorder may not be deleted if referenced by AMO DNIT or AMO ACDRT.

Procedure Overview

Command Code	Parameter
DELETE-RCSU	PEN=<GG-UU-BBB-SS>;

Examples:

1. Delete the recorder at port 1-2-13-5.

Input:

```
DEL-RSCU;PEN=1-2-13-5;
```

Output:

```
H02: RECORDER AT PORT 01-02-013-05 HAS BEEN DELETED.
```

2. Delete the recorder at port 1-4-13-3.

Input:

```
DEL-RSCU;PEN=1-4-13-3;
```

Output:

```
H02: RECORDER AT PORT 01-04-013-03 HAS BEEN DELETED.
```

155.2.4 DISPLAY-RCSU

The parameters of recorders can be displayed by means of the function DISPLAY-RCSU. Additionally the Source Group of each port is displayed.

There are several ways to request a display:

- The recorders may be displayed by a range of pen numbers with PEN (lower) and PEN2 (upper) delimiting the range requested.
- If neither PEN nor PEN2 are entered, all recorders on system are displayed.
- If only PEN is entered, PEN2 will default to PEN, and only display the one port.
- If only PEN2 is entered, PEN will default to the first port on the system. If PEN2 is less than PEN, all ports from PEN to PEN2 will be displayed.
- If PEN is entered incorrectly, the incorrect parameter part (LTG, LTU, SLOT, CIRC) will be replaced with the appropriate minimum value for that part.

RCSU - Recorder Configuration in SWU

Functions of the AMO

- If PEN2 is entered incorrectly, the incorrect parameter part (LTG, LTU, SLOT, CIRC) will be replaced with the appropriate maximum value for that part.
- Configured recorders may also be displayed by their application type (RECAPL). For RECAPL=HMUSIC it is possible to specify music-on-hold numbers and/or to ask for a list of station numbers that have a reference (introduced through AMO SBCSU) for the music-on-hold recorders being displayed (REFRN=YES).
- Unoccupied ports suitable for recorders may also be displayed (TYPE=CFIG). This is useful when determining all available ports that support recorder devices in preparation for ADDing a recorder. Since any recorder application may be created at an appropriate port, the parameter RECAPL will be ignored if input with TYPE=CFIG.
- Recorders may be displayed by their activation status: activated (A) or deactivated (D). If a recorder is deactivated conditional or immediate by AMO, blocked by dependability due to a fault, blocked remotely or blocked by a hierarchical block, then the status ACT is displayed as 'B' for blocked and the recorder will be displayed for TYPE=D. If the recorder is deactivated long term, then the status ACT is displayed as 'N' and the recorder will be displayed for TYPE=D. If the recorder is not blocked or deactivated, then the status ACT is displayed as 'Y' even if the board is not present or is not the correct type and the recorder will be displayed for TYPE=A.

To determine the status of the recorder, use AMO SDSU (DIS-SDSU:,,PEN,PER3,<LTG>,<LTU>,<SLOT>,<CIRC>;).

Examples

Display all recorders for announcements	DISP-RCSU:RECAPL=ACDR;
Display all recorders for music	DISP-RCSU:RECAPL=ACDMUS;
Display all recorders for music-on-hold	DISP-RCSU:RECAPL=HMUSIC;
Display all available ports for recorders	DISP-RCSU:TYPE=CFIG;
Display all recorders deactivated	DISP-RCSU:TYPE=D;
All recorders	DISP-RCSU;
One specific pen	DISP-RCSU:1-1-49-1;
Recorders within a certain range	DISP-RCSU:1-1-49-0,1-2-67-3;

Procedure Overview

Command Code	Parameter
DISPLAY-RCSU	[PEN=<GG-UU-BBB-SS>], [PEN2=<GG-UU-BB-SS>] , [TYPE=<param>] |, [RECAPL=ACDR]; |, [RECAPL=ACDMUS]; |, [RECAPL=HMUSIC], [HMUSIC=<number>], [REFRN=<param>];

Examples:

1. Display a specific recorder at 1-2-37-0.

Input:

DISP-RCSU:PEN=1-2-37-0;

Output:

PEN	01-02-037-00	00-00-000-00	00-00-000-00	00-00-000-00
SRCGRP:	1			
ACT	Y			
OPMODE	CONTINUOUS			
OPTYPE	RANDOM			
COFIDX	3			
CIRCIDX	5			
CLASSMRK	G711			
RECAPL	ACDMUS			
RECNUM				
MUSNUM	1			
HMUSIC				
LENGTH				

2. Display a range of recorders from 1-2-37-0 to 1-2-37-3.

Input:

DISP-RCSU:PEN=1-2-37-0, PEN2=1-2-37-3;

Output:

PEN	01-02-037-00	01-02-037-01	01-02-037-02	01-02-037-03
SRCGRP:	1	1	1	1
ACT	Y	B	N	Y
OPMODE	CONTINUOUS	DEMAND	CONTINUOUS	CONTINUOUS
OPTYPE	RANDOM	FIXED	RANDOM	RANDOM
COFIDX	3	2		

RCSU - Recorder Configuration in SWU

Functions of the AMO

CCTIDX	5	2		
CLASSMRK	G711	G711	G711	G711
RECAPL	ACDMUS	ACDR	ACDR	ACDMUS
RECNUM		1	2	
MUSNUM	1			2
HMUSIC				
LENGTH		14	3	

3. Display all recorders configured for ACD recorded announcements.

Input:

DISP-RCSU:RECAPL=ACDR;

Output:

PEN	01-03-049-01	01-02-037-01	01-02-037-02	01-03-067-01

SRCGRP:	1	1	1	1
ACT	Y	B	N	Y
OPMODE	CONTINUOUS	DEMAND	CONTINUOUS	DEMAND
OPTYPE	RANDOM	FIXED	RANDOM	FIXED
COFIDX	1	2		
CCTIDX	1	2		
CLASSMRK	G711	G711	G711	G711
RECAPL	ACDR	ACDR	ACDR	ACDR
RECNUM	3	1	2	4
MUSNUM				
HMUSIC				
LENGTH	5	14	3	25

155.2.5 REGENERATE-RCSU

The function REGENERATE-RCSU differs from the function DISPLAY-RCSU only in the format of its output, in that position-oriented commands are formed for the function ADD-RCSU.

There are no error/advisory messages associated with the verb REGENERATE-RCSU.

Procedure Overview

Command Code	Parameter
REGENERATE-RCSU	[PEN=<GG-UU-BBB-SS>], [PEN2=<GG-UU-BBB-SS>], [RECAPL=<param>];

Examples:

1. Regenerate all recorders on system.

Input:

```
REGEN-RCSU;;
```

Output:

```
ADD-RCSU:1-02-37-0,1,Y,CONT,RANDOM,3,5,G711,ACDMUS,1;
ADD-RCSU:1-02-37-1,1,Y,DEMAND,FIXED,2,2,G711,ACDR,1,14;
ADD-RCSU:1-02-37-2,1,N,CONT,RANDOM,,G711,ACDR,2,3;
ADD-RCSU:1-02-37-3,1,Y,CONT,RANDOM,,G711,ACDMUS,2;
ADD-RCSU:1-03-67-1,1,Y,DEMAND,FIXED,,G711,ACDR,4,25;
```

155.3 Parameter Description

ACT	Recorder activation required		
	Type of Input	: Single value, optional	
	Possible Values	: Y(YES)	do activate the recorder
		N(NO)	do not activate the recorder
	Default Value	: Y	
CCTIDX	index into timer block table for SLMA/SLMA2/SLMAR circuit (applies to SLMA Q2141-X, Q2157-X, SLMA2 Q2146-X and to SLMAR Q2480-X only; see AMO PTIME, TYPE=SLMA1 for the times to be set)		
	Type of Input	: Single value, optional	
	Possible Values	: numeric, 0-16	
	Default Value	: 16 (null value)	
CLASSMRK	DNIL classmarks (for feature IPDA)		
	Type of Input	: 4 single values, concatenated with '&', optional (ADD / CHANGE)	
	VAD	voice activity detection	
	EC	echo cancellation	
	G711	no voice compression, according to G.711	
	G729	voice compression (mandatory) according to G.729A	
	G729OPT	voice compression (optional) according to G.729A	
	INIT	initialisation of classmarks to default	
	NONE	deactivation of all classmarks	
	Default Value	G711	

RCSU - Recorder Configuration in SWU

Parameter Description

COFIDX	index of cofi data file to be loaded
Type of Input	: Single value, optional
Possible Values	: 0 = Data block for Germany 1 = Data block for Austria 2 = Data block for Australia 3 = Data block for Spain and Belgium (L > 2x250 Ohm) 4 = Data block for Spain and Belgium (L <= 2x250 Ohm) The default value to be assigned for Spain and Belgium is 4. 5 to 7 reserved for future use
Default Value	: 0
HMUSIC	Number of music-on-hold recording
Type of Input	: Single value, optional
Possible Values	: numeric, 1-150
Default Value	: lowest available number
LENGTH	Length of recorded announcement in seconds
Type of Input	: Single value, optional
Possible Values	: numeric, 1-90 1 - 16 for ACDR, RANDOM 1 - 14, 15 - 90 in increments of 5 for ACDR, FIXED START
Default Value	: 3 seconds for ACDR, RANDOM none for ACDR, FIXED START
MUSNUM	Number of music recording
Type of Input	: Single value, optional
Possible Values	: numeric, 1-32
Default Value	: lowest available number
NO	Number of recorders to be created
Type of Input	: Single value, optional
Possible Values	: numeric, 1-30
Default Value	: 1
	When the parameter NO is entered, the parameter PEN, which describes the starting port, can also be entered.
OPMODE	Operation mode for recorders

	Type of Input	: single value, mandatory (ADD) single value, optional (CHANGE)
	Possible Values	: DEMAND Announcement on demand CONT Announcement is played continuously
	Default Value	: none
	Note:	DEMAND is only allowed with OPTYPE FIXED. CONT is only allowed with OPTYPE RANDOM.
OPTYPE	Operation type for recorder	
	Type of Input	: single value, mandatory (ADD) single value, optional (CHANGE)
	Possible Values	: RANDOM Random start FIXED Fixed start
	Default Value	: none
PEN	Port Equipment Number (LTG-LTU-SLOZ-CCT)	
	Type of Input	: 4 single values, concatenated with -, mandatory (CHANGE / DELETE) 4 single values, concatenated with -, optional (ADD / DISPLAY / REGENERATE)
	Possible Values	: numeric, 0-145 in the form of g-uu-sss-ccc g = LTG number 1 (no other values) uu = LTU number 1-15 in Host System 17-99 in Access Points 16 not defined sss = SLOT 1- 121 ccc = Circuit 0 - 254
	Default Value	: For ADD command only: the AMO searches the system for an available port matching the rest of the parameters. For DISPLAY and REGEN: first pen of system

A suitable module must be configured to the slot addressed by PEN (AMO BCSU).

The possible LTU and Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description.

The possible Line values depend on the module type and its functionality.

They can be listed using DISP-BCSU: TYPE=PEN [,LTG=, LTU=, SLOT=, CCT=]; which will also output the actual PEN status (e.g. NOT CONNECTED).

PEN2	Port Equipment Number upper limit	
	Type of Input	: 4 single values, concatenated with -, optional the form of gg-uu-sss-cc

RCSU - Recorder Configuration in SWU

Parameter Description

	Possible values	: For description - see PEN
	Default value	: PEN value if PEN entered, else end of system
RECAPL	Application of the selected recorder	
	Type of Input	: single value, mandatory (ADD) single value, optional (CHANGE / DISPLAY / REGENERATE)
	Possible values	: ACDR ACD announcement recorder ACDMUS ACD music recorder HMUSIC music-on-hold recorder
	Default Value	: none
RECNUM	Number of recorded announcement	
	Type of Input	: single value, optional
	Possible Values	: numeric, 1-206
	Default Value	: lowest available number
REFRN	Listing of stations referencing music-on-hold recorders required	
	Type of Input	: Single value, optional
	Possible Values	: Y(YES) do list station numbers N(NO) do not list station numbers
	Default Value	: Y
SRCGRP	Source group index	
	Type of input	1 to 2 single values, concatenated with "&" optional
	Possible Values	1 - 255
TYPE	Type of output	
	Type of Input	: Single value, optional
	Possible Values	: A Activated ports, in service D Deactivated ports, not in service CFIG unoccupied ports suitable for recorder ConFIGuration
	Default Value	: A and D Activate and deactivated

155.4 Error Messages and Advisories

155.4.1 Error Messages

- F01: INVALID PORT POSITION:'LTG' (LINE TRUNK GROUP) FOR 'PEN' OUT OF RANGE.
- F02: INVALID PORT POSITION:'LTU' (LINE TRUNK UNIT) FOR 'PEN' OUT OF RANGE.
- F03: INVALID PORT POSITION:'SLOT' (BOARD SLOT NUMBER) FOR 'PEN' INCORRECT.
- F04: INVALID PORT POSITION:
'CIRCUIT' (BOARD CIRCUIT NUMBER) FOR 'PEN' INCORRECT.
- F05: MEMORY RESERVED FOR SUBSCRIBERS (NEEDED FOR THE
CONFIGURATION OF ANNOUNCEMENT RECORDERS) IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:STN=<?>;
- F06: NO DEVICE CONFIGURED. INCORRECT TYPE OF BOARD AT 'SLOT' OF 'PEN'.
- F07: BEFORE ACTIONS CHANGE/DELETE PLEASE DEACTIVATE
THE RECORDER WITH THE FOLLOWING COMMAND:
DEACT-DSSU:OFFTYPE=DI,TYPE=PEN,PEN1=<?>;
- F09: THE 'PEN' SPECIFIED IS ALREADY USED.
(AMO @@@@@,PEN=@@-@@-@@@-@@@)
(AMO @@@@@,STNO=@@@@@@@)
- F10: NO PERIPHERAL MODULE CONFIGURED YET FOR THE 'SLOT' OF 'PEN'.
(SEE AMO BCSU,MTYPE=PER)
- F11: NO FREE PORT FOR RECORDERS FOUND ON THE APPROPRIATE MODULES.
- F12: NO RECORDER CAN BE ATTACHED TO THE GIVEN 'SLOT' OF
'PEN'. BOARD MISSING OR OF INCORRECT TYPE:
ONLY MODULES OF TYPE 'SLMA, SLMAB, SLMA3, SLMA24'
ARE ALLOWED (SEE AMO BCSU, MTYPE=PER).
- F13: CANNOT CHANGE DATA - NO RECORDER CONFIGURED YET
FOR PORT PEN=@@-@@-@@@-@@.
- F15: MEMORY RESERVED FOR LODEN VALUES (LOGICAL DEVICE
TABLE NUMBERS FOR CALL PROCESSING) IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:LODEN=<?>;
- F16: MEMORY RESERVED FOR DEVICE TABLE ENTRIES
(DEVICE HANDLER) IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:LTGNO=<?>,DTILTG=<?>;
- F17: MEMORY RESERVED FOR SUB-UNIT POOL
(CALL PROCESSING) IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:SU=<?>;
- F18: MEMORY RESERVED FOR
DEVICE INDICATOR POOL (DEVICE HANDLER) IS INSUFFICIENT.
ALLOCATE ADDITIONAL MEMORY WITH THE FOLLOWING COMMAND:
ADD-DIMSU:LTGNO=<?>,DILTG=<?>;
- F19: THIS COMMAND INPUT DOES NOT INDUCE CHANGES IN CURRENT CONFIGURATION DATA.
- F20: THE 'PEN' SPECIFIED IS USED BY A DIFFERENT TYPE
OF DEVICE (NOT AN ACD RECORDER).

RCSU - Recorder Configuration in SWU

Error Messages and Advisories

F21: CANNOT CHANGE DATA - NO RECORDER CONFIGURED YET
FOR PORT PEN=@@-@@-@@@-@@.
BOARD MISSING OR OF INCORRECT TYPE:
ONLY MODULES OF TYPE 'SLMA, SLMAB, SLMA3, SLMA24'
ARE ALLOWED (SEE AMO BCSU, MTYPE=PER).

F25: MUSIC-ON-HOLD HMUSIC=@@@ HAS ALREADY BEEN ASSIGNED.

F26: THE UPPER LIMIT FOR THE NUMBER OF RECORDERS
IN THE SYSTEM HAS BEEN ATTAINED.

F27: OPTYPE=RANDOM IS NOT ALLOWED TO BE SET WITH OPMODE=DEMAND.

F28: OPTYPE=FIXED IS NOT ALLOWED TO BE SET WITH OPMODE=CONT.

F29: FEATURE "FLEX+TDM" HAS BEEN ATTAINED. USE 'DISP-CODEW'

F34: THERE IS NO RECORDER CONFIGURED FOR THE 'PEN' ENTERED.

F35: THE UPPER LIMIT FOR THE NUMBER OF RECORDERS
WITH THIS APPLICATION HAS BEEN ATTAINED.

F36: ACD ANNOUNCEMENT RECNUM=@@@ HAS ALREADY BEEN CONFIGURED.

F37: ACD MUSIC MUSNUM=@@ HAS ALREADY BEEN CONFIGURED.

F38: THE RECORDED ANNOUNCEMENT LENGTH (LENGTH)
ENTERED IS INCORRECT FOR OPTYPE=FIXED.
POSSIBLE VALUES: 1,2,...,13,14,15,20,...,85,90.

F39: THE RECORDED ANNOUNCEMENT LENGTH (LENGTH)
ENTERED IS INCORRECT FOR OPTYPE=RANDOM.
POSSIBLE VALUES: 1,2,...,15,16.

F40: AN ACD RECORDED ANNOUNCEMENT WITH OPTYPE=FIXED
MUST HAVE AN ANNOUNCEMENT LENGTH (LENGTH).
POSSIBLE VALUES: 1,2,...,13,14,15,20,...,85,90.

F43: CANNOT DELETE RECORDER - IT IS STILL REFERENCED BY DNI TABLES.
(SEE AMO DNIT, TBL=DNI, AUDSRCID)

F44: CANNOT DELETE RECORDER - IT IS STILL
REFERENCED BY ACD ROUTING TABLES.
(SEE AMO ACDRT, ACT=RTREC, ACT=RTMUS)

F45: THE FIELDS 'OPMODE, OPTYPE, RECAPL, RECNUM, MUSNUM'
CANNOT BE CHANGED - THE RECORDER IS STILL
REFERENCED BY ACD ROUTING TABLES.
(SEE AMO ACDRT, ACT=RTREC, ACT=RTMUS)

F46: THE FIELDS 'OPMODE, OPTYPE, RECAPL, RECNUM'
CANNOT BE CHANGED - THE RECORDER IS STILL
REFERENCED BY DNI TABLES.
(SEE AMO DNIT, TBL=DNI, AUDSRCID)

F47: A MUSIC-ON-HOLD RECORDER (RECAPL=HMUSIC)
MUST HAVE OPMODE=CONT AND OPTYPE=RANDOM.

F49: A MUSIC RECORDER (RECAPL=ACDMUS)
MUST HAVE OPMODE=CONT AND OPTYPE=RANDOM.

F50: THE MODULE OF PORT PEN=@@-@@-@@@-@@ HAS BEEN DEACTIVATED. (SEE AMO BSSU)

F51: RECORDER CANNOT BE CHANGED OR DELETED - IT IS STILL
BEING ASSIGNED TO SUBSCRIBERS.
(DISP-RCSU:RECAPL=HMUSIC,HMUSIC=@@@,REFRN=YES;)

F52: THE CLASSMRK VALUES 'INIT' OR 'NONE' MAY NOT BE"
CONCATENATED.

155.4.2 Advisories

H01: RECORDER HAS BEEN CONFIGURED AT PORT PEN=@@-@@-@@@-@@.

H02: RECORDER AT PORT PEN=@@-@@-@@@-@@ HAS BEEN DELETED.
H03: NO RECORDER CONFIGURED.
H04: RECORDER HAS BEEN SET UNDER CALL PROCESSING CONTROL.
H05: NO FREE PORT FOR RECORDERS FOUND ON THE APPROPRIATE MODULES.
H06: RECORDER AT PORT PEN=@@-@@-@@@-@@ HAS BEEN CHANGED.
H07: PARAMETER 'CCTIDX' ENTERED FOR PORT
PEN=@@-@@-@@@-@@ HAS BEEN IGNORED.
SEE DESCRIPTION OF PARAMETER CCTIDX IN AD.
H08: THE CONTRACTED NUMBER OF FLEX+TDM LICENSES IS EXCEEDED. THIS LICENSE IS MARKED
AS TRIAL ENTITY. IT WILL BE DEACTIVATED, IF TRIAL MODE EXPIRES WITHOUT
SUFFICIENT LICENSES.
H09: THE AUTOMATIC SEARCH OF FREE LINES STARTS WITH THE GIVEN PEN BECAUSE THE
PARAMETER NO IS ENTERED AND UNEQUAL 1.THEREFORE IT CAN HAPPEN THAT THE
ASSIGNED PEN DIFFERS FROM THE SPECIFIED PEN.
H10: VIAHHS IS NOT SET. MOH AND ANNOUNCEMENTS WILL NOT BE SWITCHED OVER HHS.
H11: PLEASE ENSURE THE CORRESPONDING WAV FILE FOR THIS ANNOUCEMENT IS CONFIGURED IN
THE SOFTGATE.

155.4.3 Use of Output Messages for each Function

- ADD:
F01, F02, F03, F04, F05, F09, F10, F11, F12, F15, F16, F17,
F18, F20, F25, F26, F27, F28, F32, F35, F36, F37, F38, F39,
F40, F47, F49, F50, F52
H01, H04, H05, H07
- CHANGE:
F01, F02, F03, F04, F07, F10, F12, F13, F19, F20, F21, F27,
F28, F35,
F36, F37, F40, F45, F46, F49, F50, F51, F52
H03, H05, H06, H07
- DELETE:
F01, F02, F03, F04, F07, F10, F12, F20, F34, F43, F44, F50,
F51
H02, H03
- DISPLAY:
F50
H05, H03
- REGENERATE:
NONE

156 RCUT - Administration of the Route Code Conversion Table

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

This table assigns customer-specific CDR codes to route codes (dialed number prefixes).

An entry in the table is necessary only, when a dialed route code is to be converted in the customer-specific CDR code.

If no corresponding CDR code is found for a dialed route code, then the actual dialed route code will be transferred to the charge data block.

A maximum of 512 entries are possible.

156.1 Interrelationships

- AMO-SELG : Administration of the Selection Groups and Tables
- AMO-GRZW : Administration of the Limit Values for CDR

156.2 Functions of the AMO

- [ADD-RCUT](#) : Enter CDR code allocations
- [CHANGE-RCUT](#) : Change CDR code entries
- [DELETE-RCUT](#) : Delete table entries
- [DISPLAY-RCUT / REGENERATE-RCUT](#): Interrogate table entries / Regenerate table entries

156.2.1 ADD-RCUT

Enter a CDR code allocation.

The customer-specific CDR code and the allocated route code are entered.

Part qualified entries are possible (i.e. 00 for all route codes which with 00 begin, that are international calls).

Procedure Overview

Command Code	Parameter
ADD-RCUT	RTECD=<string>,CDRCODE=<number>;

Example

1. The route code 123456 is to be allocated the customer-specific CDR code 654321.

Input:

ADD-RCUT:RTECD=123456,CDRCODE=654321;

2. A system contains several trunk groups for outgoing calls. For the CDR (call detail recording) output, however, all calls are to be output under ONE code (9).

Trunk Group Codes: 5, 6, 7

Solution:

The same customer-specific CDR code is allocated to all outgoing trunk groups (see AMO- SELG).

Input:

ADD-RCUT:RTECD=5,CDRCODE=9;
ADD-RCUT:RTECD=6,CDRCODE=9;
ADD-RCUT:RTECD=7,CDRCODE=9;

NOTE:

1. Add for example

ADD-RCUT:RTECD=0,CDRCODE=0;
ADD-RCUT:RTECD=01,CDRCODE=0;

is not possible. 2nd entry is covered with 1st entry.

2. Add a new entry, which is used to add a valid entry 123 into the charge data block without routing code.

ADD-RCUT:RTECD=DDDDDD,CDRCODE=123;

156.2.2 CHANGE-RCUT

Change an entry in the Route Code Conversion Table.

This action assigns a new CDR code to a route code.

Procedure Overview

Command Code

CHANGE-RCUT

Parameter

RTECD=<string>, [CDRCODE=<number>];

Example

1. The (dialed) route code 123456 is to be allocated the new customer-specific CDR code 11.

Input:

CHANGE-RCUT:RTECD=123456,CDRCODE=11;

156.2.3 DELETE-RCUT

Delete an entry or the entire Route Code Conversion Table. If the parameter RTECD is specified, only the specified entry is deleted from the table.

Procedure Overview

Command Code

DELETE-RTECD

Parameter

[RTECD=<string>];

Example

1. Delete the route code 123456 from the table.

Input:

DELETE-RCUT:RTECD=123456;

156.2.4 DISPLAY-RCUT / REGENERATE-RCUT

1. Interrogate the entries of the Route Code Conversion Table with output in list form (DISPLAY).
2. Interrogate the entries of the Route Code Conversion Table with output in position-oriented commands (REGENERATE).

The user can choose whether one entry or the entire table is to be output.

Procedure Overview

Command Code	Parameter	
DISPLAY-RCUT	[RTECD=<string>];	(1)
REGENERATE-RCUT	[RTECD=<string>];	(2)

Examples

1. Interrogate the Route Code Conversion Table

Input:

DISPLAY-RCUT;

Output:

ROUTE CODE CONVERSION TABLE		
ENTRY NUMBER	ROUTE CODE	CDR CODE
1	0	0
2	123456	11
3	5	9
4	6	9
5	7	9
6	DDDDDD	123

If a list is totally devoid of entries, the output is as follows:

Input:

DISPLAY-RCUT;

Output:

ROUTE CODE CONVERSION TABLE		
ENTRY NUMBER	ROUTE CODE	CDR CODE

2. Interrogate the Route Code Conversion Table with output in position-oriented commands.

Input:

REG-RCUT;

Output:

ADD-RCUT:0,0;
ADD-RCUT:123456,11;
ADD-RCUT:5,9;
ADD-RCUT:6,9;
ADD-RCUT:7,9;
ADD-RCUT:DDDDDD,123;

156.3 Parameter Description

CDRCODE	Customer specific CDR code
Type of Input	: Single value, optional mandatory (ADD) BCD-Array
Possible Values	: Max. 6 digits 0 to 999999
RTECD	Route code (dialed number prefix)
Type of Input	: Single value, optional mandatory (ADD, CHANGE) Keyed Numeral
Possible Values	: Max. 6 digits 0 to 9, *, #, A to D

156.4 Error Messages and Advisories

156.4.1 Error Messages

F01: ENTRY IS ALREADY IN THE TABLE
 F02: ENTRY IS NOT IN THE TABLE
 F03: THERE IS NO MORE SPACE IN THE TABLE

156.4.2 Advisories

none

RCUT - Administration of the Route Code Conversion Table
Error Messages and Advisories

157 REFTA - Reference Clock Table

The description of this AMO is only available in html format!

158 REGEN - Regenerate Customer Data from Data Base

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO REGEN is used for creating a MML batch (MML = Man-Machine-Language) to allow the transfer or backup of a complete or partial system database in a 'portable' form (e.g. version upgrades). Reentry of the database via MML batch is then performed at a later date with the aid of AMO GENDB.

A REGEN takes the form of a sorted file of REGEN MML commands read sequentially whereby the REGENERATE action of the various AMOs is started via the USER-TASK. A REGEN control file exists for each HW module with the appropriate REGEN MML commands and the name:

```
:PDS:APSU/RS@@<x><y>
resp.
:PDS:APSU/RSMF<a><x><b>
resp.
:PDS:APSU/RS@X<x><c>
```

with :

```
<a>:  X  (80CMX, 600ECX)  from version V3.5 on
      @  (80CM)

<b>:  D  (ADS)

<c>:  S  (SWU, 80CMX, 600ECX) from version V3.5 on

<x>:  D  (German)
      E  (English)

<y>:  D  (ADS)
      S  (SWU)
```

The response messages of the various started AMOs are stored in the result files. If PROT=Y was declared, then error and execution files are also created. The result files and error and execution files have the following name syntax:

PAS:<xxxxxx>/<yyyyyyyyyyy>/<zz>/<aaa>

- <xxxxxx>: first 6 digits of the system number (read from VEGAS file)
- <yyyyyyyyyyy>: remaining 11 digits of system number
- <zz>: RE (REGEN result file), RA (REGEN execution file)
- <aaa>: ADS, SWU, ALL (If all HW modules are regenerated, only the result files are combined), NOU (If parameter NOUN was specified).

REGEN - Regenerate Customer Data from Data Base

REGEN control files are included on hard disk with each new release. However, the user has the option of using his/her own files for the REGEN run. Filenames of private production files can be declared with the parameter MMLFILE.

Caution: The specified file must be a SAM file with variable record length and may contain only one NOUN per line.
The contents could look like this:

An example for the regeneration with a private MML-File

Let's create the private MML-File **TESTMMLDAT** in the directory **:PAS:APSI/TEMP/** of the hard disk with the following content:

```
BCSM
LCSM
CODEW
ANSU
UCSU
BCSU
```

Use this commands to create the REGEN:

```
STA-REGEN:USERCODE=NOBODY,MMLFILE=":PAS:APSI/TEMP/TESTMMLDAT",
SYSNO=NICHT-EINGETRAGEN,CONT=N,PROT=Y;
```

```
H500: AMO REGEN STARTED
H01: REGENERATION STARTED
H17: HW-MODULE SWU IS REGENERATING
H27: HW MODULE SWU REGENERATION SUCCESSFUL
H17: HW-MODULE ADS IS REGENERATING
H27: HW MODULE ADS REGENERATION SUCCESSFUL
H90: REGENERATION FINISHED
AMO-REGEN-92 REGENERATE CUSTOMER DATA FROM THE DATABASE
START COMPLETED;
```

The following REGEN result file is obtained:

```
STA-LIST":PAS:APSI/TEMP/TESTMMLD/E",,,T;
```

```
H500: AMO LIST STARTED
```


REGEN - Regenerate Customer Data from Data Base

```
DEV NAME : PAS
FILE NAME: :PAS:APSI/TEMP/TESTMMLD/E
TYPE      : SAM
ADDRESS   : H'00000000'

0000 :A001
0000 :
0000 :
0001 :C001 *P30252B4300B00201P30252B4300B00201P30252B4300S00101
0002 :M2 1 ADD-
CODEW:BH6X7KZP25CS5BJRX99UGMJ3YC8SVWRJ32W5U6LRMTKNA2X95
0002
:5SB8R443YGA79V1,7ZRY61B1468S3PNF93BEMXDNFEADHEZK2XM9UBEYTA6XR2K
J
0002 :Z8FRDKB49R;
0003 :M2 1 ADD-ANSU:SYSNO,"NO SWITCH NUMBER ","ZDBCCDSF";
0004 :M2 1 ADD-ANSU:SYSNO,"NO SWITCH NUMBER ","ZDBCCDS1";
0005 :M2 1 ADD-ANSU:SYSNO,"NO SWITCH NUMBER ","ZDBCCDS2";
0006 :M2 1 ADD-UCSU:LTG,1,"Q2261-X ";
0007 :M2 1 ADD-UCSU:LTU,1,1,"Q2261-X ",CC80F,LOCAL,"
0007 : ",,,,,,;
0008 :M2 1 ADD-UCSU:LTU,1,2,"Q2166-X ",L80XF,LOCAL,"
0008 : ",,,,,,;
0009 :M2 1 ADD-UCSU:LTU,1,3,"Q2166-X ",L80XF,LOCAL,"
0009 : ",,,,,,;
000A :M2 1 ADD-UCSU:LTU,1,4,"Q2166-X ",L80XF,LOCAL,"
000A : ",,,,,,;
000B :M2 1 ADD-UCSU:AP,1,75,"Q2302-X
",5,LTUW,APDL,100.100.103.10,10
000B :0.100.103.60,"MOS
",
000B :445,444,30;
000C :M2 1 ADD-BCSU:PER,1,1,55,"Q2205-X ",1,0,,,,,A;
000D :M2 1 ADD-BCSU:PER,1,1,61,"Q2164-X
",1,0,,NO,300,700,300,A;
000E :M2 1 ADD-BCSU:PER,1,1,67,"Q2168-X
",1,0,,NO,300,700,300,A;
000F :M2 1 ADD-BCSU:PER,1,1,73,"Q2153-X100",0,0,,,,,A;
0010 :M2 1 ADD-BCSU:PER,1,1,79,"Q2150-X ",0,0,,,,,A;
0011 :M2 1 ADD-BCSU:PER,1,1,85,"Q2480-X ",0,0,,,,,A;
0012 :M2 1 ADD-BCSU:PER,1,1,91,"Q2246-X ",0,0,,,,,A;
0013 :M2 1 ADD-BCSU:PER,1,1,97,"Q2025-X300",0,0,,,,,A;
```

REGEN - Regenerate Customer Data from Data Base

```
0014 :M2 1 ADD-BCSU:PER,1,1,103,"Q2121-X    ",0,0,,,,,A;
0015 :M2 1 ADD-BCSU:PER,1,2,25,"Q2205-X    ",1,0,,,,,A;
0016 :M2 1 ADD-BCSU:PER,1,2,31,"Q2117-X    ",0,0,,,,,A;
0017 :M2 1 ADD-BCSU:PER,1,2,43,"Q6401-X    ",3,0,,,,,A;
0018 :M2 1 ADD-BCSU:PER,1,2,55,"Q2214-X    ",0,0,,,,,A;
0019 :M2 1 ADD-BCSU:DIU,1,2,61,"Q2195-X    ",0,,,,,1,,,,A;
001A :M2 1 ADD-BCSU:DIU,1,2,79,"Q2096-X200",0,,,,,0,,,,A;
001B :M2 1 ADD-BCSU:DIU,1,2,85,"Q2096-X200",0,,,,,0,,,,A;
001C :M2 1 ADD-BCSU:DIU,1,2,91,"Q2096-X200",0,,,,,0,,,,A;
001D :M2 1 ADD-BCSU:DIU,1,2,97,"Q2096-X200",0,,,,,0,,,,A;
001E :M2 1 ADD-BCSU:DIU,1,2,115,"Q2096-X200",0,,,,,0,,,,A;
001F :M2 1 ADD-BCSU:PER,1,2,121,"Q2174-X    ",0,0,,,,,A;
0020 :M2 1 ADD-BCSU:PER,1,3,25,"Q2246-X    ",0,0,,,,,A;
0021 :M2 1 ADD-BCSU:PER,1,3,37,"Q2150-X    ",0,0,,,,,A;
0022 :M2 1 ADD-BCSU:PER,1,3,85,"Q2153-X    ",0,0,,,,,A;
0023 :M2 1 ADD-BCSU:PER,1,3,115,"Q2168-X
",1,0,,NO,300,700,300,A;
0024 :M2 1 ADD-BCSU:PER,1,4,43,"Q2153-X    ",0,0,,,,,A;
0025 :M2 1 ADD-BCSU:PER,1,4,49,"Q2168-X
",1,0,,NO,300,700,300,A;
0026 :M2 1 ADD-BCSU:PER,1,4,91,"Q2246-X    ",0,0,,,,,A;
0027 :M2 1 ADD-BCSU:PER,1,4,121,"Q2150-X    ",0,0,,,,,A;
0028 :M2 1 ADD-BCSU:RG,1,75,19,"Q2258-X    ",UN25H65V,0;
0029 :M2 1 ADD-BCSU:PER,1,75,25,"Q2157-X    ",0,0,,,,,A;
002A :M2 1 ADD-BCSU:PER,1,75,37,"Q2150-X    ",0,0,,,,,A;
002B :M2 1 ADD-BCSU:PER,1,75,49,"Q2150-X    ",0,0,,,,,A;
002C :M2 1 ADD-BCSU:PER,1,75,55,"Q2205-X    ",1,0,,,,,A;
002D :M2 1 ADD-BCSU:PER,1,75,61,"Q2144-X
",0,0,,NO,300,700,300,A;
002E :M2 1 ADD-BCSU:PER,1,75,67,"Q2121-X    ",0,0,,,,,A;
002F :M2 1 ADD-BCSU:PER,1,75,79,"Q2158-X
",1,0,,NO,300,700,300,A;
0030 :M2 1 ADD-BCSU:PER,1,75,85,"Q2158-X
",1,0,,NO,300,700,300,A;
0031 :M2 1 ADD-BCSU:PER,1,75,91,"Q2025-X300",0,0,,,,,A;
0032 :M2 1 ADD-BCSU:PER,1,75,97,"Q2025-X300",0,0,,,,,A;
0033 :M2 1 ADD-BCSU:DIU,1,75,103,"Q2096-X200",0,,,,,0,,,,A;
0034 :M2 1 ADD-BCSU:PER,1,75,109,"Q2157-X    ",0,0,,,,,A;
0035 :M2 1 ADD-BCSU:PER,1,75,115,"Q2214-X    ",0,0,,,,,A;
CONTINUE ?
ANS =
```

REGEN - Regenerate Customer Data from Data Base

```
C
0036 :M2 1 ADD-BCSU:PER,1,75,121,"Q2214-X  ",0,0,,,,,A;
0037 :B001 *P30252B4300A00201P30252B4300A00201P30252B4300D00101
0038 :M1 1 ADD-BCSM:A1,BC,STYPE,"B5301-X  ",WITHOUT;
0039 :M1 1 ADD-BCSM:A1,EC,STYPE,"B5318-X  ";
003A :M1 1 ADD-LCSM:A1,ASYN,2,4800,7,SL1,INT,INT;
LIST FINISHED
STATUS  =  H'0000
AMO-LIST -92      LISTING OF FILES
START COMPLETED;
```

If any other type of file is used, then a successful completion of the REGEN run cannot be guaranteed.

If a private control file is used, the entire system is checked to see if all modules are available. The advisory H13 is displayed for each not available module. The REGEN-run is started for available modules. If the control file does not contain a noun for an available module only the advisories H17 and H27 are displayed.

If a filename was declared with the parameter MMLFILE, then only a result file is created. This file will have the same name as the MMLFILE except that the last two characters of the filename are replaced with "/E". The filename for the execution file (if PROT=Y was declared) is also taken from the MMLFILE name. However, in this case the last two characters are replaced by "/A".

If the last-but-third character of the MMLFILE name is "/", the AMO REGEN is terminated abnormally. If an MMLFILE name is specified beginning with :AMD:, then the AMO REGEN assumes that a REGEN job has been started by remote administration and maintenance (RMA). In this case, a result file is created for each NOUN in the MMLFILE with the following name syntax:

```
:AMD:FBT/FAMUP/NOUNN/<x>/<yyyy>
```

```
<x> :      A (ADS) / S (SWU)
```

```
<yyyy>:  Regenerated NOUN
```

When a REGEN run is started, the AMO attempts to enter the appropriate status information on each HW module in the VEGAS administration file.

If the AMO is unable to enter the necessary information (reservation codes) in the VEGAS file (e.g. if an entry already exists for another system) then the regenerating run is refused for the entire system.

REGEN - Regenerate Customer Data from Data Base

Restrictions

For REGENERATION with DATYPE=ALL the SWU must be marked "FREE" in the VEGAS-file, because several SWU-Amos will be started.

If a value other than NONE is specified for the DATYPE parameter, then the SWU database must contain the same system number as the ADS. The status of the SWU must be 'FREE'.

Parameter DATYPE at present not evaluated.

158.1 Restrictions

This discription is valid from SP300-V3.1

158.2 Interrelationships

- AMO GENDB : Database generation with MML CMD batches
- AMO VEGAS : Administration of database generation runs on support system

158.3 Functions of the AMO

- [START-REGEN](#) : Start the regenerating run

158.3.1 START-REGEN

Start the regenerating run for creation of MML command file.

Procedure Overview

Command Code	Parameter
START-REGEN	USERCODE=<string>, [SYSNO=<string>] ,CONT=Y; | ,CONT=N, [STANDBY=<param>] , [SYSTYPE=<param>], [PROT=<param>] , [DATYPE=<param>], [ARCHIVE=<param>] , { [UNIT1=<param>], [APSVERS1=<number>] , [CFIGCUS1=<param>] }, { [UNIT2=<param>]

Command Code

Parameter

```
, [APSVERS2=<number>], [CFIGCUS2=<param>] }
, { [UNIT3=<param>], [APSVERS3=<number>]
, [CFIGCUS3=<param>] }, { [UNIT4=<param>]
, [APSVERS4=<number>], [CFIGCUS4=<param>] }
, { [UNIT5=<param>], [APSVERS5=<number>]
, [CFIGCUS5=<param>] }, { [UNIT6=<param>]
, [APSVERS6=<number>], [CFIGCUS6=<param>] }
, { [UNIT7=<param>], [APSVERS7=<number>]
, [CFIGCUS7=<param>] }, { [UNIT8=<param>]
, [APSVERS8=<number>], [CFIGCUS8=<param>] }
, { [UNIT9=<param>], [APSVERS9=<number>]
, [CFIGCUS9=<param>] }
, [NOUN=<string>], [MMLFILE=<string>]
, FTRNS=N;
```

```
|, FTRNS=Y, [FDAT=<param>], BSPTNR=<string>
, BSLOGID=<string>, BSACCNO=<string>
, BSPSWD=<string>, [DEL=<param>];
```

Example

Start a REGEN run

Input:

```
START-REGEN:"WINDSOR","L31617S0001X00001",,,,Y,,,SWU,,,ADS,,,,
,,,,,,,,,,,,,,,,,,,,,"CHESE&BUEND";
```

Output:

Result file: :PAS:L31617/S0001X00001/RE/ADS

```
A001
C001 *P30252B2001B60101P30252B2000B60101P30252B2000S60101
M2 1 ADD-ANSU:SYSNO,EMPTZDBCCD01,ZDBCCD01;
M2 1 ADD-ANSU:SYSNO,EMPTZDBCCD02,ZDBCCD02;
M2 1 ADD-ANSU:SYSNO,EMPTZDBCCD03,ZDBCCD03;
M2 1 ADD-UCSU:LTU,1,1;
M2 1 ADD-UCSU:LTU,1,2;
M2 1 ADD-DIMSU:ADMCC,1000;
M2 1 ADD-
DIMSU:CC,2000,600,40,500,500,275,385,257,268,110,110,0;
M2 1 ADD-DIMSU:ADMLTG,1,100;
M2 1 ADD-DIMSU:LTG,1,800,300,120,600;
M2 1 ADD-BCSU:PER,1,1,1,"Q2057-X ";
M2 1 ADD-BCSU:RG,1,1,7,"Q2058-X ",UN50H65V;
M2 1 ADD-BCSU:PER,1,1,13,"Q2057-X ";
M2 1 ADD-BCSU:PER,1,1,25,"Q2052-X ";
.
.
.
```

Output:

REGEN - Regenerate Customer Data from Data Base

Functions of the AMO

Result file: :PAS:L31617/S0001X00001/RA/ADS

```
***DAGEN - DEVELOPMENT AID FOR GENERATION *****
*
*      SSSSSSSSSSSSSSSSSSSSSSS
*
*              SSS
*              SSS
*      TTTTTTTTTTTTTTTTTTTTTT      SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS
*
*              TTTTTTTTTTTTTTTTTTTTTT
*              BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB
*      BBBBBBBBBBBBBBBBBBBBBB      DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
*
*              DDD
*              DDD
*      DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
*
*
* SWU *** START *****
*
*      REGEN-RESULT-PROTOCOL                      DATE : 28.09.87
*
*                      START : 09:51:18
*
*      GENERATED HARDWARE MODULE (SERVER): ADS
*
*      NAME OF MMLFILE          :
*      SYSTEM PROGRAM NUMBER (APS-SPNO.) : P30252B2001A60101
*
*      CALLUP          UNIT : ADS                      FTRNS      : N
*      PARAMETERS      CFIGDA : Y                      BSPTRN     :
*
*                      CUSTDA : Y                      BSLOGID    :
*
*                      PROT  : Y                      BSACCNO     :
*
*                      DEL   :                      BSPSWD      : (SECRET)
*
*
*                      ARCHIVE: N
*
***** DAGEN - DEVELOPMENT AID FOR GENERATION **
S REGEN-ANUM:A1;H500: AMO ANUM STARTED
EH ADD-ANUM:SYSNO,A1,"L31617S0001X00001";
ME AMO-ANUM -111      ENTER SYSTEM NUMBER INTO DATA BASE
+      REGENERATE COMPLETED;
S REGEN-BCSM:A1;H500: AMO BCSM STARTED
+      ADD-BCSM:A1,GR,SW,1,TTYBSC;
+      ADD-BCSM:A1,GR,SW,13,TTYBSC;
+      ADD-BCSM:A1,GR,HW,N,38,Q2090-X      ,,,,,,    ,,,;
+      ADD-BCSM:A1,GR,HW,N,1,Q2011-X      1,,,,,    ,,,;
ME AMO-BCSM -111      BOARD CONFIGURATION, SERVICE MODULES
+      REGENERATE COMPLETED;
S REGEN-LCSM:A1;H500: AMO LCSM STARTED
EH ADD-LCSM:A1,V24,2,V27_,DTE,LOW,EXT,60,VDX;
ME AMO-LCSM -111      LINE CONFIGURATION, SERVICE MODULE
+      REGENERATE COMPLETED;
.
.
```

Example of 'continuation after interrupt':

Input:

START-REGEN:"WINDSOR","L31617S0001X00001",Y;

Note

Since the REGEN task has no way of knowing whether the REGEN results of an interrupted AMO were successfully stored in the RE result file before the interrupt occurred, the interrupted AMO is

restarted. In some cases, the REGEN run is continued with the AMO called prior to the interrupted AMO, so that the REGEN result file may contain the same command sequence twice over after an interrupt. Superfluous command sequences must be manually deleted from the RE file if errors occur during loading (i.e. during a GENDB run).

158.4 Parameter Description

APSVERSn	Version of software load to be generated Type of Input : Single value, optional Possible Values : APS Version, 17 chars.
ARCHIVE	Storage of end messages from DAGEN functions in the ADS Type of Input : Single value, optional Possible Values : No, Yes Default Value : No
BSACCNO	Charge account number for BS2000 Type of Input : Single value, mandatory Possible Values : Any valid BS2000 account number (max. 8 chars.)
BSLOGID	User ID for host with BS2000 operating system Type of Input : Single value, mandatory Possible Values : Any valid BS2000 user IDs (max. 8 chars.)
BSPTNR	Symbolic name of BS2000 host in CMS format Type of Input : Single value, mandatory Possible Values : NETW name of connected BS2000 host
BSPWD	BS2000 password Type of Input : Single value, mandatory

REGEN - Regenerate Customer Data from Data Base

Parameter Description

	Possible Values	: BS2000 password valid for user ID, entered' in inverted commas with prefix "c" or "x" (e.g. c'<password>')
CFIGCUSn	REGEN options: configuration data / customer data / both	
	Type of Input	: Single value, linked single values, optional
	Possible Values	: CFIGDA, CUSTDA
	Default Value	: CFIGDA&CUSTDA
CONT	Continuation after interrupt	
	Type of Input	: Single value, mandatory
	Possible Values	: Y, N
	Default Value	: N
DATYPE	Data types other than static database	
	Type of Input	: Single value, linked single values, optional
	Possible Values	: FLEX, MODSTA, PROJ, MDF, NONE, ALL FLEX = Flexible assigned memory MODSTA = Module status PROJ = Project planning data MDF = Main distribution frame
	Default Value	: NONE
DEL	Deletion of logfile (LOGEXE) and/or result file (MMLFILE) after successful file transfer in BS2000	
	Type of Input	: Single value, linked single values, optional
	Possible Values	: LOGEXE, MMLFILE, NONE or ALL
FDAT	File to be transferred	
	Type of Input	: Single value, linked single values, optional
	Possible Values	: LOGEXE, MMLFILE or ALL
	Default Value	: ALL
FTRNS	Transfer all LOGEXES and MMLFILES from ADS to BS2000 host (on completion of REGEN run)	
	Type of Input	: Single value, optional
	Possible Values	: Y, N
	Default Value	: N

MMLFILE	Name of file which contains the NOUNS of the regenerating AMOs		
	Type of Input	: Single value, optional	
	Possible Values	: Any filenames valid for the system up to 32 chars.	
NOUN	Noun to be generated		
	Type of Input	: Textstring, optional	
	Possible Values	: all MML-Nouns, which can be linked with the verb REGENERATE; up to two NOUNs can be entered; must be separated with comma and entered in in inverted commas; max. 11 chars.	
PROT	Output of listing at service terminal		
	Type of Input	: Single value, optional	
	Possible Values	: Y, N	
	Default Value	: N	
STANDBY	Regeneration on active or standby processor		
	Type of Input	: Single value, optional	
	Possible Values	: Y, N	
	Default Value	: N	
SYSNO	Number of customer system		
	Type of Input	: Single value, optional	
	Possible Values	: Any valid system numbers, max. 17 chars.	
	Default Value	: Number of the loaded database	
SYSTYPE	System type		
	Type of Input	: Single value, optional	
	Possible Values	: SUPPORT, CUST	
	Default Value	: CUST	
UNITn	Type of module to be regenerated, i.e. SWU or server		
	Type of Input	: Single value, linked single values, optional	
	Possible Values	SWU	switching unit
		SWUKEY	switching unit with keywords
		ADS	administration and data server
		ADSKEY	administration and data server with keywords
		NONE	none

REGEN - Regenerate Customer Data from Data Base

Error Messages and Advisories

	ALL	all
	ALLKEY	all with keyword
Default Value	: ALL	
USERCODE	User identity	
	Type of Input	: Single value, mandatory
	Possible Values	: Any desired text string, max. 7 chars.

158.5 Error Messages and Advisories

158.5.1 Error Messages

F01: TIMER ERROR. ANSWER TO START MESSAGE MISSING
F02: TIMER ERROR. ANSWER FROM USER TASK MISSING
F03: UNDEFINED ANSWER FROM USER TASK
F04: UNDEFINED ANSWER FROM AMO VEGAS
F05: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ ERROR @@@@ IN @@@@@@@@
F06: FTRNS ERROR @@@ HAS OCCURED DURING FILE TRANSFER
F07: HW MODULE @@@ IS NOT MARKED "FREE" IN VEGAS FILE
F08: HW MODULE @@@ IS OCCUPIED BY ANOTHER APS VERSION
F09: HW MODULE @@@ IS RESERVED BY ANOTHER AMO
F10: HW MODULE @@@ IS RESERVED BY ANOTHER CUSTOMER
F11: HW MODULE @@@ IS RESERVED BY ANOTHER USER
F12: HW MODULE @@@ IS RESERVED BY ANOTHER APS VERSION
F13: HW MODULE @@@ IS OCCUPIED BY ANOTHER CUSTOMER
F14: HW MODULE @@@ IS NOT PRESENT
F15: INPUT FILE NAME FOR PARAMETER MMLFILE IS INVALID
F16: HW MODULE @@@ IS OCCUPIED BY ANOTHER USER
F17: AMO MESSAGE (WRITE OR END_WRITE) DATA LONGER THAN 720 BYTES
F18: ONE OF THE PARAMETERS SYSNO OR MMLFILE MUST BE ENTERED
F19: INCORRECT VALUE FOR PARAMETER NOUN ENTERED
F20: REGENERATION OF DATA BASE OF STANDBY PROCESSOR NOT POSSIBLE.
PLEASE SET INACTIVE CC TO STATUS STAND ALONE.
F21: ERROR AT SAVING REGEN TASK SEGMENT
F22: NO CORRECT NOUN ENTERED
F37: REGENERATION IS IMPOSSIBLE WHEN THE UNIT PARAMETER/S HAS/HAVE THE VALUE NONE
F38: REGENERATION NOT POSSIBLE WHEN CONTAINING A MIXTURE OF BOTH KEYWORD AND
POSITION ORIENTED VALUES
F52: INADMISSIBLE STATUS: PROCESSING OF SERVER <server> CANNOT BE CONTINUED
F53: ERROR IN VEGAS-FILE
F54: A CONTINUATION OF A REGENERATIONN IS ONLY POSSIBLE AFTER A PREVIOUS
INTERRUPT OF THE SYSTEM

158.5.2 Advisories

H01: REGENERATION STARTED
H02: CONTINUATION OF REGENERATION WITH REGEN
H03: CONTINUATION NOT POSSIBLE, BECAUSE CONTINUATION FILE NOT AVAILABLE
H10: REGEN WAS INTERRUPTED
H11: BREAK MESSAGE RECEIVED
H12: HW MODULE @@@ IS FINISHED
H13: HW MODULE @@@ IS NOT PRESENT AND WON'T BE REGENERATED
H15: TOO MANY NOUNS FOR PARAMETER NOUN ENTERED, ONLY THE FIRST TWO WILL BE PROCESSED
H16: REGENERATION OF HW MODULE @@@ STARTED
H17: HW-MODULE @@@ IS REGENERATING
H18: RESULT FILES HAVE BEEN COMBINED TO ONE FILE
H19: FILE TRANSFER REQUEST GIVEN TO AMO FTRNS
H20: DATYPE PROJ IS REGENERATED
H21: DATYPE MODSTA IS REGENERATED
H22: DATYPE FLEX IS REGENERATED
H23: DATYPE MDF IS REGENERATED
H24: FILE TRANSFER REQUEST ADDED TO TRANSFER QUEUE
H25: REGENERATION WITH NOUN @@@@@ STILL IN PROGRESS
H26: FILE TRANSFER STILL IN PROGRESS
H27: HW MODULE @@@ REGENERATION SUCCESSFUL
H28: HW-MODULE @@@ REGENERATION NOT SUCCESSFUL
H29: PARAMETER CONT AT PRESENT NOT EVALUATED
H30: PARAMETER DEL AT PRESENT NOT EVALUATED,
FILES WON'T BE DELETED
H31: PARAMETER ARCHIVE AT PRESENT NOT EVALUATED
H32: REGENERATION OF STANDBY PROCESSOR IS STARTED
H33: HW MODULE @@@ DOWN, REGENERATION INTERRUPTED
H34: PARAMETER DATYPE AT PRESENT NOT EVALUATED
H35: IF PARAMETER NOUN AND MMLFILE INPUT, THEN
PARAMETER NOUN IS NOT EVALUATED
H36: NOUN @@@@@ NOT FOUND IN CONTROLFILES
H90: REGENERATION FINISHED

REGEN - Regenerate Customer Data from Data Base

Error Messages and Advisories

159 REN - Rename Files

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

This function makes it possible to rename one or more files. This is only possible, if the new, fully qualified file name is not already cataloged. The old and the new file name can be specified partially qualified.

A list of the renamed files is output on the operating terminal.

Note

- The renaming of files is possible on the hard disk, DAT and flash memory only.
- In addition, the disk drives must be specified identically.
- It must also be noted, that a file can be renamed only, if the associated directory already exists. If this is not the case, the file can be copied to the new name using COPY and then deleted using DEL.

159.1 Restrictions

This description is valid from SP300- EV3.0

159.2 Interrelationships

- AMO-complex FIDES : File and device service
(see System AMO Section 'ISY startup system')

159.3 Functions of the AMO

- [START-REN](#) : Rename one or more files

159.3.1 START-REN

Procedure Overview

Command Code	Parameter
START-REN	SRCFILE=<string>, DESTFILE=<string>, [SEL=<param>] , [ANS=<param>], [DIALOG=<param>], [UNIT=<param>];

Example

The file APSN/S/DATE@ in the logical area PDS is renamed to APSN/S/DATUM.

Input:

STA-REN:":PDS:APSN/S/DATE@/","":PDS:APSN/S/DATUM/";

159.4 Parameter Description

ANS	Answer
	Is prompted if a response by the user is required
Type of Input	: Single value optional
Possible Values	: Y = File is to be renamed N = File is not to be renamed I = Terminate the action C = All other specified files are to be renamed
Default Value	: none
DESTFILE	Destination file
Type of Input	: Single value mandatory
Possible Values	: Fully or partially qualified HD filename (max. 32 characters)
DIALOG	Dialog
	Output text to terminals when the FIDES function is called by programs
Type of Input	: Single value optional
Possible Values	: Y = yes
Default Value	: Y

SEL	Confirmation of partially qualified file names?		
	Type of Input	: Single value optional	
	Possible Values	: Y	= Yes, execute function
			For each file, entries are requested via the prompt parameter ANS
		N	= No, do not execute function
	Default Value	: Y	
SRCFILE	Source file		
	Old file name		
	Type of Input	: Single value mandatory	
	Possible Values	: Fully or partially qualified HD filename (max. 32 characters)	
UNIT	Functional system unit i.e. server code		
	Type of Input	: Single value optional	
	Possible Values	: A1	= Administration and Data Server (ADS)
	Default Value	: A1	

159.5 Error Messages and Advisories

159.5.1 Error Messages

F01: DEVICE NAMES ARE NOT IDENTICAL
 F02: ALL FILES MUST EITHER BE UNAMBIGUOUS OR AMBIGUOUS
 F03: OLD_FILE(S) DOES (DO) NOT EXIST

159.5.2 Advisories

H01: RENAME IS ONLY POSSIBLE FOR HD, DT OR FM
 H02: RENAME ?
 H03: <format1>

REN - Rename Files

Error Messages and Advisories

```
      :  
      :  
RENAMED  
RENAME COMPLETED
```

159.5.3 Output Formats

<format1>

<srcfile> RENAMED TO <destfile>

160 REST - Restart of a Functional System Unit

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO REST enables restart of a system unit by means of a command on the service terminal.

A distinction is made between three forms of restart:

- **Soft restart (SR):**
The processor concerned resets and boots. Neither code or static data nor the peripheral units are loaded. Through-connected two-party calls are retained.
Both duplex and simplex soft restarts are possible. A simplex soft restart is always carried out when the standby system half either does not exist or is not in the standby state.
- **Hard restart:**
The processor resets and boots. All checksums are checked. Any subsystems showing inconsistencies are reload, as is the peripheral device data.
If the processor concerned is an active 'controller half' in a duplicated configuration and a soft restart with switchover is not possible (e.g. because of a hardware fault in the standby processor), all existing connections are cleared down.
- **Reload:**
As for hard restart, but all subsystems are reloaded.
- **Change the switch that indicates whether the rescue SW from default load table to be used. (CHANGE-REST:YES/NO)**
- **Rescue SW:**
A basic Hicom 300E System (rescue SW) is introduced for increasing the remote reliability of the Hicom System.

In case of no stable SW release is available on the Hicom Harddisk, neither the primary Load on the :PDS nor the gold load on the GLA, RMX will try to bring up an reduced switch which allows an remote access by LINUX means. For this the startup the ADP part is sufficient including the linux loader and TCP/IP.

The remote reliability can only be achieved, if the remote service access is realized via:
 - a modem connected to a separate line, which is not looped back via the Hicom

REST - Restart of a Functional System Unit

- a customer LAN in which the WAN access is not routed via a Hicom trunk.

Due to this prerequisite, the escalation level to Rescue SW will be configurable by administration.

- The dynamic state of the unit can also be displayed with the help of AMO REST.
- New switch **CONFREST** in AMO FUNCT:

When the switch **CONFREST** (Suppress REST warning) in AMO FUNCT is unchanged (default is **ON**), then a soft restart, hard restart or reload is performed without asking for acknowledge (works as nowadays).

If **CONFREST=OFF**, the AMO REST will ask for acknowledge from user if the AMO should continue with the command execution or break.

Notes

- Soft Restart is possible only for active system units.
- Restart/Reload of LTG or CSN is only allowed for Hicom 390 and 391.
- Should a major error occur during the processing of a soft restart, an escalation to a hard restart is possible.
- Restarts occurring in servers are logged statistically with integrity counters. Multiple restarts at a lower level can thus escalate to a higher level restart.
- An SWU controller half undergoing a restart is allocated the dynamic state NOT_AVAILABLE.
- During the restart of an SWU, an overlapping of restarts can occur due to the independent triggering by the fault analysis complex. The restart level specified in the AMO will only apply when it is higher than that of any dependability restart.
- Servers are not accessible during a restart, hence making restart overlapping impossible.
- The correct initiation of a restart by the AMO (output of advisory H1) doesn't guarantee the actual execution by the dependability. System parameters which can't be checked by the AMO may prevent success. E.g. a soft resp. hard restart of CC declines when DB is empty (reload possible). The reasons of error in this case are shown by the SIT report.

Stand Alone Operation

Duplex systems offer the option of using the standby processor for service functions, e.g. to load a new APS, without any interruptions to normal system operation. For this stand alone mode, two new processor states, 'stand alone' and 'stand alone finished', have been defined. The desired state must be entered on AMO callup. The AMO then checks whether this state is possible under consideration of the following restrictions:

SWU: CC-A or CC-B.

Restart level: Hard restart or reload.

It must be noted however that the user is ultimately responsible for the careful and correct usage of the stand alone mode commands.

160.1 Restrictions

This description is valid beginning from versions HiPath 4000 V1.0.

160.2 Interrelationships

- AMO FUNCT : System switches

160.3 Functions of the AMO

- EXECUTE-REST : Restart a system unit
- CHANGE-REST : Set the system to use or not the default load table/rescue software
- DISPLAY-REST : Display system unit state
- REGENERATE-REST : Regen the CHANGE comand.

160.3.1 EXECUTE-REST

The following actions are possible:

REST - Restart of a Functional System Unit

Functions of the AMO

a) Conditional restart of an SWU

These actions are tested as to their executability.

1. Soft restart with switchover (duplex soft restart):
Reset and booting (hard restart) of the active controller half, assuming that the partner controller is able to soft restart (i.e. is in STANDBY), otherwise output of an error message. The partner controller then becomes the ACTIVE processor via a soft restart.
2. Soft restart without switchover (simplex soft restart):
The active processor is reset and restarted, if the partner processor is either not present or not restartable (i.e. not in standby state). The AMO checks that the active processor is restartable (fault analysis state ACTIVE).

Although both types of restart are possible, the AMO itself treats all soft restarts as simplex restarts. The type of restart to be initiated is decided by the dependability check.

b) Unconditional action

Unconditional actions are actions carried out without consideration of dynamic module states. However, such an action is possible only if the unit as a whole is READY. The system dependability determines the appropriate action in all cases.

1. Unconditional reset and booting of a controller half:
A controller is reset and makes a hard restart.
2. Reload (only for loadable redundant units CC and LTG):
An unconditional reset is made, together with reloading of code and static data as well as booting.
3. System restart:
An unconditional reset and booting/restarting of all system controllers (all SWU processors hard restart and all servers, soft restart) is carried out.

c) Server restart

A prerequisite for a server restart is that the server be in service. Any escalation to another level is determined by SYSLOAD, independent of the system dependability (hence not a conditional action). The actual restart level can be read from the resulting error message.

In a monoprocessor system the server A1 can be restarted only by restarting the SWU.

d) System restart:

Unconditional reset, reloading of code and static data, and booting of all system controllers. The loading device can be assigned to the standard device HD, to the alternative device such as MO or to :GLA: on HD containing the rescue SW.

Gold Load Area:

The gold load area will contain a particular software maintenance release (SMR).

In the fall back situation, where the system escalated to the gold load area, an alarm to the service center has to be generated.

e) Restart/Reload of 80CMX-DSC Coprocessor

The new DSC processor board with its Motorola coprocessor can be restarted too. This coprocessor can not be soft-restarted. The parameter COPRO will be ignored if the switch has no DSC coprocessor or if both the parameter PRSTATE and the parameter COPRO parameter is entered.

Notes

STANDBY means, in the case of duplicated processors, that the particular processor concerned is in a position to soft restart at any time, but inactive. ACTIVE means that the particular controller's hardware is functional and is in service.

Procedure Overview

Command Code	Parameter
EXECUTE-REST	| TYPE=UNIT, UNIT=<param>, RSLEVEL=<param>, [PRSTATE=<param>], [COPRO=<param> ]; | TYPE=SYSTEM [, RSLEVEL=RESTART ] ; | [ , RSLEVEL=RELOAD, [DEVICE=<param>]] ;

Examples

1. Restart of an LTG (Line Trunk Group)

Input:

EXECUTE-REST:UNIT,GP1A,HARD

Output:

REST - Restart of a Functional System Unit
Functions of the AMO

H01: RESTART HAS BEEN INITIATED

2. Reload of an LTG (Line Trunk Group)

Input:

EXECUTE-REST:UNIT,GPI3A,RELOAD

Output:

F07: LTG NOT POSSIBLE IN THIS SYSTEM

3. Incorrect command for stand alone operation (from SP-300 V3.2)

Input:

EXECUTE-REST:UNIT,BP,HARD,STAL;

Output:

F09: ENTRY OF THE PARAMETER PRSTATE IS ADMISSIBLE ONLY FOR THE FOLLOWING
VALUE COMBINATIONS: UNIT: BPA OR BPB, RSLEVEL: HARD OR RELOAD.

160.3.2 CHANGE-REST

This verb has one parameter to specify wheather RESCUE-SW (from Default Load Tables)

is to be used at system reload escalation.

Thus Loader has to consider the escalation step to load only a minimum RMX software to offer

a base IS functionality.

Procedure Overview

Command Code	Parameter
CHANGE-REST	RESCUE=<param>;

Examples

1. Set the system to use the rescue software

CHANGE-REST:RESCUE=YES;

160.3.3 DISPLAY-REST

Displays:

1. whether rescue software is used,
 2. output the state of a functional unit.
- If the SWU unit (CC, LTG or CSN) is entered in the input command, the unit's dependability state (FA or 'fault analysis' state) is queried.
 - If the parameter UNIT is not entered in the input command, the output will contain the dependability state (FA or 'fault analysis' state) of all functional units.

Procedure Overview

Command Code

DISPLAY-REST

Parameter

[UNIT=<param>;

Examples

1. Display the fault analysis state of SWU units

Input:

DISPLAY-REST:BPB&GP1A&GP1B&GP7A&GP7B;

Output:

+-----+-----+	
| USE RESCUE SW | NO |	
+-----+-----+	
+-----+-----+	
| FUNCTIONAL UNIT | FAULT ANALYSIS STATUS |	
+-----+-----+	
| BPB | INACTIVE |	
| GP1A | STANDBY |	
| GP1B | ACTIVE |	
| GP7A | NOT_AVAILABLE |	
| GP7B | NOT_AVAILABLE |	
+-----+-----+	

160.3.4 REGENERATE-REST

Regenerate is used to print out the given CHANGE-command (indicating if rescue software is used).

Procedure Overview

Command Code

REGENERATE-REST

Parameter

<NONE>

REST - Restart of a Functional System Unit

Parameter Description

Examples

- 1. Regenerate the command to set the value for using rescue software’s default load table

Input:

REGEN-REST;

Output:

CHANGE-REST:DEFLT=YES;

160.4 Parameter Description

COPRO	Mode of coprocessor restart		
	Type of Input	Single value, optional	
	Possible Values	: COND conditional UNCOND unconditional	
DEVICE	Load media for system reload		
	Type of Input	Single value, optional	
	Possible Values	: STD System reload media - standard (HD) (SCSI_ID0) ALT System reload media - alternative (MO) GLA System reload media - Gold Load Area (SCSI_ID5) (:GLA: on HD)	
RESCUE	Use Rescue SW from Default Load Tables		
	Type of Input	Single value, mandatory	
	Possible Values	: YES Use Default Load Tables NO Do not use Default Load Tables	
UNIT	Functional system unit for which the restart command is intended.		
	Type of Input	: Single value, mandatory (EXEC linked single values, optional UTE) (DISPL AY)	

Possible Values	: BP	active CC	(EXEC
	BPS	standby CC	UTE)
	BPA, BPB	CC controller side	(EXEC
	GP1 - GP32	active LTG	UTE)
	GP1S - GP32S	standby LTG	
	GP1A - GP32A	LTG controller side	(EXEC
	GP1B - GP32B	LTG controller side	UTE)
	IOC1A - IOC4A	CSN controller side	(EXEC
	IOC1B - IOC4B	CSN controller side	UTE)

PRSTATE Desired processor state

Type of Input : Single value, optional

Possible Values	: STAL	standalone
	STALFI	standalone finished
	REST	other (active, standby)

RSLEVEL Restart level

Type of Input : Single value, mandatory

Possible Values	: SOFT	Soft restart	(only TYPE=UNIT/LTUR)
	HARD	Hard restart	(only TYPE=UNIT/LTUR)
	RELOAD	Reload	
	RESTART	System restart	(only TYPE=SYSTEM)

TYPE Branch parameter indicating whether the restart is intended for the entire system, or only for a particular unit.

Type of Input : Single value, mandatory

Possible Values : UNIT = Restart/reload of a unit
SYSTEM = System restart

160.5 Error Messages and Advisories

160.5.1 Error Messages

F01: UNIT NOT ACCESSIBLE
F02: PARTNER CONTROLLER NOT STANDBY
F03: SWU CONTROL INACTIVE
F04: NO RELOAD FOR CSN
F05: FUNCTIONAL UNIT NOT PRESENT
F06: FUNCTIONAL UNIT DEFECTIVE

REST - Restart of a Functional System Unit

Error Messages and Advisories

F07: LTG NOT POSSIBLE IN THIS SYSTEM
F09: ENTRY OF THE PARAMETER PRSTATE IS ADMISSIBLE ONLY FOR THE FOLLOWING VALUE
COMBINATIONS: UNIT: BPA OR BPB, RSLEVEL: HARD OR RELOAD.
F11: UNIT NOT AVAILABLE
F12: LTU NOT POSSIBLE IN THIS SYSTEM (LTU MAX = <number>)
F13: UNIT=A1 IS NOT ALLOWED IN A MONOPROCESSORSYSTEM.
TO RESTART A1 USE MODUL=BP.
F14: STANDBY PROCESSOR CAN ONLY BE RESTARTED WITH HARD RESTART OR RELOAD.

160.5.2 Advisories

H01: <RESTART/RELOAD> HAS BEEN INITIATED
H02: <unit> NOT POSSIBLE IN THIS SYSTEM
H08: BP-STANDBY NOT AVAILABLE
H10: BP-ACTIVE NOT AVAILABLE
H11: RELOAD OF THE COPROCESSOR IS ONLY POSSIBLE IN CASE OF DSC80 PROCESSOR BOARD
H12: PARAMETER COPRO IS ONLY VALID IN CASE OF RSLEVEL=RELOAD/HARD
H13: THIS ACTION IS SERVICE IMPACTING. DO YOU WISH TO PROCEED?(YES / NO)
THIS HINT IS CONTROLLED BY AMO FUNCT PARAMETER CONFREST

161 RICHT - Trunk Routing

The description of this AMO is only available in html format!

162 RUFUM - Direct Inward Dialing Number Conversion

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

In certain cases in systems it is necessary to convert an externally dialed number, for which there is no internal destination to a number for which a destination is assigned.

Such cases are:

- 1-digit up to 6-digit station numbers (digits 1-9). (DPLN, DAR=STN)
The station number to which the dialed number is converted must be assigned to an existing station.
- Combination codes for FAX, DTE (DPLN, DAR=FAXNO, DTENO for data exchange analog, and DTEDNO for data exchange digital via DIU-CAS)
These are entered in the dial plan (DPLN, AMO WABE) if the service code plus station number in system internally amount to more than 6 digits and the station is to be available externally via an exchange, since external call numbers are limited to call numbers with a maximum of 6 digits. Conversion is always necessary in this case.
- Codes for release order (DPLN, DAR=STNREL).
By using these codes users without override- / release- authorisation can setup a connection to specific internal or external destinations with prophylactic release order. These codes lead to DAR=TLN_EMERGENCY_DISC in DPLN with the information of the destination number of the node, where one can find the specific destination user. The conversion is done in the node, where the destination user is added (DESTNO=0).

Conversion takes place after digit analysis.

162.1 Restrictions

This description is valid from HiPath 4000 V1.0

162.2 Interrelationships

- AMO SCSU/SBCSU : Subscriber Configuration in SWU
- AMO WABE : Dialling Plans, Feature Access Codes

162.3 Functions of the AMO

- ADD-RUFUM : Add call number conversion
- DELETE-RUFUM : Delete call number conversion
- DISPLAY-RUFUM : Display call number conversion
- REGENERATE-RUFUM : Regenerate call number conversion

162.3.1 ADD-RUFUM

- 1. TYPE=DID: 1 to 6 digit station number
- 2. TYPE=COMB: combination codes for FAX and DTE

Existing destination station numbers are overwritten, making the action CHANGE-RUFUM unnecessary.

Procedure Overview

Command Code	Parameter
ADD-RUFUM	TYPE=DID,DID1=<number>,DID2=<number>; |TYPE=COMB,[FAX1=<number>],[FAX2=<number>] ,[DTE1=<number>],[DTE2=<number>;

Example

Add destination station number 2114 for external combination numbers for DTE 62 and 63.

Input:

AD-RUFUM:TYPE=COMB,DTE1=62&63,DTE2=2114;

162.3.2 DELETE-RUFUM

Procedure Overview

Command Code	Parameter
DELETE-RUFUM	STNO1=<number>;

With this function, the conversion of external dialing numbers to destination dialing numbers is deleted.

162.3.3 DISPLAY-RUFUM

If no station numbers are specified, only the TYPE, all entries with the requested TYPE are output.

In the branch TYPE=STNO2, all station numbers are output which will be converted to the specified station number. If TYPE is not specified, all entries are output.

Procedure Overview

Command Code	Parameter
DISPLAY-RUFUM	[TYPE=DID], [DID1=<=<number>]; | [TYPE=COMB], [FAX1=<number>], [DTE1=<number>]; | [TYPE=STNO2], STNO2=<number>;

Example

Input:

DIS-RUFUM:TYPE=COMB;

Output:

TYPE	DIALLED CODE	CONV. CODE
COMB-FAX	60	2110
COMB-FAX	61	2111
COMB-FAX	64	2112
COMB-FAX	65	2113
COMB-FAX	62 - 63	2114

162.3.4 REGENERATE-RUFUM

Procedure Overview

Command Code	Parameter
REGENERATE-RUFUM	;

Example

Input:

REG-RUFUM;

Output:

ADD-RUFUM: DID , 5 , 2100;
ADD-RUFUM: COMB , 60 , 2110;
ADD-RUFUM: COMB , 61 , 2111;
ADD-RUFUM: COMB , , 64 , 2112;
ADD-RUFUM: COMB , , 65 , 2113;
ADD-RUFUM: COMB , , , 62 , 2114;
ADD-RUFUM: COMB , , , , 63 , 2115;

162.4 Parameter Description

DTE1 } DTE1 must lead to DAR=DTENO in the DPLN
DTE2 }

DTE1 and DTE2 = as for FAX1 and FAX2

DID1 1 to 6 digit station number must lead to DAR=STN or DAR=STNREL with DESTNO=0 in DPLN
Type of Input : single value, linked single values, range(s max. 16 input values
mandatory (ADD)
optional (DISPLAY)
Possible values : decimal number (1 to 6 chars.)

DID2 Destination number In the dial plan (DPLN) this must lead to DAR "STN".
Type of Input : single value, mandatory
Possible values : decimal number (1 to 6 chars.)

FAX1 Combination code for FAX for CO subscriber number
In the dial plan (DPLN) this must lead to DAR=FAXNO
Type of Input : single value, linked single values, range(s) max. 16 input values,
optional

	Possible values : decimal number (1 to 6 chars.)
FAX2	Station number of the facsimile (FAX) device in the system which is to be accessed by dialing the combination code (MASTER hunting group also possible). Type of Input : single value, optional Possible values : decimal number (1 to 6 chars.)
STNO1	Directory number for which the destination directory number is to be deleted in the conversion tables Type of Input : single value, linked single values, range(s), mandatory Possible values : decimal number (1 to 6 chars.)
STNO2	Internal number (conversion number) Type of Input : single value, mandatory Possible values : decimal number (1 to 6 chars.)
TYPE	Branch parameter Type of Input : single value, mandatory (ADD) optional (DISPLAY) Possible values : DID, COMB STNO2 (DISPLAY)

162.5 Error Messages and Advisories

Output Texts

i	Index of device directory number 1...combination code 2...internal device directory number
xxxxxx	Internal station number
dev	Non-voice device (FAX, DTE)
conv type	Type of conversion (DID, COMB, COMB-FAX, COMB-DTE)
stno	Name of station number parameter (FAX, DTE, STNO)

162.5.1 Error Messages

F01: STNO <xxxxxx> IS NOT A STATION NUMBER
 F03: STNO <xxxxxx> IS NOT A <dev> COMBINATION CODE
 F04: STNO <xxxxxx> DOES NOT EXIST
 F05: STNO <xxxxxx> IS AN INTERNAL STATION NUMBER
 F08: <dev><i> NOT SPECIFIED

RUFUM - Direct Inward Dialing Number Conversion

Error Messages and Advisories

F09: NO PARAMETERS SPECIFIED IN THE COMMAND
F10: <dev>2 HAS NOT BEEN ALLOCATED A <dev> DEVICE
F12: CONVERSION CANNOT BE WRITTEN IN RUFUM TABLE BECAUSE OF MEMORY OVERFLOW. REQUEST MORE MEMORY WITH AMO DIMSU (TYPE=CC, BLK100=xxx)
F13: RANGE LIMIT VALUES FOR PARAMETER <stno>1 HAVE DIFFERENT LENGTHS
F14: STNO <xxxxxx> IS AN EXTERNAL STATION
F15: STNO1 <xxxxxx>: CONVERSION TO THE SAME STATION NUMBER NOT PERMISSIBLE
F16: IN COMBINATION WITH CODE <xxxxxx>, WHICH LEADS TO DAR=STNREL IN DPLN, DESTNO MUST BE 0
F17: DIAL NUMBER <xxxxxx> IS ASSIGNED TO A SKY DEVICE AND MAY NOT BE ENTERED AS A CONVERSION DESTINATION.
F18: FAX1 @@@@@@@@@@@@ IS AN ALREADY CONFIGURED PHYSICAL STATION.
F19: STATION NUMBER @@@@@@@@@@@@ IS IN USE.

162.5.2 Advisories

H01: CONVERSION ENTRY FOR TYPE <conv type> NOT FOUND IN THIS SYSTEM
H02: CONVERSION ENTRY NOT FOUND IN THIS SYSTEM
H03: NO CONVERSION ENTRY FOUND FOR STNO <xxxxxx>
H04: NO CONVERSION ENTRY TO STNO2 FOUND
H05: NO CONVERSION ENTRY FOUND FOR STNO RANGE
H06: STNO <xxxxxx> IS NOT A STATION NUMBER
H07: NO CONVERSION ENTRY FOUND FOR TYPE <conv type> WITH THIS STNO
H08: CONVERSION FOR STNO <xxxxxx> INVALID, PLEASE DELETE WITH AMO RUFUM

163 SA - Hunting Arrangements

The description of this AMO is only available in html format!

164 SAVCO - Save Config. File of a Subsystem (SUSY)

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The administration and maintenance order SAVCO (SAVe Config.) changes the CONFIG information of a SUSY (subsystem) in the PGLIB (program library).

164.1 Restrictions

This description is valid from SP300-V3.3

164.2 Interrelationships

- AMO-complex FIDES : File and device service
: (see System AMO Section 'ISY startup system')
- AMO APS : Software load upgrade

164.3 Functions of the AMO

- [START-SAVCO](#) : Execute CONFIG change

164.3.1 START-SAVCO

With this function it is possible to change the CONFIG information of the specified SUSY in the PGLIB.

All specified parameters are changed. All omitted parameters retain their values.

For safeguarding reasons, the existing CONFIG contents and the newly created CONFIG are logged and the caller is requested in DIALOG mode to confirm the changes.

SAVCO - Save Config. File of a Subsystem (SUSY)

Functions of the AMO

Procedure Overview

Command Code	Parameter
START-SAVCO	SUSYNAME=<string>, [MEMMIN=<number>], [MEMMAX=<number>] , [MAXTASK=<number>], [MAXPRIO=<number>] , [CRFLAG=<number>], [EADDRS=<number>], [EADDRO=<number>] , [JOBFLAG=<number>], [SUSYTYPE=<param>] , [TASKPRIO=<number>], [IADDRS=<number>] , [IADDRO=<number>], [STACKSIZ=<number>] , [TSEGSIZ=<number>], [WARN=<param>], [ANS=<param>;

Example

Change the CONFIG information of SUSY NCOPY@C0

Input:

```
START-SAVCO":PDS:APSN/S/ACMSM/C";
```

Output:

```
SAVE CONFIG DATA STARTED
SUSY CONFIG FROM PGLIB :
FILE NAME : :PDS:APSN/S/ACMSM/C
OMF NAME  : (RED 220A XXXXXXXXXXXXNACMSMC0A0-EA010015
MEM MIN.   : H'0000028B
MEM MAX.   : H'0000028B
MAX TASKS  : H'0001
MAX PRIORITY : H'0000
CREATION FLAG : H'0000
EXCEPT HDLR : H'15E8:H'0000
JOB FLAGS   : H'0007
SUSY TYPE   : NORMAL
TASK PRIORITY : H'007B
INIT TASK   : H'0310:H'023E
STACK SIZE  : H'1D58
TASK SEG SIZE : H'0326
CHANGED CONFIG :
MEM MIN.   : H'0000028B
MEM MAX.   : H'0000028B
MAX TASKS  : H'0001
MAX PRIORITY : H'0000
CREATION FLAG : H'0000
EXCEPT HDLR : H'15E8:H'0000
JOB FLAGS   : H'0007
SUSY TYPE   : NORMAL
TASK PRIORITY : H'007B
INIT TASK   : H'0310:H'023E
STACK SIZE  : H'1D58
TASK SEG SIZE : H'0326
SHOULD THE CHANGED CONFIG BE WRITTEN ? (Y/N)
ANS = y

SAVE CONFIG DATA FINISHED
STATUS = H'0000
```

164.4 Parameter Description

ANS	Prompt parameter for answering an AMO request Specifying this parameter in the call has no effect. Type of Input : single value optional Possible Values : Y YES N NO Default Value : N NO
CRFLAG	Creation flag level number Type of Input : single value optional Possible Values : 0 - 255 Default Value : old value from SUSY
EADDRO	Offset of exception handler address Address of the exception handler for the job or ZERO if the system exception handler is to be used for the job (offset part of address) Type of Input : single value optional Possible Values : 0 - FFFF Default Value : old value from SUSY
EADDRS	Exception handler address selector Address of the exception handler for the job or ZERO if the system exception handler is to be used for the job (selector part of address) Type of Input : single value optional Possible Values : 0 - FFFF Default Value : old value from SUSY
IADDRO	Offset of the initializing task address (offset part of address) Type of Input : single value optional Possible Values : 0 - FFFF Default Value : old value from SUSY

SAVCO - Save Config. File of a Subsystem (SUSY)

Parameter Description

IADDRS	Initializing task address selector (selector part of address) Type of Input : single value optional Possible Values : 0 - FFFF Default Value : old value from SUSY
JOBFLAG	Job attributes The following attributes for the new job can be specified here: - Parameter check - Clearing of segments/buffers - Job deletable For values see Nucleus description Type of Input : single value optional Possible Values : 0 - 255 Default Value : old value from SUSY
MAXPRIO	Maximum priority for this subsystem Highest priority which a task in the job can have, or 0 if MAXPRIO of the parent job is to be taken over. Type of Input : single value optional Possible Values : 0 25 - 255 Default Value : old value from SUSY
MAXTASK	Maximum number of tasks for this subsystem Maximum number of tasks which the job can contain at the same time (incl. its children jobs), or 0FFFF if the number of tasks is unlimited. Note that a job contains an internal system task in addition to the user tasks. Type of Input : single value optional Possible Values : 2 - 65535 Default Value : old value from SUSY
MEMMAX	Maximum free memory space for this subsystem Maximum size of the free memory which the job can be assigned during the run time, in 16- byte paragraphs

max. 1048575*16 = 16MB

Type of Input : single value
optional

Possible Values : 0 - 1048575

Special Case : 0FFFF does not have a defined upper limit

Default Value : old value from SUSY

MEMMIN

Minimum free memory space for this subsystem

Size of the free memory which the job is to be assigned during creation, in 16-byte paragraphs

max. 1048575*16 = 16MB

Type of Input : single value
optional

Possible Values : 0 - 1048575

Default Value : old value from SUSY

STACKSIZ

Stack size of the initializing task
(in bytes)

Type of Input : single value
optional

Possible Values : 250 - 65000

Default Value : old value from SUSY

SUSYNAME

Name of the subsystem to be reconfigured

Name of the HD file whose CONFIG is to be changed.

Type of Input : single value
mandatory

Possible Values : file name (max. of 32 digits)

SUSYTYPE

Type of subsystem

Type of Input : single value
optional

Possible Values	: NORMAL	normal subsystem
	DATABASE	Subsystem with database
	DATAFILE	Subsystem is data file
	MULTILOAD	Subsystem may/must be multiloaded
	SWUFILE	SWU dependability indicator

Default Value : old value from SUSY

SAVCO - Save Config. File of a Subsystem (SUSY)

Error Messages and Advisories

TASKPRIO	Initializing task priority for this subsystem Priority of the job initialization task; if 0 is specified, the initialization task is assigned the maximum job priority. Type of Input : single value optional Possible Values : 0 25 - 255 Default Value : old value from SUSY
TSEGSIZ	Initializing task segment size Size (in bytes) of the memory area for variable data for the initialization task, or 0 Type of Input : single value optional Possible Values : 0 - 65000 Default Value : old value from SUSY
WARN	Optional warning before overwriting the CONFIG Type of Input : single value optional Possible Values : Y YES N NO Default Value : N NO

164.5 Error Messages and Advisories

164.5.1 Error Messages

F01: THE SUSY <susy> SPECIFIED IS NOT IN THE PGLIB

164.5.2 Advisories

H01: SAVE CONFIG DATA STARTED
H02: SAVE CONFIG DATA TERMINATED
H03: USER ABORT
H04: CONFIG FROM PGLIB SUSY: <format1><format2>
H05: CHANGED CONFIG : <format2>

H06: IS CHANGED CONFIG TO BE WRITTEN ? (Y/N)

164.5.3 Output Formats

<format1>

FILE-NAME : <susynam>
OMF-NAME : <susynam>

<format2>

MEM-MIN : H'<hex-adr>
MEM-MAX : H'<hex-adr>
MAX-TASKS : H'<hex-adr>
MAX-PRIORITY : H'<hex-adr>
CREATION-FLAG : H'<hex-adr>
EXCEPT-HDLR : H'<hex-adr>:H'<hex-adr>
JOB-FLAGS : H'<hex-adr>
SUSY-TYPE : DATA-BASE
TASK-PRIORITY : H'<hex-adr>
INIT-TASK : H'<hex-adr>:H'<hex-adr>
STACK-SIZE : H'<hex-adr>
TASK-SEG-SIZE : H'<hex-adr>

SAVCO - Save Config. File of a Subsystem (SUSY)

Error Messages and Advisories

165 SAVE - Save Subsystem

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO SAVE (save subsystem) processes the saving of subsystems.

165.1 Restrictions

This description is valid from SP300- E V3.0

165.2 Interrelationships

None

165.3 Functions of the AMO

- [EXEC-SAVE](#) : Saving subsystems

165.3.1 EXEC-SAVE

The AMO saves the data (it depends on which request parameter is entered) of an subsystem on HD, if there are load texts available.

Note:

Are all three request parameters answered with 'NO', the error message F4 will be displayed and the AMO will be ended with 'NOT COMPLETED'.

Procedure Overview

Command Code	Parameter
EXEC-SAVE	UNIT=<param>, SRCFILE=<string>, DESTFILE=<string> , [CODEREQ=<param>], [CONREQ=<param>], [VARREQ=<param>];

Example

Input:

SAVE - Save Subsystem

Parameter Description

```
EXEC-SAVE:A1," :PDS:APSZ/ADM/DP/ABS/ZOPFGLIB0"," :PDS:TMP/SAVE";
```

165.4 Parameter Description

CODEREQ	Code request (it will be saved code respectively the executable part of the subsystem) Type of Input : Single value optional Possible Values : Y, N Default Value : Y
CONREQ	Constant request (it will be saved the constants respectively the read only datasegments of the subsystem) Type of Input : Single value optional Possible Values : Y, N Default Value : Y
DESTFILE	Destination file Type of Input : Single value mandatory Possible Values : file name (max. 32 characters)
SRCFILE	Source file Type of Input : Single value mandatory Possible Values : file name (max. 32 characters)
UNIT	Functional system unit, i. e. server code Type of Input : Single value mandatory Possible Values : msb ms ... Server module name and number A1 = Administration and Data Server (ADS) BP = Base Processor (SWU) b ... Processor status for ms = BP ' ' = Active

S	= Standby
A	= A-half
B	= B-half

VARREQ Variable request
(it will be saved the variables respectively the read write datasegments of the subsystem)
Type of Input : Single value
 optional
Possible Values : Y, N
Default Value : Y

165.5 Error Messages and Advisories

165.5.1 Error Messages

F01: FILE NAME <file name> SYNTACTICALLY INCORRECT
F02: STATUS H'status
F03: ERROR DURING CALL-ATTEMPT TO DATAMEDIMUM, STATUS = H'status
F04: ON USER REQUEST NOTHING TO SAVE. AMO WILL BE DELETED !
F05: FILE <file name> NOT IN :PDS: AREA

165.5.2 Advisories

None

SAVE - Save Subsystem

Error Messages and Advisories

166 SBCSU - Station and S0 bus Configuration of SWU

Interrelationships	Parameter Description
Parameter Description	Error Messages and Advisories

The AMO SBCSU configures terminal devices (stations) at S0 bus connections, S0 interfaces, Up0/E interfaces, IP interface and on the ATM switch. A maximum of one voice terminal may be assigned to an S0 bus. A maximum of three terminals with three different station numbers can be set up per Up0/E access. Apart from *configuring stations*, the AMO SBCSU offers the options of displaying, regenerating and changing the associated data, as well as cancelling station assignments.

The AMO SBCSU assigns all station combinations which contain the following terminals. All other station combinations are assigned with the aid of the AMOs SCSU or SSCSU.

The following terminals are configured for the VOICE service:

- OPTISET: Digital telephone for Up0/E interface and CorNet-TS protocol
- OPTIP500: Digital telephone for Up0/E interface and CorNet-TS protocol
- OPTIIP: Digital telephone for IP interface and CorNet-TS protocol
- SET600: Digital telephone for S0 interface and EDSS1 (EURO-ISDN) or NI-BRI protocol
- ANADEV: Analog voice terminal
(connected to Up0/E via terminal adapter a/b)
- Terminal equipment for Cordless Multicell Integration (CMI Version >= V2.2):
 BASE: CMI base station with Up0/E interface and CorNet-TS protocol
 RADIO: CMI mobile user with Up0/E interface and CorNet-TS protocol
 EXTLINE: CMI Extension connection with S0 interface and EDSS1 (EURO-ISDN) protocol
- Voice terminal equipment with SIP or S0 or S2 interfaces

The following terminals are configured for non-voice services only:

- API: Workstation protocol interface and CorNet protocol (DATA service)

SBCSU - Station and S0 bus Configuration of SWU

- ANADEV: analog non-voice terminal
(connected to Up0/E via terminal adapter a/b)
- ANADTE: analog DTE (connected to Up0/E via terminal adapter a/b)
- ANAFAX: analog FAX (connected to Up0/E via terminal adapter a/b)
- DTE:
 - digital DTE with S0 interface,
EDSS1 (EURO-ISDN) protocol
 - digital DTE with U2B1Q interface, NI-BRI protocol
 - digital DTE with X.21 interface (connected via terminal adapter)
 - digital DTE with V.24 interface (connected via terminal adapter),
EDSS1 (EURO-ISDN) protocol
 - digital DTE with U2B1Q interface (connected via terminal
adapter),
NI-BRI protocol
 - analog DTE (connected to S0 via terminal adapter a/b and
modem)
- FAX:
 - Group 2 and 3 (connected to S0 via terminal adapter a/b)
 - Group 4, EDSS1 (EURO-ISDN) or NI-BRI protocol
- Non-voice terminal equipment with S0 or S2 interfaces, e.g. DP
systems, LANs, Servers.

The type of non-voice terminal equipment for DTE and FAX connected to S0 (analog, digital S0, digital X.21) is not taken into account for the purpose of assignment in this AMO. In addition to the terminal name, only the protocol type parameter DPROT resp. FPROT must be declared. The terminal attributes, which are not relevant for assignment purposes, are determined when the terminal first responds to a polling message at the bus connection or the station line circuit.

The terminals are assigned to the following modules:

SLMS	(S0 interface)
STMD, STMD2	(S0 interface)
DIU-N2, DIU-N4	(S2 interface)
DIU-S2	(S2 interface)
SLMQ	(ANSI-U interface) In the case of extremely long lines (from 1-2 km up to 9 km), use

SLMQ3	(U2B1Q interface)
SLC24	(Up0/E interface)
SLMO, SLMO16, SLMO24, SLMOP, SLOP2	(Up0/E interface)
STHC, STHC2	(combination of STMD and SLMO, i.e. S0 as well as Up0/E interface)
STMA	(IWU to the ATM switch)
STMI-HFA	(HFA gateway version# 1 to IP)
STMI2-HFA	(HFA gateway version# 2 to IP)
STMI2-SIP	(SIP Subscriber)

In particular, the following combinations are possible:

1. Functional bus with 3 alternative connection paths
 >> refer to Feature Usage Example Terminal Configuration, Digital S0 and UP0 <<
 - Direct connection to SLMS or STMD via S0 line
 - Connection to SLMQ or SLMQ3 via PNT
 - Connection to STMD as external station

Non-voice terminals connected to a functional bus do not have associated voice terminals. Thus, only terminals with an independent dialing circuit may be connected.

With this bus type, only one station number can be assigned per bus connection, and a maximum of one terminal per service.

To assign additional station numbers, please refer to chap. "Multiple Subscriber Numbers (MSN) - MSN on the S0 bus".
2. OPTISET configuration with 3 connection options
 >> refer to Feature Usage Example optiset E Configuration << resp.
 >> refer to Feature Usage Example optiPoint Up0E Configuration << resp.
 >> refer to Feature Usage Example optiPoint IP Configuration <<
 - Connection via PNT-Q to SLMQ-EXT (parts number Q2153 -X only)

or SLMQ3
 - Connection via the Up0/E line direct to SLMO (w/o FCTID)

or SLMO (FCTID=1)
 - Connection via the Up0/E line direct to STMA (FCTID=4)
 as ATM-IWU in the PSW (Port Switching) operating mode

With an OPTISET connection to the SLMO, SLMQ-EXT or STMA-PSW a maximum of three terminals under a maximum of three different station numbers can be set up. Permitted terminals for this purpose are: CorNet-TS terminals (OPTISET, OPTIP500), analog terminals (ANADEV, ANAFAX, ANADTE) or terminals with an S0 interface (API, SET600, FAX, DTE).

One OPTISET or OPTIP500 must always be set up for the main station number. A further OPTISET or OPTIP500 may be set up for a secondary station number; i.e. a maximum of two OPTISET / OPTIP500 devices can be operated per OPTISET connection. Per main station number or per secondary station number, a maximum of two S0 devices can be installed.

Unlike with the S0 bus, functional terminals can also be set up for a secondary station number, providing these all have the same call number. For administration all functional terminals (SET600, FAX, DTE) then count collectively as just one device.

Only one analog terminal (regardless of which type) can be set up on an OPTISET connection: either an analog non-voice terminal (i.e. ANAFAX or ANADTE) on the main station number or a general analog terminal (ANADEV) under a secondary station number. A functional terminal of one type can be set up only once per OPTISET access. However, up to a maximum of two CorNet-TS and CorNet-T terminals of the same type can be installed. Functional terminals can also be reached via MSN station numbers (see also Chapter "Multiple Subscriber Numbers (MSN) - MSN for OPTISET configurations").

Within each service, terminals with different protocols may be installed; i.e. via the OPTISET configuration, the voice terminals OPTISET / OPTIP500 (CorNet-TS) and SET600 (functional protocol) or a functional DTE can be operated at the same time.

In order to connect additional terminals, the following OPTISET / OPTIP500 Adapters may be necessary:

- a maximum of one OPTISET E / OPTIPOINT500 Slave Phone Adapter
*** cannot be specified explicitly, but is instead generated implicitly by AMO ***
*** and displayed in the OPTISPA field of the DISPLAY mask ***
to connect a second OPTISET / OPTIP500 device
- a maximum of one OPTISET E / OPTIPOINT500 S0 Adapter
*** cannot be specified explicitly, but is instead generated implicitly by AMO ***
*** and displayed in the OPTIS0A field of the DISPLAY mask ***
to connect S0 devices

- a maximum of one OPTISET E / OPTIPOINT500 a/b Adapter
*** cannot be specified explicitly, but is instead generated implicitly by AMO ***
*** and displayed in the OPTIABA field of the DISPLAY mask ***
to connect analog devices
- a maximum of one OPTIPOINT500 USB Adapter (integrated) (optionally working as S0 Adapter, Control Adapter or Data Adapter)
*** cannot be specified explicitly, but is instead generated implicitly by AMO ***
*** and displayed in the OPTIUSB field of the DISPLAY mask ***
to connect S0 devices
- a maximum of two OPTISET E Control Adapters (OPTICA parameter)
to connect a PC dialer
- a maximum of two OPTISET E Data Adapters (OPTIDA parameter)
to connect a data terminal
- OPTISET E / OPTIPOINT500 Slave Phone Adapter (OPTISPA) and
OPTISET E / OPTIPOINT500 a/b Adapter (OPTIABA) are mutually exclusive
- The total of OPTIS0A, OPTISPA, OPTIABA, OPTIUSB (each implicitly configured),
OPTICA and OPTIDA must not exceed two

Also, per OPTISET voice terminal, a maximum of four add-on devices or a maximum of three add-on devices and one identity card reader (IDCR) can be connected.

Per OPTIP500 voice terminal, a maximum of two add-on devices or a maximum of one add-on device and one SmartCard Reader (IDCR) or application module (APPM) can be connected.

For the different connection alternatives via the OPTISET configuration

>> refer to Feature Usage Example optiset E Configuration << resp.

>> refer to Feature Usage Example optiPoint Up0E Configuration << resp.

>> refer to Feature Usage Example optiPoint IP Configuration <<

For ATM specific connection alternatives via the OPTISET configuration

>> refer to "Hicom 300/300 E/300 H ATM Connectivity Phase 1 to

3"<<

>> ATM Usage Example STMA Station and Trunk Module
for ATM <<

For HFA specific connection alternatives via the OPTISET
configuration

>> refer to Feature Usage Example HiPath Feature Access <<

3. CMI configuration (CMI version >= V3.0)

- Connection directly to SLC24 via Up0/E line

For a CMI it is possible in each case to set up one of 4 different CMI
terminals each with its own station number. CMI-CorNet-TS
terminals (BASE, RADIO) and CMI terminals with an S0 interface
(EXTLINE) are permitted here.

It should be noted that the various CMI terminals can only seize
specific circuits in the SLC24 module :

BASE	0 - 23
EXTLINE	24 - 87
RADIO	88 - 215

Table 166-1

Starting with CMI Version V3.0 CMI expansion lines and CMIADM
devices are no longer used. CMI Version 2.3 is not released for
HiPath 4000 V3.0.

Up to four add-ons can be set up for a CMI-CorNet-TS terminal
(CMIADM, BASE, RADIO).

Functional CMI terminals (EXTLINE) cannot be accessed under MSN
station numbers.

4. Point-to-point connections for functional S0/S2 terminals

>>refer to Feature Usage Example Adding an S2 station <<

- Direct voice/non-voice connection with a maximum of two b-
channels to STMD via an S0 line.
For short lines a SLMS can be used instead of an STMD.
- Direct voice/non-voice connection with a maximum of 30 b-
channels to DIU-S2, DIU-N2 or DIU-N4 via an S2 line
- Direct voice/non-voice connection with a maximum over IP to
STMI2-SIP

The individual b-channels of the SIP/S0/S2 line will no longer be
permanently assigned to different call numbers - instead, any
number of MSN station numbers are assigned to the termination, of
which up to 2 (for S0) or 30 (for S2 and SIP) MSN station numbers
may be in the calling condition simultaneously. Which b-channel is

used for the connection is left to chance.

Point-to-point connections can be set up for non-voice terminals with S0/S2 interfaces, e.g. DP-systems, LANs, servers.

To assign additional station numbers, please refer to chap. "Multiple Subscriber Numbers (MSN) - MSN for functional point-to-point connections".

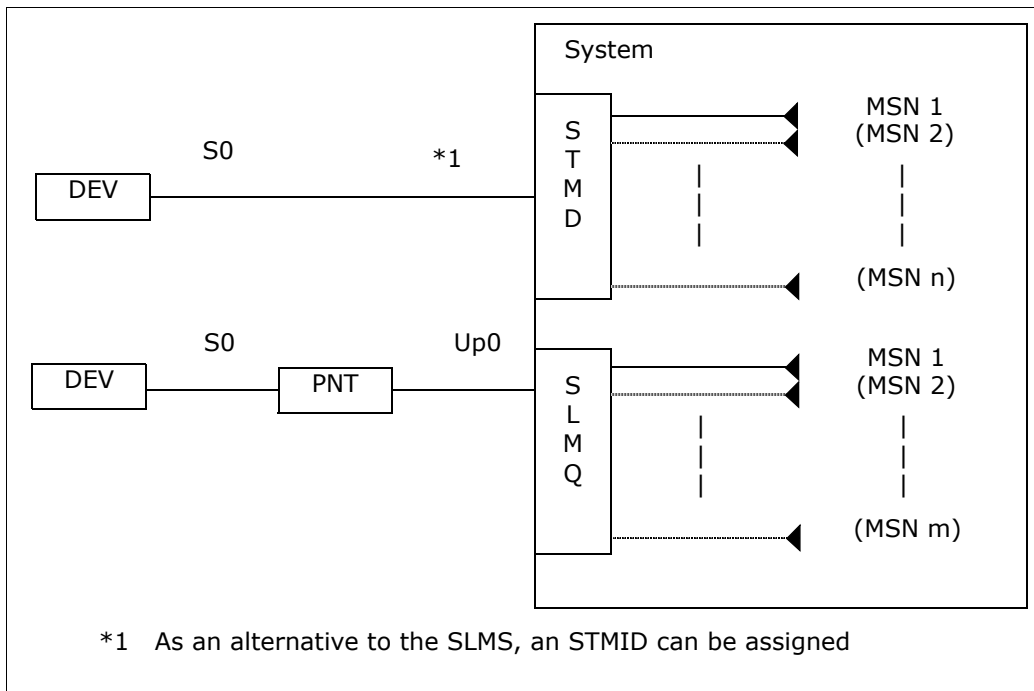


Figure 24

Connection of a terminal with 2 b-channels (S0 or Up0)

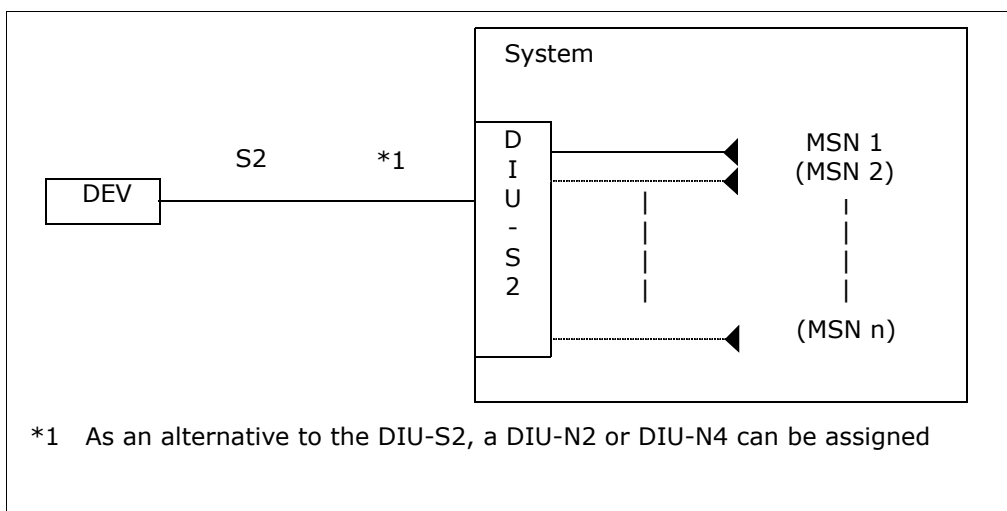


Figure 25

Connection of a terminal with 30 b-channels (S2)

5. Multiple Subscriber Numbers (MSN)

MSN on the S0 bus

>> refer to Feature Usage Example EURO-ISDN Terminals <<

For the bus type described above:

- Functional bus
there is also the possibility of enhancing the existing bus configuration to include so called Multiple subscriber numbers (MSN). In this way
- an existing functional device, which belongs to the main station number, can be reached using different station numbers (whereby the actual dialled number is always displayed)
- further functional devices for a service already configured on the bus can be attached and reached respectively by their own station numbers.

A restriction to functional devices of a special service is not possible.

The devices attached to the bus must be set to the station numbers used.

Fundamentally the following distinction applies:

- An MSN station number
is a new number on the bus by which each existing functional device of the main station number can be reached.
In this respect, there is no limitation as to the number of MSN station numbers which can be configured on the bus.

MSN for OPTISET configurations

>> refer to Feature Usage Example optiset E Configuration <<
resp.

>> refer to Feature Usage Example optiPoint Up0E
Configuration <<

Via the OPTISET configuration, the existing device constellation can be expanded by so-called MSN station numbers (Multiple Subscriber Numbers). This has the following advantages:

- An existing functional device set up for a main station number or a secondary station number can be reached at several station numbers; (however, it is always the dialed station number that is displayed).
- Other functional devices of a service already configured via an OPTISET configuration can be connected and can be reached at their own station numbers.

Restricting this to functional terminals with certain services is not possible.

The functional terminals connected via the OPTISET configuration must be set to the station numbers that have been set up.

The following distinction must always be made:

- An MSN station number
is an additional station number for the OPTISET configuration at which any existing functional terminal can be reached.
There is no restriction on the number of MSN station numbers per OPTISET configuration.
- An MSN secondary station number
is an existing station number without functional services that is connected via the OPTISET configuration (irrespective of whether main or secondary station number) and that is extended in such a manner that each existing functional terminal of the OPTISET configuration can also be reached at this station number. If the functional services are set up for a secondary station number, unlike with the S0 bus, the main station number can also be an MSN secondary station number. The number of MSN secondary station numbers via the OPTISET configuration is subject to the following restrictions: The total number of CorNet-TS terminals, CorNet-T terminals, functional terminals (each service here counting individually), and MSN secondary station numbers must not exceed eight; however, the MSN share of a station number counts only as a single terminal, irrespective of how many functional services are in fact thus reachable.

MSN for functional point-to-point connections

>> refer to Feature Usage Example Adding an S2 station <<

The Point-to-Point connections for functional S0/S2/SIP terminals described before may also be extended by so called MSN station numbers (Multiple Subscriber Numbers).

A restriction to functional devices of a special service is not possible.

- An MSN station number
is a new number on the bus by which each existing functional device of the main station number can be reached.
In this respect, there is no limitation as to the number of MSN station numbers which can be configured on the bus.

6. Signed-off subscribers

>> refer to Feature Usage Example AUTOSET RELOCATE Applications <<

Terminals OPTISET and OPTIP500 can also be installed as signed-off subscribers. These are not assigned a location. Locations entered for signed-off subscribers are ignored. Signed-off subscribers can sign on by means of a registration code number and PIN at any suitable terminal, or they can sign on via a suitable terminal at the appropriate location, or they can be signed on at a suitable location by means of AMO DSSU.

Suitable locations for the various terminals are:

- for OPTISET / OPTIP500:
 - with PNT-Q to SLMQ or SLMQ3
 - direct to SLMO
 - with OPTISPA to an OPTISET / OPTIP500 master terminal (except if connected to SLMQ3).

However, the location or the TSI at which a signed-off subscriber can be signed on must be signed off.

166.1 Interrelationships

- AMO ACDRT : ACD Routing Tables
- AMO AUN : Call Pickup Group
- AMO BCSU : Board Configuration, Switching Unit
The AMO BCSU configures the following modules:
DIU-N2, DIU-N4, DIU-S2, SLC24, SLMO, SLOP2, SLMQ, SLMQ3, SLMS, STHC, STHC2, STMA, STMD, STMD2, STMI-HFA, STMI2-HFA and WAML2
- AMO BDAT : Configuration of STMA Module Data
- AMO BERUM : Class of Service Switchover
- AMO CHESE : Executive/Secretary Arrangements
- AMO CODEW : Administration of System Code word
- AMO COMGR : Communications Group Calling
- AMO COSSU : Class-of-Service, Switching Unit
The AMO COSSU creates classes-of-service, which can be assigned to a station line circuit with the parameters COS1 and COS2.
The same AMO can be used to create the LCR classes-of-service (for services VOICE and DTE), which can be assigned to a subscriber line with parameters LCOSV1 and LCOSV2 or LCOSD1 and LCOSD2.
- AMO DIMSU : Dimensioning of Features, Switching Unit
The AMO DIMSU administers the database layout for device memories and additional memories required by the call processing system and the device handler.
- AMO SLCB : Configuration of CMI from Version V3.0 onward

- AMO DNIT : Directory Number Information and Translation
- AMO DSSU : Device Switch of Switching Unit
The AMO DSSU can be used to put an S0 bus and its terminals into service or to block it.
- AMO FEASU : Customer Feature List
- AMO HFAB : Configuration of STMI-HFA and STMI2-HFA board data
- AMO KCSU : Keysystem configuration in Switching Unit
- AMO LRNGZ : Central Speed Calling Dialing Lists
- AMO LWPAR : Loadware Parameters for Networking Modules
- AMO NAVAR : Administration of Static Night Switch Option Data
- AMO PERSI : Personal Identification Data
- AMO PRODE : Protocol Descriptor for Networking
- AMO RCSU : Recorder Configuration in SWU
- AMO SA : Hunting Arrangements
- AMO SCSU : Station Configuration of Switching Unit
The AMO SCSU is used to assign virtual stations for associated terminal adapters
- AMO SDAT : Administration of Subscriber Attributes and Data
- AMO SSCSU : Special Subscriber Configuration of Switching Unit
AMO SSCSU configures the terminals additionally required for the remote user
- AMO STMIB : Configuration of STMI2-IGW board data
- AMO TAPRO : Key Programming for OPTISET / OPTIP500 / OPTIIP
- AMO TGER : Station/Device Allocation, Incoming
- AMO UCSU : Unit configuration of Switching unit
- AMO VADSU : Administering NMC alarms in the SWU
- AMO VBZ : Internal Traffic Restrictions
- AMO WABE : Dialing Plans, Feature Access Codes
- AMO ZAND : System Data
The AMO ZAND is used to define terminal pre-settings valid for new OPTISET / OPTIP500 / OPTIIP terminal devices to be configured.
The AMO ZAND also loads the option table(s) relevant to the functional terminal devices from Hard Disk and allows their subsequent modification.
- AMO ZANDE : System Data
AMO ZANDE is used to configure the used CMI version.
- AMO ZIEL : Destination addresses for subscribers
- AMO ZIELN : Administrate Destinations for Network-wide Teams
- AMO ZRNGZ : Central Speed Calling Digit Series

166.2 Functions of the AMO

- **ADD-SBCSU** : Configuring the static and dynamic memories in the CC and the LTGs for the above-described device combinations as well as entering the static device data
- **CHANGE-SBCSU** : Changing the static device data
- **DELETE-SBCSU** : Deleting specific service assignments or an entire station configuration
- **DISPLAY-SBCSU** : Interrogating existing station configurations
- **REGENERATE-SBCSU** : Regenerating existing station configurations

166.2.1 ADD-SBCSU

The action ADD-SBCSU is used to assign station terminals. One assignment order is required for each station number. The first station number is called the main station number. It is used as a reference, if further station numbers (secondary or MSN station numbers) of a bus, OPTISET or S0/S2 point-to-point connection will be assigned. The following alternatives are possible:

- Assigning a functional bus connection (OPT=FBUS).
- Assigning the main station number of a CorNet-TS-OPTISET configuration (OPT=OPTI).
- Setting up the main station number for the components (base station, mobile user, extension connection) of a CorNet-TS-CMI configuration (OPT=CMI).
- Expanding an OPTISET configuration by a secondary station number (OPT=OPTIEXP).
A maximum of two secondary station numbers can be set up per OPTISET configuration.
- Assigning a MSN station number for a FBUS/OPTISET configuration (OPT=MSN).
- Expanding an OPTISET configuration with an MSN secondary station number (OPT=MSN).
- Expanding station capabilities by adding a service which is not currently assigned to the station number (bus connections and OPTISET configuration) (OPT=SVC).
MSN station numbers or MSN secondary station numbers already assigned to the bus will be automatically extended to the new service(s).

- Setting up the main station number for an S0/S2 point-to-point connection (OPT=FPP).
- Assigning a MSN station number via an S0/S2 point-to-point connection (OPT=MSN).
A S0/S2 connection may be extended by any number of MSN station numbers.

Each OPTISET configuration can be expanded by further station numbers with OPT=OPTIEXP, providing the usual general conditions for the OPTISET configuration are complied with (maximum three terminals, maximum three station numbers).

The parameter PEN specifies the location or port equipment number (LTG-LTU-SLOT-CCT) at which the station devices are connected with the station number STNO. If this parameter is not specified, then the first free location in the system is taken, which corresponds to the other parameter values specified (OPT, CONN, DVCFIG).

The device configuration, to which a port equipment number or location is to be assigned, is declared with the parameter DVCFIG.

The parameters OPT, STNO, PEN, CONN, and DVCFIG, as well as TSI and if required, are used to define what devices are to be assigned and where they are to be assigned. The remaining parameters are used to describe device attributes.

The parameter INS does not reflect the exact state of a terminal device. For INS=Y the trunk will be released for call processing, but it will not necessarily be active. A deviation of the terminal devices states and the trunk state is not possible. The exact states of terminal devices and trunks can be interrogated via the AMO SDSU. In the actions DISPLAY and REGENERATE of the AMO SBCSU INS=Y will be output for trunk states different from long term deactivation. A trunk assigned with INS=N is in the state long term deactivation.

The parameters are divided into the following groups:

1. Addressing parameters :
OPT, CONN, PEN, TSI, MAINO.
2. General parameters (for all device types):
STNO, DVCFIG, COS1, COS2, LCOSV1, LCOSV2, LCOSD1, LCOSD2, DPLN, ITR, SSTNO, COSX, SPDI, SPDC1, SPDC2, INS, RCBKB, RCBKNA, CBKBMAX, ALARMNO, HMUSIC, DTMFCTRD, DTMFBLK.
3. Parameters for CorNet terminals:
IDCR, REP, STD, SECR, DSSTNA, DSSTNB, DIGNODIS, OPTICA, OPTIDA, OPTICOM, HEADSET, HSKEY, CBKNAMB, TEXTSEL, CALLOG, PMIDX, COMGRP, APICLASS, SECAPPL, DNIDSP, DCFWBUSY, APMOBUSR, APPM.

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4. Parameter for IP terminals:
IPCODEC (for bandwidth calculation SIP and HFA subscribers in RESMAN), IPPASSW (for HFA subscribers only) and the SIP specific parameters IPADDR, PASSWD, USEID, SECZONE, FIXEDIP, AUTHREQ.
5. Parameters for general analog terminal:
DFSVCANA, FLASH.
6. Parameters for functional terminals:
SPROT, FPROT, DPROT, PERMACT, SOPTIDX, FOPTIDX, DOPTIDX, BASICSVC.
The optional protocol type parameters must be declared, if a terminal has already been declared for the relevant service with parameter DVCFIG, e.g. DPROT for DTE.
The BASICSVC parameter must be declared, if the NI BRI protocol has been specified for a protocol type parameter, e.g. DPROT=SBNIIBRI for DTE.
7. Parameters for S0/S2/SIP point-to-point connections:
PERMACT, PROT, OPTIDX.
8. Board-specific parameters
EXTBUS, ASYNCT, PATTERN, VPI, VCI, LWPAR.

If an existing OPTISET configuration is expanded with a secondary station number (OPT=OPTIEXP), then the values specified for the main station number are used as default values, as far as possible.

If a data terminal (DTE) is assigned together with a voice terminal, then the voice terminal is always associated with the data terminal.

NOTE: An UFIP client must be linked to an actual desktop phone via parameter CLNTDESK and marked as either CLIENT or OSMO depending on the case.

Example:

The client must be linked to an actual desktop phone via parameter CLNTDESK as CLIENT:

```
ADD-SBCSU:STNO=<UFIP_STN>,OPT=OPTI,CONN=IP2,PEN=<X-Y-Z-T>,DVCFIG=UFIP,CLNTDESK=<DSKTP_PHN_STN>;
```

or via CLNTSDESK and OSMO:

```
ADD-SBCSU:STNO=<UFIP_STN>,OPT=OPTI,CONN=IP2,PEN=<X-Y-Z-T>,DVCFIG=UFIP,CLNTDESK=<DSKTP_PHN_STN>,OSMO=YES;
```

depending on the case.

Procedure Overview

Command Code	Parameter
ADD-SBCSU	STNO=<number>
	| OPT=FBUS
	, CONN=<param>
	, [PEN=<g-uu-sss-ccc>], DVCFIG=<param>
	, COS1=<number>, COS2=<number>
	, LCOSV1=<number>, LCOSV2=<number>
	, LCOSD1=<number>, LCOSD2=<number>
	, [DPLN=<number>], [ITR=<number>], [SSTNO=<param>]
	, [COSX=<number>], [SPDI=<number>]
	, [SPDC1=<number>], [SPDC2=<number>]
	, [SPROT=<param>], [FPROT=<param>]
	, [DPROT=<param>], [PERMACT=<param>]
	, [INS=<param>], [ALARMNO=<number>]
	, [SOPTIDX=<number>]
	, [FOPTIDX=<number>], [DOPTIDX=<number>]
	, [BASICSVC=<param>], [EXTBUS=<param>]
	, [RCBKB=<param>], [RCBKNA=<param>]
	, [ASYNCT=<number>], [CBKBMAX=<number>]
	, [HMUSIC=<number>], [DTMFCTRDR=<param>]
	, [PMIDX=<number>];
	| OPT=OPTI
	, CONN=<param>, [PEN=<g-uu-sss-ccc>]
	, DVCFIG=<param>, [TSI=<number>]
	, COS1=<number>, COS2=<number>
	, LCOSV1=<number>, LCOSV2=<number>
	, LCOSD1=<number>, LCOSD2=<number>
	, [DPLN=<number>], [ITR=<number>], [SSTNO=<param>]
	, [COSX=<number>], [SPDI=<number>]
	, [SPDC1=<number>], [SPDC2=<number>]
	, [IDCR=<param>], [REP=<number>], [STD=<number>]
	, [SECR=<param>]
	, [FPROT=<param>], [DPROT=<param>]

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Command Code	Parameter
	, [INS=<param>], [ALARMNO=<number>]
	, [RCBKB=<param>], [RCBKNA=<param>]
	, [DSSTNA=<param>], [DSSTNB=<param>]
	, [DIGNODIS=<param>], [FOPTIDX=<number>]
	, [DOPTIDX=<number>], [BASICSVC=<param>]
	, [OPTICA=<number>], [OPTIDA=<number>]
	, [ASYNCT=<number>], [OPTICOM=<param>]
	, [CBKBMAX=<number>], [PATTERN=<number>]
	, [VPI=<number>], [VCI=<number>]
	, [HEADSET=<param>], [HSKEY=<param>]
	, [CBKNAMB=<param>], [TEXTSEL=<param>]
	, [HMUSIC=<number>], [CALLOG=<param>]
	, [PMIDX=<number>], [COMGRP=<number>]
	, [APICLASS=<param>], [SECAPPL=<number>]
	, [DNIDSP=<param>], [DTMFCTRD=<param>]
	, [DTMFBLK=<param>], [DCFWBUSY=<param>]
	, [IPPASSW=<string>], [APMOBUSR=<param>]
	, [IPCODEC=<param>], [APPM=<param>]
	, [BLF=<param>], [USRID=<string>]
	, [SECZON=<string>], [CLNTDESK=<string>]
	, [SUBIPADD=<string>], [OSMO=<param>];
	| OPT=OPTIEXP
	, MAINO=<number>
	, DVCFIG=<param>, [TSI=<number>]
	, [COS1=<number>], [COS2=<number>]
	, [LCOSV1=<number>], [LCOSV2=<number>]
	, [LCOSD1=<number>], [LCOSD2=<number>]
	, [DPLN=<number>], [ITR=<number>], [SSTNO=<param>]
	, [COSX=<number>], [SPDI=<number>]
	, [SPDC1=<number>], [SPDC2=<number>]
	, [IDCR=<param>], [REP=<number>], [STD=<number>]
	, [SECR=<param>]
	, [SPROT=<param>], [FPROT=<param>], [DPROT=<param>]
	, [ALARMNO=<number>]

Command Code	Parameter
	, [RCBKB=<param>], [RCBKNA=<param>]
	, [DSSTNA=<param>], [DSSTNB=<param>]
	, [DIGNODIS=<param>]
	, [SOPTIDX=<number>], [FOPTIDX=<number>]
	, [DOPTIDX=<number>], [BASICSVC=<param>]
	, [OPTICA=<number>], [OPTIDA=<number>]
	, [OPTICOM=<param>], [CBKBMAX=<number>]
	, [HEADSET=<param>], [HSKEY=<param>]
	, [DFSVCANA=<param>]
	, [CBKNAMB=<param>], [TEXTSEL=<param>]
	, [HMUSIC=<number>], [CALLOG=<param>]
	, [PMIDX=<number>], [COMGRP=<number>]
	, [APICLASS=<param>], [SECAPPL=<number>]
	, [DNIDSP=<param>], [DTMFCTRD=<param>]
	, [DTMFBK=<param>], [DCFWDY=<param>]
	, [FLASH=<param>], [APMOBUSR=<param>], [APPM=<param>];
	| OPT=CMI
	, [PEN=<g-uu-sss-ccc>], [DVCFIG=<param>]
	, COS1=<number>, COS2=<number>
	, LCOSV1=<number>, LCOSV2=<number>
	, LCOSD1=<number>, LCOSD2=<number>
	, [DPLN=<number>], [ITR=<number>], [SSTNO=<param>]
	, [COSX=<number>], [SPDI=<number>]
	, [SPDC1=<number>], [SPDC2=<number>]
	, [REP=<number>], [STD=<number>]
	, [SPROT=<param>]
	, [INS=<param>], [ALARMNO=<number>]
	, [RCBKB=<param>], [RCBKNA=<param>]
	, [DSSTNA=<param>], [DSSTNB=<param>]
	, [DIGNODIS=<param>]
	, [SOPTIDX=<number>]
	, [ASYNCT=<number>], [HMUSIC=<number>]
	, [FPROT=<param>], [DPROT=<param>]
	, [FOPTIDX=<number>], [DOPTIDX=<number>]

SBCSU - Station and S0 bus Configuration of SWU

Functions of the AMO

Command Code	Parameter
	, [TEXTSEL=<param>], [DNIDSP=<param>] , [PMIDX=<number>];
	| OPT=FPP
	, CONN=<param>, [PEN=<g-uu-sss-ccc>]
	, DVCFIG=<param>
	, COS1=<number>, COS2=<number>
	, LCOSV1=<number>, LCOSV2=<number>
	, LCOSD1=<number>, LCOSD2=<number>
	, [DPLN=<number>], [ITR=<number>], [SSTNO=<param>]
	, [COSX=<number>], [SPDI=<number>]
	, [SPDC1=<number>], [SPDC2=<number>]
	, PROT=<param>, [PERMACT=<param>]
	, [INS=<param>], [ALARMNO=<number>]
	, [OPTIDX=<number>], [RCBKB=<param>]
	, [RCBKNA=<param>], [LWPAR=<param>]
	, [ASYNCT=<number>], [CBKBMAX=<number>]
	, [HMUSIC=<number>], [PMIDX=<number>]
	, [IPCODEC=<param>], [IPADDR=<number>]
	, [PASSWD=<string>], [USERID=<string>]
	, [SECZONE=<string>], [FIXEDIP=<param>]
	, [AUTHREQ=<param>], [SMGSUB=<param>]
	, [DTMFCTRD=<param>];
	| OPT=SVC
	, DVCFIG=<param>, [TSI=<number>]
	, [FPROT=<param>], [DPROT=<param>]
	, [FOPTIDX=<number>], [DOPTIDX=<number>]
	, [BASICSVC=<param>]
	, [OPTICA=<number>], [OPTIDA=<number>];
	| OPT=MSN
	, MAINO=<number>, [TSI=<number>]
	, [COS1=<number>], [COS2=<number>]
	, [LCOSV1=<number>], [LCOSV2=<number>]
	, [LCOSD1=<number>], [LCOSD2=<number>]

Command Code	Parameter
	, [ITR=<number>], [SSTNO=<param>]
	, [COSX=<number>], [SPDI=<number>]
	, [SPDC1=<number>], [SPDC2=<number>]
	, [INS=<param>]
	, [RCBKB=<param>], [RCBKNA=<param>]
	, [CBKBMAX=<number>], [BASICSVC=<param>]
	, [IPCODEC=<param>], [IPADDR=<number>]
	, [PASSWD=<string>], [USERID=<string>]
	, [SECZONE=<string>], [FIXEDIP=<param>]
	, [AUTHREQ=<param>], [SMGSUB=<param>]
	, [DTMFCTRD=<param>];

Examples

1. Connecting an OPTISET configuration directly to an SLMO with an OPTISET voice terminal with three add-on devices and a functional non-voice terminal of service FAX. The necessary S0 adapter OPTIS0A is implicitly configured by the AMO SBCSU.

Input:

```
ADD-SBCSU:STNO=3427,OPT=OPTI,CONN=DIR,PEN=1-1-67-1,
DVCFIG=OPTISET&FAX,DPLN=0,ITR=0,COS1=5,COS2=6,LCOSV1=11,LCO
SV2=12,LCOSD1=21,LCOSD2=22,REP=3,FPROT=SBDSS1,FOPTIDX=10;
```

Output:

```
H05: 3427      THIS STATION IS ASSIGNED AT PEN 1- 1- 67- 1
H35: 3427      THE TERMINAL ADAPTER OPTIS0A
                FOR CONNECTING S0 DEVICES
H08: 3427      MUST BE PLUGGED AT MAIN STATION NUMBER    3427.
                STATION RELEASED FOR CALL PROCESSING
```

2. Expand the OPTISET configuration (of example no.1) with an OPTIP500. The OPTISET configuration to be expanded is specified with the parameter MAINO.

Input:

```
ADD-
SBCSU:STNO=3428,OPT=OPTIEXP,MAINO=3427,DVCFIG=OPTIP500,DPLN=0
,ITR=0,COS1=5,COS2=6;
```

Output:

```
H05: 3428      THIS STATION IS ASSIGNED AT PEN 1- 1- 67- 1
H35: 3428      THE TERMINAL ADAPTER OPTISPA
                FOR CONNECTING THIS OPTIP500
H08: 3428      MUST BE PLUGGED AT MAIN STATION NUMBER    3427.
                STATION RELEASED FOR CALL PROCESSING
```

SBCSU - Station and S0 bus Configuration of SWU

Functions of the AMO

- Expand the OPTISET configuration (of example no.2) with a MSN secondary station number

Input:

```
ADD-SBCSU:STNO=3428,OPT=MSN,MAINO=3427;
```

Output:

```
H22: 3428      MSN STATION NUMBER HAS BEEN ASSIGNED
                FOR THE SERVICE FAX.
H08: 3428      STATION RELEASED FOR CALL PROCESSING
```

- Assign a MSN station number to the OPTISET configuration (of example no.3)

Input:

```
ADD-SBCSU:STNO=4999,OPT=MSN,MAINO=3427;
```

Output:

```
H22: 4999      MSN STATION NUMBER HAS BEEN ASSIGNED
                FOR THE SERVICE FAX.
H08: 4999      STATION RELEASED FOR CALL PROCESSING
```

- Expand the Main Station Number (of example no.4) with a functional non-voice terminal with DTE service

Input:

```
ADD-
SBCSU:STNO=3427,OPT=SVC,DVCFIG=DTE,DPROT=SBDS1,DOPTIDX=10;
```

Output:

```
H05: 3427      THIS STATION IS ASSIGNED AT PEN 1- 1- 67- 1
H24: 3428      MSN STATION NUMBER HAS BEEN EXTENDED
                BY THE SERVICE DTE.
H24: 4999      MSN STATION NUMBER HAS BEEN EXTENDED
                BY THE SERVICE DTE.
```

- Configure an S0 bus connection with NI-BRI protocol via PNT (SLMQ3 module) with a SET600 voice terminal and functional non-voice terminals with DTE and FAX services.

Input:

```
ADD-
SBCSU:STNO=3525,OPT=FBUS,CONN=PNT,DVCFIG=SET600&DTE&FAX,DPLN=
0,ITR=0,COS1=5,COS2=6,LCOSV1=11,LCOSV2=12,LCOSD1=21,LCOSD2=22
,SPROT=SBNI1,DPROT=SBNI1,FPROT=SBNI1,BASICSV=UDI64;
```

Output:

```
H05: 3525      THIS STATION IS ASSIGNED AT PEN 1- 3- 67- 1
H08: 3525      STATION RELEASED FOR CALL PROCESSING
```

- Assign an S2 point-to-point connection as an external station.

Input:

ADD-

SBCSU:STNO=3460,OPT=FPP,CONN=EXT,DVCFIG=S2PP,COS1=15,COS2=16,
 LCOSV1=11,LCOSV2=12,LCOSD1=21,LCOSD2=22,DPLN=0,ITR=0,PROT=SBD
 SS1,OPTIDX=10,INS=N;

Output:

H05: 3460 THIS STATION IS ASSIGNED AT PEN 1- 2- 25- 0
 H09: 3460 THE STATION IS NOT ACTIVATED

166.2.2 CHANGE-SBCSU

The parameter STNO is mandatory. This parameter is used to specify the station to be changed. All other parameters are optional. However, at least one of these parameters must be declared. The parameter OPT must only be specified if OPT-specific parameters are to be changed.

MSN station numbers will also be processed!

The following users cannot be assigned a new station number (parameter NEWNO):

- Users who have already been entered as a Route-to-Extension destination in an ACD Routing Table (AMO ACDRT).
- Users for whom ACD attributes have already been set (AMO SDAT).

ZIEL/DSS entries are updated when station number is changed (parameter NEWNO).

Example: Station X is configured as DSS destination for station A

- If station A's number is changed, then the ZIEL/DSS entry is updated with new number of A and X stays as DSS destination.
- If station X's number is changed, then the ZIEL/DSS entry is updated for station A with new number of X as DSS destination.

The parameters are divided into the following groups:

1. General parameters (for all device types):
 STNO, NEWNO, COS1, COS2, LCOSV1, LCOSV2, LCOSD1, LCOSD2, DPLN, ITR, SSTNO, COSX, SPDI, SPDC1, SPDC2, TRACE, ALARMNO, RCBKB, RCBKNA, CBKBMAX, HMUSIC, OPT, DTMFCTRD, DTMFBLK.
2. Parameters for CorNet terminals:
 IDCR, REP, SECR, DSSTNA, DSSTNB, DIGNODIS, OPTICA, OPTIDA, OPTICOM, HEADSET, HSKEY, CBKNAMB, TEXTSEL, CALLOG, PMIDX, COMGRP, APICLASS, SECAPPL, DNIDSP, DCFWBUSY, APMOBUSR, APPM.

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3. Parameter for IP terminals:
IPCODEC (for bandwidth calculation SIP and HFA subscribers in RESMAN), IPPASSW (for HFA subscribers only) and the SIP specific parameters IPADDR, PASSWD, USEID, SECZONE, FIXEDIP, AUTHREQ.
4. Parameters for general analog terminal:
DFSVCANA, FLASH.
5. Parameters for functional terminals:
SPROT, FPROT, DPROT, PERMACT, SOPTIDX, FOPTIDX, DOPTIDX, BASICSVC.
The protocol type parameters are ignored, unless a terminal has also been specified for the relevant service, e.g. DPROT for DTE. The BASICSVC parameter is ignored, unless the NI BRI protocol has also been specified for a protocol type parameter, e.g. DPROT=SBNIIBRI for DTE.
6. Parameters for S0/S2/SIP point-to-point connections:
PERMACT, PROT, OPTIDX.
7. Board-specific parameters
EXTBUS, ASYNCT, PATTERN, VPI, VCI, LWPAR.

If SECR has to be changed, the circuit must be locked. This can be done by AMO DSSU or by specifying parameter OFFTYPE in the CHANGE command.

Changes for the circuit specific parameters ASYNCT, EXTBUS, IPPASSW, LWPAR, PERMACT, PATTERN, VPI, VCI will only become effective after having the new data downloaded into the module.

Downloading will be triggered by

- de- and re-activation "with unconditional loading" (e.g. RESTART-DSSU)
- parameter OFFTYPE=DC (Default) or OFFTYPE=DI. The circuit must be in READY or UNACH state (can be interrogated by AMO SDSU). In UNACH state, data is loaded automatically when hierarchy becomes ready.

Restriction: please note, that parameters CLNTDESK and OSMO cannot be changed via CHANGE-SBCSU. In order to change them, the UFIP client has to be deleted and reconfigured with ADD new CLNTDESK/OSMO value. The OSMO UFIP consumes one OSMO license.

Procedure Overview

Command Code	Parameter
CHANGE-SBCSU	STNO=<number>
	, [NEWNO=<number>], [COS1=<number>], [COS2=<number>]
	, [LCOSV1=<number>], [LCOSV2=<number>]
	, [LCOSD1=<number>], [LCOSD2=<number>]
	, [DPLN=<number>], [ITR=<number>], [SSTNO=<param>]
	, [COSX=<number>], [SPDI=<number>]
	, [SPDC1=<number>], [SPDC2=<number>]
	, [TRACE=<param>], [ALARMNO=<number>]
	, [RCBKB=<param>], [RCBKNA=<param>], [CBKBMAX=<number>]
	, [HMUSIC=<number>], [OFFTYPE=<param>]
	, [BASICSVC=<param>]
	| [OPT=FBUS]
	, [SPROT=<param>], [FPROT=<param>], [DPROT=<param>]
	, [PERMACT=<param>]
	, [SOPTIDX=<number>]
	, [FOPTIDX=<number>], [DOPTIDX=<number>]
	, [EXTBUS=<param>], [ASYNCT=<number>]
	, [DTMFCTRD=<param>], [PMIDX=<number>];
	| [OPT=OPTI] }
	, [IDCR=<param>], [REP=<number>]
	, [SECR=<param>]
	, [SPROT=<param>], [FPROT=<param>], [DPROT=<param>]
	, [DSSTNA=<param>], [DSSTNB=<param>]
	, [DIGNODIS=<param>], [SOPTIDX=<number>]
	, [FOPTIDX=<number>], [DOPTIDX=<number>]
	, [OPTICA=<number>], [OPTIDA=<number>]
	, [ASYNCT=<number>], [OPTICOM=<param>]
	, [PATTERN=<number>], [VPI=<number>], [VCI=<number>]
	, [HEADSET=<param>], [HSKEY=<param>]
	, [DFSVCANA=<param>]
	, [CBKNAMB=<param>], [TEXTSEL=<param>]

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Command Code	Parameter
	, [CALLOG=<param>]
	, [PMIDX=<number>], [COMGRP=<number>]
	, [APICLASS=<param>], [SECAPPL=<number>]
	, [DNIDSP=<param>], [DTMFCTRD=<param>]
	, [DTMFBLK=<param>], [DCFWDUSY=<param>]
	, [FLASH=<param>], [IPPASSW=<string>]
	, [APMOBUSR=<param>], [IPCODEC=<param>]
	, [APPM=<param>], [BLF=<param>],
	, [USRID=<string>], [SECZON=<string>]
	, [SUBIPADD=<string>];
	| [OPT=CMI]
	, [REP=<number>]
	, [SPROT=<param>]
	, [DSSTNA=<param>], [DSSTNB=<param>]
	, [DIGNODIS=<param>]
	, [SOPTIDX=<number>]
	, [ASYNCT=<number>]
	, [FPROT=<param>], [DPROT=<param>]
	, [FOPTIDX=<number>], [DOPTIDX=<number>]
	, [TEXTSEL=<param>], [DNIDSP=<param>]
	, [PMIDX=<number>];
	| [OPT=FPP]
	, [PROT=<param>], [PERMACT=<param>], [OPTIDX=<number>]
	, [LWPAR=<param>], [ASYNCT=<number>], [PMIDX=<number>]
	, [IPCODEC=<param>], [IPADDR=<number>]
	, [PASSWD=<string>], [USERID=<string>]
	, [SECZONE=<string>], [FIXEDIP=<param>]
	, [AUTHREQ=<param>], [SMGSUB=<param>]
	, [DTMFCTRD=<param>];

166.2.3 DELETE-SBCSU

The DELETE action is used to delete

- specific service assignments to a station number (by specifying STNO and SVC).
MSN station numbers or MSN secondary station numbers assigned to the S0 bus or at the OPTISET configuration will be automatically shortened by the service deleted for the Main Station Number.
- specific MSN station numbers or MSN secondary station numbers (by specifying STNO and SVC=MSN).
- specific station numbers (by specifying STNO and SVC=ALL).

Ranges and concatenated single values can be specified for parameter STNO in both cases.

Any station-device allocations which exist (assigned with AMO TGER) are automatically deleted.

The following services or stations cannot be deleted:

- Services assigned to a hunting group.
- Stations which belong to a call pickup group.
- Stations which belong to an executive/secretary system or are assigned to a night option.
In these cases, the relevant assignment must first be explicitly deleted using the AMOs CHESE and NAVAR.
- Users who are still entered as a Route-to-Extension destination in an ACD Routing Table (AMO ACDRT).
- Users for whom ACD attributes are still set (AMO SDAT).
- Users who are logged on to a SLMPX as teleworkers.
In this case the user must first be signed off.
- Voice terminals which are upgraded to keysystem terminals (AMO KCSU).

Note

The configuration to be deleted must either first be deactivated (blocked) with the AMO DSSU or by using parameter OFFTYPE with the DELETE command.

This does also apply to signed-off subscribers !

Procedure Overview

Command Code	Parameter
DELETE-SBCSU	STNO=<number>, SVC=<param>, [OFFTYPE=<param>], [DELPBOOK=<param>];

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Examples

1. Delete specific service from main station number (camp-on deactivation)

Input:

```
DEL-SBCSU:STNO=3427,SVC=FAX;
```

Output:

```
H06: 3427    STATION DATA DELETED.
H25: 3428    MSN STATION NUMBER HAS BEEN SHORTENED
              BY THE SERVICE FAX.
H25: 4999    MSN STATION NUMBER HAS BEEN SHORTENED
              BY THE SERVICE FAX.
```

2. Delete MSN secondary station number from OPTISET configuration (immediate deactivation)

Input:

```
DEL-SBCSU:STNO=3428,SVC=MSN;
```

Output:

```
H23: 3428    MSN STATION NUMBER HAS BEEN DELETED
              FOR THE SERVICE DTE.
```

3. Delete MSN station number from OPTISET configuration (immediate deactivation)

Input:

```
DEL-SBCSU:STNO=4999,SVC=MSN,OFFTYPE=DC;
```

Output:

```
H06: 4999    STATION DATA DELETED.
```

4. Delete secondary station number from OPTISET configuration (camp-on deactivation)

Input:

```
DEL-SBCSU:STNO=3428,SVC=ALL,OFFTYPE=DC;
```

Output:

```
H36: 3428    THE TERMINAL ADAPTER OPTISPA PLUGGED AT MAIN
STATION NUMBER 3427
              FOR CONNECTING THIS OPTIP500 IS NO LONGER NEEDED.
H06: 3428    STATION DATA DELETED.
```

5. Delete main station number of OPTISET configuration (immediate deactivation)

Input:

```
DEL-SBCSU:STNO=3427,SVC=ALL,OFFTYPE=DI;
```

Output:

```
H36: 3427    THE TERMINAL ADAPTER OPTISOA PLUGGED AT MAIN
          STATION NUMBER    3427
          FOR CONNECTING S0 DEVICES IS NO LONGER NEEDED.
H06: 3427    STATION DATA DELETED.
```

166.2.4 DISPLAY-SBCSU

With the DISPLAY action, terminal data, bus configurations and MSN links can be interrogated.

The type of output can be specified by declaring the parameter TYPE:

- TYPE=TERMDATA
The parameter values with which the terminals in the specified range were configured are output in tabular form for each STNO (even if MSN).
- TYPE=BUS
The bus/OPTISET configurations in the specified station number range are output. For each bus/OPTISET configuration, a table is displayed with the following data: type of bus, type of connection, port equipment number, all STNOs allocated to the bus, terminal configurations of each station number with corresponding TSI numbers allocated and MSN station numbers or MSN secondary station numbers eventually assigned.
- TYPE=BUSDATA
Combination of TYPE=TERMDATA and TYPE=BUS for all configurations in the station number range specified.
- TYPE=FPP
This outputs the corresponding MSN station numbers for all existing S0/S2 point-to-point connections. For each connection, a table is output with the following data: type of connection, port equipment number and a list of all MSN station numbers assigned.
- TYPE=MSN
Those station numbers in the specified station number range are output, which have been configured with DVCFIG=MSN.
- TYPE=OPTIDAT
For all OPTISET / OPTIP500 / OPTIIP terminals installed within the specified station number range, the assigned individual terminal data (phone ID, asset ID, SW version, self-test result) and the currently valid hardware settings (ringing volume, ringing tone, warning signal volume, call volume via handset, call volume via loudspeaker, hands-free characteristics, display contrast, Self- Labelling Keys display contrast, rollover volume) are output.

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For all OPTIIP terminals installed within the specified station number range, also the HFA data (IP address, emergency number, LIN, SW capabilities) reported by the IP terminal are output.

- **TYPE=SEARCH**
Those station numbers in the specified station number range are output, which meet a certain search criterion as specified by the optional parameters CONN, DEV, COSNO, LCOSV, LCOSD, TRACE, KEYSYS and INS.

Procedure Overview

Command Code	Parameter
DISPLAY-SBCSU	[STNO=<number>]
	, [TYPE=TERMDATA\BUS\BUSDATA\FPP\MSN\OPTIDAT] ;
	|, [TYPE=SEARCH],
	{ [CONN=<param>] [,DEV=<param>] [,COSNO=<number>] [,LCOSV=<number>] [,LCOSD=<number>] [,TRACE=<param>] [,KEYSYS=<param>] [,INS=<param>] } ; [TYPE=IPSEARCH], IPADDR=<string>;

Examples

1. Display the configuration data for STNO 3427

Input:

DISP-SBCSU:STNO=3427;

Output:

```
----- USER DATA -----
STNO   =3427    OPT    =OPTI    COS1    =5        DPLN    =0
MAINO  =3427    CONN    =DIR     COS2    =6        ITR     =0
PEN    = 1- 1- 67- 1    LCOSV1  =11       COSX    =0
INS    =Y        ASYNCT  =500     LCOSV2  =12
                                PERMACT  =
                                LCOSD1   =21
SSTNO  =N        EXTBUS  =        LCOSD2  =22       CBKBMAX  =5
TRACE  =N                                RCBKB   =N
ALARMNO =0       DFSVCANA=        SPDI    =0       RCBKNA  =N
HMUSIC  =0       FLASH   =        SPDC1   =        CBKNAMB  =Y
PMIDX   =0                                SPDC2   =
                                COMGRP   =0
SECR    =N        DIGNODIS=N    DSSTNA  =N
STD     =0        CALLOG  =NONE   DSSTNB  =Y       TEXTSEL  =SPANISH
REP     =0        OPTICOM =N      OPTIUSB :        VPI     =
IDCR    =N        OPTICA  =0      OPTIS0A :1       VCI     =
                                OPTISPA :1       PATTERN =
                                OPTIABA :0
DCFVBUSY=N      HEADSET  =N      APMOBUSR=N      APICLASS=
DNIDSP  =N      HSKEY   =NORMAL  IPCODEC =        SECAPPL =0
DTMFBLK =N                                IPPASSW =*****
```

```

DTMFCTRD=N          BASICSVC=
DVCFIG  =OPTISET    TSI      =1          SPROT  =          SOPTIDX =
              DTE      5          DPROT  =SBDSS1    DOPTIDX =10
              FAX      2          FPROT  =SBDSS1    FOPTIDX =10
----- LICENSE STATE -----
PACKAGE 'FLEX LICENSE' :
    OPTISET  *** IS MARKED AS TRIAL ENTITY ***
    DTE      *** IS MARKED AS TRIAL ENTITY ***
    FAX      *** IS MARKED AS TRIAL ENTITY ***
AND WILL BE BLOCKED IF TRIAL MODE EXPIRES WITHOUT SUFFICIENT LICENSES
(APPROX. 10 DAYS LEFT)
----- MOBILE HFA STATE -----
IP PHONE INACTIVE :N
----- ACTIVATION IDENTIFIERS FOR FEATURES -----
              HTOS      :N          DND      :N
              HTOD      :N          VCP      :Y          TWLOGIN :N
              HTOF      :N          CWT      :N
----- FEATURES AND GROUP MEMBERSHIPS -----
PUGR      :10          ESSTN      :
KEYSYS    :Y          NOPTNO     :5
SRCGRP    :0          TCLASS     :0
HUNT CD   :N
----- SUBSCRIBER ATTRIBUTES (AMO SDAT) -----
AGENT     SUPER  AUTOLOG  CAF      DNDSR  CASTMON  CBSTMON  ANI10
KN        RKNVR  EOV      OFHKRC  VC

```

The output data for a station is subdivided into 6 groups:

1. Data which is also contained in the input command.
2. License State information (only if restrictions apply).
3. Mobile HFA status information (only if OPTIIP terminal).
4. Activation identifiers for the features.
5. Features and group memberships which are not assigned by the AMO SBCSU
6. Subscriber attributes which are assigned by the AMO SDAT. If the shelf default value is used for SRCGRP or TCLASS, this value is displayed in parentheses.

Explanation of MOBILE HFA STATE :

IP PHONE INACTIVE =

Flag if OPTIIP terminal is currently not available, because

- it is either visited by a different subscriber via Mobile HFA LOGON (so displayed subscriber cannot be reached anymore when dialing his/her usual station number)
- or after Mobile HFA LOGOFF there is simply no home phone plugged (so displayed subscriber cannot be reached either when dialing his/her station number)

Explanation of ACTIVATION IDENTIFIERS FOR FEATURES:

FWDS = Call forwarding for voice (speech)

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FWDF	= Call forwarding for FAX
FWDD	= Call forwarding for data terminal equipment (DTE)
HTOS	= Hunting group out, voice (release from hunting group)
HTOF	= Hunting group out, FAX
HTOD	= Hunting group out, DTE
DND	= Do-not-disturb
VCP	= Voice call protection
CWT	= Call waiting - terminating
TWLOGIN	= Teleworking LOGIN Status

Explanation of FEATURES AND GROUP MEMBERSHIPS :

PUGR	= Station assigned to a call pickup group
ESSTN	= Station in executive/secretary system
ROLE	= Role in the executive/secretary system (see AMO CHESE)
KEYSYS	= Station upgraded to a Keysystem (AMO KCSU)
NOPTNO	= Station assigned to a night option
HUNT CD	= Station assigned to a hunting group

Explanation of SUBSCRIBER ATTRIBUTES (AMO SDAT) :

see AMO SDAT

2. Interrogate the bus configuration with STNO 3427

Input:

DISP-SBCSU:STNO=3427,TYPE=BUS;

Output:

+-----+-----+-----+-----+			
|	CONFIGURATION:	OPTI	|
+-----+-----+-----+-----+			
|	CONNECTION:	DIR	|
|	LOCATION (PEN) :	1- 3- 67- 1	|
+=====+			
|	STNO	DVCFIG	TSI
+-----+-----+-----+-----+			
|	3427	OPTISET	1
|		DTE	5
|		FAX	2
|	3428	OPTIP500	3
|		MSN	4
|	4999	MSN	-
+-----+-----+-----+-----+			

THE MSN STATION NUMBERS HAVE BEEN ASSIGNED
FOR THE SERVICES FAX,DTE

3. Interrogate the MSN station numbers for an S0/S2 point-to-point connection

Input:

DISP-SBCSU:STNO=3460,TYPE=FPP;

Output:

```

MAINO   =3460      CONN   =EXT      PEN   = 1- 2- 25- 0
DVCFIG  =S2PP
----- MSN STATION NUMBERS -----
3461      3462
-----2 IN TOTAL-----

```

4. Interrogate all stations to which COS 6 is assigned (COS1 or COS2)

Input:

DISP-SBCSU:TYPE=SEARCH,COSNO=6;

Output:

```

----- SUBSCRIBER WITH -----
DEV      :                CONN   :
TRACE    :                COSNO  : 6
KEYSYS   :                LCOSV  :
INS      :                LCOSD  :
-----
3400      3401      3402      3403      3404      3405
3427      3428      3525
-----9 MATCH (ES)-----

```

5. Interrogate all signed-off keysystems

Input:

DISP-SBCSU:TYPE=SEARCH,KEYSYS=Y,INS=SIGNOFF;

Output:

```

----- SUBSCRIBER WITH -----
DEV      :                CONN   :
TRACE    :                COSNO  :
KEYSYS   : Y                LCOSV  :
INS      : SIGNOFF          LCOSD  :
-----
2189      2190
-----2 MATCH (ES)-----

```

6. Interrogate all MSN station numbers/ MSN secondary station numbers

Input:

DISP-SBCSU:TYPE=MSN;

Output:

STNO	MAINO	VOICE	FAX	DTE
3428	3427	OPTIP500	MSN	MSN
3461	3460	MSN	MSN	MSN
3462	3460	MSN	MSN	MSN

4999	|	3427	|		|	MSN	|	MSN	|	
-----	+	-----	+	-----	+	-----	+	-----	+	-----

Note:

All MSN station numbers/MSN secondary station numbers for a specific main station number of a bus or OPTISET configuration may be found with
DISP-SBCSU: TYPE=BUS, STNO=...;

All MSN station numbers for a specific FPP main station number may be found with
DISP-SBCSU: TYPE=FPP, STNO=...;

7. Interrogate individual OPTISET / OPTIP500 / OPTIIP terminal data and hardware settings.

Input:

DISP-SBCSU:STNO=2190,TYPE=OPTIDAT;

Output:

+----- INDIVIDUAL DEVICE DATA -----OPTIIP -----2190-----+															
+-----PHONE-ID / OPTION-ID-----+--EXT--+--ASSET-ID--+--SW VERS--+--TEST--+															
|	OPTIPOINT420 ADVANCE/4LD	|	0	|	51	10	80	34	|	3.3.36_	|	0	|	0	|
|	OPTIPOINT420 KEY MODULE #1	|		|					|	0000000	|	0	|	0	|
|	OPTIPOINT420 KEY MODULE #2	|		|					|	0000000	|	0	|	0	|
+-----+-----+-----+-----+-----+															
+----- HARDWARE SETTINGS -----+															
|	RINGVOL : 4	ALERTVOL : 2	CALLVOL : 1	SPKRVOL : 4											
|	RINGSOUN : 2	DISPCONT : 2	ROLLVOL : 3	ROOMCHAR : NORMAL											
|	SLKCONT : 2														
+-----+-----+-----+-----+-----+															
+----- IP SETTINGS -----+															
|	IPADDR : 020.001.001.101	EMERG NO : 089722112													
|	SW CAPAB : MOBHFA	DMC_V1	LIN :												
+-----+-----+-----+-----+-----+															

8. Interrogate individual UFIP terminal data and hardware settings.

Input:

DISP-SBCSU:STNO=2190,TYPE=OPTIDAT;

Output:

+----- IP SETTINGS ----- UFIP -----2190-----+									
| SUBIPADDR: 0. 0. 0. 0	EMERG NO :								
| SW CAPAB : DMC_V1 FASTCONN	LIN :								
|	TLSSUPP								
+----- ONLY FIRST REGISTRATION DATA SHOWN -----+									
| IP ADDRESS: 10.133. 15. 37	UA CSTA : TRUE								
| CLIENT TYPE: N/A	EPID : SC2fc1d6								
| UA STRING : OpenStage_40_V3 R5.17.0	SIP 190920 simple-uaCSTA								
+-----+-----+-----+-----+-----+									

Note:

- SUBIPADDR: contains the IP address configured with AMO SBCSU.
Example:

```
ADD-SBCSU:STNO=2190,OPT=OPTI,...,SUBIPADD=1.2.3.4;
```

- IP ADDRESS: contains the IP address sent by the HG board to the RMX board during the registration process.
- UA CSTA: sent by the UFIP phone to the HG board during the registration process.
- CLIENT TYPE: type of the registering device. Only a few types of client are supported.
- EPID: physical identifier of the UFIP phone.

UA STRING: string sent by the UFIP phone to the HG board during registration. Its length is limited to 63 characters.

166.2.5 REGENERATE-SBCSU

The REGENERATE action outputs the data of an S0 bus configuration as one or more position-oriented command listings for the ADD action of this AMO. The type of data output corresponds to that of the DISPLAY action with TYPE=TERMDATA.

By specifying any station number of a bus, OPTISET configuration or S0/S2 point-to-point connection all ADD commands will be regenerated.

Procedure Overview

Command Code	Parameter
REGENERATE-SBCSU	[STNO=<number>];

Examples

1. Regenerate the OPTISET configuration with STNO 3427

Input:

```
REGEN-SBCSU:3427;
```

Output:

```
ADD-SBCSU:3427,OPTI,DIR,1-1-67-1,OPTISET&DTE&FAX,1&5&2,
5,6,11,12,21,22,0,0,N,0,0,,,N,0,0,N,
"SBDSS1","SBDSS1",Y,0,N,N,N,Y,N,10,10,
,,,,5,,,N,NORMAL,
Y,SPANISH,0,,,0,,,,,;
ADD-SBCSU:3428,OPTIEXP,3427,OPTIP500,3,
5,6,11,12,21,22,0,0,N,0,0,,,N,0,0,N,
,,,0,N,N,N,Y,N,,,,,5,N,NORMAL,,
```

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Parameter Description

```

Y,SPANISH,0,,,0,,,,,,,,,;
ADD-SBCSU:3428,MSN,3427,,5,6,11,12,21,22,0,N,0,0,,,Y,N,N,5,;
ADD-SBCSU:4999,MSN,3427,,5,6,11,12,21,22,0,N,0,0,,,Y,N,N,5,;

```

2. Regenerate the S0 bus configuration with STNO 3525

Input:

```
REGEN-SBCSU:3525;
```

Output:

```

ADD-SBCSU:3525,FBUS,PNT,1-3-67-1,SET600&DTE&FAX,
5,6,11,12,21,22,0,0,N,0,0,,,
"SBNIBRI","SBNIBRI","SBNIBRI",Y,Y,0,7,7,7,UDI64,,N,N,,5,0,;

```

3. Regenerate the S2 point-to-point connection with STNO 3460

Input:

```
REGEN-SBCSU:3460;
```

Output:

```

ADD-SBCSU:3460,FPP,EXT,1-2-25-
0,S2PP,5,6,11,12,21,22,0,0,N,0,0,,,
"SBDS1",Y,Y,0,10,N,N,,,5,0;
ADD-SBCSU:3461,MSN,3460,,5,6,11,12,21,22,0,N,0,0,,,Y,N,N,5,;
ADD-SBCSU:3462,MSN,3460,,5,6,11,12,21,22,0,N,0,0,,,Y,N,N,5,;

```

166.3 Parameter Description

ALARMNO	Alarm number of logical device class (Alarm must have been assigned with AMO VADSU, ANTYPE=DIR or ANTYPE=PERS before) >> refer to Feature Usage Example Alarm Message Administration << *** only relevant if OPTISET, OPTIP500, OPTIIP, ANADEV, BASE, SET600, S0PP or S2PP specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	0 (no alarm assigned) 8 - 583
	Default Value	:	0
APICLASS	API Protocol Class >> refer to Feature Usage Example Workstation Protocol << *** only relevant if API specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	TS = Protocol CorNet-TS
		:	TSX = Protocol CorNet-TS X-Messages
		:	WP = Protocol CorNet-WP
		:	WPPLUS = Protocol CorNet-WP+

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Parameter Description

	Default Value	:	TS
APMOBUSR	Mobile User activation via application >> refer to FeatureUsage Example Smart Card Application << *** only relevant if OPTIP500, OPTIIP specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y = Mobile User activation via application
		:	N = Mobile User activation via CP
	Default Value	:	N
APPM	Station with identity application module *** only relevant if OPTIP500 specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y, N
	Default Value	:	N
ASYNCT	Timer for short synch losses *** only relevant for modules SLC16, SLMO, SLMO (FCTID=1), SLMQ (only Q2153-X), SLMQ3, STMA (FCTID=4), STMI-HFA (FCTID=3) and STMI2-HFA (FCTID=3) ***		
	Type of Input	:	Single value, optional
	Possible values	:	10 - 2530 (internally always rounded to tens)
	Default Value	:	500
	Note	:	This parameter is intended for test purposes only - therefore, the default value specified should not be changed for no reason
	Note	:	Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYPE or via AMO DSSU.
AUTHREQ	Authentication required *** only relevant for STMI2-IGW (SIP subscriber) ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y N
	Default Value	:	N
BASICSVC	Basic Service Default Value for devices with NI-BRI protocol *** only relevant if SET600, DTE, FAX, MSN specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	SPEECH = Speech
		:	AUDIO3K1 = 3.1 kHz Audio
		:	UDI64 = 64 kbps Unrestricted Digital Information

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Parameter Description

		UDI64RA	= 64 kbps Unrestricted Digital Information (Rate-Adapted)	
BLF	Busy lamp field			
	Type of Input	:	Single value, optional	
	Possible values	:	N	no
			NO	no
			Y	yes
			YES	yes
CALLOG	Device with callog >> refer to Feature Usage Example Call log for optiset E / optiPoint << *** only relevant if OPTISET, OPTIP500, OPTIIP ***			
	Type of Input	:	Single value, optional	
	Possible values		NONE	= no callog
			ALL	= callog recording all incoming calls as well as all outgoing calls
			TRIES	= callog recording all incoming call tries as well as all outgoing calls
	Default Value	:	NONE	
CBKBMAX	Maximum number of call backs to this station in the busy condition *** only relevant if SET600, S0PP, S2PP, DTE, FAX, MSN *** *** only relevant if RCBKB=N *****			
	Type of Input	:	Single Value, optional	
	Possible values	:	1 - 5	
			99 (no limit)	
	Default Value	:	5	
	Note	:	If RCBKB=Y is also specified or already assigned, CBKBMAX is ignored (ADD, CHANGE) and CBKBMAX=0 is displayed (DISPLAY) or CBKBMAX is not regenerated (REGENERATE)	
			When entering RCBKB=N without simultaneous specification of CBKBMAX, the default value CBKBMAX=5 is assigned (ADD, CHANGE)	
CBKNAMB	Automatic callback on no answer is stored in the mailbox *** only effective for DIGITEs with display (see parameter <u>DIGNODIS</u>) and mailbox *** *** see also parameter <u>RCBKNA</u> ***			
	Type of Input	:	Single Value, optional	
	Possible values		Y	= Automatic callback on no answer is stored in the mailbox

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Parameter Description

		N	= Automatic callback on no answer is carried out after the handset has been lifted/replaced	
	Default Value	Y		
CLNTDESK	Desk number for UFIP client *** only relevant for STMI2-IGW (SIP subscriber) ***			
	Type of input	:	Single value, optional	
	Possible values	:	0 - 999999999999	
	Default value	:	empty string	
COMGRP	Com Group the device is allowed to access *** only relevant if OPTISET, OPTIP500, OPTIIP specified for DVCFIG ***			
	Type of Input	:	Single value, optional	
	Possible values	:	0	= no Com Group assigned
		:	1- 1024	= valid Com Group assigned
	Default Value	:	0	
CONN	Device connection type			
	Type of Input	:	Single Value, mandatory (ADD)	
		:	Single Value, optional (DISPLAY)	
	Possible values	:	DIR, EXT, PNT, ATMP5W, SIP, IP2	
		:	DIR	= direct connection
		:	EXT	= off-premises/external station connection
		:	PNT	= connection via PNT (S0 bus) or UCON (OPTISET / OPTIP500)
		:	ATMP5W	= ATM connection (Port Switching)
		:		
		:	IP2	= connection via IP (HFA Gateway Version# 2)
		:	SIP	= connection via IP (SIP)
	Default Value	:	Subscriber search will not be restricted to a specific CONN value (DISPLAY)	
COSNO	Number of sought class of service			
	Type of Input	:	Single Value, chained single values (max.2) and ranges, optional	
	Possible values	:	1 - 1000	
	Default Value	:	Subscriber search will not be restricted to a specific COSNO value (DISPLAY)	

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Parameter Description

COSX	Class of service switchover group >> refer to Feature Usage Example Class of Service Switchover COSX <<		
	Type of Input	:	Single Value, optional
	Possible values	:	0 - 15
	Default Value	:	0
COS1 COS2	Class of service 1 (AMO COSSU, TYPE=COS) Class of service 2 (AMO COSSU, TYPE=COS)		
	Type of Input	:	Single Value, mandatory (ADD) Single Value, optional (CHANGE)
	Possible values	:	1 - 1000
DCFWDUSY	Delayed Call Forwarding - On Busy *** only relevant if OPTISET, OPTIP500, OPTIIP specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y
		:	N
	Default Value	:	N
DELPBOOK	Delete CMI Phonebook When deleting a CMI subscriber, the associated Phonebook is deleted too. This can be avoided by specifying DELPBOOK=NO, eg. when deleting and newly creating a subscriber at a different PEN.		
	Type of Input	:	Single value, optional
	Possible values	:	Y
		:	N
	Default Value	:	Y
DEV	Device type		
	Type of Input	:	Single value, optional
	Possible values	:	OPTISET, OPTIP500, OPTIIP, SET600, ANADEV, BASE, RADIO, VIRTDE, EXTLIN, API, ANADTE, ANAFAX, DTE, FAX, MSN
	Default Value	:	Subscriber search will not be restricted to a specific DEV value (DISPLAY)
	(see also parameter DVCFIG)		
DFSVCANA	Default service of the analog terminal for outgoing calls >> refer to Feature Usage Example optiset E and Analog Terminals << >> refer to Feature Usage Example optiPoint Up0E and Analog Terminals << >> refer to Feature Usage Example optiPoint IP and Analog Terminals << *** only relevant if ANADEV ***		
	Type of Input	:	Single value, optional

	Possible values	:	VCE, FAX, DTE
	Default Value	:	VCE
DIGNODIS	Digite with no display *** only relevant if OPTISET, OPTIP500, OPTIIP, BASE, RADIO or CMIADM specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y = Terminal without Display
		:	N = Terminal with Display
	Default Value	:	N
	Note	:	If the terminal is designated as "without Display" (although physically available), absolutely all displays are suppressed (such as call number, name of caller, etc.) and system-side acknowledgements are only signalled via acoustic acknowledgement If the terminal is designated as "with Display" (although not physically available), system-side acknowledgements are no longer signalled acoustically
DNIDSP	Display DNIS/SIDANI information for incoming calls with DNIS routing		
	Type of Input	:	Single value, optional
	Possible values	:	Y = display of available DNIS / SIDANI information
		:	N = no display of DNIS / SIDANI information
	Default Value	:	N
DOPTIDX	Index into option table (AMO ZAND) for functional data device (DTE) >> refer to Feature Usage Example EURO-ISDN Terminals << >> refer to Feature Usage Example National ISDN Basic Rate Interface (NI BRI) <<		
	Type of Input	:	Single value, optional
	Possible values	:	1-10
	Default Value	:	1
DPLN	Feature access group, dial plan group >> refer to Feature Usage Example Customer Groups, Shared Systems CUG <<		
	Type of Input	:	Single value, optional
	Possible values	:	0 - 15
	Default Value	:	0
DPROT	Protocol variant for functional data device (DTE) >> refer to Feature Usage Example EURO-ISDN Terminals << >> refer to Feature Usage Example National ISDN Basic Rate Interface (NI BRI) <<		
	Type of Input	:	Single Value, optional (depends on DVCFIG, see above)

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Parameter Description

	Possible values	:	SBDSS1	= EURO ISDN protocol DSS1
			SBEDSR1	= EURO-ISDN Protocol EDSS1 RESERVE 1
			SBEDSR2	= EURO-ISDN Protocol EDSS1 RESERVE 2
			SBEDSR3	= EURO-ISDN Protocol EDSS1 RESERVE 3
			SBEDSR4	= EURO-ISDN Protocol EDSS1 RESERVE 4
			SBNIBRI	= Telcordia Technologies NI-BRI Protocol (National ISDN Basic Rate Interface)
	Note	:	The protocol type parameters SPROT, DPROT and FPROT are optional. However, an xPROT parameter must be specified if a terminal type to which it refers is configured. Values specified for the protocol type parameters are ignored if the appropriate terminal does not exist under the station number specified	

xPROT= (x=S, D, F)	DVCFIG= SET600	DVCFIG=... &DTE	DVCFIG=... &FAX
SOPT=	DOPT=	FOPT=	
SBDSS1	10	10	10
SBNIBRI	7	7	7
SBEDSR1 : SBEDSR4	-	-	-

Table 5

Recommended combination(s) of protocol variants (xPROT) and Option index (xOPTIDX) for functional terminal devices on the S0-Bus

*** For functional S0/S2 point-to-point connections, see Parameter PROT ***

DSSTNA	Alert tone if calling station in a voice call connection (see AMO ZAND, CP=CMALSTONE and AMO DTIM1, parameter VCHATONE, VCHAPAU) *** only relevant if OPTISET, OPTIP500, OPTIIP, BASE, RADIO or CMIADM specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y = call monitoring alerting tone at calling station
		:	N = no call monitoring alerting tone at calling station
	Default Value	:	N
DSSTNB	Alert tone if called station in a voice call connection (see AMO ZAND, CP=CMALSTONE and AMO DTIM1, parameter VCHATONE, VCHAPAU) *** only relevant if OPTISET, OPTIP500, OPTIIP, BASE, RADIO or CMIADM specified for DVCFIG ***		
	Type of Input	:	Single value, optional

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	Possible values	: Y	= call monitoring alerting tone at called station
		N	= no call monitoring alerting tone at called station
	Default Value	: Y	
DTMFCTRD	Device controlled by incoming DTMF signalling		
	Type of Input	: Single value, optional	
	Possible values	: Y	= device controlled by incoming DTMF signalling
		N	= device cannot be controlled by DTMF signalling
		YES	= device controlled by incoming DTMF signalling
		NO	= device cannot be controlled by DTMF signalling
	Default Value	: N	
DTMFBLOCK	Block hearing of incoming DTMF tones while in conference *** only relevant if OPTISET, OPTIP500, OPTIIP, SET600, ANADEV specified for DVCFIG ***		
	Type of Input	: Single value, optional	
	Possible values	: Y	= Hearing of incoming DTMF tones will be blocked while in conference
		N	= Hearing of incoming DTMF tones will not be blocked while in conference
	Default Value	: N	
DVCFIG	Device configuration		
	Type of Input	: Single Value, chained single values (max. 3), mandatory	
	Possible values	: OPTISET	= Digital voice terminal OPTISET (S0 / CorNet-TS)
		OPTIP500	= Digital voice terminal OPTIP500 (S0 / CorNet-TS)
		OPTIIP	= Digital IP voice terminal (IP / CorNet-TS)
		SET600	= Digital voice terminal SET600 (S0 / funct.protocol)
		BASE ¹⁾	= CMI base station (Up0/E / CorNet-TS)
		RADIO ¹⁾	= CMI mobile user (Up0/E / CorNet-TS)
		EXTLINE ¹⁾	= CMI extension connection (S0 / funct. protocol)
		ANADEV	= analog terminal, all services
		API	= Workstation protocol interface, DTE service (S0 / CorNet-WP)
		ANADTE	= analog terminal, DTE service
		ANAFAX	= analog terminal, FAX service
		DTE	= Terminal or terminal adapter, DTE service (S0 / funct. protocol)
		FAX	= Terminal or terminal adapter, FAX service (S0 / funct. protocol)

Parameter Description

A list of possible connection types and device configurations for the modules is shown below (see Table 6 Terminal configuration assignments to the line modules).

An STHC or STHC2 (only circuits 0 - 15 each) can also be used instead of an SLMO (FCTID=1).

Table 6 Terminal configuration assignments to the line modules

*3 : only if DVCFIG=RADIO has been previously set up with OPT=CMI.

OPT	CONN	Terminal configuration	Module
OPTIEXP	(DIR, PNT) (DIR, PNT) (DIR, PNT)	[OPTISET/OPTIP500] &[FAX] &[DTE/API] SET600 &[FAX] &[DTE] ANADEV	except SLMQ3
	(ATMP5W) (ATMP5W)	[OPTISET/OPTIP500] &[FAX] &[DTE/API] SET600 &[FAX] &[DTE]	STMA (FCTID=4) STMA (FCTID=4)
	(IP2)	ANADEV	STMI2-HFA
CMIEXP		CMIADM BASE RADIO	*1 *2 *3
FPP	PNT DIR EXT DIR EXT	S0PP S0PP S0PP S2PP S2PP	SLMQ SLMS,STMD STMD DIU-N2, DIU-N4, DIU-S2 DIU-N2, DIU-N4, DIU-S2

Table 6 Terminal configuration assignments to the line modules

*1 : only if DVCFIG=CMIADM has been previously set up with OPT=CMI .

*2 : only if DVCFIG=BASE has been previously set up with OPT=CMI .

*3 : only if DVCFIG=RADIO has been previously set up with OPT=CMI.

EXTBUS	Extended Bus - Bus Operating Range for SLMS/STMD > 150m *** only relevant for modules SLMS and STMD (all versions) ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y Distance between first and last terminal <= 35m, thus range between module and last terminal > 150m is possible
		:	N Distance between first and last terminal > 35m, but distance between module and last terminal < 150m
	Default Value	:	N (CONN=EXT)
		:	Y else
	Note	:	Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYPE or via AMO DSSU.
FIXEDIP	Fixed IP address *** only relevant for STMI2-IGW (SIP subscriber) ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y N
	Default Value	:	N

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FLASH	Flash controlled functions support *** only relevant if ANADEV specified for DVCFIG ***		
	Type of Input	: Single value, optional	
	Possible values	: Y	= Flash controlled functions allowed
		N	= Flash controlled functions not allowed
	Default Value	: Y	
FOPTIDX	Index into option table (AMO ZAND) for functional facsimile device (FAX) >>see parameter DOPTIDX for description<<		
FPROT	Protocol variant for functional facsimile device (FAX) >>see parameter DPROT for description<<		
	Type of input:	single value, optional	
	Possible values:	SBDSS1	protocol variant dss1
		SBEDSR1	protocol variant edss1 reserve 1
		SBEDSR2	protocol variant edss1 reserve 2
		SBEDSR3	protocol variant edss1 reserve 3
		SBEDSR4	protocol variant edss1 reserve 4
		SBNIBRI	protocol variant ni bri
HEADSET	Terminal with headset *** only relevant if OPTISET, OPTIP500, OPTIIP *** *** see also parameter HSKEY ***		
	Type of Input	: Single value, optional	
	Possible values	: N	= No headset
		NOIND	= headset without hardware indication (i.e. plugging/unplugging is n o t recog- nized by the hardware - must be made known by pressing the headset key)
		WITHIND	= headset with hardware indication (plugging/unplugging is recognized by the hardware -> headset key not required)
	Default Value	: N	
HMUSIC	Number of Music on Hold recording (recorder must have been assigned with AMO RCSU, RECAPL=HMUSIC, OPMODE=CONT, OPTYPE=RANDOM before)		
	Type of Input	: Single value, optional	
	Possible values	: 0 (System Music on Hold assigned) 1 - 150	
	Default Value	: 0	

HSKEY	Functioning of the HS key (if present) *** only relevant if OPTISET, OPTIP500, OPTIIP *** *** see also parameter HEADSET ***		
	Type of Input	:	Single value, optional
	Possible values	:	NORMAL = HS key serves to answer, initiate or terminate a call
		:	HSIND = HS key serves as an indication whether headset without hardware indication is plugged or not
	Default Value	:	NORMAL
IDCR	Station with identity card reader *** only relevant if OPTISET, OPTIP500, OPTIIP specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y, N
	Default Value	:	N
INS	Station(s) in service ?		
	Type of Input	:	Single value, optional
	Possible values	:	Y, N
		:	Y = The station terminals will be released for call processing.
		:	N = The station terminals are not put into service (data pre-assigned).
		:	SIGNOFF = The station terminals have not (yet) been assigned a LOCATION (signed-off subscribers)
	Default Value	:	Y (ADD)
		:	Subscriber search will not be restricted to a specific DEV value (DISPLAY)
IPADDR	IP address *** only relevant for STMI2-IGW (SIP subscriber) ***		
	Type of Input	:	4 values, concatenated with ".", optional
	Possible values	:	0-255
	Default Value	:	0.0.0.0
IPCODEC	Codec Type for IP Phone for bandwidth calculation in RESMAN >> refer to Feature Usage Example HiPath Feature Access << *** only relevant for modules STMI-HFA (FCTID=3), STMI2-HFA (FCTID=3), STMI2-IGW (SIP subscriber) ***		
	Type of Input	:	Single value, optional
	Possible values	:	G711 = G711 always to be used

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Parameter Description

		G711PREF	= G711 preferably to be used
		G723	= G723 always to be used
		G723PREF	= G723 preferably to be used
		G729A	= G729A always to be used
		G729APREF	= G729A preferably to be used
	Default Value	: G723PREF	(CONN=IP)
		G711PREF	(CONN=IP2)
IPPASSW	Password for IP LOGON procedure >> refer to Feature Usage Example HiPath Feature Access << *** only relevant for modules STMI-HFA (FCTID=3), STMI2-HFA (FCTID=3) ***		
	Type of Input	: Single value, optional	
	Possible values	: NONE	= No password defined
		text, 6 - 20 alpha numerical characters	= valid password
	Default Value	: NONE	
	Note	Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYPE or via AMO DSSU.	
ITR	Internal traffic restriction group >> refer to Feature Usage Example Customer Groups, Shared Systems CUG <<		
	Type of Input	: Single value, optional	
	Possible values	: 0 - 15	
	Default Value	: 0	
KEYSYS	Subscriber configured as a keysystem (AMO KCSU) >> refer to Feature Usage Example Integrated Key Functionality Multi-line Access <<		
	Type of Input	: Single value, optional	
	Possible values	: Y, N	
	Default Value	: Subscriber search will not be restricted to a specific KEYSYS value	(DISPLAY)
LCOSD	LCR class of service (data)		
	Type of Input	: Single Value, chained single values (max.2) and ranges, optional	
	Possible values	: 1 - 1000	
	Default Value	: Subscriber search will not be restricted to a specific LCOSD value	(DISPLAY)

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Parameter Description

LCOSD1 LCOSD2	LCR class of service 1 (data - see AMO COSSU, TYPE=LCOSD) LCR class of service 2 (data - see AMO COSSU, TYPE=LCOSD) >> refer to Feature Usage Example LCR (Least Cost Routing) <<	
	Type of Input	: Single value, required
	Possible values	: 1 - 1000
LCOSV	LCR class of service (voice)	
	Type of Input	: Single Value, chained single values (max.2) and ranges, optional
	Possible values	: 1 - 1000
	Default Value	: Subscriber search will not be restricted to a specific LCOSV value (DISPLAY)
LCOSV1 LCOSV2	LCR class of service 1 (voice - see AMO COSSU, TYPE=LCOSV) LCR class of service 2 (voice - see AMO COSSU, TYPE=LCOSV) >> refer to Feature Usage Example LCR (Least Cost Routing) <<	
	Type of Input	: Single value, required
	Possible values	: 1 - 1000
LWPAR	Loadware Parameter Block (AMO LWPAR, TYPE=DIUS2) *** only relevant for modules DIU-N2, DIU-N4, DIU-S2 ***	
	Type of Input	: Single value, optional
	Possible values	: 0 - 9
	Default Value	: 0
	Note	: Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYPE or via AMO DSSU.
MAINO	Main station number of a bus configuration	
	Type of Input	: Single Value, mandatory
	Possible values	: 0 - 999999999999
	Note	: The station number must be assigned as the main station number of an OPTI, CMI or S0/S2 point-to-point configuration.
NEWNO	New station number	
	Type of Input	: Single Value, optional
	Possible values	: 0 - 999999999999
	Note	: The station number must be present in the dialing plan.
	Note	: For OPTIIP only : Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYPE or via AMO DSSU.

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Parameter Description

OFFTYPE	Type of deactivation order (controls both station deactivation and loading of circuit data)		
	Type of Input	:	Single value, optional
	Possible values	:	NL = no locking
		:	DC = deactivate with camp-on
		:	DI = deactivate immediately
	Default Value	:	DC
		:	DI (signed-off subscriber, MSN station number))
	Note	:	After CHANGE command is executed, the station is switched back to the original dependability state (different to AMO DSSU handling). However OFFTYPE only takes effect in combination with other parameters for which deactivation or downloading makes sense.
OPT	Specification of bus type or unit to be expanded for an existing station number (branch parameter)		
	Type of Input	:	Single Value, mandatory
	Possible values	:	FBUS, OPTI, OPTIEXP, CMI, FPP, SVC, MSN (ADD) FBUS, OPTI, CMI, FPP (CHANGE)
	FBUS	=	Functional bus
	OPTI	=	OPTISET configuration (ADD: install main station number of OPTISET configuration)
	CMI	=	CMI configuration (ADD: Add main station number for administration user, base station, mobile user, extension connection of the CMI configuration)
	OPTIEXP	=	Add analog, functional or CorNet-TS terminals at an OPTISET configuration for a secondary station number
	CMIEXP	=	no longer used with CMI V3.0 (Add another administration user, base station or mobile user at a CMI configuration under a secondary station number)
	FPP	=	Functional S0/S2 point-to-point connection (ADD: assign main station number of functional point-to-point connection)
	SVC	=	Expand the service allocation and terminal configuration of a station on a CorNet point-to-point connection or bus connection
	MSN	=	Add MSN station number at FBUS / OPTI / FPP configuration or an MSN secondary station number at OPTISET configuration.
OPTICA	Optiset E control adapter for connecting a PC dialer >> refer to Feature Usage Example optiset E with Data Adapter << *** only relevant if OPTISET specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	0 - 2
	Default Value	:	0

OPTICOM	Optiset E with ComManager connection *** only relevant if OPTISET, OPTIP500, OPTIIP specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	Y, N
	Default Value	:	N
OPTIDA	Optiset E data adapter / data plus adapter for connecting a data terminal >> refer to Feature Usage Example optiset E with Data Adapter << *** only relevant if OPTISET specified for DVCFIG ***		
	Type of Input	:	Single value, optional
	Possible values	:	0 - 2
	Default Value	:	0
OPTIDX	Index into option table (AMO ZAND) for functional point-to-point connect. >> refer to Feature Usage Example Adding an S2 station <<		
	Type of Input	:	Single value, optional
	Possible values	:	1-10
	Default Value	:	1
OSMO	UFIP IS TO BECOME OSMO CLIENT		
	Type of Input	:	Single value, optional
	Possible values	:	Y, N , YES, NO
PASSWD	Password for SIP subscriber *** only relevant for STMI2-IGW (SIP subscriber) ***		
	Type of Input	:	Single value, optional
	Possible values	:	text, up to 20 alpha numerical characters
	Default Value	:	empty string
PATTERN	Idle code pattern for the B-channels >>refer to "Hicom 300/300 E/300 H ATM Connectivity Phase 1 to 3"<< *** only relevant for module STMA (FCTID=4) ***		
	Type of Input	:	Single value, optional
	Possible values	:	0 - 255
	Default Value	:	213 (= H'D5)
	Note	:	Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYPE or via AMO DSSU.
PEN	Port equipment number of the station: LTG-LTU-SLOT-CCT		
	Type of Input	:	Single value, optional

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	Possible values	: g-uu-sss-ccc	
		g	= LTG Number 1 (no other value)
		uu	= LTU Number 1 - 15 in HHS (Host Shelf) 16 not defined 17 - 99 in AP (Access Point Shelf)
		sss	= Slot number 1 - 121
		ccc	= Circuit number 0 - 254
	Note	: A suitable module must be configured for the slot addressed by PEN (AMO BCSU)	
		The possible LTU and Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description.	
		The possible Circuit values depend on the module type and its functionality. They can be listed using DISP-BCSU: TYPE=PEN [,LTG= , LTU= , SLOT= , CCT=] ; which will also output the actual PEN status (e.g. NOT CONNECTED)	
PERMACT	Layers 1 and 2 permanently active ? *** only relevant if SET600, S0PP or S2PP specified for DVCFIG ***		
	Type of Input	: Single value, optional	
	Possible values	: Y	= permanently active
		N	= not permanently active
	Default Value	: Y	
	Note	: CorNet-T-terminals must be permanently active. This means, since this parameter must be set for each circuit, that it is only relevant for functional bus connections.	
	Note	: Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYPE or via AMO DSSU.	
PMIDX	External Voice Mail Server Index		
	Type of Input	: Single value, optional	
	Possible values	: 0	
		1- 99	
	Default Value	: 0	
PROT	Protocol type for functional point-to-point connection >>refer to Feature Usage Example Adding an S2 station <<		
	Type of Input	: Single Value, mandatory (ADD) Single Value, optional (CHANGE)	
	Possible values	: SBDSS1	= EURO ISDN protocol DSS1
		SBEDSR1	= EURO-ISDN Protocol EDSS1 RESERVE 1
		SBEDSR2	= EURO-ISDN Protocol EDSS1 RESERVE 2

		SBEDSR3	= EURO-ISDN Protocol EDSS1 RESERVE 3
		SBEDSR4	= EURO-ISDN Protocol EDSS1 RESERVE 4

PROT=	DVCFIG= S0PP OPT=	DVCFIG= S2PP OPT=
SBDSS1	9	9
SBEDSR1 : SBEDSR4	-	-

Table 7

Recommended combination of protocol variants (PROT) and Option index (OPTIDX) for functional S0/S2 point-to-point connections

*** For functional terminal devices on the S0-Bus, see Parameter DPROT ***

RCBKB	Reject call back on busy *** see also parameter CBKBMAX ***		
	Type of Input	:	Single Value, optional
	Possible values	:	Y = No call back option possible for this subscriber on busy
		:	N = Call back option possible for this subscriber on busy
	Default Value	:	N
RCBKNA	Reject call back on no answer *** only effective for DIGITEs without mailbox *** *** see also parameter CBKNAMB ***		
	Type of Input	:	Single Value, optional
	Possible values	:	Y = No call back option possible for this subscriber on no answer
		:	N = Call back option possible for this subscriber on no answer
	Default Value	:	N
REP	No. of add-on devices (e.g. repertory key terminal) *** only relevant if OPTISET, OPTIP500, OPTIIP, BASE, RADIO or CMIADM specified for DVCFIG ***		
	Type of Input	:	Single Value, optional
	Possible values	:	0 - 2 (OPTIP500)
		:	0 - 4 (OPTISET / BASE / RADIO / CMIADM))
	Default Value	:	0 (no add-on devices available)

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Parameter Description

SECAPPL	Smart Card Access Application ID >> refer to FeatureUsage Example Smart Card Application << *** only relevant if OPTIP500 or OPTIIP specified for DVCFIG ***		
	Type of Input	: Single value, optional	
	Possible values	: 0	= no Smart Card Access Application ID assigned
		1- 999	= valid Smart Card Access Application ID assigned
	Default Value	: 0	
SECR	Digite is to become secretary in an executive/secretary system >> refer to FeatureUsage Example CHESE Integrated Exec./Sec. System << *** only relevant if OPTISET, OPTIP500, OPTIIP specified for DVCFIG ***		
	Type of Input	: Single Value, optional	
	Possible values	: Y, N	
	Default Value	: N	
	Note	: When the value is changed, the relevant terminal must first be switched off (either by using parameter OFFTYPE or via AMO DSSU) because the value must not be changed while the terminal is operating.	
SECZON	Security zone for UFIP *** only relevant for STMI2-IGW (SIP subscriber) ***		
	Type of Input	: Single value, optional	
	Possible values	: text, up to 20 alpha numerical characters	
	Default Value	: empty string	
SECZONE	Security zone *** only relevant for STMI2-IGW (SIP subscriber) ***		
	Type of Input	: Single value, optional	
	Possible values	: text, up to 20 alpha numerical characters	
	Default Value	: empty string	
SMGSUB	SMG subscriber *** only relevant for STMI2-IGW (SIP subscriber) ***		
	Type of Input	: Single value, optional	
	Possible values	: Y N	
	Default Value	: N	
SOPTIDX	Index into option table (AMO ZAND) for voice/speech device S0 *** only relevant if SET600 or EXTLINE specified for DVCFIG *** >>see parameter DOPTIDX for description<<		

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Parameter Description

	Default Value	:	1 (SET600) 6 (EXTLINE)
SPDC1	Central speed calling list 1 >> refer to Feature Usage Example Speed Dialling <<		
	Type of Input	:	Single Value, optional
	Possible values	:	0 - 15 (assign SPDC1 list)
		:	16 (no SPDC1)
	Default Value	:	no SPDC1
SPDC2	Central speed calling list 2 >> refer to Feature Usage Example Speed Dialling <<		
	Type of Input	:	Single Value, optional
	Possible values	:	0 - 15 (assign SPDC1 list)
		:	16 (no SPDC2)
	Default Value	:	no SPDC2
SPDI	Station with speed calling individual		
	Type of Input	:	Single Value, optional
	Possible values	:	0, 10, 20, 30
	Default Value	:	0
SPROT	Protocol variant for functional voice/speech device *** only relevant if SET600 or EXTLINE specified for DVCFIG *** >>see parameter <u>DPROT</u> for description<<		
	Default Value	:	SBQ9311 (EXTLINE)
SRCGRP	Source group index		
	Type of Input	:	1 to 2 single values, concatenated with "&"
		:	optional
	Possible values	:	1 - 255
SSTNO	Secret station number *** not relevant for SIP subscribers *** >> refer to Feature Usage Example CLIR Calling Line Ident. Restriction <<		
	Type of Input	:	Single Value, optional
	Possible values	:	Y = The user's station number does not appear on the called party's display (internal and external)
		:	N = The user's station number does appear on the called party's display (internal and external)

SBCSU - Station and S0 bus Configuration of SWU

Parameter Description

		ONLYEXT	= The user's station number does not appear on the external station's display. Instead, a replacement number (configured by AMO KNMAT) is displayed
		ONLYEXO	= Neither the user's station number nor a replacement calling number is displayed at the external station's display
	Default Value	: N	
STD	Number of key layout/map standard >> refer to Feature Usage Example Key Layout Standards << *** only relevant if OPTISET, OPTIP500, OPTIIP, BASE, RADIO or CMIADM specified for DVCFIG ***		
	Type of Input	: Single Value, optional	
	Possible values	: 0 - 255	
	Default Value	: 0	
STNO	Station number The devices specified under DVCFIG are assigned to this STNO		
	Type of Input	: Single values and ranges, mandatory (ADD, CHANGE, DELETE) optional (DISPLAY, REGENERATE)	
	Possible values	: 0 - 999999999999	
	Note	: The station number must be present in the dialing plan.	
		When entering ranges, please ensure that the second number is always the higher one and that both numbers have the same length.	
		A maximum of 600 station numbers may be included in a range.	
	ADD, OPT=FBUS / OPTI / CMI: CHANGE, DELETE, DISPLAY, REGENERATE:		
		a maximum of 10 value entries is allowed, e.g. 5 ranges or 3 ranges and 4 single values.	
	ADD, OPT=OPTIEXP:		
		A maximum of two station numbers can be set up via the OPTISET configuration (as specified with parameter MAINO). An OPTISET configuration may contain a maximum of three terminals, with all functional terminals counting collectively as one terminal.	
	ADD, OPT=CMIEXP:		
		A maximum of 1 station number is permissible which can still be set up on the CMI configuration (specified with parameter MAINO). It should also be borne in mind that a CMI configuration may not contain more than 2 terminals	
	DELETE, CHANGE: The station number must have been installed.		
	DISPLAY, REGENERATE:		
		If TLNNU is not entered, all subscribers that have been installed by AMO SBCSU are output.	

SBCSU - Station and S0 bus Configuration of SWU

Parameter Description

	DELETE, CHANGE: The station number must have been installed.		
	DISPLAY, REGENERATE:		
		If TLNNU is not entered, all subscribers that have been installed by AMO SBCSU are output.	
SUBIPADD	IP address for UFIP *** only relevant for STMI2-IGW (SIP subscriber) ***		
	Type of Input	:	4 values, concatenated with ".", optional
	Possible values	:	0 - 255
	Default value	:	0.0.0.0
SVC	Specification of service to be deleted		
	Type of Input	:	chained single values, mandatory
	Possible values	:	FAX = Delete FAX device
		:	DTE = Delete DTE device
		:	MSN = Delete MSN station number/ MSN secondary station number
		:	ALL = Delete all associated devices
TEXTSEL	Text selector for selecting the language for the display >> refer to Feature Usage Example Multilingual User Interface << *** only relevant if OPTISET, OPTIP500, OPTIIP or RADIO specified for DVCFIG ***		
	Type of Input	:	Single Value, optional
	Possible Values	:	american american english
		:	BRAZIL brazilian
		:	catalan catalan
		:	CHINESE Chinese (only if OPTISET/ OPTIP500)
		:	croatian croatian
		:	czech czech
		:	danish danish
		:	dutch dutch
		:	english english
		:	estonIAN estonian
		:	finnish finnish
		:	french french
		:	GERMAN german
		:	GERNOUML german without umlauts
		:	greek greek

SBCSU - Station and S0 bus Configuration of SWU

Parameter Description

		hungary	hungarian
		indones	indonesian
		italian	italian
		JPN	Japanese (only if OPTISET/ OPTIP500)
		LATVIAN	latvian
		LITHUAN	lithuanian
		malay	malayan
		norweg	norwegian
		polish	polish
		portug	portuguese
		romanian	romanian
		russCYR	russian (cyrillic characters)
		russLAT	russian (latin characters)
		serbcyr	serbian (cyrillic characters)
		serblat	serbian (latin characters)
		slovak	slovakian
		slowen	slowenian
		spanish	spanish
		swedish	swedish
		thai	thai
		TURKISH	turkish
	Default Value	Preset system language (see AMO ZAND, parameter TEXTSEL, 1st value)	
TRACE	Malicious call trace allowed >> refer to Feature Usage Example TRACE Malicious Call Tracing <<		
	Type of Input	: Single Value, optional	
	Possible values	: Y, N	
	Default Value	: Subscriber search will not be restricted to a specific TRACE value (DISPLAY)	
TSI	Terminal Selection Identifier		
	Type of Input	: chained single values (max. 3), optional	
	Possible values	: 0	(automatic TSI allocation via AMO)
		1 - 8	(valid TSI number)
	Default Value	: 0	(automatic TSI allocation via AMO)
	Note	: The allocation of TSI numbers to terminals depends on the sequence in which the values for TSI and DVCFIG are entered.	
TYPE	Desired station configuration options		

SBCSU - Station and S0 bus Configuration of SWU

Parameter Description

	Type of Input	:	Single Value, optional	
	Possible values	:	TERMDATA	Display all terminal data for terminals assigned with SBCSU
		:	BUS	Bus configuration with location (PEN), terminals, STNO and TSI
		:	BUSDATA	Combination of BUS and TERMDATA per station number
		:	FPP	Output all S0/S2 point-to-point connections (including all MSN links defined)
		:	MSN	Output all MSN links, i.e. stations configured with DVCFIG=MSN
		:	OPTIDAT	Individual OPTISET / OPTIP500 / OPTIIP terminal data and hardware settings
		:	SEARCH	Output all subscribers matching the search criteria(s) as specified by the optional parameters CONN, DEV, COSNO, LCOVS, LCOVD, TRACE, KEYSYS, INS
	Default Value	:	TERMDATA	
USERID	User ID *** only relevant for STMI2-IGW (SIP subscriber) ***			
	Type of Input	:	Single value, optional	
	Possible values	:	text, up to 20 alpha numerical characters	
	Default Value	:	empty string	
USRID	User ID for UFIP *** only relevant for STMI2-IGW (SIP subscriber) ***			
	Type of Input	:	Single value, optional	
	Possible values	:	text, up to 20 alpha numerical characters	
	Default Value	:	empty string	
VCI	Virtual Connection Identifier >>refer to "Hicom 300/300 E/300 H ATM Connectivity Phase 1 to 3"<< *** only relevant for module STMA (FCTID=4) ***			
	Type of Input	:	Single Value, optional	
	Possible values	:	0 - 65535	
	Note	:	Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYP or via AMO DSSU.	
VPI	Virtual Path Identifier >>refer to "Hicom 300/300 E/300 H ATM Connectivity Phase 1 to 3"<< *** only relevant for module STMA (FCTID=4) ***			
	Type of Input	:	Single Value, optional	
	Possible values	:	0 - 7	

	Note	: Download of changed value to the module must be initiated by deactivation/activation of corresponding circuit either by using parameter OFFTYP or via AMO DSSU.

166.4 Error Messages and Advisories

Explanation of symbols used in the Error Messages and Advisories

<xxxxxx> denotes the station number, to which the message refers. The station number is not output in the messages, if the AMO is still verifying parameter entries. Variable text strings are enclosed in pointed brackets and separated with a slash. Only one of these variables is actually contained in the output, depending on the cause of the error.

166.4.1 Error Messages

```
F01: <xxxxxxxxxxxx> THIS STATION NUMBER IS NOT PROPERLY ASSIGNED
      (AMO WABE AND AMO KNDFF)
F01: <xxxxxxxxxxxx> THIS STATION NUMBER IS NOT ASSIGNED IN THE DIAL PLAN (DPLN)
      RESP. IS NOT ASSIGNED FOR A STATION (DAR=STN)
      ( DISP-WABE:TYPE=GEN,CD=<xxxxxxxxxxxx>,DPLN=0&&15; )
F02: <xxxxxxxxxxxx> THE <COS/LCOSV/LCOSD> <nnnn> IS NOT ASSIGNED
F03: <xxxxxxxxxxxx> THIS STATION IS NOT ASSIGNED
F04: <xxxxxxxxxxxx>THIS STATION CANNOT BE ASSIGNED WITH THE DVCFIG VALUES SPECIFIED.
      UNABLE TO FIND AVAILABLE <DIU-N2/DIU-N4/DIU-S2/SLMC/
      SLMO/SLMO (FCTID=1)/
      SLMQ/SLMQ+/SLMQ3/SLMS/
      STMA (FCTID=4)/STMD/
      STMI-HFA (FCTID=3)/STMI2-HFA (FCTID=3)>
      IN ANY LTU SHELF WITH SOURCE GROUP 1 ASSIGNED
F05: <xxxxxxxxxxxx> THE PEN SPECIFIED FOR THIS STATION IS ALREADY OCCUPIED
      ( REGEN-<ACSU/SBCSU/SSCSU>:<yyyyyyyyyyyy>; )
      ( REGEN-TDCSU:<g-uu-sss-ccc>; )
F06: <xxxxxxxxxxxx> THIS STATION IS ALREADY ASSIGNED
F08: <xxxxxxxxxxxx> ONLY CMI SUBSCRIBERS CAN BE CONFIGURED WITH AMO SBCSU
      ON THIS 'CORDLESS ES' PABX
F09: <xxxxxxxxxxxx> THE NEW NUMBER IS NOT ASSIGNED IN THE DIAL PLAN (AMO WABE)
F10: <LTG/LTU> IS NOT ASSIGNED
```

F11: <xxxxxxxxxxxx> THIS STATION CANNOT BE ASSIGNED -
 THE CONTRACTED NUMBER OF SUBSCRIBERS FOR
 <PACKAGE 'FLEX LICENSE' /
 PACKAGE 'CORDLESS E' > = <nnnnn>
 IS REACHED.
 PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED
 FEATURE PACKAGES.
 PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO ADD
 MORE SUBSCRIBERS.
 ***** PLEASE NOTE : *****
 CHANGE-CODEW:TRIAL=YES;
 MAY ACTIVATE A TIME LIMITED TRIAL MODE.

F12: <xxxxxxxxxxxx> INADMISSIBLE DEVICE COMBINATION SPECIFIED IN DVCFIG PARAMETER

F13: <xxxxxxxxxxxx> INSUFFICIENT MEMORY SPACE
 (ADD-DIMSU:<param> > <nnnnn>;)
 <param>: API/AUXDIGI/BLK100/BUS/CALOG/CRICC/DSSNA/DTILTG/ESSTN/
 LODEN/LODS0/OPTCC/OPTEXP/STMACIR/STN/SU/S2BCHL/WSPROT

F14: <xxxxxxxxxxxx> THIS STATION IS ASSIGNED IN THE EXECUTIVE TELEPHONE SYSTEM
 <nnnn>.
 CHANGE THE EXECUTIVE CONFIGURATION BEFORE REPEATING THIS COMMAND

F15: <xxxxxxxxxxxx> THIS STATION IS ASSIGNED IN THE CALL PICKUP GROUP <nnnn>.
 CHANGE THE CALL PICKUP GROUP ENTRY BEFORE REPEATING THIS COMMAND

F16: <xxxxxxxxxxxx> THIS STATION IS ASSIGNED IN A <VOICE/FAX/DTE> HUNTING GROUP.
 CHANGE THE HUNTING GROUP ENTRY BEFORE REPEATING THIS COMMAND

F18: <xxxxxxxxxxxx> THE STATION IS ASSIGNED IN NIGHT OPTION <nnnn>.
 CHANGE THE NIGHT OPTION ENTRY BEFORE REPEATING THIS COMMAND

F19: <xxxxxxxxxxxx> THIS STATION IS NOT AUTHORIZED FOR THE COMMUNICATION SERVICE
 <FAX/DTE/MSN>

F20: <xxxxxxxxxxxx> HMUSIC <nnnn> IS NOT YET ASSIGNED
 (ADD-RCSU:RECAPL=HMUSIC,)

F21: <xxxxxxxxxxxx> THE MAXIMUM PLANNED NUMBER OF STATIONS HAS BEEN REACHED.
 THE NUMBER OF STATIONS ALLOWED CAN BE INCREASED WITH AMO DIMSU

F22: <xxxxxxxxxxxx> THE <BASICSVC/TSI> VALUE <xxxxxxxx> <HAS BEEN ENTERED MORE THAN
 ONCE/IS OBSOLETE/IS INVALID/HAS ALREADY BEEN USED>

F23: <xxxxxxxxxxxx> THE NEW NUMBER IS ALREADY ASSIGNED

F24: <xxxxxxxxxxxx> PEN ERROR; PERMISSIBLE RANGE FOR LTG: 1-<ltg_max>

F25: <xxxxxxxxxxxx> PEN ERROR; PERMISSIBLE RANGE FOR LTU: 1-<ltu_hhs_max>, 17-99

F26: <xxxxxxxxxxxx> PEN ERROR; SLOT <DOES NOT EXISTS/INVALID>

F27: <xxxxxxxxxxxx> PEN ERROR; PERMISSIBLE CIRCUIT NUMBERS:
 <circno_min>, ..., <circno_max>

F28: <xxxxxxxxxxxx> THIS STATION CANNOT BE DELETED WHILE IT BELONGS
 TO A COM GROUP
 (DISP-COMGR:TYPE=STN,STNO=@@@@@@@@@@@@@@; RESP.
 DEL-COMGR:STNO=@@@@@@@@@@@@@@;)

F29: <xxxxxxxxxxxx> THE DEVICE CONFIGURATION DVCFIG DOES NOT MATCH THE MODULE
 OF THE SPECIFIED PEN

F30: <xxxxxxxxxxxx> THE <STATION/MAIN STATION NUMBER> IS STILL BUSY FOR CALL
 PROCESSING. REPEAT COMMAND LATER OR DEACTIVATED IMMEDIATLY
 (<I.E. REPEAT COMMAND BUT USE OFFTYPE=DI /
 DEACT-DSSU:OFFTYPE=DI,TYPE=STNO,STNO=@@@@@@@@@@@@@@;>)

F32: <xxxxxxxxxxxx> THE <STATION/MAIN STATION NUMBER> MUST BE DEACTIVATED
 (<I.E. REPEAT COMMAND BUT USE OFFTYPE=DC/DI /
 DEACT-DSSU:OFFTYPE=DC,TYPE=STNO,STNO=@@@@@@@@@@@@@@;>)

F33: <xxxxxxxxxxxx> <FPROT/DPROT>=SBNIBRI CANNOT BE SPECIFIED IF OPT=CMI

F34: <xxxxxxxxxxxx> EITHER NO MODULE OR A MODULE WITHOUT CIRCUITS
 HAS BEEN ASSIGNED FOR THE SPECIFIED PEN
 (DISP-BCSU:TYPE=TBL,LTG=<g>,LTU=<uu>,SLOT=<sss>;)

Error Messages and Advisories

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F60: <xxxxxxxxxxxx> ALARMNO <nnnn> IS NOT YET ASSIGNED (AMO VADSU).

F61: <xxxxxxxxxxxx> AN OPTISET/OPTIP500/OPTIIP NOT EQUIPPED WITH A DISPLAY (DIGNODIS=Y) MAY NOT BE RESERVED AS A SECRETARIAL STATION (SECR=Y)

F62: <xxxxxxxxxxxx> DIGNODIS=Y MAY NOT BE SET
SINCE STATION HAS BEEN RESERVED AS A SECRETARY
OR ASSIGNED IN AN EXEC/SECR CONFIGURATION.

F63: <xxxxxxxxxxxx> A KEYSYSTEM MAY NOT BE RESERVED AS A SECRETARIAL STATION
(DISP-KCSU:STNO=@@@@@@@@@@;)

F65: <xxxxxxxxxxxx> FOR THE CONFIGURATION WITH MAINO <yyyyyyyyyyyy> NO FUNCTIONAL SERVICES HAVE BEEN ASSIGNED - THEREFORE MSN STATION NUMBERS CANNOT BE ASSIGNED.

F66: <xxxxxxxxxxxx> FOR THE CONFIGURATION WITH MAINO <yyyyyyyyyyyy> A FUNCTIONAL DEVICE HAS BEEN ASSIGNED ONLY FOR SERVICE = VOICE - THEREFORE MSN STATION NUMBERS CANNOT BE ASSIGNED.

F67: <xxxxxxxxxxxx> ONLY ONE OF THE ANALOG NON-VOICE TERMINALS
ANADTE, ANAFAX CAN BE SPECIFIED

F68: <xxxxxxxxxxxx> THE STATION CANNOT BE PROCESSED BECAUSE THE NECESSARY
TERMINAL ADAPTER <OPTIABA/OPTISPA> FOR CONNECTING
<ANALOG DEVICES/THIS OPTISET/THIS OPTIP500>
MUST NOT BE PLUGGED AT MAIN STATION NUMBER <yyyyyyyyyyyy> TOGETHER
WITH THE ALREADY EXISTING TERMINAL ADAPTER <OPTISPA/OPTIABA>

F69: <xxxxxxxxxxxx> STNO IS A MSN STATION NUMBER
WHICH CAN ONLY BE DELETED WITH SVC=MSN.

F70: <xxxxxxxxxxxx> STNO IS A MSN SECONDARY STATION NUMBER
WHICH CAN ONLY BE DELETED WITH SVC=ALL RESP. SVC=MSN.

F71: <xxxxxxxxxxxx> STNO IS MAIN STATION NUMBER OF A <BUS/OPTI/CMI> CONFIGURATION
AND THEREFORE CANNOT BE DELETED WITH SVC=MSN -
ALL OTHER SVC-VALUES ARE POSSIBLE IF CORRESPONDING
DEVICES ARE ASSIGNED.

F72: <xxxxxxxxxxxx> STNO IS NO MSN STATION NUMBER
AND THEREFORE CANNOT BE DELETED WITH SVC=MSN -
ALL OTHER SVC-VALUES ARE POSSIBLE IF CORRESPONDING
DEVICES ARE ASSIGNED.

F73: <xxxxxxxxxxxx> STNO HAS ALREADY BEEN ASSIGNED AS A MSN STATION NUMBER
FOR <THE SERVICE/THE SERVICES> <VOICE/FAX/DTE>.

F74: <xxxxxxxxxxxx> THIS STATION CANNOT BE PROCESSED WHILE THE RELATED
MSN STATION NUMBER <yyyyyyyyyyyy> IS STILL ASSIGNED IN A
<VOICE/FAX/DTE> HUNTING GROUP.

F76: <xxxxxxxxxxxx> MEMORY SPACE FOR COMGRP @@@@ IS NOT YET ASSIGNED
(ADD-DIMSU:COMGR=@@@@;)

F77: <xxxxxxxxxxxx> THE STATION CANNOT BE PROCESSED BECAUSE THE REQUIRED
CONFIRMATION BY CALL PROCESSING HAS NOT BEEN RECEIVED YET
- REPEAT COMMAND LATER

F78: <xxxxxxxxxxxx> THE STATION CANNOT BE PROCESSED WHILE STILL ENTERED
AS AN ACD ROUTING DESTINATION
(DISP-ACDRT:ART=<nnnnn>;)

F79: <xxxxxxxxxxxx> THE STATION CANNOT BE PROCESSED WHILE ACD ATTRIBUTES
ARE STILL SET
(CHANGE-SDAT:STNO=<xxxxxxxxxxxx>,TYPE=ATTRIBUT,
DATTR=SUPER&AGENT&AUTOLOG&CAF;)

F80: <xxxxxxxxxxxx> THE STATION CANNOT BE PROCESSED WHILE STILL LOGGED IN
AS A TELEWORKER - SIGNOFF VIA TELEWORKING SERVER BEFORE REPEATING THIS COMMAND

F81: <xxxxxxxxxxxx> STNO IS SETUP WITH DVCFIG=<S0PP/S2PP/ANADEV>
AND CAN ONLY BE DELETED IF SVC=ALL.

F82: <xxxxxxxxxxxx> FOR PARAMETER IPPASSW EITHER "NONE" OR AT LEAST
6 ALPHA-NUMERICAL CHARACTERS MUST BE ENTERED

F83: <xxxxxxxxxxxx> THE LAST FUNCTIONAL TERMINAL CANNOT BE DELETED SINCE THE FOLLOWING
ASSOCIATED MSN NUMBERS CANNOT BE DISABLED AND THEREFORE NOT BE
DELETED: <yyyyyy> <zzzzzz> ...

SBCSU - Station and S0 bus Configuration of SWU

Error Messages and Advisories

- F84: <xxxxxxxxxxxx> WITH OPT=<OPTI/OPTIEXP> FOR DVCFIG=<OPTISET/OPTIP500/OPTIIP/ANAEV> ONLY TSI=<1/8> IS ALLOWED.
- F87: <xxxxxxxxxxxx> FUNCTIONAL TERMINALS CAN ONLY BE SET UP UNDER ONE STATION NUMBER IN THE OPTISET CONFIGURATION. THIS IS THE REASON WHY THEY MUST BE SET UP UNDER STATION NUMBER <zzzzzzzzzzzz> . TO BE ABLE TO ALSO ACCESS THESE TERMINALS UNDER <xxxxxxxxxxxx>, THE COMMAND
ADD-SBCSU:STNO=<xxxxxxxxxxxx>,OPT=MSN,MAIN0=<yyyyyyyyyyyy>;
MUST BE EXECUTED SUBSEQUENTLY.
- F88: <xxxxxxxxxxxx> AN <OPTISET/OPTIIP> CONFIGURATION ON THE <WAML (FCTID=2)/SLMQ3/STMI-HFA (FCTID=3)> MODULE CANNOT BE EXTENDED TO INCLUDE ADDITIONAL DEVICES.
- F89: <xxxxxxxxxxxx> A MAXIMUM NUMBER OF <ONE/2> <ANALOG DEVICE/OPTISET DEVICES> CAN BE SET UP IN THE OPTISET CONFIGURATION.
- F90: <xxxxxxxxxxxx> FOR A SIGNED OFF STATION DVCFIG=<OPTIIP/SET600/DTE/FAX/BASE/RADIO/CMIAADM/EXTLINE> IS NOT ALLOWED.
- F91: <xxxxxxxxxxxx> THE TERMINAL ADAPTER OPTIDA CANNOT BE DELETED, BECAUSE AT MAIN STATION <yyyyyyyyyyyy> THERE IS NO SOCKET LEFT FOR THE OPTISOA TERMINAL ADAPTER NEEDED FOR CONNECTING S0 DEVICES
- F93: <xxxxxxxxxxxx> OPTICOM=Y CANNOT BE SET UNLESS ALL KEY FUNCTIONS OF THE ADD-ON DEVICES 3 AND 4 ARE SET TO "VACANT" (AMO TAPRO)
- F94: <xxxxxxxxxxxx> THE MAIN STATION NUMBER MAY NOT BE SIGNED OFF.
- F95: <xxxxxxxxxxxx> THE STMA MODULE DATA HAS NOT YET BEEN SET UP
(ADD-BDAT:LTG=<g>,LTU=<uu>,SLOT=<sss>,TYPE=STMA,OPMODE=GLOBAL,)
- F96: <xxxxxxxxxxxx> WITH VPI=<nnnnn>, FOR THIS STMA MODULE THE VALUE VCI=<mmmmmm> IS NOT WITHIN THE PERMISSIBLE RANGE OF <aaaaa> AND <zzzzz>
(DISP-BDAT:LTG=<g>,LTU=<uu>,SLOT=<sss>,TYPE=STMA,OPMODE=GLOBAL;)
- F97: <xxxxxxxxxxxx> FOR THIS STMA MODULE THE COMBINATION
VPI=<nnnnn> AND VCI=<mmmmmm> ALREADY EXISTS :
- | PEN | STNO | VPI | VCI |
|----------------|----------|---------|------------|
| <g-uu-sss-ccc> | <xxxxxx> | <nnnnn> | <mmmmmmmm> |
| <g-uu-sss-ccc> | <xxxxxx> | <nnnnn> | <mmmmmmmm> |
| : | : | : | : |
| <g-uu-sss-ccc> | <xxxxxx> | <nnnnn> | <mmmmmmmm> |
| <g-uu-sss-ccc> | <xxxxxx> | <nnnnn> | <mmmmmmmm> |
- F98: <xxxxxxxxxxxx> THE <STMIHFA1/STMIHFA2> BOARD CONFIGURATION DATA HAS NOT YET BEEN SET UP
(ADD-HFAB:MTYPE=<STMIHFA1/STMIHFA2>,LTU=<uu>,SLOT=<sss>,<SMODE=NORMAL,> IPADDR=??,<NETMASK=??,>)
- F99: <xxxxxxxxxxxx> THE STATION CANNOT BE ASSIGNED BECAUSE NO VIRTUAL NODE ID HAS BEEN DEFINED YET
(ADD-KNDEF:TYPE=OWN,NNO=??,)
- F100 <xxxxxxxxxxxx> NO PARAMETERS PRESENT TO CHANGE STATION DATA
- F101: <xxxxxxxxxxxx> ^vartxt01^=^vartxt02^ CANNOT BE SPECIFIED IF
^vartxt03^=^vartxt04^ (AMO ^vartxt05^)
- F103: ITR GROUP OF <xxxxxxxxxxxx> CANNOT BE CHANGED SINCE IT IS MEMBER OF AN ONS GROUP.
- F104: COSX GROUP OF <xxxxxxxxxxxx> CANNOT BE CHANGED SINCE IT IS MEMBER OF AN ONS GROUP.
- F105: DPLN GROUP OF <xxxxxxxxxxxx> CANNOT BE CHANGED SINCE IT IS MEMBER OF AN ONS GROUP.
- F106: SECR PARAMETER OF <xxxxxxxxxxxx> CANNOT BE CHANGED SINCE IT IS MEMBER OF AN ONS GROUP.

166.4.2 Advisories

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SBCSU - Station and S0 bus Configuration of SWU

Error Messages and Advisories

H09: <xxxxxxxxxxxx> THE STATION IS NOT ACTIVATED <(SIGNED OFF STATION)>

H10: <xxxxxxxxxxxx> DOWNLOAD OF <ASYNCT/EXTBUS/IPPASSW/LWPAR/NEWNO/PERMACT/PATTERN/
VCI/VPI> CHANGE TO THE MODULE
WILL BE INITIATED AFTER DEACTIVATION AND RE-ACTIVATION
OF THE CIRCUIT
(RESTART-DSSU:TYPE=PEN,PEN1=<g-uu-sss-ccc>;)

H11: <xxxxxxxxxxxx> NO STATION HAS BEEN ASSIGNED

H12: ***** PLEASE NOTE : *****
<xxxxxxxxxxxx> <PACKAGE 'FLEX LICENSE' / PACKAGE 'CORDLESS E' > EXCEEDED :
<OPTISET/OPTIP500/OPTIIP/.../ANADTE> IS MARKED AS TRIAL ENTITY.
MARKED DEVICES WILL BE BLOCKED, IF TRIAL MODE EXPIRES
WITHOUT SUFFICIENT LICENSES (APPROX. @@@@ DAYS LEFT).

H12: ***** PLEASE NOTE : *****
<xxxxxxxxxxxx> <PACKAGE 'FLEX LICENSE' / PACKAGE 'CORDLESS E' > EXCEEDED :
<OPTISET/OPTIP500/OPTIIP/.../ANADTE> IS BLOCKED
BECAUSE TRIAL MODE HAS EXPIRED WITHOUT SUFFICIENT LICENSES

H13: <xxxxxxxxxxxx> <STMI-HFA/STMI2-HFA> MODULE IN LTU <uu>, SLOT <sss> WILL BE
IGNORED, BECAUSE THE <STMIHFA1/STMIHFA2> BOARD CONFIGURATION DATA
HAS NOT YET BEEN SET UP
(ADD-HFAB:MTYPE=<STMIHFA1/STMIHFA2>,LTU=<uu>,SLOT=<sss>,
<SMODE=NORMAL,> IPADDR=??, <NETMASK=??,>)

H14: <xxxxxxxxxxxx> PARAMETER <param> DOES NOT MATCH TERMINAL <dvcfig>
AND WILL THEREFORE BE IGNORED
<param> :APICLASS|APMOBUSR|BASICSVC|CALLOG|CBKBMX|DCFWSBUSY|DFSVCANA|
DIGNODIS|DNIDSP|DOPTIDX|DPROT|DSSTNA|DSSTNB|DTMFBK|DTMFCTRD|
EXTBUS|FLASH|FOPTIDX|FPROT|HEADSET|HMUSIC|HSKEY|IPCODEC|
IPPASSW|LWPAR|OPTIDX|PATTERN|PMIDX|RCBKB|RCBKNA|REP|SECAPPL|
SOPTIDX|SPROT|STD|TEXTSEL|VCI|VPI

H15: THE STNO <xxxxxxxxxxxx> HAS THE NEW NUMBER <yyyyyyyyyyyy>

H16: A RANGE INPUT FOR THE PARAMETER STNO MUST NOT COMPRISE MORE THAN 600
STATIONS. THE RANGE HAS BEEN TRUNCATED TO <xxxxxxxxxxxx>-<yyyyyyyyyyyy> FOR
PROCESSING

H17: <xxxxxxxxxxxx> SPECIFIED STATION(S) NOT ASSIGNED BY AMO SBCSU

H18: <xxxxxxxxxxxx> NO STATION ASSIGNED BY AMO SBCSU IN THE PABX

H19: @@@@ THE ADDITIONAL ADDED FUNCTIONAL TERMINALS ARE NOT ACTIVATED.
DEACTIVATE AND REACTIVATE THE STATION WITH AMO DSSU

H20: <xxxxxxxxxxxx> STMI2-HFA MODULE IN LTU <uu>, SLOT <sss> WILL BE IGNORED,
BECAUSE IT IS CURRENTLY DEFINED AS A STANDBY BOARD,
WHICH CANNOT BE USED FOR SUBSCRIBER CONFIGURATION
(DISP-HFAB:MTYPE=STMIHFA2,LTU=<uu>,SLOT=<sss>;)

THE PARAMETERS OF THE VOICE TERMINAL WILL BE USED

H21: <xxxxxxxxxxxx> PARAMETER OPT IS NOT REQUIRED
AND WILL THEREFORE BE IGNORED.

H22: <xxxxxxxxxxxx> MSN STATION NUMBER HAS BEEN ASSIGNED
FOR <THE SERVICE/THE SERVICES> <VOICE/FAX/DTE>.

H23: <xxxxxxxxxxxx> MSN STATION NUMBER HAS BEEN DELETED
FOR <THE SERVICE/THE SERVICES> <VOICE/FAX/DTE>.

H24: <xxxxxxxxxxxx> MSN STATION NUMBER HAS BEEN EXTENDED
BY <THE SERVICE/THE SERVICES> <VOICE/FAX/DTE>.

H25: <xxxxxxxxxxxx> MSN STATION NUMBER HAS BEEN SHORTENED
BY <THE SERVICE/THE SERVICES> <VOICE/FAX/DTE>.

H26: <xxxxxxxxxxxx> MSN STATION NUMBER HAS BEEN DELETED, SINCE THERE ARE
NO FUNCTIONAL SERVICES LEFT AT THE CONFIGURATION WITH MAINO <yyyyyyyyyyyy>.

H27: <xxxxxxxxxxxx> ALL MSN STATION NUMBERS FOR STNO <yyyyyyyyyyyy> HAVE BEEN DELETED,
SINCE THERE ARE NO FUNCTIONAL SERVICES LEFT.

- H28: <xxxxxxxxxxxx> PARAMETER TSI IS NOT ALLOWED FOR MSN STATION NUMBERS
(ONLY FOR MSN SECONDARY STATION NUMBERS) AND WILL BE IGNORED.
- H29: ***** PLEASE NOTE : *****
<xxxxxxx> FOR THE IP DEVICE THE <NEW> STNO <yyyyyyyyyyyy> MUST ALSO BE SET !

- H31: <xxxxxxxxxxxx> PARAMETER <param> CAN ONLY BE CHANGED
FOR THE MAIN STATION <yyyyyyyyyyyy> AND WILL THEREFORE BE IGNORED.
<param> :ALARMNO|DOPTIDX|DPLN|DPROT|FOPTIDX|FPROT|OPTIDX|PROT|
SOPTIDX|SPROT
- H32: <xxxxxxxxxxxx> PARAMETER <param> CANNOT BE SPECIFIED WITH MSN NUMBERS
AND WILL THEREFORE BE IGNORED.
<param> :DIGNODIS|DSSTNA|DSSTNB|EXTBUS|IDCR|PERMACT|REP|SECR
- H33: <xxxxxxxxxxxx> PARAMETER <param> WAS ADAPTED AUTOMATICALLY
FOR ALL ASSOCIATED MSN NUMBERS.
A LIST OF ALL AFFECTED MSN NUMBERS CAN BE FOUND USING:
DISP-SBCSU:STNO=<yyyyyyyyyyyy>,TYPE=<BUS/FPP>;
<param> :ALARMNO|BASICSVC|DPLN|OPT|PROT
- H35: <xxxxxxxxxxxx> THE TERMINAL ADAPTER <OPTISPA/OPTISOA>
FOR CONNECTING <THIS OPTISET/THIS OPTIP500/S0 DEVICES>
MUST BE PLUGGED AT MAIN STATION NUMBER <yyyyyyyyyyyy> .
- H36: <xxxxxxxxxxxx> THE TERMINAL ADAPTER <OPTISPA/OPTISOA/OPTIABA>
PLUGGED AT MAIN STATION NUMBER <yyyyyyyyyyyy>
FOR CONNECTING <THIS OPTISET/THIS OPTIP500/S0 DEVICES/
ANALOG DEVICES> IS NO LONGER NEEDED.
- H37: <xxxxxxxxxxxx> PARAMETER <ASYNCT/IPPASSW/PATTERN/VCI/VPI>
DOES NOT MATCH MODULE <xxxxxxxxxxxxxxxxxxxxxxxxxxxx>
OF THE CORRESPONDING PEN AND WILL THEREFORE BE IGNORED.
- H38: <xxxxxxxxxxxx> PARAMETER <ASYNCT/EXTBUS/PATTERN/PEN/TSI/VCI/VPI>
WILL BE IGNORED
FOR <CONN=<ATMP5W/DIR/PNT> / INS=SIGNOFF>
- H39: <xxxxxxxxxxxx> FOR TYPE=SVC THE PREVIOUS VALUE OPTIDA=<old_value> MAY NOT BE
EXCEEDED.
A LOWER VALUE CAN ONLY BE SET BY USING THE COMMAND
CHANGE-SBCSU:STNO=<xxxxxxxxxxxx>,OPT=OPTI,OPTIDA=<new_value>;
- H39: <xxxxxxxxxxxx> FOR TYPE=SVC THE PREVIOUS VALUE
<BASICSVC/OPTIDA/OPTIDA>=<old_value> MAY NOT BE ALTERED.
A NEW VALUE CAN ONLY BE SET BY USING THE COMMAND
CHANGE-SBCSU:STNO=<xxxxxxxxxxxx>,OPT=<FBUS/OPTI>,
<BASICSVC/OPTIDA/OPTIDA>=<new_value>;
- H40: <xxxxxxxxxxxx> FOR OPTICOM=Y, REP=2 IS SET
- H41: <xxxxxxxxxxxx> PARAMETER REP IS IGNORED
BECAUSE OPTICOM=Y IS ALREADY SET
- H42: <xxxxxxxxxxxx> ALL SIGNED OFF TSIS AT PEN <g-uu-sss-ccc> HAVE BEEN RELEASED
- H43: %%%%%%%%% PLEASE NOTE : %%%%%%%%%
<xxxxxxx> THE STATION IS IN AN UNDEFINED SIGN OFF STATE.
PLEASE SIGN OFF USING
CHANGE-DSSU:TYPE=SIGNOFF,STNO=<xxxxxxx>;
%%%%%%%%%
- H44: <xxxxxxxxxxxx> DEACTIVATION OR DOWNLOADING IS NOT REQUIRED -
PARAMETER OFFTYPE WILL BE IGNORED.
- H45: <xxxxxxxxxxxx> DEFAULT VALUE SLKTYPE=SLKSTNO HAS BEEN SET FOR EVERY NEW PUS RESP.
RNGXFER KEY AND CAN BE MODIFIED VIA
CHANGE-CHESE:GRNO=@@@@@,TYPE=EXECSLK,SLKTYPE=??, ...; RESP.
CHANGE-CHESE:GRNO=@@@@@,TYPE=SECRSLK,SLKTYPE=??, ...;
- H47: <xxxxxxxxxxxx> THE PARAMETER TEXTSEL IS IGNORED BECAUSE THE MODULE
DOES NOT SUPPORT THE MULTI-LINGUAL FUNCTION

SBCSU - Station and S0 bus Configuration of SWU

Error Messages and Advisories

H48: <xxxxxxxxxxxx> THE PARAMETER TEXTSEL IS NOT EFFECTIVE BECAUSE THIS LANGUAGE HAS NOT BEEN SET UP IN THE CENTRAL SYSTEM DATA (AMO ZAND, PARAMETER TEXTSEL)

H50: <xxxxxxxxxxxx> ... STILL WAITING FOR A CONFIRMATION BY CALL PROCESSING (MAXIMUM 120 SEC)

H51: ***** PLEASE NOTE : *****
<xxxxxxxxxxxx> FOR DVCFIG = <OPTISET/OPTIP500>< DUE TO IDCRC=Y >
ONLY A MAXIMUM OF REP = <3/1> IS POSSIBLE.
ALL OTHER ADD-ON UNITS CANNOT BE OPERATED.

H52: ***** PLEASE NOTE : *****
<xxxxxxxxxxxx> FOR DVCFIG=<OPTISET/OPTIP500/OPTIIP> ONLY 2 TERMINAL ADAPTERS
CAN BE PLUGGED AT ONE TIME.

H53: <xxxxxxxxxxxx> DOWNLOAD OF <ASYNCT/EXTBUS/IPPASSW/LWPAR/NEWNO/PATTERN/PERMACT/
VCI/VPI> CHANGE TO THE MODULE
FOR PEN <g-uu-sss-ccc> HAS BEEN INITIATED

H54: <xxxxxxxxxxxx> POSITIVE RESPONSE FROM DIAG-SWU: THE ENTRY IN CORDLESS
PHONEBOOK HAS BEEN SUCCESSFULLY ^vartxt01^.

H55: <xxxxxxxxxxxx> NEGATIVE RESPONSE FROM DIAG-SWU: THE ENTRY IN CORDLESS
PHONEBOOK COULD NOT BE ^vartxt01^.

H56: <xxxxxxxxxxxx> UPDATE MESSAGE TO PHONEBOOK APPLICATION (PBP_APP)
WAS NOT SENT (APPLICATION IS NOT CONFIGURED)

H59: <xxxxxxxxxxxx> THE SUBSCRIBER BELONGS TO VIRTUAL NODE <xxxxxxxxxxxx>

H60: <xxxxxxxxxxxx> DPLN <xxx> WILL BE COPIED FROM MODE <xxxxxxxxxxxx>.

H61: IF PASSWD OR USERID IS SPECIFIED, SECZONE SHOULD BE
SPECIFIED TOO.

H62: FOR SIP SUBSCRIBERS PARAMETER MBCHL (MULTIPLE BCHANNEL) MUST BE
SET IN AMO-SDAT.

H63: THIS DATA CHANGE WILL BE INITIATED AFTER
DEACTIVATION AND RE-ACTIVATION OF THE CIRCUIT.
(RESTART-DSSU:TYPE=PEN,PEN1=<xx>-<xx>-<xxx>-<xxx>;)

H64: THE EXISTING DPLN OF THE STATION IS NOT IN ADPLN OF THE NEW NODE,
SO IT IS INTERNALLY SET TO THE DPLN OF THE NEW NODE.

H65: <xxxxxxxxxxxx> PARAMETER TEXTSEL IS NOT EFFECTIVE BECAUSE THIS LANGUAGE
HAS NOT BEEN SET UP IN AP SPECIFIC DATA
(AMO UCSU,PARAMETER TEXTSEL)

H66: The special character 'space' in IPPASSW field was ignored.

H99: <xxxxxxxxxxxx> <xxxxxxxx>=<xxxxxxxx> IS NOT SUPPORTED <xxxxxxxxxxxxxxxx>

166.4.3 Use of the Error Messages and Advisories for each AMO action

ADD	:	F01,	F02,	F03,	F04,	F05,	F06,	F08,	F10,	F11,	F12,	F13,	F20,	F21,	F22,	F24,	F25,	F26,	F27,	F29,	F34,	F35,	F36,	F39,	F40,	F41,	F42,	F44,	F45,	F46,	F47,	F48,	F49,	F51,	F53,	F54,	F55,	F56,	F58,	F60,	F61,	F65,	F66,	F67,	F68,	F73,	F74,	F75,	F82,	F84,	F87,	F88,	F89,	F90,	F94,	F95,	F96,	F97,	F98,	F99,	F114,	F115,	F116	H01,	H02,	H04,	H05,	H08,	H09,	H13,	H14,	H16,	H19,	H20,	H22,	H24,	H28,	H29,	H35,	H37,	H38,	H39,	H40,	H42,	H47,	H48,	H51,	H52,	H64,	H100
CHANGE	:	F01,	F02,	F03,	F09,	F13,	F20,	F23,	F30,	F32,	F35,	F39,	F40,	F45,	F49,	F51,	F52,	F55,	F56,	F57,	F59,	F60,	F61,	F62,	F63,	F78,	F79,	F82,	F91,	F93,	F96,	F97,	F100,	F114,	F115,	F116	H01,	H03,	H07,	H10,	H14,	H15,	H16,	H21,	H29,	H31,	H32,	H33,	H35,	H37,	H38,	H40,	H41,	H44,	H47,	H48,	H51,	H52,	H53,	H64,	H100																													
DELETE	:	F01,	F03,	F14,	F15,	F16,	F18,	F19,	F28,	F30,	F32,	F39,	F40,	F43,	F50,	F51,	F69,	F70,	F71,	F72,	F78,	F79,	F80,	F81,	F83	H01,	H06,	H16,	H23,	H25,	H26,	H27,	H36,	H42																																																								
DISPLAY	:	H01,	H11,	H16,	H17,	H18																																																																																				
REGENERATE	:	H01																																																																																								

SBCSU - Station and S0 bus Configuration of SWU

Error Messages and Advisories

167 SCREEN - Screening of calling or connected numbers

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

With the AMO SCREEN the screening data and screening patterns are configured to a virtual source node number SNNO. The connection between screening patterns and the source node number is the screening pattern plan which the screening patterns have been assigned to. The configured data and patterns will be used to check the screening of a calling or connected number to a E-DSS1 connection. The number will be assigned to the virtual node number by the B-channel (AMO TDCSU: NNO, see also AMO KNDEF: TYPE=FOREIGN).

parameter SCRP

The following rules must be obeyed for the screening patterns:

A screening pattern consists of up to 22 characters, following characters are valid: "0" to "9" and "*", the wildcard "x" and "#". After the character "#" no other characters may be entered. After the character "x" only "x" or "#" may follow.

parameter SNNO

The following rules must be obeyed for the virtual source node number:

The SNNO consists of up to 3 levels in the form <level2> - <level1> - <level0>.

Possible Values:

level0 : 0-999

level1 : 0-253

level2 : 0-29

The input 0 for SNNO and the form x-0-x even with valid values for level2 and level0 will be rejected.

167.1 Restrictions

This description is valid from HiPath 4000 V1.0

167.2 Interrelationships

AMO DIMSU	Dimensioning of features, switching unit
AMO TDCSU	Configuration of digital circuits For CP the used circuit must be configured with the virtual node number (parameter NNO) so the screening data can be used.

167.3 Functions of the AMO

- [ADD-SCREN](#) Create screening data or patterns
- [CHANGE-SCREN](#) Change screening data
- [DELETE-SCREN](#) Remove screening data or patterns
- [DISPLAY-SCREN](#) Interrogate screening data or patterns
- [REGENERATE-SCREN](#) Regenerate screening data or patterns

167.3.1 ADD-SCREN

This action can:

- assign up to 200 screening patterns (max. 10/command) to a screening pattern plan,
- assign the screening data and/or the screening pattern plan to a source node number.

After performing the data for a source node number an advisory message is displayed.

First the screening patterns must be assigned to a plan which then can be assigned to one or more source node numbers. If a not existing plan is entered, when configuring the screening data, the plan will be ignored.

If no screening pattern plan SCRPPPLAN but the type of plan SCRPTON is entered, the SCRPTON will be ignored.

If no default number operator DNO but the type of default number operator DNOTON is entered, the DNOTON will be ignored.

Procedure overview

Commandcode	Parameter

ADD-SCREEN	<pre> TYPE=SCRPATT, SCRPLAN=<number>, SCR=<string>; | TYPE=SCRDATA, SNNO=<number>, [DNO=<key-num>], [DNOTON=<param>], [TOSCAL=<param>], [PRESCAL=<param>], [TOSCOL=<param>], [PRESCOL=<param>], [SCRPLAN=<number>], [SCRPTON=<param>], [LOCDEST=<key-num>]; </pre>

Examples

1. Assign five valid screening patterns to screening pattern plan 35

Input:

```
ADD-SCREEN:TYPE=SCRPATT,SCRPLAN=35,
```

```
SCR=<00994873&337467883934000&783*7784X&987564566677XX#&89989899
0004455#>;
```

2. Assign some screening data (DNO, DNOTON, TOSCOL, SCRPLAN, SCRPTON) to source node number 12-343

Input:

```
ADD-SCREEN:TYPE=SCRDATA,SNNO=12-
343,DNO=0099487*6778,DNOTON=UNKNOWN,TOSCOL=SCREEN,
SCRPLAN=35,SCRPTON=INTERNAT;
```

167.3.2 CHANGE-SCREEN

This action changes the screening data and/or the screening pattern plan of a source node number.

Before the screening pattern plan of a source node number can be changed the plan must have been configured with screening patterns.

If no screening pattern plan SCRPLAN but the type of plan SCRPTON is entered, the change command will not be performed.

If no default number operator DNO but the type of default number operator DNOTON is entered, the change command will not be performed.

Procedure overview

Commandcode	Parameter
CHANGE-SCREEN	<pre> SNNO=<number>, {(min 1) [DNO=<key-num>], [DNOTON=<param>], [TOSCAL=<param>], [PRESCAL=<param>], [TOSCOL=<param>], [PRESCOL=<param>], [SCRPLAN=<number>], [SCRPTON=<param>], [LOCDEST=<key-num>]}; </pre>

Example

- 1. Change the screening data (DNO, TOSCAL, SCRPTON) of source node number 12-343.

Input:

```
CHANGE-SCREN:SNNO=12-343,DNO=56667*88787,TOSCAL=SPECARR,SCRPTON=NATIONAL;
```

167.3.3 DELETE-SCREN

This action can:

- remove seperate screening patterns (max. 10/commando) or the screening pattern plan itself including all patterns,
- remove seperate screening data and/or the screening pattern plan or the source node number itself including all data.

If certain screening data has been deleted for a source node number and therefore no data is configured for this number the source node number will be deleted and an advisory message displayed.

If a screening pattern plan SCRPPPLAN has been deleted and it is still assigned to one or more source node number(s) this assignment(s) will be deleted. If the type of the plan SCRPTON is configured, it will be deleted too.

If the default number operator DNO has been deleted and the type of this number DNOTON is still configured, the type will be deleted.

Procedure overview

Commandcode	Parameter
DELETE-SCREN	TYPE=SCRPATT, SCRPPPLAN=<number>, [SCRP=<string>]; | TYPE=SCRDATA, SNNO=<number>, [DATATYPE=<param>];

Examples

- 1. Delete the screening pattern plan 2

Input:

```
DEL-SCREN:TYPE=SCRPATT,SCRPPPLAN=2;
```

- 2. Delete seven screening patterns of screening pattern plan 1100

Input:

SCRIP=0998883&8822*9989&989XXX&765X#&876454#&7898765434567878765432&X;

SCREN - Screening of calling or connected numbers
Functions of the AMO

SCREENING PATTERN TABLE			

SCREENING PATTERN PLAN: 5			

SCREENING PATTERN:			
411495311	41149532X#	1156334XXX#	
X	4114457685889034456789	55678#	
456			

SCREENING PATTERN PLAN: 7			

SCREENING PATTERN:			
411495311	41149XXXX#	1156334#	
1X	4114457*85886789	678#	
411495312	4112X#	1156334X#	
41123578X	4114457685889034456789	678855678#	
41149531#	41149532X#	1156334XXX#	
43XXX	41144XXX	5678#	
4114951	411495*XX#	1156334XXX	
X	576858*9034456789	5675678#	
41149531188	41149532#	11563XXXXX#	
X#	41144890*4456789	55678	
489			

SCREENING PATTERN PLAN: 123			

SCREENING PATTERN:			
X#			

2. Interrogate two screening pattern plans (5 and 123)

Input:

DISP-SCREN:TYPE=SCRPATT,SCRPPPLAN=5&123;

Output:

SCREEN - Screening of calling or connected numbers

Functions of the AMO

SCREENING PATTERN TABLE		

SCREENING PATTERN PLAN:	5	

SCREENING PATTERN:		
41149531188	41149532X#	1156334XXX#
X	4114457685889034456789	55678#
456		

SCREENING PATTERN PLAN:	123	

SCREENING PATTERN:		
X#		

3. Interrogate all source node numbers

Input:

DISP-SCREEN:TYPE=SCRDATA;

Output:

SCREENING DATA TABLE		

SOURCE NODE NUMBER :	4	LOCAL DEST CODE :
DEFAULT NUMBER :		DEFAULT NUMBER TYPE :
SCREENING PATT PLAN:	0	SCREENING PLAN TYPE :
CALLING LINE TYPE :	SCREEN	PRESENT CALLING L : CLIPDEF
CONNECTED LINE TYPE:	NOSCR	PRESENT CONNECTED L : COLRPERM

SOURCE NODE NUMBER :	5- 1	LOCAL DEST CODE :
DEFAULT NUMBER :	4115678555	DEFAULT NUMBER TYPE : INTERNAT
SCREENING PATT PLAN:	5	SCREENING PLAN TYPE : INTERNAT
CALLING LINE TYPE :	SCREEN	PRESENT CALLING L : CLIPDEF
CONNECTED LINE TYPE:	NOSCR	PRESENT CONNECTED L : COLRPERM

Functions of the AMO

4. Display source node number 3-5-244 and the assigned plan

DISP=SCRREN:TYPE=SCRDATA,SNNO=3-5-244,SCRPOUT=Y;

SCREENING PATTERN TABLE		
SCREENING PATTERN PLAN: 7		
SCREENING PATTERN:		
411495311	41149XXXX#	1156334#
1X	4114457*85886789	678#
411495312	4112X#	1156334X#
41123578X	4114457685889034456789	678855678#
41149531#	41149532X#	1156334XX#
43XXX	41144XXX	5678#
4114951	411495*XX#	1156334XXX
X	576858*9034456789	5675678#
41149531188	41149532#	11563XXXXX#
X#	41144890*4456789	55678
489		

SCREEN - Screening of calling or connected numbers

Functions of the AMO

SCREENING DATA TABLE		

SOURCE NODE NUMBER : 3- 5-244	LOCAL DEST CODE : 123456	
DEFAULT NUMBER : 41156656789879778555	DEFAULT NUMBER TYPE : NATIONAL	
SCREENING PATT PLAN: 7	SCREENING PLAN TYPE : INTERNAT	
CALLING LINE TYPE : SCREEN	PRESENT CALLING L : CLIRDEF	
CONNECTED LINE TYPE: SPECARR	PRESENT CONNECTED L : COLRPERM	

5. Interrogate all screening pattern plans and source node numbers

Input:

DISP-SCREEN;

Output:

SCREENING PATTERN TABLE		

SCREENING PATTERN PLAN: 5		

SCREENING PATTERN:		
411495311	41149532X#	1156334XXX#
X	4114457685889034456789	55678#
456		

SCREENING PATTERN PLAN: 7		

SCREENING PATTERN:		
411495311	41149XXXX#	1156334#
1X	4114457*85886789	678#
411495312	4112X#	1156334X#
41123578X	4114457685889034456789	678855678#
41149531#	41149532X#	1156334XXX#
43XXX	41144XXX	5678#

SCREN - Screening of calling or connected numbers

Functions of the AMO

| 4114951	| 411495*XX#	| 1156334XXX	|
| X	| 576858*9034456789	| 5675678#	|
| 41149531188	| 41149532#	| 11563XXXXX#	|
| X#	| 41144890*4456789	| 55678	|
| 489	|	|	|
+-----+			
| SCREENING PATTERN PLAN:	123		|
+-----+			
| SCREENING PATTERN:			|
| X#	|	|	|
+-----+			
+-----+			
|	SCREENING DATA TABLE		|
+-----+			
| SOURCE NODE NUMBER :	4	LOCAL DEST CODE :	|
| DEFAULT NUMBER :		DEFAULT NUMBER TYPE :	|
| SCREENING PATT PLAN:	0	SCREENING PLAN TYPE :	|
| CALLING LINE TYPE :	SCREEN	PRESENT CALLING L :	CLIPDEF |
| CONNECTED LINE TYPE:	NOSCR	PRESENT CONNECTED L :	COLRPERM |
+-----+			
| SOURCE NODE NUMBER :	5- 1	LOCAL DEST CODE :	|
| DEFAULT NUMBER :	4115678555	DEFAULT NUMBER TYPE :	INTERNAT |
| SCREENING PATT PLAN:	5	SCREENING PLAN TYPE :	INTERNAT |
| CALLING LINE TYPE :	SCREEN	PRESENT CALLING L :	CLIPDEF |
| CONNECTED LINE TYPE:	NOSCR	PRESENT CONNECTED L :	COLRPERM |
+-----+			
| SOURCE NODE NUMBER :	3- 5-244	LOCAL DEST CODE :	123456 |
| DEFAULT NUMBER :	41156656789879778555	DEFAULT NUMBER TYPE :	NATIONAL |
| SCREENING PATT PLAN:	7	SCREENING PLAN TYPE :	INTERNAT |
| CALLING LINE TYPE :	SCREEN	PRESENT CALLING L :	CLIRDEF |
| CONNECTED LINE TYPE:	SPECARR	PRESENT CONNECTED L :	COLRPERM |
+-----+			
| SOURCE NODE NUMBER :	14-105- 1	LOCAL DEST CODE :	|
| DEFAULT NUMBER :	41156	DEFAULT NUMBER TYPE :	INTERNAT |

167.3.5 REGENERATE-SCREEN

- regenerate one or more screening pattern plans with the screening patterns,
- regenerate one or all source node number with the screening data. If there are exists a assignment to a screening pattern plan and the pattern should be output the screening patterns will be displayed,
- regenerate all screening pattern plans including the screening patterns and all source node numbers including the screening data

Commandcode	Parameter
REGENERATE-SCREEN	[TYPE=SCRPA TT], [SCRPLAN=<number>]; [TYPE=SCRDATA], [SNNO=<number>], [SCRPOUT=<param>];

1. Regenerate all screening pattern plans

SCREN:SCRPATT,7,4114457685889034456789&67885678#&41149531#&
41149532X#&1156334XX#&43XXX&41144XXX&5678#&4114951&411495*X
X#;

SCREN - Screening of calling or connected numbers

Functions of the AMO

```
ADD-SCREN:SCRATT,7,1156334XXX&X&576858*9034456789&5675678#&
41149531188&41149532#&11563XXXXX#&X#&41144890*4456789&55678
;
```

```
ADD-SCREN:SCRATT,7,489;
```

```
ADD-SCREN:SCRATT,123,X#;
```

4. Regenerate the screening pattern plan 7

Input:

```
REG-SCREN:TYPE=SCRATT,SCRPLAN=7;
```

Output:

```
ADD-SCREN:SCRATT,7,411495311&41149XXXX#&1156334#&1X&
4114457*85886789&678#&411495312&4112X#&1156334X#&41123578X;
```

```
ADD-
```

```
SCREN:SCRATT,7,4114457685889034456789&678855678#&41149531#&
41149532X#&1156334XX#&43XXX&41144XXX&5678#&4114951&411495*X
X#;
```

```
ADD-SCREN:SCRATT,7,1156334XXX&X&576858*9034456789&5675678#&
41149531188&41149532#&11563XXXXX#&X#&41144890*4456789&55678
;
```

```
ADD-SCREN:SCRATT,7,489;
```

5. Regenerate all source node numbers and the assigned plans

Input:

```
REG-SCREN:TYPE=SCRDATA,SCRPOUT=Y;
```

Output:

```
ADD-SCREN:SCRATT,5,411495311&41149532X#&1156334XXX#X&
4114457685889034456789&55678#&456;
```

```
ADD-SCREN:SCRDATA,5-1,4115678555,INTERNAT,SCREEN,CLIPDEF
,NOSCR,COLRPERM,5,INTERNAT,;
```

```
ADD-SCREN:SCRATT,7,411495311&41149XXXX#&1156334#&1X&
4114457*85886789&678#&411495312&4112X#&1156334X#&41123578X;
```

```
ADD-
```

```
SCREN:SCRATT,7,4114457685889034456789&678855678#&41149531#&
41149532X#&1156334XX#&43XXX&41144XXX&5678#&4114951&411495*X
X#;
```

```
ADD-SCREN:SCRATT,7,1156334XXX&X&576858*9034456789&5675678#&
41149531188&41149532#&11563XXXXX#&X#&41144890*4456789&55678
;
```

```
ADD-SCREN:SCRATT,7,489;
```

```
ADD-SCREN:SCRDATA,3-5-
244,41156656789879778555,NATIONAL,SCREEN,CLIRDEF
,SPECARR,COLRPERM,7,INTERNAT,123456;
```

```
ADD-SCREN:SCRATT,123,X#;
```

```
ADD-SCREN:SCRDATA,14-105-1,41156,INTERNAT,SCREEN,CLIPDEF
,SCREEN,COLRPERM,123,SUBSCR,;
```

```
ADD-SCREN:SCRDATA,4,,,SCREEN,CLIPDEF ,NOSCR,COLRPERM,0,,;
```


2. Regenerate source node number 14-105-1

Input:

REG-SCREN:TYPE=SCRDATA,SNNO=14-105-1;

Output:

ADD-SCREN:SCRDATA,14-105-1,41156,INTERNAT,SCREEN,CLIPDEF,SCREEN,COLRPERM,123,SUBSCR,;

3. Regenerate all screening pattern plans and source node numbers

Input:

REG-SCREN;

Output:

ADD-SCREN:SCRPA TT,5,411495311&41149532X#&1156334XXX#X&4114457685889034456789&55678#&456;

ADD-SCREN:SCRPA TT,7,411495311&41149XXXX#&1156334#&1X&4114457*85886789&678#&411495312&4112X#&1156334X#&41123578X;

ADD-SCREN:SCRPA TT,7,4114457685889034456789&678855678#&41149531#&41149532X#&1156334XX#&43XXX&41144XXX&5678#&4114951&411495*X#;

ADD-SCREN:SCRPA TT,7,1156334XXX&X&576858*9034456789&5675678#&41149531188&41149532#&11563XXXXX#&X#&41144890*4456789&55678;

ADD-SCREN:SCRPA TT,7,489;

ADD-SCREN:SCRPA TT,123,X#;

ADD-SCREN:SCRDATA,4,,,SCREEN,CLIPDEF,NOSCR,COLRPERM,0,,;

ADD-SCREN:SCRDATA,5-1,4115678555,INTERNAT,SCREEN,CLIPDEF,NOSCR,COLRPERM,5,INTERNAT,;

ADD-SCREN:SCRDATA,3-5-244,41156656789879778555,NATIONAL,SCREEN,CLIRDEF,SPECARR,COLRPERM,7,INTERNAT,123456;

ADD-SCREN:SCRDATA,14-105-1,41156,INTERNAT,SCREEN,CLIPDEF,SCREEN,COLRPERM,123,SUBSCR,;

167.4 Parameter Description

DATATYPE	Type of screening data to be deleted		
Type of Input	:	0 to 9 single values, concatenated with &, optional	
Possible Values	:	DNO	= default number operator
		DNOTON	= type of default number operator
		LOCDEST	= origin local destination code

SCREN - Screening of calling or connected numbers

Parameter Description

PRESCAL	= presentation of calling line number
PRESCOL	= presentation of connected line number
SCRPLAN	= screening pattern plan
SCRPTON	= type of screening pattern plan
TOSCAL	= type of screening calling line number
TOSCOL	= type of screening connected line number

DNO	Default number operator
Type of Input	: single value, 1. parameter of a min-1-group, up to 22 characters (CHANGE) single value, optional, up to 22 characters (ADD,TYPE=SCRDATA)
Possible Values	: 0-9,*
DNOTON	Type of default number operator
Type of Input	: single value, 2. parameter of a min-1-group (CHANGE) single value, optional (ADD,TYPE=SCRDATA)
Possible Values	: INTERNAT = international number NATIONAL = national number SUBSCR = local subscriber number UNKNOWN = unknown number
Default Value	: none (field is empty for DISPLAY/ REGENERATE)
LOCDEST	Origin local destination code
Type of Input	: single value, 9. parameter of a min-1-group, up to 6 characters (CHANGE) single value, optional, up to 6 characters (ADD,TYPE=SCRDATA)
Possible Values	: 0-9,*,#,A-D
PRESCAL	Presentation of calling line number
Type of Input	: single value, 4. parameter of a min-1-group (CHANGE) single value, optional (ADD,TYPE=SCRDATA)
Possible Values	: CLIPPERM = presentation of permanent A-subscriber, no restriction CLIPDEF = presentation of default A-subscriber, restriction per call CLIRPERM = restriction of permanent A-subscriber, no presentation CLIRDEF = restriction of default A-subscriber, presentation per call
Default Value	: CLIPDEF

SCREEN - Screening of calling or connected numbers

Parameter Description

PRESCOL	Presentation of connected line number
Type of Input	: single value, 6. parameter of a min-1-group (CHANGE) single value, optional (ADD,TYPE=SCRDATA)
Possible Values	: COLPPERM = presentation of permanent B-subscriber, no restriction COLPDEF = presentation of default B-subscriber, restriction per call COLRPERM = restriction of permanent B-subscriber, no presentation COLRDEF = restriction of default B-subscriber, presentation per call
Default Value	: COLPDEF
SCRIP	Screening pattern
Type of Input	: 1 to 10 single values, concatenated with &, mandatory, up to 22 characters (ADD,TYPE=SCRIPATT) 1 to 10 single values, concatenated with &, optional, up to 22 characters (DELETE,TYPE=SCRIPATT)
Possible Values	: 0-9,*,X,#
SCRIPOUT	Output of screening patterns
Type of Input	: single value, optional
Possible Values	: Y = yes N = no
Default Value	: N
SCRIPPLAN	Screening pattern plan
Type of Input	: 1 to 10 single values, concatenated with &, optional (DISPLAY,TYPE=SCRIPATT / REGENERATE,TYPE=SCRIPATT) single value, 7. parameter of a min-1-group (CHANGE) single value, mandatory (ADD,TYPE=SCRIPATT / DELETE,TYPE=SCRIPATT) single value, optional (ADD,TYPE=SCRDATA)
Possible Values	: numeric, 0-65535 (ADD,TYPE=SCRDATA) numeric, 1-65535 (ADD,TYPE=SCRIPATT / DELETE,TYPE=SCRIPATT / DISPLAY,TYPE=SCRIPATT / REGENERATE,TYPE=SCRIPATT / CHANGE)
Default Value	: 0 (ADD,TYPE=SCRDATA) all (DISPLAY/ REGENERATE)
SCRIPTON	Type of screening pattern plan

SCREEN - Screening of calling or connected numbers

Parameter Description

Type of Input : single value, 8. parameter of a min-1-group (CHANGE)
single value, optional (ADD,TYPE=SCRDATA)

Possible Values : INTERNAT = international number
NATIONAL = national number
SUBSCR = local subscriber number
UNKNOWN = unknown number

Default Value : none (field is empty for DISPLAY/ REGENERATE)

SNNO

Source node number

Type of Input : 1 to 3 single values, concatenated with -, mandatory
(ADD,TYPE=SCRDATA / DELETE,TYPE=SCRDATA / CHANGE)
1 to 3 single values, concatenated with -, optional
(DISPLAY,TYPE=SCRDATA / REGENERATE,TYPE=SCRDATA)

Possible Values : numeric, 0-999 (level2-level1-level0)
level0: 0-999
level1: 0-253
level2: 0-29

TOSCAL

Type of screening calling line number

Type of Input : single value, 3. parameter of a min-1-group (CHANGE)
single value, optional (ADD,TYPE=SCRDATA)

Possible Values : NOSCR = no screening
SCREEN = number permitted for screening
SPECARR = any national or international number permitted

Default Value : NOSCR

TOSCOL

Type of screening connected line number

Type of Input : single value, 5. parameter of a min-1-group (CHANGE)
single value, optional (ADD,TYPE=SCRDATA)

Possible Values : NOSCR = no screening
SCREEN = number permitted for screening
SPECARR = any national or international number permitted

Default Value : NOSCR

TYPE

Type of screening data

Type of Input : single value, mandatory (ADD / DELETE)
single value, optional (DISPLAY / REGENERATE)

Possible Values : SCRDATA = screening data
SCRPAAT = screening patterns

167.5 Error Messages and Advisories

167.5.1 Error Messages

F01: NO DATA CONFIGURED FOR THIS SOURCE NODE NUMBER <level2-level1-level0>
 F02: NO VALID SCREENING PATTERN <scrp> ENTERED,
 POSSIBLE CHARACTERS (0-9, *, X, #),
 AFTER 'X' ONLY 'X' OR '#' MAY FOLLOW,
 AFTER '#' MAY NOT ENTERED ANY CHARACTERS
 F03: THE SCREENING PATTERN <scrp> HAS BEEN ALREADY CONFIGURED
 FOR THIS SCREENING PATTERN PLAN
 F04: MAX. AMOUNT (<maxval>) OF SCREENING PATTERNS HAS BEEN REACHED FOR THIS PLAN
 F05: THE SCREENING PATTERN <scrp> HAS NOT BEEN CONFIGURED
 F06: NO MORE MEMORY IN DATABASE (AMO DIMSU:TYP = CC, PARAMETER <param>)
 F07: WRITE TO DATABASE FAILED, INTERNAL DB-ERROR
 F08: THE SOURCE NODE NUMBER MAY NOT BE 0
 F09: LEVEL<level> OF SOURCE NODE NUMBER MAY NOT EXCEED VALUE <maxval>
 F10: LEVEL1 OF SOURCE NODE NUMBER MAY NOT BE 0
 IF LEVEL2 AND LEVEL0 ARE NOT 0
 (EXAMPLE: 1-0-1 IS NOT POSSIBLE)
 F11: THE SCREENING DATA FOR SOURCE NODE NUMBER <level2-level1-level0> HAS ALREADY
 BEEN CONFIGURED
 F12: NO VALID DEFAULT NUMBER OPERATOR <dno> ENTERED,
 POSSIBLE CHARACTERS (0-9, *)
 F13: NO VALUE FOR PARAMETER DNO CONFIGURED,
 CHANGEING THE PARAMETER DNOTON IS NOT POSSIBLE
 F14: THE SCREENING PATTERN PLAN <scrpplan> HAS NOT BEEN CONFIGURED
 F15: FOR THE SOURCE NODE NUMBER <level2-level1-level0> THE SCREENING PATTERN PLAN
 HAS NOT BEEN CONFIGURED, CHANGEING THE PARAMETER SCRPTON IS NOT POSSIBLE
 F16: IF PARAMETER SCRPPPLAN IS SPECIFIED, PARAMETER SCRPTON IS NEEDED AS WELL

167.5.2 Advisories

H01: NO VALUE FOR PARAMETER DNO ENTERED, PARAMETER DNOTON WILL BE IGNORED
 H02: FOR THE SOURCE NODE NUMBER <level2-level1-level0> THE PARAMETER SCRPPPLAN
 HAS BEEN CONFIGURED AS 0, THE SCRPTON WILL BE IGNORED
 H03: THE CIRCUIT WHICH REFERS TO THE NODE NUMBER MUST BE CONFIGURED
 (AMO TDCSU: PARAMETER NNO)
 H04: THE SCREENING PATTERN PLAN <scrpplan> HAS NOT BEEN CONFIGURED
 H05: THE SCRPPPLAN <scrpplan> HAS BEEN DELETED FOR THE SOURCE NODE NUMBER <level2-
 level1-level0>,
 THEREFORE THE VALUE FOR PARAMETER SCRPTON WILL BE DELETED
 H06: NO DATA FOUND
 H07: THE SCREENING PATTERN <scrp> HAS NOT BEEN CONFIGURED,
 OR HAS ALREADY BEEN DELETED

SCREN - Screening of calling or connected numbers

Error Messages and Advisories

H08: NO DATA CONFIGURED FOR THIS SOURCE NODE NUMBER <level2-level1-level0>
H09: FIRST THE SCREENING PATTERN PLAN HAS TO BE ADDED,
THE PARAMETER SCRPPPLAN WILL BE SET TO 0 NOW
H10: THE VALUE FOR PARAMETER DNO HAS BEEN DELETED,
THE VALUE FOR PARAMETER DNOTON WILL ALSO BE DELETED
H11: THE SCRPPPLAN <scrppplan> HAS BEEN DELETED FOR THE SOURCE NODE NUMBER <level2-level1-level0>
H12: ALL CONFIGURED DATA HAS BEEN DELETED,
THEREFORE THE SOURCE NODE NUMBER <level2-level1-level0> WILL ALSO BE DELETED
H13: THE SCREENING PATTERNS HAVE NOT BEEN CONFIGURED
FOR THE FOLLOWING SOURCE NODE NUMBER(S)
H14: THE SCRPTON SHOULD BE ADAPTED TO THE MODIFIED SCRPPPLAN

168 SCSU - Subscriber Configuration of Switching Unit

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

AMO SCSU is used to configure ports for the connection of the following terminals:

- ANATE to SLMA, SLMA1, SLMA2, SLMA3, SLMA24, SLMAB, SLMAR, SLMAC
- Charge Metering ANATE (ANATECM) to SLMAR
- AUXDIGI to SLMB, SLMB4

The digital terminals at S0/Up0/UpoE such as SET600/OPTISET/OPTIP500 are set up using AMO SBCSU.

Special subscribers (e.g. Hicom Trading Board subscribers) are configured by AMO SSCSU.

Each STN number can be assigned personalized data such as names or personal identification numbers (PIN) using AMO PERSI.

AMO TGER is used to assign additional station numbers to non-voice terminals which have already been assigned a number (AMO SCSU/SBCSU).

It is also possible to configure "virtual" ports for all device types which have not been assigned to a module but are configured in the same way as regular physical ports. Virtual ports are identified as INS=FLOAT or INS=ACLSTN. These ports are used by any ID card user who identifies himself at another terminal by inserting his ID card or by keying in the PIN, and who then makes the call using the features of his virtual port such as classmarks, speed dialing digit series etc..An ANATECM is not allowed to be configured as virtual port.

If an AUXDIGI station is configured as "virtual" port, it is set to the READY state (in contrast to an ANATE).

It is also possible to install a signed off fictive station by depicting INS=SIGNOFF. A signed off station can only be an ANATE. Signed off stations can be signed on

- by entering a PIN-Number and a key number at the specific terminal or
- by being signed on terminal by means of service staff
- by administration command (AMO DSSU)

SCSU - Subscriber Configuration of Switching Unit

Interrelationships

Signed off stations can be added to communication groups such as pick up groups, hunting groups etc. This allows a complete preconfiguration of subscribers.

For "virtual" ports (e.g. INS=FLOAT) PEN-specific parameters (e.g. COFIDX) are ignored.

A suffix-dialing connection is required for connecting special facilities such as VMX servers. This connection is identified as SPEC=SUFIDIAL and parameterized using the parameter DHPAR.

For special stations (e.g. COMTEL) and for special country specific adaptations in SLMA1/SLMA2/SLMA3/SLMA24/SLMAB/SLMAR/SLMAC-Loadware parameterization can be done by using parameter DHPAR.

Some special subscribers like Voice Pagers etc. are configured using parameter SPEC.

168.1 Interrelationships

- AMO ACDRT : Configuration of ACD Routing Tables
- AMO AUN : Configuration of Pick Up Groups
- AMO BCSU : Board Configuration, Switching Unit
- AMO COSSU : Class-of-Service, Switching Unit
The AMO COSSU creates classes-of-service (for all services), which can be assigned to a station line circuit with the parameters COS1 and COS2.
AMO-COSSU also creates LCR classes-of-service (for VOICE and DTE services), which can be assigned to a station line circuit with the parameters LCOSV1 and LCOSV2 resp. LCOSD1 and LCOSD2.
- AMO DCIC : Configuration of DCI (used only for AUXDIGI)
The AMO DCIC is used for assigning associated voice terminals to DCIs.
- AMO DIMSU : Dimensioning of Features, Switching Unit
The AMO DIMSU administers the database layout for device memories and additional memories required by the call processing system and the device handler.
- AMO DNIT : Administration of "Directory Number Information and Translation"-Table
- AMO DSSU : Device Switch of Switching Unit
The AMO DSSU can be used to put a terminal into service or to block it or to sign on/off a station.
- AMO KNMAT : Configuration Replacement of Extension Number for
SSTNO=ONLYEXT(ONLYEX0):
CHA-KNMAT:NPI=ISDN,ONNOL=OWN,DNNO=...,
LEVEL=.,MODCON=REPEXT&OUT,NUMEXT=replacement number;
- AMO NAVAR : Administration of Static Night Switch Option Data
- AMO RCSU : Configuration of recorder of SWU
- AMO SA : Hunting Arrangements

- AMO SBCSU : S0-Bus and Optiset E Configuration of Switching Unit
- AMO SDAT : Configuration of Station Attributes
- AMO SSCSU : Configuration of special subscribers (e.g. Trading E)
- AMO TGER : Station/Device Allocation, Incoming
- AMO UCSU : Unit Configuration of Switching Unit (LTG and LTU)
- AMO VADSU : Alarm Configuration in Switching Unit
- AMO WABE : Dialing Plans, Feature Access Codes
- AMO ZAND : Central System Data
- AMO ZIEL : Destinations for various station features

168.2 Functions of the AMO

- [ADD-SCSU](#) : Assign subscriber data
- [CHANGE-SCSU](#) : Change subscriber features
- [DELETE-SCSU](#) : Delete individual features or an entire station
- [DISPLAY-SCSU](#) : Interrogate subscriber data
- [REGENERATE-SCSU](#) : Regenerate subscriber data

168.2.1 ADD-SCSU

The ADD command will only be completed successfully if the following preconditions are met: the required station numbers must be entered in the dial plan (DAR=STN), the relevant module must have a free circuit and the required classes-of-service must be set up.

The parameter PEN designates the port equipment number (LTG-LTU-SLOT-CCT) to which the device with the STNO (station number) is connected. If this parameter is missing, a search is made automatically for an available equipment number in the system which is compatible with the other parameter values. For signed off and floating stations the PEN is ignored without an advisory message.

The connection type (parameter CONN) defines how a station is connected to the system: Either via direct line (DIR) or off premised via TMDNH or SLMA board (OPST1/OPSSLMA). This information is kept in a PEN-specific memory. This is the reason why it does not move with the subscriber during signoff/signon process but remains tied together the physical port (PEN).

SCSU - Subscriber Configuration of Switching Unit

Functions of the AMO

Please note when specifying ranges:

Ranges and/or strings of single values may be entered for STNO, but not for the parameter PEN. In this case, a single entered PEN is used as a starting point for the automatic port search.

Exception: Automatic port search for ANATE's does not consider SLMAR-PEN, even if a SLMAR-PEN is entered as starting point for the search.

Automatic port search for ANATECM's considers only SLMAR-PEN's.

The device configuration for which the PEN is to be assigned is defined by the parameter DVCFIG.

Non-voice terminals can only be used by the user if the basic classmark (BASIC) for the relevant service has been added (AMO COSSU) to his class-of-service.

If INS=Y (default), the added connection together with all voice and non-voice terminals will be transferred to the dependability system for further processing. When all preconditions are met, the relevant terminal will be taken into operation.

If INS=N, the subscriber remains in a state which will not be processed by the dependability system, the terminal will not be taken "into operation", and advance provision will only be made with respect to the data required. AMO DSSU allows the terminal to be "ACTIVATED" , "DEACTIVATED" at a later stage. The exact state of the terminal can be queried using AMO SDSU.

The LCOS-Parameters for voice and data are mandatory, because of path selection is always done by Least Cost Routing mechanism. If a device has no data equipment, the LCOSD-Parameters are required but without effect.

Procedure Overview

Command Code	Parameter
ADD-SCSU	STNO=<number>, [PEN=<gg-u-sss-cc>], DVCFIG=<param
	, DPLN=<number>, ITR=<number>,
	, COS1=<number>, COS2=<number>
	, LCOSV1=<number>, LCOSV2=<number>
	, LCOSD1=<number>, LCOSD2=<number>
	, [SPDC1=<number>], [SPDC2=<number>]
	, [COSX=<number>], [SPDI=<number>], [COFIDX=<param>
	, [CCTIDX=<number>], [SPEC=<param>], [DIAL=<param>]
	, [DHPAR=<param>], [RCBKB=<param>], [RCBKNA=<param>]
	, [TEXTSEL=<param>], [INS=<param>]

Command Code	Parameter
	, [ACKST=<param>], [SSTNO=<param>], [ALARMNO=<number>]
	, [PULSTYPE=<param>], [PULSLEV=<param>]
	, [HMUSIC=<number>], [CONN=<param>], [FLASH=<param>]
	, [DTMFBLK=<param>], [PMIDX=<number>]
	, [NEONMWI=<param>];

Examples

1. Create Station 311 as AUXDIGI. The PEN is determined automatically by the AMO.

Input:

```
ADD-SCSU:STNO=311,DVCFIG=AUXDIGI,DPLN=0,ITR=0,LCOSS1=1,LCOSS2=1,L
COSD1=2,LCOSD2=2,COS1=1,COS2=6;
```

Output:

```
H06: 311 THIS STATION IS CONFIGURED AT PEN 1-1-97-1.
H11: 311 CONTROL HAS BEEN PASSED TO CALL PROCESSING FOR
STATION ACTIVATION
```

2. Assign subscriber 3653 with an ANATE voice terminal at a specific PEN.

Input:

```
ADD-SCSU:STNO=3653,PEN=1-2-121-5,DVCFIG=ANATE,DPLN=0,ITR=0,COS1=9,
COS2=9,LCOSV1=9,LCOSV2=9,LCOSD1=9,LCOSD2=9,DIAL=VAR;
```

Output:

```
H06: 3653 THIS STATION IS CONFIGURED AT PEN 1-2-121-5.
H11: 3653 CONTROL HAS BEEN PASSED TO CALL PROCESSING FOR
STATION ACTIVATION
```

3. Assign 3 ANATEs with charge metering. The required SLMAR-Port is determined automatically by AMO. The search for free PENs should start at 1-1-43-0 (in this example, the circuits 0,1,3 are assumed to be already seized)

Input:

```
ADD-SCSU:STNO=2161&&2163,PEN=1-1-43-0,DVCFIG=ANATECM,DPLN=0,ITR=0,COS1=9,COS2=8,
LCOSV1=7,LCOSV2=6,LCOSD1=5,LCOSD2=4,PULSTYPE=POL12,PULSLEV=VE
FF5;
```

Output:

```
H45: THE AUTOMATIC PEN SEARCH FOR FREE PENS TAKES PLACE IN
LTU SHELVES WITH SOURCE-GROUP=1 (SEE AMO UCSU).
H33: 2161 FOR DVCFIG = ANATECM CHARGE PULSE DURATION AND
PAUSE CAN BE CHANGED BY AMO PTIME.
H06: 2161 THIS STATION IS CONFIGURED AT PEN 1-1-43-2
```

```
H11: 2161    CONTROL HAS BEEN PASSED TO CALL PROCESSING FOR
STATION ACTIVATION
H33: 2162    FOR DVCFIG = ANATECM CHARGE PULSE DURATION AND
PAUSE CAN BE CHANGED BY AMO PTIME.
H06: 2162    THIS STATION IS CONFIGURED AT PEN 1-1-43-4
H11: 2162    CONTROL HAS BEEN PASSED TO CALL PROCESSING FOR
STATION ACTIVATION
H33: 2163    FOR DVCFIG = ANATECM CHARGE PULSE DURATION AND
PAUSE CAN BE CHANGED BY AMO PTIME.
H06: 2163    THIS STATION IS CONFIGURED AT PEN 1-1-43-5
H11: 2163    CONTROL HAS BEEN PASSED TO CALL PROCESSING FOR
STATION ACTIVATION
```

168.2.2 CHANGE-SCSU

All data except

- the device configuration,
- the Port Equipment Number (PEN)

can be changed.

AMO SXSU is used for changing the DVCFIG or PEN and for exchanging station numbers (between two stations).

If TEXTSEL has to be changed, the circuit must be locked. This can be performed by AMO DSSU or by specifying parameter OFFTYPE in AMO SCSU.

Changing some circuit specific data requires downloading into the module. Such data includes the parameters COFIDX, CCTIDX, PULSTYPE, PULSLEV and DHPAR=[LEDSIGN, MWLED, RING1] and DIAL. The data is loaded using

- the commands DEACTIVATE and (re-)ACTIVATE-DSSU "with unconditional loading" (e.g. RESTART-DSSU)
- parameter OFFTYPE=DC (Default) or OFFTYPE=DI. The circuit must be in READY or UNACH state (can be interrogated by AMO SDSU). In UNACH state, data is loaded automatically when hierarchy becomes ready.

A station number cannot be changed to another station number if the original station number is in an ACD Routing Table or has assigned an ACD-Attribute.

Procedure Overview

Command Code	Parameter
CHANGE-SCSU	STNO=<number>,

Command Code	Parameter
	, { [DPLN=<number>], [ITR=<number>]
	, [COS1=<number>], [COS2=<number>]
	, [LCOSV1=<number>], [LCOSV2=<number>]
	, [LCOSD1=<number>], [LCOSD2=<number>]
	, [SPDC1=<number>], [SPDC2=<number>]
	, [COSX=<number>], [SPDI=<number>], [COFIDX=<param>]
	, [CCTIDX=<number>], [SPEC=<param>], [DIAL=<param>]
	, [DHPAR=<param>], [RCBKB=<param>], [RCBKNA=<param>]
	, [TEXTSEL=<param>], [NEWNO=<number>]
	, [ACKST=<param>], [SSTNO=<param>]
	, [COTRACE=<param>], [ALARMNO=<number>]
	, [PULSTYPE=<param>], [PULSLEV=<param>]
	, [HMUSIC=<number>], [OFFTYPE=<param>]
	, [CONN=<param>], [FLASH=<param>], [DTMFBLK=<param>]
	, [PMIDX=<number>], [NEONMWI=<param>] };

Example

Change COS 1 and 2 for subscriber 261.

Input:

```
CHANGE-SCSU:STNO=261,COS1=5,COS2=6;
```

Output:

```
H09: 261      STATION DATA CHANGED.
```

168.2.3 DELETE-SCSU

This action can be used to delete

- specific STN data (parameter CMIND) or
- the connection as such (CMIND=ALL).

Prior to deleting the connection, the connection must be blocked:

- the station is locked by AMO DSSU or
- in command the parameter OFFTYPE=DC is specified and the station is not busy in call processing (DC is the default value of OFFTYPE)
- in command the parameter OFFTYPE=DI is specified

SCSU - Subscriber Configuration of Switching Unit

Functions of the AMO

It should be noted that a connection can only be deleted if it is not part of one of the following groupings:

- Hunting group (AMO SA)
- Night variant (AMO NAVAR)
- Call pickup group (AMO AUN)
- ACD Routing Table (AMO ACDRT)
- ACD-Attribute assigned (AMO SDAT)

All other assignments of the station number such as DSS destinations, call forwarding destinations, individual night station, call backs etc. are cleared automatically upon deletion.

Deleting CMIND=DHPAR or CMIND=SUFIDIAL requires eventually downloading of changed data to the board. For that, the cross reference to AMO DSSU respectively parameter OFFTYPE has to be considered (as specified for action CHANGE).

Procedure Overview

Command Code	Parameter
DELETE-SCSU	STNO=<number>, CMIND=<param>[, OFFTYPE=<param>] ;

Example

Delete subscriber 280 with all its features.

1. Blocking the subscriber

Input:

```
DEACTIVATE-DSSU:TYPE=STNO,STNO=280;
```

Output:

```
H03: 280      DEACTIVATED
```

2. Cancel the subscriber after explicit locking

Input:

```
DELETE-SCSU:STNO=280,CMIND=ALL,OFFTYPE=NL;
```

Output:

```
H08: 280      STATION DATA DELETED.
```

3. Lock and cancel the subscriber

Input:

```
DELETE-SCSU:STNO=280,CMIND=ALL,OFFTYPE=DI; /* IMMEDIATE LOCK */
```

or

```
DELETE-SCSU:STNO=280,CMIND=ALL;
```

```
/* CAMP-ON LOCK */
```

or

```
DELETE-SCSU:STNO=280,CMIND=ALL,OFFTYPE=DC; /* CAMP-ON LOCK */
```

168.2.4 DISPLAY-SCSU

The following data can be displayed:

1. Station numbers of users who have been assigned a specific COS.
2. Station numbers of users with specific characteristics (see parameter STNTYPE).
3. Station numbers of users who have been assigned a specific LCOSV.
4. Station numbers of users who have been assigned a specific LCOSD.
5. Station numbers with a specific attribute (see parameter ATTR).
6. Station numbers with a specific connection type.
7. All connection-specific data.

Procedure Overview

Command Code	Parameter
DISPLAY-SCSU	[STNO=<number>]
	, [TYPE=COS], COSNO=<number>; (1)
	| [TYPE=HW], STNTYPE=<param>; (2)
	| [TYPE=LCOSV], LCOSV=<number>; (3)
	| [TYPE=LCOSD], LCOSD=<number>; (4)
	| [TYPE=ATTR], ATTR=<param>; (5)
	| [TYP=CONN], CONN=<param>; (6)
	| [TYPE=ALL]; (7)

SCSU - Subscriber Configuration of Switching Unit

Functions of the AMO

Examples

1. Interrogate all subscribers with COS=1 assigned

Input:

```
DISPLAY-SCSU:TYPE=COS,COSNO=1;
```

Output:

STATION WITH COS = 1					
2100	2109	2110	2111	2112	2113
2114	3105	3106	3107	3114	3115
3153	3154	3158	3160		

2. Interrogate all analog subscribers with charge metering equipment

Input:

```
DISPLAY-SCSU:TYPE=HW,STNTYPE=ANATECM;
```

Output:

STATION(S) WITH CHARGE METERING					
450	451	452	453	454	455
470	471	472	473	474	475

3. Interrogate the subscribers in the directory number range 200 to 230 with the subscriber class of service DTMF (dual tone multifrequency pushbutton dialing).

Input:

```
DISPLAY-SCSU:STNO=200&&230,TYPE=HW,STNTYPE=DTMF;
```

Output:

STATION WITH DUAL TONE MULTIPLE FREQUENCY					
200	201	202	203	204	205
206	207	208	209	220	221
222	223	224	225	226	227
228					

4. Interrogate all signed off stations

Input:

```
DISPLAY-SCSU:TYPE=ATTR,ATTR=SIGNOFF;
```

Output:

SIGNED OFF STATION(S)		

2140 2141 2142

5. Interrogate all data for subscriber 2110

Input:

DISPLAY-SCSU:STNO=2110;

Output:

```

----- USER DATA -----
-
STNO      =2110                COS1      =22          DPLN      =0          SPDI      =10
PEN       = 1- 1- 25- 0        COS2      =1          ITR       =7          SPDC1     =0
DVCFIG    =ANATE              LCOSV1     =1          COSX      =0          SPDC2     =1
INS       =YES                LCOSV2     =1          RCBKB     =NO
                        ALARMNO =0          LCOSD1     =1          HNMUSIC   =0          RCBKNA    =NO
SSTNO     =NO                 COTRACE   =NO          LCOSD2     =1          SPEC      =
COFIDX    =0                 DIAL      =DTMF        PULSTYPE=   PULSLEV=
CCTIDX    =                   ACKST      =                   TEXTSEL=
DHPAR     =
CONN      =DIR                FLASH      =YES        DTMFBLK   =NO          WITKEY    :NO
----- ACTIVATION IDENTIFIERS FOR FEATURES -----
DND       :NO                 CWT       :NO
HTOS      :NO                 HTOF      :NO          HTOD       :NO          VCP        :NO
----- FEATURES AND GROUP MEMBERSHIPS -----
PUGR      :1                 HUNTING GROUP : NO
NIGHT OPTION : YES
----- STATION ATTRIBUTES (AMO SDAT) -----
KN        VC
-----
THIS STATION IS ENTERED IN NIGHT OPTION      1.

```

The output data for a station is subdivided into 3 groups:

1. Data which are also contained in the input command (marked by "=").
2. Activation identifiers for the features.
3. Features and group memberships which are not assigned by the AMO SCSU.

Explanation of ACTIVATION IDENTIFIERS FOR FEATURES

HTOS	:	Hunting group out, voice (release from hunting group)
HTOF	:	Hunting group out, FAX
HTOD	:	Hunting group out, DTE
DND	:	Do-not-disturb
VCP	:	Voice call protection
CWT	:	Call waiting - terminating
WITKEY	:	Witness Key

Explanation of FEATURES AND GROUP MEMBERSHIPS

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

PUGR	:	Included in a call pickup group
HUNTING GROUP	:	Included in a call hunting group
NIGHT VARIANT	:	Included in a night service variant
STATION ATTRIBUTES	:	Attributes which can only be set and reset by AMO SDAT. The description of the attributes can be found in AMO description (AD) of SDAT

168.2.5 REGENERATE-SCSU

Procedure Overview

Command Code	Parameter
REGENERATE-SCSU	[STNO=<number>;

Example

Regenerate the subscribers with station numbers 2100, 2102 and 2103.

Input:

```
REGENERATE-SCSU:STNO=2100&2102&2103;
```

Output:

```
ADD-SCSU:2100,1-1-25-  
0,ANATE,0,7,22,1,1,1,1,0,1,0,10,0,,,DTMF,,,,,YES,,NO,,,,0,DIR,  
YES,NO;
```

```
ADD-SCSU:2102,1-1-25-  
2,ANATE,0,7,2,4,1,1,1,1,0,,1,10,0,,,DTMF,,,,,YES,CHR&TE,NO,,,,0,  
DIR,YES,NO;
```

```
ADD-SCSU:2103,1-1-25-  
3,ANATE,0,0,3,4,1,1,1,1,,,1,10,0,,,DTMF,,,,,YES,CHR,NO,,,,0,DIR,  
YES,NO;
```

168.3 Parameter Description

ACKST	Acknowledgement variants between DPI and DPS (DPS = DP center-controlled connection setup) only for ANATE (for effects and logistics of these values see AMO DAPPL)	
	Type of Input	: Single value, chained single values
	Possible values	: CHR = Acknowledgement variant between DPI and announcement device TE = Delayed connection acknowledgment to to DPI after end of announcement

ALARMNO	Alarm number of logical device class (Alarm must have been assigned with AMO-VADSU, ANTYPE=PERS (for 520-583) or ANTYPE=DIR (for 8 -519) before)		
	Type of Input	:	Single value, optional
	Possible values	:	0 (no alarm assigned) 8 - 583
	Default value	:	0
ATTR	Station Attribute		
	Input type	:	Single value, mandatory
	Possible values	:	SIGNOFF = Signed Off Station(s)
			VARDIAL = Station(s) with Variable Dialing Type Recognition
			FLOAT = Display only floating stations
			ACLSTN = ACL support stations
CCTIDX	Index into timer block table for SLMA1/SLMA2/SLMA3/SLMA24/SLMAB/SLMAR/SLMAC circuit (see AMO PTIME, TYPE=SLMA1 for the times to be set).		
	Input type	:	Single value, optional
	Possible values	:	0 - 16
	Default value	:	16 (null value)
CMIND	Authorizations or features for a station, which are to be deleted.		
	Type of Input	:	Single value Chained single values, mandatory
	Possible values	:	SSTN = Special station (cannot be released automatically)
			SPDC1,2 = Central speed dialing lists
			ALL = All station
			CHR = Start of announcement following 1st call charge pulse
			TE = Delayed connection acknowledgement to DPA after end of announcement
			DHPAR = Station with supplementary dialing
			SUFDIAL = Station can suffix dial
			WITNS = Station/port for connection of tape recorder sign
			SOD = Special Outpulsing Device: Special Device (e.g. Interactive Voice Recorder) which gets informations via DTMF outpulsing
			VCEPAGE = Voice Pager

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

COFIDX	Index of a data block with which the SICOFI (Codec and Filter) must be loaded on an SLMA.		
	Input type	:	Single value, optional
	Possible values	:	0 = Data block for Germany
		:	1 = Data block for Austria
		:	2 = Data block for Australia
		:	3 = Data block for Spain and Belgium (L <= 2x250 Ohm)
		:	4 = Data block for Spain and Belgium (L <= 2x250 Ohm)
		:	The default value to be assigned for Spain and Belgium is 4.
		:	5 Not allowed on 4K.
		:	6 Support of old analog phones using ground key for consultation
		:	7 reserved for future use
	Default value	:	0
CONN	Connection type of device *** PEN specific, not for fictitious stations ***		
	Type of Input	:	Single value, optional, group member (MIN=1) for CHANGE, mandatory for DISPLAY
	Possible Values	:	DIR Direct connection *** not for TMDNH board ***
		:	OPST1 Off premises connection via T1 span *** only for ANATE at TMDNH board *** *** not for ANATECM ***
		:	OPSSLMA Off premises connection via SLMA *** only for ANATE at SLMA/1/2/3/24/B/R board *** *** not for ANATECM ***
	Default Value	:	DIR for ADD at non TMDNH board
		:	OPST1 for ADD at TMDNH board
COS1 COS2	Class of Service 1 Class of Service 2		
	Input type	:	Single value, mandatory
	Possible values	:	1 - 1000
COSNO	Class of Service		
	Input type	:	Single value, mandatory
	Possible values	:	1 - 1000
COSX	COS changeover group		

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

	Input type	:	Single value, optional
	Possible values	:	0 - 15
	Default Value	:	0
COTRACE	Malicious call tracing of CO calls		
	Input type	:	Single value, optional
	Possible values	:	YES, NO
	Default Value	:	NO
DHPAR	Device handler parameter for station with supplementary dialing *** not for DVCFIG=ANATECM ***		
	Input type	:	chained single values, optional
	Possible values	:	for connection of an external Voice Mail-System (SPEC = SUFDIAL) :
		PREDIA	= predialog with external server
		ASEND	= send A-party number
		BSEND	= send B-party number
		DTMFST	= DTMF codes to an external device
		RING1	= only 1 ring per ring variant (SLMA1/2/3/24/B/R)
		for COMTEL3 terminals (SPEC /= SUFDIAL) :	
		LEDSIGN	= Analog station with LED-Signalling
		MWLED	= Station with Message Waiting LED (Thailand)
		VMSDP	= Analog station with VMS controlling capability
		FLASH	= Analog station with function keys incorporating flash (Consultation is done before the A, B, C, D tone is transmitted, i.e. the signal key need not be pressed prior to the function key. The user must not wait for dial tone after initiating consultation.)
DIAL	Dialing methods for analog devices		
	Input type	:	Single value, optional
	Possible values	:	DP = Dial pulsing (for rotary dialing or dial pulsing push-button telephone)
		DTMF	= Dual tone multi-frequency signals (push-button telephones only)
		VAR	= Variable Dialing Type Recognition (DP or DTMF are identified automatically) Advisory: VAR must not be assigned to Comtel Terminals (is not checked by AMO.)
	Default Value	:	DP = for SLMA/SLMAR-Board

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

		VAR	= for SLMA1/SLMA2/SLMA3/SLMA24/ SLMAB-Board, signed off and floating stations
DPLN	Dial plan group (digit analysis result allocation)		
	Input type	:	Single value, mandatory
	Possible values	:	0 - 15
	Default Value	:	YES
DTMFBK	Block / unblock hearing of incoming DTMF tones in conference		
	Type of Input	:	Single value, optional, group member (MIN=1) for CHANGE
	Possible Values	:	YES,Y Incoming DTMF tones are blocked from hearing while in conference
		:	NO,N DTMF tones are not blocked from hearing while in conference
	Default Value	:	N
DVCFIG	Device combination		
	Input type	:	Single value, chained single values, mandatory
	Possible values	:	ANATE = Analog voice terminal
		:	ANATECM = Analog voice terminal with charge metering
		:	AUXDIGI = Auxiliary DIGI260 for HTC and ViNet
		:	FAX = FAX device (analog interface)
		:	DTEANA = Data terminal (analog interface)

Permitted device combinations (DVCFIG) of a subscriber to the modules (the sequence of the devices in a combination is as desired).

DEVICE COMBINATION		MODULE
ANATE		SLMA/1/2/3/24/B/R/C (1) TMDNH
ANATE	FAX	SLMA/1/2/3/24/B/R/C (1) TMDNH
ANATE	DTEANA	SLMA/1/2/3/24/B/R/C (1) TMDNH
ANATECM		SLMAR
AUXDIGI		SLMB, SLMB4

Table 8 Sequence of Devices in a Combination

(1) Means: SLMA, SLMA1, SLMA2, SLMA3, SLMA24, SLMAB, SLMAR or SLMAC, note that the SLMAR board is skipped for free PEN search.

FLASH	Enable / Disable Flash controlled functions for ANATEs (e.g. Hookflash)

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

	Type of Input	:	Single value, optional, group member (MIN=1) for CHANGE
	Possible Values	:	YES,Y
		:	Flash functions enabled (e.g. Hookflash)
		:	NO,N
		:	Flash functions disabled (e.g. Hookflash)
	Default Value	:	Y
HMUSIC	Number of music on hold recording (AMO-RCSU)		
	Input type	:	Single value, optional
	Possible values	:	0 - 150
	Default Value	:	0
INS	Station(s) in service ?		
	Input type	:	Single value, optional
	Possible values	:	YES
		:	= The assigned station is to be enabled. Individual terminals can remain blocked by specifying the corresponding (x)BL parameter.
		:	NO
		:	= The assigned station is not to be enabled (data is only provided in advance).
		:	FLOAT
		:	= This is for 'floating' ID card users, as opposed to stations with a specific device configuration. This floating station is not enabled by means of this parameter.
		:	SIGNOFF
		:	= The assigned station is added to the system in a signed off state.
		:	ACLSTN
		:	= ACL support station. This station is handled like a floating station without a physical port.
	Default Value	:	YES
ITR	Internal traffic restriction / closed user group		
	Input type	:	Single value, mandatory
	Possible values	:	0 - 15
LCOSD	LCR-CLASS-OF-SERVICE for DTE (see AMO-COSSU, TYPE=LCOSD)		
	Input type	:	Single value, required
	Possible values	:	1 - 1000
		:	valid LCOSD number
LCOSD1	LCR-CLASS-OF-SERVICE-1 for DTE (see AMO-COSSU, TYPE=LCOSD)		
LCOSD2	LCR-CLASS-OF-SERVICE-2 for DTE (see AMO-COSSU, TYPE=LCOSD)		
	Input type	:	Single value, required
	Possible values	:	1 - 1000
		:	valid LCOSD number
LCOSV	LCR-CLASS-OF-SERVICE for Voice, Fax, Btx, Ttx (see AMO-COSSU, TYPE=LCOSV)		

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

	Input type	: Single value, required	
	Possible values	1 - 1000	valid LCOSV number
LCOSV1	LCR-CLASS-OF-SERVICE-1 for Voice, Fax, Btx, Ttx (see AMO-COSSU, TYPE=LCOSV)		
LCOSV2	LCR-CLASS-OF-SERVICE-2 for Voice, Fax, Btx, Ttx (see AMO-COSSU, TYPE=LCOSV)		
	Input type	: Single value, required	
	Possible values	1 - 1000	valid LCOSV number
NEONMWI	Neon lamp for message waiting indication		
	Input type	: Single value, 34th parameter of a min-1-group	
	Input type	: Single value, optional	
	Possible values	NO	no
		YES	yes
NEWNO	New station number (STNO) to be assigned.		
	Input type	: Single value, optional	
	Possible values	: The station number must exist in the dial plan (AMO WABE). Only 1 single value between 0 and 999999 is permissible).	
	Note	: If the STNO to be changed has been declared as a a single value, then NEWNO changes the old station number to the new one. If a range has been entered for the parameter STNO, the NEWNO value is used as the first station number in the new range. If there are gaps in the STNO range (stations not created), these gaps are included in the new range.	
OFFTYPE	Type of deactivation order controls both station locking and circuit data loading		
	Input type	: Single value, optional	
	Possible values	NL	= no lock, no downloading of circuit data
		DC	= deactivate with camp-on (soft lock)
		DI	= deactivate immediately (hard lock)
	Default Value	: DC	
	Note	: After CHANGE command is executed, the station is switched back to the original dependability state (different to AMO DSSU handling). However OFFTYPE only takes effect in combination with other parameters for which locking or downloading makes sense.	
PEN	Port equipment number of a station (LTG-LTU-SLOT-CCT)		
	Type of Input	: Single value, optional	
	Possible values	g-uu-sss-ccc	
		g	= LTG Number: 1 (no other value)

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

		uu	= LTU Number: 1 - 15 in HHS (Host Shelf) 16 not defined 17 - 99 in AP (Access Point Shelf)
		sss	= Slot Number: 1 - 121
		ccc	= Circuit Number: 0 - 254
	Default Value	:	First suitable PEN for a station creation
A suitable module must be configured for the slot addressed by PEN (AMO BCSU) The possible LTU and Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description. The possible Circuit values depend on the module type and its functionality. They can be listed using DISP-BCSU: TYPE=PEN [,LTG= , LTU= , SLOT= , CCT=] ; which will also output the actual PEN status (e.g. NOT CONNECTED).			
PMIDX	Phone mail server index		
	Input type	:	Single value, 33rd parameter of a min-1-group
	Input type	:	Single value, optional
	Possible values	:	numeric, 0-99
PULSLEV	Level of charge metering pulses (only effective for SLMAR board)		
	This parameter is mandatory for adding a station with DVCFIG=ANATECM. If it is missing, it will be prompted.		
	Input type	:	Single value, optional
	Possible values	:	VEFF3 3 V r.m.s. (effective voltage)
		:	VEFF5 5 V r.m.s. (effective voltage)
PULSTYPE	Type of charge metering pulses (only effective for SLMAR board)		
	This parameter is mandatory for adding a station with DVCFIG=ANATECM. If it is missing, it will be prompted.		
	Input type	:	Single value, optional
	Possible values	:	KHZ12 12 kHz charge pulses
		:	KHZ16 16 kHz charge pulses
		:	POL Static polarity reversal
		:	POL12 Static polarity reversal + 12 kHz
		:	POL16 Static polarity reversal + 16 kHz
		:	FORM Pulse form reversal
RCBKB	Reject call back on busy		
	Input type	:	Single value, optional
	Possible values	:	YES, NO

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

	Default value	:	NO	
RCBKNA	Reject call back on no answer (will not work on stations with mailbox classmark)			
	Input type	:	Single value, optional	
	Possible values	:	YES, NO	
	Default value	:	NO	
SPDC1	Central speed dialing list 1			
	Input type	:	Single value, optional	
	Possible values	:	0-15	
	Default value	:	No Central speed dialing list 1	
SPDC2	Central speed dialing list 2			
	Input type	:	Single value, optional	
	Possible values	:	0 - 15	
	Default value	:	No Central speed dialing list 2	
SPDI	Individual speed dialing			
	Input type	:	Single value, optional	
	Possible values	:	0, 10, 20, 30	
	Default value	:	0 (means no individual speed dialing)	
SPEC	Special station equipment *** not for DVCFIG=ANATECM and AUXDIGI ***			
	Input type	:	chained Single value, optional	
	Possible values	:	SSTN	= Station has special equipment
				(For stations without clear-channel capability, the parameter DVCFIG must be set to ANATE). - Recorded announcement - Loudspeaker - Dictation equipment - Entrance telephone system - Night watchman service - Code call access
			SUFDIAL	= Station can suffix dial (see paramet DHPAR)
			WITNS	= Stn/port for connection of tape rec. etc. as witness
			SOD	= Special Outpulsing Device: Special Device (e.g. Interactive Voice Recorder) which gets informations via DTMF outpulsing (Cross Reference to AMO ZAND, Parameter TYPEDNIS)

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

		VCEPAGE	= Voice Pager
SSTNO	Secret station number		
	Input type	: Single value, optional	
	Possible values	: YES	= The user's station number does not appear on the called party's display (internal and external)
		NO	= The user's station number does appear on the called party's display (internal and external)
		ONLYEXT	= The user's station number does not appear on the external station's display. Instead, a replacement number (configured by AMO KNMAT) is displayed
		ONLYEX0	= Neither the user's station number nor a replacement calling number is displayed at the external station's display.
	Default value	: NO	
STNO	Station call number		
	Input type	: Single value, chained single values, range, mandatory	
	Possible values	: 0 - 999999; Station number must exist in DPLN (AMO WABE).	
	(ADD)	Max. 10 values are permissible, e.g., 5 ranges or 3 ranges and 4 single values	
	(CHANGE)	Max. 2 values are permissible, either a single value or a range, but not 2 single values.	
	(DISPLAY)	If the parameter STNO is missing in the DISPLAY command, all stations (STNO-MIN to STNO-MAX) are output. Otherwise, as for ADD-SCSU.	
	(DELETE)	See ADD.	
(REGENERATE)		See ADD.	
	Note	: When specifying a range, value 2 must be greater than value 1 and must have the same number of digits. A range must not include more than 600 station numbers. The range restriction of 600 subscribers applies only to the functions ADD, CHANGE and DELETE.	
STNTYPE	Station hardware		
	Input type	: Single value, mandatory	
	Possible values	: SSTN	= Station with special equipment (e.g., clear-channel capability)
		DP	= Dial pulsing (rotary dialing)
		DTMF	= Dual tone multi-frequency (pushbutton)

SCSU - Subscriber Configuration of Switching Unit

Parameter Description

		WITNS	= Station for connection of tape recorder as witness
		WITKEY	= Station with connect witness key
		ANATECM	= Station with charge metering equipment
		SOD	= Special Outpulsing Device: Special Device (e.g. Interactive Voice Recorder) which gets informations via DTMF outpulsing
		VCEPAGE	= Voice Pager
TEXTSEL	Text selector of Display Language *** only for AUXDIGI) ***		
	Type of Input	: single value, optional	
	Possible Values	american	american english
		BRAZIL	brazilian
		catalan	catalan
		croatian	croatian
		czech	czech
		danish	danish
		dutch	dutch
		english	english
		estonian	estonian
		finnish	finnish
		french	french
		GERMAN	german
		greek	greek
		hungary	hungarian
		indones	indonesian
		italian	italian
		malay	malayan
		norweg	norwegian
		polish	polish
		portug	portuguese
		romanian	romanian
		russCYR	russian cyrillic characters
		russLAT	russian latin characters
		slovak	slovakian
		sloven	slovenian
		spanish	spanish
		swedish	swedish
		thai	thai

		TURKISH	turkish
	Default Value	system language (see AMO ZAND, parameter TEXTSEL, 1. value)	
TYPE	Branch parameter (output options)		
	Input type	: Single value, optional	
	Possible values	: ALL	= Output all station information.
		ATTR	= Output all stations with a specific attribute described in parameter ATTR.
		COS	= Output all stations which have the class of service specified in the parameter COSNO.
		HW	= 'Telephone-based' selection for output. i.e. telephone equipment as specified with the STNTYPE parameter following.
		LCOSV	= Output all stations which have the LCR class of service for VOICE specified in the parameter LCOSV.
		LCOSD	= Output all stations which have the LCR class of service for DTE specified in the parameter LCOSD.
		CONN	= Stations with specific connection type
	Default value	: ALL	

168.4 Error Messages and Advisories

Explanation of the Error Messages and Advisories:

<xxxxxx> denotes fields where the call number of the station concerned is output. Fields which output text variables are indicated by two pointed brackets in which the possible text variables are entered, separated by diagonal strokes (separatrices).

<yyyyyy> denotes a second station number (e.g. end of a range).

<ddd> denotes the Non-Voice Service of the station (FAX, DEE).

<zzzzzz> denotes the Non-Voice station numbers.

<param> denotes the parameter name.

<value> denotes the parameter value.

<nnnnn> denotes a 5 digit number (e.g. ACD routing table).

<nnnn> denotes a 4 digit number (e.g. PU group).

<nnn> denotes a 3 digit number (e.g. night option, music on hold).

<nn> denotes a 2 digit number (e.g. LTG number).

168.4.1 Error Messages

F01: <xxxxxxx> THIS CALL NUMBER IS NOT CONFIGURED IN THE DIAL PLAN (DPLN).

F02: <xxxxxxx> THE COS <nnnn> IS NOT YET ASSIGNED.

F03: <xxxxxxx> THIS STATION HAS NOT YET BEEN CONFIGURED.

F04: <xxxxxxx> THIS STATION CANNOT BE CONFIGURED WITH THE DVCFIG VALUES SPECIFIED.
UNABLE TO FIND FREE <SLMA/SLMB/SLMA1/2/3/24/B/SLMAR>.

F05: <xxxxxxx> THE PEN SPECIFIED FOR THIS STATION IS ALREADY OCCUPIED.

F06: <xxxxxxx> THIS STATION IS ALREADY CONFIGURED.

F07: <xxxxxxx> FOR DEVICE TYPE <DIGITE>, <KEYSTN/SUFDIAL/SOD> IS NOT ALLOWED.

F08: <xxxxxxx> FOR STATIONS WITH SPECIAL EQUIPMENT AS WELL AS FOR VOICE PAGERS, DVCFIG
MUST BE ANATE.

F09: <xxxxxxx> THE NEW CALL NUMBER HAS NOT BEEN CONFIGURED IN THE DIAL PLAN
(AMO WABE).

F10: <LTG/LTU> IS NOT CONFIGURED.

F11: <xxxxxxx> THE <LCOSV/LCOSD> <nnnn> IS NOT ASSIGNED.

F12: <xxxxxxx> INADMISSIBLE DEVICE COMBINATION SPECIFIED IN DVCFIG PARAMETER.

F13: <xxxxxxx> THE STATION CANNOT BE PROCESSED.
NO FREE SPACE IN <SU/LODEN/DTILTG/STN/DSSNA/AUXDIGI/BLK100>
FEATURE MEMORY.

F15: <xxxxxxx> THIS STATION IS CONFIGURED IN THE CALL PICKUP GROUP <nnnn>.
PLEASE MODIFY THE CALL PICKUP GROUP ENTRY BEFORE PROCESSING.

F16: <xxxxxxx> THIS STATION IS CONFIGURED IN A <VOICE/FAX/DTE> HUNTING GROUP.
PLEASE MODIFY THE HUNTING GROUP ENTRY BEFORE PROCESSING.

F17: <xxxxxxx> FOR STATIONS WITH SPECIAL EQUIPMENT AS WELL AS FOR VOICE PAGERS, DVCFIG
MUST BE ANATE.

F18: <xxxxxxx> THE STATION IS CONFIGURED IN NIGHT OPTION <nnn>.
PLEASE MODIFY THE NIGHT OPTION ENTRY BEFORE PROCESSING.

F20: <xxxxxxx> HMUSIC <nnn> IS NOT YET ASSIGNED (ADD-RCSU: RECAPL=HMUSIC,).

F22: <xxxxxxx> THE MAXIMUM PLANNED NUMBER OF STATIONS HAS BEEN REACHED.
THE NUMBER OF STATIONS ALLOWED CAN BE INCREASED WITH AMO DIMSU.

F24: <xxxxxxx> THE NEW CALL NUMBER IS ALREADY CONFIGURED.

F27: <xxxxxxx> INADMISSIBLE <LTG/LTU/SLOT/CCT> VALUE ENTERED IN PEN PARAMETER.

F29: <xxxxxxx> THE DEVICE CONFIGURATION ENTERED CANNOT BE CONFIGURED AT THE
EXISTING PEN (WRONG BOARD TYPE OR NO BOARD PLUGGED).

F30: <xxxxxxx> THE STATION IS ONLY PREBLOCKED. OPTIONS:
- REPEAT COMMAND LATER
- REPEAT COMMAND WITH IMMEDIATE DEACTIVATION (OFFTYPE=DI)
- FIRST DEACTIVATE STATION BY: DEACT-DSSU:OFFTYPE=DI,...;
AND REPEAT COMMAND

F31: <xxxxxxx> THE STATION HAS BEEN BLOCKED BUT IT REMAINS STILL BUSY FOR CALL
PROCESSING. PLEASE REPEAT COMMAND LATER.

F32: <xxxxxxx> THE STATION MUST BE BLOCKED. OPTIONS:
- REPEAT COMMAND WITH DEACTIVATION (OFFTYPE=DC/DI)
- FIRST DEACTIVATE STATION BY: DEACT-DSSU:OFFTYPE=DC/DI,...;
AND REPEAT COMMAND

F37: <xxxxxxx> WAS ASSIGNED USING AMO <ACSU/SBCSU/SSCSU/DNIT>; PLEASE USE THIS AMO
FOR FURTHER PROCESSING.

F38: <xxxxxxx> THE SPEC VALUES KEYSTN AND IDCR MAY NEITHER BE SPECIFIED
TOGETHER NOR BE COMBINED WITH OTHER SPEC VALUES.

F39: <xxxxxxx> THE SPEC VALUES WITNS, SUFDIAL AND SOD MAY ONLY BE COMBINED WITH SPEC
VALUE SSTN OR VCEPAGE.

F41: <xxxxxxx> THIS STATION IS ALREADY ASSIGNED BY AMO <ACSU/SBCSU/SSCSU/DNIT>.

F42: <xxxxxxx> THIS STATION IS ASSIGNED AS AN EXTERNAL STATION.

F43: <xxxxxxx> SPEC = WITNS MUST NOT BE CHANGED BECAUSE STATION IS ALLOCATED TYPE = LSTNR IN AMO VBZGR.

F44: <xxxxxxx> THE FOLLOWING DHPAR VALUES ONLY ARE POSSIBLE FOR SPEC = (SUFIDIAL OR SOD): PREDIA, ASEND, BSEND, DTMFSTN, RING1.

F45: <xxxxxxx> THE FOLLOWING DHPAR VALUES ONLY ARE POSSIBLE FOR SPEC /= (SUFIDIAL OR SOD): LEDSIGN, VMSDP, FLASH, MWLED.

F47: <xxxxxxx> STATION IS MAPPED TO STATION NO. <yyyyyyy> VIA AMO-RUFUM; PLEASE USE THIS AMO FOR FURTHER PROCESSING.

F48: <xxxxxxx> STATION CANNOT BE ASSIGNED. VIRTUAL LINE MEMORY SPACE EXCEEDED.

F53: <xxxxxxx> ALARMNO <nnnn> IS NOT YET ASSIGNED (AMO-VADSU).

F58: INS = SIGNOFF IS ONLY ALLOWED FOR DVCFIG = ANATE

F59: <xxxxxxx> THE SLMA BOARD CONFIGURED AT THIS PEN CANNOT PERFORM VARIABLE DIALING TYPE RECOGNITION. ONLY DIALING TYPE DP OR DTMF IS ALLOWED.

F60: <xxxxxxx> ALL PARAMETERS HAVE BEEN IGNORED. STATION DATA ARE NOT CHANGED.

F61: <xxxxxxx> IN PARAMETER DHPAR THE VALUES LEDSIGN AND MWLED ARE NOT ALLOWED TO BE COMBINED.

F62: <xxxxxxx> THE SLMA BOARD CONFIGURED AT THIS PEN IS NOT COMPATIBLE WITH DHPAR VALUES (SLMA1, SLMA2, SLMA3, SLMA24 OR SLMAB IS NECESSARY).

F63: <xxxxxxx> THE SUBSCRIBER CANNOT BE ADDED; FLEX+TDM LICENCES <nnnnn> IS REACHED. PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES. PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO ADD MORE SUBSCRIBERS CHANGE-CODEW:TRIAL=YES MAY ACTIVATE A TIME LIMITED TRIAL MODE.

F64: <xxxxxxx> IN ADDITION TO DVCFIG = <ANATECM> THE PARAMETER <PULSTYPE/PULSLEV> MUST ALSO BE SPECIFIED.

F65: <xxxxxxx> DVCFIG = <ANATECM> IS NOT ALLOWED AS FLOATING STATION OR ACL SUPPORT STATION.

F66: <xxxxxxx> THE STATION CANNOT BE PROCESSED. IT IS STILL REFERENCED BY THE ACD ROUTING TABLES. DELETE THE STATION BY AMO ACDRT FROM ACD ROUTING TABLE <nnnnn> BEFORE REPEATING THIS COMMAND.

F67: <xxxxxxx> THE STATION CANNOT BE PROCESSED. IT HAS STILL ASSIGNED AT LEAST ONE ACD-ATTRIBUTE. DELETE THE ATTRIBUTES BY AMO SDAT BEFORE REPEATING THIS COMMAND.
(CHANGE-SDAT:STNO=<xxxxxxx>,TYPE=ATTRIBUTE,DATTR=AGENT&SUPER&AUTOLOG&CAF)

F68: <xxxxxxx> THE STATION CANNOT BE DELETED BECAUSE OF LAW AND SECURITY REASONS. PLEASE CONTACT YOUR SYSTEM ADMINISTRATOR.

F69: <xxxxxxx> THE SPECIFIED CONNECTION TYPE (PARAMETER ANSCHL) CANNOT BE CONFIGURED AT THE EXISTING PEN (WRONG BOARD TYPE).

F70: <xxxxxxx> THE STATION COULD NOT BE ADDED BECAUSE NO VIRTUAL NODE ID HAS BEEN CONFIGURED. PLEASE ADD VIRTUAL NODE ID USING AMO KDEF (TYPE=OWN).

F71: <xxxxxxx> THE STATION CANNOT BE PROCESSED BECAUSE THE REQUIRED CONFIRMATION BY CALL PROCESSING HAS NOT BEEN RECEIVED YET. PLEASE REPEAT COMMAND LATER.

F72: <xxxxxxx> THE FICTITIOUS AUXDIGI STATION CANNOT BE DELETED BECAUSE IT IS ALREADY IN USE. OPTIONS:
- REPEAT COMMAND LATER
- REPEAT COMMAND WITH IMMEDIATE DEACTIVATION (OFFTYPE=DI)

F73: ITR GROUP OF @@@@@@@@@@ CANNOT BE CHANGED SINCE IT IS MEMBER OF AN ONS GROUP.

F74: DPLN GROUP OF @@@@@@@@@@ CANNOT BE CHANGED SINCE IT IS MEMBER OF AN ONS GROUP.

F75: COSX GROUP OF @@@@@@@@@@ CANNOT BE CHANGED SINCE IT IS MEMBER OF AN ONS GROUP

F76: <xxxxxxxxxxxx> THE FICTITIOUS AUXDIGI STATION CANNOT BE DELETED BECAUSE IT IS STILL USED IN AMO-DCIC. BEFORE DELETING THE STATION, DELETE THE CONFIGURATION IN AMO-DCIC

F77: <xxxxxxxxxxxx> DPLN @@@ IS NOT ALLOWED FOR NODE <xxxxxxxxxxxx>.

SCSU - Subscriber Configuration of Switching Unit

Error Messages and Advisories

F78: IT IS NOT ALLOWED TO CONFIGURE SUBSCRIBERS FOR TMDNH (BOS) BOARDS SINCE TRUNKS ARE ALREADY CONFIGURED ON IT

168.4.2 Advisories

H01: WHEN ENTERING STATION NUMBER RANGES, THE NUMBER OF DIGITS FOR EACH LIMIT MUST BE EQUAL. THE STNO RANGE <xxxxxxx>-<yyyyyyy> CANNOT BE PROCESSED.

H02: <xxxxxxx> NO FREE SPDI MEMORY. THE STATION IS CONFIGURED WITHOUT SPDI, RESPECTIVELY SPDI IS NOT CHANGED..

H05: <xxxxxxx> THE PARAMETER DIAL IS NOT PERMITTED FOR DIGITAL DEVICES. ENTRIES WILL BE IGNORED.

H06: <xxxxxxx> THIS STATION IS CONFIGURED AT PEN <nn-nn-nnn-nnn>.

H07: A RANGE INPUT FOR THE PARAMETER STNO MUST NOT COMPRISE MORE THAN 600 STATIONS. THE RANGE HAS BEEN TRUNCATED TO <xxxxxxx>-<yyyyyyy> FOR PROCESSING.

H08: <xxxxxxx> STATION DATA DELETED.

H09: <xxxxxxx> STATION DATA CHANGED.

H11: <xxxxxxx> CONTROL HAS BEEN PASSED TO CALL PROCESSING FOR STATION ACTIVATION.

H12: <xxxxxxx> THE STATION IS NOT ACTIVE.

H13: <xxxxxxx> THE STATION IS NOT ACTIVE (ID CARD USER).

H14: <xxxxxxx> DOWNLOADING OF PARAMETER <COFIDX/CCTIDX/PULSTYPE/CMIND/PULSLEV/DHPAR/DIAL> TO THE BOARD IS ONLY INITIATED AFTER DEACTIVATION AND REACTIVATION OF THE CIRCUIT (RESTART-DSSU:TYPE=PEN,PEN1=...;).

H16: <xxxxxxx> <COFIDX/CONN> IS A PEN-DEPENDANT PARAMETER WHICH IS IGNORED FOR VIRTUAL STATIONS (SIGNED OFF, FLOATING, ACLSTN).

H18: <xxxxxxx> NO STATION HAS BEEN CONFIGURED.

H19: THE STNO <xxxxxxx> HAS THE NEW NUMBER <yyyyyyy>. PLAUSIBLE PARAMETER ENTRIES HAVE ALSO BEEN CHANGED.

H20: NONE OF THE SPECIFIED STATIONS IS CONFIGURED BY SCSU.

H22: <xxxxxxx> THE ACKST PARAMETER IS ONLY VALID FOR SIMA STATIONS. SPECIFIED VALUES ARE IGNORED.

H23: <xxxxxxx> THIS STATION IS ASSIGNED.

H24: <xxxxxxx> PARAMETER ACKST=TE NOT ACCEPTED BECAUSE STATION IS ASSIGNED IN A NIGHT OPTION.

H25: <xxxxxxx> THE STATION IS NOT ACTIVE (STATION SIGNED OFF).

H26: <xxxxxxx> PARAMETER DIAL: FOR VIRTUAL ANALOG STATIONS (INS = SIGNOFF, FLOAT, ACLSTN) ONLY DIALING TYPE 'VAR' IS ALLOWED. THE SPECIFIED DIALING TYPE < DTMF / DP > IS IGNORED. THE ACTION IS PERFORMED WITH DIALING TYPE 'VAR'.

H28: <xxxxxxx> LIST OF 'FOREIGN' STATION NUMBERS REDIRECTED BY AMO TGER TO THIS STATION. THEY ARE NO LONGER AVAILABLE FOR THE LISTED NON VOICE SERVICE(S).

SERVICE	STATION NUMBER(S)
<ddd>	<zzzzzz>, <zzzzzz>, <zzzzzz>, <zzzzzz>, <zzzzzz>, <zzzzzz>, <zzzzzz>

H30: <xxxxxxx> FOR THIS DEVICE COMBINATION THE PARAMETER <param> IS NOT VALID. THE PARAMETER HAS BEEN IGNORED.

H32: <xxxxxxx> WHEN THE LINE OPERATES WITH 12 KHZ OR 16 KHZ METERING PULSES THE LINE LENGTH IS RESTRICTED TO 200 METERS.

SCSU - Subscriber Configuration of Switching Unit

Error Messages and Advisories

H33: <xxxxxxx> FOR DVCFIG = ANATECM CHARGE PULSE DURATION AND PAUSE CAN BE CHANGED BY AMO PTIME.

H34: SLMAR-PEN'S ARE SKIPPED FOR AUTOMATIC PEN SEARCH
(ADD MORE THAN 1 STNO OR NO PEN IN COMMAND) FOR DVCFIG = ANATE, ANATE&...

H35: <xxxxxxx> TEXTSEL=<value> IS NOT EFFECTIVE BECAUSE THIS LANGUAGE IS NOT INSTALLED IN CENTRAL PBX DATA (AMO ZAND, PARAMETER TEXTSEL).

H36: <xxxxxxx> TEXTSEL=<value> IS ONLY EFFECTIVE FOR DIGITE'S.
THE PARAMETER IS IGNORED.

H37: <xxxxxxx> FOR SLMA BOARDS, ID CARD USERS, ACL SUPPORT STATIONS AND SIGNED OFF STATIONS THE PARAMETER CCTIDX IS IGNORED

H38: <xxxxxxx> THE STATION IS NOT ACTIVE (ACL SUPPORT STATION).

H39: <xxxxxxx> DHPAR = MWLED IS A PEN-DEPENDANT PARAMETER WHICH IS IGNORED FOR VIRTUAL STATIONS (SIGNED OFF, FLOATING, ACLSTN).
THE ACTION IS PERFORMED WITH DHPAR = LEDSIGN

H40: <xxxxxxx> STATION LOCKING OR DOWNLOADING NOT NECESSARY, PARAMETER OFFTYPE IS IGNORED

H41: <xxxxxxx> DOWNLOADING OF PARAMETER <COFIDX/CCTIDX/PULSTYPE/PULSLEV/DHPAR/DIAL/CMIND> TO THE BOARD IS INITIATED

H43: <xxxxxxx> AN OFF PREMISES STATION (CONN=OPST1) HAS BEEN CONFIGURED AT A TMDNH BOARD (PEN=nn-nn-nnn-nnn).

H44: <xxxxxxx> FOR THE ENTERED DEVICE TYPE ONLY CONNECTION TYPE DIR IS ALLOWED.
THE ACTION IS PERFORMED WITH CONN=DIR.

H45: <xxxxxxx> THE AUTOMATIC PEN SEARCH FOR FREE PENS TAKES PLACE IN LTU SHELVES WITH SOURCE-GROUP=1 (SEE AMO UCSU).

H46: <xxxxxxx> THE AMO IS STILL WAITING FOR A CONFIRMATION BY CALL PROCESSING (MAX. 120 SEC)

H47: <xxxxxxx> THE CONTRACTED NUMBER OF FLEX+TDM LICENES IS EXCEEDED.
THE SUBSCRIBER HAS BEEN MARKED AS TRIAL ENTITY.
IT WILL BE BLOCKED, IF TRIAL MODE EXPIRES WITHOUT SUFFICIENT LICENSES.

H48: THE EXISTING DPLN OF THE STATION IS NOT IN ADPLN OF THE NEW NODE,
SO IT IS INTERNALLY SET TO THE DPLN OF THE NEW NODE

H49: <xxxxxxxxxxxx> TEXTSEL=xxxxxxxx IS NOT EFFECTIVE BECAUSE THIS LANGUAGE HAS NOT BEEN SET UP IN AP SPECIFIC DATA
(AMO UCSU, PARAMETER TEXTSEL)

168.4.3 Use of the Output Messages for Each Action

ADD	: F01, F02, F04, F05, F06, F07, F08, F10, F11, F12, F13, F17, F20, F22, F27, F29, F39, F41, F42, F43, F44, F45, F47, F48, F53, F58, F59, F61, F62, F63, F64, F65, F69, F70, F71 H01, H02, H05, H06, H07, H11, H12, H13, H16, H22, H23, H25, H26, H30, H32, H33, H34, H35, H36, H37, H38, H39, H43, H44, H45, H46
CHANGE	: F01, F02, F03, F07, F08, F09, F11, F13, F17, F20, F24, F30, F31, F32, F37, F39, F42, F43, F44, F45, F47, F53, F59, F60, F61, F62, F66, F67, F69, F71 H01, H02, H05, H07, H09, H14, H16, H19, H22, H24, H26, H30, H32, H33, H35, H36, H37, H39, H40, H41, H46

SCSU - Subscriber Configuration of Switching Unit
Error Messages and Advisories

DELETE	:	F01,	F15,	F16,	F18,	F30,	F31,	F32,	F37,	F42,	F47,	F66,	F67,	F68,	F72	H01,	H07,	H08,	H14,	H28,	H40,	H41
DISPLAY	:	H01,	H18,	H20																		
REGENERATE	:	H01,	H18																			

169 SDAT - Administration of individual subscriber attributes and General Subscriber Data

The description of this AMO is only available in html format!

170 SDSM - Status Output for System Server

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The status of all modules, circuits and devices is stored in the memory of the ADS

AMO SDSM (Status Display of Service Modules) can be used to obtain an overview of the status of all modules, circuits and devices of the ADS.

170.1 Restrictions

This description is valid from SP300E-V3.0

170.2 Interrelationships

- AMO BCSM : Configuration of server modules
- AMO CONSY : Cabinet and Frame Configuration of System
- AMO DCSM : Configuration of server devices
- AMO LCSM : Configuration of server lines

170.3 Functions of the AMO

- [DISPLAY-SDSM](#) : Interrogation of the status of modules, circuits and devices of the servers.

170.3.1 DISPLAY-SDSM

Output of SYSTEM-STATUS informations in the ADS

The various options for STATUS interrogation are:

- all line periphery modules (FCD, LBC, LCC, LCR, LCU, RAX, VDC)
- all LCR and LCU module channels

- all memory periphery (IOPS, DC) modules and connected devices (HD, FD, CT, TP)

See parameter description of "STATUS" for a list of possible status outputs.

Procedure Overview

Command Code	Parameter
DISPLAY-SDSM	UNIT=<param>, [AREA=<param>] , [STATUS=<param>], [LINK=<param>];

Examples

See also under "Explanation of the Various Output Masks"

See also under "Parameter Description"

- Status INS of SERVER areas LN, CHAN and FILE in ADS is to be output.

Input:

DISPLAY-SDSM:A1, LN&CHAN&FILE, INS;

Output:

H02: PARAMETER "STATUS" HAS NO INFLUENCE ON OUTPUT FOR AREA "FILE"

```
A1 - LN
-----
MOUNTING LOCATION  MODULE NAME      NOM. BD (#-ACT)  STATUS
P201.B      .A1 B.062  DM3L            #Q2230-X200    INS

A1 - CHAN
-----
MOUNTING LOCATION  MODULE NAME      NOM. BD (#-ACT)  STATUS
P201.B      .A1 B.062  DM3L            #Q2230-X200
CHANNEL: 01  . . . . . INS
CHANNEL: 02  . . . . . INS

A1 - FILE
-----
MOUNTING LOCATION  MODULE NAME      NOM. BD (#-ACT)  STATUS
CONTROLLER:        A1H1-            INS
DEVICE:             A1H11            Q210S            INS
AREA:               A1H1A            INS
AREA:               A1H1B            NPR
AREA:               A1H1C            NPR
AREA:               A1H1D            NPR
AREA:               A1H1E            INS
AREA:               A1H1F            INS
AREA:               A1H1G            INS
AREA:               A1H1H            INS
AREA:               A1H1I            NPR
.                  .                  .
.                  .                  .
AREA:               A1H1P            NPR
```

SDSM - Status Output for System Server

Functions of the AMO

```
CONTROLLER:      A1H2-      INS
DEVICE:          A1H21      Q210S  INS
AREA:            A1H2A      INS
.
.
.
AREA:            A1H2P      NPR
CONTROLLER:      A1H3-      NPR
CONTROLLER:      A1H4-      NPR
CONTROLLER:      A1H5-      NPR
CONTROLLER:      A1H6-      PRES
DEVICE:          A1H61      Q210S  DEF
AREA:            A1H6A      DEF
.
.
.
AREA:            A1H6P      DEF
CONTROLLER:      A1H7-      NPR
CONTROLLER:      A1H8-      NPR
LOCAL MEMORY IN SWU:
  CC-A:  48 MB
  CC-B:  48 MB
```

Note

In the case of the memory periphery devices, the output is not affected by the parameter STATUS.

The local memory in SWU is not output with monoprocessor switches.

2. Interrogate area LN for ADS with PSIO module.

Input:

```
DISPLAY-SDSM:A1, LN, ALL;
```

Output:

```
A1 - LN
-----
MOUNTING LOCATION  MODULE NAME  NOM. BD (#-ACT)  STATUS
P101.80CM .CC81.060  PSIO             #Q2139-X        INS
  LTG:  1  LTU:  1  PBC:  10          DC STATUS: READY
```

Explanation of the Various Output Masks

1. Line 1: Module data

```
P201.B    .A1 B.062  DM3L      Q2230-X200      INS
1111.2222.3333.444  5555      6666666666      77777
```

a) Explanation of the first line's fields.

- Field 1: Cabinet address
 - Cabinet row: P2
 - Cabinet number: 01

SDSM - Status Output for System Server

Functions of the AMO

- Field 2: Cabinet type: max. 5 characters (e.g. B, E, C, P, IS)
Example: B = Base cabinet
- Field 3: Logical module frame name
 - SHELF TYPE: max. 3 characters (z.B. AD, VM, TF, UNS, ISE)
 - SHELF NUMBER: max. 1 character (1-7)
- Field 4: Module frame slot
- Field 5: Short module name or memory device name
Examples for the memory device nameng
A1H1- (controller)
A1H11 (device)
A1H1A (area)
12345
- 4. Server name
 - A = Administration
 - V = Voice Mail Service
 - T = Tele-Communications Service
 - C = Call charges
- 5. Server number
- 6. Device type
 - H = Hard Disk
 - F = Floppy Disk
 - C = Cartridge
 - T = Tape device
- 7. Controller number
- 8. Device code
 - : Controller
 - 1-8 : Device number
 - A-P: Area designation hard disk only
- Field 6: Module code number
- Field 7: Module status
- b) Note on Fields 1 to 3:
The data for this fields is entered in the ADS database by AMO CONSY. If the database is empty, the following values are output:
 - Field 1: **
 - Field 2: **
 - Field 3:
 - SHELF TYPE: Server id. (e.g. A1, V1, T1)
 - SHELF NUMBER:

S Shelf of the SWU periphery (for PSIO modules)

SDSM - Status Output for System Server

Parameter Description

Type of Input : 1 bis 4 single values, optional
Possible Values : LN module of the line preiphery
CHAN channels
FILE module of the storage periphery with connected devices
Default Value : LN

LINK

Type of status search function
Type of Input : Single value, optional
Possible Values : OR a system section is displayed if at least one of the wanted states is set
AND a system section is only displayed if all wanted states have been set
Default Value : OR
Note : This parameter is only effective if something has been entered for parameter STATUS.

STATUS

Module states of the SERVER to be output
Type of Input : 1 bis 4 single values, optional
Possible Values : NCR not created
CREA created
PRES present
INS in service
AMO manually blocked by means of an AMO
BLKY manually blocked by means of a key
DEF blocked by dependability due to a fault
CHECK seized by dependability
DYNINIT hierarchically blocked
UNACHLBC hierarchically blocked LBC
UNACHLCX hierarchically blocked LCX
ALL all states
Default Value : Only out-of-service states are output.
The states INS and CHECK and the combination of NCR and NPR are not output.
Note : During input the type of search can be affected by means of parameter LINK.
In the case of memory periphery devices, parameter AREA=FILE, this parameter has no effect on the output.

UNIT

System part which is to carry out the STATUS interrogation
Type of Input : Single value, optional

Possible Values : A1 = Administration

170.5 Error Messages and Advisories

170.5.1 Error Messages

F01: ERROR ON RELOADING MODULE DATA
CONDITION CODE: @@@@
F02: ERROR ON RELOADING FRAME TYPE DATA
CONDITION CODE: @@@@

170.5.2 Advisories

H01: DESIRED STATUS NOT FOUND
H02: PARAMETER "STATUS" HAS NO INFLUENCE ON OUTPUT FOR AREA "FILE"!
H03: PARAMETER "LINK" ONLY VALID TOGETHER WITH INPUT FOR PARAMETER "STATUS"
H04: THERE IS NO VALUE FOR LOCAL MEMORY OF SWU AVAILABLE IN SERVER

171 SDSU - Status Display in Switching Unit

The description of this AMO is only available in html format!

172 SELG - Administration of Selection Groups and Selection Tables

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The function of the AMO is to administrate the selection groups and the selection tables they contain.

The *selection groups* contain the data of the output device (base and reserve) the block sizes of the devices, as well as the queue size and the selection tables.

A maximum of 4 selection groups are provided which, in turn, each contain 8 selection tables.

These tables form the basis for determining whether a call detail record is to be output and the device to which it is to be sent.

The selection tables contain the selection features for the individual customers.

If a selection group is in operation, the allocation of a call detail recording code (CRDCODE), an attendant group (ATNDGR) and a communication service (SERVICE) is checked before a call detail record is output. In addition, selection features 1 and 2 (group parameters for AMO- SELG) are checked.

If output is required, i.e. the selection result is positive, the data record is output according to block layout, format (with the exception of NOFORM), and output device. If NOFORM is entered, there is no output (masking out of specific connections).

The selection tables are scanned in ascending order from 1 to 8 in each selection group. If the conditions for output are met in one of the selection tables, scanning is terminated. The call charge data record is processed further in the next selection group (even if the format is NOFORM).

In fast output mode (see AMO-FEACG, value FAST) only the first selection group can be used and the number of possible output devices is restricted.

172.1 Interrelationships

- AMO-DAVF : Administration of CDR display at attendant console
- AMO-FEACG : Administration of the feature bit string for call detail recording

SELG - Administration of Selection Groups and Selection Tables

Functions of the AMO

- AMO-FTBL : Administration of output format tables
- AMO-GEZU : SMDR/DMDR Device Allocation
- AMO-GRZW : Administration of limit value tables
- AMO-KDEV : Administration of the customer master file
- AMO-RCUT : Administration of the route code conversion table
- AMO-SELL : Administration of station and destination number lists
- AMO-SELS : Administration of selection group switches
- AMO-TTBL : Administration of tariff tables

172.2 Functions of the AMO

- **ADD-SELG** : Add entries to the selection groups and selection tables
- **CHANGE-SELG** : Change entries in the selection groups and selection tables
- **DELETE-SELG** : Delete entries from the selection groups and selection tables
- **DISPLAY-SELG / REGENERATE-SELG** : Interrogate selection groups and selection tables / Regenerate selection groups and selection tables

172.2.1 ADD-SELG

For the action ADD, the operator can choose between adding entries to or creating a selection group or a selection table.

The AMO executes various tests when values are entered for a selection group.

The AMO first checks the entered values against the "bit string", to determine which features have been implemented. The checks refer to the output device i.e. if an output device not implemented in the system is specified (bit not set in the bit string), the AMO rejects this entry.

The AMO then verifies the individual parameter values and changes any incorrect values, which can logically only assume a specific value within the combination, to the correct values. Only certain specific value combinations are possible (depending on the base device specified).

BASDEV	RESDEV	BLBAS	BLRES	RESOP
ATTEND	NODEV	1	0	N
CDRC1	available	1	avail.*)	available
CDRC2	available	1	avail.*)	available

Table 9 Value Combination Table

BASDEV	RESDEV	BLBAS	BLRES	RESOP
FT**)	available	available	avail.*)	available
CDR	NODEV	1	0	Y
TAPE**)	available	available	avail.*)	available
DPS**)	available	available	avail.*)	available
DEV1	available	available	avail.*)	available
DEV2	available	available	avail.*)	available
DEV3	available	available	avail.*)	available
DEV4	available	available	avail.*)	available

Table 9 Value Combination Table

*) depending on reserve device

**) There are only these output devices permitted in fast output mode (see AMO-FEACG, value FAST)

Note

Thus, incorrect entries cannot be made because the AMO can automatically change most incorrectly entered values to correct values. If a parameter value is changed, the AMO reports this to the user.

For incorrect parameter values which cannot be corrected automatically (several logically acceptable values for one parameter), the AMO requests a re-entry.

When the selection features are entered in the selection table (entries in the selection table are possible only if the selection group has already been created), the AMO checks the compatibility of the values with each other. As in the case of the selection groups, certain parameters are dependent upon others (e.g. device and format).

DEVICE	FORMAT
NODEV	NOFORM
ATTEND	ATTEND
CDRC1	HDFORM
CDRC2	HDFORM
CDRS	CDRSFORM

Table 10 Interrelationship of Device and Format

DEVICE	FORMAT
FT	FORM01 to FORM16
TAPE	
DPS	
DEV1	
DEV2	
DEV3	
DEV4	

Table 10 Interrelationship of Device and Format

Note

NOFORM can be specified for any device (if output is not desired).

If an incorrect value is entered for the format in this case, the AMO automatically changes this value to the correct value (if possible), or requests a re-entry of the desired format.

The user can specify several values for different parameters (communication service, route number, attendant console group, etc.). If, for example, several communication services are specified, all the call detail records for each of these communication services are output).

The status of the selection group remains "OFF_WITHOUT_QUEUEING", i.e. although the selection group is ready, it must be put into operation explicitly by means of the AMO-SELS.

- 1. Entering values in a selection group
- 2. Entering values in a selection table

Procedure Overview

Command Code	Parameter
ADD-SELG	| TBL=SELG, SELGNO=<number>, RESOP=<string> (1) , BASDEV=<string>, RESDEV=<string> , BLBAS=<number>, BLRES=<number>;
	| TBL=SELT, SELGNO=<number>, SELTABNO=<number> (2) , FORMBAS=<string>, FORMRES=<string> , TARIF=<string>, DESTCNT=<string>, CDRCD=<number> , SERVICE=<string>, ATNDGR=<number>, CTYPE=<string> , PAYPARTY=<string>, CDRC=<string> , CDRSTA=<string>, THRGCON=<string> , NSTAT=<string>, SECTION=<string>, CDCHU=<string> , CDRAC=<string>, SFSETUP=<string>, CDBAD=<string>

Command Code

Parameter

```
,CDRULTE=<string>, CONNT=<string>, PCODE=<string>
,PPCF=<string>, STATAB1=<string>, STATAB2=<string>
,DNOTBL1=<string>, DNOTBL2=<string>
,CDRULT=<number>, CONNTL=<number>
,LEVEL0=<number>, LEVEL1=<number>, LEVEL2=<number>
,TIELINE=<param>, EXPENS=<param>, [CONNTYP=<string>]
,COPIN=<number>, CARRIER=<number>, RECTYP=<string>;
```

Examples:

1. Create selection group 1 with the following parameters:

Reserve operation possible,
Base device CDRC1, reserve device is output device 1,
The block size of base device has the value 1,
The block size of reserve device has the value 60.

Input:

```
ADD-
SELG:TBL=SELG, SELGNO=1, RESOP=Y, BASDEV=CDRC1, RESDEV=DEV1, BL
BAS=1, BLRES=60;
```

2. The call charges of all outgoing calls set up by the attendant console are to be displayed on the attendant console on termination of each call.

This is to be done in selection group 2 using selection table 1.

Parameter Values:

```
+=====+
|                                     SELECTION GROUP   : 2                                     |
+-----+
|          OPERATING STATE   :   OFF_WITHOUT_QUEUEING          |
|                                     RESOP       :   N          |
|          BASDEV      :   ATTEND          BLBAS      :   1          |
|          RESDEV      :   NODEV          BLRES       :   0          |
+-----+
|          SELECTION GROUP   : 2          SELECTION TABLE   : 1          |
| FORMBAS   :   ATTEND          TARIFF      :   TARGR01          |
| FORMRES   :   NOFORM          DESTCNT     :   A22              |
| LEVEL0    :   0&&999          |
| LEVEL1    :   0&&254          |
| LEVEL2    :   0&&30           |
| CDRCD     :   0&&9999999      |
| ATNDGR    :   0&&15           |
| SERVICE   :   VOICE          |
| CDRULT     :   0          CONNTL      :   00 : 00 : 00          |
| COPIN      :   0&&15          CARRIER   :   0&&9              |
| SELECTION FEATURES 1 :          |
| CTYPE      :   ALL          PAYPARTY    :   ALL          NSTAT      :   N |
| CDRAC      :   ATND          SFSETUP     :   N          CDBAD       :   N |
| CDRC       :   N          CDRSTA        :   N          THRGCON      :   N |
| SECTION    :   N          TIE-LINE      :   N          EXPENS       :   N |
| CONNTYP    :   OUTG          |
| RECTYP     :   ALL          |
+-----+
```

Functions of the AMO

ADD-

ADD-

```
,CONNTYP=OUTG,COPIN=0&&15,CARRIER=0&&9,RECTYP=ALL;
```

- Parameter Values:

OpenScape 4000 V10, AMO Descriptions, Service Documentation

SELG - Administration of Selection Groups and Selection Tables

Functions of the AMO

|	CDRULT	:	5		CONNTL	:	00 : 00 : 00		|	
|	COPIN	:	0&&15		CARRIER	:	0&&9		|	
|	SELECTION FEATURES 1 :									
|	CTYPE	:	ALL		PAYPARTY	:	ALL		NSTAT : N |	
|	CDRAC	:	N		SFSETUP	:	N		CDBAD : N |	
|	CDRC	:	N		CDRSTA	:	N		THRGCON : N |	
|	SECTION	:	N		TIE-LINE	:	N		EXPENS : N |	
|	CONNTYP	:	INTERN	&INCO	&OUTG	&ACACT	&LOAD		|	
|	RECTYP	:	CDR							|
|	SELECTION FEATURES 2 :									
|	CDCHU	:	Y		CDRULTE	:	N		CONNT : N |	
|	PCODE	:	N		PPCF	:	N		STATAB1 : N |	
|	STATAB2	:	N		DNOTBL1	:	N		DNOTBL2 : N |	

+=====+

Input:

ADD-

SELG:TBL=SELG, SELGNO=3, RESOP=N, BASDEV=DEV1, RESDEV=NODEV, BLBAS=1, BLRES=0;

ADD-

SELG:TBL=SELT, SELGNO=3, SELTABNO=1, FORMBAS=FORM01, FORMRES=NOFORM, TARIF=TARGR03

, DESTCNT=A05, CDRCD=8, SERVICE=VOICE, ATNDGR=0&&15, CTYPE=ALL

, PAYPARTY=ALL, CDRC=N, CDRSTA=N, THRGCON=N, NSTAT=N, SECTION=N, CDCHU=Y

, CDRAC=N, SFSETUP=N, CDBAD=N, CDRULTE=N, CONNT=N, PCODE=N, PPCF=N

, STATAB1=N, STATAB2=N, DNOTBL1=N, DNOTBL2=N, CDRULT=5, CONNTL=000000

, LEVEL0=0&&999, LEVEL1=0&&254, LEVEL2=0&&30, TIELINE=N, EXPENS=N

, CONNTYP=ALL, COPIN=0&&15, CARRIER=0&&9, RECTYP=CDR;

172.2.2 CHANGE-SELG

Change one or more entries in a selection group, or a selection table. The user can simultaneously change the selection tables of a selection group when changing this selection group.

As is the case when creating the selection group, only specific combinations of parameter values are possible (see above). The same tests carried out for the action ADD-SELG are also executed for the action CHANGE-SELG.

If the base or reserve device is changed, the AMO checks whether the formats in the selection tables are still compatible with the devices. If the entries are not compatible, the selection tables containing

Functions of the AMO

1. Change entries in a selection group
2. Change entries in a selection table

Command Code	Parameter	
CHANGE-SELG	TBL=SELG, SELGNO=<number>, { (min 1) RESOP=<string> , BASDEV=<string>, RESDEV=<string> , BLBAS=<number>, BLRES=<number>;	(1)
	TBL=SELT, SELGNO=number>, SELTABNO=<number> , [FORMBAS=<string>], [FORMRES=<string>] , [TARIF=<string>], [DESTCNT=<string>], [CDRCD=<number>] , [SERVICE=<string>], [ATNDGR=<number>], [CTYPE=<string>] , [PAYPARTY=<string>], [CDRC=<string>] , [CDRSTA=<string>], [THRGCON=<string>] , [NSTAT=<string>], [SECTION=<string>], [CDCHU=<string>] , [CDRAC=<string>], [SFSETUP=<string>], [CDBAD=<string>] , [CDRULTE=<string>], [CONNT=<string>], [PCODE=<string>] , [PPCF=<string>], [STATAB1=<string>], [STATAB2=<string>] , [DNOTBL1=<string>], [DNOTBL2=<string>] , [CDRULT=<number>], [CONNTL=<number>], [LEVEL0=<number>] , [LEVEL1=<number>], [LEVEL2=<number>], [TIELINE=<param>] , [EXPENS=<param>], [CONNTYP=<string>], [COPIN=<number>] , [CARRIER=<number>], [RECTYP=<string>;	(2)

1. In selection group 1, the base device is to be changed to DEV1.

CHANGE-SELG:TBL=SELG,SELGNO=1,BASDEV=DEV1;

Input:

CHANGE-SELG:TBL=SELT,SELGNO=2,SELTABNO=1,SERVICE=FA&DTE;

172.2.3 DELETE-SELG

When a selection field is deleted, the user can specify whether the entire field (selection group), or only one selection table from a selection group is to be deleted.

When a selection group is deleted, the operating state of the selection group is set to "OFF_WITHOUT_QUEUEING". The respective entries for the base and reserve devices are set to NODEV, the block sizes (base and reserve) and the number of queued calls (CNTQEL) are set to 0, and all the selection tables in this selection group are deleted.

When one selection table is deleted in a selection group, all of the entries in this selection table are deleted.

If the last selection table in the selection group is deleted, then the selection group is set to "OFF_WITHOUT_QUEUEING".

Procedure Overview

Command Code

DELETE-SELG

Parameter

SELGNO=<number>, [SELTABNO=<number>];

Example

1. Selection table 2 is to be deleted in selection group 3.

Input:

DELETE-SELG:SELGNO=3,SELTABNO=2;

172.2.4 DISPLAY-SELG / REGENERATE-SELG

1. Interrogate the entries in the selection groups or the selection tables with output on screen in tabular form (DISPLAY)
2. Interrogate the entries in the selection groups or in the selection tables with generation of a command listing for the action ADD-SELG (REGENERATE).

Procedure Overview

Command Code

DISPLAY-SELG

| REGENERATE

Parameter

[SELGNO=<number>], [SELTABNO=<number>];

[SELGNO=<number>], [SELTABNO=<number>];

(1)

(2)

SELG - Administration of Selection Groups and Selection Tables
Functions of the AMO

Examples:

1. Output selection group data in tabular form:

DISPLAY selection group 2

Input:

DISPLAY-SELG:SELGNO=2,SELTABNO=1;

Output:

SELECTION GROUP : 2									

OPERATING STATE : OFF_WITHOUT_QUEUEING									
BASDEV : ATTEND					RESOP : N				
RESDEV : NODEV					BLBAS : 1				
					BLRES : 0				
=====									
SELECTION GROUP : 2					SELECTION TABLE : 1				
FORMBAS : ATTEND					TARIFF : TARGR01				
FORMRES : NOFORM					DESTCNT : A22				
LEVEL0 : 0&&999									
LEVEL1 : 0&&254									
LEVEL2 : 0&&30									
CDRC D : 0&&999999									
ATNDGR : 0&&15									
SERVICE : VOICE									
CDRULT : 0					CONNTL : 00 : 00 : 00				
COPIN : 0&&15					CARRIER : 0&&9				
SELECTION FEATURES 1 :									
CTYPE : ALL			PAYPARTY : ALL			NSTAT : N			
CDRAC : ATND			SFSETUP : N			CDBAD : N			
CDRC : N			CDRSTA : N			THRGCON : N			
SECTION : N			TIE-LINE : N			EXPENS : N			
CONNTYP : OUTG									
RECTYP : ALL									
SELECTION FEATURES 2 :									
CDCHU : Y			CDRULTE : N			CONNT : N			
PCODE : N			PPCF : N			STATAB1 : N			
STATAB2 : N			DNOTBL1 : N			DNOTBL2 : N			
=====									

The selection groups are always output together with the associated selection tables.

Only selection tables which contain entries are output.

If a selection group has no entries, the output of this group appears as follows:

Input:

DISPLAY-SELG:SELGNO=4;

Output:

SELECTION GROUP : 4			
OPERATING STATE : OFF_WITHOUT_QUEUEING			
		RESOP :	
BASDEV :		BLBAS :	
RESDEV :		BLRES :	

2. Output selection group data in position oriented commands.

Input:

REGEN-SELG:SELGNO=2,SELTABNO=1;

Output:

```
ADD-SELG:SELG,2,N,ATTEND,NODEV,1,0;
CHANGE-SELG:SELT,2,1,ATTEND,NOFORM,TARGR01,A22;
CHANGE-SELG:SELT,2,1,,,,,0&&999999;
CHANGE-SELG:SELT,2,1,,,,,VOICE;
CHANGE-SELG:SELT,2,1,,,,,0&&15;
CHANGE-
SELG:SELT,2,1,,,,,,ALL,ALL,N,N,N,N,N,Y,ATND,N,N,N,N,N,N,N,N,N;
CHANGE-SELG:SELT,2,1,,,,,,0,000000;
CHANGE-
SELG:SELT,2,1,,,,,,0&&999,0&&254,0&&30;
CHANGE-
SELG:SELT,2,1,,,,,,N,N,OUTG,0&&15,0&&9,ALL;
```

172.3 Parameter Description

172.3.1 Parameter Description for Selection Groups

The parameters RESOP, BASDEV, RESDEV, BLBAS and BLRES form a min-1-group for the function CHANGE-SELG. At least one of these parameters must be declared.

BASDEV	Base output device (See AMO-GEZU for dev. alloc. table) Type of Input : Single value, required (ADD) 2. parameter of a min-1-group (CHANGE) Possible Values : ATTEND Display on attendant console CDRC1 Call detail recording - central, file 1 CDRC2 Call detail recording - central, file 2 CDRS Station call detail recording file TAPE Output on magnetic type DPS ON-LINE Transmission to DPS DEV1 Output on device 1 DEV2 Output on device 2 DEV3 Output on device 3 DEV4 Output on device 4 FT File for file-transfer DEV1 to DEV4 are devices for individual customers with V254 interfaces that must be allocated to a physical device via the AMO-GEZU. In fast output mode (see AMO-FEACG, Fast output) only the values TAPE, DPS, FT, will be accepted as entry
BLBAS	Block size of base output device (‘Block size’ is understood to mean the number of call detail records per output block). Type of Input : Single value, required (ADD) 4. parameter of a min-1-group (CHANGE) Possible Values : 1 - 127 Important Note: : Always enter the value 1 (individual output) for the device type ‘ATTEND’.
BLRES	Block size of reserve output device (see BLBAS)

Type of Input : Single value, required (ADD)
 5. parameter of a min-1-group (CHANGE)
 Possible Values : 0 - 127

RESDEV

Reserve output device

(See AMO-GEZU for device allocation table)

Type of Input : Single value, required (ADD)
 3. parameter of a min-1-group (CHANGE)

Possible Values : NODEV No device
 ATTEND Display at attendant console
 CDRC1 Call detail recording - central, file 1
 CDRC2 Call detail recording - central file 2
 CDRS Station call detail recording file
 TAPE Output on magnetic device
 DPS ON-LINE transmission to DPS
 DEV1 Output on device 1
 DEV2 Output on device 2
 DEV3 Output on device 3
 DEV4 Output on device 4
 FT File for file-transfer

Important Note : The device type of the reserve device need not be the same as that of the base device.

A reserve device entry is not permissible in the following instances:

Base device = ATTEND

Base device = CDRS

In fast output mode only values TAPE, DPS, FT will be accepted as entry.

SELG - Administration of Selection Groups and Selection Tables

Parameter Description

RESOP	Reserve mode operation
Type of Input	: Single value, required (ADD) 1. parameter of a min-1-group (CHANGE)
Possible Values	: Y If a reserve device has been specified, reserve operation is started immediately in the event of a defective base device. N If a reserve device has been specified, reserve operation is not started until the queue capacity limit is reached. Prior to each output on the reserve device, a check is made to determine whether the base device is still defective. Output is automatically switched to the base device as soon as it is repaired.
SELGNO	Selection group number
Type of Input	: Single value, required (ADD, CHANGE, DELETE), optional (DISPLAY, REGENERATE)
Possible Values	: 1 - 4
TBL	SELG options: selection group or selection table
Type of Input	: Single value, required (ADD,CHANGE)
Possible Values	: SELG Selection group SELT Selection table

172.3.2 Parameter Description for Selection Tables

Note: The following rules apply to parameters with the possible values 'Y' or 'N':

'Y' = A selection will be made (parameter specified as a selection criterion).

'N' = A selection will not be made (not specified as a selection criterion).

Example:

Parameter CDCH=Y: Only data records with call charge units are output on the device.

Parameter CDCH=N: Data records both with and without call charge units are output (i.e. records are included in output selected according to other criteria).

SELG - Administration of Selection Groups and Selection Tables

Parameter Description

ATNDGR	Attendant group number (see AMO VFGR)
Type of Input	: Single value, chained single values, ranges, required (ADD), optional (CHANGE)
Possible Values	: 0 - 15
CARRIER	Number of Carrier
	Single value, 5 chained single values, ranges, required (ADD), optional (CHANGE)
Possible Values	: 0 - 9
Default Value	: 0&&9
CDBAD	Output of faulty (bad) call detail records
Type of Input	: Single value, required (ADD), optional (CHANGE)
Possible Values	: N (not specified as a selection criterion) Output of call data records with or without errors.
	Y Only bad data records are output.
CDCHU	Call detail records output with appropriate call charge units
Type of Input	: Single value, required (ADD), optional (CHANGE)
Possible Values	: N (not specified as selection criterion). Call detail records with and without call charge units are output in this table.
	Y Only call charge data records with call charge units are output.
CDRAC	Call detail recording at ATND (user/ attendant call setup)

SELG - Administration of Selection Groups and Selection Tables

Parameter Description

	Type of Input	: Single value, required (ADD), optional (CHANGE)
	Possible Values	: ATND Output of call detail records marked with the CDRACA code for attendant setup via the CDRAC key at the attendant console). This code marks an entire call, even in the case of call transfer and call pickup. N All calls, including CDRACS and CDRACA calls, are output. STN Output of call detail records marked with CDRACS code for station setup.
CDRC	Output of details for stations with central CDR authorization	
	Type of Input	: Single value, required (ADD), optional (CHANGE)
	Possible Values	: Y Only calls with CDRC are output. N (not specified as a selection criterion).
CDRCD	Virtual route code; indication of call type	
	Type of Input	: Single value, chained single values, ranges, required (ADD), optional (CHANGE)
	Possible Values	: max. of 6 positions
	With the AMO-RCUT the actual, selected routing code (max. 6 digits) can be converted into a virtual (6 digits) routing code. If the entry is missing in the RCUT table, the actual, selected routing code is output.	
CDRSTA	Output of details for stations with station CDR authorization, only	
	Type of Input	: Single value, required (ADD), optional (CHANGE)
	Possible Values	: Y Only calls with CDRSTA are output. N (not specified as a selection criterion).
CDRULT	Call charge unit limit value	
	Type of Input	: Single value, required (ADD), optional (CHANGE)
	Possible Values	: 0 - 4095 This limit value is less than the call charge limit value for a call transfer (see AMO GRZW). If CDRULTE=N, enter 0000.

CDRULTE	Output of call details where call charge unit limit value exceeded		
	Type of Input	: Single value, required (ADD), optional (CHANGE)	
	Possible Values	: N	No call charge limit value in the selection table.
		Y	Only those data records that exceed the call charge limit value are output, as specified in AMO-GRZW.
CONNT	Output of calls which exceed the connection time limit		
	Type of Input	: Single value, required (ADD), optional (CHANGE)	
	Possible Values	: N	= No call time limit value in the selection table (CONNTL = 000000).
		Y	= Only those data records that exceed the time limit value are output, as specified in AMO-GRZW.
CONNTL	Connection time limit		
	Type of Input	: Single value, required (ADD), optional (CHANGE)	
	Possible Values	: 6 positions Specified in HRS./MINS./SECS. This limit value is also less than the call time limit value for a call transfer (see AMO-GRZW). If CONNT=N, enter 000000.	
CONNTYP	Connection type		
	Type of Input	: Single value, 5 chained single values with & optional (ADD, CHANGE)	
	Possible Values	: INT	: Output only of internal connections
		INCO	: Output only of incoming connections
		OUTG	: Output only of outgoing connections
		LOAD	: Output of processor load
		ACACT	: Output of events of attendant console (AC)
		ALL	: Output of all connections
	Default Value	: ALL	
COPIN	Class of PIN		
	Type of Input	: Single value, 4 chained single values, ranges required (ADD),	

Parameter Description

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Parameter Description

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SELG - Administration of Selection Groups and Selection Tables

Parameter Description

		NOFORM	No format
FORMRES	Format of reserve output device		
	Type of Input	: Single value, required (ADD), optional (CHANGE)	
	Possible Values	: see FORMBAS	
LEVEL0	Node number		
	Type of Input	: Single value,10 chained single values, ranges, required (ADD), optional (CHANGE)	
	Possible Values	: 0 - 999	
	Default value	: 0 && 999	
LEVEL1	Subdomain number		
	Type of Input	: Single value,10 chained single values, ranges, required (ADD), optional (CHANGE)	
	Possible Values	: 0 - 254	
	Default value	: 0 && 254	
LEVEL2	Domain number		
	Type of Input	: Single value,10 chained single values, ranges, required (ADD), optional (CHANGE)	
	Possible Values	: 0 - 30	
	Default value	: 0 && 30	
NSTAT	Night status		
	Type of Input	: Single Value,	required
	Possible Values	: Y, N	

PAYPARTY	Party bearing call charges		
Type of Input	:	Single value, required (ADD), optional (CHANGE)	
Possible Values	:	ALL	Output of all calls
		ATND	Attendant console
		MTLC	PBX tie line limit
		NIGHT	Output of all call types

If only calls from stations (STN) are to be output, one selection table must be created for each of the paying parties ATND, MTLC, and NIGHT in the selection group. PAYPARTY=ALL must be entered in the following selection table.

Reason: Code for STN is missing.

Calls with the codes MTLC, ATND, and NIGHT must be output or masked out previously (NOFORM for FORMAT).

A virtual attendant console number can be entered for the attendant console using AMO-TLZO.

A virtual line number (paying party) must be entered for the PBX (MTLC) using AMO-TLZO.

PCODE	Personal code number		
Type of Input	:	Single value, required (ADD), optional (CHANGE)	
Possible Values	:	N	(Not specified as a selection criterion) Call detail records other than PCODE records are also output.
		Y	Only data records with PCODE are output.

PPCF	Paying party is member of customer file		
Type of Input	:	Single value, required (ADD), optional (CHANGE)	
Possible Values	:	N	(not specified as a selection criterion)
		Y	The paying party must be a member of the customer master file (add member with AMO-KDEV), in order to output call detail records with this criterion.

RECTYP	Record is relevant for CDR / PM / CDR&PM		
Type of Input	:	Single value, required (ADD), optional (CHANGE)	
Possible Values	:	ALL	CDR and PM records are output.

SELG - Administration of Selection Groups and Selection Tables

Parameter Description

		CDR	Only CDR records are output.
		PM	Only PM records are output.
SECTION	Call section output (e.g. up to call change or time limit).		
	Type of Input	: Single value, required (ADD), optional (CHANGE)	
	Possible Values	: N (not specified as a selection criterion) Output of call detail records with or without 'call detail section' mark.	
		Y	Only those calls marked as 'call detail sections' (attainment of the limits for CONNTL or CDRULT) are output. See AMO-GRZW
SELTABNO	Selection table number		
	Type of Input	: Single value, required (ADD, CHANGE) optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: 1 - 8	
SERVICE	Communication service		
	Type of Input	: Single value, chained single values, area addresses required (ADD) optional (CHANGE)	
	Possible Values	: DTE Data terminal equipment, analog and all other speeds FAX Telefax VOICE Voice connection, analog	
SFSETUP	Connection via S&F setup (Store and Forward)		
	Type of Input	: Single value, required (ADD); optional (CHANGE)	
	Possible Values	: Y	

N

STATAB1 Paying party is member of station table 1

Type of Input : Single value, required (ADD),
optional (CHANGE)

Possible Values : N (not specified as a selection criterion)
Y The paying party must be included in station table 1 (must be created with AMO-SELL), if this selection criterion is specified. If the output format in the selection table is NOFORM, then these call detail records will not be output (masking out of call detail records of specific stations).

STATAB2 Paying party is member of station table 2

Type of Input : Single value, required (ADD),
optional (CHANGE)

Possible Values : Y, N

See STATAB1

If STATAB1 and STATAB2 have the value 'Y', the paying parties must be entered in subscriber tables 1 or 2 in order to either obtain a printout or mask out the data record.

TARIF Tariff used for call charge calculation

Type of Input : Single value, required (ADD),
optional (CHANGE)

Possible Values : NOCALC No call charge calculation
(However, if the output device is an attendant console, the call charge units are output).

TARGR00	Tariff Group Table 0
TARGR01	Tariff Group Table 1
TARGR02	Tariff Group Table 2
TARGR03	Tariff Group Table 3
TARGR04	Tariff Group Table 4
TARGR05	Tariff Group Table 5

For call charge calculations the tariff group tables (0 to 5) must be created by means of AMO-TTBL.

In addition, the holiday tables and the tariff period tables must be created with the AMOs FETA and TABT respectively.

If CDRAC is specified, and TARIF=NOCALC, then the call charge units are still displayed at the attendant console.

SELG - Administration of Selection Groups and Selection Tables

Error Messages and Advisories

THRGCON	Output of call detail records with sign through connect'
Type of Input	: Single value, required (ADD), optional (CHANGE)
Possible Values	: Y Only connections with state 'THROUGH CONNECT' N All connections
TIELINE	Tieline
Type of Input	: Single value, optional (ADD) optional (CHANGE)
Possible Values	: Y With tieline N Without tieline
Default Value	: N

172.4 Error Messages and Advisories

172.4.1 Error Messages

F01: FEATURE (DEVICE) IS NOT AVAILABLE - SWITCH ON WITH AMO FEACG
Solution: switch on feature with AMO-FEACG

F02: BLOCK SIZES ARE TOO LARGE, MAX @@@@ STILL POSSIBLE!

F03: MINIMUM NUMBER OF QUEUE ELEMENTS ARE NO LONGER PRESENT
Solution: prompt values, decrease blocksize in the other Selectiongroups, until the minimum number of queue elements are available again.

F04: SELECTION GROUP DOES NOT EXIST

F05: not used

F06: FORMAT OF THE BASE DEVICE MUST BE FORM01 TO FORM16

F07: FORMAT OF THE RESERVE DEVICE MUST BE FORM01 TO FORM16

F08: not used

F09: SELECTION GROUP IS DELETED

F10: SELECTION TABLE IS DELETED

F11: TIME-LIMIT ENTRY NOT POSSIBLE

F12: SELECTION GROUP ALREADY EXISTS

F13: SELECTION TABLE ALREADY EXISTS

F14: IF A SELECTION TABLE IS SPECIFIED, A SELECTION GROUP MUST BE SPECIFIED AS WELL

F15: not used

F16: ONLY FOLLOWING VALUES ARE FOR DESTCNT ALLOWED: A0...A22 OR L0...L22

F17: IN CASE OF FAST OUTPUT THERE IS ONLY THE SELECTION GROUP 1 POSSIBLE

F18: BASIC DEVICE NOT ALLOWED IN FAST OUTPUT MODE ONLY THE DEVICES TAPE, DPS AND FT ARE ALLOWED

F19: RESERVE DEVICE NOT ALLOWED IN FAST OUTPUT MODE ONLY THE DEVICES TAPE, DPS AND FT ARE ALLOWED
F20: PLEASE ENTER VALUES IN RISING ORDER

172.4.2 Advisories

H01: RESERVE DEVICE MUST BE NODEV, IS CHANGED TO NODEV
H02: not used
H03: NO RESERVE OPERATION POSSIBLE, ENTRY CHANGED TO NO
H04: BLBAS MUST BE 1, IS CHANGED TO 1
H05: BLRES MUST BE 0, IS CHANGED TO 0
H06: BLRES MUST BE 1, IS CHANGED TO 1
H07: BLOCKSIZE FOR THIS DEVICE MUST BE AT LEAST 1. ENTRY CHANGED TO 1
H08: FORMAT OF BASE DEVICE MUST BE TTXFORM, CHANGED TO TTXFORM
H09: FORMAT OF BASE DEVICE MUST BE ATTEND, CHANGED TO ATTEND
H10: FORMAT OF THE BASE DEVICE MUST BE HDFORM, CHANGED TO HDFORM
H11: FORMAT OF THE BASE DEVICE MUST BE CDRSFORM, IS CHANGED TO CDRSFORM
H12: FORMAT OF THE RESERVE DEVICE MUST BE NOFORM, CHANGED TO NOFORM
H13: FORMAT OF THE RESERVE DEVICE MUST BE ATTEND, CHANGED TO ATTEND
H14: FORMAT OF THE RESERVE DEVICE MUST BE HDFORM, CHANGED TO HDFORM
H15: FORMAT OF THE RESERVE DEVICE MUST BE CDRSFORM, CHANGED TO CDRSFORM
H16: INCOMPATIBILITY WITH THE FORMATS IN THE SELECTION TABLES DUE TO CHANGES IN THE SELECTION GROUP. FORMAT OF BASE DEVICE MUST BE NOFORM OR FORM01-FORM16, CHANGED TO NOFORM
H17: LAST SELECTION TABLE OF THIS SELECTION GROUP HAS BEEN DELETED, SELECTION GROUP HAS BEEN DEACTIVATED
H18: INCOMPATIBILITY WITH THE FORMATS IN THE SELECTION TABLES DUE TO CHANGES IN THE SELECTION GROUP. FORMAT OF RESERVE DEVICE MUST BE NOFORM OR FORM01-FORM16, CHANGED TO NOFORM
H19: THE TABLE SETUP IS SUCCESSFUL ONLY, IF PARAMETER SERVICE IS SPECIFIED
H20: IN CASE OF FAST OUTPUT THERE ARE ONLY THE SELECTION GROUPS 1,2,3 POSSIBLE

172.4.3 Output texts

@ Number of the selection group
@@@@@ max. possible blocksize

173 SELL - Administration of Station and Destination Number Lists

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The station number tables and the destination number tables are customer-specific tables, i.e. they are created by the system user. The user of the Hicom system can enter specific station numbers or destination numbers in these lists, which can then be used to select the output.

The station numbers correspond to the field CHRGEE in the ticket (see AMO-FTBL).

The destination numbers correspond to the field DESTPTY in the ticket (see AMO-FTBL).

173.1 Interrelationships

- AMO-SELG : Administration of the selection groups and tables

173.2 Functions of the AMO

- [ADD-SELL](#) : Enter station or destination numbers
- [DELETE-SELL](#) : Cancel entries or lists
- [DISPLAY-SELL / REGENERATE-SELL](#) : Interrogate list contents / Regenerate the lists

173.2.1 ADD-SELL

A number is entered in the destination number table or the station number table. However, in this case the AMO does not check whether the number to be entered is a valid destination or station number.

The station numbers can have a maximum of 22 digits and are entered in the station number list in ascending order.

SELL - Administration of Station and Destination Number Lists

Functions of the AMO

The destination numbers can have a maximum of 22 digits. The numbers are entered in the destination number lists arranged according to the communication service. Within a communication service, the destination numbers are arranged in ascending order.

To each number the node numbers are appropriate. The node numbers (parameters LEVEL0, LEVEL1 and LEVEL2) must be indicated for creating a number. They enable a unique allocation in the network.

If a number (inclusive node number) already exists in the table, this number is not entered and a message is sent to the user (errormessage F01: NUMBER IS ALREADY IN THE TABLE).

Furthermore, destination numbers are not entered, if the first part of a destination number (with same node number) has already been entered.

If, for example, destination number 02 has already been entered in the destination number table and the user enters a new destination number 023, this number (023) is already covered by the first destination number(02). Thus, destination number 023 is rejected.

If there is no more space available in the table, the AMO is not executed and a corresponding message is sent to the user.

For station number table a maximum of 300 and for destination number table a maximum of 100 entries can be carried out.

- 1. Entry of station numbers in the station number list
- 2. Entry of destination numbers with the service ID in the destination number list

Procedure Overview

Command Code	Parameters	
ADD-SELL	TBL=STNTBL1 | 2, STNO=<number>, LEVEL0=<number> , LEVEL1=<number>, LEVEL2=<number>;	(1)
	TBL=DNOTBL1 | 2, STNO=<string>;	(2)

Examples

- 1. Station number 123456 with node numbers 1, 1, 30 is to be entered in station table 1.

Input:

```
ADD-SELL:STNTBL1,123456,1,1,30;
```

2. For specific stations (e.g. reception=123, doorman=456, telephone booth=789) with node numbers 1, 1, 30 an immediate printout is to be carried out.

Possible implementation:

These stations are entered in station table 1. Parameter STNTBL1 can then be used to select in AMO SELG.

Input:

```
ADD-SELL:STNTBL1,123&456&789,1,1,30;
```

3. All calls routed to customer companies participating in shared tenant service are to be output to a special device.

Directory numbers: 06089722, 00432227293.

Possible implementation:

The destination numbers of these companies are entered in destination number table 1. Parameter DNOTBL1 can then be used to select in AMO SELG, as follows:

Input:

```
ADD-SELL:DNOTBL1,06089722;  
ADD-SELL:DNOTBL1,00432227293;
```

or as a chained entry, since both have the same communication service.

Input:

```
ADD-SELL:DNOTBL1,06089722&00432227293;
```

173.2.2 DELETE-SELL

If a number is deleted in a table, AMO rearranges the remaining entries in an orderly sequence.

Several numbers can be deleted at once (several individual values or range).

Only if one number in a table is deleted, then must both the number (parameter STNO), and the node number (parameter LEVEL0), subdomain number (parameter LEVEL1) and the domain number (parameter LEVEL2) are indicated.

If the whole table is deleted, the specification of the parameters STNO, LEVEL0, LEVEL1 and LEVEL2 is omitted.

If the last number is deleted from a table, or if the entire table is deleted, the AMO checks whether this table is still going to be used in the selection. If this is the case, a warning is issued to the user.

If a non-existent number is to be deleted, a warning is issued to the user.

SELL - Administration of Station and Destination Number Lists

Functions of the AMO

- 1. Delete a station number or a station number table
- 2. Delete a destination number or a destination number table

Procedure Overview

Command Code	Parameter	
DELETE-SELL	[TBL=STNTBL1 | 2], [STNO=<number>, LEVEL0=<number> , LEVEL1=<number>, LEVEL2=<number>];	(1)
	[TBL=DNOTBL1 | 2], [STNO=<string>];	(2)

Example

- 1. Delete station number 123456 with node numbers 1, 1, 30 from station number table 1.

Input:

DELETE-SELL:STNTBL1,123456,1,1,30;

- 2. Delete the entire station number table 1.

Input:

DELETE-SELL:STNTBL1;

173.2.3 DISPLAY-SELL / REGENERATE-SELL

- 1. Interrogate the entries in the destination number table and the station number table with output in list format (DISPLAY).
- 2. Interrogate the entries in the destination number table and the station number table with output in position-related commands (REGEN).

Procedure Overview

Command Code	Parameter	
DISPLAY-SELL	[TBL=STNTBL1 | 2], [STNO=<number>, LEVEL0=<number> , LEVEL1=<number>, LEVEL2=<number>];	(1)
	[TBL=DNOTBL1 | 2], [STNO=<number>];	
REGENERATE-SELL	[TBL=STNTBL1 | 2];	(2)
	[TBL=DNOTBL1 | 2];	

Examples

1. Interrogate destination number table 1.

Input:

DISPLAY-SELL:DNOTBL1;

Output:

```

                                DESTINATION NUMBER TABLE : 1

ENTRY NO.      DEST. NUMBER    LENGTH
-----
1              0043222         7
2              013059          6
3              0445546         7
4              0513059         7
5              06089722        8
6              07897221        8
7              A32BD12         7
    
```

2. Interrogate station numbers 100430 to 200987 in station number table 1 with node numbers 1, 1, 10. The entries located between the range limits are output.

Input:

DISPLAY-SELL:STNTBL1,100430&&200987,1,1,10;

Output:

```

                                STATION NUMBER TABLE : 1

ENTRY NUMBER    STATION NUMBER  LENGTH  LEVEL0  LEVEL1  LEVEL2
-----
1              100430          6        1        1       10
3              125731          6        1        1       10
4              199999          6        1        1       10
    
```

3. Interrogate whether station number 887192 with node numbers 1, 1, 30 is contained in station number table 1.

The station number must be always indicated with the node numbers.

Input:

DISPLAY-SELL:STNTBL1,887192,1,1,30;

Output:

```

                                STATION NUMBER TABLE : 1

ENTRY NUMBER    STATION NUMBER  LENGTH  LEVEL0  LEVEL1  LEVEL2
-----
7              887192          6        1        1       30
    
```

4. Interrogate the station number table 1 without entries.

Input:

SELL - Administration of Station and Destination Number Lists

Functions of the AMO

DISP-SELL:STNTBL1;

Output:

STATION NUMBER TABLE : 1

ENTRY NUMBER	STATION NUMBER	LENGTH	LEVEL0	LEVEL1	LEVEL2

5. Interrogate of the two station number tables and the two destination number tables without entries.

Input:

DISP-SELL;

Output:

STATION NUMBER TABLE : 1

ENTRY NUMBER	STATION NUMBER	LENGTH	LEVEL0	LEVEL1	LEVEL2

STATION NUMBER TABLE : 2

ENTRY NUMBER	STATION NUMBER	LENGTH	LEVEL0	LEVEL1	LEVEL2

DESTINATION NUMBER TABLE : 1

ENTRY NO.	DEST. NUMBER	LENGTH

DESTINATION NUMBER TABLE : 2

ENTRY NO.	DEST. NUMBER	LENGTH

6. Interrogate the destination number table 1 with output in position-related commands.

Input:

REGEN-SELL:DNOTBL1;

Output:

```
ADD-SELL:DNOTBL1,"0043222";
ADD-SELL:DNOTBL1,"013059";
ADD-SELL:DNOTBL1,"0445546";
ADD-SELL:DNOTBL1,"0513059";
ADD-SELL:DNOTBL1,"06089722";
ADD-SELL:DNOTBL1,"07897221";
ADD-SELL:DNOTBL1,"A32BD12";
```

7. Interrogate station number table 1 with output in position-related commands.

Input:

REGEN-SELL:STNTBL1;

Output:

```
ADD-SELL:STNTBL1,"100430",1,1,10;
ADD-SELL:STNTBL1,"123",1,1,30;
ADD-SELL:STNTBL1,"125731",1,1,10;
ADD-SELL:STNTBL1,"199999",1,1,10;
ADD-SELL:STNTBL1,"456",1,1,30;
ADD-SELL:STNTBL1,"789",1,1,30;
ADD-SELL:STNTBL1,"887192",1,1,30;
```

173.3 Parameter Description

LEVEL0	Node number
Type of Input	: Single value, required (ADD) optional (DELETE, DISPLAY)
Possible Values	: 0-999
LEVEL1	Subdomain number
Type of Input	: Single value, required (ADD) optional (DELETE, DISPLAY)
Possible Values	: 0-254
LEVEL2	Domain number
Type of Input	: Single value, required (ADD) optional (DELETE, DISPLAY)
Possible Values	: 0-30
STNO	Number to be entered (destination number abbr. station number)
Type of Input	: single value, chained single values, required (ADD), range optional optional (DELETE, DISPLAY)
Possible Values	: maximum of 22 digits digits 0 to 9, *,#,A,B,C,D Letters A,B,C,D have the following meaning: A stands for "-" B stands for "." C stands for "/" D stands for ",",
TBL	Designation of the table to be processed
Type of Input	: single value, optional (ADD)

SELL - Administration of Station and Destination Number Lists

Error Messages and Advisories

optional (DELETE, DISPLAY, REGENERATE)
Possible Values : STNTBL1, STNTBL2, DNOTBL1, DNOTBL2

173.4 Error Messages and Advisories

173.4.1 Error Messages

F01: NUMBER IS ALREADY IN THE TABLE
F02: TABLE MUST BE SPECIFIED
F03: AREA LIMITS MUST BE OF THE SAME LENGTH
F04: LOWER AREA LIMIT MUST BE SMALLER THAN UPPER AREA LIMIT
F05: NUMBER CONTAINS INVALID CHARACTER
F06: LEVEL0 - LEVEL2 VALUES MUST BE SPECIFIED, IF STNO IS SPECIFIED
F07: NUMBER IS NOT IN THE TABLE
F08: THERE IS NO MORE FREE SPACE IN THE TABLE
F09: LEVEL0 - LEVEL2 VALUES MUST BE SPECIFIED
F10: STNO MUST BE INDICATED

173.4.2 Advisories

H01: STATION NUMBER TABLE 1 IS STILL IN USE (SEE AMO SELG)
H02: STATION NUMBER TABLE 2 IS STILL IN USE (SEE AMO SELG)
H03: DESTINATION NUMBER TABLE 1 IS STILL IN USE (SEE AMO SELG)
H04: DESTINATION NUMBER TABLE 2 IS STILL IN USE (SEE AMO SELG)

174 SELS - Switching the Selection Groups

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The task of this AMO is to permit the selection groups to be switched on or off as desired.

The determination as to whether a call charge data record is to be checked by the Selection Tables of a selection group is dependent on, among other things, the current operating state of the corresponding selection group.

Therefore, each selection group is assigned corresponding state parameters.

These can be changed by means of AMOs.

Thus, it is possible to intermittently switch the station message detail recording (SMDR) on or off.

A distinction is made between the following operating states:

- State 'ON'
The selection group is switched on.
A statement is to be made by the Selection Table allocated to the selection group. When output is made, the processed call charge data record is inserted into the output queue of the selection group, and thus released for output.
- State 'OFF WITH QUE'
The selection group is conditionally switched on. The call charge data record is processed and inserted into the output queue the same as in the state "ON". However, output is blocked until the selection group is reset to the operating state "ON" or "OFF WITHOUT QUE".
All call charge data records that are already inserted into the output queue for output at this time, or that will be changed into this operating state in the future, remain secured for output as long as the memory capacity of the overflow memory or of the group-specific memory has been reached. When the memory capacity is reached, the output to the reserve device is started.
In this operating state, the allocated basic output device can, with reference to the output of this selection group, be maintained without a loss of data.
- State 'OFF WITHOUT QUE'
The selection group is conditionally switched off.
In this operating state, no call charge data record is processed in the Selection Tables of this selection group, and thus no output is made.

SELS - Switching the Selection Groups

Interrelationships

However, all call charge data records that are already inserted into the output queue at the time of the removal from service are still output. In the block output mode, this can result in the formation of a partial block.

- State 'OFF'
The selection group is switched off.
In this operating state, call charge data records are not processed in the selection tables of this selection group. All call charge data records inserted into the queue at the time of the removal from service are deleted.

At the operation mode "fast output" (configured by AMO FEACG) the output will be restricted to the first selection group. It will not be possible to switch a selection group higher than selection group one.

174.1 Interrelationships

- AMO SELG : Administration of the Selection Groups and Tables
- AMO-FEACG : SMDR/DMDR Feature List

174.2 Functions of the AMO

- [ACTIVATE-SELS](#) : Switch On a Selection Group
- [DEACTIVATE-SELS](#) : Switch Off a Selection Group
- [COLLECT-SELS](#) : Switch Off a Selection Group With an Entry in the Queue
- [STOP-SELS](#) : Switch Off a Selection Group Without Making an Entry in the Queue
- [DISPLAY-SELS / REGENERATE-SELS](#) : Interrogate the Operating States of Selection Groups / Regenerate Selection Groups

174.2.1 ACTIVATE-SELS

Switch on the selection group, i.e., the state "ON" is entered into the status code of the selection group.

At this time, the AMO checks to ensure that the corresponding selection group is created with at least one selection table.

In the operation mode "fast output" it will be checked if the value for the selection group is bigger than 1. In this case an error message occurs.

Procedure Overview

Command Code`ACTIVATE-SELS`**Parameters**`SELGRNO=<number>;`**Example**

1. Switch on selection group 1

Input:

`ACTIVATE-SELS:1;`

174.2.2 DEACTIVATE-SELS

Switch off a selection group, i.e., the state "OFF" is entered into the status code.

Procedure Overview

Command Code`DEACTIVATE-SELS`**Parameters**`SELGRNO=<number>;`**Example**

1. Switch off selection group 2 without an entry in the queue.

Input:

`DEACTIVATE-SELS:2;`

174.2.3 COLLECT-SELS

Switch off a selection group with an entry in the queue, i.e., the state "OFF_WITH_QUE" is entered into the status code. Otherwise, the function corresponds to ACTIVATE-SELS.

In the operation mode "fast output" it will be checked if the value for the selection group is bigger than 1. In this case an error message occurs.

Procedure Overview

Command Code
COLLECT-SELS

Parameters
SELGRNO=<number>;

Example

- 1. Switch off selection group number 3 with queue

Input:

COLLECT-SELS:3;

174.2.4 STOP-SELS

Switch off a selection group without an entry in the queue, i.e., the state "OFF_WITHOUT_QUE" is entered into the status code of the selection group.

In the operation mode "fast output" it will be checked if the value for the selection group is bigger than 1. In this case an error message occurs.

Procedure Overview

Command Code
STOP-SELS

Parameters
SELGRNO=<number>;

Example

- 1. Switch off selection group 4

Input:

STOP-SELS:4;

174.2.5 DISPLAY-SELS / REGENERATE-SELS

- 1. Interrogate the operating states of the selection groups with output in list format (DISPLAY).
- 2. Interrogate the operating states of the selection groups with output in position-oriented commands for the regeneration (SAVDB).
There is only an output of the active selection groups (state "ON").

Procedure Overview

Command Code	Parameter	
DISPLAY-SELS	[SELGRNO=<number>];	(1)
REGENERATE-SELS	[SELGRNO=<number>];	(2)

Examples

- Interrogate the operating states of all selection groups

Input:

DISPLAY-SELS;

Output:

OPERATING CONDITIONS OF THE SELECTION		
GROUPS		
CONDITION	SELGRNO	OPERATING
	1	ON
	2	STOP
	3	STOP
	4	STOP

- Interrogate the operating state of selection group 1:

Input:

DISPLAY-SELS:1;

Output:

OPERATING CONDITIONS OF THE SELECTION		
GROUPS		
CONDITION	SELGRNO	OPERATING
	1	ON

- Interrogate the operating states of all selection groups for the regeneration.

Input:

REGEN-SELS;

Output:

ACTIVATE-SELS:1;

SELS - Switching the Selection Groups

Parameter Description

174.3 Parameter Description

SELGRNO	Selection Group number
Type of Input	: Single value, required (ACTIVATE, DEACTIVATE, STOP, COLLECT) optional (DISPLAY, REGENERATE)
Possible Values	: 1 - 4

174.4 Error Messages and Advisories

174.4.1 Error Messages

F01: SELECTION GROUP CANNOT BE ACTIVATED (NO SELECTION TABLE CREATED OR
SELECTION TABLES ERRONEOUSLY CREATED)
F02: IN FAST OUTPUT MODE THIS ACTION IS ALLOWED ONLY FOR SELECTION GROUP 1

174.4.2 Advisories

H01: STATUS HAS ALREADY BEEN ENTERED
H02: not in use
H03: SELECTION GROUP @ IS IN STATE COLLECTING

175 SIGNL - Error signalling control

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

System dependability (DEP-S) and call processing (VT) send error messages and advisories to signalling task (SIT). The SIT converts these messages from binary to ASCII format and distributes them as signalling messages (SIM) to defined output devices. These signalling messages can be selected and can be suppressed. The information required for this is located in the database ADS in tables SDT (signalling distribution table) and FET (error element table) - see Diagnostics Service Manual A30950-S1-X301-*-7620.

The tasks of the AMO-SIGNL (signalling control) are as follows:

1. to manipulate the message signalling, i.e., whether messages are to be signaled and if so, to which symbolic devices;
2. to regenerate the data administered by the AMO-SIGNL;
3. to output an SIT-internal error statistics table and to erase it;
4. to cancel the alarm memory (AL) in the attendant console task (see SHB Volume 'Dependability').
5. to administer the error element special table (FST) (SIT table for controlling the priority of messages depending on the action involved).
6. to activate and deactivate certain items to controlling message output. These are
 - IMPTMSG (forced output of important messages, replaces the former F1000)
 - FILTER (only restart messages and special events)
 - ALLMSG (all messages to this device)
 - SHORTFM (short message)
7. To handle user defined text
8. to display system data
 - state of SWU
 - state of ADP
 - state of ref clock
 - state of trunk failure switchover
 - alarms

Figure 1 shows the functional incorporation of AMO-SIGNL into the AM-OS.

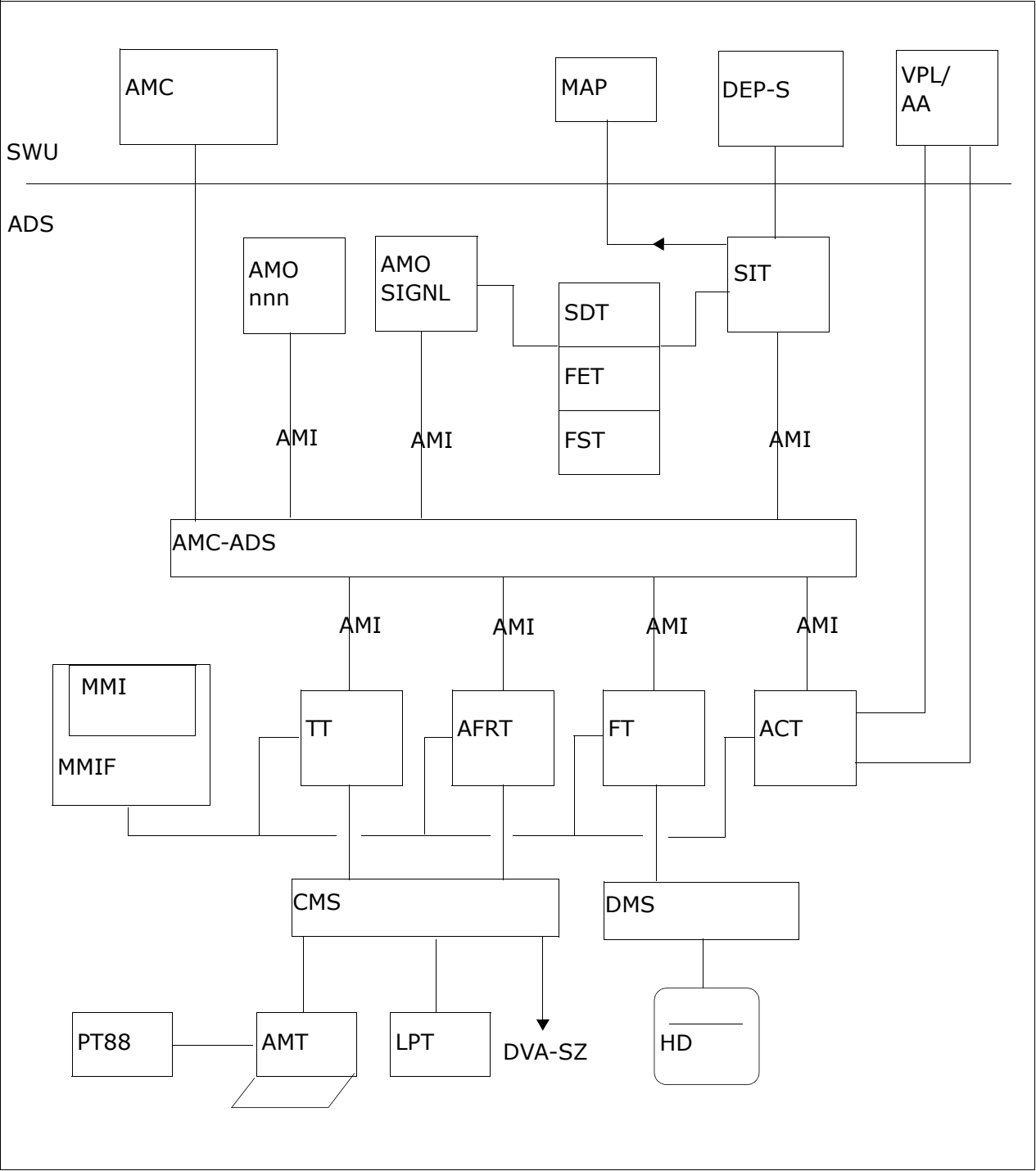


Figure 26 Position of AMO-SIGNL in Hicom Software

Definitions

An edited signalling message (SIM) consists of a header line and optional supplementary lines in accordance with the section 'Format of the Output Message' in Volume 'Dependability'. An example is shown below.

The components of the header line are as follows:

1. Message identification (MID) with code CD (1 digit) and message number NO;
2. Priority for remote operation CD (2 digits) and number (1 digit);
3. serial number of message
4. Action;
5. Originator module;
6. Error class (EVT), F1 field;
7. Error (SUBEVENT), F2 field;
8. Date;
9. Time of day.

The components 4, 5, 6 and 7 are contained in the received message and are edited using text tables.

The components 1, 2 and 3 are added by SIT via the SDT from the FET.

For each signalling message class, the following are defined in SDT:

- EVT_STATE : For evaluation of EVT signalling
- SEV_TYPE : For evaluation of SUB-EVT
- E_M_IDX : Error class mask index
- FE_NUM : Number of error elements of EVT
- FET_IDX : Start index of EVT in the error element table.

For each signalling message, i.e., for error elements (RS_SUB_EVT), within a message class the following are defined in FET (DA_S_ST_FET_ARRAY):

- S_FREE : Identifier for signalling the error element
- MSG_ID_KEY : Code for message identification
 - 'A' alarm
 - 'F' error

SIGNL - Error signalling control

- MSG_ID_NO : 'M' advisory
: 'U' undefined error element
: Number of MSG_ID in the range of 1000 - 9999
- AFR_PRIO : Priority for AFR (consisting of code (CD) and number (NO))
: 'E' Unambiguous error (error with single implication)
: 'M' Ambiguous error (error with multiple implications)
: '1'-'9' Priority
- DEV_ACT : Current symbolic devices for SIM output
- DEV_KONF : Configured symbolic devices
- S_M_IDX : SEV/error text masks IDX for field F2 of SIM header line

The components marked with '•' can be manipulated by the AMO.

The edited SIM are output to defined logical devices to which corresponding physical devices are assigned.

Following are the symbolic devices of SIT:

DPT1	Data processing terminal
DPT2	Printer
DPT3	Not used (e.g., spare for filetask)
DPT4	HISTO file
NDP4	No output to DPT4 for given MID
ATND	Attendant console (ATND)
AFR	Remote operation
MAP	Maintenance and alarm panel.
SICO	signalling control
AFR1	automatic fault report (multiple destination 1)
AFR2	automatic fault report (multiple destination 2)
AFR3	automatic fault report (multiple destination 3)

Note

The MAP receives only the component ZUSTAND (state) of the received error message or advisory from SIT.

Message appearance:

1. Full message format

	1	2	3	4	5	6	7	8
9								

```

F5345 M4 N0043 NO ACT  A1  BOARD  INIT ERROR  99-04-01 23:59:59
ALARM CLASS:CENTRAL:000
** :LTG1 :LTU0 :000: 0 : 0 Q2041-X  SLMA  BST:01  FW: HIRS-C
FORMAT:43  MESSAGE-ID: --  MESSAGE  OF
REASON: H10  LOADWARE TRACE DATA
IP-ADDRESS: 160.1.2.179
DEVICE NAME: DEV_GERM
EXTENSION NUMBER: 32519
  
```

2. short format (SHORTFM) to attendant console

```

F5345 M4 N0043 NO ACT  A1  BOARD  INIT ERROR  99-04-01 23:59:59
** :LTG1 :LTU0 :000: 0 : 0 Q2041-X  SLMA  BST:01  FW: HIRS-C
  
```

3. short format (SHORTFM) to other devices

```

F5345 M4 N0043 NO ACT  A1  BOARD  INIT ERROR  99-04-01 23:59:59
ALARM CLASS:CENTRAL:000
** :LTG1 :LTU0 :000: 0 : 0 Q2041-X  SLMA  BST:01  FW: HIRS-C
  
```

Table for user defined texts (FMTEXT)

This is a table with 30 entries for user defined text per message id (Fxxxx). Each element consists of

- MSG_ID_KEY : Code for message identification only 'F' allowed
- MSG_ID_NO : Number of the MSG_ID in the range from 1000 - 9999
- TEXT : textstring of up to 74 characters

Table for switch functions (SWITCH)

This is a table for the following switch functions (see below)

- IMPTMSG : powerset of devices with IMPTMSG activated
- FILTER : powerset of devices with FILTER activated
- ALLMSG : tpowerset of devices with ALLMSG activated
- SHORTFM : tpowerset of devices with SHORTFM activated

Following are the symbolic devices usable for switch function:

SIGNL - Error signalling control

Restrictions

DPT1	Data processing terminal
DPT2	Printer
DPT3	Not used (e.g., spare for filetask)
ATND	Attendant console (ATND)
AFR1	automatic fault report (multiple destination 1)
AFR2	automatic fault report (multiple destination 2)
AFR3	automatic fault report (multiple destination 3)

Note: DPT4 is always ALLMSG and unchangable.

Error Element Special Table (FST)

For certain error numbers, it is necessary to ascertain the priorities (important for remote operations) on the basis of the action in question. For this purpose, a local table of signalling tasks (SIT) exists, the administration of which is carried out by the AMO-SIGNL.

Each element (DA_M_ST_FE_STAB_ELEM_STR) of the FST (DAD_S_ST_FE_STAB) contains the following components:

- MSG_ID_NO : Number of the MSG_ID in the range from 1000 - 9999
Initialization: DA_Y_ST_E_KZ_FE_STAB
- ACTION : Action of dependability system (DB_M_RS_ACTION_SET)
Initialization: DB_RS_NO_ACTION
- AFR_PRIO : Priority for AFR
 - : 'E' unambiguous error
 - 'M' ambiguous error
 - '1'-'9' Priority
 - Initialization: 'M4'

175.1 Restrictions

This description is valid from H300E V2.0

175.2 Interrelationships

none

175.3 Functions of the AMO

- **ADD-SIGNL** :
 - (TYPE=EVT) Create a new individual message (CD and NO) within a message class (U1020 -> Fxxxx).
 - (TYPE=FST) Create elements in the error element special table.
 - (TYPE=FMTEXT) Create a user defined text to a particular message. This text will be displayed in short format only.
- **ACTIVATE-SIGNL** :
 - (SWITCH=IMPTMSG) The devices entered in this function will forced receive all restart messages and special events, independent of other settings
 - (SWITCH=FILTER) The devices entered in this function will receive service relevant messages only
 - (SWITCH=ALLMSG) The devices entered in this function will receive all messages independent of other settings
 - (SWITCH=SHORTFM) The devices entered in this function will receive messages in short form
- **DEACTIVATE-SIGNL** :
 - (SWITCH=IMPTMSG) Above function for entered devices deactivated
 - (SWITCH=FILTER) Above function for entered devices deactivated
 - (SWITCH=ALLMSG) Above function for entered devices deactivated
 - (SWITCH=SHORTFM) Above function for entered devices deactivated
- **CHANGE-SIGNL** :
 - (TYPE=EVT) Change the data of a defined message class (status, current and configured symbolic devices).
 - (TYPE=MID) Change the data of an error element or a signalling message.
 - (output authorization, priority, current and configured devices).
 - (TYPE=NID) Change the message identification (MID) of an already defined signalling message.
 - (TYPE=FST) Change the priority of elements in the error element special table.
- **DELETE-SIGNL** :
 - (TYPE=EVT) Delete symbolic devices within message classes and/or altogether
 - (TYPE=MID) Delete the symbolic devices of one or more signalling messages.
 - (TYPE=AL) Delete the alarm memory (AL) in the Attendant Console Task (ACT).
 - (TYPE=SIT) Delete the SIT-internal error statistics table.
 - (TYPE=FST) Delete elements from the error element special table.
 - (TYPE=FMTEXT) Delete an element from the FMTEXT table.
- **SET-SIGNL** : Set the current output device to the configured standard device assignment
 - (TYPE=EVT) for one, two or more or all message classes.

SIGNL - Error signalling control

Functions of the AMO

- **DISPLAY-SIGNL** :
 - (TYPE=MID) for one or more signalling messages;
 - (TYPE=ALL) Display the names (discrete single values of the current implemented message class with specification of numeric values message classes not implemented.
 - (TYPE=EVT, FORMAT=STA) Display the status
 - (FREE, LOCK, UNDEF, OOS) of one, two or more or all message classes.
 - (TYPE=EVT, FORMAT=SEV) Display the error messages allocated to one, two or more or all message classes in table form.
 - (TYPE=MID) Display the the data of an error element for a signalling message:
Output authorization- S-FREE
Priority- AFR-PRIO
current symbolic devices- DEV-ACT
configured symbolic devices- DEV-KONF
 - (TYPE=SIF) Display the SIT-internal error statistics table.
 - (TYPE=FST) Display elements of the error element special table.
 - (TYPE=LOCKMSG) Display messages that cannot be output for any reason, e.g locked.
 - (TYPE=SYSTEM) Display system status information:
 - state og CCA,CCB,ADP
 - state of reference clock
 - state of failure switchover
 - alarms
 - (TYPE=STATUS) Display settings of IMPTMSG, ALLMSG, FILTER, SHORTFM, user defined FMTEXT, LOCK settings
- **REGENERATE-SIGNL** :
 - Regenerate all settings administered by the AMO-SIGNL.

175.3.1 ADD-SIGNL

Assign the following:

- a new individual message (CD and NO) within a message class (U1020 -> Fxxxx);
- elements to the error element special table.
- user defined text for certain MIDs

Procedure Overview

Command Code	Parameter
ADD-SIGNL	TYPE=EVT, EVT=<param>;

Command Code

Parameter

TYPE=FST, NO=<number>, ACTION=<param>, PRI=<param>;

TYP=FMTEXT, CD=<param>, NO=<number>, TEXT=<"textstring">

Note

The user enters only the EVT parameter and is prompted further in dialog (see actions OUTPUT, INPUT). It contains a table with FET index, FE-NO and associated MID-NR.

Undefined FE elements contain the MID-NR 1020. The FET-IDX can be used to subsequently assign a new MID-NR to these FE elements.

FET-IDX is the start index of the message class in the SDT plus FE-NO.

Example

1. Assignment of a new MSG code and an MSG number to the error element in the error element table (FET) with index 0061.

Input:

ADD-SIGNL:EVT,OS;

Output:

ADD-SIGNL:EVT,OS;
H500: AMO SIGNL STARTED

OS	FET-IDX	FE-NO	MID-NO
	0025	0	2000
	0026	1	2001
	0027	2	2004
	0028	3	2002
	:	:	:
	:	:	:
	0039	14	2014

CONTINUE (Y/N) :

Input:

*Y

Output:

OS	FET-IDX	FE-NO	MID-NO
	0055	30	2030
	:	:	:
	:	:	:
	0061	36	1020
	0062	37	1020
	:	:	:
	:	:	:

SIGNL - Error signalling control

Functions of the AMO

| 0069 | 44 | 1020 |

CONTINUE (Y/N) :

Input:

*N

Output:

ADD (Y/N) :

Input:

*Y

Output:

PLEASE ENTER : IDX, NEWCD, NEWNO :

Input:

*0061,F,2036;

Output:

AMO-SIGNL -... ERROR SIGNALLING CONTROL
ADD COMPLETED;

2. Adding a user defined text

Input:

ADD-SIGNL:F,2468,"this is a user defined text";

Output:

ADD-SIGNL:F,2468,"this is a user defined text";
H500: AMO SIGNL STARTED

AMO-SIGNL -... ERROR SIGNALLING CONTROL
ADD COMPLETED;

175.3.2 ACTIVATE-SIGNL

Setting of

1. the set of devices that have to get any restart messages and special events independently of other settings (IMPTMSG = important messages).
2. the set of devices that have to get service relevant messages only. Other messages are suppressed (FILTER)
3. the set of devices that have to get all messages independently of other settings (ALLMSG).

- the set of devices that have to get short messages (SHORTFM, see above)

Prozedure overview

Command Code	Parameter
ADD-SIGNL	SWITCH=IMPTMSG, DEV=<param> SWITCH=FILTER, DEV=<param> SWITCH=ALLMSG, DEV=<param> SWITCH=SHORTFM, DEV=<param>

Examples

- Activating several devices for the switch function FILTER

Input:

```
ACT-SIGNL:FILTER,DPT2&AFR1&AC;
```

Output:

```
ACT-SIGNL:FILTER,DPT2&AFR1&AC;
H500: AMO SIGNL STARTED
```

```
AMO-SIGNL-...      SIGNALLING CONTROL
ACTIVATE COMPLETED;
```

- Activating one device for SWITCH funktion ALLMSG

Input:

```
ACT-SIGNL:ALLMSG,DPT3;
```

Output:

```
ACT-SIGNL:ALLMSG,DPT3;
H500: AMO SIGNL STARTED
```

```
AMO-SIGNL-...      SIGNALLING CONTROL
ACTIVATE COMPLETED;
```

- activating several devices for the switch function SHORTFM

Input:

```
ADD-SIGNL:SHORTFM,DPT1&AC&AFR2&AFR3;
```

Output:

```
ADD-SIGNL:SHORTFM,DPT1&AC&AFR2&AFR3;  
H500:  AMO SIGNL STARTED  
  
AMO-SIGNL-...      SIGNALLING CONTROL  
ACTIVATE COMPLETED;
```

175.3.3 DEACTIVATE-SIGNL

Removing

- 1. the entered set of devices for IMPTMSG from SWITCH_TAB.
- 2. the entered set of devices for FILTER from SWITCH_TAB.
- 3. the entered set of devices for ALLMSG from SWITCH_TAB.
- 4. the entered set of devices for SHORTFM from SWITCH_TAB.

Prozedurübersicht

Kommandocode	Parameter
DEACTIVATE-SIGNL	SWITCH=IMPTMSG, DEV=<param>]
	SWITCH=FILTER, DEV=<param>
	SWITCH=ALLMSG, DEV=<param>
	SWITCH=SHORTFM, DEV=<param>

Example

Excluding several devices for switch fuction FILTER

Input:

```
DEACT-SIGNL:FILTER, DPT2&AFR1&AC;
```

Output:

```
DEACT-SIGNL:FILTER, DPT2&AFR1&AC;  
H500:  AMO SIGNL STARTED  
  
AMO-SIGNL-...      SIGNALLING CONTROL  
DEACTIVATE COMPLETED;
```

175.3.4 CHANGE-SIGNL

The following data can be changed:

1. the status, current and configured symbolic devices or one, two or more or all message classes;
2. the data of an error element for a signalling message;
3. the message identification (MID);
4. the priority of elements in the error element special table (FST).

Note

The symbolic devices are added to those already generated.

Procedure Overview

Command Code

CHANGE-SIGNL

Parameter

```
TYPE=EVT,EVT=<param>,{ [STATE=<param>],[ASD=<param>]
,[CSD=<param>] };

TYPE=MID,CD=<param>,NO=<number>,{ [OUT=<param>]
,[PRI=<param>],[ASD=<param>],[CSD=<param>] };

TYPE=NID,OLDCD=<param>,OLDNO=<number>
,[NEWCD=<param>,NEWNO=<number>;

TYPE=FST,NO=<number>,ACTION=<param>,PRI=<param>;
```

Example

Change the priority of error message 3062 to E4.

Input:

```
CHANGE-SIGNL:MID,F,3062,,E4;
```

Output:

```
CHANGE-SIGNL:MID,F,3062,,E4;
H500: AMO SIGNL STARTED
```

```
AMO-SIGNL -... ERROR SIGNALLING CONTROL
CHANGE COMPLETED;
```

175.3.5 DELETE-SIGNL

Delete the following:

1. symbolic devices within message classes and/or altogether
2. symbolic devices of one or more signalling messages
3. the alarm memory in the Attendant Console Task

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Functions of the AMO

- 4. the SIT-internal error statistics table
- 5. elements from the error element special table (FST)
- 6. a user defined text for a particula message ID

Notes

If the value ALL is specified in the parameter ASD and/or CSD when canceling symbolic devices, all generated devices are canceled.

Procedure Overview

Command Code	Parameter
DELETE-SIGNL	TYPE=EVT,EVT=<param>,{ [ASD=<param>] , [CSD=<param>] } ; TYPE=MID,CD=<param>,NO=<number>,{ [ASD=<param>] , [CSD=<param>] } ; TYPE=AL; TYPE=SIF; TYPE=FST,NO=<number>,[ACTION=<param>] ; TYPE=FMTEXT,CD=<param>,NO=<number>

Example

Delete the SIT-internal error statistics table.

Input:

DELETE-SIGNL:SIF;

Output:

DELETE-SIGNL:SIF;
H500: AMO SIGNAL STARTED

AMO-SIGNL -... ERROR SIGNALLING CONTROL
DELETE COMPLETED;

175.3.6 SET-SIGNL

Set the current output devices to the configured standard device assignment

- 1. for one, two or more or all message classes;
- 2. for one. two or more signalling messages.

Procedure Overview

Command Code

SET-SIGNL

Parameter

TYPE=EVT, EVT=<param>;

TYPE=MID, CD=<param>, NO=<number>;

Example

Set the current output device to the configured standard device assignment for error message 3062.

Input:

SET-SIGNL:MID, F, 3062;

Output:

SET-SIGNL:MID, F, 3062;
H500: AMO SIGNAL STARTED

AMO-SIGNL -... ERROR SIGNALLING CONTROL
SET COMPLETED;

175.3.7 DISPLAY-SIGNL

The following can be displayed:

1. the numeric values of message classes (TYPE = ALL);
2. the status of a message class (TYPE = EVT, FORMAT = STA);
3. the error elements of a message class (TYPE = EVT, FORMAT = SEV);
4. the data of an error element for a signalling message (TYPE = MID);
5. the SIT-internal error statistics table (TYPE = SIF);
6. elements of the error element special table (TYPE = FST).
7. the current STATUS of SWITCH_TAB, FMTEXT table, action per message ID, locked message IDs
8. the current system state of the system as CCA, CCB, ADP state, ref clock state, alarms and state of failure switchover

Procedure Overview

Command Code

DISPLAY-SIGNL

Parameter

TYPE=ALL;

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Functions of the AMO

Command Code	Parameter
	TYPE=EVT,EVT=<param>,FORMAT=<param>;
	TYPE=MID,CD=<param>,NO=<number>;
	TYPE=SIF;
	TYPE=FST,[NO=<number>;
	TYPE=STATUS;
	TYPE=SYSTEM;

Examples

1. Displaying the numeric values of message classes.

Input:

DISPLAY-SIGNL:ALL;

Output:

DISPLAY-SIGNL:ALL;
H500: AMO SIGNL STARTED

NAMES AND VALUES OF MESSAGE CLASSES:

+-----+								
|	NAME	|VAL.|	|	NAME	|VAL.|	|	NAME	|VAL.|
+-----+								
|	ALARM	| 7C ||	|	LNOVER	| 02 ||	|	AM	| 41 ||
|	CCH	| 26 ||	|	CG	| 6C ||	|	:	| :
|	:	| :	|	:	| :	|	SWUINT	| 14 ||
|	SWUMEM	| 12 ||	|	SYS	| 7F ||	|	SYSLEXC	| 43 ||
|	SYSQUOFL	| 03 ||	|	TERM	| 04 ||	|	:	| :
|	:	| :	|	:	| :	|	VECO	| 6F ||
|	:	| :	|	:	| :	|	XENIX	| 70 ||
+-----+								

AMO-SIGNL -... ERROR SIGNALLING CONTROL
DISPLAY COMPLETED;

2. Interrogation of the status of message class MTS.

Input:

DISPLAY-SIGNL:EVT,MTS,STA;

Output:

DISPLAY-SIGNL:EVT,MTS,STA;
H500: AMO SIGNL STARTED

STATUS OF MTS: LOCK

AMO-SIGNL -... ERROR SIGNALLING CONTROL
DISPLAY COMPLETED;

3. Display the data for error elements for a message class.

Input:

DISPLAY-SIGNL:EVT,LNOVER,SEV;

Output:

DISPLAY-SIGNL:EVT,LNOVER,SEV;
H500: AMO SIGNL STARTED

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+												
| SIGNALING MESSAGES OF MESSAGE CLASS:								LNOVER				|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+												
| F-NO |	MID |	OUTPUT |	PRI |	ASD				CSD				|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+												
| 0 |	F8000 |	FREE |	E4 |	DPT1	DPT2	DPT3	DPT4	DPT1	DPT2	DPT3	DPT4	|
| |	|	|	|	AC	MAP			AC	MAP			|
| 1 |	F8001 |	FREE |	E4 |	DPT1	DPT4	MAP		DPT1	DPT2	DPT3	DPT4	|
| |	|	|	|					AC	MAP			|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+												

AMO-SIGNL -... ERROR SIGNALLING CONTROL
DISPLAY COMPLETED;

4. Display the data for error element 5230 for a signalling message.

Input:

DISPLAY-SIGNL:MID,F,5230;

Output:

DISPLAY-SIGNL:MID,F,5230;
H500: AMO SIGNL STARTED

MESSAGE OUTPUT VALUES : F5230
OUTPUT PERMISSION : FREE PRIORITY : E4
CURRENT OUTPUT DEVICES : DPT1 MAP
CONF. OUTPUT DEVICES : DPT1 MAP

AMO-SIGNL -... ERROR SIGNALLING CONTROL
DISPLAY COMPLETED;

5. Display the SIT-internal error statistics table.

Input:

DISPLAY-SIGNL:SIT;

Output:

DISPLAY-SIGNL:SIT;
H500: AMO SIGNL STARTED

SIT ERROR STATISTICS COUNTER :

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+	
DESIGNATION	VALUE
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+	
SIM BOARD TYPE UNDEF	00234
SIM CASE EVT FREE	00013
:	:

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	:		:	
	:		:	
+-----+				

AMO-SIGNL -... ERROR SIGNALLING CONTROL
DISPLAY COMPLETED;

6. Display the error element special table

Input:

DISPLAY-SIGNL:FST;

Output:

DISPLAY-SIGNL:FST;
H500: AMO SIGNL STARTED

ERROR ELEMENT SPECIAL TABLE :

+-----+		+-----+				
|	NO	|	ACTION	|	PRI	|
+-----+		+-----+		+-----+		
|	1090	|	INSERV	|	E4	|
|	1100	|	HRCCZZA	|	M2	|
|	1110	|	HRCCZZS	|	M2	|
	:		:		:	
	:		:		:	
	:		:		:	
+-----+		+-----+		+-----+		

AMO-SIGNL -... ERROR SIGNALLING CONTROL
DISPLAY COMPLETED;

175.3.8 REGENERATE-SIGNL

This action regenerates all SDT (status), FET (output authorization, priority, current and configured symbolic output devices), FST (error number, DEP action and priority) data administered by the AMO-SIGNL and FMTEXT and SWITCH settings.

Procedure Overview

Command Code
REGENERATE-SIGNL

Parameter
;

Example

Input:

REGENERATE-SIGNL;

Output:

REGENERATE-SIGNL;
H500: AMO SIGNL STARTED


```

CHANGE-SIGNL:EVT,LNOVER  ,FREE;
CHANGE-SIGNL:EVT,AM      ,FREE;
CHANGE-SIGNL:EVT,BOARD  ,LOCK;
.....
.....
.....
DELETE-SIGNL:EVT,ALL,ALL,ALL;
(*1)
CHANGE-SIGNL:MID,F,2100,FREE,E4,DPT1&DPT2,DPT1&MAP;
CHANGE-SIGNL:MID,F,2101,LOCK,M1,DPT1&ATND,DPT1&DPT2;
CHANGE-SIGNL:MID,M,2102,FREE,E2,DPT1&MAP,DPT1&MAP;
.....
.....
.....
ADD-SIGNL:FST,1090,INSERV  ,E4;
ADD-SIGNL:FST,1100,HRCCZZA ,M2;
ADD-SIGNL:FST,1110,HRCCZZS ,M2;
.....
DEACTIVATE-SIGNL:IMPTMSG,DPT1&DPT2&DPT3&AFR1&AFR2&AFR3&ATND
DEACTIVATE-SIGNL:FILTER,DPT1&DPT2&DPT3&AFR1&AFR2&AFR3&ATND
DEACTIVATE-SIGNL:ALLMSG,DPT1&DPT2&DPT3&AFR1&AFR2&AFR3&ATND
..DEACTIVATE-SIGNL:SHORTFM,DPT1&DPT2&DPT3&AFR1&AFR2&AFR3&ATND
ACTIVATE-SIGNL:FILTER,AFR1&ATND
...
ADD-SIGNL:F,2468,"this is a user defined text";      ....

AMO-SIGNL -...   ERROR SIGNALLING CONTROL
REGENERATE COMPLETED;
    
```

(*1) Using this delete command, all symbolic devices for all messages are canceled. This is necessary, since only those devices which would otherwise remain in the standard data base can be added with the CHANGE function.

175.4 Parameter Description

ACTION	Action of dependability system
Type of Input	: chained single values; mandatory (ADD, CHANGE) optional (DELETE)
Possible Values	: The possible single values are derived from the DB_M_RS_ACTION_SET values.
	ASSBLAM = DB_RS_ASSOC_BLOCK_AM
	ASSOCBLK = DB_RS_ASSOC_BLOCK
	CHANOOS = DB_RS_SM_CHAN_OOS
	BDOOS = DB_RS_BOARD_OOS
	HARDREST = DB_RS_HARD_RESTART
	HRCCZZA = DB_RS_HR_CC_ZZ_ACTIVE
	HRCCZZS = DB_RS_HR_CC_ZZ_STANDBY

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Parameter Description

HREXSRRE	= DB_RS_HR_EXEC_SR_REFUSED
HRLTGZZA	= DB_RS_HR_LTG_ZZ_ACTIVE
HRLTGZZS	= DB_RS_HR_LTG_ZZ_STANDBY
INSERV	= DB_RS_IN_SERVICE
LBCOOS	= DB_RS_SM_LBC_OOS
LCXREST	= DB_RS_SM_LCX_RESTART
LOCKAM	= DB_RS_SPERREN_AM
NOACT	= DB_RS_NO_ACTION
NOACTAM	= DB_RS_NO_ACTION_AM
OOSAM	= DB_RS_OUT_OF_SERVICE_AM
OUTSERV	= DB_RS_OUT_OF_SERVICE
PARTBLK	= DB_RS_PART_BLOCK
PARBLAM	= DB_RS_PART_BLOCK_AM
RELOAD	= DB_RS_RELOAD
RELOCC	= DB_RS_RELOAD_CC
REOLTG	= DB_RS_RELOAD_LTG
REOLTG	= DB_RS_RELOAD_LTG
RESCSN	= DB_RS_RESET_CSN
RESET	= DB_RS_RESET
SOFTREST	= DB_RS_SOFT_RESTART
SPERRE	= DB_RS_SPERREN
SRCC	= DB_RS_SOFT_RESTART_CC
SRLTG	= DB_RS_SOFT_RESTART_LTG
STATIST	= DB_RS_FAULT_STATISTIC
SWITCCG	= DB_RS_SWITCH_CCG
SWITLTG	= DB_RS_SWITCH_LTG
SWITSWU	= DB_RS_SWITCH_SWU

ASD Actual symbolic devices (to which the message is sent)

Type of Input : 1 to 8 chained single values, optional
 1 to 9 chained single values, optional

Possible Values : DPT1, DPT2, DPT3, DPT4,
 ATND, AFR, MAP, SICO, rsp.
 DPT1, DPT2, DPT3, DPT4,
 ATND, MAP, AFR1, AFR2, AFR3 and
 ALL (action DELETE only)
 NDP4 (action CHANGE/DELETE, TYPE=MID only)

CD Message key code

	Type of Input	: Single value, mandatory
	Possible Values	: A (alarm message) B (begin message) E (end message) F (error message) I (integrity message; positive) M (miscellaneous inf. message; advisory) U (undefined error element)
CSD	Configured symbolic devices (to which the message is sent)	
	Type of Input	: 1 to 8 chained single values, optional 1 to 9 chained single values, optional
	Possible Values	: DPT1, DPT2, DPT3, DPT4, ATND, AFR, MAP, SICO, rsp. DPT1, DPT2, DPT3, DPT4, ATND, MAP, AFR1, AFR2, AFR3 and ALL (action DELETE only) NDP4 (action CHANGE/DELETE, TYPE=MID only)
DEV	symbolic devices to be activated/deactivated for IMPTMSG,FILTER, ...	
	Type of Input	: 1 to 7 chained single values, optional
	Possible Values	: DPT1, DPT2, DPT3, ATND, AFR1, AFR2, AFR3
EVT	Event class	
	Type of Input	: chained single values or ALL (when ADD is being carried, a single value only), mandatory
	Possible Values	: The possible values are derived from the DB_M_RS_EVT_SET values. ACM = DB_RS_E_ACM ALARM = DB_RS_E_ALARMWORT LNOVER = DB_RS_E_ALUM AM = DB_RS_E_AM AMO = DB_RS_E_AMO BOARD = DB_RS_E_BOARD CCH = DB_RS_E_CCH CG = DB_RS_E_CG CHACOM = DB_RS_E_CHARGE_COM CIR = DB_RS_E_CIR CMS = DB_RS_E_CMS

SIGNL - Error signalling control

Parameter Description

CONF	= DB_RS_E_CONF
CP	= DB_RS_E_CP
CPMSG	= DB_RS_E_CP_MSG
DB	= DB_RS_E_DB
DBSYNC	= DB_RS_E_DBSYNC
DCL	= DB_RS_E_DCL
DEP	= DB_RS_E_DEP
DH	= DB_RS_E_DH
DMS	= DB_RS_E_DMS
DRIVE	= DB_RS_E_DRIVE
GOINS	= DB_RS_E_GO_IN_SERVICE
HRCCA	= DB_RS_E_HR_CC_Z_A
HRCCSB	= DB_RS_E_HR_CC_Z_SB
HWY	= DB_RS_E_HWY
IOCC	= DB_RS_E_IOCC
IOCG	= DB_RS_E_IOCG
IOPSDC	= DB_RS_E_IOPD_DC
LBCLB	= DB_RS_E_LBC_LB
LCX	= DB_RS_E_LCX
LCXCHAN	= DB_RS_E_LCX_CHAN
LNSMOFF	= DB_RS_E_LTG_SM_OFF
LNSMON	= DB_RS_E_LTG_SM_ON
LTUC	= DB_RS_E_LTUC
MAP	= DB_RS_E_SIG_MELD
MBU	= DB_RS_E_MBU
MODSTATE	= DB_RS_E_MOD_ZUST
MTS	= DB_RS_E_MTS
NC	= DB_RS_E_NC
NCCALARM	= DB_RS_E_NCC_DEP_ALARM
NCCSBR	= DB_RS_E_NCC_START_SBR
NCCSTART	= DB_RS_E_NCC_START
NCCTIMER	= DB_RS_E_NCC_DEP_TIMER
NCCUPDAT	= DB_RS_E_NCC_UPDATE
OS	= DB_RS_E_OS
PCG	= DB_RS_E_PCG
PM	= DB_RS_E_PM
PP	= DB_RS_E_PP
PPH	= DB_RS_E_PPH
PROCINT	= DB_RS_E_PROC_INTERR

SIGNL - Error signalling control

Parameter Description

PS	= DB_RS_E_PS
PWFAIL	= DB_RS_E_NETZ_AUSF
REC	= DB_RS_E_REC
RESTSM	= DB_RS_E_RESTART_SM
SIT	= DB_RS_E_FEH_INBETRN_BE_AN
SITEND	= DB_RS_E_FEH_INBETRN_BE_EN
SIU	= DB_RS_E_SIU
SM	= DB_RS_E_SM
SMAM	= DB_RS_E_SM_AM
SMAS	= DB_RS_E_SM_AS
SMCR	= DB_RS_E_SM_CR
SMDB	= DB_RS_E_SM_DB
SMDEP	= DB_RS_E_SM_DEP
SMDP	= DB_RS_E_SM_DP
SMINS	= DB_RS_E_SM_INS
SMIP	= DB_RS_E_SM_IP
SMMB	= DB_RS_E_SM_MB
SMMEM	= DB_RS_E_SM_MEM
SMNACK	= DB_RS_E_SM_NEGATIVE_ACK
SRCC	= DB_RS_E_SR_CC
STBY	= DB_RS_E_STBY
SWUDP	= DB_RS_E_SWU_DP
SWUINT	= DB_RS_E_SWU_INT
SWUIP	= DB_RS_E_SWU_IP
SWUMEM	= DB_RS_E_SWU_MEM
SYS	= DB_RS_E_SYS
SYSLEXC	= DB_RS_E_SYSL_EXCEPT
SYSLOS	= DB_RS_E_SYSL_OS_ERROR
SYSQUOFL	= DB_RS_E_SYSDEP_QUEUE_OFLOW
TERM	= DB_RS_E_TERM
TIMEDATE	= DB_RS_E_TIME_DATE
VECO	= DB_RS_E_VECO
XENIX	= DB_RS_E_XENIX
ALL (actions DELETE, SET and DISPLAY only)	

FORMAT	Output format for event class
Type of Input	: Single value, mandatory
Possible Values	: STA (output, status) SEV (output, data of FET entries)

SIGNL - Error signalling control

Parameter Description

IDX	Index of events in the FET (fault element table)
Type of Input	: Single value, mandatory
Possible Values	: 0000 - 9999
NEWCD	New message key code
Type of Input	: Single value, mandatory
Possible Values	: A (alarm message)
	B (begin message)
	E (end message)
	F (error message)
	I (integrity message; positive)
	M (miscellaneous inf. message; advisory)
	U (undefined error element)
NEWNO	New fault number
Type of Input	: Single value, mandatory
Possible Values	: See volume on Dependability A30950-S37-X110-*-20, Section 6
NO	Message number
Type of Input	: Chained single values, ranges, mandatory optional (DISPLAY of type FST)
Possible Values	: See volume on Dependability A30950-S37-X110-*-20, Section 6
OLDCD	Old message key code
Type of Input	: Single value, mandatory
Possible Values	: A (alarm message)
	B (begin message)
	E (end message)
	F (error message)
	I (integrity message; positive)
	M (miscellaneous inf. message; advisory)
	U (undefined error element)
OLDNO	Old message number
Type of Input	: Single value, mandatory

	Possible Values	: See SHB Volume 'Dependability' A30950-S37-X110-*-20, Section 6
OUT	Output authorization for signalling events	
	Type of Input	: Single value, optional
	Possible Values	: FREE, LOCK
PRI	Message priority	
	Type of Input	: Single value, optional mandatory (ADD, CHANGE of type FST)
	Possible Values	: E1 to E9 M1 to M9
SEL	Selection	
	Type of Input	: Single value, mandatory
	Possible Values	: Y, N
STATE	Status of event class	
	Type of Input	: Single value, optional
	Possible Values	: UNDEF, LOCK, FREE, OOS
SWITCH	Desired switch options	
	Type of Input	: Single value, mandatory
	Possible Values	: IMPTMSG = forced output of important messages FILTER = filter active ALLMSG = forced output of all messages SHORTFM = short display
TEXT	user defined text string	
	Type of Input	: Single value, mandatory
	Possible Values	: any textstring of up to 74 characters enclosed in ""
TYPE	Desired error signalling control options	
	Type of Input	: Single value, mandatory
	Possible Values	: AL = Alarm memory ALL = Names and values of all message classes EVT = EVENT FST = Error element special table MID = Message Identification

SIGNL - Error signalling control

Error Messages and Advisories

NID	= New Message Identification
SIF	= SIT-internal fault statistics table
STATUS	Status information
SYSTEM	SYSTEM information

Parameter Groups

Parameter groups have been defined in the following actions:

- CHANGE (TYPE=EVT): parameters STATE, ASD and CSD;
- CHANGE (TYPE=MID): parameters OUT, PRI, ASD and CSD;
- DELETE (TYPE=EVT, MID): parameters ASD and CSD;
- ACTIVATE : parameter DEV
- DEACTIVATE: parameter DEV

At least one parameter must be specified in each case.

175.5 Error Messages and Advisories

175.5.1 Error Messages

F01: MID <CD><NO> NOT AVAILABLE
F02: MID <NEWCD><NEWNO> ALREADY AVAILABLE
F03: IDX <IDX> INCORRECT - ERROR ELEMENT ALREADY DEFINED
F04: MEMORY OVERFLOW IN FST ELEMENT NO: <NO>, ACTION: <ACTION> CAN NO LONGER BE ENTERED
F05: ELEMENT NO: <NO>, ACTION: <ACTION> ALREADY ENTERED IN FST
F06: ELEMENT NO: <NO>, ACTION: <ACTION> NOT ENTERED IN FST
F07: NO ELEMENT FOR NO: <NO> ENTERED IN FST
F08: IDX @@@@ TOO HIGH - UPPER LIMIT OF IDX: @@@@
F09: DEVICES NOT ALLOWED FOR SWITCHFUNCTION
F10: DPT4 (HISTO-FILE) NOT ALLOWED FOR THIS FUNCTION
F11: DEVICE @@@@ ALREADY ACTIVATED BY FILTER
F13 TABLE FOR ERROR-NO INDIVIDUEL TEXT ALREADY FULL
F14: ONLY ERROR MESSAGES ALLOWED
F15 NO ENTRY FOR ERROR MESSAGE NO IN TABLE
F16 ERROR MESSAGE NO ALREADY IN TABLE

175.5.2 Advisories

H01: NOT POSSIBLE TO SET UP IN THIS MESSAGE CLASS
H02: MID <CD><NO> NOT AVAILABLE
H03: SPECIFIED ELEMENT NOT ENTERED IN FST
H04: NO ELEMENT ENTERED IN FST
H05 NO MESSAGE CLASSES LOCKED
H06 NO SIGNALLING MESSAGES LOCKED
H07 DEVICE ^asd1^ IS USED BY ALL SIGNALLING MESSAGES
H08 NO SIGNALLING MESSAGE WILL BE DISPLAYED ON DEVICE ^asd1^
H09: ALL SIGNALLING MESSAGES ARE USING THE DEVICE CONFIGURATION OF MESSAGE NUMBER
1000: @@@@ @@@@ @@@@ @@@@ @@@@ @@@@ @@@@ @@@@ @@@@ @@@@
H10: DIAGNOSTIC RELEVANT SIGNALLING MESSAGES WILL ONLY BE DISPLAYED ON DEVICE DPT4
(DUE TO: MESSAGE NUMBER 1000, OUTPUT = LOCK)
H15 NO ENTRY IN TEXT TABLE

SIGNL - Error signalling control

Error Messages and Advisories

176 SIPCO - Configuration of central IP addresses and data

The description of this AMO is only available in html format!

177 SLCB - Configuration of for SLC24 Boards

The description of this AMO is only available in html format!

178 SONUS - Daylight Saving / Standard Time Switchover

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

Switchover from standard time to daylight saving time (DLS) and vice versa is handled by a resident task. This task has three function-modes:

- **Automatic**
the task computes the switchover-dates itself according to the directives of the European Community (EU) regarding DLS / standard time switchover (last Sunday in March and September respectively), or to the US-directives (first Sunday in April and last Sunday in October), depending on the program system loaded to the actual switch.
- **Read from file;**
the task is processing the dates contained in a table situated in a file on the hard disc of the system (switchover table).
This mode is used, when the switchover dates differ from the standard valid for the region, to which the program system refers (see above).
- **Deactivated;**
the task is inoperative.

Normally, no switchover table is existing in the system, the task is operating in the automatic mode.

The AMO SONUS serves to maintain the switchover table, and to adjust the function mode of the resident task.

The table can hold up to 20 switchover dates. Accordingly, the system can be preset for ten years at two switchovers a year (in function mode "read from file").

178.1 Interrelationships

- **AMO DATE** : Altering system date and/or time

178.2 Functions of the AMO

- **ADD-SONUS** : Installing/changing the table of switchover dates
- **DISPLAY-SONUS** : Displaying the table of switchover dates
- **SWITCHOVER-SONUS** : Switchover the function mode of the resident task
- **REGENERATE-SONUS** : Regenerate the table of switchover dates.

178.2.1 ADD-SONUS

Installing/changing the table of switchover dates.

The table containing the switchover dates is read. If there is no file containing the table, one will be created by AMO SONUS.

The AMO checks, if the date is logically correct, and if it is older than the date obtained from the system time. One switchover to daylight saving and one to standard time is permitted for each year. The date specified in the AMO call is entered at the correct place in the switchover data. If a similar switchover has already been entered for this year, it will be overwritten.

To warrant the correct function of the time-switchover, all entries should be valid for the same hemisphere. The first entry lays down the hemisphere, for which the table is valid. All consecutive entries are checked against this first entry for validity.

The table will hold up to 20 switchover dates. Old dates are removed in every ADD. Dates more than nine years in advance of the year of the system time are rejected.

If there's no valid system time, no switchovers can be entered.

For a faultless operation of the DLS / standard time switchover, the entries to DLS and standard time should follow each other in alternating order. The AMO therefore checks whether the preceding entry is the logical reversal in the opposite direction.

When daylight saving time reverts to standard time, the period between 02:00 and 03:00 hours runs twice. To avoid mistakes, you are not allowed to change the time table during this period on the day of switchover.

Procedure Overview

Command Code	Parameter
ADD-SONUS	YEAR=<number>, MONTH=<number>, DAY=<number> , TYPE=<param>;

Examples

1. Installing a switchover to standard time

Input:

```
ADD-SONUS:1988,09,25,STD;
```

2. Installing a switchover to daylight saving time

Input:

```
ADD-SONUS:1989,03,26,DLS;
```

Note:

If the table is created by the AMO, the function mode is set to "read from file".

178.2.2 DISPLAY-SONUS

Displaying the table of switchover dates.

The table is read and the switchover dates found are compared with the date from the system. The output only shows dates that haven't yet expired. If no valid dates are found or if there is no such table, message H3 will be output.

If the function mode is set to AUTOMATIC, the message H4 will be output.

For each year, one line is output. The first column contains the switchover dates to daylight saving, the second those to standard time. If one of these dates is missing, its field will be left blank. If there are no entries for a certain year, there'll be no output for it.

Procedure Overview

Command Code	Parameter
DISPLAY-SONUS	;

SONUS - Daylight Saving / Standard Time Switchover

Functions of the AMO

Example

Displaying the switchover table

Input:

```
DISPLAY-SONUS;
```

Output:

SWITCHOVER TO DAYLIGHT SAVING		STANDARD TIME
1988-03-27		1988-09-25
1990-03-25		
1991-03-24		1991-09-29
		1992-09-27
SWITCHOVER TIME		
02:00 HRS		03:00 HRS

ADJUSTED FUNCTION MODE OF SONUS - TASK : AUTOMATIC

H04: US-STANDARD APPLIES FOR THE AUTOMATIC TIME-SWITCHOVER.

178.2.3 SWITCHOVER-SONUS

Change the function mode of the switchover task.

Three different modes can be chosen from:

- HD : read the switchover dates from the table in a hard disk file;
- AUTO : the task computes the switchover dates
 - according to the directives of the European Community (EU) regarding DLS / standard time switchover in european program systems
(DEVELOPMENT LINE = EUROPE DEVELOPMENT at DISPLAY-DBC;)
 - according to US-standard on american program systems
(DEVELOPMENT LINE = US DEVELOPMENT at DISPLAY-DBC;)
- OFF : the task is deactivated

The AMO reads the table and the switchover mark will be changed according to the input.

If there is no SONUS-file on the hard disk, one will be created, similar to the ADD branch. The table of switchover dates will be initialised with dummy information. Thereafter the switchover mark will be adjusted according to the input command.

Procedure Overview

Command Code	Parameter
SWITCHOVER-SONUS	FUNCT=<param>;

Example

Switch over the resident task to automatic

Input:

SWITCHOVER-SONUS:AUTO;

Output:

H04: US-STANDARD APPLIES FOR THE AUTOMATIC TIME-SWITCHOVER.

178.2.4 REGENERATE-SONUS

Regenerate the table of switchover dates

The file is read and the switchover dates found are compared with the date from the system. The output only shows dates that haven't yet expired. If no valid dates are found or if there is no such table, message H3 will be output.

After all dates have been processed, the AMO adjusts the switchover mark by generation of a SWITCHOVER command (on new installation of the file it is set to "read from file").

Procedure Overview

Command Code	Parameter
REGENERATE-SONUS	;

Example

Regenerate the switchover table

Input:

REGENERATE-SONUS;

Output:

ADD-SONUS:1988,3,27,DLS;
ADD-SONUS:1988,9,25,STD;
ADD-SONUS:1990,3,25,DLS;
ADD-SONUS:1991,3,24,DLS;
ADD-SONUS:1991,9,29,STD;
ADD-SONUS:1992,9,27,STD;
SWITCHOVER-SONUS:AUTO;

178.3 Parameter Description

DAY	Date - Day Type of Input : Single value, mandatory Possible Values : 1 - 31
FUNCT	Function Mode of the Resident SONUS Task

	Type of Input	: Single value, mandatory
	Possible Values	: AUTO computation of switchover dates according to standard, depending on the program system installed: EU-standard for european systems (PRODUCTION-LINE EUROPE DEVELOPMENTat DISPLAY-DBC;) US-standard for american systems (PRODUCTION-LINE US DEVELOPMENTat DISPLAY-DBC;) HD (read switchover dates from file on hard disk) OFF (task is deactivated)
MONTH	Date - Month	
	Type of Input	: Single value, mandatory
	Possible Values	: 1 - 12
TYPE	Type of Switchover (Standard Time -> Daylight Saving / Daylight Saving -> Standard Time)	
	Type of Input	: Single value, mandatory
	Possible Values	: STD (switchover to standard time) DLS (switchover to daylight saving)
YEAR	Date - Year	
	Type of Input	: Single value, mandatory
	Possible Values	: 1988 - 2079

178.4 Error Messages and Advisories

178.4.1 Error Messages

F01: DATE INVALID.
 F02: THE ENTERED SWITCHOVER DATE IS IN THE PAST.
 F03: SWITCHOVER ON SWITCH DAY NOT POSSIBLE BETWEEN <time> AND <time> HOURS.
 F04: SWITCHOVER DATA ENTRY ONLY POSSIBLE 10 YEARS IN ADVANCE
 F05: DATE/TIME NOT ASSIGNED IN SYSTEM.
 F06: THE FILE CONTAINING THE SWITCHOVER DATA IS NOT ON SYSTEM HARD DISK.
 F07: ACCESS TO THE FILE OF SWITCHOVER DATA IS NOT POSSIBLE, AS THE AREA CONTAINING THE FILE IS LOCKED.
 ACTIVATE WITH: "
 F08: THE COMBINATION OF VALUES ENTERED FOR THE PARAMETERS "MONTH" AND "TYPE" DOES NOT LOGICALLY MATCH THE PRESENT TABLE OF SWITCHOVER DATES.
 F09: DMS ERROR ON ACCESS TO ":AMD:SONUS/UZTAB". DMS STATUS @@@@.

SONUS - Daylight Saving / Standard Time Switchover

Error Messages and Advisories

Note:

If there are no valid entries in the table of switchover dates, there are no restrictions regarding month and changeover type. The first entry determines the validity of the table for the northern or southern global hemisphere (e.g. switchover to DLS in January - June -> northern hemisphere, switchover to DLS in July - December -> southern hemisphere). Thereafter only entries for the same hemisphere are possible.

178.4.2 Advisories

- H01: FOR <date>, A SWITCHOVER TO <type> HAS ALREADY BEEN ENTERED.
(The date output in the message is overwritten.)
- H02: FOR <year>, NO SWITCHOVER TO <type> HAS BEEN ENTERED.
(The AMO checks whether the preceding entry is the logical predecessor.)
- H03: NO VALID ENTRIES WERE FOUND IN THE SWITCHOVER TABLE.
(The file on the hard disk does not exist or doesn't contain any valid switchover dates.)
- H04: <region>-STANDARD APPLIES FOR THE AUTOMATIC TIME-SWITCHOVER.
- H05: THE CONFIGURATION TABLE OF THE SYSTEM COULD NOT BE READ.

178.4.3 List of abbreviations

<date>	Date consisting of year, month, day
<region>	EU or US (see chapter SWITCHOVER-SONUS)
<time>	Time in hours and minutes (e.g. 02:00)
<type>	Type of switchover (DLS / STANDARD TIME)
<year>	Year of changeover

179 SPES - Supervision Parameters of External Servers

Restrictions	Functions of the AMO	Error and advisory messages
Interrelationships	Parameter Description	

The AMO "Supervision Parameters of External Servers" (SPES) handles the database for external servers respectively switches the states of supervision.

179.1 Restrictions

This description is valid from SP300-Rel6.3

179.2 Interrelationships

- There are no interrelationships to other AMOs.

179.3 Functions of the AMO

- [ADD-SPES](#) : Adding an external server in the database
- [DELETE-SPES](#) : Deleting an external server in the database
- [ACTIVATE-SPES](#) : Activating supervision of an external server
- [DEACTIVATE-SPES](#) : Deactivating supervision of an external server
- [DISPLAY-SPES](#) : Displaying the content of database for all added external servers
- [REGENERATE-SPES](#) : Regenerating the adding commands from database

179.3.1 ADD-SPES

For the specified ESID (Identification number of external server) - the allowed range will be "U4" to "U7" - the supervision time period can be added. This period is within the range 3 to 1000 minutes. If the parameter PERIOD is not specified the AMO will add the default value of 3 min.

Procedure Overview

Command Code	Parameter
ADD-SPES	ESID=<param>, [PERIOD=<number>];

Examples

1. Adding default time period for external server U4 :

Input:

```
ADD-SPES:U4;
```

2. Adding time period 10 minutes for external server U5 :

Input:

```
ADD-SPES:U5,10;
```

179.3.2 DELETE-SPES

The database entry of the specified external server will be deleted.

Procedure Overview

Command Code	Parameter
DELETE-SPES	ESID=<param>;

Example

1. Deleting external server U5 from database :

Input:

```
DEL-SPES:U5;
```

179.3.3 ACTIVATE-SPES

The external server specified by parameter ESID will be activated.

Procedure Overview

Command Code	Parameter
ACTIVATE-SPES	ESID=<param>;

Example

1. Activating supervision of external server U4 :

Input:

ACT-SPES:U4;

179.3.4 DEACTIVATE-SPES

The external server specified by parameter ESID will be deactivated.

Procedure Overview

Command Code	Parameter
DEACTIVATE-SPES	ESID=<param>;

Example

1. Deactivating supervision of external server U4 :

Input:

DEACT-SPES:U4;

179.3.5 DISPLAY-SPES

The content of database will be displayed for added external servers.

Procedure Overview

Command Code	Parameter
DISPLAY-SPES	[ESID=<param>] ;

Examples

1. Display database entry of external server U6 :

Input:

DISPL-SPES:U6;

Output:

SPES - Supervision Parameters of External Servers

Parameter Description

ESID	PERIOD	STATE
U6	321 MIN	DEACTIVE

2. Displaying all added external servers of database :

Input:

DISPL-SPES;

Output:

ESID	PERIOD	STATE
U4	3 MIN	DEACTIVE
U6	321 MIN	DEACTIVE
U7	1000 MIN	ACTIVE

179.3.6 REGENERATE-SPES

The content of database will be regenerated as add commands, the states of external servers will not be regenerated.

Procedure Overview

Command Code	Parameter
REGENERATE-SPES	;

Example

1. Regenerating the content of database :

Input:

REGEN-SPES;

Output:

ADD-SPES:U4,3;
ADD-SPES:U6,321;
ADD-SPES:U7,1000;

179.4 Parameter Description

ESID	Identification number of external server
Type of Input	: Single value mandatory (ADD, DELETE, ACTIVATE, DEACTIVATE)

		optional (DISPLAY)	
Possible Values	: U4		= External server 1
	U5		= External server 2
	U6		= External server 3
	U7		= External server 4
PERIOD	Time period for supervision of external server		
Type of Input	: Single value		
	optional (ADD)		
Possible Values	: Time in minutes (3-1000)		
Default Value	: 3 min		

179.5 Error and advisory messages

179.5.1 Error Messages

F01: EXTERNAL SERVER U<number> HAS ALREADY BEEN ADDED
 F02: SUPERVISION FOR EXTERNAL SERVER U<number> IS IN PROGRESS, PLEASE DEACTIVATE FIRST
 F03: EXTERNAL SERVER U<number> IS NOT ADDED IN DATABASE
 F04: RESOURCES ARE NOT AVAILABLE, INTERNAL STATUS: <number>
 F05: SUPERVISION FOR EXTERNAL SERVER U<number> IS ALREADY IN PROGRESS
 F06: SUPERVISION FOR EXTERNAL SERVER U<number> IS ALREADY DEACTIVATED

The internal status at message F04 can get one of following values :

- 1 ... Interface mailbox is not available
- 2 ... No memory for internal messages available
- 3 ... No send message could be done

179.5.2 Advisories

H01: NO EXTERNAL SERVER ADDED IN DATABASE
 H02: EXTERNAL SERVER U<number> IS NOT ADDED IN DATABASE
 H03: AMO IS STILL WAITING, OTHER DUTY IN PROGRESS

SPES - Supervision Parameters of External Servers

Error and advisory messages

180 SSC - Special Subscriber (Station) Configuration

	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

With AMO SSC (Special Station Configuration) it is possible to create, cancel, interrogate and regenerate data for the terminal connections "MSGR" (= messenger), "GENANS" (= general answering), "CC" (= answering station terminal connection for single code calling system), "VMXMWI" (= message waiting information) and "EXTANN" (= external announcement), which together are referred to as "special stations".

Special stations cannot be changed. They can only be cancelled and recreated.

The special 'station numbers' (henceforth 'STNO') are exclusively A&M administration numbers. Therefore, they are not created in the digit evaluation tables or in the STNO-LODEN conversion tables. small

- The terminal connection MSGR can be allocated to an executive/ secretary system from a DIGITE 260 by way of a check of this exec/ sec system or it can be assigned to one or more executive/secretary systems from an operator terminal by means of AMO-ZIEL. Messenger calls (MSGR) are activated by members of executive/ secretary systems by pressing the messenger call key on the voice terminal.
- Calls to the corresponding attendant console group (ACGR) are routed to terminal connection GENANS when night variant "trunk answer" is active. Ringing is applied at this terminal connection. However, the signal is not sent to a specific telephone set, but to ringers which can be heard over a wide area. The call can be taken at any telephone set by dialing a code. A maximum of 16 GENANS terminal connections are provided; these can be allocated to the ACGR as desired.
- A caller can page an absent called party with the single CC facilities by suffix-dialing a code. The paging inlet is connected to an ACC (adapter circuit for special devices). The answer inlet is connected to the terminal connection CC. By dialing the answer code from any telephone set, the called party can set up the connection to the calling party via the CC. The paging code and the answer code are linked (with respect to the relevant data) by means of AMO-RICHT.
- To transfer the mailbox information to the extensions of its node a server connected via a Common Voice Mail Interface (VMX) requires an SLMA terminal connection that has been configured like an anate

SSC - Special Subscriber (Station) Configuration

Interrelationships

but cannot be dialed by other subscribers. The server seizes the system via the terminal connection and transfers the mailbox information to the mailbox LED of the subscriber using code points MWION and MWIOFF. The server is allocated to the Common Voice Mail Interface by means of AMO SA. A maximum of 10 of these special terminal connections can be configured at any one node.

- To get the possibility to make external announcements (=EXTANN), there will be a configuration at a SLMA/SLMA1/SLMA24. Each such announcement will get 1 or max. 16 special signals, to make sure to get the right announcement later on.

At the ports at which a special station is to be set up, an SLMA, SLMA1 or SLMA24 must have been created by means of AMO-BCSU.

AMO-SSC has enhanced with a new parameter LTU to assign certain CPTONs of external announcement to certain LTUs.

If parameter LTU is not specified, all configured LTUs in the whole range from 1 to 99 are marked as assigned (for HHS it means 1 to 15 and for AP range it means each configured LTU).

In case LTU parameter is specified, all given LTUs in the AP range are considered as far as the concerning AP is configured. For HHS range it means that only one LTU in this range leads to the configuration of all 15 LTUs.

180.1 Interrelationships

- AMO BCSU : Configure mounting location for module in SWU
- AMO DSSU : Device switch of switching unit
- AMO NAVAR : Administration of static night variants
- AMO RICHT : Route
- AMO SA : Hunting group
- AMO ZIEL : Destination addresses for stations

180.2 Functions of the AMO

- [ADD-SSC](#) : Create a special station
- [DELETE-SSC](#) : Cancel a special station
- [DISPLAY-SSC](#) : Interrogate all special stations

- **REGENERATE-SSC** : Regenerate all special stations

180.2.1 ADD-SSC

The parameter PEN (= port) designates the terminal connection at which the special station is connected. If the PEN parameter is not entered, the system is searched for an available port.

The entered parameters cannot be altered.

A special station can only be cancelled and newly created.

Procedure Overview

Command Code	Parameter
ADD-SSC	[PEN=<gg-uu-bbb-ss>] , TYPE=MSGR, MSGRNO=<number> (1) , [COFIDX=<number>], [INS=<param>];
	| TYPE=GENANS, UNANO=<number> (2) , [COFIDX=<number>], [INS=<param>];
	| TYPE=CC, CCNO=<number> (3) , [COFIDX=<number>], ITR=<number>, [INS=<param>];
	| TYPE=VMXMWI, MSTNO=<number> (4) , [COFIDX=<number>], COS=<number> , LCOSV1=<number>, [DPLN=<number>] , [INS=<param>];
	| TYPE=EXTANN, CPCALL=<param> (5) , [COFIDX=<number>], [CLASSMRK=<param>]; , [LTU=<number>];

Examples

1. Create and put into service a messenger station with STNO 101. An available port is to be allocated by the AMO.

Input:

```
ADD-SSC:,MSGR,101,,Y;
```

Output:

```
H01: THE MSGR USER 101 WAS ADDED IN LOCATION 1-1-1-1.
```

2. Create a CC station with STNO 9 at port 1-1-1-0, allocate to traffic relations group 15 and put into service.

SSC - Special Subscriber (Station) Configuration

Functions of the AMO

Input:

ADD-SSC:1-1-1-0,CC,9,0,15,Y;

Output:

H01: THE CC USER 9 WAS ADDED IN LOCATION 1-1-1-0.

3. Create an EXTANN station with CPCALL=EXTDTN, the PEN will be searched by AMO.

Input:

ADD-SSC:,EXTANN,EXTDTN,1,;

Output:

H05: AT LOCATION 1-4-79-1, THE EXTANN USER WITH THE FOLLOWING CP
CALL TONES
WAS ADDED:
EXTDTN

4. To the EXTANN station at port 1-4-79-1 will be added the CP-Calls INTDTN and BUSY. Reset classmarks to EC&G711.

Input:

ADD-SSC:1-4-79-1,EXTANN,INTDTN&BUSY,EC&G711;

Output:

H08: TO THE EXTANN SUBSCRIBER AT LOCATION 1-4-79-1,
THE FOLLOWING CPCALL TONES HAVE BEEN ADDED:
INTDTN&BUSY

180.2.2 DELETE-SSC

A messenger station can be cancelled only if it is not allocated to an executive/secretary system.

A GENANS terminal connection can be cancelled only if it is not allocated to a night variant.

A CC answer station can be cancelled only if it is not allocated to a single CC.

A VMXMWI messenger station can be cancelled only if it is not allocated to the server.

The special stations to be cancelled must be released by means of the corresponding AMOs.

These are:

- MSGR with AMO ZIEL
- GENANS with AMO NAVAR the entire night variant to which the GENANS location is allocated must be cancelled.

- CC with AMO RICHT the route must be cancelled because the CC answer station is connected to the ACC.
- VMXMWI with AMO SA the allocation to the server (entries in Call Type Table) must be cancelled.

Prior to cancellation, a special station must be blocked manually by means of AMO DSSU.

It is possible to cancel only special CP-Calls of one EXTANN user and this user still will exist or to cancel a whole EXTANN user with all his CP-Calls.

Procedure Overview

Command Code	Parameter
DELETE-SSC	TYPE=MSGR,MSGRNO=<number>; | TYPE=GENANS,UNANO=<number>; | TYPE=CC,CCNO=<number>; | TYPE=VMXMWI,MSTNO=<number>; | TYPE=EXTANN,CPCALL=<param>, [LTU=<number>];

Examples

1. Cancel CC station with STNO 9. Because the CC station is in operation, it must first be blocked by means of AMO-DSSU.

Input:

```
DEACTIVATE-DSSU:DI,PEN,1-1-1-0;
```

Output:

```
H03: SLMA 1.1.1.0 DEACTIVATED (AMO)
```

Input:

```
DELETE-SSC:CC,9;
```

Output:

```
H02: CC USER 9 HAS BEEN DELETED.
```

2. Cancel EXTANN with CPCALL=EXTDTN.

Input:

```
DELETE-SSC:EXTANN,EXTDTN;
```

Output:

SSC - Special Subscriber (Station) Configuration

Functions of the AMO

H06: THE EXTANN USER WITH CPCALL=EXTDTN HAS BEEN DELETED.

3. Cancel the CPCALL=INTDTN of an EXTANN.

Input:

DELETE-SSC:EXTANN,INTDTN;

Output:

H07: THE CPCALL=INTDTN HAS BEEN DELETED.

180.2.3 DISPLAY-SSC

Procedure Overview

Command Code	Parameter
DISPLAY-SSC	TYPE=MSGR; | TYPE=GENANS; | TYPE=CC; | TYPE=VMXMWI; | TYPE=EXTANN, [LTU=<number>]; | TYPE=ALL;

Example

Interrogate all special stations.

Input:

DISPLAY-SSC:ALL;

Output:

+-----+											
|	MSGRNO		PEN		COFIDX		IN SERVICE			|	
+-----+											
|	101	1-	1-1	-1	0		Y		|		
+-----+											
+-----+											
|	MRUFNU		PEN		COFIDX		COS	LCOSV1	DPLN	IN SERVICE	|
+-----+											
|	10	1-1-13	-12	0	10	1	0	Y		|	
+-----+											
+-----+											
|	CCNO		PEN		COFIDX		ITR	IN SERVICE		|	
+-----+											
|	8	1-	1-13	-15	0	15	Y		|		
|	9	1-	1-1	-0	0	15	Y		|		

-----+					
|	PEN	CPCALL	COFIDX	CLASSMRK	|
-----+					
|	1 - 4-79 -1	EXTDTN	1	EC	|
|		INTDTN		G711	|
|		BUSY			|
-----+					

180.2.4 REGENERATE-SSC

Procedure Overview

Command Code	Parameter
REGENERATE-SSC	TYPE=MSGR; | TYPE=GENANS; | TYPE=CC; | TYPE=VMXMWI; | TYPE=EXTANN, [LTU=<number>]; | TYPE=ALL;

Example

Regenerate all special stations.

Input:

REGEN-SSC:ALL;

Output:

```

ADD-SSC: 1-1-1-1, MSGR, 101, 0, Y;
ADD-SSC: 1-1-13-15, CC, 8, 0, 15, Y;
ADD-SSC: 1-1-13-12, VMXMWI, 10, 0, 10, 1, 0, Y;
ADD-SSC: 1-1-1-0, CC, 9, 0, 15, Y;
ADD-SSC: 1-4-79-1, EXTANN, EXTDTN&INTDTN&BUSY, 1, EC&G711;

```

180.3 Parameter Description

CCNO Code calling access code (STNO of the CC terminal connection)
The CCNO must not be assigned yet. The size of the STNO range depends on the maximum number of single CC.

SSC - Special Subscriber (Station) Configuration

Parameter Description

Type of Input : single value, mandatory
Possible values : 0 - 9

CLASSMRK DNIL classmarks (for feature IPDA)

Type of Input : max. 4 single values, concatenated with '&', optional (ADD)

VAD	voice activity detection
EC	echo cancellation
G711	no voice compression, according to G.711
G729	voice compression (mandatory) according to G.729A
G729OPT	voice compression (optional) according to G.729A
INIT	initialisation of classmarks to default
NONE	deactivation of all classmarks

Default Value EC&G711&G729OPT

COFIDX Index of COFI data file to be loaded
(index of a data block with which the SICOFI components must be loaded on an SLMA)

Type of Input : single value, optional
Possible values : 0- data block for short lines ($L < 100$ m)
1- data block for lines of medium length ($100 \text{ m} < L < 1000$ m)
2- data block for long lines ($L > 1000$ m)
Default Value : 0

COS Class of service

Type of Input : single value, mandatory
Possible values : 0 - 1199

CPCALL HICOM-signal.
Every CPCALL belongs to one EXTANN.

Type of Input : single value, 1 to max. 16 values, optional (ADD, DELETE)

Possible values :

ALERT	notification/alert tone,
ANNICPT	announcement for attendant intercept,
BONHK	B party on hook,
BUSY	busy tone,
CAMP	knocking/camp-on/call waiting tone,
CBKALERT	call back alert tone,
CONFTN	conference tone,

SSC - Special Subscriber (Station) Configuration

Parameter Description

CONG	congestion tone,
DATA	data tone,
DND	do not disturb tone,
EXTDTN	external dial tone,
EXTDTN2	secondary CO dial tone,
FRNGBK	first burst of ringback tone,
HOLDLINE	hold the line please
NOPO	not possible,
IMPOSSFM	impossible for the moment,
INTDTN	internal dial tone,
KNCONF	camp-on tone for conference,
LOCANN	local announcement,
MUSIC	music on hold,
MWI	message waiting information,
NACK	negative acknowledgement tone,
NODIAL	timeout tone if digits not dialed,
NOTALWD	not allowed,
NOTREACH	not reachable,
NU	number obtainable tone,
OVR	automatic override tone,
OVRTN	override tone,
OVRWARN	override warning tone,
PACK	positive acknowledgement tone,
PACKWD	positive ack. tone with dialing,
REORDER	reorder tone,
RNGBK	ringback tone,
RTO	RTO test tone,
SPEC	special dial tone,
TEST	test tone,
VOICEMAL	voice mail,
HOLD	call waiting tone
DISCTONE	disconnect tone
HOLDEXT	holdtone external
HOLDH1	holdtone hold 1
HOLDH2	holdtone hold 2
HOLDINT	holdtone internal
HOLDCC	holdtone for code calling syst.
HOLDHT	holdtone for hunting group
FCAMP	first camp on tone

SSC - Special Subscriber (Station) Configuration

Parameter Description

HOLDHT	call monitoring alerting tone
CCMABSEN	ccm tracer in rack

DPLN	Dial plan group Type of Input : single value, optional Possible values : 0 - 15 Default Value : 0
INS	Station in service? (putting the terminal connection into service by means of the centralized device status administration) Type of Input : single value, optional Possible values : Y, N Default Value : Y
ITR	Internal traffic restriction group / closed user group Type of Input : single value, mandatory Possible values : 0 - 15
LCOSV1	LCR class of service 1 Type of Input : single value, mandatory Possible values : 1 - 32
LTU	LTU Number Type of Input : 1 to 4 single values, concatenated with & or &&, optional Possible values : numeric, 1-15, 17-99
MSGRNO	Messenger station number The MSGRNO must not be assigned yet. The MSGRNO must not be greater than the STNO + the maximum number of executive/secretary systems. Type of Input : single value, mandatory Possible values : 101 - 999
MSTNO	VMX message waiting information station number Type of Input : single value, mandatory Possible values : 0 - 9

PEN Port equipment number of station
(terminal connection of the special station: LTG-LTU-SLOT-CCT)
If an entered module is not specified within the "6" grouping, it is automatically corrected to the next lowest permitted trunk number.

Type of Input	: single value, optional (g-uu-sss-ccc)
Possible values	: g = LTG Number: 1 (no other value)
	uu = LTU Number: 1-15 in HHS (host Shelf) 17-99 in AP (Access Point Shelf) 16 not defined
	sss = SLOT Number: 1-121; slot in groups of 6 except 61 or 25-121 except 73 for compact shelves
	ccc = Circuit Number: 0-254

A suitable module must be configured to the slot addressed by PEN (AMO BCSU).

The possible LTU and Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description.

The possible Line values depend on the module type and its functionality.

They can be listed using DISP-BCSU: TYPE=PEN [,LTG=, LTU=, SLOT=, CCT=]; which will also output the actual PEN status (e.g. NOT CONNECTED).

TYPE Special station type

Type of Input	: single value, mandatory
Possible values	: MSGR, GENANS, CC, VMXMWI (TYPE=ALL is also possible for DISPLAY)

UNANO Device number of night answer station / bell (STNO of the GENANS terminal connection)
The UNANO must not be assigned yet. The size of the STNO range depends on the maximum number of answering stations.

Type of Input	: single value, mandatory
Possible values	: 0 - 15

180.4 Error Messages and Advisories

180.4.1 Error Messages

F01: NO LOCATIONS ARE FREE.
F02: ENTERED <MSGRNO/UNANO/CCNO/MWINO> IS NO LONGER FREE.
F03: THE ENTERED LOCATION <LTG-LTU-SLOT-CIRC> DOES NOT LEAD TO AN SLMA-TYPE MODULE.
F04: NO DEVICE MEMORIES ARE FREE.
F05: ENTERED LOCATION <LTG-LTU-SLOT-CIRC> IS NO LONGER FREE.
F06: INADMISSIBLE <LTG/LTU/SLOT/CIRC> VALUE ENTERED IN LOCATION PARAMETER.

SSC - Special Subscriber (Station) Configuration

Error Messages and Advisories

F07: THE <MSGR/GENANS/CC> USER ENTERED CANNOT BE DELETED SINCE HE IS ASSIGNED TO <EXEC-SECRETARY SYSTEM NO./NIGHT VARIANT NO./SINGLE CC WITH ROUTING CODE:> xxxxxx.

F08: THE ENTERED <MSGR/GENANS/CC/VMXMWI> USER CANNOT BE DELETED; FIRST ENTER MANUAL DISABLEMENT.

F10: <LTG/LTU> NOT ADDED TO THE SYSTEM.

F11: ADD/DELETE OF MESSENGER-SUBSCRIBER IS NOT POSSIBLE BECAUSE OF MAXIMUM OF EXECUTIVE/SECRETARY SYSTEM WAS SET TO ZERO (AMO DIMSU).

F12: ENTERED COS NOT AVAILABLE.

F13: VMXMWI-SUBSCRIBER CANNOT BE DELETED BECAUSE IT IS STILL ALLOCATED TO THE SERVER.

F14: WITH CPCALL xxxxxxxx THERE IS NO EXTANN USER CONFIGURED.

F15: THE CPCALL xxxxxxxx BELONGS ALREADY TO AN EXTANN USER.

F16: ANOTHER CPCALL IS NOT POSSIBLE AT THIS LOCATION.

F17: ENTERED PEN <LTG-LTU-SLOT-CIRC> IS IN THE STATE "SIGNED OFF".
RELEASE WITH AMO BCSU FIRST, OR ENTER ANOTHER PEN.

F18: THE SUBSCRIBER CANNOT BE ADDED. THE CONTRACTED NUMBER OF FLEX+TDM <xxx> IS REACHED.
PLEASE USE DISPLAY-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES.
PLEASE CONTACT YOUR SERVICE CENTER, IF YOU WANT TO USE ONE OF THESE FEATURES.

F19: THE CLASSMRK VALUES 'INIT' OR 'NONE' MAY NOT BE" CONCATENATED.

F20: ENTERED LCOSSL NOT AVAILABLE.

F21 THE ENTERED LTU @@ IS NOT CONFIGURED.

F22 MAX. NUMBER OF EXTERNAL ANNOUNCEMENT DEVÍCES CONFIGURED.

F24: <xxxxxxxxxxxx> PEN ERROR; PERMISSIBLE RANGE FOR LTG: 1-<max>

F25: <xxxxxxxxxxxx> PEN ERROR; PERMISSIBLE RANGE FOR LTU: 1-<xx>, <yy>-<max>

F26: <xxxxxxxxxxxx> PEN ERROR; SLOT FORMALLY INCORRECT

F27: <xxxxxxxxxxxx> PEN ERROR; PERMISSIBLE CIRCUIT NUMBERS: <0-<cct_max>/<n>, <m>, ...>

F29: <xxxxxxxxxxxx> THE DEVICE CONFIGURATION DVCFIG DOES NOT MATCH THE MODULE OF THE SPECIFIED PEN

F30: <xxxxxxxxxxxx> THE STATION IS CAMP-ON BLOCKED. OPTIONS: - REPEAT COMMAND LATER - REPEAT COMMAND WITH IMMEDIATE DEACTIVATION (OFFTYPE=DI) - FIRST DEACTIVATE BY DEACT-DSSU:OFFTYPE=DI,....; AND REPEAT COMMAND

F32: <xxxxxxxxxxxx> THE STATION MUST BE DEACTIVATED. OPTIONS: - REPEAT COMMAND WITH DEACTIVATION (OFFTYPE=DC/DI) - FIRST DEACTIVATE BY DEACT-DSSU:OFFTYPE=DC/DI,...; AND REPEAT COMMAND

F34: <xxxxxxxxxxxx> NO MODULE HAS BEEN ASSIGNED FOR THE SPECIFIED PEN.

F35: <xxxxxxxxxxxx> IN ADDITION TO THE DVCFIG VALUE <dvcfig>, THE PARAMETER <param> MUST ALSO BE SPECIFIED

F39: <xxxxxxxxxxxx> THE <STATION/NEW STATION|PRIMARY STATION> NUMBER IS AN EXTERNAL STATION NUMBER

F40: <xxxxxxxxxxxx> THE TERMINAL IS NOT PROCESSED BY AMO SSCSU

F41: <xxxxxxxxxxxx> VALUE FOR PARAMETER OPT DOES NOT MATCH THE MODULE OF THE SPECIFIED PEN

F51: THE STATION NUMBER RANGE <xxxxxxxxxxxx> - <yyyyyyyyyyyy> CONTAINS NO VALID STATION NUMBER

F55: <xxxxxxxxxxxx> THIS STATION IS ASSIGNED WITH <OPT>=<HTB/TC>

F57: <xxxxxxxxxxxx> THE ADD-ON DEVICES MAY ONLY BE REMOVED, IF ALL AFFECTED KEY FUNCTIONS ARE SET TO VACANT" (AMO TAPRO)"

F58: <xxxxxxxxxxxx> THIS STATION IS ALREADY ASSIGNED BY AMO <ACSU/RUFUM/SCSU/SBCSU/DNIT>

F60: <xxxxxxxxxxxx> ALARMNO <nnnn> IS NOT YET ASSIGNED (AMO-VADSU).

F71: <xxxxxxxxxxxx> FOR ADDING A DVCFIG=<HTBMNGR> ONLY A SINGLE STATION NUMBER IS ALLOWED.

F72: <xxxxxxxxxxxx> DVCFIG=<HTBMNGR/HTBPHONE>: ONLY A COMBINATION OF VOICE AND DTE DEVICE IS ALLOWED.

180.4.2 Advisories

A31003-H31A0-S107-18-7620, 02/2025
OpenScape 4000 V10, AMO Descriptions, Service Documentation

SSC - Special Subscriber (Station) Configuration

Error Messages and Advisories

181 SSCSU - Special Subscriber Terminal Configuration in the SWU

Cross References	Parameter Description
Functions of the AMO	Error Messages and Comments

The AMO SSCSU configures special subscriber terminals. In addition to *subscriber terminal configuration*, the AMO SSCSU enables the relevant data to be displayed, regenerated and changed and the terminals to be deleted.

Functionalities configured by the AMO SSCSU:

4. The following terminals can be configured for the **Hicom Trading Board** (HTB):

- HTBMNGR: HTB manager with S0 adapter
- HTBPHONE: HTB terminals are configured as optisets
- HTBLINE: Logical optisets, represents the lines to which the HTB PHONES connect
- HTBEXT: HTB extension connections are used for communication between remote HTB groups
- DTE: Data terminal equipment, used for non-voice communication between manager and individual devices

Note: HTBMNGR and HTBPHONE must always be added in combination with a DTE, HTBEXT can be configured with or without service DTE.

The devices are configured on the following modules:

- SLMY

5. The following terminals can be configured for **Telecommuting functionality** (TC) :

- TCLOG: Only Circuit 0 is possible and exclusively used for control messages to TC-Server for the login method "AUTOSET RELOCATE". It cannot be used as deputy for the telecommuter in the Hicom node.
- TCEXT: TC extension connection.

The devices are configured on the following modules:

- WAML2

181.1 Cross References

- AMO AUN : Call Pickup Groups
- AMO ACDRT : Managing of ACD routing tables
- AMO BCSU : Configuring of plug-in slot (module) in SWU. The AMO BCSU configures the modules SLMO
- AMO COSSU : CLASS OF SERVICE
The AMO COSSU is used for adding classes of service (for all services) which can be allocated to a subscriber line via the parameters COS1 and COS2.

The same AMO is used for adding LCR classes of service (for the services VOICE and DTE) which can be allocated to a subscriber line via the parameters LCOSV1 and LCOSV2 or LCOSD1 and LCOSD2
- AMO DIMSU : Dimension data in SWU
The AMO DIMSU administers the database layout for device and add-on memory of switching technology and line technology
- AMO DNIT : Administration of "Directory number identification" table
- AMO DSSU : Device switch of switching unit
The AMO DSSU can be used for activating or deactivating an S0 bus and corresponding terminals.
- AMO KNDEF : Configure own virtual node numbers
- AMO KNMAT : Configuration Replacement of Extension Number for SSTNO=ONLYEXT:

CHA-KNMAT:NPI=ISDN,ONNOL=OWN,DNNO=...,
LEVEL=.,MODCON=REPEXT&OUT,NUMEXT=replacement
number;
- AMO NAVAR : Night variants
- AMO RCSU : Configure recorder in SWU
- AMO SBCSU : Configure S0 bus subscriber terminals
The AMO SBCSU configures subscriber terminals and S0 bus configuration
- AMO SCSU : Configure subscriber terminals
The AMO SCSU configures theoretical terminals of association of terminal adapters.
- AMO SA : Collective line groups
- AMO SDAT : Configure ACD and ANI features
- AMO TGER : Subscriber device allocation, incoming
- AMO UCSU : Configure through-connect unit in SWU (LTG and LTU)

- AMO VADSU : Administer NMC alarms in the SWU
- AMO TAPRO : Key programming DIGITE
- AMO WABE : Dialling Plans, Feature Access Code (add code for STN)
- AMO ZIEL : Destination addresses for subscriber

181.2 Functions of the AMO

- **ADD SSCSU** : Configure static and dynamic memory in CC and LTG for subscriber lines with the above device constellations and enter static data
- **CHANGE SSCSU** : Change static device data
- **DELETE SSCSU** : Delete the entire subscriber line
- **DISPLAY SSCSU** : Display subscriber lines
- **REGENERATE SSCSU** : Regenerate subscriber lines

181.2.1 ADD SSCSU

The action ADD SSCSU is used to configure special subscriber terminals.

This action requires various criteria, incl.: the corresponding numbers in dialling evaluation (DAR=STN), a free set on the corresponding module and installed classes of service.

The parameter PEN defines the location (LTG-LTU-SLOT-CCT) at which the subscribers devices are connected with the number STNO. If this parameter is not used, a search is automatically performed for a free location in the system which matches the other parameter values.

Restrictions with PEN:

- The device HTBMNGR can only be added to set 0
- The device HTBPHONE can only be added to sets 1-30.
- The extension connection HTBEXT can only be added to sets 31-254
- The HTBLINE can only be added to sets 41-254
- The device TCLOG is only configurable at circuit 0. Via circuit 0 the communication with the TC-Server is executed, telecommuters are not configured with TCLOG. This is exclusively done by the "Autoset Relocate" method using AMOs BCSU and SBCSU.

SSCSU - Special Subscriber Terminal Configuration in the SWU

Functions of the AMO

- The extension connection TCEXT cannot be added to set 0
- Signed off PENs are not allowed

Special aspect for entering ranges:

STNO parameters can be used for entering ranges and/or several individual values; this is not the case with the PEN parameter. In this case, the one entered PEN value is used as the starting value for the PEN search. Only one single number may be entered for subscribers to whom a partner number has to be allocated.

The device combination to be added at a connection is defined with the DVCFIG parameter. Type branching after OPT must be taken into consideration.

The non-voice device DTE can be used by the STN only if the basic authorization (BASIC) in his class of service ((COS1/COS2) has been entered for the corresponding service (AMO COSSU).

With TCEXT, the specified COS1/2 must contain the class of service SPECAR (Special Arrangement) .

With TCLOG and TCEXT, all parameters apart from PEN and STNO must be identical throughout the system. This cannot be checked by the AMO SSCSU.

If the parameter INS=YES (default setting), the added connection with all voice and any non-voice terminals must be forwarded for further administration to security technology. The corresponding device is put into service when all criteria have been met.

If the parameter INS=NO, the subscriber remains in a status which is not processed for security technology purposes. The device is not put "into operation", and it is only prewired in data terms. " With AMO DSSU, subsequent "ACTIVATE" or "DEACTIVATE" or "LOGON" is possible. AMO SDSU is used for the precise status display.

Partner numbers (PSTNO) must be specified for the device constellation HTBMNGR&DTE. However, the process of adding is only successful if adequate memory has been allocated with the AMO DIMSU (ADD-DIMSU: TEAMCONN=...).

A distinction is made between the following cases:

1. Adding subscribers for Hicom Trading E:

- Add a manager (OPT=HTB, DVCFIG=HTBMNGR&DTE,PSTNO=...).
- Add a phone (OPT=HTB, DVCFIG=HTBPHONE&DTE).
- Add an extension connection with service DTE (OPT=HTB, DVCFIG=HTBEXT&DTE).

- Add an extension connection without service DTE (OPT=HTB, DVCFIG=HTBEXT).
 - Add a line (OPT=HTB, DVCFIG=HTBLINE).
2. Add subscribers for telecommuting:
- Add a logical telecommuter (OPT=TC, DVCFIG=TCLOG).
 - Add an extension connection (OPT=TC, DVCFIG=TCEXT).

Procedure Overview

Command code	Parameter
ADD-SSCSU	<pre> STNO=<number> | ,OPT=HTB, [PEN=<number>],DVCFIG=<param> , [PSTNO=<key-num>] ,COS1=<number>,COS2=<number> ,LCOSV1=<number>,LCOSV2=<number> ,LCOSD1=<number>,LCOSD2=<number>, [DPLN]=<number>] , [ITR=<number>], [SSTNO=<param>], [COSX=<number>] , [SPDI=<number>], [SPDC1=<number>], [SPDC2=<number>] , [REP=<number>], [STD=<number>] , [PROT=<param>], [OPTIDX=<number>] , [INS=<param>], [ALARMNO=<number>] , [RCBKB=<param>], [RCBKNA=<param>] , [DSSTNA=<param>], [DSSTNB=<param>] , [DIGNODIS=<param>]; | ,OPT=TC, [PEN=<number>], | DVCFIG=TCLOG ,COS1=<number>,COS2=<number> ,LCOSV1=<number>,LCOSV2=<number>, [DPLN]=<number>] , [ITR=<number>], [COSX=<number>], [SPDC1=<number>] , [SPDC2=<number>], [STD=<number>], [INS=<param>] , [RCBKB=<param>], [RCBKNA=<param>], [DSSTNA=<param>] , [DSSTNB=<param>], [HMUSIC=<number>]; | DVCFIG=TCEXT ,COS1=<number>,COS2=<number> ,LCOSV1=<number>,LCOSV2=<number>, [DPLN=<number>] , [ITR=<number>], [COSX=<number>], [PROT=<param>] , [OPTIDX=<number>], [INS=<param>]; </pre>

SSCSU - Special Subscriber Terminal Configuration in the SWU

Functions of the AMO

Examples

1. Add the subscriber 2161 as HTBPHONE. The location is established by the AMO itself.

Input:

```
ADD-  
SSCSU:STNO=2161,OPT=HTB,DVCFIG=HTBPHONE&DTE,COS1=5,COS2=6,LCOSV1  
=11,LCOSV2=12  
      ,LCOSD1=21,LCOSD2=22;
```

Output:

```
H500: AMO SSCSU STARTED  
H05: 2161 THIS STATION IS ASSIGNED AT PEN 1- 6- 55- 1  
H08: 2161 STATION RELEASED FOR CALL PROCESSING  
AMO-SSCSU-5 SPECIAL SUBSCRIBER CONFIGURATION OF  
SWITCHING UNIT  
ADD COMPLETED;
```

2. Add subscriber 2168 as TCLOG.

Input:

```
ADD-SSCSU:STNO=2168,OPT=TC,PEN=1-6-115-  
0,DVCFIG=TCLOG,COS1=5,COS2=6  
      ,LCOSV1=11,LCOSV2=12;
```

Output:

```
H500: AMO SSCSU STARTED  
H05: 2168 THIS STATION IS ASSIGNED AT PEN 1- 6-115-0  
H08: 2168 STAION RELEASED FOR CALL PROCESSING  
H44: 2168 FOR ALL SUBSCRIBERS WITH DVCFIG=TCLOG ALL PARAMETERS  
BESIDE  
      PEN AND STNO HAVE TO GET THE SAME VALUES.  
AMO-SSCSU-5 SPECIAL SUBSCRIBER CONFIGURATION OF  
SWITCHING UNIT  
ADD COMPLETED;
```

181.2.2 CHANGE SSCSU

The parameter STNO is required for identifying the line to be changed. All other parameters are optional, although at least one of the parameters must be entered. The parameter OPT only has to be entered if OPT-specific parameters are to be changed.

A number cannot be changed to another number if the old number is still entered in the ACD routing table or if it possesses an ACD feature.

STNO-Ranges can be changed into new STNO-Ranges. Then the available station numbers beginning with NEWNO are used.

With parameter OFFTYPE you can manage, whether change of parameters ASYNCT and PSTNO will be loaded to the line card by means of deactivation and activation of the circuit.

The parameters are classified in the following groups:

1. General parameters:
These parameters are used for all device types:
STNO, NEWNO, COS1, COS2, DPLN, ITR.
2. Parameters which are either device-specific or valid for only specific devices:
LCOSV1, LCOSV2, LCOSD1, LCOSD2, COSX, PSTNO, SSTNO, PROT, OPTIDX, ALARMNO, SPDI, SPDC1, SPDC2, REP, TRACE, RCBKB, RCBKNA, DSSTNA, DSSTNB, DIGNODIS, HMUSIC, OFFTYPE

Procedure Overview

Command code	Parameter
CHANGE-SSCSU	STNO=<number>, [NEWNO=<number>] , [COS1=<number>], [COS2=<number>] , [DPLN=<number>], [ITR=<number>] | , [OPT=HTB] , [PSTNO=<key-num>], [LCOSV1=<number>], [LCOSV2=<number>] , [LCOSD1=<number>], [LCOSD2=<number>] , [SSTNO=<param>], [COSX=<number>] , [SPDI=<number>], [SPDC1=<number>], [SPDC2=<number>] , [REP=<number>], [PROT=<param>], [OPTIDX=<number>] , [TRACE=<param>], [ALARMNO=<number>] , [RCBKB=<param>], [RCBKNA=<param>] , [DSSTNA=<param>], [DSSTNB=<param>] , [DIGNODIS=<param>], [OFFTYPE=<param>]; | , [OPT=TC] , [LCOSV1=<number>], [LCOSV2=<number>] , [COSX=<number>], [SPDC1=<number>], [SPDC2=<number>] , [PROT=<param>], [OPTIDX=<number>] , [RCBKB=<param>], [RCBKNA=<param>] , [DSSTNA=<param>], [DSSTNB=<param>], [HMUSIC=<number>];

181.2.3 DELETE SSCSU

With the action DELETE

- subscribers are deleted on the basis of their number. An individual service (e.g. DTE) cannot be deleted.

SSCSU - Special Subscriber Terminal Configuration in the SWU

Functions of the AMO

In all cases, several (max. 10) individual values or ranges can also be entered for the parameter STNO.

Note :

With optional parameter OFFTYPE you can control, whether AMO SSCSU itself will execute a soft lock (DC, default!), a hard lock (DI) or no lock (NL) on the subscriber. In the last case the number to be deleted must be locked beforehand with the AMO DSSU!

SSCSU subscribers must not be contained in an executive/secretary configuration. Only HTBLINE may be entered in the other group relations (collective line, call collect group, ...). In this case, HTBLINE cannot be deleted (error message).

Subscribers who are still entered in the ACD routing table or who possess an ACD feature cannot be deleted.

Procedure Overview

Command code	Parameter
DELETE-SSCSU	STNO=<number>, [OFFTYPE=<param>];

Examples

1. Delete

Input:

```
DELETE-SSCSU:STNO=3427;
```

Output:

```
H06: 3427      STATION DATA DELETED.
```

181.2.4 DISPLAY SSCSU

The action DISPLAY can be used to display subscriber data.

The parameter TYPE is used for selecting the required display form:

- TYPE=TERMDATA
For each number in the specified range, the parameters with which the terminals are added are displayed in table form. If parameters are displayed with the equal symbol (=), they have been added by the AMO SSCSU. Any parameters displayed with the colon have been added by other AMO's.
- TYPE=TRACE
The system displays all subscribers with change interception authorisation.

- TYPE=DEV

The system displays all subscriber numbers from the specified range to which the terminal type specified in the parameter DEV is allocated in the device constellation.

In all cases several (max. 10) individual values or ranges can also be entered for the parameter STNO.

Procedure Overview

Command code	Parameter
DISPLAY-SSCSU	[STNO=<number>] |, [TYPE=TERMDATA]; |, [TYPE=TRACE]; |, [TYPE=DEV], DEV=<param>;

Examples

1. Display all data of the subscriber 2161.

Input:

DISP-SSCSU:STNO=2161;

Output:

H500: AMO SSCSU STARTED

```

----- USER DATA -----
STNO  =2161  OPT    =HTB  COS1  =5      DPLN  =0      SPDI   =10
                                COS2  =6      ITR    =0      SPDC1  =
PEN    = 1- 6- 55- 1      LCOSV1 =11     COSX   =0      SPDC2  =
INS    =YES    STD      =0      LCOSV2 =12
PSTNO  =      LCOSD1 =21      DSSTNA  =NO     RCBKB   =NO
SSTNO  =NO     DIGNODIS =NO     LCOSD2 =22     DSSTNB  =YES   RCBKNA  =NO
TRACE  =NO     REP      =      ALARMNO=0
DVCFIG =HTBPHONE DTE      PROT   =SBDSS1 OPT    =10     HMUSIC  =
----- ACTIVATION IDENTIFIERS FOR FEATURES -----
FRSAS  :NO     FRSAD   :NO
ANRS   :NO     ANSS    :YES   FRZA   :NO     TCLOGIN:
----- FEATURES AND GROUP MEMBERSHIPS -----
ESSTN  :
PUGR   :      HUNTING GROUP : NO
                                NIGHT OPTION : NO     ASSOCIATED STN : NO
----- SDAT ATTRIBUTES -----
NONE
-----
AMO-SSCSU-5      SPECIAL SUBSCRIBER CONFIGURATION OF SWITCHING UNIT
DISPLAY COMPLETED;

```

1. Display those subscribers who have the service DTE in their device constellation.

Input:

SSCSU - Special Subscriber Terminal Configuration in the SWU
Functions of the AMO

DISP-SSCSU:DEV=DTE;

Output:

H500: AMO SSCSU STARTED

STATIONS WITH DEVICE: DTE

2150	2171	2161	2162	2163	2164
2165	2166	2167	2168	2169	2171
2172	2173	2174	2175	2176	2177
2178	2179	2153			

AMO-SSCSU-5 SPECIAL SUBSCRIBER CONFIGURATION OF
SWITCHING UNIT
DISPLAY COMPLETED;

1. Display all Telecommuting Extension Lines in the number range
2160 to 2169 .

Input:

DISP-SSCSU:STNO=2160&&2169,DEV=TCEXT;

Output:

H500: AMO SSCSU STARTED

STATIONS WITH DEVICE: TCEXT

2161	2169

AMO-SSCSU-5 SPECIAL SUBSCRIBER CONFIGURATION OF
SWITCHING UNIT
DISPLAY COMPLETED;

181.2.5 REGENERATE SSCSU

The action REGENERATE outputs the data of a device constellation in the form of one or more position-oriented "ADD" commands for the AMO SSCSU. The system outputs data which are also displayed in the action DISPLAY, TYPE=TERMDATA.

If STNO is missing, "ADD" commands of all SSCSU subscribers of the installation are regenerated.

Procedure Overview

Command code	Parameter
REGENERATE-SSCSU	[STNO=<number>];

Examples

1. Regenerate the number 2161

Input:

```
REGEN-SSCSU:2161;
```

Output:

```
ADD-SSCSU:2161,HTB,1-6-55-1,HTBPHONE&DTE,
          5,6,11,12,21,22,0,0,NO,0,
          10,,,,0,SBDSS1,10,YES,0,NO,NO,NO,YES,NO;
AMO-SSCSU-5          SPECIAL SUBSCRIBER CONFIGURATION OF
SWITCHING UNIT
REGENERATE COMPLETED;
```

181.3 Parameter Description

ALARMNO	Alarm number of logical device class (Alarm must have been assigned with AMO-VADSU, ANTYPE=PERS (for 520-583) or ANTYPE=DIR (for 8 -519) before) *** only relevant for HTBMNGR, HTBPHONE ***
Type of Input	: Single value, optional
Possible values	: 0 (no alarm assigned) 8 - 583
Default value	: 0
COS1	Class of service1
COS2	Class of service 2
Type of input	: single value, mandatory (ADD) single value, optional (CHANGE)
Possible Values	: 1 - 1000
COSX	class of service switchover group *** only relevant ifor HTBMNGR, HTBPHONE, HTBEXT, HTBLINE, TCLOG, TCEXT ***
Type of input	: single value, optional
Possible Values	: 0-15
Default Value	: 0
DEV	Devicetype
Type of input	: single value, mandatory
Possible Values	: HTBMNGR, HTBPHONE, HTBEXT, HTBLINE, DTE, TCLOG, TCEXT see parameter DVCFIG.

SSCSU - Special Subscriber Terminal Configuration in the SWU

Parameter Description

DIGNODIS	Digite with no display *** only relevant ifor HTBMNGR, HTBPHONE *** Type of input : single value, optional Possible Values : YES, Y, NO, N Default Value : NO
DPLN	Feature access group, dial plan group Type of input : single value, optional Possible Values : 0 - 15 Default Value : 0
DSSTNA	Direct station select tone A (see AMO ZAND, CP=CMALTONE and AMO DTIM1, parameter VCHATONE, VCHAPAU) *** only relevant ifor HTBMNGR, HTBPHONE, HTBLINE, TCLOG *** Type of input : single value, optional Possible Values : YES, Y, NO, N Default Value : NO
DSSTNB	Direct station select tone B (see AMO ZAND, CP=CMALTONE and AMO DTIM1, parameter VCHATONE, VCHAPAU) *** only relevant ifor HTBMNGR, HTBPHONE, HTBLINE, TCLOG *** Type of input : single value, optional Possible Values : YES, Y, NO, N Default Value : YES
DVCFIG	Device configuration Type of input : single value, concatenated single value (max.2) mandatory Possible Values : DTE Subscriber with Data Terminal Equipment (only in combination with HTBMNGR, HTBPHONE, HTBEXT) HTBLINE Hicom Trading Board Line HTBMNGR Hicom Trading Board Manager HTBPHONE Hicom Trading Board Phone HTBEXT Hicom Trading Board Extension Line TCLOG Logical Telecommuting Subscriber TCEXT Telecommuting Extension Line
HMUSIC	Number of muic on hold recording (AMO-RCSU) *** only relevant for TCLOG *** Type of input : single value, optional Possible Values : 0 - 150 Default Value : 0

INS	Station(s) in service? Type of input : single value, optional Possible Values : YES = The station terminals will be released for call processing NO = The station terminals are not put into service (data pre-assigned) Default Value : YES
ITR	Internal traffic restriction group / closed user group Type of input : single value, optional Possible Values : 0 - 15 Default Value : 0
LCOSD1 LCOSD2	LCR-class of service 1 (data - see AMO-COSSU, TYPE=LCOSD) LCR-class of service 2 (data - see AMO-COSSU, TYPE=LCOSD) *** only relevant ifor OPT = HTB *** Type of input : single value, mandatory Possible Values : 1 - 1000
LCOSV1 LCOSV2	LCR-class of service 1 (voice - see AMO-COSSU, TYPE=LCOSV) LCR-class of service 2 (voice - see AMO-COSSU, TYPE=LCOSV) Type of input : single value, mandatory Possible Values : 1 - 1000
NEWNO	New station number (STNO) to be assigned. Input type : Single value, optional Possible values : The station number must exist in the dial plan (AMO WABE). Only 1 single value between 0 and 999999999999 is permissible). Note : If the STNO to be changed has been declared as a a single value, then NEWNO changes the old station number to the new one. If a range has been entered for the parameter STNO, the NEWNO value is used as the first station number in the new range. If there are gaps in the STNO range (stations not created), these gaps are included in the new range.
OFFTYPE	Type of deactivation order controls both station locking and circuit data loading *** In action CHANGE only relevant in connection with parameters ASYNCT and PSTNO *** Type of input : single value, optional Possible Values : NL no lock, no downloading of circuit data

SSCSU - Special Subscriber Terminal Configuration in the SWU

Parameter Description

	DC	deactivate with camp-on (soft lock)
	DI	deactivate immediatelly (hard lock)
Default Value	: DC	
Note	: After CHANGE command is executed, the station is switched back to the original dependability state (different to AMO DSSU handling).	
OPT	Option (branch parameter)	
Type of input	: single value, mandatory	
Possible Values	:	
HTB	=Hicom Trading Board	
TC	=Telecommuting	
OPTIDX	Index into option table (AMO-ZAND) for functional device *** only relevant for HTBEXT, TCEXT, DTE ***	
Type of input	: single value, optional	
Possible Values	: 1-10	
Default Value	: 10	for all protocols
PEN	Port equipment number of a station (LTG-LTU-SLOT-CCT)	
Type of Input	: Single value, optional	
Possible values	: g-uu-sss-ccc	
	g	= LTG Number: 1 (no other value)
	uu	= LTU Number: - 1 - 15 in HHS (Host Shelf) - 16 not defined - 17 - 99 in AP (Access Point Shelf)
	sss	= Slot Number: 1 - 121
	ccc	= Circuit Number: 0 - 254
Default Value	:	First suitable PEN for a station creation
A suitable module must be configured for the slot addressed by PEN (AMO BCSU)		
The possible LTU and Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description.		
The possible Circuit values depend on the module type and its functionality. They can be listed using DISP-BCSU: TYPE=PEN [,LTG= , LTU= , SLOT= , CCT=] ; which will also output the actual PEN status (e.g. NOT CONNECTED).		
PROT	Protocol variant for functional device *** only relevant ifor HTBEXT, TCEXT, DTE ***	
Type of input	: single value, optional	

Possible Values : SBDSS1 = Protocol DSS1
 SBEDSR1 = EURO-ISDN-Protocol EDSS1 RESERVE 1
 SBEDSR2 = EURO-ISDN-Protocol EDSS1 RESERVE 2
 SBEDSR3 = EURO-ISDN-Protocol EDSS1 RESERVE 3
 SBEDSR4 = EURO-ISDN-Protocol EDSS1 RESERVE 4
 Default Value : SBDSS1

PSTNO

Partner station number
 *** only relevant ifor HTBMNGR ***
 Type of input : single value, optional
 mandatory ADD
 optional CHANGE
 Possible Values : max. 22 digit number 0-9,*,# ,A-D
 The partner station number must point in digit analysis to a subscriber in another node.

RCBKB

Reject call back on busy
 *** only relevant ifor OPT = HTB and DVCFIG = TCLOG ***
 Type of input : single value, optional
 Possible Values : YES, Y, NO, N
 Default Value : NO

RCBKNA

Reject call back on no answer
 *** only relevant ifor OPT = HTB and DVCFIG = TCLOG ***
 Type of input : single value, optional
 Possible Values : YES, Y, NO, N
 Default Value : NO

REP

Number of add-on devices (e.g. repertory dialler)
 *** only relevant ifor HTBLINE ***
 Type of input : single value, optional
 Possible Values : 0-4
 Default Value : 0

SPDI

Station with speed calling individual
 *** only relevant ifor OPT = HTB ***
 Type of input : single value, optional
 Possible values : 0, 10, 20, 30 (0 means 'No individual speed dialing')
 Default value : 0 ('No individual speed dialing')

SSCSU - Special Subscriber Terminal Configuration in the SWU

Parameter Description

SPDC1	Central speed calling list 1 *** only relevant ifor OPT = HTB and DVCFIG = TCLOG *** Type of input : single value, optional Possible values : 0 - 15 for ADD command 0 - 16 for CHANGE command (16 means 'No central speed dialing list 1') Default value : No central speed dialing list 1
SPDC2	Central speed calling list 2 *** only relevant ifor OPT = HTB and DVCFIG = TCLOG *** Type of input : single value, optional Possible values : 0 - 15 for ADD command 0 - 16 for CHANGE command (16 means 'No central speed dialing list 2') Default value : No central speed dialing list 2
SSTNO	Secret station number *** only relevant ifor OPT = HTB *** Type of input : single value, optional Possible Values : YES = The user's station number does not appear on the called party's display (internal and external) NO = The user's station number does appear on the called party's display (internal and external) ONLYEXT = The user's station number does not appear on the external station's display. Instead, a replacement number (configured by AMO KNMAT) is displayed ONLYEXO = Neither the user's station number nor a replacement calling number is displayed at the external station's display. Default Value : NO
STD	Number of key layout/map standard *** only relevant ifor HTBMNGR, HTBPHONE, HTBLINE, TCLOG *** Type of input : single value, optional Possible Values : 0-127 Default Value : 0
STNO	Station number Type of input : single value, mandatory (ADD HTBMNGR) single value, chained single values, range, mandatory (ADD other devices , CHANGE, DELETE)

single value, chained single values, range, optional
(DISPLAY, REGENERATE)

Possible Values : 0 - 999999999999

The station number must be present in the dialing plan.

When entering ranges, please ensure that the second number is always the higher one and that both numbers have the same length.

A maximum of 600 station numbers may be included in a range

TRACE

Malicious call trace allowed

*** only relevant for OPT = HTB ***

Type of input : single value, optional

Possible Values : YES, Y, NO, N

Permitted allocations of device constellation to the modules on which a subscriber has been added (see table).

OPT	Device constellation	Module	FCT-ID
HTB	HTBMNGR&DTE, HTBPHONE&DTE, HTBEXT, HTBEXT&DTE, HTBLINE	SLMY	1
TC	TCLOG, TCEXT	WAML2	2

Table 11 Allocation of device constellation to the modules

TYPE

Desired station configuration options

Type of input : single value, optional

Possible Values : TERMDATA

Display all terminal data for terminals assigned with SSCSU

TRACE

Display all terminal data for terminals assigned with SSCSU and TYPE=TRACE

DEV

Output all stations which include a specific device type in the station configuration (specified with parameter DEV)

Default Value : TERMDATA

181.4 Error Messages and Comments

Explanation concerning error messages and comments:

<xxxxxxxxxxx> defines the subscriber (number) for which this message is applicable. The number is not output if the AMO is in the parameter pretesting stage. "Variable texts" are enclosed in pointed brackets. One of the text variables separated by obliques are output depending on the cause of the error.

<yyyyyy> refers to a second station number.

181.4.1 Error Messages

F01: <xxxxxxxxxxx> THIS STATION NUMBER IS NOT ASSIGNED IN THE DIAL PLAN (DPLN)
F02: <xxxxxxxxxxx> THE COS <nnnn> IS NOT ASSIGNED
F03: <xxxxxxxxxxx> THIS STATION IS NOT ASSIGNED
F04: <xxxxxxxxxxx> THIS STATION CANNOT BE ASSIGNED WITH THE DVCFIG VALUES SPECIFIED.UNABLE TO FIND AVAILABLE <WAML2,SLMY>
F05: <xxxxxxxxxxx> THE PEN SPECIFIED FOR THIS STATION IS ALREADY OCCUPIED
F06: <xxxxxxxxxxx> THIS STATION IS ALREADY ASSIGNED
F07: @@@@@@@@@@@@ NO STATION DATA CHANGED
F09: <xxxxxxxxxxx> THE NEW NUMBER IS NOT ASSIGNED IN THE DIAL PLAN (AMO WABE)
F10: <LTG/LTU> IS NOT ASSIGNED
F11: @@@@@@@@@@@@ THE SUBSCRIBER CANNOT BE ADDED; THE CONTRACTED NUMBER OF @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ @@@@@@ IS REACHED.
F12: @@@@@@@@@@@@ INADMISSIBLE DEVICE COMBINATION SPECIFIED IN DVCFIG PARAMETER
F13: <xxxxxxxxxxx> INSUFFICIENT MEMORY SPACE
(AMO DIMSU: PARAMETER <param>)
<param>: CRICC/DSSNA/DTILTG/TEAMCONN/LODEN/OPTCC/OPTEXP/BLK100/STN/BUS/AUXDIGI
F14: <xxxxxxxxxxx> THIS STATION IS ASSIGNED IN THE EXECUTIVE TELEPHONE SYSTEM <nnnn>.
CHANGE THE EXECUTIVE CONFIGURATION BEFORE REPEATING THIS COMMAND
F15: <xxxxxxxxxxx> THIS STATION IS ASSIGNED IN THE CALL PICKUP GROUP <nnnnn>.
CHANGE THE CALL PICKUP GROUP ENTRY BEFORE REPEATING THIS COMMAND
F16: <xxxxxxxxxxx> THIS STATION IS ASSIGNED IN A VCR HUNTING GROUP.
CHANGE THE HUNTING GROUP ENTRY BEFORE REPEATING THIS COMMAND
F18: <xxxxxxxxxxx> THE STATION IS ASSIGNED IN NIGHT OPTION <nnnnn>.
CHANGE THE NIGHT OPTION ENTRY BEFORE REPEATING THIS COMMAND
F19: @@@@@@@@@@@@ THIS STATION IS NOT AUTHORIZED FOR THE COMMUNICATION SERVICE @@@
F20: <xxxxxxxxxxx> HMUSIC <nnnn> IS NOT YET ASSIGNED (ADD-RCSU:RECAPL=HMUSIC,).
F23: <xxxxxxxxxxx> THE NEW NUMBER IS ALREADY ASSIGNED
F24: <xxxxxxxxxxx> PEN ERROR; PERMISSIBLE RANGE FOR LTG: 1-<max>
F25: <xxxxxxxxxxx> PEN ERROR; PERMISSIBLE RANGE FOR LTU: 1-<xx>, <yy>-<max>
F26: <xxxxxxxxxxx> PEN ERROR; SLOT FORMALLY INCORRECT

SSCSU - Special Subscriber Terminal Configuration in the SWU

Error Messages and Comments

F27: <xxxxxxxxxxxx> PEN ERROR; PERMISSIBLE CIRCUIT NUMBERS: <0-<cct_max>/<n>, <m>, ...>

F29: <xxxxxxxxxxxx> THE DEVICE CONFIGURATION DVCFIG DOES NOT MATCH THE MODULE OF THE SPECIFIED PEN

F30: <xxxxxxxxxxxx> THE STATION IS CAMP-ON BLOCKED. OPTIONS:
- REPEAT COMMAND LATER
- REPEAT COMMAND WITH IMMEDIATE DEACTIVATION (OFFTYPE=DI)
- FIRST DEACTIVATE BY
DEACT-DSSU:OFFTYPE=DI,...; AND REPEAT COMMAND

F32: <xxxxxxxxxxxx> THE STATION MUST BE DEACTIVATED. OPTIONS:
- REPEAT COMMAND WITH DEACTIVATION (OFFTYPE=DC/DI)
- FIRST DEACTIVATE BY
DEACT-DSSU:OFFTYPE=DC/DI,...; AND REPEAT COMMAND

F34: <xxxxxxxxxxxx> NO MODULE HAS BEEN ASSIGNED FOR THE SPECIFIED PEN.

F35: <xxxxxxxxxxxx> IN ADDITION TO THE DVCFIG VALUE <dvcfig>, THE PARAMETER <param> MUST ALSO BE SPECIFIED

F36: @@@@@@@@@@@@ THE PRIMARY STATION NUMBER DOES NOT EXIST

F39: <xxxxxxxxxxxx> THE <STATION/NEW STATION|PRIMARY STATION> NUMBER IS AN EXTERNAL STATION NUMBER

F40: <xxxxxxxxxxxx> THE TERMINAL IS NOT PROCESSED BY AMO SSCSU

F41: <xxxxxxxxxxxx> VALUE FOR PARAMETER OPT DOES NOT MATCH THE MODULE OF THE SPECIFIED PEN

F43: @@@@@@@@@@@@@@ THE PRIMARY STATION NUMBER MAY NOT BE DELETED, BECAUSE A @@@@@@@@@@@@@@ IS STILL ASSIGNED

F44: @@@@@@@@@@@@@@ THE DEVICE @@@@@@@@@@ CANNOT BE ASSIGNED AT THE SPECIFIED PEN @@-@@-@@-@@, SINCE A @@@@@@@@@@ IS ALREADY ASSIGNED TO THIS CONFIGURATION

F46: @@@@@@@@@@@@@@ A MAXIMUM OF @@@ STATION NUMBERS MAY BE ASSIGNED TO A @@@@@@@@@@ CONFIGURATION

F47: @@@@@@@@@@@@@@ A MAXIMUM OF @@@ TERMINALS MAY BE ASSIGNED TO A @@@@@@@@@@ CONFIGURATION

F48: @@@@@@@@@@@@@@ INSUFFICIENT LINE MEMORY SPACE FOR VIRTUAL LINES

F51: THE STATION NUMBER RANGE <xxxxxxxxxxxx> - <yyyyyyyyyyyy> CONTAINS NO VALID STATION NUMBER

F53: @@@@@@@@@@@@@@ THE SERVICE @@@ IS ALREADY ASSIGNED

F55: <xxxxxxxxxxxx> THIS STATION IS ASSIGNED WITH <OPT>=<HTB/TC>

F56: @@@@@@@@@@@@@@ THE STATION TO BE ASSOCIATED HAS AN INADMISSIBLE DEVICE TYPE

F57: <xxxxxxxxxxxx> THE ADD-ON DEVICES MAY ONLY BE REMOVED, IF ALL AFFECTED KEY FUNCTIONS ARE SET TO "VACANT" (AMO TAPRO)

F58: <xxxxxxxxxxxx> THIS STATION IS ALREADY ASSIGNED BY AMO <ACSU/RUFUM/SCSU/SBCSU/DNIT>

F60: <xxxxxxxxxxxx> ALARMNO <nnnn> IS NOT YET ASSIGNED (AMO-VADSU).

F69: @@@@@@@@@@@@@@ STNO IS A MSN STATION NUMBER WHICH CAN ONLY BE DELETED WITH SVC=MSN.

F71: <xxxxxxxxxxxx> FOR ADDING A DVCFIG=<HTBMNGR> ONLY A SINGLE STATION NUMBER IS ALLOWED.

F72: <xxxxxxxxxxxx> DVCFIG=<HTBMNGR/HTBPHONE>: ONLY A COMBINATION OF VOICE AND DTE DEVICE IS ALLOWED.

F73: <xxxxxxxxxxxx> THE STATION CANNOT BE PROCESSED. IT IS STILL REFERENCED IN THE ACD ROUTING TABLES. DELETE THE STATION BY AMO ACDRT FROM ACD ROUTING TABLE <nnnn> BEFORE REPEATING THIS COMMAND.

F74: <xxxxxxxxxxxx> THE STATION CANNOT BE PROCESSED. IT HAS STILL ASSIGNED AT LEAST ONE ACD ATTRIBUTE. DELETE THE ATTRIBUTES BY AMO SDAT BEFORE REPEATING THIS COMMAND.
(CHA-SDAT:STNO=<xxxxxxxxxxxx>,TYPE=ATTRIBUT,
DATTR=AGENT&SUPER&AUTOLOG&CAF;)

F75: <xxxxxxxxxxxx> THE STATION COULD NOT BE ADDED BECAUSE NO VIRTUAL NODE ID HAS BEEN CONFIGURED. PLEASE ADD VIRTUAL NODE ID USING AMO KNDEF (TYPE=OWN).

SSCSU - Special Subscriber Terminal Configuration in the SWU

Error Messages and Comments

F77: <xxxxxxxxxxxx> THE STATION CANNOT BE PROCESSED BECAUSE THE REQUIRED CONFIRMATION BY CALL PROCESSING HAS NOT BEEN RECEIVED YET.
PLEASE REPEAT COMMAND LATER.

F78: <xxxxxxxxxxxx> FOR SUBSCRIBERS WITH DVCFIG=TCEXT THE ATTRIBUTE SPECAR MUST BE SET IN COS 1 AND 2.

F80: <xxxxxxxxxxxx> THE PEN IS SIGNED OFF. SSCSU SUBSCRIBERS ARE NOT CONFIGURABLE AT SIGNED OFF PORTS.

F85: @@@@@@@@@@@@ FOR DVCFIG=@@@@@@@@ @@@@@@@@@@@@@@@@@@@@@@ ONLY ADDON=@@@ IS POSSIBLE.

F86: @@@@@@@@@@@@ FOR DVCFIG=@@@@@@@@ ONLY @@@ TERMINAL ADAPTERS ARE POSSIBLE.

F87: @@@@@@@@@@@@ FUNCTIONAL TERMINALS CAN ONLY BE SET UP UNDER ONE STATION NUMBER IN THE OPTISET CONFIGURATION. THIS IS THE REASON WHY SET UP UNDER STATION NUMBER @@@@@@@@@@@@ . TO BE ABLE TO ALSO ACCESS THESE TERMINALS UNDER @@@@@@@@@@@@, THE COMMAND ADD-SBC

F88: @@@@@@@@@@@@ AN OPTISET CONFIGURATION ON THE SLMQ MODULE CANNOT BE EXTENDED TO INCLUDE ADDITIONAL DEVICES.

F89: @@@@@@@@@@@@ A MAXIMUM NUMBER OF @@@ @@@@@@@@@ DEVICES CAN BE SET UP IN THE @@@@@@@@@@ CONFIGURATION.

F90: @@@@@@@@@@@@ FOR A SIGNED OFF STATION DVCFIG=@@@@@@@@ IS NOT ALLOWED.

F92: <xxxxxxxxxxxx>: THE STATION CANNOT BE DELETED BECAUSE OF LAW AND SECURITY REASONS.
PLEASE CONTACT YOUR SYSTEM ADMINISTRATOR.

F94: @@@@@@@@@@@@ @@ MAY NOT BE SIGNED OFF.

181.4.2 Comments

H01: WHEN ENTERING STATION NUMBER RANGES, THE NUMBER OF DIGITS FOR EACH LIMIT MUST BE EQUAL. THE STNO RANGE <xxxxxxxxxxxx> - <yyyyyyyyyyyy> CANNOT BE PROCESSED

H02: <xxxxxxxxxxxx> NO FREE SPDI MEMORY.THE STATION IS CONFIGURED WITHOUT SPDI, RESPECTIVELY SPDI IS NOT CHANGED.

H03: <xxxxxxxxxxxx> THIS STATION IS ASSIGNED TO THE EXECUTIVE TELEPHONE SYSTEM <nnnn>. PLEASE CHECK THE TRAFFIC RESTRICTIONS ITR OF THE EXECUTIVE SYSTEM

H04: <xxxxxxxxxxxx> NO STATION DATA CHANGED

H05: <xxxxxxxxxxxx> THIS STATION IS ASSIGNED AT PEN <gg-uu-bbb-sss>

H06: <xxxxxxxxxxxx> STATION DATA DELETED

H07: <xxxxxxxxxxxx> STATION DATA CHANGED

H08: <xxxxxxxxxxxx> STATION RELEASED FOR CALL PROCESSING

H09: <xxxxxxxxxxxx> THE STATION IS NOT ACTIVATED @@@@@@@@@@@@@@@@@@@@@@

H10: <xxxxxxxxxxxx> CHANGE (<PSTNO>) IS ONLY DOWNLOADED TO THE BOARD AFTER DEACTIVATION AND RE-ACTIVATION OF THE CONFIGURATION (REST-DSSU:TYPE=PEN,PEN1=<gg-uu-bbb-sss>)

H11: <xxxxxxxxxxxx> NO STATION HAS BEEN ASSIGNED

H14: <xxxxxxxxxxxx> PARAMETER <param> IS NOT REQUIRED, BECAUSE NO MATCHING TERMINAL IS ASSIGNED
<param>: any parameter (REP,...)

H15: THE STNO <xxxxxxxxxxxx> HAS THE NEW NUMBER <yyyyyyyyyyyy>

H16: A RANGE INPUT FOR THE PARAMETER STNO MAY NOT COMPRISE MORE THAN 600 STATIONS. THE RANGE HAS BEEN TRUNCATED TO <xxxxxxxxxxxx> - <yyyyyyyyyyyy> FOR PROCESSING

H17: <xxxxxxxxxxxx> SPECIFIED STATION(S) NOT ASSIGNED BY AMO SSCSU

H18: <xxxxxxxxxxxx> NO STATION ASSIGNED BY AMO SSCSU IN THE PABX

SSCSU - Special Subscriber Terminal Configuration in the SWU

Error Messages and Comments

H40: <xxxxxxxxxxxx> STATION LOCKING OR DOWNLOADING NOT NECESSARY, PARAMETER OFFTYPE IS INGORED.

H41: <xxxxxxxxxxxx> DOWNLOADING OF PARAMETER <PSTNO> TO THE BOARD IS INITIATED.

H43: <xxxxxxxxxxxx> AT THE SUBSCRIBER WITH DVCFIG=TCLOG A TELECOMMUTER WAS LOGGED IN.

H44: <xxxxxxxxxxxx> FOR ALL SUBSCRIBERS WITH DVCFIG=<TCLOG/TCEXT> ALL PARAMETERS BESIDE PEN AND STNO HAVE TO GET THE SAME VALUES.

H45: <xxxxxxxxxxxx> THE AMO IS STILL WAITING FOR A CONFIRMATION BY CALL PROCESSING (MAX. <120> SEC)

H46: <xxxxxxxxxxxx> THE AUTOMATIC PEN SEARCH FOR FREE PENS TAKES PLACE IN LTU SHELVES WITH SOURCE-GROUP=1 (SEE AMO UCSU).

181.4.3 Use of Output Messages per Action

ADD	:	F01, F02, F04, F05, F06, F10, F13, F20, F24, F25,
F26,		
		F27, F29, F34, F35, F39, F41, F51, F58, F60, F71, F72
		F75, F78, F80,
		H01, H02, H05, H08, H09, H14, H16, H44, H46
CHANGE	:	F01, F02, F03, F09, F20, F23, F39, F40, F51, F55,
F57, F60,		
		F73, F74, F77, F78,
		H01, H02, H03, H04, H07, H10, H14, H15, H16, H34,
H40,		
		H41, H44, H45
DELETE	:	F01, F03, F14, F15, F16, F18, F30, F32, F39, F40,
F51,		
		F73, F74, F77, F92
		H01, H06, H16, H43, H45
DISPLAY	:	H01, H11, H16, H17, H18
REGENERATE	:	H01

SSCSU - Special Subscriber Terminal Configuration in the SWU

Error Messages and Comments

182 STMIB - Configuration of Global- and Feature-Board Data for HG35xx and HG35xx-2 Boards

The description of this AMO is only available in html format!

183 SXSU - station exchanging (moves), switching unit

The description of this AMO is only available in html format!

SXSU - station exchanging (moves), switching unit

184 SYNC - Database Synchronization Control

Restrictions	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO SYNC is used for automatically synchronizing service databases with the SWU database (which is defined as a master DB). The following databases are synchronized: ACD (Automatic Call Distribution) and EEA (Enhanced Error Analysis).

Synchronization is carried out by the surveillance entity (SE), a resident task in ADS.

The AMO SYNC can be used to influence the surveillance entity, and thus to control the synchronization process. There are no relations to other AMOs.

184.1 Restrictions

This description is valid from Hicom 300 V3.2

184.2 Functions of the AMO

- **DISPLAY-SYNC** : Output the version statuses of the SEAT
- **DEACTIVATE-SYNC** : Activate a service for synchronization with SE
- **ACTIVATE-SYNC** : Deactivate a service for synchronization with SE
- **CHANGE-SYNC** : Change an AMO version in a SAT using SE (SAT = ACTUAL status in SEAT)

184.2.1 DISPLAY-SYNC

Outputting the version statuses of the SEAT. AMO SYNC reads the version statuses of the SEAT from the file on hard disk which SE uses for restart-proof saving of this data.

Procedure Overview

Command Code	Parameter
DISPLAY-SYNC	;

Example

Input:

DISPLAY-SYNC;

Output:

SEAT OF SURVEILLANCE ENTITY									
	SWU		ACD		EMML		EEA		
AMO	ACTUAL	SHOULD	ACTUAL	SHOULD	ACTUAL	SHOULD	ACTUAL	SHOULD	
	4	4	0	0	0	0	0	0	
SCSU	2	2							
PERSI	4	4							

Note

The first entry of the seat-table (without AMO-Noun) is the backupentry. The backupentry shows the logbooknumber of the SE (e.g. 4) and the state of the serveral services. If the SHOULD-value of the backupentry of a service is not equal 0 , that means that the service is activated.

184.2.2 DEACTIVATE-SYNC

- 1. Deactivation of a service for synchronization with SE.
If a service is deactivated via AMO-SYNC, it is no longer synchronized and all existing information relating to this service is scrapped. In addition, no more AMO commands will be collected for this AMO, until the service request the synchronisation again.
- 2. Deactivation of synchronization during generation. (In this way, the AMO commands are not forwarded via the SE to the services but suppressed in the MMI).

Procedure Overview

Command Code	Parameter
DEACTIVATE-SYNC	TYP=SER, SERVICE=<param>; (1)
	| TYP=GEN; (2)

184.2.3 ACTIVATE-SYNC

1. Activation of a service for synchronization with SE.
Upon activation, SE memorizes all AMO commands reported to SE via the support procedure.
2. Activation of synchronization after generation.

Procedure Overview

Command Code	Parameter
ACTIVATE-SYNC	TYP=SER, SERVICE=EMML/DIR/ACD; (a)
	| TYP=GEN; (b)

184.2.4 CHANGE-SYNC

Changing an AMO version in a SAT AMO SYNC can be used to selectively change the contents of a service AMO table (SAT). The new counter value, the AMO name and the SAT name are sent by the AMO to SE without acknowledgement. The user can verify the changes made by action display.

Procedure Overview

Command Code	Parameter
CHANGE-SYNC	SERVICE=EMML/EEA/ACD, AMO=<string>, VERSION=<number>;

184.3 Parameter Description

AMO	AMO name	
	Type of input	: Single value, mandatory
	Possible values	: 1 to 5 digits
SERVICE	Service AMO table	
	Type of input	: Single value, mandatory
	Possible values	: EMML, EEA, ACD
TYP	Branch parameter	
	Type of input	: Single value, mandatory

SYNC - Database Synchronization Control

Error Messages and Advisories

Possible values : SER, GEN

VERSION Current version status in SEAT

Type of input : Single value, mandatory

Possible values : 1 to 6 digits, even number

184.4 Error Messages and Advisories

184.4.1 Error Message

F01: SEAT TABLE CANNOT BE LOADED FROM HARD DISK

F02: SYNCHRONIZATION CANNOT BE DEACTIVATED

F03: SYNCHRONIZATION CANNOT BE ACTIVATED

F04: AMO @@@@ HAS NOT BEEN ENTERED IN SEAT

F05: VERSION CANNOT BE CHANGED AT THE MOMENT. PLEASE, REPEAT LAST COMMAND.

F06: VERSION CANNOT BE CHANGED BECAUSE SERVICE IS INACTIVE

F07: VERSION CANNOT BE CHANGED BECAUSE SERVICE HAS NOT BEEN ACTIVATED FOR SYNCHRONIZATION

F08: ONLY EVEN NUMBERS ALLOWED FOR PARAMETER VERSION

F09: CHANGE NOT POSSIBLE, BECAUSE DBSYNC TASK IS NOT RUNNING

184.4.2 Advisories

H01: NO ENTRY IN SEAT TABLE

185 SYNCA - Administration of user-specific announcements

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO SYNCA can be used to set up (i.e. ADD) the announcement type table and the announcement matrices for synchronous announcements. It can also be used to CHANGE, DISPLAY and REGENERATE data, and to DELETE announcement types and matrices.

The following tables and matrices are processed:

- Announcement type table
For each announcement type, the properties of the announcement are specified in an entry.
- Announcement type table with company indices
This matrix contains the announcement type as a function of the announcement reason and company index. The entry for the announcement reason reduces to the value WANVPLKM. The company index corresponds to the console code number dialed last. In this case, 10 different announcement types can be assigned to each announcement reason.
- Announcement matrix with ITR group indices
This matrix contains the announcement type as a function of the announcement reason and the ITR group. In this case, 16 different announcement types can be assigned to each announcement reason.
- Announcement matrix independent of destination
This matrix contains the announcement type as a function of the announcement reason only.
- Announcement matrix for start and return tone
This matrix contains one start tone and one return tone as a function of the announcement reason.
- Announcement type / announcement LODEN table
This table is only output by the AMO SYNCA. It contains the announcement devices assigned to a specific announcement type.

An announcement type must only be used or entered in an announcement matrix if the announcement type has already been described in the announcement type table.

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Restrictions

When deleting an announcement type from the announcement type table, any remaining cross-references in the announcement matrices will also be deleted upon confirmation by the user.

For all parameters which allow the entry of chained single values and/or value ranges (e.g. ANNTYPE, ANREASON, ITR, etc.) a maximum of 5 values can be entered at present.

The AMO SYNCA allows the entry of all defined tone types. However, the user should check as to whether the selected tone type is actually available in the current system configuration and whether it would make sense!

When using a wildcard ('*') as part of a search string, it should be noted that the wildcard must be the first and/or last character in the string. If a wildcard is used explicitly as a search string, every announcement name is being searched. This procedure, however, cannot be used to establish an announcement type whose name has not been specified!

185.1 Restrictions

This AMO description is valid from Hicom 300 V3.5.

185.2 Interrelationships

AMO TSCSU	Configuring special circuits in the SWU

Order of generation: TSCSU -> SYNCA

185.3 Functions of the AMO

- [ADD-SYNCA](#) : Add an entry to an announcement table or matrix
- [CHANGE-SYNCA](#) : Change entries in an announcement table or matrix
- [DELETE-SYNCA](#) : Delete in an announcement table or matrix
- [DIALOG01-SYNCA](#) : Enter confirmation for DELETE operation
- [DISPLAY-SYNCA](#) : Display an announcement table or matrix
- [REGENERATE-SYNCA](#) : Regenerate an announcement table or matrix

185.3.1 ADD-SYNCA

This function is used to set up (i.e. ADD) the data for a synchronous announcement in the announcement table and the announcement matrices.

An announcement type can be added in two ways:

- a) by explicitly entering the announcement type

In this case, the parameter ANNTYPE specifies the announcement type and the properties for this type are stored in the announcement table.

- b) by automatically generating the announcement type

In this case, the parameter ANNTYPE is not specified. The AMO SYNCA now scans the announcement type table for the first free entry and assigns this entry as the announcement type. The user is notified of the announcement type by means of advisory H01.

If no announcement type is available, the error message F01 is issued and the job is rejected.

Each announcement type can also be assigned a name, the only restriction being that no wildcard ('*') must be used.

Each announcement type can be entered in an announcement matrix only if it has previously been set up in the announcement type table. The current status of the announcement type is irrelevant in this context.

Each further job for an announcement type of a matrix entry which has already been set up results in an error message and is rejected.

Procedure Overview

Command Code	Parameter	
ADD-SYNCA	TABTYPE=ANNTT, [ANNTYPE=<number>], [ANNAME=<string>]	(1, 2)
	, [ANSTATE=<param>], [ANREP=<number>], [ANNEXT=<number>]	
	, [TONETYP1=<param>], [TONTM1=<number>], [TONE1STA=<param>]	
	, [TONETYP2=<param>], [TONTM2=<number>], [TONE2STA=<param>]	
	, [TONETYP3=<param>], [TONTM3=<number>], [TONE3STA=<param>],	
	, [OPMODE=STASTO], [DELAYTM=<number>;	
	, [OPMODE=CONT], [RELLIMIT=<number>;	
	TABTYPE=ANNMCI, [ANREASON=<param>], COMPIDX=<number>	(3)

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Functions of the AMO

Command Code	Parameter	
	,ANNTYPE=<number>;	
	TABTYPE=ANNMITR,ANREASON=<param>,ITR=<number>	
	,ANNTYPE=<number>;	
	|TABTYPE=ANNMIOD,ANREASON=<param>,ANNTYPE=<number>;	
	|TABTYPE=ANNSTONE,ANREASON=<param>,[PRESTONE=<param>]	(4)
	,[RETTONE=<param>];	

Examples

1. Add announcement type 16 with 'NEWANN-1A', state = OFF, repetition factor = 5, activated tone type 1 = OVR, tone duration 1 = 3 seconds, operation mode = start/stop and delay time = 20 seconds.

Input:

```
ADD-SYNCA:ANNNTT,16,NEWANN-1A,,5,,OVR,3,ON,,,,,,,,STASTO,20;
```

2. Add announcement type 3 with no name, state = ON, repetition factor = 2, tone type 2 = MOH and tone duration 2 = 15 seconds, state of tone 2 = ON.

Input:

```
ADD-SYNCA:ANNNTT,3,,ON,2,,,,,MOH,15,ON;
```

3. Add an activated announcement type, endless repetition, activated tone type 1 = FRNGBK, tone duration 1 = 2 sec. and deactivated tone type 2 = HOLDLINE, tone duration 2 = 5 sec.

Input:

```
ADD-SYNCA:ANNNTT,,,ON,255,,FRNGBK,2,ON,HOLDLINE;
```

Output:

```
H01: ANNOUNCEMENT TYPE 4 WAS ASSIGNED TO ANNOUNCEMENT
```

This message means that a free entry was found and that announcement type 4 was assigned to the no-name announcement.

4. Add announcement matrix for company index 3 and announcement reason = WANNAOHK with announcement type 16.

Input:

```
ADD-SYNCA:ANNMCI,WANNAOHK,3,16;
```

5. Add the preliminary tone = CAMP and the return tone = PACK for announcement reason = ANNBUSY

Input:

ADD-SYNCA:ANNTONE,ANNBUSY,CAMP,PACK;

185.3.2 CHANGE-SYNCA

This command can be used to change both the existing data of an announcement type and the announcement matrices. The parameter TABTYPE controls the scope of the changes to be made. When executing the change command, only parameters that have been specified explicitly will be taken into account.

When the wildcard symbol ('*') is used in the announcement name, the data is changed for all announcement types in whose name the specified character string appears. By specifying chained single values and value ranges as parameters for the AMO call the user can change the data of announcement types and announcement matrices in one go.

The wildcard symbol ('*') must not be used in the new name when changing the announcement name.

If the parameter values are specified explicitly, only the selected entry will be changed each time. If optional parameters are missing, this means that all entries will be changed within the valid index ranges.

Suggested procedure:

- Changing the data in a specific table or matrix

This function is selected by specifying a matrix ID or a table ID. The change becomes effective only in the selected table taking into account the specified indices.

The user can restrict the number of announcement types by means of the parameter ANTYOLD. If this parameter is not specified, the elements will be changed independent of their announcement type.

- Complete change of the announcement type in all announcement matrices

This type of change should be used if an announcement type is to be replaced in a consistent manner in all announcement matrices. In this case the user can place restrictions on which announcement type(s) is/are to be replaced. If this parameter is not specified, all elements will be changed independent of the announcement type. This ensures that the change is not ignored anywhere in the announcement matrices.

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When an interval has been entered in the parameter ANTYOLD all not existing announcement types of this interval are displayed by error message F08. All existing announcement types will be handled in accordance with the given parameters.

Only entries of the announcement matrices are handled, whose data have been set up with a previous 'ADD'-command. For single entries, who do not exist or do not correspond with the entered parameter values, no message is displayed at the users terminal. When at all no corresponding entry is found for a given 'CHA'-command, the message H03 will be put out.

Procedure Overview

Command Code	Parameter	
CHANGE-SYNCA	TABTYPE=ANNTT,SEL=ANNTYPE,ANNTYPE=<number>,[ANNAME=<string>]	(1)
	,[ANSTATE=<param>],[ANREP=<number>],[ANNEXT=<number>]	
	,[TONETYP1=<param>],[TONTM1=<number>],[TONE1STA=<param>]	
	,[TONETYP2=<param>],[TONTM2=<number>],[TONE2STA=<param>]	
	,[TONETYP3=<param>],[TONTM3=<number>],[TONE3STA=<param>],	
	,[OPMODE=STASTO],[DELAYTM=<number>;	
	,[|OPMODE=CONT],[RELLIMIT=<number>;	
	|TABTYPE=ANNTT,SEL=ANNAME,ANNAME=<string>,	
	,[ANSTATE=<param>],[ANREP=<number>],[ANNEXT=<number>]	
	,[TONETYP1=<param>],[TONTM1=<number>],[TONE1STA=<param>]	
	,[TONETYP2=<param>],[TONTM2=<number>],[TONE2STA=<param>]	
	,[TONETYP3=<param>],[TONTM3=<number>],[TONE3STA=<param>;	
	,[OPMODE=STASTO],[DELAYTM=<number>;	
	,[|OPMODE=CONT],[RELLIMIT=<number>;	
	|TABTYPE=ANNMCI,[ANREASON=<param>],[COMPIDX=<number>]	
	,[ANTYOLD=<number>],[ANTYNEW=<number>;	
	|TABTYPE=ANNMITR,[ANREASON=<param>],[ITR=<number>]	(2)
	,[ANTYOLD=<number>],[ANTYNEW=<number>;	
	|TABTYPE=ANNMIOD,[ANREASON=<param>],[ANTYOLD=<number>]	

Command Code	Parameter	
	,ANTYNEW=<number>;	
	| TABTYPE=ANNTONE, ANREASON=<param>, [PRETONE=<param>]	
	, [RETTONE=<param>];	
Command Code	Parameter	
	| TABTYPE=ANNMALL, [ANREASON=<param>], [ANTYOLD=<number>]	(3)
	,ANTYNEW=<number>, [COMPIDX=<number>], [ITR=<number>;	

Examples

1. Announcement type 4 is to be activated and announcement type 23 to be entered as the follow-up type (next announcement type).

Input:

```
CHA-SYNCA:ANNTT,ANNTYPE,4,,ON,,23,,,,,CONT,50;
```

2. Announcement type 19 is to be used throughout for ITR groups 3 and 9 to 11 if the announcement reason is ANNBUSY or WANNHG.

Input:

```
CHA-SYNCA:ANNMITR,ANNBUSY&WANNHG,3&9&&11,,19;
```

3. Announcement type 19 is to be changed to 31 in all announcement matrices for company indices 1 and 6, for all ITR groups and for announcement reason DIDSD.

Input:

```
CHA-SYNCA:ANNMALL,DIDSD,19,31,1&6;
```

This command changes those entries in the announcement matrix with ITR index for all 16 ITR groups where the announcement reason DIDSD is assigned announcement type 19. Entries with other announcement types remain unchanged! A change in the announcement matrix independent of destination is done only in case of matching announcement reason and old announcement type.

The entry in the announcement matrix with company index remains unchanged because the announcement reason DIDSD is here not valid. Only for announcement reason WANNAOHK a change can be done.

185.3.3 DELETE-SYNCA

This command is used to delete entries from the announcement type table and/or the announcement matrices, or even from announcement matrices as a whole. Before deleting an announcement type from the announcement type table, the user must ensure that the entry to be deleted has no interrelationships with an announcement matrix and/or the announcement type table (e.g. chained announcements).

Interrelationships can be resolved either by explicitly deleting the entry from the respective matrix or by concealing the interrelationship when specifying the announcement type table. In this case, the AMO issues an advisory for each matrix which still contains the announcement type in question. It then prompts the user to confirm whether the delete operation should be continued or aborted. If the user chooses to continue the operation, first the matrices and then the announcement type table are purged. If he aborts the delete operation, all entries will be retained while the announcement type itself is deactivated. The entry format SEL=ANNTYPE lends itself very well to this end.

An announcement type cannot be deleted as long as an announcement device is still assigned. All relevant TMOM devices with this announcement type must be deleted first!

If all parameter values are explicitly specified, only the selected entry will be deleted in each case. If optional parameters are missing, this means that all entries within the valid index ranges are to be deleted.

Procedure Overview

Command Code	Parameter	
DELETE-SYNCA	SEL=ANNTYPE, ANNTYPE=<number>, TABTYPE=<param>;	(1, 2)
	| SEL=ANNAME, ANNAME=<string>, TABTYPE=<param>;	
	| SEL=IDX, [ANREASON=<param>], TABTYPE=ANNMIOD | ANNTONE;	(3)
	| TABTYPE=ANNMCI, [COMPIDX=<number>];	
	| TABTYPE=ANNMITR, [ITR=<number>;	(4)

Examples

- 1. Delete announcement type 25 from the announcement matrix with company index.
Input:

2. Delete announcement type 47 from all matrices and tables.

a) Input:

DELETE-SYNCA:ANNTYPE,47,ANNTT&ANNMITR&ANNMCI&ANNMIOD;

Note: All entries for the specified announcement type are deleted immediately without notifying the user.

O R

b) Input:

```
DELETE-SYNCA:ANNTYPE,47,ANNTT;
```

Note: In this case, the AMO prompts the user to confirm the delete command if there is still an interrelationship between the announcement type and a matrix.

Output:

```

H02: ANNOUNCEMENT TYPE 47 ALREADY USED IN MATRIX ANNMC1
H02: ANNOUNCEMENT TYPE 47 ALREADY USED IN MATRIX ANNMIOD
H04: DELETE ENTRIES FOR ANNOUNCEMENT TYPE IN ANNOUNCEMENT
MATRIX: Y/N
*Y

```

First all matrix entries and then the announcement type are deleted.

3. Delete the "announcement matrix independent of destination".

Input:

DELETE-SYNCA:IDX,,ANNMIOD;

4. Delete all announcement types for ITR groups 4 and 10 to 12.

Input:

DELETE-SYNCA:IDX,,ANNMITR,4&10&&12;

185.3.4 DIALOG01-SYNCA

This concealed command can be used to influence the further processing of the DELETE command.

The AMO prompts the user for this input if it finds interrelationships with one or several announcement matrices which were not specified in the parameter TABTYPE while attempting to delete an announcement type. If the user answers with 'Y', both any existing interrelationships

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and the announcement type itself will be deleted. In the case of 'N', the AMO aborts the delete operation, and both the announcement type and the entries in the unspecified announcement matrices will be retained.

Procedure Overview

Command Code	Parameter
DIALOG01-SYNCA	ANSW=<param>;

Examples

See DELETE command: example 2, input option b).

185.3.5 DISPLAY-SYNCA

This command can be used to display the contents of the administration tables for synchronized announcements. There are two display options to choose from:

- type-specific
In this case, the announcement type is used as the search criterion. The AMO scans the specified table or matrix for the announcement type and displays the entries that meet the search criterion.
If the table type is unknown, the AMO scans all administration tables and displays all configured entries for this announcement type (high-level output).
- table-specific
In this case, the matrix indices are used as the search criterion. The announcement matrices can be output as a whole or in part.

It should be noted that this command not only displays the administration tables administered by the AMO but also the announcement devices from the announcement type / announcement LODEN table which are assigned to an announcement type. The table is processed by means of the AMO TSCSU.

Procedure Overview

Command Code	Parameter	
DISPLAY-SYNCA	SEL=ANNTYPE, ANNTYPE=<number>, [TABTYPE=<param>;	(1)
	|SEL=ANNAME, ANNAME=<string>, [TABTYPE=<param>;	
	|SEL=IDX, [ANREASON=<param>], [TABTYPE=<param>;	(2, 3)

Examples

1. Display the administration data for announcement type 16.

Input:

DIS-SYNCA:ANNTYPE,16;

Output:

```

=====+
|               ADMINISTRATION DATA FOR ANNOUNCEMENT TYPE: 16               |
|=====+
| TABLE TYPE: ANNTT |
|=====+
| NAME: NEUANS-1A      STATE: OFF  REP-COUNT: 5    NEXT ANN. TYPE: 0      |
| OPERATION MODE: STASTO  DELAY TIMER: 20          RELEASE LIMIT: -      |
|=====+
| 1. TONE | TYPE: OVR      TIMER: 3 SEC.  STATE: ON      |
| 2. TONE | TYPE: MOH      TIMER: 5 SEC.  STATE: ON      |
| 3. TONE | TYPE: CONFTN    TIMER: 0 SEC.  STATE: OFF      |
|=====+
| TABLE TYPE: ANNMIOD |
|=====+
| ANN.-REASON: SDBUSY    ANN.-TYPE: 16 |
| WANNAOHK              16 |
|=====+
| TABLE TYPE: ANSES |
| ANN.-TYPE: 16 |
|=====+
| ASSIGNED ANNOUNCEMENT DEVICES: |
| 1- 1- 19- 3  1- 3-115-10  - - - |
|=====+
| TABLE TYPE: ANNMITR |
|=====+
| ANN.-REASON | ITR  G R O U P  I N D E X |
| 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 |
|=====+
| DIDSD | - 5 - - 1 17 - 15 13 28 23 1 - - 1 - |
| SDBUSY | 3 16 16 16 16 - - - 13 4 - - 16 16 16 |
| SDOHK  | - 40 20 18 - 29 16 - 13 39 20 18 - 16 - - |
| ANNBUSY | 41 13 16 - - - 13 25 13 41 13 - - 25 - 27 |
| ANNOHK  | 15 19 10 - 10 - - 6 13 15 - - - - 15 |
| WANNAOHK | 6 - - - 16 16 - - - 16 - - - 16 - |
| WANNHG  | - 7 43 - - - 35 - 13 43 - 35 - 43 15 - |
| ANNCCM  | - 8 - - 60 - - - 13 60 - 35 - 8 9 26 |
| ANKNOCK | - - - - - - - - - - - - - - - |<
| WANNDNS | - - - - - - - - - - - - - - - |<

```

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Functions of the AMO

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
TABLE TYPE: ANNMCI											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
ANN.-REASON 0 1 2 3 4 5 6 7 8 9											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
WANNAOHK - - - 62 16 29 - 32 3 16											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| TABLE TYPE: ANNTONE											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| ANN.-REASON | PRETONE RETURN TONE											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| DIDSD | -											
| SDBUSY | OVRTN PACK											
| SDOHK | -											
| ANNBUSY | -											
| ANNOHK | -											
| WANNAOHK | CAMP CONFTR											
| WANNHG | -											
| ANNCCM | -											
| ANKNOCK | -											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| WANNDNS | -											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											

2. Display the announcement data for announcement matrix with company indices.

Input:

DIS-SYNCA:IDX,,ANNMCI;

Output:

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| TABLE TYPE: ANNMCI											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| ANN.-REASON | 0 1 2 3 4 5 6 7 8 9 |											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| WANNAOHK | - - - 62 16 29 - 32 3 16 |											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											

3. Display the announcement type for announcement reasons DIDSD, SDOHK and WANNHG.

Input:

DIS-SYNCA:IDX,DIDSD&WANNHG&SDOHK,ANNMIOD;

Output:

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| TABLE TYPE: ANNMIOD											
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+											
| ANN.-REASON: DIDSD ANN.-TYPE: 15 |											
| SDOHK 2 |											

185.3.6 REGENERATE-SYNCA

The verb REGENERATE is used to output the data of the announcement table and the announcement matrices in the form of one or more position-oriented "ADD" commands. The commands can be regenerated for a specific table or a specific type.

Procedure Overview

Command Code	Parameter	
REGENERATE-SYNCA	[SEL=ANNTYPE], [ANNTYPE=<number>], [TABTYPE=<param>];	(1)
	[|SEL=ANNAME], ANNAME=<string>, [TABTYPE=<param>];	
	[|SEL=IDX], [ANREASON=<param>], TABTYPE=ANNMIOD | ANNTONE;	(2)
	TABTYPE=ANNMCI, [COMPIDX=<number>];	
	TABTYPE=ANNMITR, [ITR=<number>];	(3)

Examples

1. Regenerate the configuration for announcement type 33.

Input:

```
REGEN-SYNCA:ANNTYPE,33;
```

Output:

```
ADD-SYNCA:ANNTT,33,"ANN-TYPE
33",ON,5,,PACK,2,ON,HOLDLINE,1,ON,,,STASTO,3;
ADD-SYNCA:ANNMCI,WANNAOHK,6,33;
ADD-SYNCA:ANNMITR,DIDSD,0,33;
ADD-SYNCA:ANNMITR,SDOHK,1,33;
ADD-SYNCA:ANNMITR,ANNBUSY,8,33;
ADD-SYNCA:ANNMITR,SDBUSY,11,33;
ADD-SYNCA:ANNMITR,SDBUSY,12,33;
ADD-SYNCA:ANNMIOD,ANNBUSY,33;
ADD-SYNCA:ANNMIOD,SDBUSY,33;
```

2. Regenerate the table for the preliminary tone and the return tone.

Input:

```
REGEN-SYNCA:IDX,,ANNTONE;
```

Output:

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Parameter Description

```
ADD-SYNCA:ANNTONE,DIDSD,PACK,INTDTN;  
ADD-SYNCA:ANNTONE,ANNBUSY,HOLDLINE,BUSY;  
ADD-SYNCA:ANNTONE,ANNOHK,,RNGBK;  
ADD-SYNCA:ANNTONE,SDBUSY,,;  
ADD-SYNCA:ANNTONE,SDOHK,,REORDER;
```

- 3. Regenerate announcement type for ITR group 11 and announcement reason WANNAOHK.

Input:

```
REGEN-SYNCA:IDX,WANNAOHK,ANNMITR,11;
```

Output:

```
ADD-SYNCA:ANNMITR,WANNAOHK,11,21;
```

185.4 Parameter Description

ANNAME	Announcement name A wildcard (*) must not be used as first and/or last character when the announcement name is added or changed (SEL=ANNTYPE). In this case the command is rejected with message F10. Type of Input : Single value optional (ADD, CHANGE) mandatory (DELETE, DISPLAY, REGENERATE) Possible Values : Any text string, max. 16 characters (e.g.: "ANNOUNC_001" or "VPL_OUT_INFO") Default Value : Deletion of the structure element
ANNEXT	Next announcement type for chained announcements Type of Input : Single value, optional Possible Values : 0 to 64 Default Value : 0 (no chained announcement)
ANNTYPE	Announcement type (assigns announcement properties to the table element) Type of Input : Single value, optional (ADD, TABTYPE=ANNTT) mandatory (ADD, TABTYPE=ANNMCI ANNMITR ANNMIOD) Single value, 1 to 5 chained single value and/or range of values optional (REGENERATE) mandatory (CHANGE, DELETE, DISPLAY) Possible Values : 1 to 64
ANREASON	Reason for synchronized announcement

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Parameter Description

Type of Input	: Single value, 1 to 5 chained single value (&) mandatory (ADD, CHANGE, TABTYPE=ANNTONE optional (ADD for TABTYPE=ANNMCI DELETE, DISPLAY, REGENERATE, CHANGE)	
Possible Values	didsd	did start dialing
	sdbusy	suffix dialing when busy destination
	sdohk	suffix dialing when off hook destination
	annbusy	common announcement when busy destination
	annohk	common announcement when off hook destination
	wannaohk	wait announcement atnd console off hook
	wannhg	wait announcement call to hunting-group queue
	annccm	common announcement code calling multipl
	anknock	announcement when busy destination
	wanndns	wait announcement for day and night service
	blockpr	blocked precedence announcement
	unauthpr	unauthorized precedence announcement
	vaccode	vacant code announcement
	isolcode	isolated code announcement
	pracclim	precedence access limitation announcement
	busynequ	busy not equipped announcement
	attdque	attendant queue announcement
Default Value	WANNAOHK	only for ADD ANNMCI
ANREP	Maximum number of repetitions for announcement	
Type of Input	: Single value, optional	
Possible Values	: 0 to 255 (=infinity)	
Default Value	: 0	
ANSTATE	Announcement state	
Type of Input	: Single value, optional	
Possible Values	: OFF	Announcement deactivated
	ON	Announcement activated
Default Value	: OFF	
ANSW	Answer to input request	
Type of Input	: Single value, mandatory	
Possible Values	: Y	YES
	N	NO

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Parameter Description

ANTYNEW	Announcement type, new
Type of Input	: Single value, mandatory
Possible Values	: 1 to 64
ANTYOLD	Announcement type to be replaced (old)
Type of Input	: Single value, 1 to 5 chained single value and/or range of values optional
Possible Values	: 1 to 64
COMPIDX	Company index
Type of Input	: Single value, 1 to 5 chained single value and/or range of values mandatory (ADD) optional (CHANGE, DELETE, REGENERATE)
Possible Values	: 0 to 9
DELAYTM	Delay timer for announcement start
Type of Input	: Single value, optional Verbs: ADD, CHANGE
Possible Values	: 0 to 180
Default Value	: 3
ITR	Internal traffic restriction group
Type of Input	: Single value, 1 to 5 chained single value and/or range of values mandatory (ADD) optional (CHANGE, DELETE, REGENERATE)
Possible Values	: 0 to 15
OPMODE	Operation mode of announcement type
Type of Input	: Single value, optional Verbs: ADD, CHANGE
Possible values	: STASTO Operation mode start/stop CONT Operation mode continuous
Default Value	: STASTO
PRETONE	Preliminary tone for an announcement reason
Type of Input	: Single value, optional
Possible Values	: See parameter TONETYP1
Default Value	: RRGBK
RELLIMIT	Release limit to zero crossing without load

	Type of Input	: Single value, optional Verbs: ADD, CHANGE
	Possible Values	: 1 to 255
	Default Value	: 5
BACKTONE	Return tone for announcement reason	
	Type of Input	: Single value, optional
	Possible Values	: See parameter TONETYP1
	Default Value	: RRGBK
SEL	Selection criterion used	
	Type of Input	: Single value, mandatory (CHANGE, DELETE) optional (REGENERATE)
	Possible Values	: for verb = CHANGE ANNAME Announcement name ANNTYPE Announcement type for verb = DELETE, DISPLAY, REGENERATE ANNAME Announcement name ANNTYPE Announcement type IDX Index/indices for an announcement matrix
TABTYPE	Type of an announcement table or matrix	
	Type of Input	: Single value, mandatory (ADD, CHANGE, REGENERATE, SEL=IDX) Single value, 1 to 5 chained single value (& mandatory (DELETE) optional (DISPLAY, REGENERATE, SEL=ANNTYPE | ANNAME)
	Possible Values	: valid for all verbs ANNMCI Announcement matrix with company indices ANNMIOD Announcement matrix independent of destination ANNSTONE Announcement matrix for start and return tone ANNMITR Announcement matrix with ITR group indices ANNMITR Announcement type table ANNMTT Additionally, for verb = CHANGE ANNMALL Handle all announcement matrices Additionally for verb = DISPLAY ANSES Announcement device / announcement type table Additionally, for verb = DELETE

SYNCA - Administration of user-specific announcements

Parameter Description

ALLUSE

Delete announcement type from all type-specific announcement matrices: ANNMC1, ANNMITR, ANNMIOD

TONE1STA Injection of tone type 1 at end of announcement

Type of Input : Single value, optional

Possible Values : OFF Tone type deactivated
ON Tone type activated

Default Value : OFF

TONE2STA Injection of tone type 2 after tone type 1

Type of Input : Single value, optional

Possible Values : OFF Tone type deactivated
ON Tone type activated

Default Value : OFF

TONE3STA Injection of tone type 3 after tone types 1 and 2

Type of Input : Single value, optional

Possible Values : OFF Tone type deactivated
ON Tone type activated

Default Value : OFF

TONETYP1 Type of tone for first SIU tone

Type of Input : Single value, optional

Possible Values : The definitions correspond to the HICOM TONE TYPE set

SYNCA - Administration of user-specific announcements

Parameter Description

ALERT	Alert tone (expensive route)
ANNICPT	Announcement for attendant intercept
BONHK	B-party on hook
BUSY	Busy tone
CAMP	Camp-on/call waiting tone
CBKALERT	Callback alert tone
CMALSTONE	Call monitoring alerting tone
CONFTN	Conference tone
CONG	Network congestion tone
DATA	Data call tone for V25
DISCTONE	Emergency disconnect tone
DND	Do not disturb tone
EXTDTN	External dial tone
EXTDTN2	Second external dial tone
FCAMP	First camp-on tone
FRNGBK	First burst of ringback tone
HOLD	Call waiting tone
HOLDCCS	Hold tone code calling system (CCS)
HOLDEXT	Hold tone external
HOLDH1	Hold tone hold 1
HOLDH2	Hold tone hold 2
HOLDHUNT	Hold tone hunting group
HOLDINT	Hold tone internal
HOLDLINE	Hold the line please
HUNTGRUP	Announcement huntgroup queue
IMPOSSFM	At the moment not possible
INTDTN	Internal dial tone
KNCONF	Camp-on tone for conference
LCRET	LCR expensive tone
LOCANN	Local announcement
MOH	Music on hold
MWI	Message waiting indication
NACK	Negative acknowledgement tone
NODIAL	Dial timeout tone (no digits dialed)
NOPO	Not possible
NOTALWD	Not allowed
NOTREACH	Subscriber not reachable
NU	Number obtainable tone
OVR	Automatic override tone
OVRTN	Override tone
OVRWARN	Override prewarning tone
PACK	Positive acknowledgement tone
PACKWD	Positive acknowledgement tone with dialing
POSTDIAL	Announcement post dial
REORDER	Request of reorder tone
RNGBK	Ringback tone
RTOTON1	Test for first tone receiver group
RTOTON2	Test for second tone receiver group
SPEC	Special dial tone
TEST	Test transmitter tone
VOICEMAL	VOICE MAIL

Default Value : MOH

SYNCA - Administration of user-specific announcements

Error Messages and Advisories

TONETYP2	Type of tone for second SIU tone
Type of Input	: Single value, optional
Possible Values	: See parameter TONETYP1
Default Value	: MOH
TONETYP3	Type of tone for third SIU tone
Type of Input	: Single value, optional
Possible Values	: See parameter TONETYP1
Default Value	: MOH
TONTM1	Duration of tone-type 1 connection (in seconds)
Type of Input	: Single value, optional
Possible Values	: 0 to 255 (=infinity)
Default Value	: 5
TONTM2	Duration of tone-type 2 connection (in seconds)
Type of Input	: Single value, optional
Possible Values	: 0 to 255 (=infinity)
Default Value	: 5
TONTM3	Duration of tone-type 3 connection (in seconds)
Type of Input	: Single value, optional
Possible Values	: 0 to 255 (=infinity)
Default Value	: 5

185.5 Error Messages and Advisories

185.5.1 Error Messages

F01: NO FREE SPACE FOR A NEW ANNOUNCEMENT TYPE AVAILABLE

There is no element available in the announcement type table for configuring the specified announcement properties. The maximum number of announcements has been reached.

This situation can only be remedied by deleting announcement types which are no longer used.

F02: ANNOUNCEMENT TYPE ALREADY ESTABLISHED

The specified announcement type has already been set up. It may only be changed. In order to set up a new announcement, the user must select another announcement type or have it generated automatically by the AMO.

F03: ANNOUNCEMENT TYPE <xx> NOT ESTABLISHED

No announcement of this type has been set up.

F04: LINK TO OWN ANNOUNCEMENT TYPE NOT ALLOWED

In the case of chained announcements, the subsequent announcement type in the parameter ANNEXT must not point to the own announcement type (parameter ANNTYPE).

F05: <xxxxxx> FOR ANNOUNCEMENT REASON <xxxxxx> IN MATRIX <xxxx> ALREADY EXISTS

The specified announcement type/pretone/return tone has already been set up in the specified announcement matrix. It can only be processed by means of the verb 'CHANGE'.

F06: TYPE OF TONES FOR ANNOUNCEMENT REASON <xxxxxxxx> ALREADY EXISTS

A valid pretone and return tone exists in the announcement matrix for the specified announcement reason.

F07: ANN. TYPE FOR ANNOUNCEMENT REASON <xxxxxx> UND <xxxxxx>=<xx> ALREADY EXISTS

The specified announcement type already exists among the specified values (ITR or company index) and can only be processed by means of the verb 'CHANGE'.

F09: ANNOUNCEMENT TYPE <xx> NOT DELETED

The specified announcement type is contained in an announcement matrix. The announcement type can only be deleted from the announcement type table if all references to the announcement have been removed from the announcement matrices or the announcement table.

Advisory H02 indicates which matrix contains entries for this announcement type.

F10: USAGE OF WILDCARD SYMBOL ('*') IN ANNOUNCEMENT NAME NOT ALLOWED

The wildcard symbol must not be used in the character string for the announcement name with this AMO command.

F11: THE TABLE IS FULL WITH ENTRIES FROM SYNCA OR VFGKZ

185.5.2 Advisories

H01: ANNOUNCEMENT TYPE <xx> WAS ASSIGNED TO ANNOUNCEMENT

If the user attempts to set up an announcement without explicitly specifying the announcement type, the AMO determines the next free entry in the announcement table. This index corresponds to the announcement type of the specified announcement properties and is reported to the user.

H02: ANNOUNCEMENT TYPE <xx> ALREADY USED IN MATRIX <xxxxxx>

This advisory indicates in which announcement matrix the specified announcement type has been entered.

H03: NO DATA FOUND

This advisory explains why the expected data output fails. No corresponding data exists.

SYNCA - Administration of user-specific announcements

Error Messages and Advisories

H04: DELETE ENTRIES FOR ANNOUNCEMENT TYPE IN ANNOUNCEMENT MATRIX: Y/N

This advisory prompts the user to confirm a hidden delete job.

H05: THE ANNOUNCEMENT TYPE <xx> WAS ASSIGNED <xxxx> ANNOUNCEMENT DEVICE

This advisory notifies the AMO user that no/one announcement device has been assigned to the announcement type. The assignment can be processed by means of the AMO TSCSU.

H06: ANNOUNCEMENT TYPE <xx> HAS BEEN DEACTIVATED

This advisory indicates that the request to delete an announcement type was canceled by the user but that the announcement was deactivated automatically. All data and cross-references of the announcement type are retained.

H07: TABLE TYPE: <XXXXX> - NO DATA FOUND FOR ANNOUNCEMENT TYPE <XX>

For this announcement type no entries in the matrix have been found

H08: THE OPERATION MODE OF ANNOUNCEMENT TYPE HAS BEEN CHANGED.

The operation mode - start/stop or continuous - of the announcement type has been changed.

H09: NO VALID ANNOUNCEMENT REASON HAS BEEN ENTERED FOR MATRIX.

For the specified announcement matrix no valid announcement reason has been entered.

H10: ANNOUNCEMENT TYPE(S)<xx> TO <xx> NOT ESTABLISHED

The specified announcement type(s) of the entered interval (e.g. old announcement type) do(es) not exist in the announcement type table. Therefore it isn't possible to process it as wanted. The command is executed as ordered only for all existing announcement type(s) of the interval.

H11: FOR CHANGE OF OPERATION MODUS THE PARAMETER <xxxxxxxx> HAS TO BE ENTERED.

Although the parameters RELLIMIT resp. DELAYTM are originally optional a value has to be specified when the operation mode is changed.

H12: THE COMPIDX WILL BE DETERMINED FROM THE LAST NUMBER OF ACCESS CODE

186 TABT - Administration of the Rate Period Tables

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The task of this AMO is to administer the rate period tables.

The tables contain the rate type per time period.

The day can be divided into a maximal of 24 periods for each customer individually. 25 tables are possible.

186.1 Interrelationships

- AMO-TTBL : Administration of rate tables

186.2 Functions of the AMO

- [ADD-TABT](#) : Enter rate periods and rate type
- [CHANGE-TABT](#) : Change entries
- [DELETE-TABT](#) : Delete entries
- [DISPLAY-TABT / REGENERATE-TABT](#) : Interrogate the rate period table / Regenerate the rate period table

186.2.1 ADD-TABT

Enter rate periods and the associated rate types into the rate period table.

A maximum of 24 entries can be made, the limit value for the last entry must be 2400 hrs. During entry, the AMO requests the following parameter sequence: limit value, monday rate type, tuesday rate type, wednesday rate type, thursday rate type, friday rate type, saturday rate type, and sunday rate type.

The AMO requests this parameter sequence until 2400 hrs. is entered as the limit value (maximum of 24 times).

TABT - Administration of the Rate Period Tables

Functions of the AMO

The limit values are entered into the data base in ascending order.

Procedure Overview

Command Code

ADD-TABT

Parameter

LT=<number>, TARTYPMO=<string>, TARTYPTU=<string>
, TARTYPWE=<string>, TARTYPTH=<string>, TARTYPFR=<string>
, TARTYPSA=<string>, TARTYPSU=<string>
, SEGTBLNO=<number>;

Example

1. Creation of a rate period table number 1.

Input:

```
ADD-TABT:06-00,NTAR1,NTAR1,NTAR1,NTAR1,NTAR1,NTAR1,NTAR1,1;  
ADD-TABT:08-00,NTAR2,NTAR2,NTAR2,NTAR2,NTAR2,NTAR2,NTAR2,1;  
ADD-TABT:18-00,DTAR,DTAR,DTAR,DTAR,DTAR,DTAR,DTAR,1;  
ADD-TABT:22-00,NTAR3,NTAR3,NTAR3,NTAR3,NTAR3,NTAR3,NTAR3,1;  
ADD-TABT:23-00,NTAR4,NTAR4,NTAR4,NTAR4,NTAR4,NTAR4,NTAR4,1;
```

186.2.2 CHANGE-TABT

Change entries in the rate period table. The limit value as well as the rate type of an entry can be changed. In this case, the limit values are resorted in ascending order.

If the limit value 2400 hrs. is changed and if it was not the last entry in the table, the next limit value is set to 2400 hrs. and the rate types are set to NTAR2.

If a limit value is changed to 12:00 a.m., all subsequent entries are deleted.

Procedure Overview

Command Code

CHANGE-TABT

Parameters

SEGTABLNO=<number>, TBLENTY=<number>
, { (min 1) GREWERT=<number>, TARTYPMO=<string>
, TARTYPTU=<string>, TARTYPWE=<string>
, TARTYPTH=<string>, TARTYPFR=<string>
, TARTYPSA=<string>, TARTYPSU=<string>};

Examples

1. Changing the second entry to the limit value 0900 hrs. with night rate 1 for monday to friday. Rate type for saturday and rate type for sunday remain unchanged.

Input:

CHANGE-TABT:1,2,09-00,NTAR1,NTAR1;

2. In the fourth entry, the rate type for sunday is to be changed to night rate 2.

Input:

CHANGE-TABT:1,4,,,,,,,,NTAR2;

186.2.3 DELETE-TABT

Delete an entry in the rate period table or delete the entire table.
If the entry with the limit value 2400 hrs. is deleted, the preceding limit value in the table is set to 2400 hrs.

Procedure Overview

Command Code

DELETE-TABT

Parameters

[SEGTBLNO=<number>], [TBLENTY=<number>];

Example

1. Deleting table entry 1.

Input:

DELETE-TABT:1,1;

186.2.4 DISPLAY-TABT / REGENERATE-TABT

1. Interrogate the entries of the rate period table with output in
Either one or all tables can be displayed. tabular form.
2. Interrogate the entries of the rate period table with output in
position-oriented commands for regeneration.
Either one or all tables can be output.

Procedure Overview

Command Code

DISPLAY-TABT

REGENERATE-TABT

Parameters

[SEGTBLNO=<number>];

[SEGTBLNO=<number>];

(1)

(2)

TABT - Administration of the Rate Period Tables

Parameter Description

Examples

1. Display of time section table number 1

Input:

DISP-TABT:1;

Output:

TIME SECTION TABLE NO.: 1								
ENTRY.NO.	TIME	TYP-MO	TYP-TU	TYP-WE	TYP-TH	TYP-FR	TYP-SA	TYP-SU
1	00:00 - 06:00	NTAR1	NTAR1	NTAR1	NTAR1	NTAR1	NTAR1	NTAR1
2	06:00 - 09:00	NTAR1	NTAR1	NTAR2	NTAR2	NTAR2	NTAR2	NTAR2
3	09:00 - 18:00	DTAR	DTAR	DTAR	DTAR	DTAR	DTAR	DTAR
4	18:00 - 22:00	NTAR3	NTAR3	NTAR3	NTAR3	NTAR3	NTAR2	NTAR3
5	22:00 - 23:00	NTAR4	NTAR4	NTAR4	NTAR4	NTAR4	NTAR4	NTAR4
6	23:00 - 24:00	NTAR2	NTAR2	NTAR2	NTAR2	NTAR2	NTAR2	NTAR2

2. Regenerate the rate period table of time section table number 1

Input:

REG-TABT:1;

Output:

CHANGE-TABT:1,1,06-00,NTAR1,NTAR1,NTAR1,NTAR1,NTAR1,NTAR1,NTAR1;
CHANGE-TABT:1,2,09-00,NTAR1,NTAR1,NTAR2,NTAR2,NTAR2,NTAR2,NTAR2;
CHANGE-TABT:1,3,18-00,DTAR,DTAR,DTAR,DTAR,DTAR,DTAR,DTAR;
CHANGE-TABT:1,4,22-00,NTAR3,NTAR3,NTAR3,NTAR3,NTAR3,NTAR2,NTAR3;
CHANGE-TABT:1,5,23-00,NTAR4,NTAR4,NTAR4,NTAR4,NTAR4,NTAR4,NTAR4;
CHANGE-TABT:1,6,24-00,NTAR2,NTAR2,NTAR2,NTAR2,NTAR2,NTAR2,NTAR2;

186.3 Parameter Description

LT	Time of day of the rate period limit	
	Type of Input	: 2 compound single values, mandatory (ADD) 2 compound single values, optional, 1. parameter of min-1-group (CHANGE)
	Possible Values	: hour: 00 to 24, minute: 00 to 59
SEGTABNO	Number of smdr/dmdr segmentation table for time of day	
	Type of Input	: Single value mandatory (ADD, CHANGE) optional (DELETE, DISPLAY, REGENERATE)
	Possible Values	: 1 to 25

TABT - Administration of the Rate Period Tables

Parameter Description

TARTYPMO	Rate type for monday
Type of Input	: single value, mandatory (ADD) single value, optional, 2. parameter of min-1-group (CHANGE)
Possible Values	: DTAR = day rate NTAR1 = night rate 1 NTAR2 = night rate 2 NTAR3 = night rate 3 NTAR4 = night rate 4
TARTYPTU	Rate type for tuesday
Type of Input	: single value, mandatory (ADD) single value, optional, 3. parameter of min-1-group (CHANGE)
Possible Values	: DTAR = day rate NTAR1 = night rate 1 NTAR2 = night rate 2 NTAR3 = night rate 3 NTAR4 = night rate 4
TARTYPWE	Rate type for wednesday
Type of Input	: single value, mandatory (ADD) single value, optional, 4. parameter of min-1-group (CHANGE)
Possible Values	: DTAR = day rate NTAR1 = night rate 1 NTAR2 = night rate 2 NTAR3 = night rate 3 NTAR4 = night rate 4
TARTYPTH	Rate type for thursday
Type of Input	: single value, mandatory (ADD) single value, optional, 5. parameter of min-1-group (CHANGE)
Possible Values	: DTAR = day rate NTAR1 = night rate 1 NTAR2 = night rate 2 NTAR3 = night rate 3 NTAR4 = night rate 4
TARTYPFR	Rate type for friday

TABT - Administration of the Rate Period Tables

Parameter Description

Type of Input	: single value, mandatory (ADD)
	single value, optional, 6. parameter of min-1-group (CHANGE)
Possible Values	: DTAR = day rate
	NTAR1 = night rate 1
	NTAR2 = night rate 2
	NTAR3 = night rate 3
	NTAR4 = night rate 4

TARTYPSA Rate type for saturday

Type of Input	: single value, mandatory (ADD)
	single value, optional, 7. parameter of min-1-group (CHANGE)
Possible Values	: DTAR = day rate
	NTAR1 = night rate 1
	NTAR2 = night rate 2
	NTAR3 = night rate 3
	NTAR4 = night rate 4

TARTYPSU Rate type for sunday

Type of Input	: single value, mandatory (ADD)
	single value, optional, 8. parameter of min-1-group (CHANGE)
Possible Values	: DTAR = day rate
	NTAR1 = night rate 1
	NTAR2 = night rate 2
	NTAR3 = night rate 3
	NTAR4 = night rate 4

TBLENTY Number of entry into the rate period table (maximum of 24 entries)

Type of Input	: single value, mandatory
Possible Values	: 1 to 24

The parameters LT and TARTYPMO to TARTYPSU are a min-1-group for the CHANGE action.

At least one parameter must be declared.

186.4 Error Messages and Advisories

186.4.1 Error Messages

F01: LIMIT VALUE HAS ALREADY BEEN ENTERED
F02: CHANGING A DELETED ENTRY IS NOT POSSIBLE
F03: LIMIT VALUE MUST BE BETWEEN @@ AND @@
F04: DELETING THE LAST ENTRY IS NOT POSSIBLE
F05: ENTRY HAS ALREADY BEEN DELETED
F06: INVALID SPECIFICATION OF TIME
F07: THE TABLE IS FULL. MAX. 24 LINES.

186.4.2 Advisories

H01: LAST LIMIT VALUE MUST BE 24; WAS CHANGED TO 24
H02: not used
H03: LAST ENTRY DELETED; NEXT TO LAST LIMIT VALUE IS SET TO 24

TABT - Administration of the Rate Period Tables
Error Messages and Advisories

187 TACSU - Configuration of analog trunk circuits in the SWU

The description of this AMO is only available in html format!

188 TAPRO - Key Programming

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO TAPRO is used for loading the programmable key functions of digital and IP voice terminals.

Various standard or individual key assignments can be loaded. The AMO TAPRO also allows individual key functions to be changed. Furthermore, the AMO is used for the administration of the standard key assignments.

As Spirit IP Phones will be configured using the already existing opti-IP device configuration, the required TAPRO functionality to allow administration of Key Layouts for Spirit IP Phones (with or without Key System Functionality) is already present. TAPRO is extended to delete information on which type of Electronic Key Label shall be used and which individual text shall be used for the Electronic Key Label

In the generation sequence, AMO TAPRO is called at two points in the batch: before AMO SBSCSU to change standard key assignments, and after AMO SBSCSU/SSCSU to change individual keys.

Functions

The AMO TAPRO can be used for the following terminal types:

- optipoint 500 T8
- optipoint 500 T12
- optipoint 500 T19
- optipoint 600 T19
- optipoint 400 T12
- optipoint 410
- optipoint 420
- optipoint WL 2 professional
- openstage 10
- openstage 15
- openstage 20
- openstage 30
- openstage 40

TAPRO - Key Programming

Interrelationships

- openstage 60
- openstage 80
- desk phone IP35G
- desk phone IP55G
- desk phone CP100
- desk phone CP110
- desk phone CP200
- desk phone CP210
- desk phone CP400
- desk phone CP410
- desk phone CP600
- desk phone CP700
- desk phone CP710
- as well as the various add-on terminal types for optipoint 500 and openstage.

With the AMO TAPRO, it is not necessary to set up the standard key assignments, since all 127 valid standard assignments for each terminal type are already stored in the database. All terminals are allocated one of these standard assignments when they are first configured.

188.1 Interrelationships

- AMO KCSU : Keysystem Configuration of Switching Unit
- AMO SBSCU : Station and S0-bus Configuration of Switching Unit
- AMO SS SCU : Special Subscriber Configuration of Switching Unit
- AMO ZIEL : Destinations for Station Features

188.2 Functions of the AMO

- [CHANGE-TAPRO](#) : Change a standard key layout
Change freely-programmable key layout

- **DISPLAY-TAPRO** : Display standard and freely-programmable key layouts
Display standard key layouts
Display freely-programmable key layouts
- **REGENERATE-TAPRO** : Regenerate standard and freely-programmable key layouts
Regenerate standard key layouts
Regenerate freely-programmable key layouts

188.2.1 CHANGE-TAPRO

Change the standard key layout or change the freely-programmable key layout for one or more stations.

The changes are carried out as follows:

- Changing a standard key layout.
For this, the number of the standard key layout must be specified instead of a station number. Changing a standard key layout has no direct effect on the key layouts already loaded at the various terminals.

Hints for changing the standard key layouts:

- Max. 4 RNGXFER keys and max. 4 PUS keys.
- The remaining functions (except VACANT, LINE, NAME and DSS) may only be assigned once. When allocating an existing key function to a different key during a standard key layout change, the old key allocation is canceled automatically.

- Assigning the key functions

For this, at least one station number must be specified. If a standard key layout number is also specified, a standard key layout is assigned. If no standard key layout is specified, the AMO assumes that only the functions of the freely-programmable keys are to be loaded. Only one command is necessary to change the standard key layout and assign new functions to the freely-programmable keys of the specified station(s).

Hints for assigning the key functions

- Max. 4 RNGXFER keys (except subscriber is executive) and max. 4 PUS keys.
- Max. 1 RNGXFER key if subscriber is executive
A standard with more than 1 RNGXFER key can be assigned to a executive, but the executive can only use the first RNGXFER

TAPRO - Key Programming

Functions of the AMO

key and the others are only allocated with this function. If one RNGXFER key is individual changed, all other RNGXFER keys are deleted.

- The remaining functions (except VACANT, LINE, NAME and DSS) may only be assigned once. When allocating an existing key function to a different key during a standard key layout change, the old key allocation is canceled automatically.
- The MB key function cannot be re-assigned if the user's "mailbox" contains new (i.e. unheard) messages.
- The following keys must not be deleted while in the active state: FWD key, REP key, KNOVR key, DND key and HT key.

NOTE: The terminal will be not deactivated from the AMO TAPRO, exception deletion of DSS keys.

If the terminal was deactivated before the processing, it remains deactivated.

A standard key layout with add-on terminal can be assigned to a subscriber without add-on terminal, but only the key functions of the basic terminal are accepted.

	Type of digital terminal			
Options for STD,STNO	Basic terminal(s)	Add-on terminal(s)	No terminal type specified	Add-on and basic terminals
STD	Load new std. key layout for sp. basic terminal type	Load new standard key layout for add-on terminal	Error message F03	Error Message F04
STNO	Load new function for freely-prog., ind. keys at sp. STNs with sp. (basic) terminal type	Load new function for freely-programmable, indiv. keys at specified add-on terminal.	Load new function for freely prog., ind. keys at spec. terminals.	
STNO and STD	Load new standard key layout plus new functions for freely-prog., ind. keys at spec. STNs with spec. (basic) terminal type.	Error message F05	Load new std. key layout at spec. STN and freely-prog. key functions at basic terminal.	
No values specified	rejected by MMI			

Table 12 Possible parameters and their significance

Procedure Overview

Command Code	Parameter
CHANGE-TAPRO	{ STNO=<number>, STD=<number>}, [DIGTYP=<param>] , [KY01=<param>], ..., [KY32=<param>], [INFO=<string>];

Examples

1. Change the standard key layout 5 for all Standard Device terminals. Change KY01 to call forwarding and KY02 - KY04 to name keys.

Input:

```
CHANGE-
TAPRO:STD=5,DIGTYP=STDDEV,KY01=FWD,KY02=NAME,KY03=NAME,KY04=NAME;
```

Output:

```
H04: STANDARD 5 CHANGED FOR STDDEV.
```

2. Load the new standard 5 at the optiset terminal of station 3154, and change the function of key 12 to TIME.

Input:

```
CHANGE-TAPRO:STNO=3154,STD=5,DIGTYP=STDDEV,KY12=TIME;
```

Output:

```
H03: FUNCTION KEY LAYOUT CHANGED FOR STATION 3154.
```

188.2.2 DISPLAY-TAPRO

This function is used to output the following information:

1. all valid standard key layouts and all loaded key layouts for all stations with digital terminals.
2. specific standard key layouts in a specific output format. Patternsearch in info service field.
3. key layouts loaded at specific stations.

Procedure Overview

Command Code	Parameter
DISPLAY-TAPRO	[TYPE=ALL]; (1)
	| [TYPE=STD], [STD=<number>], [DIGTYP=<param>] (2) , [FORMAT=<param>], [INFOPAT=<string>];

TAPRO - Key Programming

Functions of the AMO

Command Code	Parameter
	[TYPE=STN], [STNO=<number>], [STD=<number>] (3) , [DIGTYP=<param>];

Examples

1. Display the key layout of standard 7, standards 38 to 40 and standard 61 for Standard Device.

Input:

DISPLAY-TAPRO:TYPE=STD,STD=7&38&39&40&61,DIGTYP=STDDEV;

Output:

H04: STANDARD 5 CHANGED FOR STDDEV.

STD	DIGTYP	"SERVICE INFORMATION"	KEY LAYOUT
7	OPTIT3	"3 KEYS U.S. STD 3: HOLD/PARK (SYSTEM ORBIT)"	
		1 HOLD 2 SPARK 3 LINE	
	OPTIA1	1 VACANT 2 VACANT 3 VACANT 4 VACANT 5 VACANT	
		6 VACANT 7 VACANT 8 VACANT 9 VACANT 10 VACANT	
		11 VACANT 12 VACANT 13 VACANT 14 VACANT 15 VACANT	
	OPTIA2	1 VACANT 2 VACANT 3 VACANT 4 VACANT 5 VACANT	
		6 VACANT 7 VACANT 8 VACANT 9 VACANT 10 VACANT	
		11 VACANT 12 VACANT 13 VACANT 14 VACANT 15 VACANT	
	OPTIA3	1 VACANT 2 VACANT 3 VACANT 4 VACANT 5 VACANT	
		6 VACANT 7 VACANT 8 VACANT 9 VACANT 10 VACANT	
		11 VACANT 12 VACANT 13 VACANT 14 VACANT 15 VACANT	
	OPTIA4	1 VACANT 2 VACANT 3 VACANT 4 VACANT 5 VACANT	
		6 VACANT 7 VACANT 8 VACANT 9 VACANT 10 VACANT	
		11 VACANT 12 VACANT 13 VACANT 14 VACANT 15 VACANT	
38	OPTIT19	"19 KEYS I.M. STD 6: ADVANCED KEY 5 LINES"	
		1 CH 2 SNR 3 MB 4 SPKR 5 PU	
		6 PARK 7 HOLD 8 LINE 9 LINE 10 LINE	
		11 LINE 12 LINE 13 NAME 14 NAME 15 NAME	
		16 NAME 17 NAME 18 NAME 19 RLS	
	OPTIA1	1 VACANT 2 VACANT 3 VACANT 4 VACANT 5 VACANT	
		6 VACANT 7 VACANT 8 VACANT 9 VACANT 10 VACANT	
		11 VACANT 12 VACANT 13 VACANT 14 VACANT 15 VACANT	
	OPTIA2	1 VACANT 2 VACANT 3 VACANT 4 VACANT 5 VACANT	
		6 VACANT 7 VACANT 8 VACANT 9 VACANT 10 VACANT	
		11 VACANT 12 VACANT 13 VACANT 14 VACANT 15 VACANT	
	OPTIA3	1 VACANT 2 VACANT 3 VACANT 4 VACANT 5 VACANT	
		6 VACANT 7 VACANT 8 VACANT 9 VACANT 10 VACANT	
		11 VACANT 12 VACANT 13 VACANT 14 VACANT 15 VACANT	
	OPTIA4	1 VACANT 2 VACANT 3 VACANT 4 VACANT 5 VACANT	
		6 VACANT 7 VACANT 8 VACANT 9 VACANT 10 VACANT	

TAPRO - Key Programming

Functions of the AMO

		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

39	OPTIT19	"19 KEYS U.S. STD 0: 2 LINE PHONEMAIL				"
		1 PHML	2 NAME	3 CH	4 MENU	5 CL
		6 NAME	7 NAME	8 NAME	9 NAME	10 NAME
		11 NAME	12 PU	13 PARK	14 CONF	15 CONS
		16 CNCT	17 HOLD	18 LINE	19 LINE	

	OPTIA1	1 VACANT	2 VACANT	3 VACANT	4 VACANT	5 VACANT
		6 VACANT	7 VACANT	8 VACANT	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

	OPTIA2	1 VACANT	2 VACANT	3 VACANT	4 VACANT	5 VACANT
		6 VACANT	7 VACANT	8 VACANT	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

	OPTIA3	1 VACANT	2 VACANT	3 VACANT	4 VACANT	5 VACANT
		6 VACANT	7 VACANT	8 VACANT	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

	OPTIA4	1 VACANT	2 VACANT	3 VACANT	4 VACANT	5 VACANT
		6 VACANT	7 VACANT	8 VACANT	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

40	OPTIT19	"19 KEYS U.S. STD 1: ACD AGENT				"
		1 PHML	2 SCROL	3 CH	4 MENU	5 CL
		6 ACDLOG	7 ACDNAV	8 ACDWORK	9 ACDAV	10 ACDSPVM
		11 ACK	12 NAME	13 ACDPQS	14 AUTOM	15 CONS
		16 CNCT	17 HOLD	18 LINE	19 LINE	

	OPTIA1	1 VACANT	2 VACANT	3 VACANT	4 VACANT	5 VACANT
		6 VACANT	7 VACANT	8 VACANT	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

	OPTIA2	1 VACANT	2 VACANT	3 VACANT	4 VACANT	5 VACANT
		6 VACANT	7 VACANT	8 VACANT	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

	OPTIA3	1 VACANT	2 VACANT	3 VACANT	4 VACANT	5 VACANT
		6 VACANT	7 VACANT	8 VACANT	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

	OPTIA4	1 VACANT	2 VACANT	3 VACANT	4 VACANT	5 VACANT
		6 VACANT	7 VACANT	8 VACANT	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT

61	OPENST30	"OPENSTAGE - OS30				"
		1 SPKR-FIX	2 HS-FIX	3 MUTE-FIX	4 SNR-FIX	5 FWD-FIX
		6 RLS-FIX	7 CH-FIX	8 MB-FIX	9 VACANT	10 VACANT
		11 VACANT	12 VACANT	13 VACANT	14 VACANT	15 VACANT
		16 VACANT				

2. Display the program key layout for stations 2190 to 2194.

Input:

DISPLAY-TAPRO:TYPE=STN,STNO=2190&&2194;

Output:

TAPRO - Key Programming

Functions of the AMO

STATION	STD	DIGTYP	FUNCTION KEYS WHICH DIFFER FROM STANDARD			
2190	0	STDDEV	4 VACANT	10 DOOR	11 SPKR	
2191	1	STDDEV	1 MB	2 ST	3 SNR	5 VACANT
2193	1	STDDEV	2 CONS	8 MB		
		OPTIA1	12 WW			
2194	1	STDDEV	2 CONS	8 MB		
		OPTIA2	9 DR			
		OPTIA4	8 DOOR	12 SNR		

The key layout is displayed for all terminals whose station numbers lie within the specified range of 2190 to 2191, regardless of the terminal type.

3. Display the key layout for all stations with Standard Device terminals and the standard key layout 0.

Input:

```
DISPLAY-TAPRO:TYPE=STN,STD=0,DIGTYP=STDDEV;
```

Output:

STATION	STD	DIGTYP	FUNCTION KEYS WHICH DIFFER FROM STANDARD			
2191	0	STDDEV	1 MB	2 ST	3 SNR	5 VACANT
3500	0	STDDEV				
		OPTIA2	1 RR			

All digital optiset terminals with the specified standard key layout are output according to station number.

4. Display service Information for key standards with "12 keys".

Input:

```
DISPLAY-TAPRO:TYPE=STD,FORMAT=S,INFOPAT="12 KEYS";
```

Output:

|	STD	|	DIGTYP	|	"SERVICE INFORMATION"	KEY LAYOUT	|
|	8	|	OPTIT12	|	"12 KEYS I.M. STD 0: BASIC12 /SPEAKER12	"	|
|	9	|	OPTIT12	|	"12 KEYS I.M. STD 1: BASIC12 /SPEAKER12 ALTERNATIVE"		|
|	10	|	OPTIT12	|	"12 KEYS I.M. STD 2: 4 PERSON TEAM	"	|

TAPRO - Key Programming

Functions of the AMO

| 11 |	OPTIT12	| "12 KEYS I.M. STD 3: 8 PERSON TEAM (1 KEU)	"	|
| 12 |	OPTIT12	| "12 KEYS I.M. STD 4: SECRETARY 1/1 (1 KEU)	"	|
| 13 |	OPTIT12	| "12 KEYS I.M. STD 5: SECRETARY 1/2 OR 2/2 (1 KEU)	"	|
| 14 |	OPTIT12	| "12 KEYS I.M. STD 6: SECRETARY 4/1 OR 4/2 (1 KEU)	"	|
| 15 |	OPTIT12	| "12 KEYS I.M. STD 7: SECRETARY MEMBER OF MINI CHESE"		|
| 16 |	OPTIT12	| "12 KEYS I.M. STD 8: EXECUTIVE MEMBER OF MINI CHESE"		|
| 17 |	OPTIT12	| "12 KEYS I.M. STD 9: ACD AGENT 1	"	|
| 18 |	OPTIT12	| "12 KEYS I.M. STD 10: ACD SUPERVISOR 1	"	|
| 19 |	OPTIT12	| "12 KEYS I.M. STD 11: ACD AGENT 2	"	|
| 20 |	OPTIT12	| "12 KEYS I.M. STD 12: ACD SUPERVISOR (1 KEU)	"	|
| 21 |	OPTIT12	| "12 KEYS I.M. STD 13: BASIC12 /SPEAKER12 KEY STD	"	|
| 22 |	OPTIT12	| "12 KEYS I.M. STD 14: ADVANCED KEY 4 LINES	"	|
| 23 |	OPTIT12	| "12 KEYS I.M. STD 15: ADVANCED KEY (1 KEU)	"	|
| 24 |	OPTIT12	| "12 KEYS I.M. STD 16: ADVANCED KEY (2 KEU)	"	|
| 25 |	OPTIT12	| "12 KEYS I.M. STD 17: BASIC KEY AGENT	"	|
| 26 |	OPTIT12	| "12 KEYS I.M. STD 18: BASIC KEY SUPERVISOR (1 KEU)	"	|
| 27 |	OPTIT12	| "12 KEYS I.M. STD 19: ADVANCED KEY AGENT (1 KEU)	"	|
| 28 |	OPTIT12	| "12 KEYS I.M. STD 20: ADV. KEY SUPERVISOR (1 KEU)	"	|
| 96 |	OPTIT12	| "12 KEYS U.S. STD 0: 1 LINE PHONEMAIL	"	|
| 97 |	OPTIT12	| "12 KEYS U.S. STD 1: 1 LINE PHONEMAIL PICKUP	"	|
| 98 |	OPTIT12	| "12 KEYS U.S. STD 2: 2 LINE MB	"	|
| 99 |	OPTIT12	| "12 KEYS U.S. STD 3: 2 LINE ACD AGENT PHONEMAIL	"	|
| 100 |	OPTIT12	| "12 KEYS U.S. STD 4: 2 LINE ACD SUPERVISOR	"	|
| 101 |	OPTIT12	| "12 KEYS U.S. STD 5: 1 LINE DDS	"	|
| 102 |	OPTIT12	| "12 KEYS U.S. STD 6: 2 LINE INTERCOM	"	|
| 103 |	OPTIT12	| "12 KEYS U.S. STD 7: 3 LINE PHONEMAIL	"	|
| 104 |	OPTIT12	| "12 KEYS U.S. STD 8: 1 LINE PHML (1 KEU: DDS)	"	|
| 105 |	OPTIT12	| "12 KEYS U.S. STD 9: 1 LINE PHML (1 KEU: EXECUTIVE)"		|
| 106 |	OPTIT12	| "12 KEYS U.S. STD 10: 1 LINE PHML (1 KEU: LINES)	"	|
| 107 |	OPTIT12	| "12 KEYS U.S. STD 11: ACD SUPERVISOR (KEU)	"	|
| 108 |	OPTIT12	| "12 KEYS U.S. STD 11: ACD SUPERVISOR (KEU)	"	|

TAPRO - Key Programming

Functions of the AMO

5. Display service Information for "OPENSTAGE" key standards.

Input:

```
DISPLAY-TAPRO:TYPE=STD,FORMAT=S,INFOPAT="OPENSTAGE";
```

Output:

STD	DIGTYP	"SERVICE INFORMATION"	KEY LAYOUT
55	OPENST20	"OPENSTAGE - OS20	"
56	OPENST40	"OPENSTAGE - OS40	"
57	OPENST60	"OPENSTAGE - OS60	"
58	OPENST80	"OPENSTAGE - OS80	"
59	OPENST10	"OPENSTAGE - OS10	"
60	OPENST15	"OPENSTAGE OS15	"
61	OPENST30	"OPENSTAGE - OS30	"

6. Display service Information for "DESKPHONE" key standards.

Input:

```
DISPLAY-TAPRO:TYPE=STD,FORMAT=S,INFOPAT="DESKPHONE";
```

Output:

STD	DIGTYP	"SERVICE INFORMATION"	KEY LAYOUT
62	DPIP35	"DESKPHONE IP35G	"
63	DPIP55	"DESKPHONE IP55G	"
109	CP200	"DESKPHONE CP200/CP210	"
110	CP400	"DESKPHONE CP400	"
111	CP600	"DESKPHONE CP600	"
112	CP100	"DESKPHONE CP100	"
113	CP700	"DESKPHONE CP700/CP710/CP410 (WITH KM710)	"
114	CP110	"DESKPHONE CP110	"
115	CP410	"DESKPHONE CP410/CP710 (WITH KM410)	"

TAPRO - Key Programming

Parameter Description

2. Regenerate the functions which differ from standard for stations 2190 to 2200.

Input:

```
REGENERATE-TAPRO:TYPE=STN,STNO=2190&&2200;
```

Output :

```
CHANGE-TAPRO:2190,,STDDEV,,,VACANT,,,,,DOOR,SPKR,,,,,,,,;
CHANGE-TAPRO:2191,,STDDEV,MB,ST,SNR,,VACANT,,,,,,,,,,,,;
CHANGE-TAPRO:2193,,STDDEV,,CONS,,,,,MB,,,,,,,,,,,,;
CHANGE-TAPRO:2193,,OPTIA3,,,,,,,,,SNR,,,,,,,,;
CHANGE-TAPRO:2194,,STDDEV,,CONS,,,,,MB,,,,,,,,,,,,;
CHANGE-TAPRO:2194,,OPTIA2,,,,,,,,,DR,,,,,,,,;
CHANGE-TAPRO:2194,,OPTIA4,,,,,,,,,DOOR,,,SNR,,,,,,,,;

```

The key layout is regenerated for all terminals whose station numbers lie within the specified range of 2190 to 2200, regardless of the terminal type, and whose key layout differs from standard.

3. Regenerate the key layouts which differ from standard for all Standard Device terminals with standard 0.

Input:

```
REGENERATE-TAPRO:TYPE=STN,STD=0,DIGTYP=STDDEV;
```

Output:

```
CHANGE-TAPRO:2191,,STDDEV,MB,ST,SNR,,VACANT,,,,,,,,,,,,;
CHANGE-TAPRO:3500,,OPTIA2,CBK,,,,,,,,,,,,,,,,;

```

All digital Standard Device terminals with the specified standard key layout, and whose key layout differs from standard, are output according to station number.

188.3 Parameter Description

DIGTYP	Type of Hicom set
Type of Input	: Single value or linked single values
Possible Values	: STDDEV = standard device
	OPTIT19 = optipoint T19
	OPTIA1 = 1st auxiliary unit for optiset E and optipoint
	OPTIA2 = 2nd auxiliary unit for optiset E and optipoint
	OPTIA3 = 3rd auxiliary unit for optiset E
	OPTIA4 = 4th auxiliary unit for optiset E
	OPENST10 = openstage 10
	OPENST15 = openstage 15
	OPENST20 = openstage 20
	OPENST30 = openstage 30

OPENST40	= openstage 40
OPENST60	= openstage 60
OPENST80	= openstage 80
DPIP35	= Desk Phone IP 35
DPIP55	= Desk Phone IP 55
CP100	= Desk Phone CP100
CP110	= Desk Phone CP110
CP200	= Desk Phone CP200/CP210
CP400	= Desk Phone CP400
CP410	= Desk Phone CP410/CP710 (with KM410)
CP600	= Desk Phone CP600
CP700	= Desk Phone CP700/CP710/CP410 (with KM710)

Default Value : basic terminal is changed

When CHANGING a STATION layout, the AMO does not differentiate between STDDEV, OPTIT3, OPTIT8, OPTIT12 and OPTIT19.

When CHANGING a standard key layout the values OPTIT3, OPTIT8, OPTIT12 and OPTIT19 will be evaluated.

CP410 standard key layout should be used for OpenScape Desk Phone CP410 or CP710 with KM410 (Key module with 16 free programmable function keys) connected.

CP700 standard key layout should be used for OpenScape Desk Phone CP410 or CP710 with KM710 (Key module with 12 free programmable function keys) connected.

FORMAT	Format of display	
	Type of Input	Single value, optional
	Possible Values	S number of key layout, digitetype and service information L number of key layout, digitetype, service information and key layout
	Default Value	L
INFO	service informations	
	Type of Input	: Single value, optional
	Possible Values	: Text, up to 50 characters
	Default Value	: no ENTRY
INFOPAT	Pattern for search of service information (INFO)	
	Type of Input	Single value, optional
	Possible Values	Text; up to 50 Characters
	Default Value	no ENTRY

TAPRO - Key Programming

Parameter Description

STD	Number of key layout/map standard
Type of Input	: Single value, mandatory (CHANGE standard) Single value, optional (CHANGE station) Single value, linked single values, range, optional (DISPLAY, REGENERATE)
Possible Values	: 0 to 127 for STDDEV
Default Value	: no new standard is loaded (CHANGE station) all standards (DISPLAY, REGENERATE)

Caution !

When a key mapping standard for OPTIT3, OPTIT8, OPTIT12 or OPTIT19 is modified, new standard numbers (STDNO) must be allocated, or else the standards will be overwritten.

When a STD is changed for a station, please pay attention at changes from a standard with maximum 19 keys on maindev to/from a standard with 32 keys on maindev (CP400/CP600/CP410/CP700 key layout). The addon key mapping is different.

For CP400/CP600/CP410/CP700 key layouts:

- main device keys are 1-32
- addon keys start with 33.

For all other key layouts:

- main device keys are 1-19
- addon keys start with 20.

KY01	Key function for key 1 to key 19
KY19	Type of Input : Single value, optional
Possible Values	ACC = Account Code (ACD) ACDAGTM = Send message to agent (ACD) ACDAV = Agent available (ACD) ACDEMSG = Emergency message (ACD) ACDLOG = Agent LOGON/LOGOFF (ACD) ACDNAV = Agent not available (ACD) ACDPGS = Primary group status (ACD) ACDPQS = Primary queue status (ACD) ACDSGS = Secondary group status (ACD) ACDSPVM = Send message to supervisor (ACD) ACDSQS = Secondary queue status (ACD) ACDWORK = Agent work (ACD) ACK = Message acknowledgement (ACD) ADDON = Add-on conference/witness facility

AUTOM	= Automatic call acceptance (ACD)
BROADCAST	= speaker call - one way broadcast
BUSYLAMP	= Busy lamp
BUZZ	= buzz a predetermined number
CALLOG	= Call log
CBK	= Callback (reserving outgoing trunks)
CC	= Code calling key
CDRACC	= CDR account code key
CH	= Check (display memory contents)
CL	= Clear (clear display)
CNCT	= connect to call on hold
COMGRP	= com group call
COMSPK	= com group speaker call - two way
CONF	= Conference key
CONS	= Consultation hold
DCPA	= directed call park
DND	= Do-not-disturb key
DOOR	= Door busy indication key
DOOROPEN	= Door opener
DSS	= Direct station selection key
EXHOLD	= Exclusive hold (KEYSYS)
FWD	= Forwarding key
HOLD	= Hold (KEYSYS)
HS	= Headset key
HT	= Hunt group key
IUSE	= Show line key I use (KEYSYS)
KNOVR	= Knocking override key
LANSEL	= Languageselection key (only relevant for optiset)
LINE	= Line key (KEYSYS)
LNAME	= "Local" name key (repertory key)
LNR	= Last number redial (last valid dialed destination number is stored)
MB	= Mailbox key
MBLINE	= Mailbox key for line
MENU	= main menu key (optiset E)
MONSLNTL	= Silent monitoring/bridge of line
MONTONE	= Tone monitoring (ACD)
MSGR	= Messenger key
MUTE	= Mute key

TAPRO - Key Programming

Parameter Description

NAME	= Name key (repertory key)
NV	= Non-voice (data) key
PARK	= Park key
PHML	= Phonemail
PREVIEW	= preview key
PRIVACY	= Privacy (KEYSYS)
PU	= Call pickup
PUS	= Call pickup (executive/secretary) key
RCUTOFF	= Ringer cutoff (KEYSYS)
REMIND	= Reminder key
REP	= Representative/deputy for secretary
RLS	= Release
RNGXFER	= Ring transfer, executive/secretary
RNGXFERL	= Ring transfer for line
RPTID	= repeat ID key
SCROL	= Scroll message (ACD)
SNR	= Stored number redial
SPARK	= system call park key
SPDI	= speed dial (station speed) key
SPKR	= Loudspeaker
SPKRCALL	= Speaker call - one way
SPLT	= Two-way splitting (flip-flop/toggling)
ST	= Start key
STO	= Data transfer (store)
SYSSP1	= system speed key # 1
SYSSP2	= system speed key # 2
TIME	= Date/time key
TRNS	= Call transfer (pass over or take over)
VACANT	= Not in use
VC	= Voice call key
VCR	= Voice call reject key

KY19 - KY 32 Type of Input
Possible Values

: Single value, optional

ACC	ACCOUNT CODE
ACDAGTM	SEND MESSAGE TO AGENT
ACDWORK	AGENT WORK
ACDLOG	AGENT LOGON/LOGOFF
ACDEMMSG	EMERGENCY MESSAGE
ACDNAV	AGENT NOT AVAILABLE
ACDPGS	PRIMARY GROUP STATUS

ACDPQS	PRIMARY QUEUE STATUS
ACDSGS	SECONDARY GROUP STATUS
ACDSPVM	SEND MESSAGE TO SUPERVISOR
ACDSQS	SECONDARY QUEUE STATUS
ACDAV	AGENT AVAILABLE
ACK	MESSAGE ACKNOWLEDGMENT
IUSE	DISPLAY ACTUAL USED LINE
DND	DO NOT DISTURB KEY
BROADCAST	SPEAKER CALL - ONE WAY BROADCAST
KNOVR	KNOCKING OVERRIDE KEY
VCR	VOICE CALL REJECT KEY
FWD	FORWARDING KEY
PU	CALL PICKUP
PUS	CALL PICKUP (FOR EXECUTIVE/SECRETARY) KEY
AUTOM	AUTOMATIC CALL ACCEPTANCE
MB	MAILBOX KEY
MBLINE	MAILBOX KEY FOR LINE
MSGR	MESSENGER KEY
BUSYLAMP	BUSY LAMP
BUZZ	BUZZ A PREDETERMINED NUMBER
CALOG	CALL LOG
CDRACC	CDR ACCOUNT CODE KEY
CH	CHECK
CL	CLEAR
CNCT	CONNECT TO CALL ON HOLD
COMGRP	COM GROUP CALL
COMSPK	COM GROUP SPEAKER CALL - TWO WAY
VC	VOICE CALL KEY - TWO WAY
DCPA	DIRECTED CALL PARK
DOORPEN	DOOR OPENER
DSS	DIRECT STATION SELECTION KEY
STO	DATA TRANSFER (STORE)
EXCLHOLD	EXCLUSIVE HOLD
VACANT	NOT IN USE
HOLD	HOLD
CONF	CONFERENCE KEY
LINE	LINE KEY
SPKR	LOUDSPEAKER
SPLT	TWO-WAY SPLITTING (FLIP-FLOP, TOGGLING)

TAPRO - Key Programming

Parameter Description

MENU	MAIN MENU KEY (OPTISET E)
MONSLNTL	SILENT MONITORING/BRIDGE OF LINE
MONTONE	tone MONITORING
MUTE	MUTE KEY
NAME	NAME KEY
NV	NON-VOICE KEY
PARK	PARK KEY
PHML	PHONEMAIL
PREVIEW	PREVIEW KEY
PRIVAT	PRIVACY
CC	CODE CALLING KEY
RPTID	REPEAT ID KEY
CONS	CONSULTATION HOLD
CBK	CALLBACK
RNGXFER	RING TRANSFER (FOR EXECUTIVE/SECRETARY) KEY
RNGXFERL	RING TRANSFER FOR LINE
RCUTOFF	RINGER CUTOFF
HT	HUNT GROUP KEY
SCROL	SCROLL MESSAGE
SPARK	SYSTEM CALL PARK KEY
SPDI	SPEED DIAL (STATION SPEED) KEY
HS	HEADSET
SPKRCALL	SPEAKER CALL - ONE WAY
LANSEL	LANGUAGESELECTION FOR DISPLAY TEXT
ST	START KEY
SYSSP1	SYSTEM SPEED KEY # 1
SYSSP2	SYSTEM SPEED KEY # 2
REMIND	REMINDER KEY
RLS	RELEASE
DOOR	DOOR
TRNS	CALL TRANSFER (PASS OVER AND TAKE OVER)
TIME	DATE/TIME KEY
REP	REPRESENTATIVE FOR SECRETARY/DEPUTY KEY
LNR	LAST NUMBER REDIAL
WHISANN	WHISPER ANNOUNCEMENT
SNR	STORED NUMBER REDIAL
ADDON	ADD-ON / WITNESS
BUSYDSS	BUSY DIRECT STATION SELECTION KEY
SHIFT	SHIFT

LOCAL APPLICATION KEY
SECURE SECURITY LEVEL OF AN ACTIVE CALL
Default Value : Key function is not changed

Key numbering :

Depending on the DIGTYP, the following 'KYxx' parameters may be declared:

OPTIT19	KY01 to KY19	*
OPTIA1	KY01 to KY15	
OPTIA2	KY01 to KY15	
OPTIA3	KY01 to KY15	
OPTIA4	KY01 to KY15	
OPENST10	KY09 to KY11	
OPENST15	KY09 to KY16	
OPENST20	KY00 to KY00	all 8 keys are fix
OPENST30	KY09 to KY16	
OPENST40	KY09 to KY14	
OPENST60	KY09 to KY16	
OPENST80	KY09 to KY17	
DPIP55	KY09 to KY16	
DPIP35	KY09 to KY11	
CP100	KY09 to KY11	
CP110	KY09 to KY11	
CP200	KY09 to KY12	
CP400	KY09 to KY16 and KY25 to KY32	
CP410	KY09 to KY16 and KY25 to KY32	
CP600	KY09 to KY16 and KY25 to KY32	
CP700	KY09 to KY16 and KY25 to KY32	

* use only to change a standard key layout

KY20, KY21, KY22, KY23, KY24,
KY25, KY26, KY27, KY28, KY29,
KY30, KY31, KY32=<param>

KEY FUNCTION FOR BUTTON 20, 21, 22, 23, 24, 25, 26, 27, 28, 29,
30, 31, 32

Type of Input single value, optional

Possible Values	ACC	ACCOUNT CODE
	ACDAGTM	SEND MESSAGE TO AGENT
	ACDWORK	AGENT WORK
	ACDLOG	AGENT LOGON/LOGOFF

TAPRO - Key Programming

Parameter Description

ACDEMMSG	EMERGENCY MESSAGE
ACDNAV	AGENT NOT AVAILABLE
ACDPGS	PRIMARY GROUP STATUS
ACDPQS	PRIMARY QUEUE STATUS
ACDSGS	SECONDARY GROUP STATUS
ACDSPVM	SEND MESSAGE TO SUPERVISOR
ACDSQS	SECONDARY QUEUE STATUS
ACDAV	AGENT AVAILABLE
ACK	MESSAGE ACKNOWLEDGMENT
IUSE	DISPLAY ACTUAL USED LINE
DND	DO NOT DISTURB KEY
BROADCAST	SPEAKER CALL - ONE WAY BROADCAST
KNOVR	KNOCKING OVERRIDE KEY
VCR	VOICE CALL REJECT KEY
FWD	FORWARDING KEY
PU	CALL PICKUP
PUS	CALL PICKUP (FOR EXECUTIVE/SECRETARY) KEY
AUTOM	AUTOMATIC CALL ACCEPTANCE
MB	MAILBOX KEY
MBLINE	MAILBOX KEY FOR LINE
MSGR	MESSENGER KEY
BUSYLAMP	BUSY LAMP
BUZZ	BUZZ A PREDETERMINED NUMBER
CALOG	CALL LOG
CDRACC	CDR ACCOUNT CODE KEY
CH	CHECK
CL	CLEAR
CNCT	CONNECT TO CALL ON HOLD
COMGRP	COM GROUP CALL
COMSPK	COM GROUP SPEAKER CALL - TWO WAY
VC	VOICE CALL KEY - TWO WAY
DCPA	DIRECTED CALL PARK
DOORPEN	DOOR OPENER
DSS	DIRECT STATION SELECTION KEY
STO	DATA TRANSFER (STORE)
EXCLHOLD	EXCLUSIVE HOLD
VACANT	NOT IN USE
HOLD	HOLD
CONF	CONFERENCE KEY

LINE	LINE KEY
SPKR	LOUDSPEAKER
SPLT	TWO-WAY SPLITTING (FLIP-FLOP, TOGGLING)
MENU	MAIN MENU KEY (OPTISET E)
MONSLNTL	SILENT MONITORING/BRIDGE OF LINE
MONTONE	TONE MONITORING
MUTE	MUTE KEY
NAME	NAME KEY
NV	NON-VOICE KEY
PARK	PARK KEY
PHML	PHONEMAIL
PREVIEW	PREVIEW KEY
PRIVAT	PRIVACY
CC	CODE CALLING KEY
RPTID	REPEAT ID KEY
CONS	CONSULTATION HOLD
CBK	CALLBACK
RNGXFER	RING TRANSFER (FOR EXECUTIVE/SECRETARY) KEY
RNGXFERL	RING TRANSFER FOR LINE
RCUTOFF	RINGER CUTOFF
HT	HUNT GROUP KEY
SCROL	SCROLL MESSAGE
SPARK	SYSTEM CALL PARK KEY
SPDI	SPEED DIAL (STATION SPEED) KEY
HS	HEADSET
SPKRCALL	SPEAKER CALL - ONE WAY
LANSEL	LANGUAGE SELECTION FOR DISPLAY TEXT
ST	START KEY
SYSSP1	SYSTEM SPEED KEY # 1
SYSSP2	SYSTEM SPEED KEY # 2
REMIND	REMINDER KEY
RLS	RELEASE
DOOR	DOOR
TRNS	CALL TRANSFER (PASS OVER AND TAKE OVER)
TIME	DATE/TIME KEY
REP	REPRESENTATIVE FOR SECRETARY/DEPUTY KEY
LNR	LAST NUMBER REDIAL
WHISANN	WHISPER ANNOUNCEMENT
SNR	STORED NUMBER REDIAL

		ADDON	ADD-ON / WITNESS
		BUSYDSS	BUSY DIRECT STATION SELECTION KEY
		SHIFT	SHIFT
		LOCAL	LOCAL APPLICATION KEY
		SECURE	SECURITY LEVEL OF AN ACTIVE CALL
STNO	Station number		
	Type of Input	: WHISANN	
		RNGXFERL	
		RCUTOFF	
	Possible Values	: HT	
		*	= all station numbers
		*0	= stations with standard 0
		up to	
		*127	= stations with standard 127
	Default Value:	all station numbers	(DISPLAY, ACTIVATING)
		station with differences from the standard key layout (REGENERATE)	
		Change standard key layout (CHANGE)	
TYPE	Desired programming options (branch parameter)		
	Type of Input	: Single value, optional	
	Possible Values	: STN	= station key layouts
		STD	= standard key layouts
		ALL	= standard key layouts and station key layouts
	Default Value	: ALL	

188.4 Error Messages and Advisories

188.4.1 Error Messages

- F01: STANDARD ^zahl^ FOR ^digtyp^ CANNOT BE CHANGED , SINCE IT IS CURRENTLY IN USE. PLEASE ENTER A NEW STANDARD NUMBER.
- F02: IF A STANDARD NUMBER HAS BEEN SPECIFIED, THE PARAMETER DIGTYP MUST ALSO BE SPECIFIED.
- F03: NO ASSOCIATED VALUES MAY BE ENTERED FOR PARAMETER DIGTYP.
<digtyp> IGNORED.

F04: STANDARDS CANNOT BE LOADED AT AN ADD-ON TERMINAL.

F05: KEY<xx> DOES NOT EXIST ON <digtyp>.

F06: ^tln^ INDIVIDUAL KEY FUNCTION ASSIGNMENT NOT PERMITTED FOR
 <xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>

F06: INDIVIDUAL KEY FUNCTION ASSIGNMENT NOT PERMITTED FOR ^digtyp^.

F07: THE KEY FUNCTION ^code^ IS NOT ALLOWED FOR ^digtyp^.

F08: MORE THAN ONE <funct> KEY ASSIGNED.

F09: <place>: MORE THAN <number> <funct> KEYS ASSIGNED.

F09: AT DIGTYP ^digtyp^ MORE THAN ^number^ ^funct^ KEYS ASSIGNED.

F09: AT STNO ^tln^^bis^^tln2^ MORE THAN ^number^ ^funct^ KEYS ASSIGNED.

F10: LOWER RANGE LIMIT <stno1> OF PARAMETER STNO IS HIGHER THAN UPPER LIMIT
 <stno2>.

(Example: 900&&799 is wrong, 799&&900 is correct)

F11: STATION <stno> IS NOT CONFIGURED.

is not output if more than one single value entered for STNO

F12: STATION <stno> IS NOT CONFIGURED IN "HOME" NODE.

is not output if more than one single value entered for STNO

F13: STATION ^tln^ DOES NOT HAVE TERMINAL TYPE SPECIFIED.

F14: AT STATION <stno> THE ADD-ON TERMINAL <number> IS NOT CONFIGURED.

F15: STATION <stno>: <funct> IS ACTIVE.

F16: <funct> KEY OF STATION <stno> CANNOT BE RE-ALLOCATED, SINCE
 NEW MESSAGES STILL EXIST IN THE USER'S MAILBOX.

F18: STNO <stno> IS INVALID.

F19: STNO <stno> ONLY PERMITTED AS SINGLE VALUE.

F22: STN <stn> IS NOT OPTISET.

F23: NO FREE DESTINATION MEMORY FOR DSS/NAME KEYS AT STN <stn>.

F24: THE KEY ^zahl^ FOR A ^digtyp^ MAY NOT BE CHANGED.

F25: FOR STATION <stn> WITH COM-MANAGER THE ADD-ON TERMINALS 3 AND 4
 ARE NOT AVAILABLE.

F26: FOR <digtyp>, NOT MORE THAN <n> <funct> FUNCTION ALLOWED.

F27: <(FOR DIGTYP=<digtyp>/STN <tln> WITH DIGTYP=<digtyp>,)> STD > <snu> IS NOT
 ALLOWED.

F28: FOR STN <stno> THE FUNCTION LINE ON KEY <n> CANNOT BE
 RE-ALLOCATED, SINCE IT IS USED AS PRIMELINE RESP. SECONDARYLINE.
 (DISP-KCSU:STNO=<stno>;)

F29: PATTERN SEARCH CAN ONLY BE SPECIFIED FOR DIGTYP=STDDEV.

F29 SERVICE INFO CAN ONLY BE SPECIFIED FOR DIGTYP=STDDEV.
 INFO:

F30: THE KEY FUNCTION <funct> IS NOT ALLOWED FOR EXECUTIVE TEAMMEMBER.

TAPRO - Key Programming

Error Messages and Advisories

F32: TEAMMEMBER <tl> IS A SIGNED OFF KEYSSET. CHANGE NOT ALLOWED.

F33: THE KEY <N> WITH FUNCTION <funct> FOR A KEYSSET TEAMMEMBER <stno> MAY NOT BE CHANGED.

F34: THE KEY FUNCTION <funct> (KEY <N>) FOR STN <stno> HAS WRITE PROTECTION. DELETE DESTINATION ENTRY FIRST WITH AMO ZIELN.

F35: THE KEY FUNCTIONS BUSYLAMP AND DOOROPEN CAN ONLY BE SET ALTERNATIVELY.

F36: THE KEY FUNCTION MBLINE IS ALLOWED WHEN THE FEATURE AND THE NECESSARY PATCHES ARE ACTIVATED.

F37: A CHANGE OF DIGTYP IS ONLY POSSIBLE WHEN SIMULTANEOUS A KEY FUNCTION IS CHANGED.

F38: FOR OPENSTAGE AND DPIP PHONES, POSITION OF FUNCTIONS LOCATED AT 1ST - 8TH KEYS ARE FIXED.

F39: THE KEY FUNCTION ^code^ HAS FIXED POSITION ON THIS PHONES TYPE THEREFORE CAN NOT BE MOVED TO ANOTHER POSITION.

F43: SHIFT KEY IS NOT ALLOWED FOR OPENST15, OPENST30, OST30BLF AND OPTIBLF.

F44: ONLY TWO LINE KEYS ARE ALLOWED WHEN TWINNING IS ACTIVE.

F45: FOR STN ^tl^ THE FUNCTION RNXFER ON KEY ^zahl^ CANNOT BE OVERWRITTEN, SINCE IT IS ASSIGNED IN A CHESE GROUP. (DISP-CHESE:STN,^tl^;)

F46: AD5 CAN ONLY BE CONFIGURED FOR STANDARDS WITH BLF."

F47: THE KEY FUNCTION SHIFT IS NOT ALLOWED ON BLF ADDON.

F48: FOR DPIP55 PHONES, POSITION OF FUNCTIONS LOCATED AT 1ST - 8TH AND 17TH - 19TH KEYS ARE FIXED.

F49: THE KEY FUNCTION SNR/LNR HAS FIXED POSITION ON THIS PHONES TYPE THEREFORE IT CAN NOT BE ADDED.

F50: FOR CP400/ CP600/ CP700 PHONES, POSITION OF FUNCTIONS LOCATED AT 1ST - 8TH AND 17TH - 24TH KEYS ARE FIXED.

F51: STN @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ IS UFIP.

188.4.2 Advisories

H01: NO ENTRY FOR SPECIFIED PARAMETERS.

H02: AT STNO <place>: <funct> KEY DELETED FROM FORMER POSITION.

H02: <funct> KEY DELETED FROM FORMER POSITION.

H03: FUNCTION KEY LAYOUT CHANGED FOR STATION <stno>.

H04: STANDARD <std> CHANGED FOR <digtyp>.

H05: STANDARD <std> LOADED AT STATION <stno>.

H06: STN <stn> ACTIVATED.

H07: THE STANDARD STDNO <std> WAS ALLOCATED DIGTYP <digtyp>. THIS DIGTYP WAS OVERWRITTEN WITH DIGTYP <digtyp>.

(AT DIGTYPES OF OPTIT3, OPTIT8, OPTIT12 AND OPTIT19 THE STNO MUST NOT BE IDENTICAL !)

H08: SERVICE INFO CAN NOT BE SPECIFIED FOR STATIONS. PARAMETER INFO IGNORED.

H09: THE SERVICE INFO: " " MAY BE UPDATED. (CHANGE-TAPRO:STD=<std>,DIGTYP=<digtyp>,INFO=)

H10: No MATCHING PATTERN FOUND IN INFO FIELDS.

H11: DISPLAY WITH FORMAT=S FOR DIGTYP=STDDEV NOT POSSIBLE.

H12: MIN 1 KEY FUNCTION <funct> HAS TO BE EXIST FOR SECRETARY TEAMMEMBER.

H13: STN <tln> IS <A/NO> TEAMMEMBER (AMO SDAT, TEAMEXEC/TEAMSECR). THE ADDITIONAL DSSNA MEMORY FOR KEY FUNCTION <funct> (KEY <N>) WAS DELETED.

H14: STN <tln> IS A TEAMMEMBER (AMO SDAT, TEAMEXEC/TEAMSECR). THE ADDITIONAL DSSNA MEMORY FOR KEY FUNCTION <funct> (KEY <N>) WAS ADDED.

H15: THE KEY FUNCTIONS BUSYLAMP AND DOOROPEN CAN ONLY BE SET ALTERNATIVELY. AT STNO <tln>: <funct> KEY DELETED.

H16: <tln> DEFAULT VALUE SLKTYPE=SLKSTNO HAS BEEN SET FOR ANY PUS RESP. RNGXFER KEY. AND CAN BE MODIFIED BY CHANGE-CHESE:GRNO=<number>,TYPE=EXECCLK,... RESP.

H17: <tln><bis><tln2>DEFAULT VALUE SLKTYPE=SLKSTNO HAS BEEN SET FOR ANY PUS AND RNGXFER KEY.AND CAN BE MODIFIED BY CHANGE-CHESE:GRNO=^zahl^,TYPE=SECRSLK,..."

H18: FIXED FUNCTIONS CANNOT BE OVERWRITTEN AND FUNCTIONS ON FIXED KEYS CANNOT BE ASSIGNED TO ANOTHER KEY. CHANGES WHICH CONTRADICT THESE RULES COULD NOT BE PERFORMED.

H19: STD OF STATION ^tln^ IS CHANGED FROM NON-OPENSTAGE/DPIP, DPCP TO OPENSTAGE/DPIP/DPCP KEY LAYOUT. SO, THE INVALID NAME ENTRIES (DEFINED AT LEVEL 3,4 AND/OR ADD-ON 3,4) IN AMO-ZIEL ARE DELETED.

H20: CHANGE OF KEY 17 AND 18 ONLY TAKES PLACE IF PLUGGED ADD-ON IS LOW-COST ADD-ON.

H21: STD OF STATION ^tln^ IS CHANGED FROM OPENSTAGE/DPIP/DPCP TO NON-OPENSTAGE/DPIP KEY LAYOUT.

H22: SHIFT-KEY HAS NO FUNCTION IN CASE A LOW-COST ADD-ON IS USED

H23: THE ENTERED KEY MODULE IS NOT SUPPORTED FOR THIS LAYOUT TYPE, MODIFIED KEY WILL NOT BE FUNCTIONAL.

Variables in the Error Messages and Advisories

<place>	: AT STNO <stno> nothing
<funct>	: one of the key function names will be output at this point. Refer to the description of the KYxx parameters.
<stno>	: one or more station numbers, or a station number range.
<x>	: a given number
<devtyp>	: TCLOG-SUBSCRIBER (AMO SSCSU)

188.4.3 Use of the Output Messages for each AMO Action

CHANGE	:	F02,	F03,	F04,	F05,	F08,	F09,	F10,										
		F11,	F12,	F14,	F15,	F16,	F18,	F19,	F22,									
		F25,	F26,	F27,	F28,	F29,	F30,	F32,	F33,									
		F34,	F35,	F36,	F37													
		H01,	H02,	H03,	H04,	H05,	H07,	H08,	H09,	H12,	H13							
		H14,	H15,	H16														
DISPLAY	:	H01	,	H10,	H11,	H17,	F13,	F27,	F29									

188.5 Keys and devices

188.5.1 Keys position to physical address for configuration and diagnosis purpose

Correspondence between the phone key-boards and Physical Key Address

Phone type: optiset

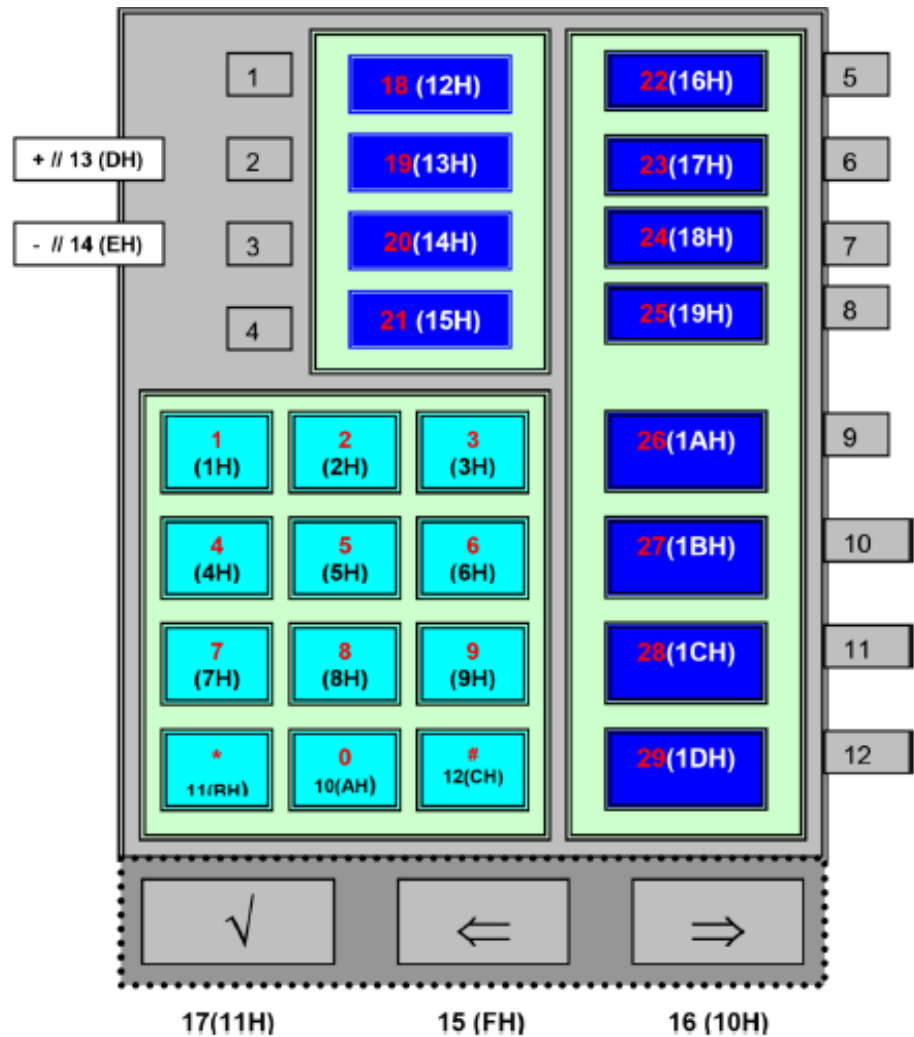


Figure 27 Correspondence between the phone key-boards and Physical Key Address for optiset phone type

Additional button (from 13 to 19):

Key No.	Key Address
13 Key	30 (1EH)
14 Key	31 (1FH)
15 Key	32 (20H)
16 Key	33 (21H)
17 Key	34 (22H)
18 Key	35 (23H)
19 Key	36 (24H)

Figure 28 Additional button

TAPRO - Key Programming

Keys and devices

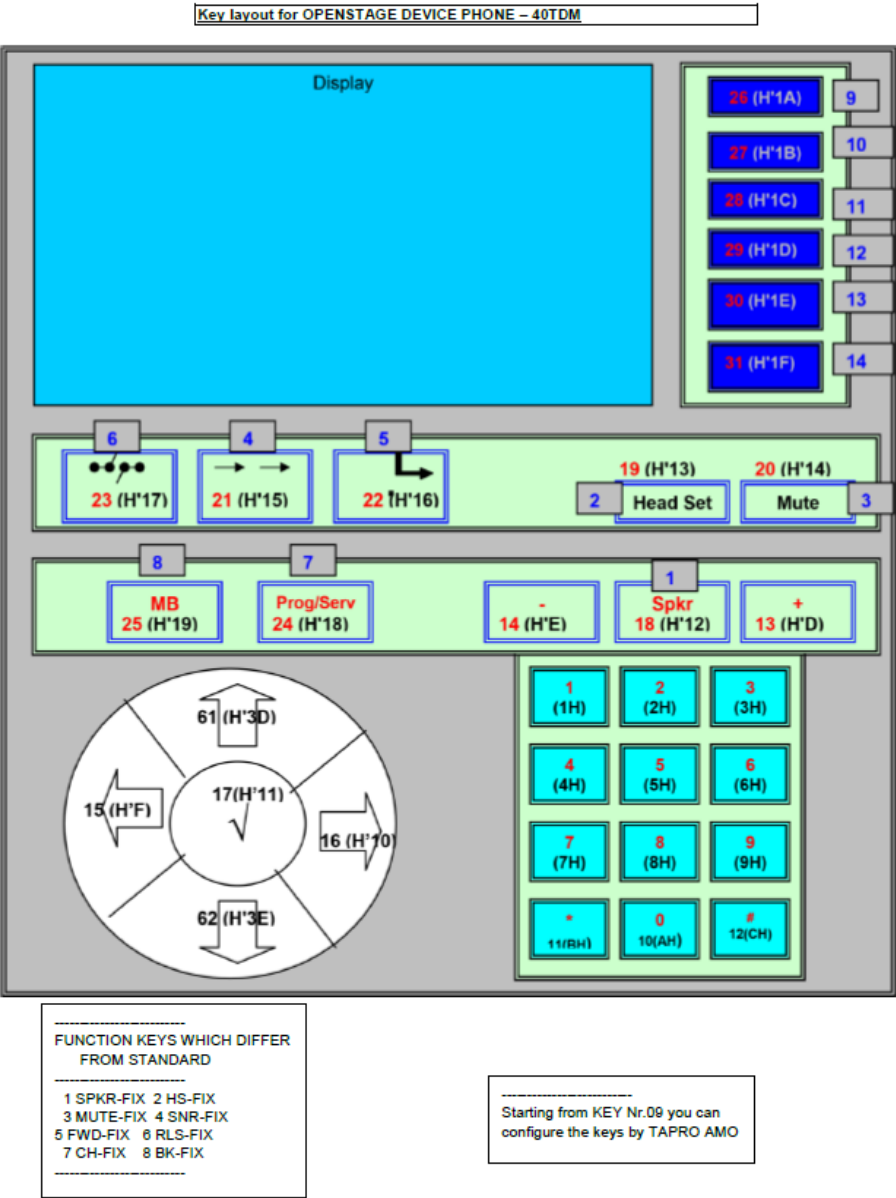


Figure 29 Key layout for OpenStage Device Phone 40TDM

	Alrt 23h			
	FK1 1Ah	FK2 1Bh	FK3 1Ch	
	Mnu 18h		Msg 19h	
	1 01h	2 02h	3 03h	Bck 0Fh
	4 04h	5 05h	6 06h	Up 3Dh
	7 07h	8 08h	9 09h	OK 11h
	* 0Bh	0 0Ah	# 0Ch	Dwn 3Eh
	- 0Eh	+ 0Dh	Mute 14h	Spk 12h

X
xx h

Function of a key without LED indication
hex value for KB_KEY message

X
xx h

Function of a key with LED indication
hex value for LED and key code

Figure 30 Physical Key and LED codes for DeskPhone CP100 phone

TAPRO - Key Programming

Keys and devices

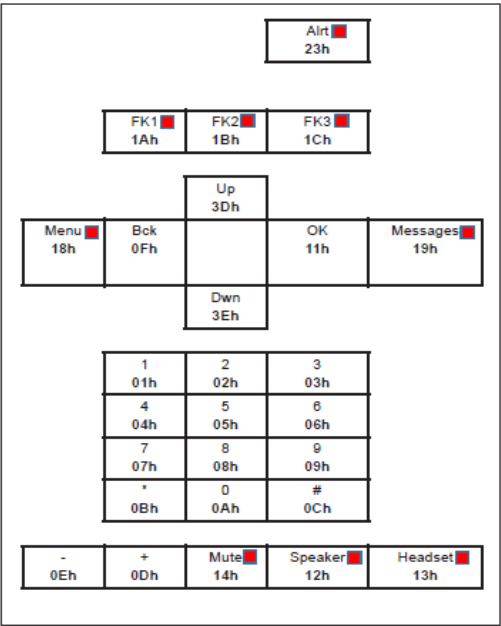


Figure 31 Key / LED-Map of the DeskPhone CP110 phone

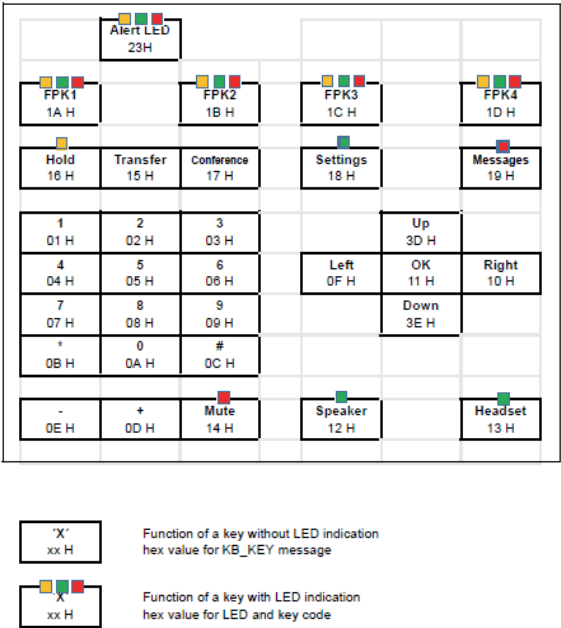


Figure 32 Key / LED-Map of the DeskPhone CP200 phone

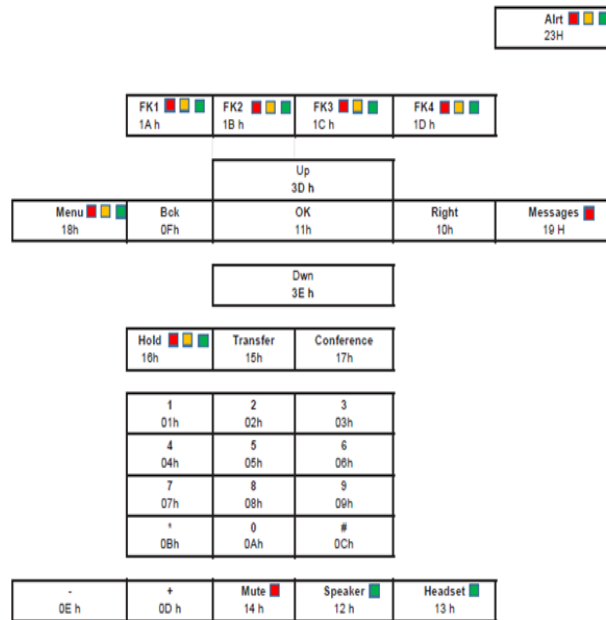


Figure 33 Key / LED-Map of the DeskPhone CP210 phone

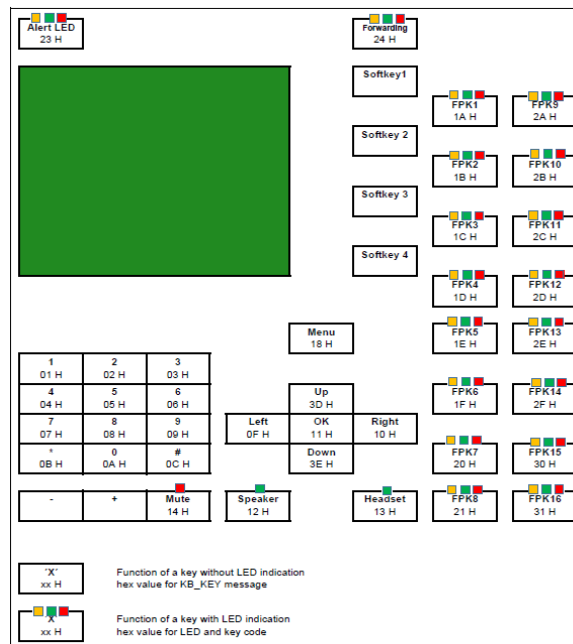


Figure 34 Key / LED-Map of the DeskPhone CP400 phone

TAPRO - Key Programming

Keys and devices

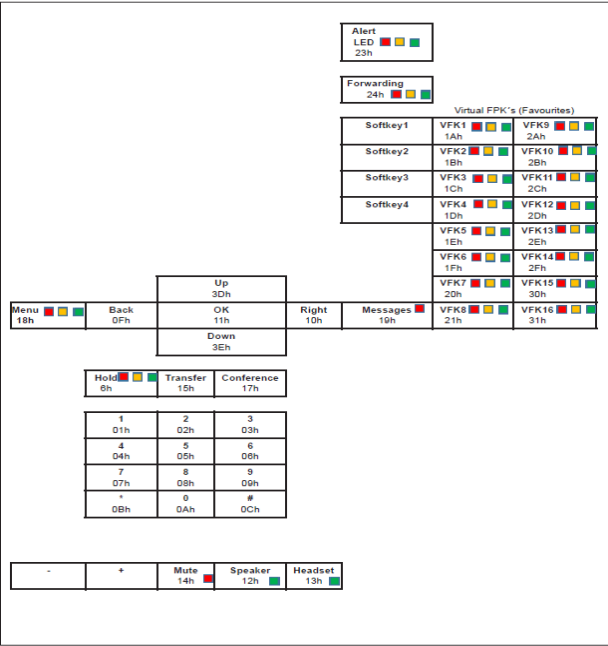


Figure 35 Key / LED-Map of the DeskPhone CP410 phone



Shift 4L = Dynamically assigned function/ shift key up to 4 level
FKxx = functional key number/led number defined by AMO TAPRO
phy xx= physical key address (shown in RMX trace)

Figure 36 Open Scape Desk Phone CP600

Additional information for functional key number:

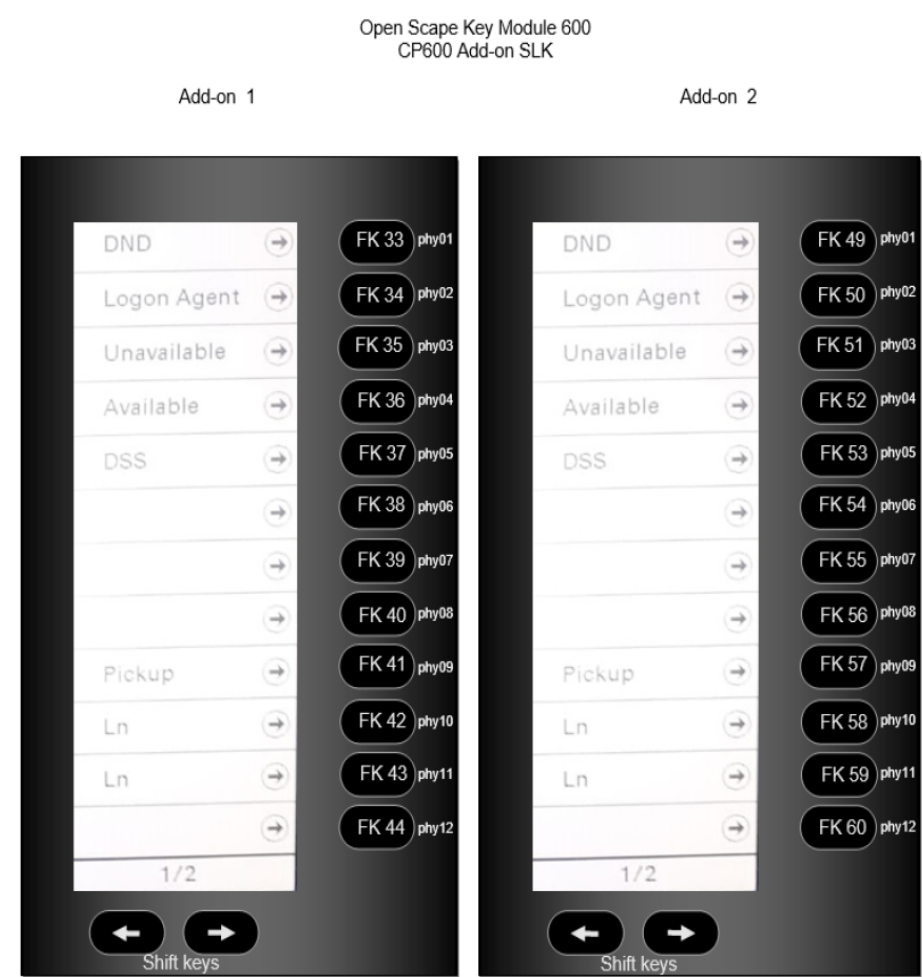
Functional key number	Physical key address
FK9	phy26
FK10	phy27
FK11	phy28
FK12	phy29
FK13	phy30
FK14	phy31
FK15	phy32

Table 13 Functional key numbers and corresponding physical key address for CP400/CP410/CP600/CP700/CP710

TAPRO - Key Programming
Keys and devices

FK16	phy33
FK25	phy42
FK26	phy43
FK27	phy44
FK28	phy45
FK29	phy46
FK30	phy47
FK31	phy48
FK32	phy49

Table 13 Functional key numbers and corresponding physical key address for CP400/CP410/CP600/CP700/CP710



Additional information for functional key number on Add-on 1:

Functional key number	Physical key address
FK33	phy01
FK34	phy02
FK35	phy03
FK36	phy04
FK37	phy05
FK38	phy06
FK39	phy07
FK40	phy08
FK41	phy09
FK42	phy10
FK43	phy11
FK44	phy12

Table 14

Functional key numbers and corresponding physical key address for Add-on 1 (KM600/KM700/KM710)

Additional information for functional key number on Add-on 2:

Functional key number	Physical key address
FK49	phy01
FK50	phy02
FK51	phy03
FK52	phy04
FK53	phy05
FK54	phy06
FK55	phy07
FK56	phy08
FK57	phy09
FK58	phy10
FK59	phy11
FK60	phy12

Table 15

Functional key numbers and corresponding physical key address for Add-on 2 (KM600/KM700/KM710)

TAPRO - Key Programming

Keys and devices

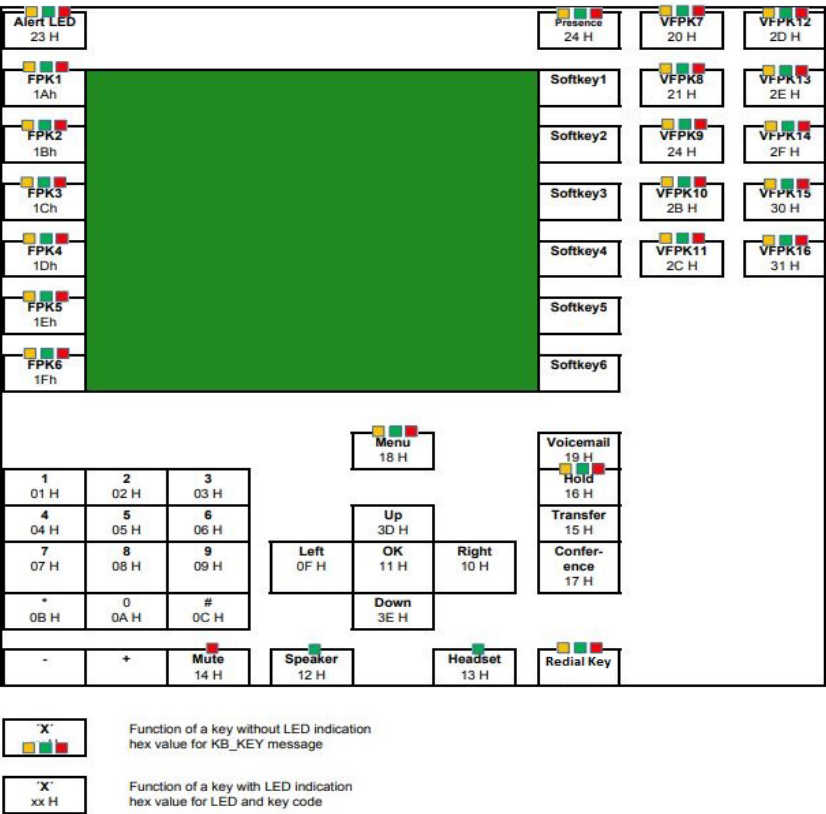


Figure 38 Physical Key and LED codes for DeskPhone CP700 phone

The redial key, presented in the right lower corner, is a programmable key which can be configured by the user/administrator from the WBM of the phone. There are 5 predefined values for this key:

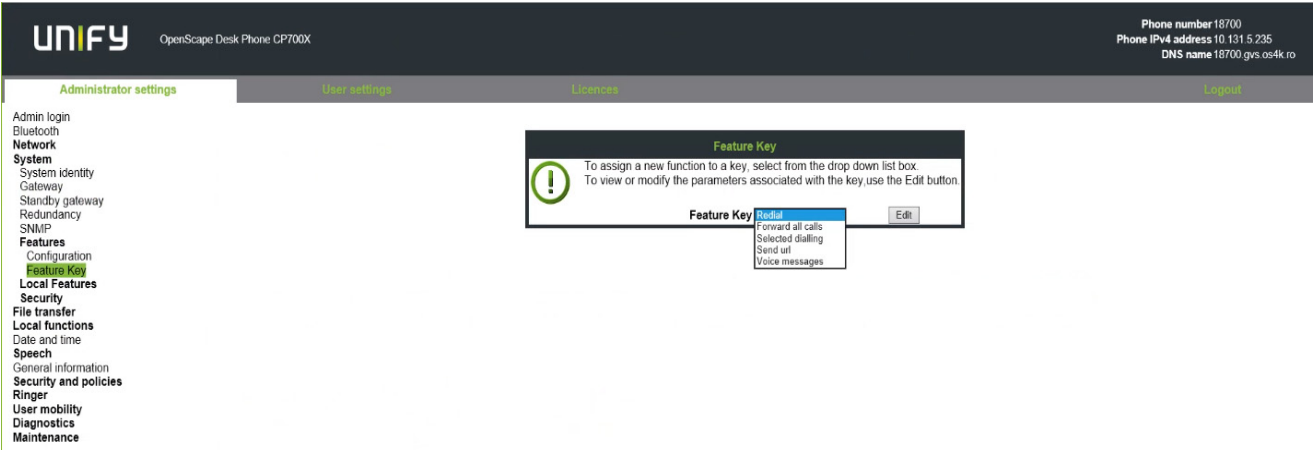


Figure 39 Values for the Redial Key

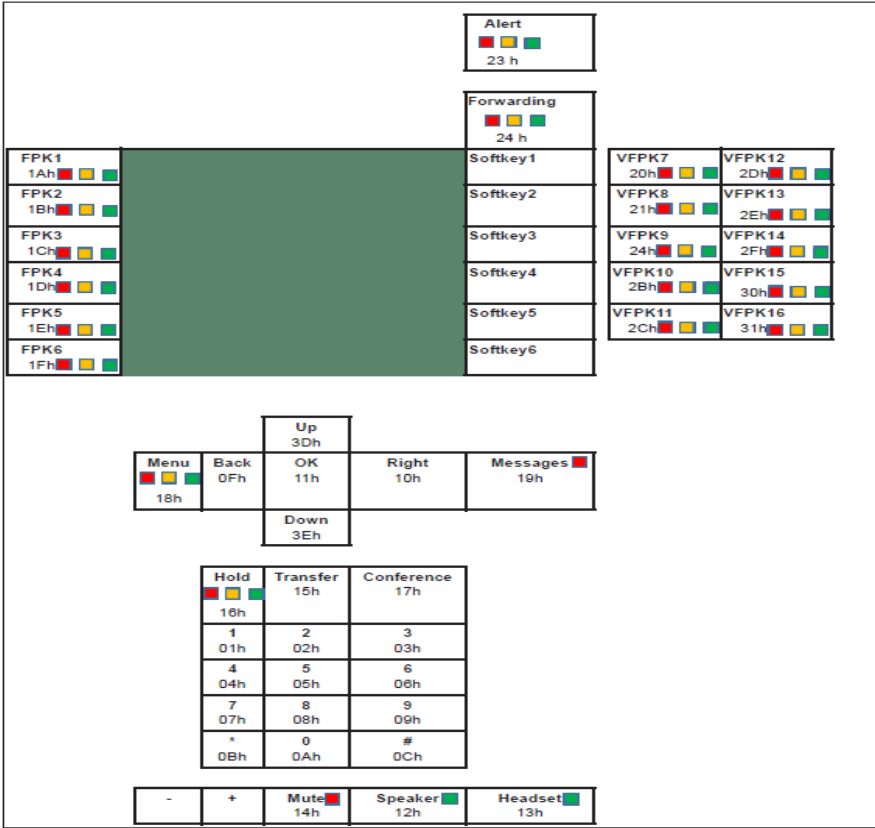


Figure 40 Key / LED-Map of the DeskPhone CP710 phone

LED	key
01H	01H
02H	02H
03H	03H
04H	04H
05H	05H
06H	06H
07H	07H
08H	08H
09H	09H
0AH	0AH
0BH	0BH
0CH	0CH
0DH	0DH
0EH	0EH
0FH	0FH
10H	10H

Figure 41 Physical LED- and Key Codes for Key Module 410

188.5.2 Key layout of the digital voice terminals

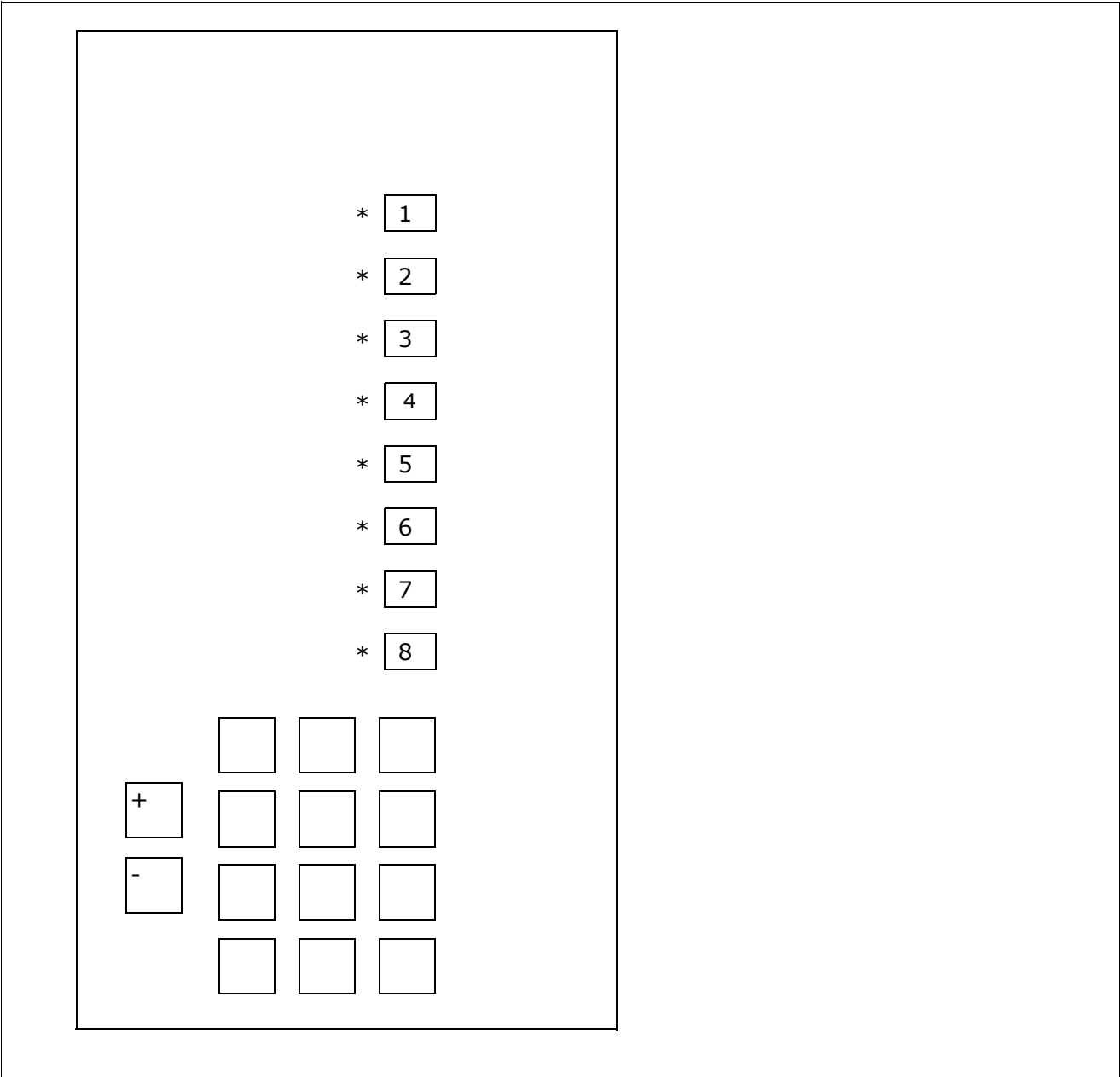


Figure 42 optipoint 500 T8

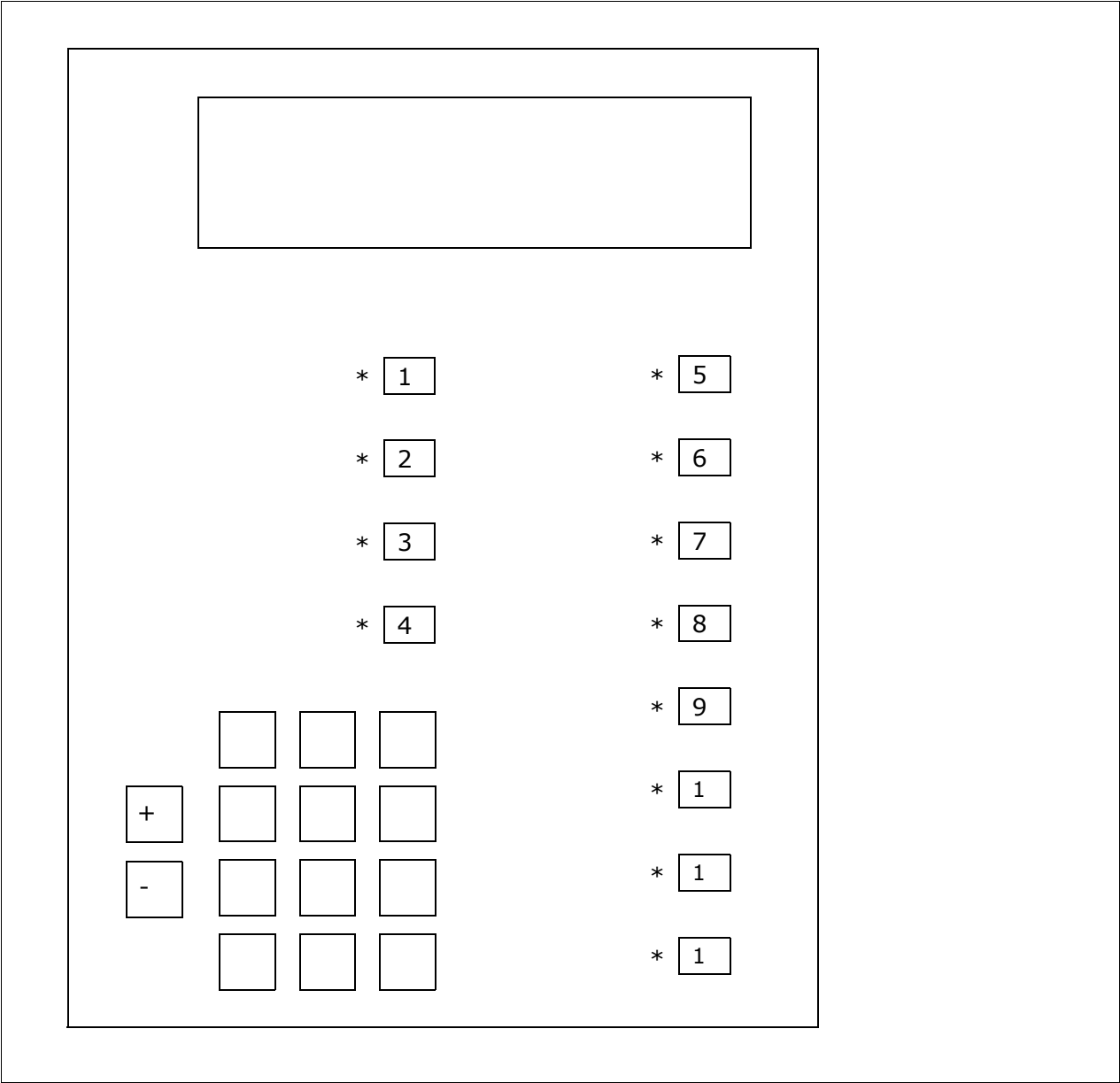


Figure 43 *optipoint 400/500 T12*

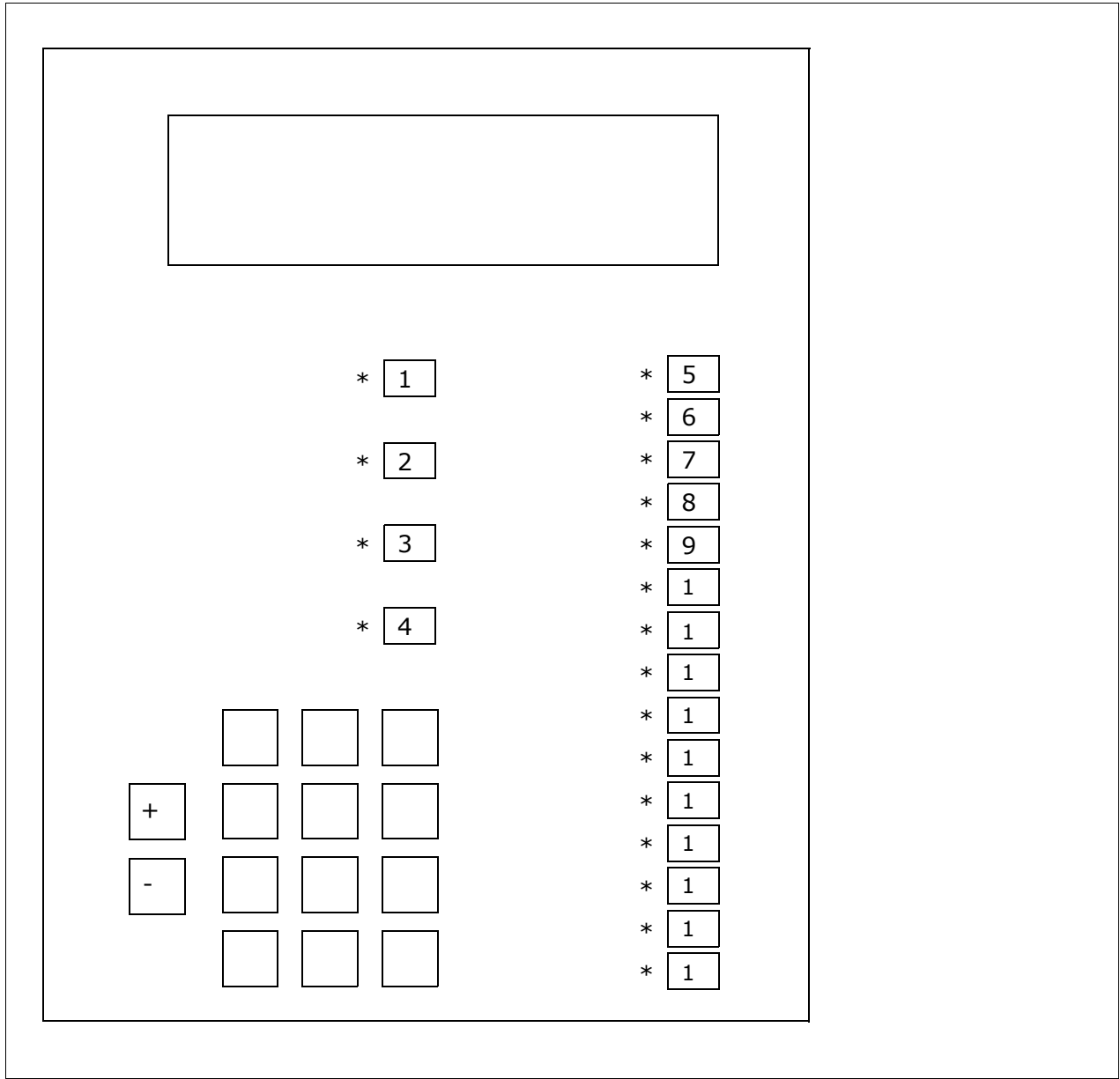


Figure 44 *optipoint 500/600 T19*

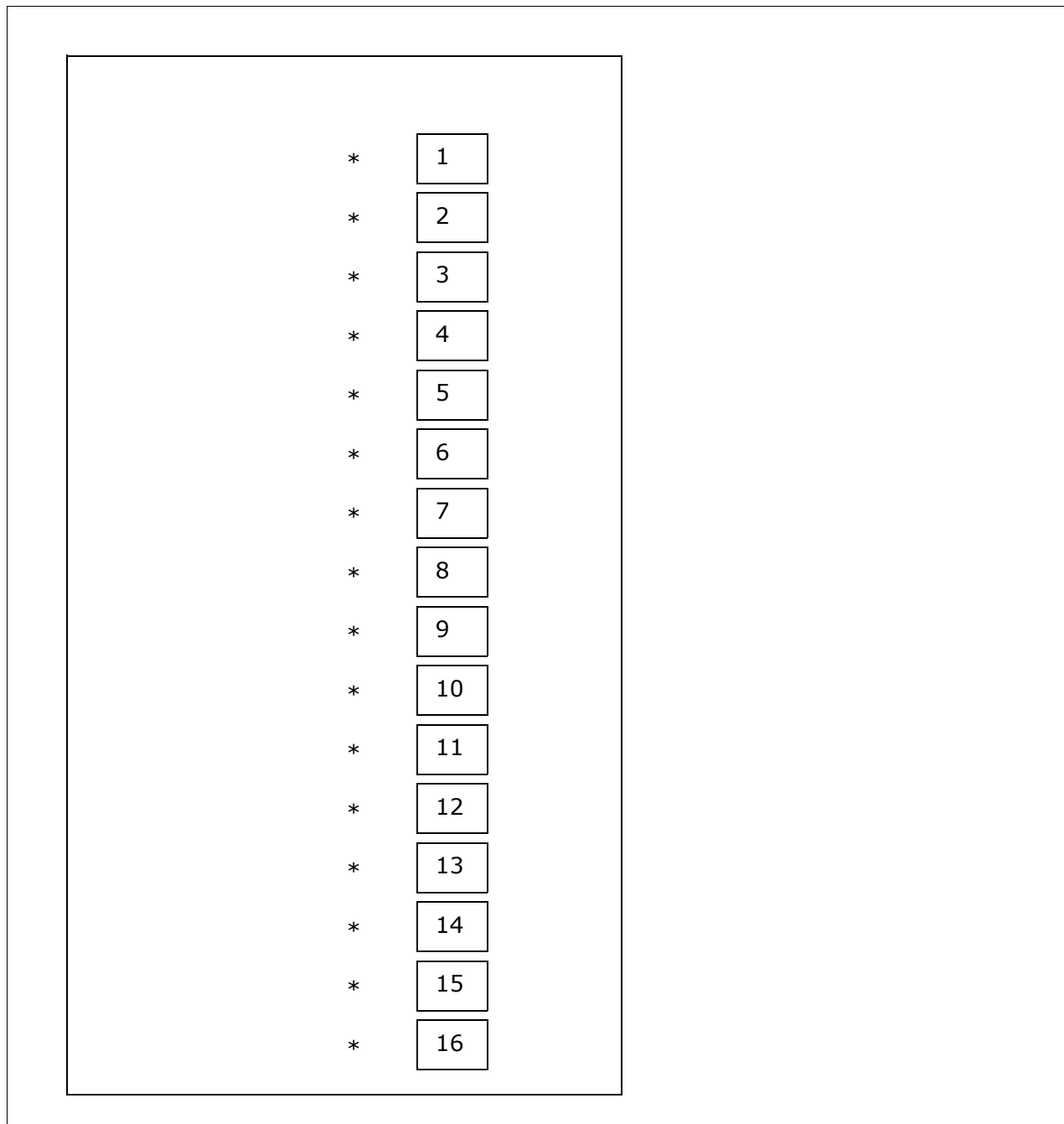


Figure 45 *add-on terminal for optipoint 500/600 with 16 keys*

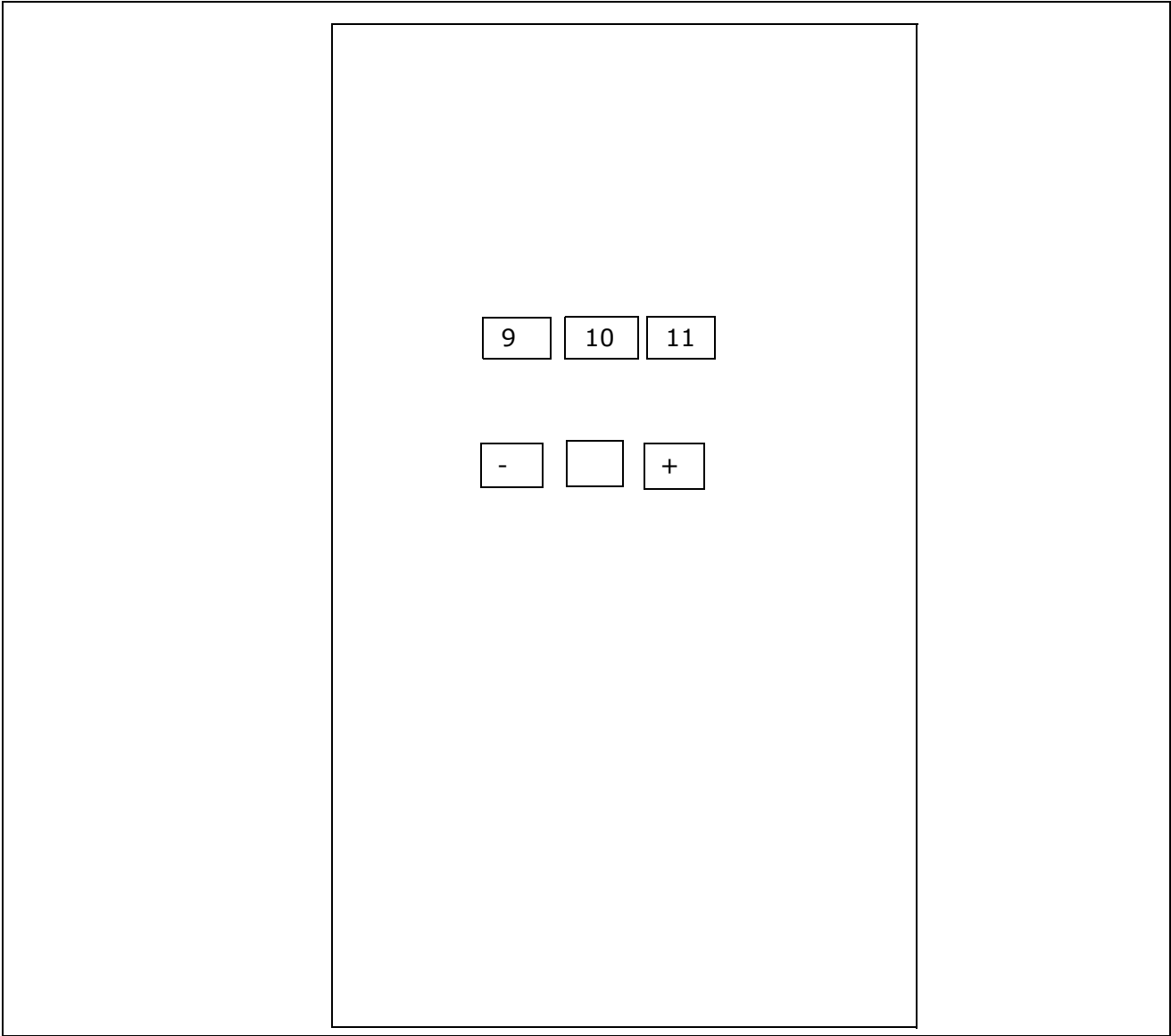


Figure 46 openstage 10

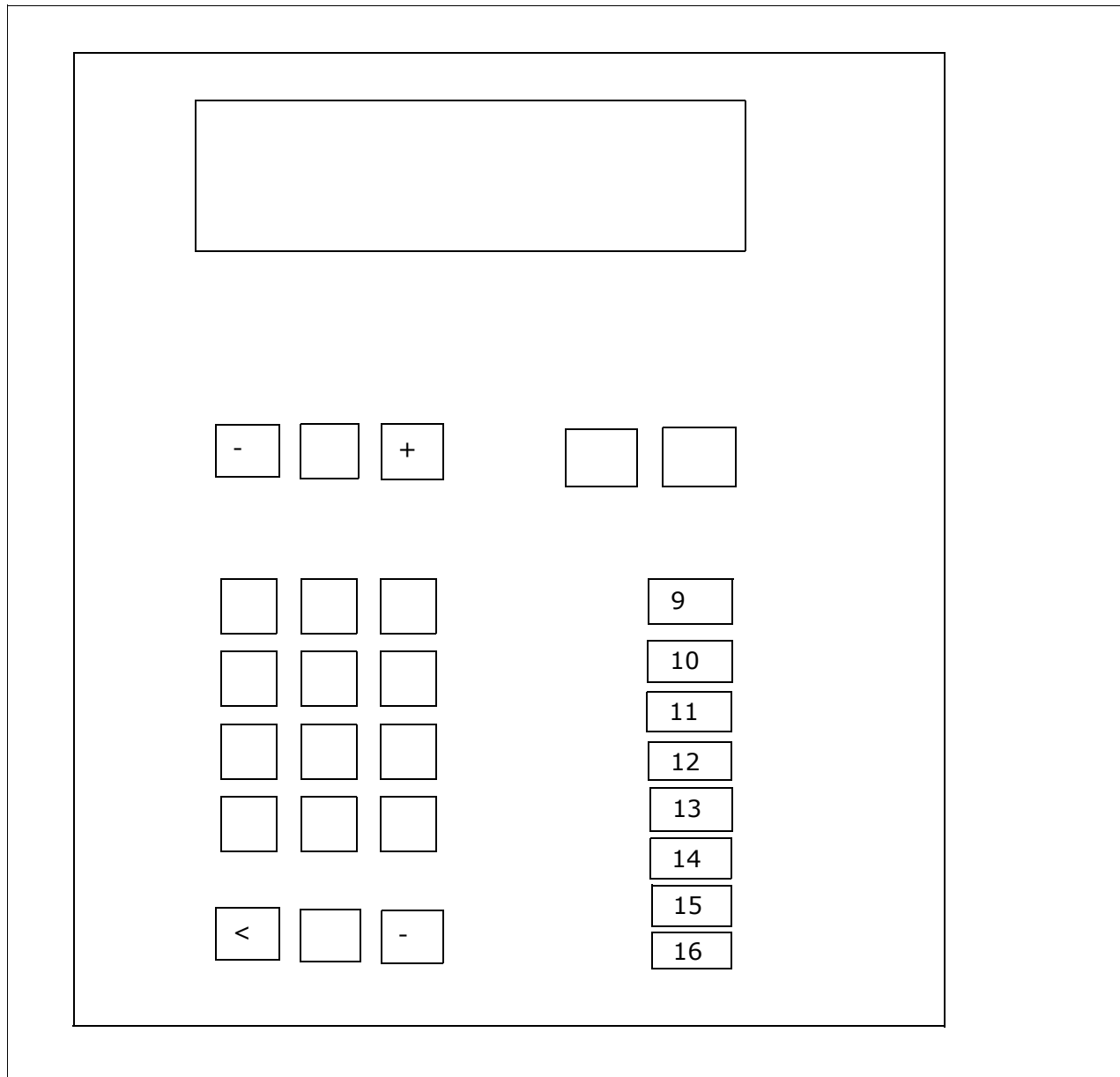


Figure 47 openstage 15

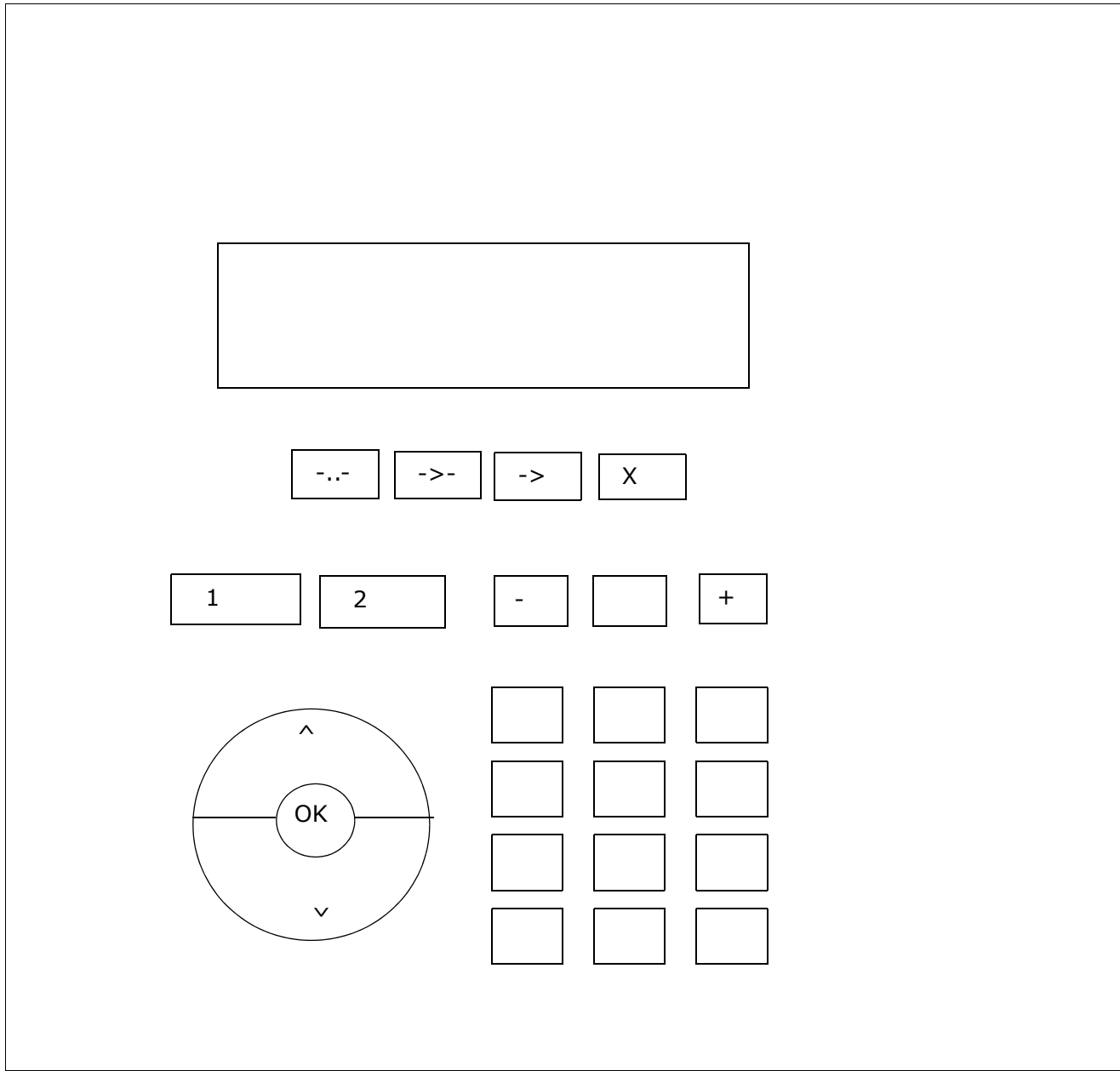


Figure 48 openstage 20

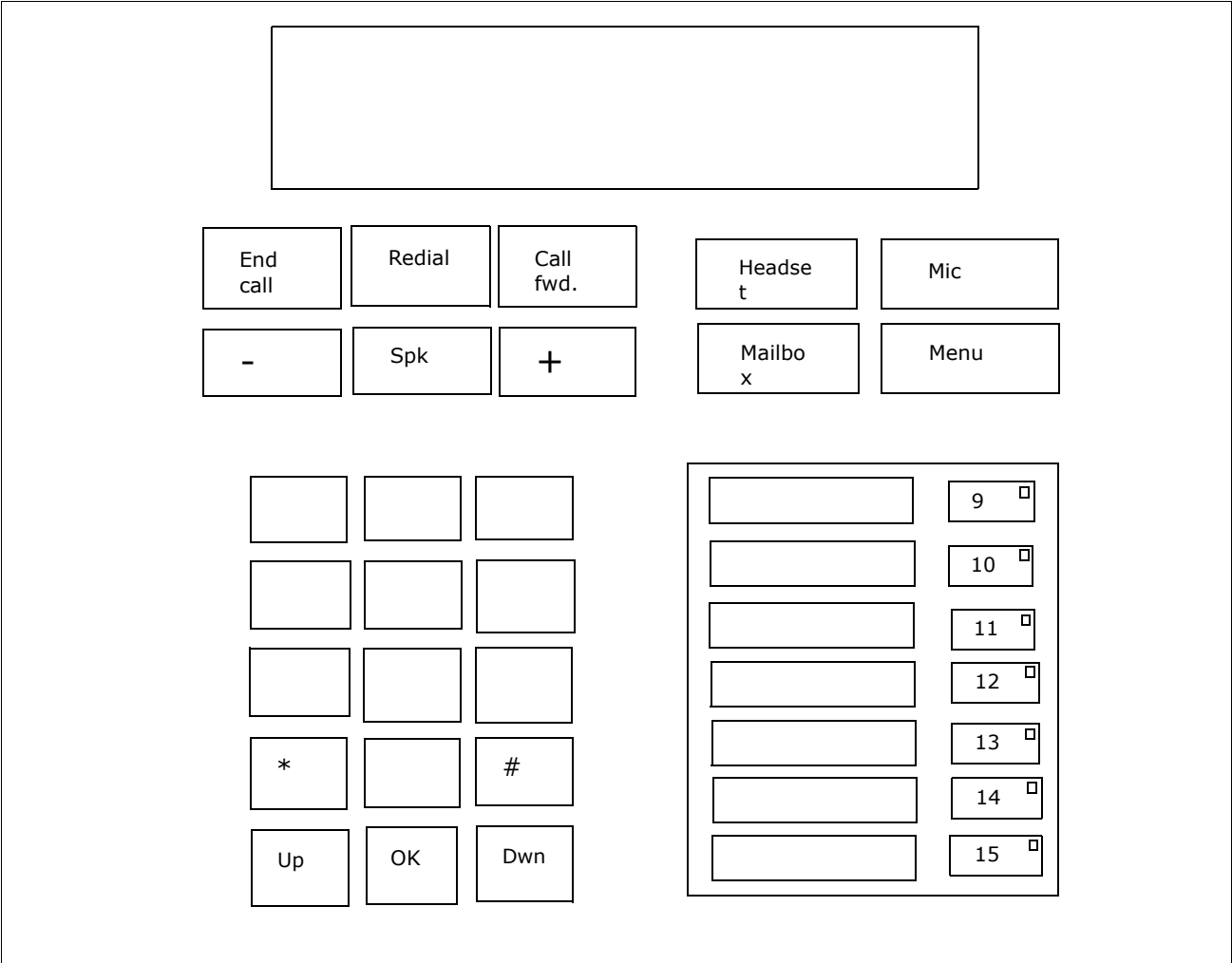


Figure 49 openstage 30

NOTE: The OpenStage Key Module 15 can be attached to the side of the OpenStage 30 phone to provide 18 additional illuminated, programmable keys.

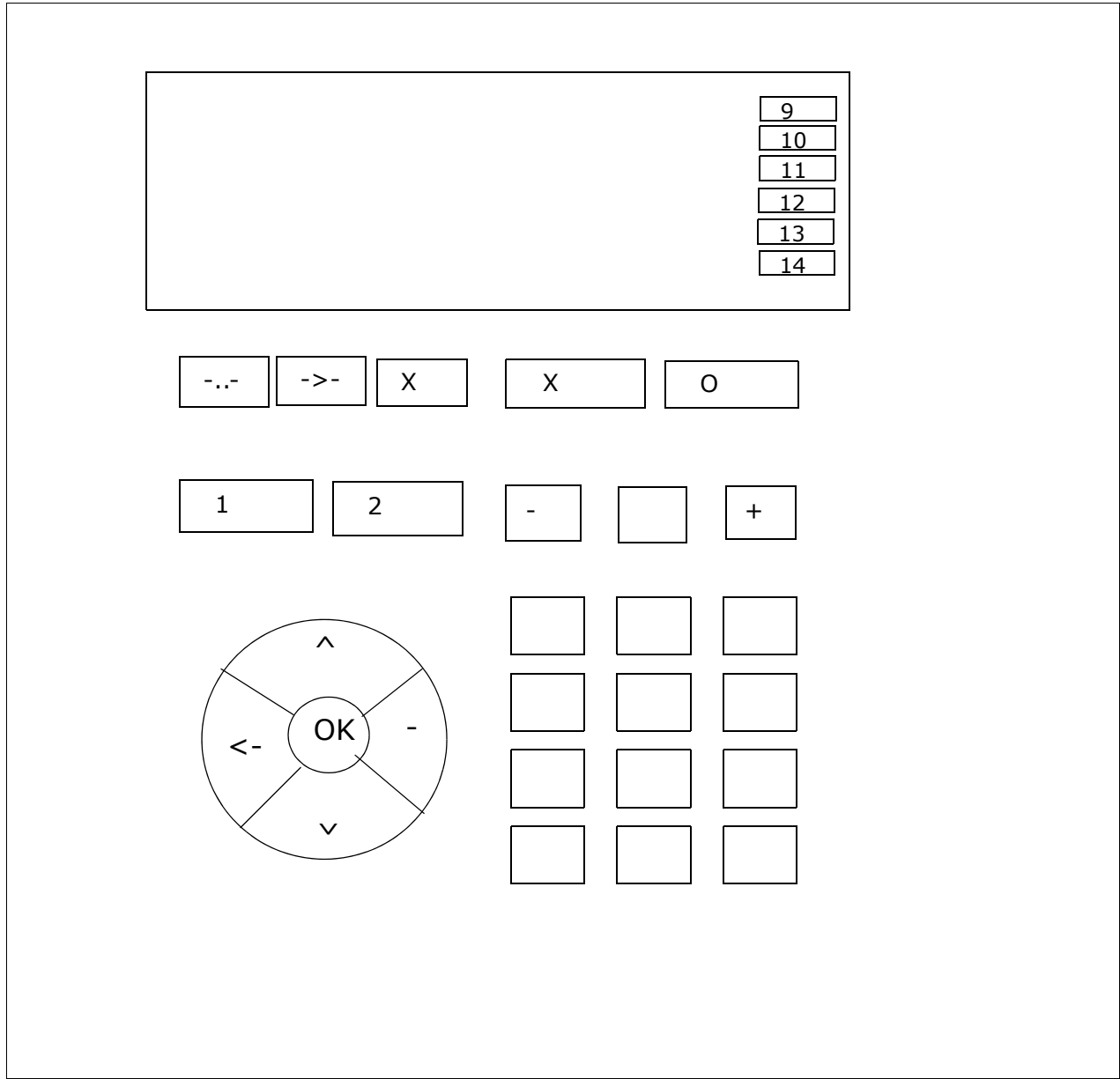


Figure 50 openstage 40

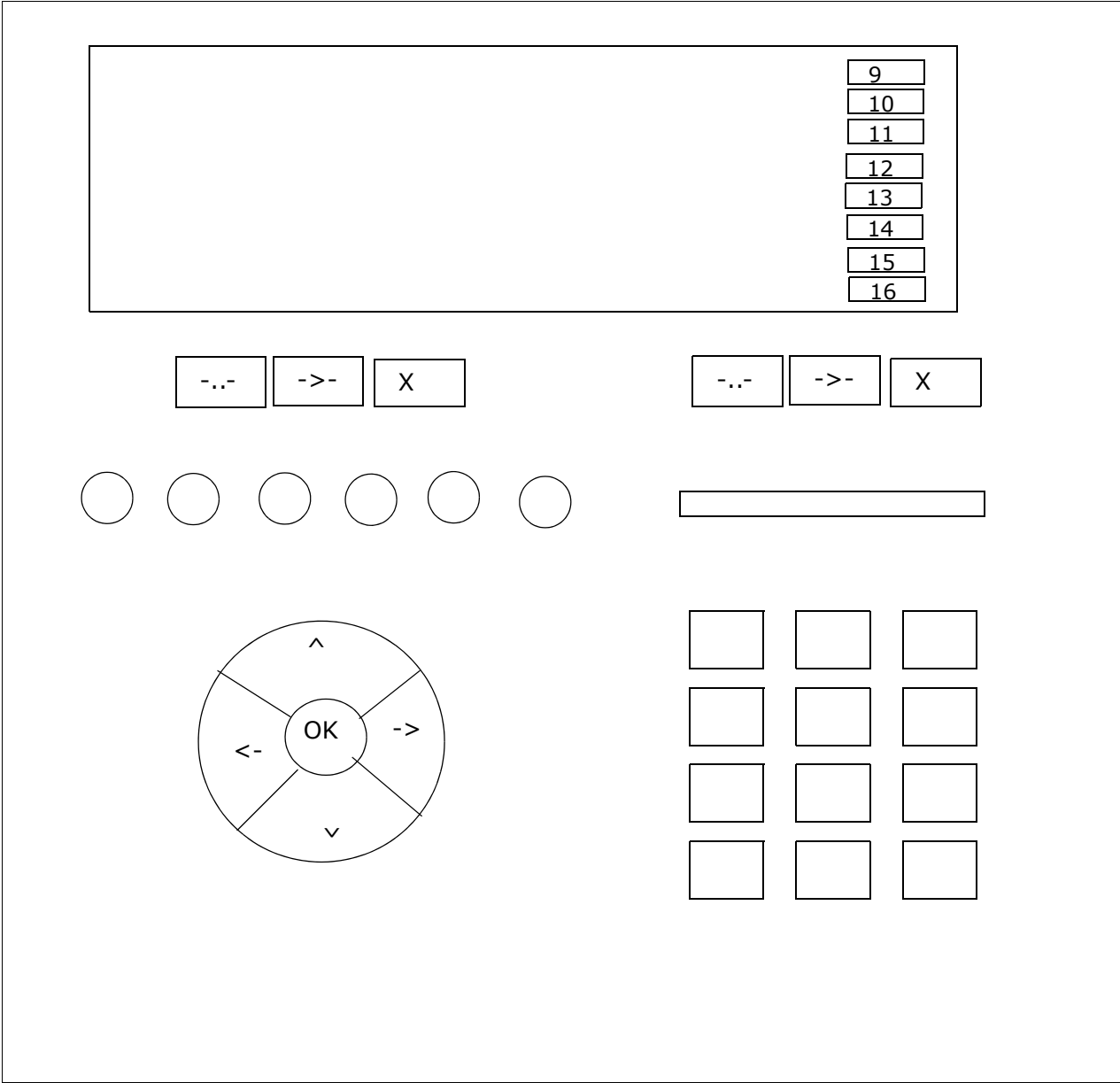


Figure 51 openstage 60

TAPRO - Key Programming
Keys and devices

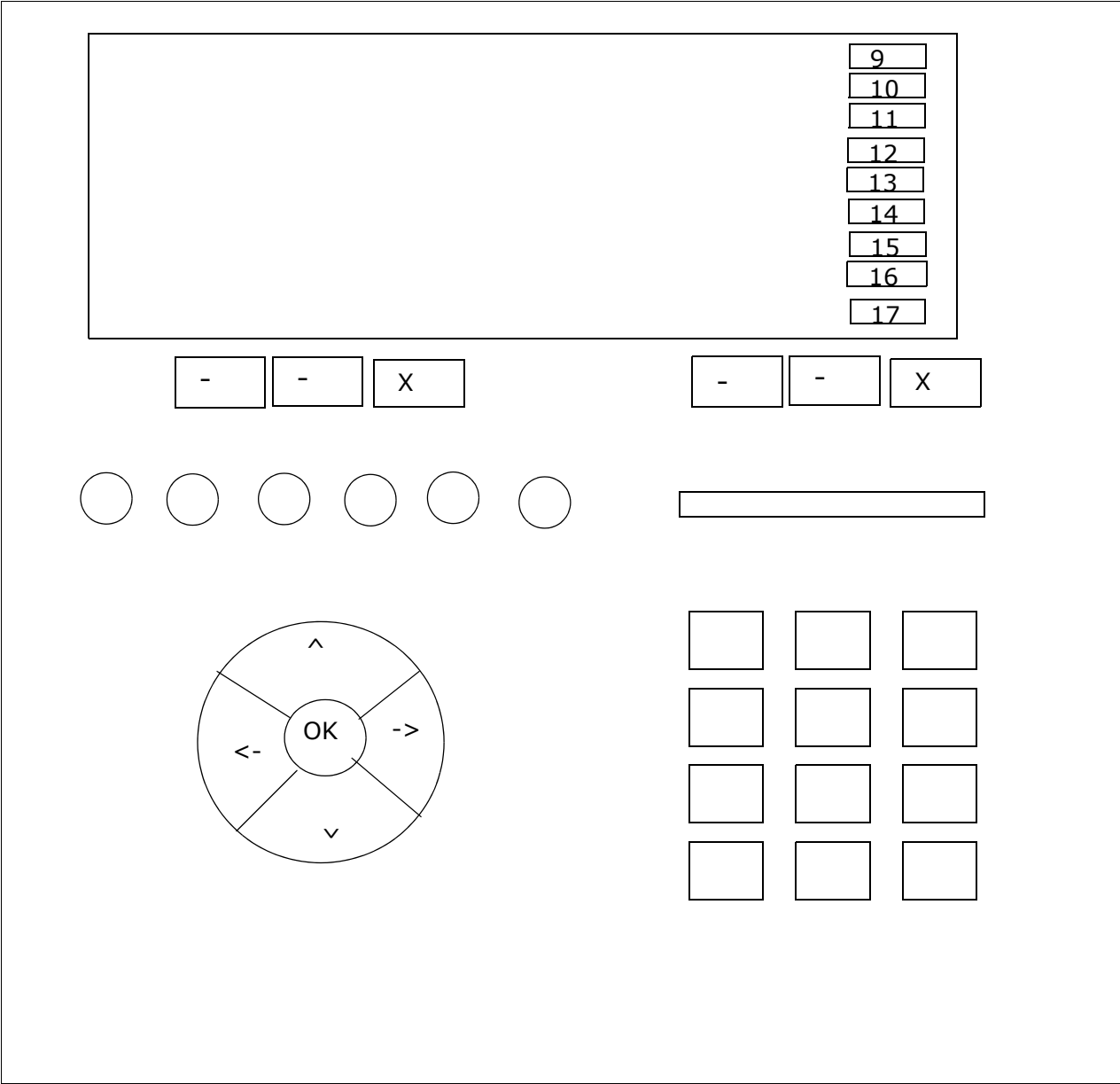
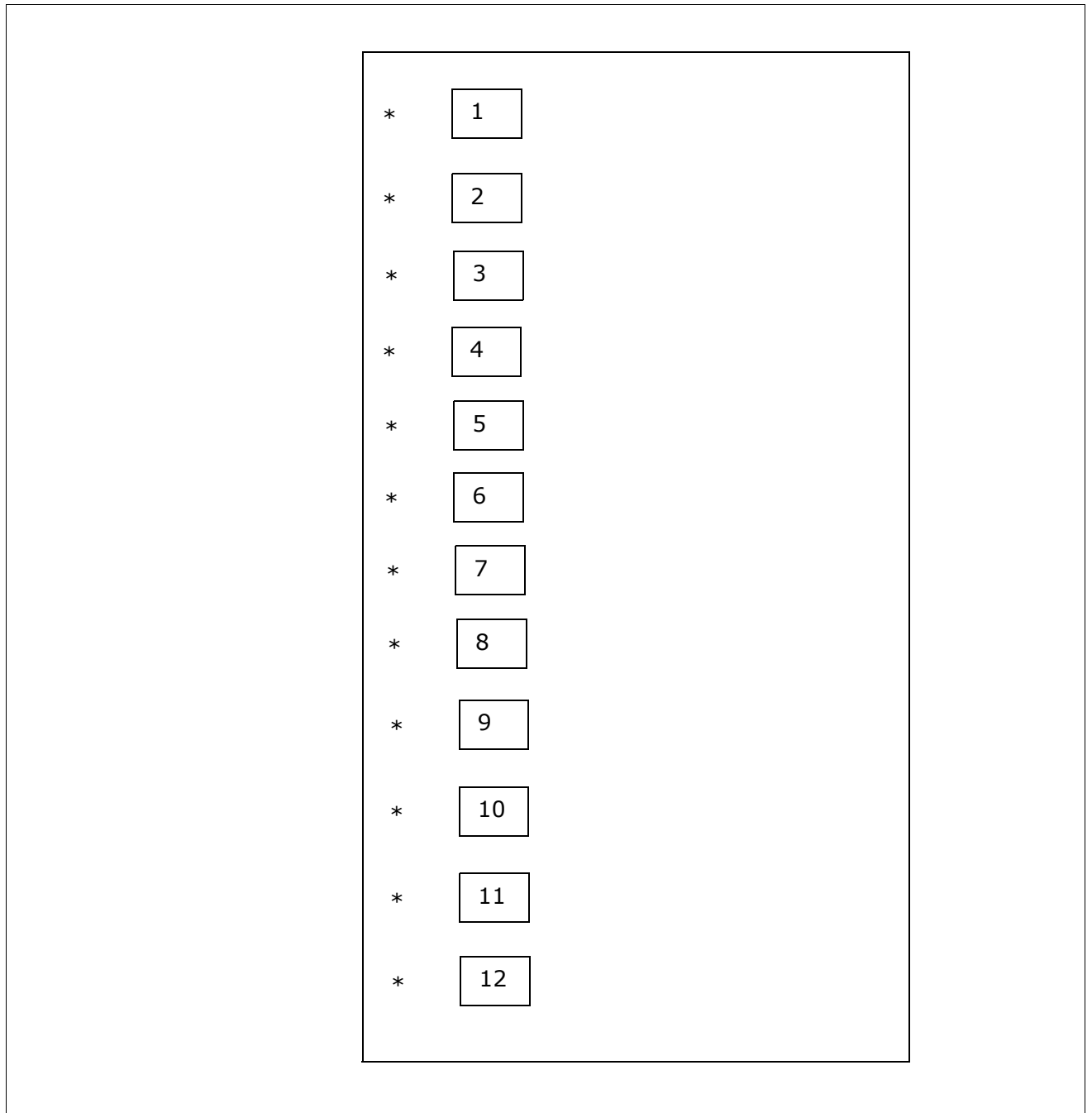


Figure 52 openstage 80

*Figure 53**add-on terminal for openstage 40/60/80 with 12 keys*

TAPRO - Key Programming
Keys and devices

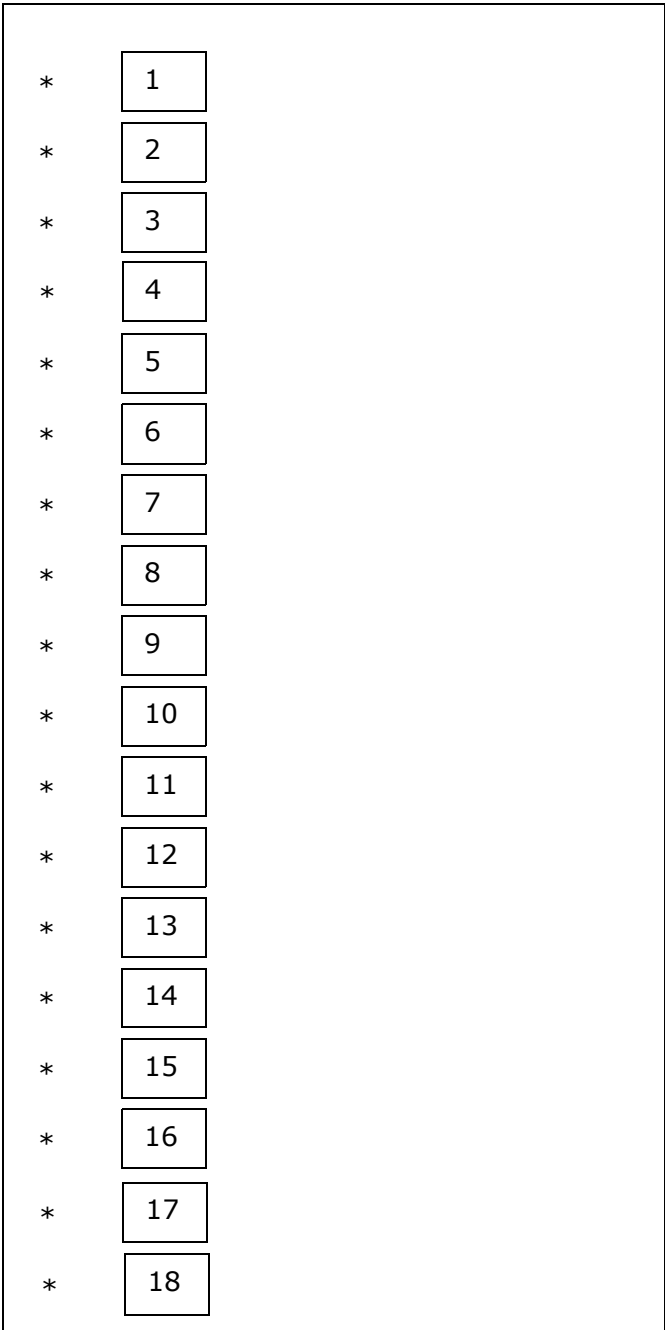


Figure 54 add-on terminal for openstage 15/40 with 18 keys

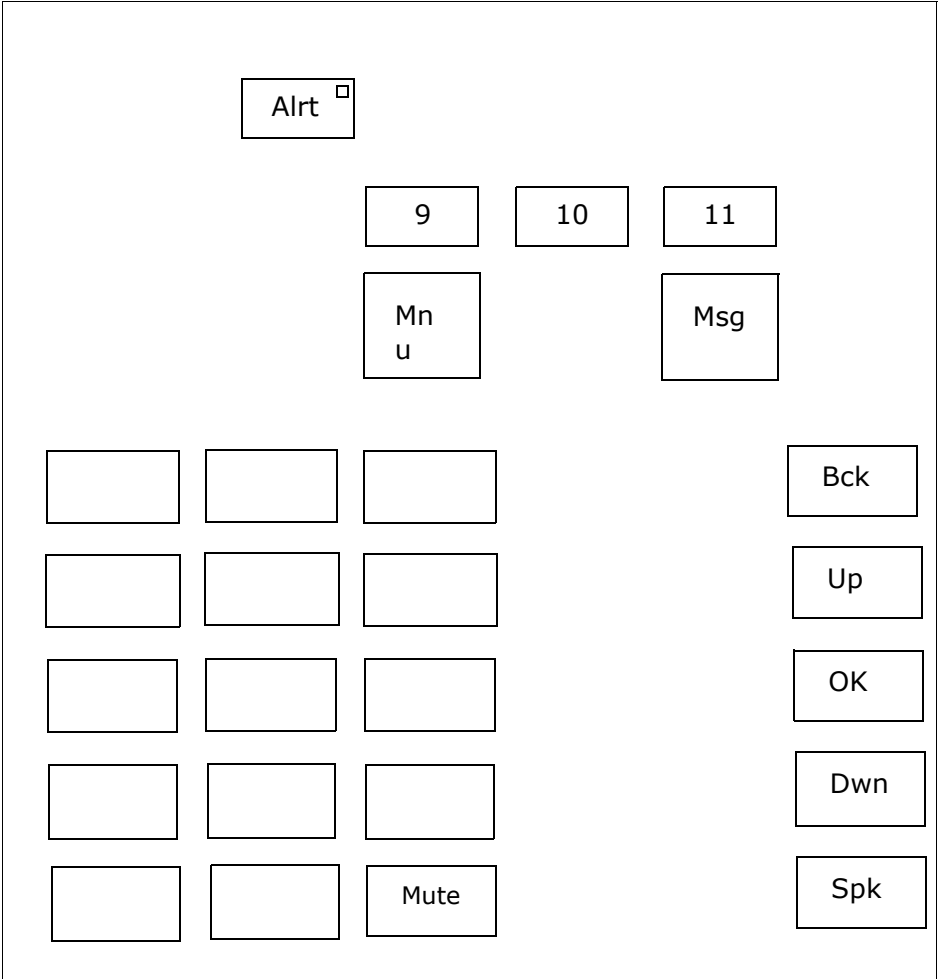


Figure 55 CP100

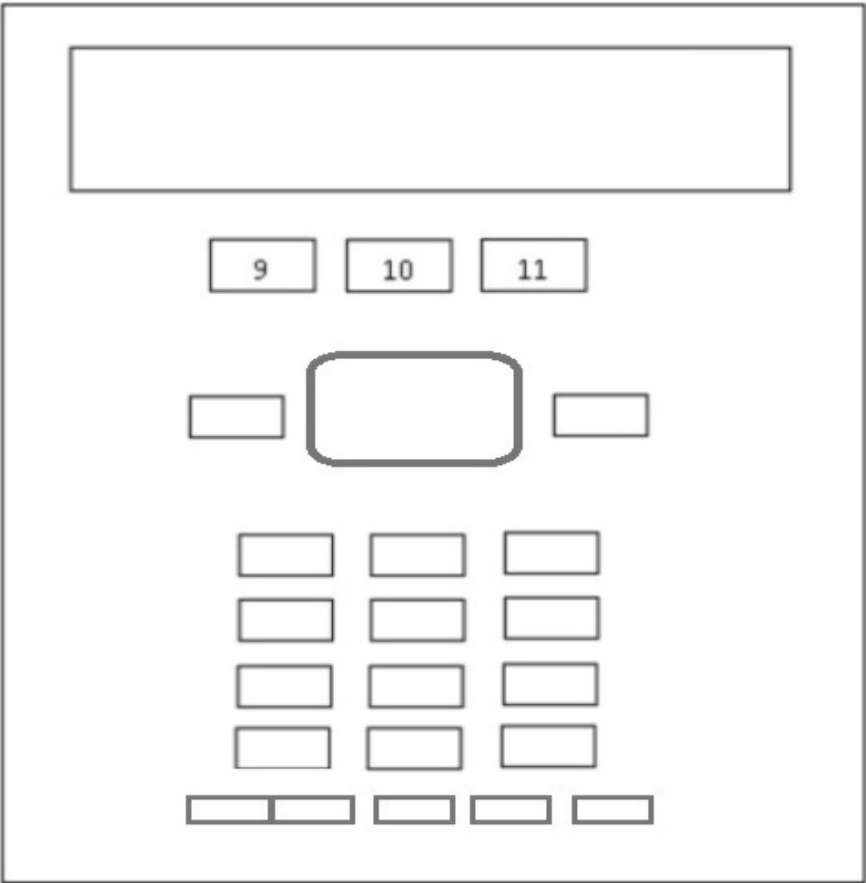


Figure 56 CP110

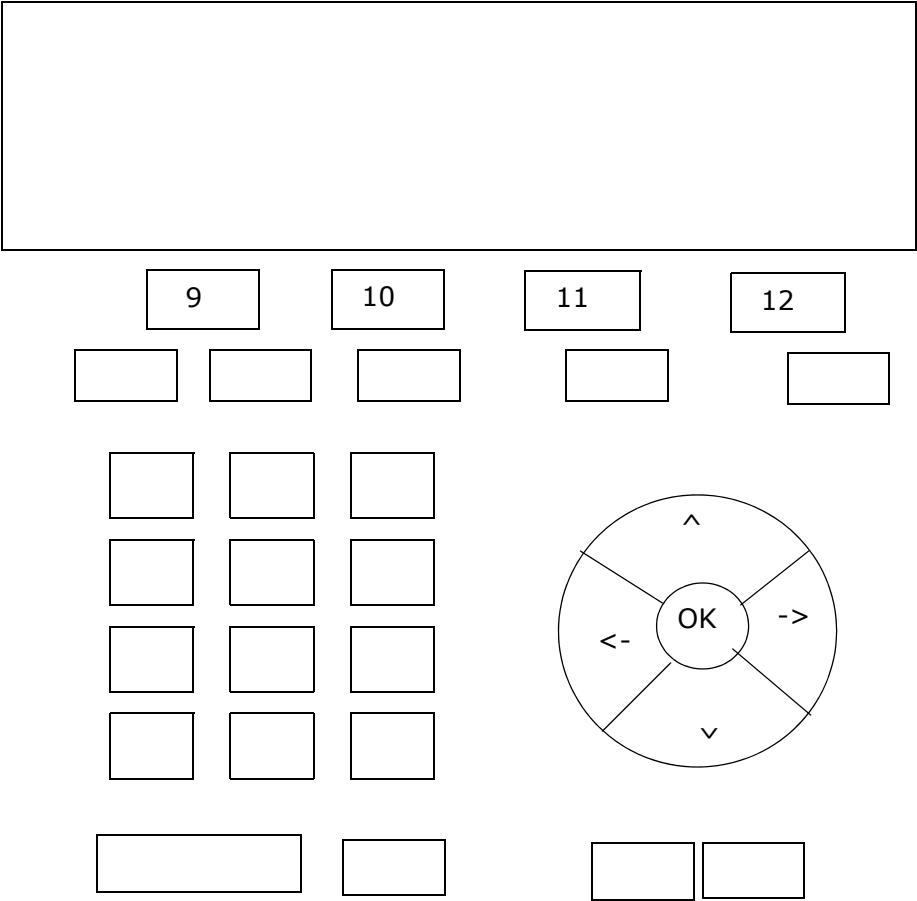


Figure 57 CP200

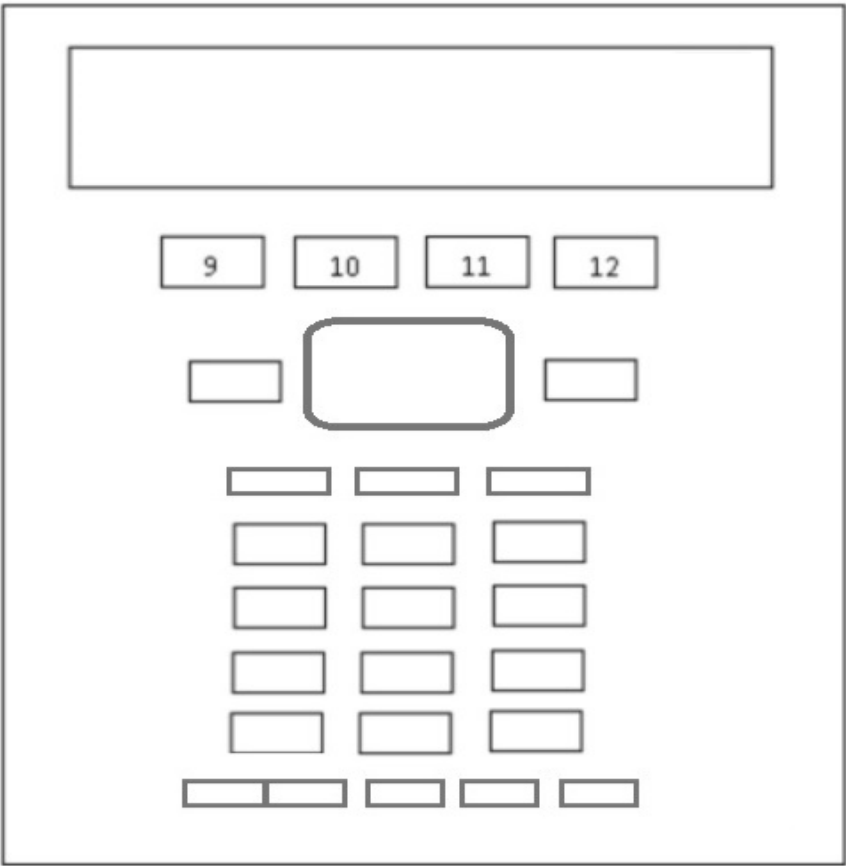


Figure 58 CP210

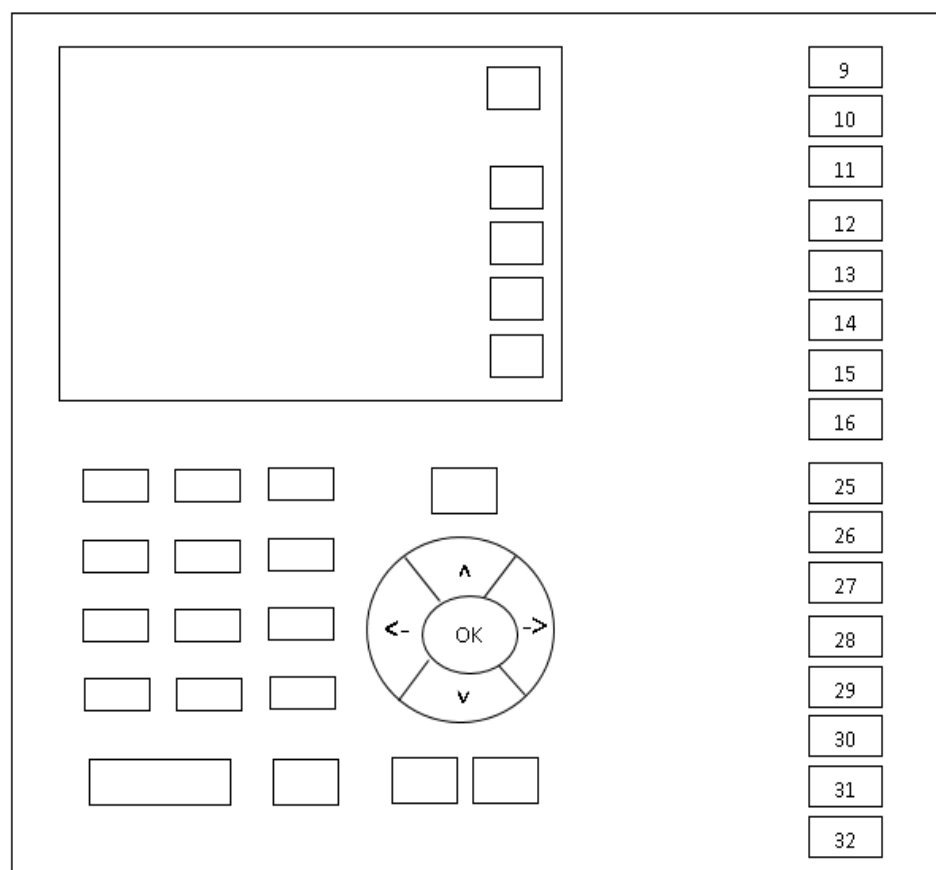


Figure 59

CP400

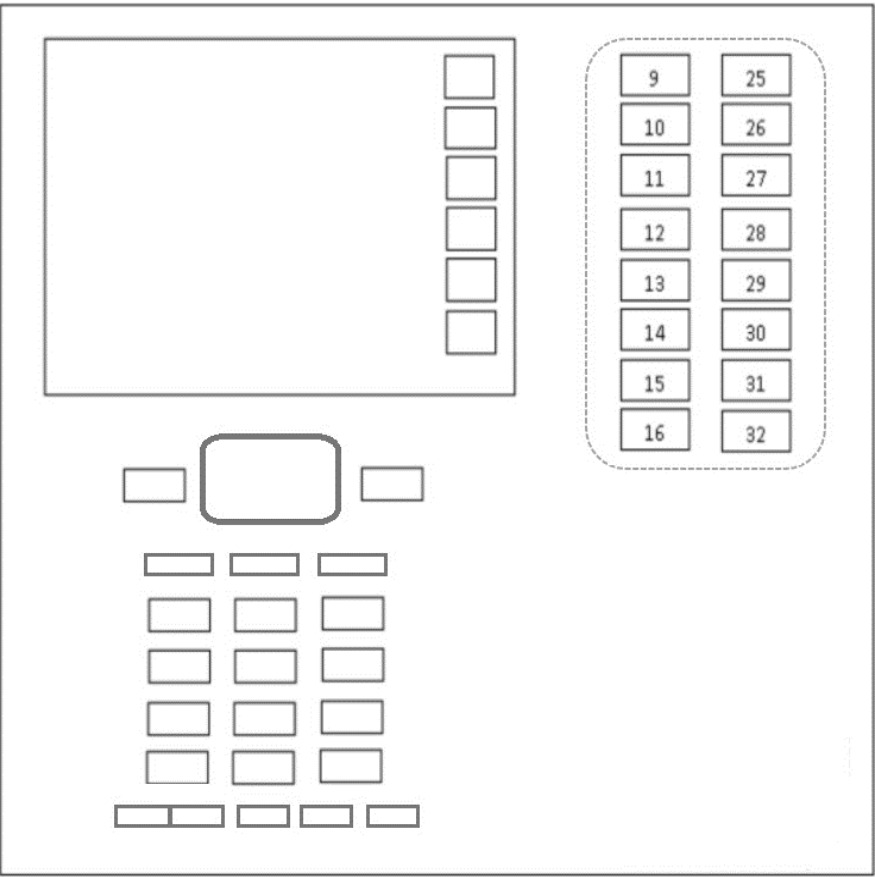


Figure 60 CP410

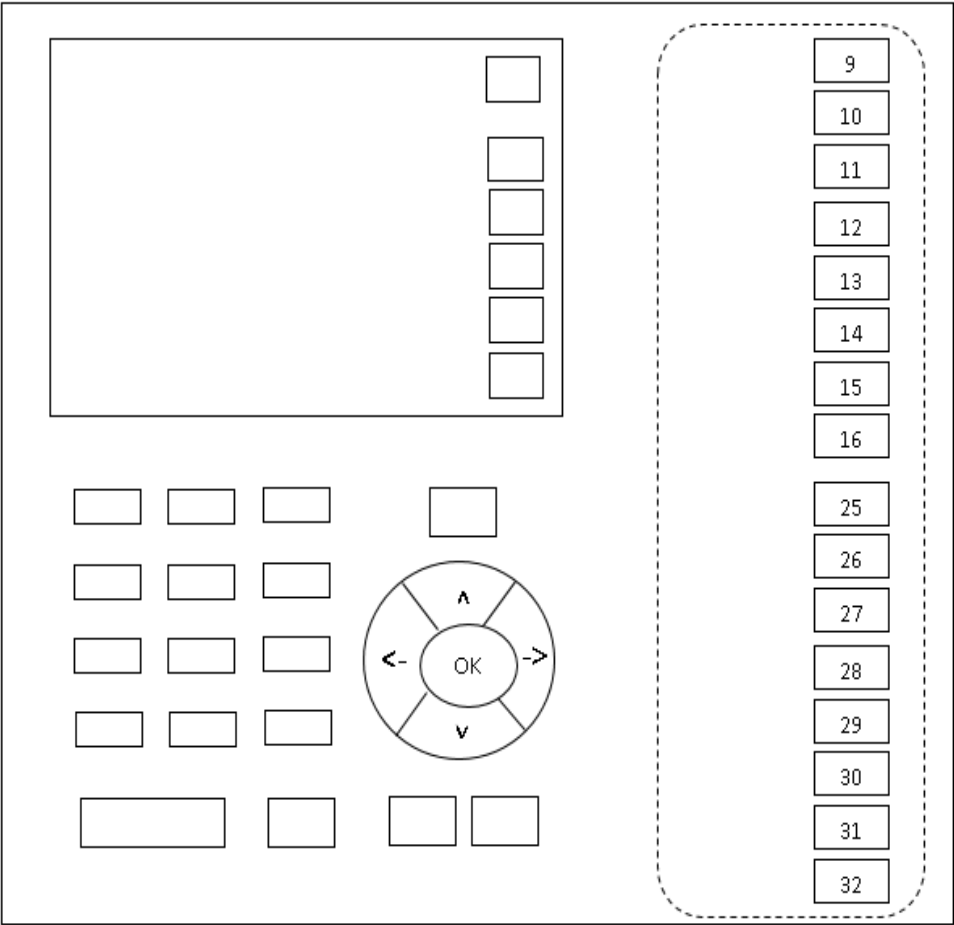


Figure 61 CP600

NOTE: The logical key values for CP400/CP410/CP600/CP700 and CP710 phones keymodules are below. Even if the AMO is prepared for 4 additional keymodules, only CP600 phone supports 4 add-ons. CP400 phone supports 2 add-ons. CP410 and CP710 phones support 4 key modules (KM410 or KM710).

	|MAIN DEVICE|	DSS1	DSS2	DSS3	DSS4	
|Layer 1:|	1 - 32	33-48	49-64	65-80	81-96	
|Layer 2:|	180-211	97-112	113-128	129-144	145-160	

TAPRO - Key Programming
 Keys and devices

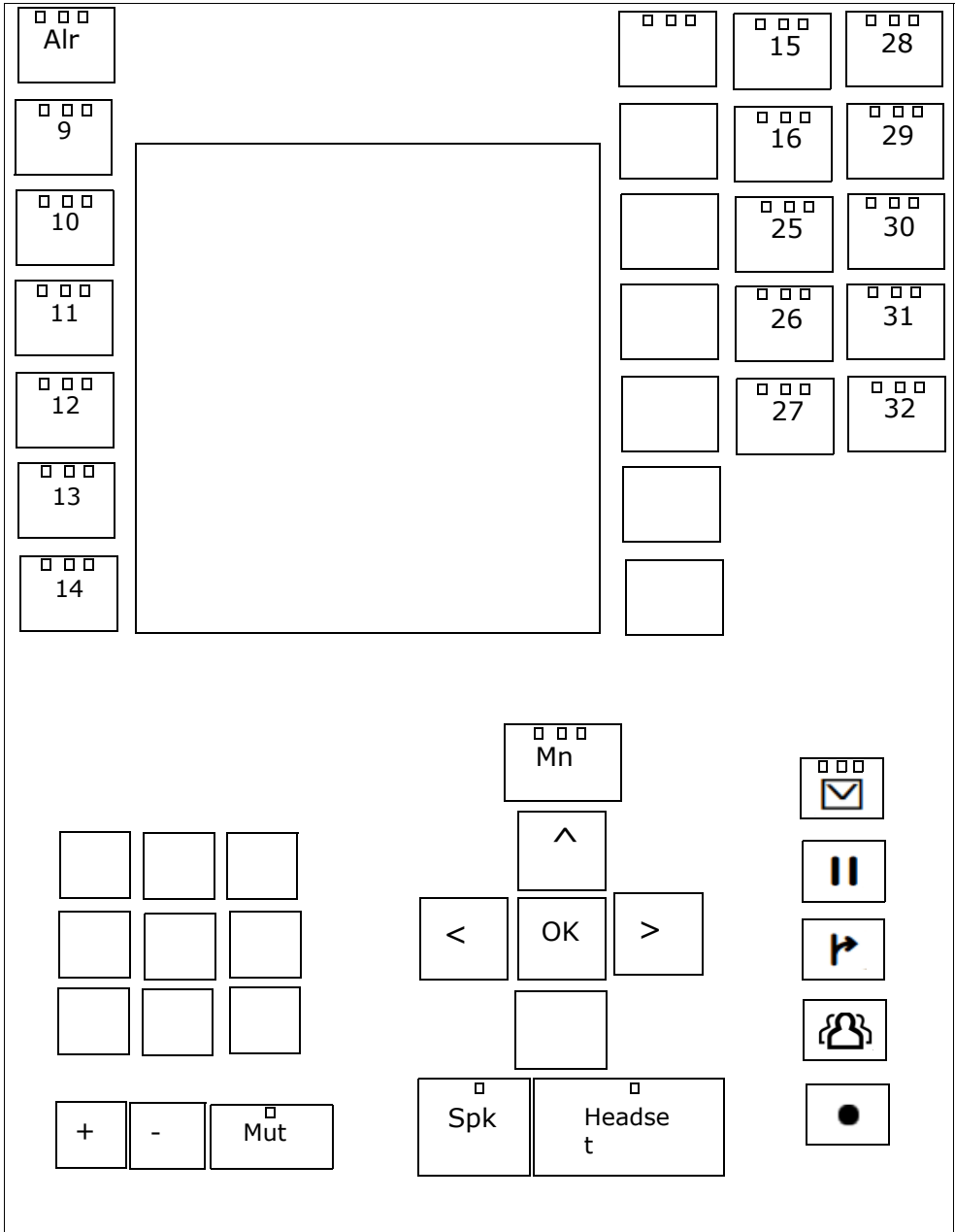


Figure 62 CP700

Fixed function keys for CP700:

Icon	Explanation
	Voicemail key

Table 16 Fixed function keys for CP700

Icon	Explanation
	Hold key
	Transfer key
	Conference key
	Redial key

Table 16 Fixed function keys for CP700

The redial key, presented in the right lower corner, is a programmable key which can be configured by the user/administrator from the WBM of the phone. There are 5 predefined values for this key:

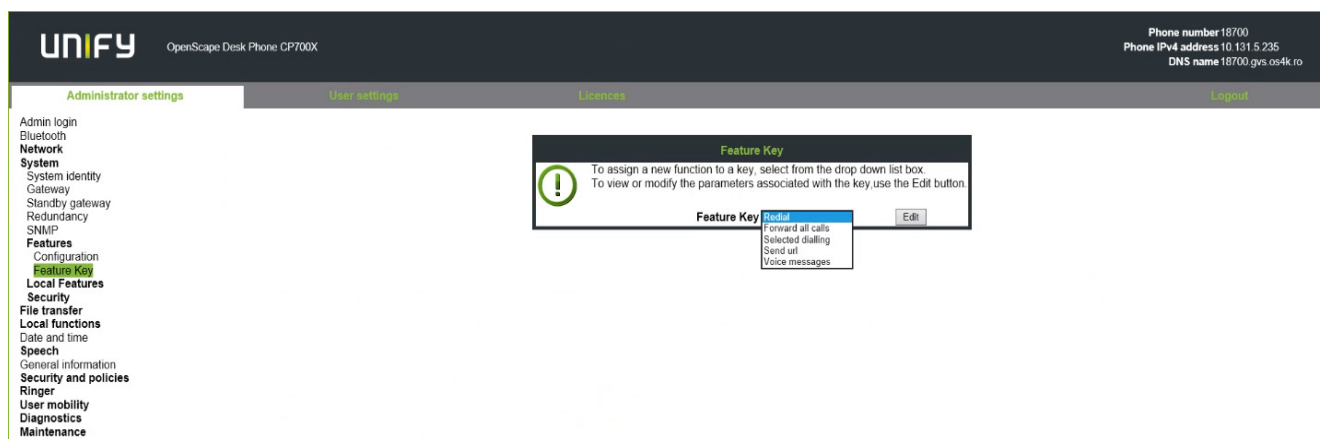


Figure 63 Values for the Redial Key

TAPRO - Key Programming
Keys and devices

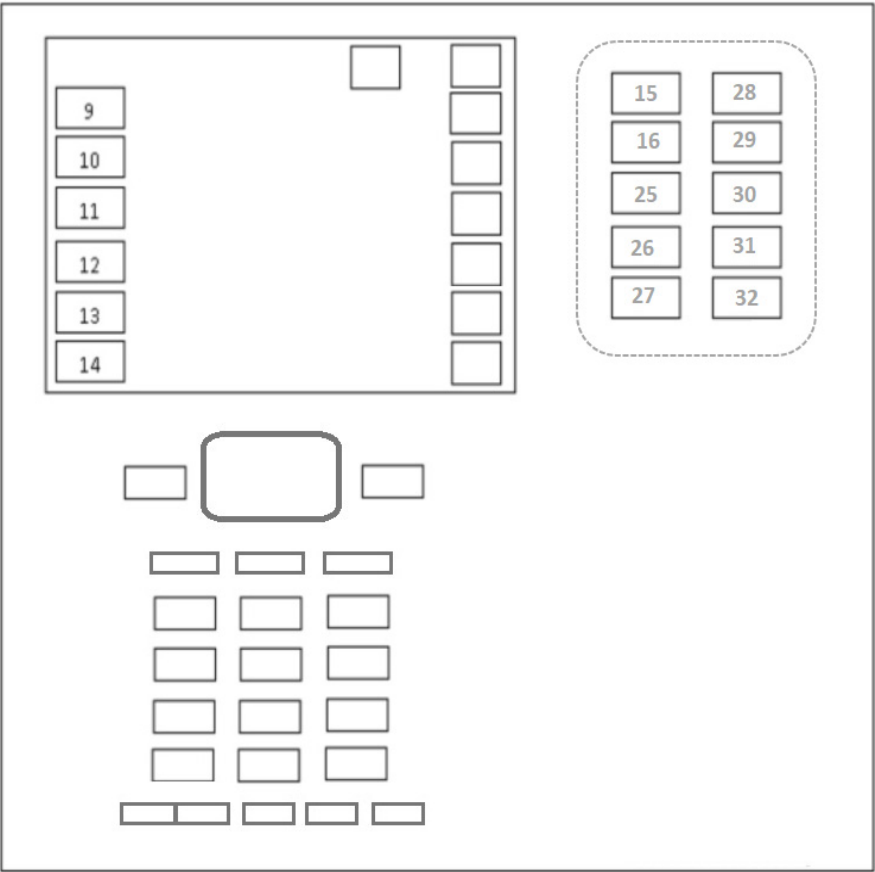


Figure 64 CP710

189 TDCSU - Digital Trunks

The description of this AMO is only available in html format!

190 TEST - Regression tests, AMC,UT,TT

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO TEST makes available to the system specialist a tool with which he can check the functions of the A&M organization through defined test steps. The results of the test steps are output by the AMO on the service terminal.

The AMO is an online testing tool for system testing and field and customer application. It can run in all processors in which an administration and maintenance system is present.

Overview of Functions

The following functions are implemented in the AMO:

1. ENDWRITE only
2. WRITE on DIALOG DEVICE
3. WRITE ON ERROR DEVICE
4. WRITE ON RESULT DEVICE
5. RESERVATION/RELEASE of ERROR DEVICE
6. Only RESERVATION of ERROR DEVICE
7. RESERVATION/RELEASE of DIALOG DEVICE
8. Only RESERVATION of DIALOG DEVICE
9. PROMPT message
- 10.DIALOG message
- 11.WRITE/READ message
- 12.TIMER with 15 seconds
- 13.LOGON INTERNAL
- 14.INTERNAL START (call function 15)
- 15.for function 14
- 16.Message to a task
- 17.Order to carry out functions 1..14

This description is valid from HiPath 4000 V1.0.

In function 16, the AMO TEST also communicates with a task which is specified by the basic mailbox index and processor identification or by the mailbox name via processors.

- EXEC-TEST : Starting the test run
- DIALOG01-TEST : Auto-dialog input request for functions 10 and 11
- DIALOG02-TEST : Auto-dialog input request for function 16

Notes

1. In functions 1..14, the AMO TEST operates in the polling mode. The AMO terminates after the function has been carried out.
2. In function 16, the AMO remains in the dialog mode for several minutes; if no input is made, it is terminated from A&M ORG. In the dialog mode, the user terminates the AMO by entering E.

Procedure Overview

Command Code	Parameter
EXEC-TEST	UNIT=<param> , FUNCT=1&&15&99, [PROMPT=<number>]; (1)
	|, FUNCT=16, CATALOG=<param> (2)
	, CATTYPE=INDEX, MBXIDX=<param>, DESTPROC=<param> (3)
	, [MSGSIZE=<number>], [IB=<number>] , [PAUSE=<number>];
	|, CATTYPE=NAME, MBXNAME<name> (4)
	, [MSGSIZE=<number>], [IB=<number>]

Command Code	Parameter
	, [PAUSE=<number>];

Example

To show the functions, a complete command batch run for the AMO is played back in the administration and data server.

Test step 1 : ENDWRITE only.

Input:

```
EXEC-TEST:A1,1,0;
```

Output:

```
EXEC-TEST:A1,1,0;
H500: AMO TEST STARTED
M1: ENDWRITE-MESSAGE AT "DIALOG"
AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;
```

Test step 2 : WRITE on DIALOG

Input:

```
EXEC-TEST:A1,2;
```

Output:

```
EXEC-TEST:A1,2;
H500: AMO TEST STARTED
M2: WRITE-MESSAGE AT "DIALOG"
M1: ENDWRITE-MESSAGE AT "DIALOG"
AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;
```

Test step 3 : WRITE on ERROR

Input:

```
EXEC-TEST:A1,3;
```

Output:

```
EXEC-TEST:A1,3;
H500: AMO TEST STARTED
M2: WRITE-MESSAGE AT "ERROR"
M1: ENDWRITE-MESSAGE AT "DIALOG"
AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;
```

TEST - Regression tests, AMC,UT,TT

Functions of the AMO

Test step 4 : WRITE on RESULT

Input:

EXEC-TEST:A1,4;

Output:

EXEC-TEST:A1,4;

H500: AMO TEST STARTED

M2: WRITE-MESSAGE AT "RESULT"

M1: ENDWRITE-MESSAGE AT "DIALOG"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 5 : RESERVATION/REL. of ERROR

Input:

EXEC-TEST:A1,5;

Output:

EXEC-TEST:A1,5;

H500: AMO TEST STARTED

M3: RESERVE SYMBOLIC DEVICE "ERROR"

M2: WRITE-MESSAGE AT "ERROR" - (ERROR RESERVED)

M2: WRITE-MESSAGE AT "ERROR" - (RESERVATION RELEASED)

M1: ENDWRITE-MESSAGE AT "ERROR"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 6 : Only RESERVATION of ERROR

Input:

EXEC-TEST:A1,6;

Output:

EXEC-TEST:A1,6;

H500: AMO TEST STARTED

M3: RESERVE SYMBOLIC DEVICE "ERROR"

M1: ENDWRITE-MESSAGE AT "ERROR"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 7 : RESERVATION/REL. of DIALOG

Input:

EXEC-TEST:A1,7;

Output:

EXEC-TEST:A1,7;

H500: AMO TEST STARTED

M3: RESERVE SYMBOLIC DEVICE "DIALOG"

M2: WRITE-MESSAGE AT "DIALOG" - (DIALOG RESERVED)

M2: WRITE-MESSAGE AT "DIALOG" - (RESERVATION RELEASED)

M1: ENDWRITE-MESSAGE AT "DIALOG"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 8 : Only RESERVATION of DIALOG**Input:**

EXEC-TEST:A1,8;

Output:

EXEC-TEST:A1,8;

H500: AMO TEST STARTED

M3: RESERVE SYMBOLIC DEVICE "DIALOG"

M1: ENDWRITE-MESSAGE AT "DIALOG"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 9 : PROMPT message**Input:**

EXEC-TEST:A1,9;

Output:

EXEC-TEST:A1,9;

H500: AMO TEST STARTED

M4: PROMPT-MESSAGE

M5: PLEASE INPUT A DIGIT FROM 0 TO 9

PROMPT =

Input:

0

Output:

TEST - Regression tests, AMC,UT,TT

Functions of the AMO

M10: 0 HAS BEEN ENTERED

M1: ENDWRITE-MESSAGE AT "DIALOG"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 10: DIALOG message

Input:

EXEC-TEST:A1,10;

Output:

EXEC-TEST:A1,10;

H500: AMO TEST STARTED

M6: DIALOG-MESSAGE

M7: TERMINATE WITH ";" OR INPUT A DIGIT FROM 0 TO 9

<DIALOG01-TEST:

Input:

5

Output:

M10: 5 HAS BEEN ENTERED

M1: ENDWRITE-MESSAGE AT "DIALOG"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 11: WRITE/READ message

Input:

EXEC-TEST:A1,11;

Output:

EXEC-TEST:A1,11;

H500: AMO TEST STARTED

M8: WRITE/READ-MESSAGE

M9: PLEASE INPUT A DIGIT FROM 0 TO 9

DIGIT =

Input:

1;

Output:

M10: 1 HAS BEEN ENTERED

M1: ENDWRITE-MESSAGE AT "DIALOG"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 12: Timer with 15 seconds**Input:**

EXEC-TEST:A1,12;

Output:

EXEC-TEST:A1,12;

H500: AMO TEST STARTED

M13: CALL TIMER WITH 15 SEC

M2: WRITE-MESSAGE AT "DIALOG" - (TIMER TIMEOUT)

M1: ENDWRITE-MESSAGE AT "DIALOG"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 13: LOGON INTERNAL**Input:**

EXEC-TEST:A1,13;

Output:

EXEC-TEST:A1,13;

H500: AMO TEST STARTED

M14: PERFORM LOGON-INTERN

M2: WRITE-MESSAGE AT "RESULT"

M1: ENDWRITE-MESSAGE AT "DIALOG"

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

Test step 14: INTERNAL START**Input:**

EXEC-TEST:A1,14;

Output:

EXEC-TEST:A1,14;

H500: AMO TEST STARTED

M15: INTERNAL START EXECUTED BY USER TASK

TEST - Regression tests, AMC,UT,TT

Functions of the AMO

```
EXEC-TEST:"A1",15;

H500:  AMO TEST  STARTED

M2: WRITE-MESSAGE AT  "DIALOG" - (BY USER-TASK)

M1: ENDWRITE-MESSAGE AT  "DIALOG" - (BY USER-TASK)

AMO-TEST-...      REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

M1: ENDWRITE-MESSAGE AT  "DIALOG"

AMO-TEST-...      REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;
```

Test step 15: Functions for internal start are not necessary in batch

Test step 16: Send message to a task.

The task, which shall get the message, has to be specified by:

- the identifier of the catalog (CATALOG), in which the mailbox of the task is catalogued.
- the name of the task mailbox (MBXNAME) or the value of the task element from DB_M_BASIC_MBX_IDX_SET (MBXIDX) and the identifier of the destination processor (DESTPROC).

Note:

The mailbox of the Signaling Task, which will be used for this example, is cataloged by name and by index in the System Catalog.

Input:

```
EXEC-TEST:A1,16,SYSTEM,INDEX,01,A1,FF,00;
or
EXEC-TEST:A1,16,SYSTEM,NAME,SITMBOX,FF,00;
```

Output:

```
EXEC-TEST:A1,16,SYSTEM,INDEX,01,A1,FF,00;
or
EXEC-TEST:A1,16,SYSTEM,NAME,SITMBOX,FF,00;

H500:  AMO TEST  STARTED

M17: PLEASE INPUT MESSAGE
      (CONCATENATE MESSAGES WITH "&" AT THE END)
      (TERMINATE AMO WITH "E")
```

*

INPUT:

```
"3A,54,00,00&"
```

Output:

M18: MESSAGES WILL BE CONCATENATED - NEXT PART OF MESSAGE
PLEASE

(CONCATENATE MESSAGES WITH "&" AT THE END)
(TERMINATE AMO WITH "E")

*

INPUT:

"11,14,01"

Output:

F4421 M4 N0387 NO ACT BPA VECO STATISTIC CC
00-00-00 00:00:00
DEV CLASS:00000000 0000 0000000000000000
0000000000000000 000000
FORMAT:0

M17: PLEASE INPUT MESSAGE
(CONCATENATE MESSAGES WITH "&" AT THE END)
(TERMINATE AMO WITH "E")

*

Input:

E

Output:

AMO-TEST-... REGRESSION TESTS, AMC,UT,TT
EXEC COMPLETED;

190.3.2 DIALOG01-TEST

Procedure run

The verb DIALOG01 is only used for DIALOG for function 10 and WRITE-READ for function 11, and can not be entered on the service terminal (AMT). On the AMT, the user only sees DIALOG01-TEST (during DIALOG) or "*" (during WRITE-READ), which represents the prompt for the user.

190.3.3 DIALOG02-TEST

Procedure run

The verb DIALOG02 is only used for a WRITE-READ for function 16, and can not be entered on the service terminal (AMT). On the AMT, the user sees only the asterisk, which is the prompt for the user.

190.4 Parameter Description

CATALOG	Catalog in which the mailbox of the receiver task is catalogued	
Type of Input	: Single value, mandatory	
Possible Values	: MODUL	The mailbox is catalogued in modul catalog.
	SYSTEM	the mailbox ist catalogued in system catalog.
CATTYPE	How is the mailbox of the receiver task catalogued	
Type of Input	: Single value, mandatory	
Possible Values	: NAME	The mailbox is catalogued by name.
	INDEX	The mailbox is catalogued by index.
DESTPROC	Identification of the destination processor	
Type of Input	: Single value, mandatory	
Possible Values	: A1	ADS
	BPA	Base Processor A
	BPB	Base Processor B
	BPS	Base Processor stand-by
	C1	Call charge server
	GP1A	Group Processor 1 A
	GP1B	Group Processor 1 B
	.	.
	.	.
	GP32A	Group Processor 32 A
	GP32B	Group Processor 32 B
	T1	Tele-Communications Service 1
	T2	Tele-Communications Service 2
	T3	Tele-Communications Service 3
	V1	Voice Mail Service 1
	V2	Voice Mail Service 2
	V3	Voice Mail Service 3
DIGIT	Test parameter for DIALOG and WRT/READ message.	
	Background parameter for test step 10 and 11.	
Type of Input	: Single value, optional	
Possible Values	: 0 to 9	
FUNCT	Selection of function	

	Type of Input	: Single value, mandatory
	Possible Values	: 1 to 15, 16, 99. See Functional Overview for an explanation of the values.
IB	Value initialization for bytes of a message segment	
	Type of Input	: Single value, optional
	Possible Values	: If this optional parameter is not specified, the bytes of a message segment, which are not specified by parameter MSG, will stay undefined.
MBXIDX	mailbox basic index of the task, which shall receive the message (look into DB_M_BASIC_MBX_IDX_SET).	
	Type of Input	: Single value, mandatory
	Possible Values	: 00 to FF (hex)
MBXNAME	mailbox name of the task, which shall receive the message	
	Type of Input	: Single value, mandatory
	Possible Values	: Alphanumeric, 1 to 7 characters
MSG	Message to receiver task	
	Message string, hexadecimal.	
	Background parameter for test step 16.	
	Type of Input	: Single value, optional
	Possible Values	: 00 to FF (hex); "hh,hh,....."; The significance of the message string depends on the interpretation by the task.
MSGSIZE	Size of the message segment.	
	Type of Input	: Single value, optional
	Possible Values	: 00 to FFFF (hex)
	If no input for MSGSIZE, then the size of the message segment depends directly from the number of bytes in the message.	
PAUSE	Delay in seconds till next message.	
	Type of Input	: Single value, optional
	Possible Values	: 0 to 60
	Standard value	: 0
PROMPT	Test parameter for prompt AMO	
	Test parameter, requested if necessary in auto-dialog.	

TEST - Regression tests, AMC,UT,TT
Error Messages and Advisories

Also requested for function 9.

Type of Input : Single value, optional
Possible Values : 0 to 9

UNIT	Functional system unit i.e. SWU or server	
	Type of Input	: Single value, mandatory
	Possible Values	: A1 ADS
	BP	Base processor active
	BPA	Base processor A
	BPB	Base processor B
	BPS	Base processor stand-by
	C1	Call charge server
	GP0	Group processor 0 active
	GP0A	Group processor 0 A
	GP0B	Group processor 0 B
	GP0S	Group processor 0 stand-by
	.	.
	.	.
	GP31	Group processor 31 active
	GP31A	Group Processor 31 A
	GP31B	Group Processor 31 B
	GP31S	Group processor 31 stand-by
	T1	Tele-Communications Service 1
	T2	Tele-Communications Service 2
	T3	Tele-Communications Service 3
	V1	Voice Mail Service 1
	V2	Voice Mail Service 2
	V3	Voice Mail Service 3

190.5 Error Messages and Advisories

190.5.1 Error Messages

F01: MAILBOX FOR MBXIDX/DESTPROC NOT EXISTEND
F02: MAILBOX FOR MBXIDX/DESTPROC NOT IN @@@@-CATALOG
F03: MBXNAME NOT IN @@@@-CATALOG
F04: ERROR IN MESSAGE STRING

- DETECTED DURING LENGTH TEST
F05: ERROR IN MESSAGE STRING
- HEXADECIMAL DIGIT EXPECTED
F06: ERROR IN MESSAGE STRING
- COMMA EXPECTED

190.5.2 Advisories

None

190.5.3 Use of the Output Messages for Each Action

EXEC : F01, F02, F03, F04

191 TEXT - Administration of Output Text Tables

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The task of the AMO TEXT is to administrate the output text tables for call detail recording. These tables contain the ASCII strings which are used for output. The symbolic names used by call charge registration are replaced by these entered names in the output.

The field **speed** can have further values, which cannot be configured within AMO TEXT.

The following table shows the possible values:

	DB_M_CP_TRANS_SPEED_SET
0	DB_CP_TS_NULL, /* DEFAULT SPEED */
4	DB_CP_TS_WITHOUT,
11	DB_CP_TS_VARIABEL,
12	DB_CP_TS_2400_X25,
13	DB_CP_TS_4800_X25,
14	DB_CP_TS_9600_X25,
15	DB_CP_TS_48000_X25,
16	DB_CP_TS_64000_X25,
17	DB_CP_TS_VARIABEL_X25,
24	DB_CP_TS_300,
25	DB_CP_TS_3600,
26	DB_CP_TS_12000,
32	DB_CP_S_3510_SERVICE
33	DB_CP_DISPLAYCOPY
34	DB_CP_BT_X_1200_75_MODEM
35	DB_CP_BT_X_1200_1200_MODEM
36	DB_CP_BT_X_64K
37	DB_CP_TS_3510_ART_1
38	DB_CP_TS_3510_ART_2
39	DB_CP_TS_3510_ART_3
40	DB_CP_TS_3510_ART_4
41	DB_CP_TS_3510_ART_5
42	DB_CP_TS_3510_ART_6
43	DB_CP_TS_3510_ART_7
44	DB_CP_TS_3510_ART_8

TEXT - Administration of Output Text Tables

	DB_M_CP_TRANS_SPEED_SET
45	DB_CP_TS_3510_ART_9
46	DB_CP_TS_3510_ART_10
47	DB_CP_TS_3510_ART_11
49	DB_CP_TS_900
50	DB_CP_TS_1200
51	DB_CP_TS_1800
52	DB_CP_TS_7200
53	DB_CP_TS_14400
54	DB_CP_TS_16800
55	DB_CP_TS_19200
56	DB_CP_TS_56000
69	DB_CP_TS_600_ASYN
70	DB_CP_TS_2400_ASYN
71	DB_CP_TS_4800_ASYN
72	DB_CP_TS_9600_ASYN
75	DB_CP_TS_VARIABEL_ASYN
81	DB_CP_TS_50_ASYN
82	DB_CP_TS_75_ASYN
83	DB_CP_TS_100_ASYN
84	DB_CP_TS_110_ASYN
85	DB_CP_TS_134_5_ASYN
86	DB_CP_TS_150_ASYN
87	DB_CP_TS_200_ASYN
88	DB_CP_TS_300_ASYN
89	DB_CP_TS_3600_ASYN
90	DB_CP_TS_12000_ASYN
113	DB_CP_TS_900_ASYN
114	DB_CP_TS_1200_ASYN
115	DB_CP_TS_1800_ASYN
116	DB_CP_TS_7200_ASYN
117	DB_CP_TS_14400_ASYN
118	DB_CP_TS_16800_ASYN
119	DB_CP_TS_19200_ASYN
120	DB_CP_TS_H0, /* N*64 CALLS FOR H0 BEARER SERVICE */
121	DB_CP_TS_MULTIRATE, /* N*64 CALLS FOR MULTIRATE BEARER SERVICE */

	DB_M_CP_TRANS_SPEED_SET
122	DB_CP_TS_38400_ASYN, /* NI BRI OPTISET E V.120 SUPPORT */

191.1 Interrelationships

- AMO-FTBL : Administration of the Output Format Tables

191.2 Functions of the AMO

- [ADD-TEXT](#) : Entry of Texts
- [DELETE-TEXT](#) : Deletion of table entries
- [DISPLAY-TEXT / REGENERATE-TEXT](#) : Interrogation of table entries / Regeneration of table entries

191.2.1 ADD-TEXT

The user enters the table and the symbolic name, as well as the character string to be used for this name.

Procedure Overview

Command Code	Parameter
ADD-TEXT	TBL=OUTDAYC, ENTRY=<number>, NAME=<string>; | TBL=OUTMONC, ENTRY=<number>, NAME=<string>; | TBL=SERVICE, ENTRY=<param>, NAME=<string>; | TBL=SPEED, ENTRY=<number>, NAME=<string>; | TBL=NETTYPE, ENTRY=<param>, NAME=<string>; | TBL=SWP, ENTRY=<param>, NAME=<string>; | TBL=CHOFCON, ENTRY=<number>, NAME=<string>;

TEXT - Administration of Output Text Tables

Functions of the AMO

Command Code	Parameter
	| TBL=SUBSID,ENTRY=<number>,NAME=<string>;
	| TBL=SIGDATA,ENTRY=<number>,NAME=<string>;
	| TBL=ROUTCC,ENTRY=<number>,NAME=<string>;
	| TBL=IDPP,ENTRY=<param>,NAME=<string>;
	| TBL=UNITERAS,ENTRY=<param>,NAME=<string>;
	| TBL=LISTTYPE,ENTRY=<param>,NAME=<string>;
	| TBL=EXPENS,ENTRY=<number>,NAME=<string>;
	| TBL=CONNTYPE,ENTRY=<param>,NAME=<string>;
	| TBL=SUPLSERV,ENTRY=<number>,NAME=<string>;
	| TBL=ZONE,ENTRY=<param>,NAME=<string>;
	| TBL=CARRIER,ENTRY=<number>,NAME=<string>;
	| TBL=COPIN,ENTRY=<number>,NAME=<string>;
	| TBL=UNANS,ENTRY=<param>,NAME=<string>;
	| TBL=RURAL,ENTRY=<number>,NAME=<string>;
	| TBL=AOCTYPE,ENTRY=<number>,NAME=<string>;
	| TBL=CALCTYPE,ENTRY=<param>,NAME=<string>;
	| TBL=INFOTYPE,ENTRY=<param>,NAME=<string>;

Example

Entry 6 in the 'Outdayc' tables is to be assigned the name 'Saturday':

TBL=OUTDAYC
ENTRY=6
NAME=SATURDAY

Input:

ADD-TEXT:TBL=OUTDAYC,ENTRY=6,NAME=SATURDAY;

191.2.2 DELETE-TEXT

Delete an entry in the output text tables or an entire table by overwriting the original characters with blanks. The tables can only be deleted one at a time.

Procedure Overview

Command Code

DELETE-TEXT

Parameter

```
TBL=OUTDAYC, ENTRY=<number>;

| TBL=OUTMONC, [ENTRY=<number>];

| TBL=SERVICE, [ENTRY=<param>];

| TBL=SPEED, [ENTRY=<number>];

| TBL=NETTYPE, [ENTRY=<param>];

| TBL=SWP, [ENTRY=<param>];

| TBL=CHOFCON, [ENTRY=<number>];

| TBL=SUBSID, [ENTRY=<number>];

| TBL=SIGDATA, [ENTRY=<number>];

| TBL=ROUTCC, [ENTRY=<number>];

| TBL=IDPP, [ENTRY=<param>];

| TBL=UNITERAS, [ENTRY=<param>];

| TBL=LISTTYPE, [ENTRY=<param>];

| TBL=EXPENS, [ENTRY=<number>];

| TBL=CONNTYPE, [ENTRY=<param>];

| TBL=SUPLSERV, [ENTRY=<number>];

| TBL=ZONE, [ENTRY=<param>];

| TBL=CARRIER, [ENTRY=<number>;
```

TEXT - Administration of Output Text Tables

Functions of the AMO

Command Code	Parameter
	| TBL=COPIN, [ENTRY=<number>];
	| TBL=UNANS, [ENTRY=<number>];
	| TBL=RURAL, [ENTRY=<number>];
	| TBL=AOCTYPE, [ENTRY=<number>];
	| TBL=CALCTYPE, [ENTRY=<param>];
	| TBL=INFOTYPE, [ENTRY=<param>];

Example

Deleting a text string in entry 1 of the 'Outdayc' table:

TBL=OUTDAYC
ENTRY=1

Input:

DELETE-TEXT:TBL=OUTDAYC,ENTRY=1;

191.2.3 DISPLAY-TEXT / REGENERATE-TEXT

- 1. Display the entries of all output text tables or of only one output text table, with output in list form (DISPLAY)
- 2. Display the entries of all output text tables or of only one output text table, with output in position-oriented commands for regeneration (REGENERATE).

Procedure Overview

Command Code	Parameter	
DISPLAY-TEXT	[TBL=<param>];	(1)
| REGENERATE-TEXT	[TBL=<param>];	(2)

Examples

- 1. Displaying the 'Outdayc' table.

TBL=OUTDAYC

Input:

DISPLAY-TEXT:TBL=OUTDAYC;

Output:

OUTPUT TEXTS FOR NAMES OF THE DAYS

SYMBOLIC NAME	OUTPUT TEXT
1	MONDAY
2	TUESDAY
3	WEDNESDAY
4	THURSDAY
5	FRIDAY
6	SATURDAY
7	SUNDAY

2. Regenerating the output text tables for the day names

TBL=OUTDAYC

Input:

REGENERATE-TEXT:TBL=OUTDAYC;

Output:

```
ADD-TEXT:OUTDAYC,1,"MONDAY    ";
ADD-TEXT:OUTDAYC,1,"TUESDAY   ";
ADD-TEXT:OUTDAYC,1,"WEDNESDAY ";
ADD-TEXT:OUTDAYC,1,"THURSDAY  ";
ADD-TEXT:OUTDAYC,1,"FRIDAY    ";
ADD-TEXT:OUTDAYC,1,"SATURDAY  ";
ADD-TEXT:OUTDAYC,1,"SUNDAY    ";
```

191.3 Parameter Description

ENTRY Table element for names of days (OUTDAYC)

Type of Input : Single value
 mandatory (ADD)
 optional (DELETE, DISPLAY, REGENERATE)

Possible Values : 1 = Monday
 2 = Tuesday
 3 = Wednesday
 4 = Thursday
 5 = Friday
 6 = Saturday
 7 = Sunday

ENTRY Table element for names of months (OUTMONC)

Type of Input : Single value

TEXT - Administration of Output Text Tables

Parameter Description

		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
Possible Values	:	1	= January
		2	= February
		3	= March
		4	= April
		5	= May
		6	= June
		7	= July
		8	= August
		9	= September
		10	= October
		11	= November
		12	= December
ENTRY	Table element for the names of the communication services		(SERVICE)
Type of Input	:	Single value, mandatory	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
Possible Values	:	DTE	= Data terminal equipment
		FAX	= Facsimile
		VOICE	= Voice connection
ENTRY	Table value for transmission speed		(SPEED)
Type of Input	:	Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
Possible Values	:	0	= no speed specified
		2400	= 2400 Baud
		4800	= 4800 Baud
		9600	= 9600 Baud
		48000	= 48000 Baud
		64000	= 64000 Baud
ENTRY	Table element for networks		(NETTYPE)
Type of Input	:	Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	

TEXT - Administration of Output Text Tables

Parameter Description

Possible Values : ANA = Analog network
IDN = Integrated Data Network
ISDN = Integrated Services Digital Network

ENTRY Table element for call processing subprocesses. (SWP)

Type of Input : Single value
mandatory (ADD)
optional (DELETE, DISPLAY, REGENERATE)

Possible Values : ENDL = End of call after limit value
ENDS = End of call after seizure
ENDSEC = End of call after section
LAL = Limit value after limit value
LAS = Limit value after seizure
LASEC = Limit value after section
NEXTSEC = Section after section
SECACC = Section after account code
SECL = Section after limit value
SECS = Section after seizure
SPACE = No call processing process

ENTRY Table element for call types (CHOFCON)

Type of Input : Single value
mandatory (ADD)
optional (DELETE, DISPLAY, REGENERATE)

Possible Values : 1 = Local
2 = Long distance
3 = Local with limit value exceeded
4 = Long distance with limit value exceeded
5 = No entry
6 = Route optimization

ENTRY Table element for cost center (SUBSID)

Type of Input : Single value
mandatory (ADD)
optional (DELETE, DISPLAY, REGENERATE)

Possible Values : 1 = Operator console
2 = PBX set
3 = Night server
4 = Subscriber

TEXT - Administration of Output Text Tables

Parameter Description

		5	= Service module (for field paying party id only)
		6	= Special charging (for field paying party id only)
		7	= Maintenance equipment (for field paying party id only)
		8	= Public phone via SLMAR to system (for field paying party id only)
		9	= Mobile user
		10	= Number of the other line (keyset)
ENTRY	Table element for faulty data sets		(SIGDATA)
	Type of Input	: Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: 0	= incorrect or double data set
		1	= correct data set
ENTRY	Table element for routing code		(ROUTCC)
	Type of Input	: Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: 0 to 9999	
ENTRY	Table element for station CDR - chargees		(IDPP)
	Type of Input	: Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: ATND	= Attendant console
		MTLC	= PBX tie-line circuit
		STN	= Station
		TC	= CDR per trunk
ENTRY	Table element for station CDR resettable counter delete		(UNITERAS)
	Type of Input	: Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: Y	= Resettable counter deleted or through connected
		N	= Resettable counter not deleted or not through connected
ENTRY	Table element for station CDR list type		(LISTTYPE)

Type of Input : Single value
mandatory (ADD)
optional (DELETE, DISPLAY, REGENERATE)

Possible Values : IND = Individual call charge calculation
SUM = Sum call charge calculation (part calc.)
TOTAL = Total call charge calculation

ENTRY Table element for expensive connections (EXPENS)

Type of Input : Single value
mandatory (ADD)
optional (DELETE, DISPLAY, REGENERATE)

Possible Values : 0 = Inexpensive connections
1 = Expensive connections
2 = Free of charge A-party
3 = Free of charge B-party

ENTRY Table element for type of connection (CONNTYPE)

Type of Input : Single value
mandatory (ADD)
optional (DELETE, DISPLAY, REGENERATE)

Possible Values : INTERN = Internal connections
INCO = Incoming connections
OUTGO = Outgoing connections

ENTRY Table element for supplement services (SUPLSERV)

Type of Input : Single value
mandatory (ADD)
optional (DELETE, DISPLAY, REGENERATE)

Possible Values : 0 = Not defined
1 = Normal call
2 = Consultation call
3 = Call transfer
4 = Call back
5 = Call fwd busy
6 = Call fwd unconditional
7 = Call fwd noreply
8 = Call pickup

TEXT - Administration of Output Text Tables

Parameter Description

9	= Conference
10	= Override
11	= Hunting group
12	= Mail box
13	= Paging
14	= Dictation
15	= Credit card charge
16	= Reverse charging
17	= Call defection
18	= Door opening
19	= Ring back
20	= Hang up on hold
21	= Hang up on queueing
22	= End of queueing
23	= Begin of queueing
24	= Master transfer
25	= Recall
26	= Intercept
27	= ZVF
28	= Not output !!!
29	= Busy
30	= Not output !!!
31	= Attendant activated night service
32	= Attendant deactivated night service
33	= Attendant pulled jack
34	= Attendant reconnected jack
35	= Attendant console out of order
36	= Attendant console restarted
37	= hang up while queued at hunt groups
38	= Hunt group busy
39	= Record with swu and adp load
40	= Call transits a node
41	= Call rerouting
42	= Incoming call barred
43	= Destination party out of service
44	= Resource unavailable
45	= Call rejected
46	= Unassigned number
47	= Account code

48	= The paying convener is active in conference
49	= The paying convener has already left the conference
50	= A party put on hold
51	= B party put on hold
52	= A party back from hold
53	= B party back from hold
54	= A party hang up while hold
55	= B party hang up while hold
56	= Ringing after connect

ENTRY Table element for distance zone (ZONE)

Type of Input	: Single value mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)
Possible Values	: ABR01 = Abroad01 ABRnn = Abroadnn ABR99 = Abroad99 CHRGFREE = Charge free CHRGINFO = Charge info DIST01 = Distance01 DISTnn = Distancenn DIST50 = Distance50 INC01 = Incoming01 INCnn = Incomingnn INC09 = Incoming09 INT01 = Internal01 INTnn = Internalnn INT09 = Internal09 LOC = Local NEAR = Nearby SPACE = Space TIE01 = Tie01 TIEnn = Tienn TIE09 = Tie09

ENTRY Table element for communication network (CARRIER)

Type of Input	: Single value mandatory (ADD)

TEXT - Administration of Output Text Tables

Parameter Description

optional (DELETE, DISPLAY, REGENERATE)		
Possible Values	: 0	= CARRIER_0 (intern)
	1	= CARRIER_1
	2	= CARRIER_2
	3	= CARRIER_3
	4	= CARRIER_4
	5	= CARRIER_5
	6	= CARRIER_6
	7	= CARRIER_7
	8	= CARRIER_8
	9	= CARRIER_9

ENTRY	Table element for class of pin	(COPIN)
Type of Input	: Single value mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)	
Possible Values	: 0 = No valid class of PIN 1 = Manual PIN for mobile user 2 = Business PIN for long service 3 = Business PIN for 1 call service 4 = Private PIN for 1 call service 5 = Project code for 1 call 6 = ID card for mobile user 7 = Switchover code 8 = PIN for service ID 9 = CDR account code 10 = PIN for dialing pattern check for 1 call	
Meaning of values see AMO-PERSI		

ENTRY	Through connect / no through connect	(UNANS)
Type of Input	: Single value mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)	
Possible Values	: NTHRCONN = No through connect THRCONN = Through connect	

ENTRY	Flag if RURAL / no RURAL connection	(RURAL)
Type of Input	: Single value mandatory (ADD)	

TEXT - Administration of Output Text Tables

Parameter Description

		optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: 0	= RURAL connection
		1	= No RURAL connection
ENTRY	Type of advice of charge		(AOCTYPE)
	Type of Input	: Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: 0	= Advice of charges - during the call (D_AOC)
		1	= Advice of charges - at end of call (E_AOC)
		2	= Advice of charges - during call setup (S_AOC)
ENTRY	Applied type of billing		(CALCTYPE)
	Type of Input	: Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: CLOCK	= charge pulse metering and sending, coinbox (RURAL)
		PULSES	= Units / amounts from carrier (CENTRAL OFFICE)
		WOUT	= Costs per time unit
ENTRY	Type of information		(INFOTYPE)
	Type of Input	: Single value	
		mandatory (ADD)	
		optional (DELETE, DISPLAY, REGENERATE)	
	Possible Values	: AMOUNT	= Amounts from carrier (CENTRAL OFFICE)
		UNITS	= Units from carrier (CENTRAL OFFICE)
NAME	ASCII name for entries into the following tables :		
	max. 10 chars	- Type of advice of charge	(AOCTYPE)
	max. 10 chars	- Applied type of billing	(CALCTYPE)
	max. 10 chars	- Communication network	(CARRIER)
	max. 10 chars	- Connection types	(CHOFCON)
	max. 10 chars	- Type of connections	(CONNTYPE)
	max. 10 chars	- Class of pin	(COPIN)
	max. 10 chars	- Expensive connections	(EXPENS)
	max. 10 chars	- Station CDR chargees	(IDPP)
	max. 10 chars	- Type of information	(INFOTYPE)

TEXT - Administration of Output Text Tables

Parameter Description

max. 10 chars	- Station CDR list type	(LISTTYPE)
max. 10 chars	- Networks	(NETTYPE)
max. 10 chars	- Day names	(OUTDAYC)
max. 9 chars	- Month names	(OUTMONC)
max. 10 chars	- Routing codes	(ROUTCC)
max. 10 chars	- RURAL / no RURAL connection	(RURAL)
max. 10 chars	- Communication services	(SERVICE)
max. 10 chars	- Inaccurate data records	(SIGDATA)
max. 10 chars	- Transmission rates	(SPEED)
max. 10 chars	- Paying party (chargee)	(SUBSID)
max. 10 chars	- Supplement services	(SUPLSERV)
max. 10 chars	- Partial switching processes	(SWP)
max. 10 chars	- Through connect / no through connect	(UNANS)
max. 22 chars	- Station CDR resettable counter delete	(UNITERAS)
max. 10 chars	- Distance zone	(ZONE)
Type of Input	: Single value,mandatory	
Possible Values	: max. 22 chars	
	If a special character, e.g. ' ; ! ? \$ - & : , ' , occurs in the string, then the entire string must be enclosed in " " .	

TBL	Designation of table	
	Type of Input	: Single value mandatory (ADD) optional (DELETE, DISPLAY, REGENERATE)
	Possible Values	: AOCTYPE = Type of advice of charge CALCTYPE = Applied type of billing CARRIER = Communication network CHOFCON = Call type CONNTYPE = Type of connections COPIN = Class of pin EXPENS = Expensive connections IDPP = Station CDR paying party INFOTYPE = Type of information LISTTYPE = Station CDR list type NETTYPE = Networks OUTDAYC = Name of day OUTMONC = Name of month ROUTCC = Routingcodes RURAL = RURAL connection / no RURAL connection SERVIC = Communication service SIGDATA = incorrect data set SPEED = Transmission speed SUBSID = Paying party (chargee) SUPLSERV = Supplement services SWP = Call processing subprocesses UNANS = Through connect / no trough connect UNITERAS = Station CDR delete ZONE = Distance zone

191.4 Error Messages and Advisories

191.4.1 Error Messages

None

191.4.2 Advisories

None

192 TGER - Allocation of Subscriber Devices for Incoming Calls

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO TGER allocates non-voice devices, which are configured byres for AMO SCSU/SBCSU, for incoming seizures. Thus one device can be called by more than one directory number.

Example

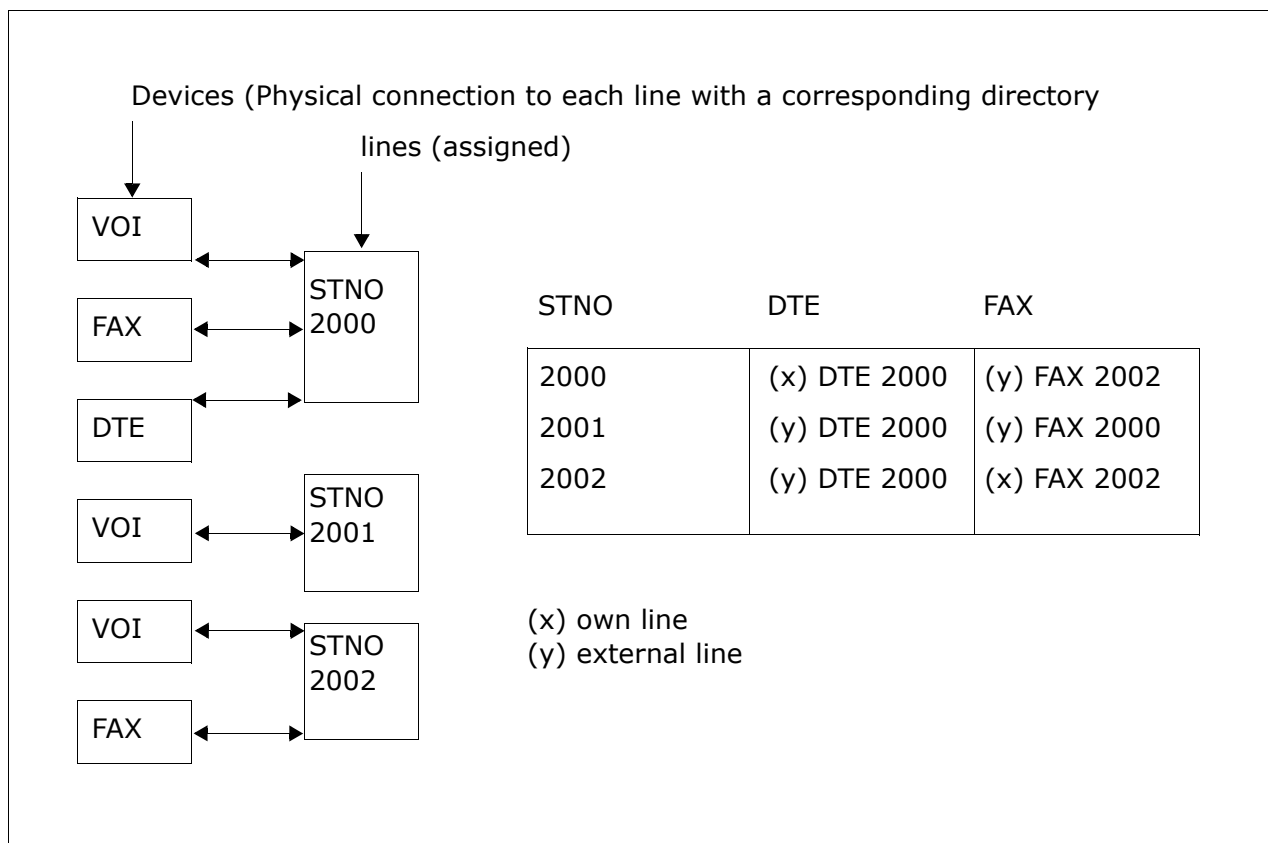


Figure 65 Assignment of non-voice devices to own or external lines

A non-voice device can be seized incoming on another line, as well as both incoming and outgoing on its own line (see example):

- The FAX device at line 2000 is reached incoming via STNO 2001 because STNO 2001 is allocated the FAX having line number 2000 in the FAX column.

TGER - Allocation of Subscriber Devices for Incoming Calls

Interrelationships

- The FAX device at line 2002 can be reached incoming via its own line (under STNO 2002) as well as via an external line (under STNO 2000, in accordance with the allocation).
- The DTE device at line 2000 can be reached incoming via its own line (under STNO 2000) as well as via an external line (under STNO 2002).

Following own or external lines may not be changed or regenerated by AMO TGER:

- the allocation at the own line for ANATE&FAX, ANATE&DTEA
- the allocation at the own line for a hunting group master
- the allocation at the own line for S0
- the association of a DCI (which is done by AMO DCIC)
- the allocation of a SCSU special subscriber (e.g. extension lines) as a station or device number.

192.1 Interrelationships

- AMO SCSU/SBCSU : Configure subscribers in the SWU
- AMO SCSU : Configure special subscribers in the SWU

192.2 Functions of the AMO

- [ADD-TGER](#) : Assign the allocation of subscriber devices for incoming calls
- [DELETE-TGER](#) : Cancel the allocation of subscriber devices for incoming calls
- [DISPLAY-TGER](#) : Display the allocation of subscriber devices for incoming calls
- [REGENERATE-TGER](#) : Regenerate the allocation of subscriber devices for incoming calls

192.2.1 ADD-TGER

For each service the non-voice device line can be allocated to the STNO to be dialed. If a device STNO is already allocated for this service, advisory H1 is output and the device allocation is overwritten.

Procedure Overview

Command Code	Parameter
ADD-TGER	STNO=<number>, {FAXNO=<number>, DTENO=<number>};

Example

Allocate the following non-voice devices to STNO 2142: a DTE device with line number 2112 and a FAX machine with line number 3104.

Input:

```
ADD-TGER:STNO=2142,FAXNO=3104,DTENO=2112;
```

192.2.2 DELETE-TGER

1. Delete all the allocations in the system for the specified subscribers for all (or the specified) services, or
2. Delete the allocations of the specified device STNOs for the corresponding services.

Procedure Overview

Command Code	Parameter
DELETE-TGER	TYPE=STNO,STNO=<number>, [SVC=<param>]; (1)
	| TYPE=DEVNO,NVSTNNO=<number>,SVC=<param>; (2)

Examples

1. Delete the allocation of the DTE and FAX devices to the to-be-dialed station number 2101.

Input:

```
DELETE-TGER:TYPE=STNO,STNO=2101,SVC=DTE&FAX;
```

2. Delete the allocation of the DTE line number 2000 to the STNOs to which it is now allocated. (the allocations to STNO 2001 and 2002 will be deleted)

Input:

```
DELETE-TGER:TYPE=DEVNO,NVSTNNO=2000,SVC=DTE;
```

192.2.3 DISPLAY-TGER

The following information is displayed:

- 1. STNO to be dialed (with the allocated non-voice device STNOs), Associated non-voice devices are recognized by the same station number as that shown in the first column of the DISPLAY output (i.e if "NOS.DIALLED" = "TERMINAL NOS. OF NON-VOICE DEVICES").
- 2. Non-voice device STNOs (with the STNOs to be dialed to which they are allocated).

If no parameters are entered, all non-voice device STNOs are displayed. If a route number is allocated, the STNO of the associated hunting group master is displayed.
If a hunting group master is assigned, this STNO will be displayed. The terminal number of associated non-voice devices will only be displayed if they have been assigned at least one STNO which must be dialed. If none of the specified non-voice devices are assigned to a STNO, an advisory message is output. If an NV device is assigned to a sequence of STNOs in uninterrupted numerical order, these STNOs are output as a 'rauge'.

Procedure Overview

Command Code	Parameter
DISPLAY-TGER	TYPE=STNO, [STNO=<number>]; (1)
	| TYPE=DEVNO, [FAXNO=<number>], [DTENO=<number>]; (2)

Examples

- 1. Display the non-voice device line numbers allocated to the to-be-dialed STNOs 2142 to 2145.

Input:

DISPLAY-TGER:TYPE=STNO,STNO=2142&&2145;

Output:

NOS. DIALLED	TERMINAL FAX	NOS. OF NON-VOICE DTE DEVICES
2142	2142	2114
2143	3104	
2144		4144
2145		2145

TGER - Allocation of Subscriber Devices for Incoming Calls

Parameter Description

2. Display the to-be-dialed station STNO allocated for the data-device line numbers: FAXNO=3104 and DTENO=2112.

Input:

DISPLAY-TGER:TYPE=DEVNO,FAXNO=3104,DTENO=2112;

Output:

SERVICE FAX	TERMINAL NO. OF NON-VOICE DEVICE	CALL NOS. TO BE DIALED
	3104	2110 2142- 2143 3104
SERVICE DTE	TERMINAL NO. OF NON-VOICE DEVICE	CALL NOS. TO BE DIALED
	2112	2100 2112 2142

192.2.4 REGENERATE-TGER

Only allocations to external lines will be regenerated.

Procedure Overview

Command Code	Parameter
REGENERATE-TGER	[STNO=<number>];

192.3 Parameter Description

FAXNO STNO of the line on which the device (FAX or DTE) is
DTENO assigned and to which the call is being set up.
Type of Input : single value, optional
Possible Values : 1 - 6 positions, decimal

Note: Parameters FAXNO and DTENO form a group for ADD.
At least one group parameter must be entered.

TGER - Allocation of Subscriber Devices for Incoming Calls

Error Messages and Advisories

NVSTNNO	Number of the station to which the non-voice device was associated (For DELETE, STNO of the line to which the non-voice device is assigned) Type of Input : single value, chained single values, range(s) required Possible Values : 1 - 6 positions, decimal
STNO	Station number (STNO to be dialed in order to set up a call) Type of Input : single value, chained single values, range(s), required; optional (DISPLAY, REGENERATE) Possible Values : 1 - 6 positions, decimal
SVC	Non-voice service (TYPE=STNO,DEVNO) Type of Input : single value, chained single values optional (TYPE=STNO) required (TYPE=DEVNO) Possible Values : FAX, DTE
TYPE	Desired special subscriber device options Type of Input : single value, required Possible Values : STNO, DEVNO

The parameters FAXNO and DTENO build a group within the ADD command. At least 1 group parameter has to be specified.

192.4 Error Messages and Advisories

192.4.1 Error Messages

F01: <nvstnno> <xxxxxx> IS NOT A SUBSCRIBER DN
F02: <nvstnno> <xxxxxx>: SUBSCRIBER IS NOT ADDED
F03: STNO <xxxxxx> IS NOT A SUBSCRIBER DN
F04: STNO <xxxxxx>: SUBSCRIBER IS NOT ADDED
F05: ALLOCATION (<nvstnno>) FOR STNO <xxxxxx> CAN ONLY BE OVERWRITTEN WITH AMO SA
F06: ALLOCATION (<nvstnno>) FOR STNO <xxxxxx> CAN ONLY BE CANCELED BY USING AMO SA
F07: NVSTNNO <xxxxxx> IS NOT A SUBSCRIBER DN
F08: NVSTNNO <xxxxxx>: SUBSCRIBER WITH THE SERVICE <si> HAS NOT BEEN ADDED
F09: NVSTNNO <xxxxxx> CAN ONLY BE CANCELED AT STNO <xxxxxx> BY USING AMO SA
F11: STNO <xxxxxx>: ALLOCATION FOR OWN STATION CANNOT BE CHANGED IN THE CASE OF AN
ELEMENTARY DEVICE

F12: <nvstnno> <xxxxxxx>: ALLOCATION FOR OWN TERMINAL CANNOT BE ERASED IN THE CASE OF AN ELEMENTARY DEVICE

F16: <nvstnno> <xxxxxxx>: THE ASSIGNMENT AT OWN TERMINAL OF A POINT-TO-POINT CONNECTION CAN ONLY BE DELETED OR CHANGED WITH AMO SBCSU

F17: <nvstnno> <xxxxxxx> WAS ASSIGNED BY AMO <amo> AND CAN ONLY BE DELETED OR CHANGED WITH THIS AMO.

F19: STNO <xxxxxxx> IS A <amol> SPECIAL SUBSCRIBER WHICH IS NOT ALLOWED TO BE ASSIGNED A NONVOICE DEVICE

F20: <nvstnno> <xxxxxxx> IS A <amol> SPECIAL SUBSCRIBER WHICH IS NOT ALLOWED BEING ASSIGNED AS NONVOICE DEVICE

192.4.2 Advisories

H01: EARLIER ALLOCATION (<nvstnno>) FOR STNO <xxxxxxx> WAS OVERWRITTEN

H02: ALLOCATIONS TO BE CANCELED DO NOT EXIST

H03: NON-VOICE DEVICES ARE NOT ALLOCATED

Output Texts

<xxxxxxx> internal STNO
 <si> service indicator (FAX / DTE)
 <nvstnno> FAXNO / DTENO
 <amo> DCIC / RICHT / SCSU / SBCSU
 <amol> SCSU

192.4.3 Use of the Output Messages for Each Action

ADD	: F01, F02, F03, F04, F05, F11, F16, F17, F19, F20, H01
DELETE	: F03, F04, F06, F07, F08, F09, F12, F16, F17, F19, F20, H02
DISPLAY	: H03
REGENERATE	:

TGER - Allocation of Subscriber Devices for Incoming Calls

Error Messages and Advisories

193 TINFO - Technical Information Data

Restrictions	Functions of the AMO	Error messages and advisories
Interrelationships	Parameter Description	

The AMO TINFO can be used to administer additional technical information data.

These TINFO - data are necessary for the configuration and extension of customer systems and up to now they are not available via AMOs. Additional a notepad - feature is included.

All data tabulated are kept on the hard disk, formed up like data sets. Maximal 900 data sets can be entered in the table for the TINFO - data. 30 records can be entered into the notepad.

193.1 Restrictions

This description is valid from HiPath 4000 V1.0 onward.

193.2 Interrelationships

None

193.3 Functions of the AMO

- [ADD-TINFO](#) : Adds TINFO - data or entries for the notepad
- [DELETE-TINFO](#) : Deletes data sets from the table for TINFO - data or from the notepad .
- [DISPLAY-TINFO](#) : Displays the contents of the TINFO - data table or of the notepad .
- [REGENERATE-TINFO](#) : Regenerates entries in the table for the TINFO - data or for the notepad .

193.3.1 ADD-TINFO

By this command TINFO - data or entries in the notepad can be added. The branch parameter DATTYPE determines the kind of input.

- Input of TINFO - data

TINFO - Technical Information Data

Functions of the AMO

The value T is to set for DATTYPE.

Single entries are accessed via the TINFO Nr. If an entry is added, at first its TINFO-Nr is searched in the table. If the TINFO-Nr is a new one the entry will be appended. If the entry is to add under an existing TINFO-Nr its contents will be overridden by new data. The max. number of entries of the TINFO - data table is 900.

Format of TINFO - data

TINFO Nr 7 digit	Date 8 digit	Description (TEXTT) = Text-String max. 40 Chars	Amount 5 digit	Addition 10 digit

- Entries into the notepad :

The entries are numbered in ascending order. If the command is an add command this NOTE-Nr is automatically created by the AMO and must be entered only for a delete command.

The max. number of entries of the Notepad table is 30.

Format of Notepad entries

NOTIZNR 3 digit	Date 8 digit	Text (TEXTN) = Text-String max. 77 Chars

Procedure overview

Command code	Parameter	
ADD-TINFO	DAY=<number>,MONTH=<number>,YEAR=<number> ,DATTYPE=T,TINFONR=<textstring>,[TEXTT=<textstring>] ,AMOUNT=<number>,[ADDITION=<textstring>];	(1)
	,DATTYPE=N,TEXTN=<textstring>;	(2)

Examples

1. Add a TINFO - data.

Input:

```
ADD-TINFO:15,12,96,T,"604P963","power supply modul, 60  
V",3,"overload";
```

2. Add an entry into the notepad.

Input:

```
ADD-TINFO:15,12,96,N,"on 12.5.96 6 SLMA, 4 SLMB and 2 further  
LINUX terminals wer  
e equipped;
```


193.3.2 DELETE-TINFO

TINFO - data and Notepad - entries can be deleted from the hard disk. The command deletes one or several entries. For deleting a set there must be entered the entry number, and max. 10 TINFONR or max. 10 NOTIZNR can be chained.

The branch parameter DATTYPE determinates which kind of data set will be deleted.

- Deleting TINFO - data:
The value T is to set for DATTYPE
The entry, which is to be deleted, is to be addressed by the TINFO Nr. Gaps in the table, which are caused by deleting of entries, will be closed. That means, that an entry with a new TINFO -Nr will be appended.
It is also possible to delete a range of entries from the TINFO - data table by providing the starting and the end TINFONR's.
- Deleting of Notepad - entries:
The value N selects for DATTYPE
The entry, which is to be deleted, is to be addressed by the NOTIZNR. Gaps in the table, which are caused by deleting of entries, will be closed. That means, that all numbers greater then the deleted NOTIZNR will be decremented . It is not possible to delete a range of entries from the Notepad table.
If an add command follows a delete process the new entry is assigned to the highest NOTIZNR.
- Hint: The delete of notepad-entries changes the table numbers of the remaining data sets. Therefore it is advisable to display the entries before deleting the next entries to obtain an overview of its contents.

Procedure overview

Command code

```
DELETE-TINFO
```

Parameter

```
DATTYPE=T, TINFONR=<textstring>;
```

(1)

```
| DATTYPE=N, NOTIZNR=<number>;
```

(2)

Examples

1. Delete the data set with the TINFONR 604P963

Input:

```
DEL-TINFO:T, "604P963";
```

2. Delete two data sets by chaining their TINFONR

Input:

```
DEL-TINFO:T,"604P979"&"604P983";
```

3. Delete a range of TINFO - table entries:

Input:

```
DEL-TINFO:T,"902PS79"&"623PE89";
```

4. Delete the Notepad - entry with the NOTIZNR 2

Input:

```
DEL-TINFO:N,2;
```

5. Delete three Notepad - entries by chaining their NOTIZNR

Input:

```
DEL-TINFO:N,3&10&17;
```

193.3.3 DISPLAY-TINFO

In case of the Notepad table it is only possible to display the content of the whole Notepad table.

In case of the TINFO table it is possible to display

- a single entry
- a range of entries by providing the start and end TINFONR
- a number of entries (the number being entered by the user) starting from an entered TINFONR.

If the branch parameter DATTYPE is not declared in a display-command, both tables will be displayed, at first the TINFO-table then the Notepad-table.
For displaying only the TINFO-data alone the value of DATTYPE must be set to T. The value N is to be entered for displaying the Notepad-data alone.

Procedure overview

Command code	Parameter	
DISPLAY-TINFO	;	(1)
	| [DATTYPE=T];	(2)
	,TINFONR=<textstring>;	(3)

Command code
Parameter

| TINFO NR=<textstring>, AMOUNT=<number>;

(4)

| [DATTYPE=N];

(5)

Examples
1. Display both tables (Default)
Input:

DISP-TINFO;;

Output:

TINFO-NR	DATE	DESCRIPTION	QUANT
REMARK			
604P963	15.12.96	power supply modul overload	3
604P979	03.01.97	number of old RMS-Shelfs	10
604P983	17.02.97	Pentium-processor instead of DP468	1
NR	DATE	TEXT	
001	05.12.96	on the 12.5.96 6 SLMA, 4 SLMB and 2 further LINUX terminals were equipped	
002	13.12.96	Notepad-text	2
003	07.01.97	Notepad-text	3

2. Display the TINFO-table
Input:

DISP-TINFO:T;

Output:

TINFO-NR	DATE	DESCRIPTION	QUANT
REMARK			
604P963	15.12.96	power supply modul overload	3
604P979	03.01.97	number of old RMS-Shelfs	10
604P983	17.02.97	Pentium-processor instead of DP468	1

3. Display a range of entries from the TINFO-table.
Input:

DISP-TINFO:T;"902PS79"&&"623PE89";

4. Display of a number of entries starting with an entered TINFONR.

Input:

```
DISP-tinfo:T,"902PS79",35;
```

Output:

Starting with the TINFONR 902PS79 35 entries of the TINFO-table will be displayed.

5. Display the Notepad - entries.

Input:

```
DISP-TINFO:N;
```

Output:

NR	DATE	TEXT
001	05.12.96	on the 12.5.96 6 SLMA, 4 SLMB and 2 further LINUX terminals were equipped
002	13.12.96	Notepad-text 2
003	07.01.97	Notepad-text 3

6. Display a range of entries from the TINFO-table.

Input:

```
DISP-TINFO:T;"902PS79"&&"623PE89";
```

7. Display of a number of entries starting with an entered TINFONR.

Input:

```
DISP-tinfo:T,"902PS79",35;
```

Output:

Starting with the TINFONR 902PS79 35 entries of the TINFO-table will be displayed.

193.3.4 REGENERATE-TINFO

This function regenerates all add-commands. The branch parameter DATTYPE determinates, if entries of TINFO - data or inputs into the notepade are to be reproduced. The default value of DATTYPE regenerates the add-commands into both tables. If the value of DATTYPE is set on T, only the add-commands concerning the TINFO-table are reproduced.

For the regeneration of the add-commands of Notepade - entries the

value of DATTYPE must be set to N.

If the contents of a TINFO - data set are overridden by using the same TINFO-Nr for each add-command, the historically last add-command will be reproduced.

Procedure overview

Command code	Parameter	
REGENERATE-TINFO	;	(1)
	| [DATTYPE=T];	(2)
	| [DATTYPE=N];	(3)

Examples

1. Regenerate add-commands into both tables (Default)

Input:

```
REG-TINFO;;
```

Output:

```
ADD-TINFO:15,12,96,T,"604P963","power supply modul, 60 V",
3,"overload";
```

```
ADD-TINFO:03,01,97,T,"604P979","number of old RMS-Shelves",
10;
```

```
ADD-TINFO:17,02,97,T,"604P983","Pentium-processor instead of
DP468",
```

```
1;
```

```
ADD-TINFO:05,12,96,N,
```

```
"on the 12.5.96 6 SLMA, 4 SLMB and 2 further LINUX terminals
were equiped"
```

```
ADD-TINFO:13,12,97,N,
```

```
"Notepad-text 2";
```

```
ADD-TINFO:07,01,97,N,
```

```
"Notepad-text 3";
```

2. Regenerate entries into TINFO-table.

Input:

```
REG-TINFO:T;
```

Output:

```
ADD-TINFO:15,12,96,T,"604P963","power supply modul, 60 V",
3,"overload";
```

TINFO - Technical Information Data

Parameter Description

```
ADD-TINFO:03,01,97,T,"604P979","number of old RMS-Shelves",
10;
ADD-TINFO:17,02,97,T,"604P983","Pentium-processor instead of
DP468",
1;
```

3. Regenerate entries into Notepad.

Input:

```
REG-TINFO:N;
```

Output:

```
ADD-TINFO:05,12,96,N,
"on the 12.5.96 6 SLMA, 4 SLMB and 2 further LINUX terminals
were equiped"
ADD-TINFO:13,12,97,N,
"Notepad-text 2";
ADD-TINFO:07,01,97,N,
"Notepad-text 3";
```

193.4 Parameter Description

ADDITION	additional text
	Type of input : Textstring, place between quotation marks ("...") optional (ADD)
	Possible values : 0-10 characters (letter, number, special character)
	Default value : -
AMOUNT	amount of articles (e.g. 5 printers)
	Type of input : Single value,mandatory (ADD)
	Possible values : 1-65535
	Default values : -
DATTYPE	Type of data (branch parameter)
	Type of input : Single value, mandatory (ADD, DELETE) optional (DISPLAY, REGENERATE)
	Possible values : T Technical data N Notepad-entries
	Default value : both values (T,N) valid for DISPLAY, REGENERATE
DAY	Day of the date

	Type of input	: Single value, mandatory (ADD)
	Possible value	: 1-31
	Default value	: -
YEAR	Year of the date	
	Type of input	: Single value, mandatory (ADD)
	Possible value	: 0-99
	Default value	: -
MONTH	Month of the date	
	Type of input	: Single value, mandatory (ADD)
	Possible value	: 1-12
	Default value	: -
NOTIZNR	Current number of Notepad-entry	
	Type of input	: Single value, single values chained (max. 10) mandatory (DELETE)
	Possible values	: 1-30
	Default value	: -
TEXTN	textpart of an entry into notepad	
	Type of input	: Textstring, place between quotation marks ("...") mandatory (ADD)
	Possible values	: 1-77 characters (letter, number, special character)
	Default value	: -
TEXTT	textpart of an entry for TINFO - data (description of an article)	
	Type of input	: Textstring, place between quotation marks ("...") optional (ADD)
	Possible values	: 0 - 40 characters (letter, number, special character)
	Default value	: -
TINFONR	Number of a data set of TINFO - data	
	Type of input	: Textstring, place between quotation marks ("..."), Textstring single, mandatory (ADD) Textstring single, textstrings chained (max. 10),range (&&) mandatory (DELETE, DISPLAY)
	Possible values	: 1 - 7 characters (letter, number, special character)
	Default value	: -

TINFO - Technical Information Data

Error messages and advisories

193.5 Error messages and advisories

193.5.1 Error messages

F01: ERROR WRITING THE TINFO-DATA ON HD
F02: ERROR CREATING THE TINFO-TABLE ON THE HD
F03: ERROR WRITING THE TINFO-DATA ON THE HD
F05: ERROR WRITING THE NOTEPAD-TABLE ON HD
F06: ERROR CREATING THE NOTEPAD-TABLE ON THE HD
F07: NOTEPAD-TABLE IS FULL -> PLEASE DELETE ENTRIES !
F08: ERROR READING THE NOTEPAD-DATA FROM HD
F09: ENTERED TINFO-NR @@@@ NOT EXISTING
F10: NO ENTRY WITH THIS NOTE-NR @@@ EXISTING
F11: ERROR DELETING THE TINFO-TABLE ON HD
F12: ERROR DELETING THE NOTEPAD-TABLE ON HD
F13: ERROR! INCONSISTENT PARAMETER WITH AMOUNT
F14: TINFO TABLE IS FULL. PLEASE DELETE SOME ENTRIES

193.5.2 Advisories

H01: THERE EXIST NO TINFO-ENTRIES
H02: THERE EXIST NO NOTEPAD-ENTRIES
H04: END OF TINFO-TABLE REACHED

194 TLZO - Administration of the Station Assignment Table

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO administers the station assignment tables.

These consist of 5 tables:

1. the attendant number assignment table with a maximum of 41 entries
2. the PBX trunk number assignment table with a maximum of 349 entries
3. imaginary number for incoming calls with one entry

By assigning an imaginary number to a circuit, it is possible to select these specific circuits for CDR (call detail recording) output; e.g. for CDR output of traffic from the satellite PBX to the CO via the PBX. An imaginary number can be assigned to incoming calls without transmission of the paying party in networking environment.

For the transformation of incoming trunks at first the trunk number table (TBL=MTLC) will be searched. If the number is not found, the general entry (TBL=INC) will be used. If no entry exists for TBL=INC and STNO=< >, the default entry of STNO = 999999.

If an attendant telephone number (see AMO-ACSU) is specified as a criterion for call detail record output, then the 'imaginary station number' and the 'attendant telephone number' must be identical.

4. imaginary number for outgoing calls

If no station number can be supplied by the call processing, the imaginary number for outgoing calls is consulted.

There is a general entry (TBL=OUTG) for going lines. The default entry of STNO = 999999.

5. imaginary number for internal calls

If no station number can be supplied by the call processing, the imaginary number for internal calls is consulted.

There is a general entry (TBL=INT) for internal lines. The default entry of STNO = 999999.

194.1 Interrelationships

- AMO-SELG : Administration of selection groups and tables
- AMO-ACSU : Configuration of attendant consoles in the SWU

194.2 Functions of the AMO

- ADD-TLZO : Enter station assignments
- CHANGE-TLZO : Change station assignment entries
- DELETE-TLZO : Cancel station assignment entries
- DISPLAY-TLZO / REGENERATE-TLZO : Interrogate the station assignment tables / Regenerate the station assignment tables

194.2.1 ADD-TLZO

Enter station assignments.

An entry consists of either an attendant number with its associated imaginary station number, or a circuit number (line number of the PBX trunk circuit) with its associated imaginary station number.

If an entry already exists, an error message is output to the user.

1. Enter attendant number assignments
2. Enter PBX trunk number assignments
3. Enter imaginary number for incoming calls
4. Enter imaginary number for outgoing calls
5. Enter imaginary number for internal calls

Procedure Overview

Command Code	Parameter	
ADD-TLZO	TBL=ATND, ATNDNO=<string>, STNO=<string>;	(1)
	TBL=MTLC, LTG=<number>, LTU=<number>, SLOT=<number> , CCT=<number>, BCHL=<number>, STNO=<string>;	(2)
	TBL=INC, STNO=<number>;	(3)

Command Code	Parameter	
	TBL=OUTG, STNO=<number>;	(4)
	TBL=INT, STNO=<number>;	(5)

Examples

1. The attendant console with the attendant telephone number 9 is to receive the imaginary station number 10.

Input :

```
ADD-TLZO:TBL=ATND,ATNDNO=9,STNO=10;
```

2. The PBX trunk with the circuit number 1-1-19-3 and B-Channel #1 is to receive the imaginary station number 111111. The main PABX trunk number is composed of: LTG=1, LTU=1, SLOT=19, CCT=3.

Input :

```
ADD-
TLZO:TBL=MTLC,LTG=1,LTU=1,SLOT=19,CCT=3,BCHL=1,STNO=111111;
;
```

3. The PBX trunk with the circuit number 1-1-19-3 and B-Channels in the range from 2 to 7 is to receive the imaginary station number 222777.

Input :

```
ADD-
TLZO:TBL=MTLC,LTG=1,LTU=1,SLOT=19,CCT=3,BCHL=2&&7,STNO=222777;
;
```

4. For incoming trunk calls which have no entry in the MTLC table the imaginary number 331 will be assigned.

Input :

```
ADD-TLZO:TBL=INC,STNO=331;
```

5. For outgoing trunk calls which have no entry in the MTLC table the imaginary number 442 will be assigned.

Input :

```
ADD-TLZO:TBL=OUTG,STNO=442;
```

6. For internal calls which have no entry in the MTLC table the imaginary number 553 will be assigned.

Input :

```
ADD-TLZO:TBL=INT,STNO=553;
```

194.2.2 CHANGE-TLZO

A new imaginary station number is assigned to the number of an attendant console or to a PBX trunk if the station assignments are changed.

If the entry to be changed is not contained in the table, an error message is output.

- 1. Change an attendant number assignment
- 2. Change a PBX trunk number assignment
- 3. Change the imaginary number for incoming trunk calls.
- 4. Change the imaginary number for outgoing trunk calls.
- 5. Change the imaginary number for internal calls.

Procedure Overview

Command Code	Parameter	
CHANGE-TLZO	TBL=ATND, ATNDNO=<string>, STNO=<string>;	(1)
	TBL=MTLC, LTG=<number>, LTU=<number>, SLOT=<number> , CCT=<number>, BCHL=<number>, STNO=<string>;	(2)
	TBL=INC, STNO=<string>;	(3)
	TBL=OUTG, STNO=<string>;	(4)
	TBL=INT, STNO=<string>;	(5)

Examples

- 1. The imaginary station number of the attendant console with the attendant telephone number 9 is to be changed to 15.

Input:

CHANGE-TLZO:TBL=ATND, ATNDNO=9, STNO=15;

- 2. The imaginary station number of the PBX trunk with the circuit number 1-1-19-3 and B-channel 1 is to be changed to 122.

Input :

CHANGE-TLZO:TBL=MTLC, LTG=1, LTU=1, SLOT=19, CCT=3, BCHL=1, STNO=122;

Note: The B-Channel (single value or range) must be fully ident to the existing entry.

3. The imaginary station number for incoming trunk calls is to be changed to 336.

Input :

```
CHANGE-TLZO:TBL=INC,STNO=336;
```

4. The imaginary station number for outgoing trunk calls is to be changed to 446.

Input :

```
CHANGE-TLZO:TBL=OUTG,STNO=446;
```

5. The imaginary station number for internal calls is to be changed to 556.

Input :

```
CHANGE-TLZO:TBL=INT,STNO=556;
```

194.2.3 DELETE-TLZO

When cancelling the entries of the station assignment tables, the user can choose between cancelling a single entry, a table, or all tables.

1. Cancel an attendant number assignment
2. Cancel a PBX trunk number assignment

The assignment table for imaginary number for incoming, outgoing and internal calls can't be deleted.

Procedure Overview

Command Code

```
DELETE-TLZO
```

Parameter

```
[TBL=ATND, [ATNDNO=<string>], [STNO=<string>]];
```

(1)

```
[TBL=MTLC, [LTG=<number>, LTU=<number>, SLOT=<number>, CCT=<number>, BCHL=<number>, [STNO=<string>]]];
```

(2)

Examples

1. The attendant number assignment table is to be cancelled.

Input:

```
DELETE-TLZO:TBL=ATND;
```

2. The imaginary station number of the PBX trunk with the circuit number 1-1-19-3 and B-channel 1 is to be cancelled.

Input:

```
DELETE-TLZO:TBL=MTLC,LTG=1,LTU=1,SLOT=19,CCT=3,BCHL=1;
```

194.2.4 DISPLAY-TLZO / REGENERATE-TLZO

1. Interrogate one or both station assignment tables with output on screen in tabular form (DISPLAY).
2. Interrogate one or both station assignment tables with generation of a command listing for the action ADD-TLZO (REGENERATE).
3. Interrogate the imaginary number for incoming trunk calls in tabular form (DISPLAY) or with generating of a command listing (REGENERATE).
4. Interrogate the imaginary number for outgoing trunk calls in tabular form (DISPLAY) or with generating of a command listing (REGENERATE).
5. Interrogate the imaginary number for internal calls in tabular form (DISPLAY) or with generating of a command listing (REGENERATE).

Procedure Overview

Command Code	Parameter	
DISPLAY-TLZO	[TBL=ATND, [ATNDNO=<string>], [STNO=<string>]];	(1)
	[TBL=MTLC, LTG=<number>, LTU=<number> , SLOT=<number>, CCT=<number>], [STNO=<string>];	(2)
	[TBL=INC];	(3)
	[TBL=OUTG];	(4)
	[TBL=INT];	(5)
REGENERATE-TLZO	[TBL=ATND, [ATNDNO=<string>], [STNO=<string>]];	(6)
	[TBL=MTLC, LTG=<number>, LTU=<number> , SLOT=<number>, CCT=<number>], [STNO=<string>];	(7)
	[TBL=INC];	(8)
	[TBL=OUTG];	(9)
	[TBL=INT];	(10)

Examples

1. Display the attendant number assignment table.

Input:

DISPLAY-TLZO:TBL=ATND;

Output:

STATION ASSIGNMENT TABLE			:	ATND
ENTRY NUMBER	ATND - NUMBER			IMAGINARY STATION NUMBER
1	9			15

2. Display the PBX trunk number assignment table

Input:

DISPLAY-TLZO:TBL=MTLC;

Output:

STATION ASSIGNMENT TABLE							:	MTLC
NUMBER	LTG	LTU	SLOT	CCT	BCHNL			IMAGINARY STATION NUMBER
1	1	1	19	3	01			122
2	1	1	19	3	02&&07			222777

3. Display the imaginary number for incoming trunk calls in tabular form

Input:

DISPLAY-TLZO:TBL=INC;

Output:

STATION ASSIGNMENT TABLE		:	INCOMING CALLS
	IMAGINARY STATION NUMBER		
	336		

4. Display the imaginary number for outgoing trunk calls in tabular form

Input:

DISPLAY-TLZO:TBL=OUTG;

Output:

STATION ASSIGNMENT TABLE		:	OUTGOING CALLS
	IMAGINARY STATION NUMBER		

446

5. Display the imaginary number for internal calls in tabular form

Input:

DISPLAY-TLZO:TBL=INT;

Output:

```
STATION ASSIGNMENT TABLE      :  INTERNAL CALLS

IMAGINARY STATION NUMBER
```

556

6. Regenerate the attendant number assignment table. (Generation of a command listing for the action ADD-TLZO).

Input:

REG-TLZO:TBL=ATND;

Output:

ADD-TLZO:ATND, 9, 15;

7. Regenerate the PBX trunk number assignment table. (Generation of a command listing for the action ADD-TLZO).

Input:

REG-TLZO:TBL=MTLC;

Output:

```
ADD-TLZO:MTLC, 1, 1, 19, 3, 1,          122;
ADD-TLZO:MTLC, 1, 1, 19, 3, 2&& 7,      222777;
```

8. Regenerate the imaginary number (for incoming trunk calls) assignment table. (Generation of a command listing for the action ADD-TLZO).

Input:

REG-TLZO:TBL=INC;

Output:

ADD-TLZO:INC, 336;

9. Regenerate the imaginary number (for outgoing trunk calls) assignment table. (Generation of a command listing for the action ADD-TLZO).

Input:

REG-TLZO:TBL=OUTG;

Output:

ADD-TLZO:OUTG, 446;

10. Regenerate the imaginary number (for internal calls) assignment table. (Generation of a command listing for the action ADD-TLZO).

Input:

REG-TLZO:TBL=INT;

Output:

ADD-TLZO:INT, 556;

194.3 Parameter Description

ATNDNO	Attendant telephone number (see AMO ACSU)
Type of Input	: single value, optional mandatory (ADD, CHANGE)
Possible Values	: maximum of 6 digits 0 to 999999
BCHL	Number of the ISDN B-channel
Type of Input	: single value, range, optional mandatory (ADD, CHANGE)
Possible Values	: 0 to 30
CCT	Circuit number
Type of Input	: single value, optional mandatory (ADD, CHANGE)
Possible Values	: 0 to 121
LTG	Line trunk group
Type of Input	: single value, optional mandatory (ADD, CHANGE)
Possible Values	: 1
LTU	Line trunk unit
Type of Input	: single Value, optional mandatory (ADD, CHANGE)
Possible Values	: 1 to 99
Note	: LTU 16 is used Hicom internal.

TLZO - Administration of the Station Assignment Table

Error Messages and Advisories

SLOT Specification of the mounting pitch in the LTU
Type of Input : single value, optional
 mandatory (ADD, CHANGE)
Possible Values : 1 to 121

A suitable module must be configured for the slot addressed by PEN (AMO BCSU).

The possible Slot values depend on the systems architecture and can be found in the BCSU AMO description.

STNO Imaginary station number
Type of Input : single value, optional
 mandatory (ADD, CHANGE)
Possible Values : maximum of 22 digits (ATND, INC, INT, MTLC, OUTG)

TBL Name of table required
Type of Input : single value, optional
 mandatory (ADD, CHANGE)
Possible Values : ATND = Attendant number table
 INC = Incoming calls
 INT = Internal calls
 MTLC = PBX trunk number table
 OUTG = Outgoing calls

194.4 Error Messages and Advisories

194.4.1 Error Messages

F01: ENTRY IS ALREADY IN THE TABLE
F02: ENTRY IS NOT IN THE TABLE
F03: THERE IS NO MORE FREE SPACE IN THE TABLE
F04: ENTER ALL PARAMETERS (LTU, LTG, SLOT, CCT AND BCHL) OR NEITHER OF THEM

194.4.2 Advisories

H01: ENTER ALL PARAMETERS (LTU, LTG, SLOT, CCT AND BCHL) OR NEITHER OF THEM

TLZO - Administration of the Station Assignment Table
Error Messages and Advisories

195 TRACA - System Message Tracer (IS)

Restrictions	Functions of the AMO	Parameter Description
Interrelationships	Technical Clarification	Error Messages and Advisories
General	Examples	

195.1 Restrictions

none

195.2 Interrelationships

AMO TRACA communicates with the resident tracer in the specified module (processor).

Direct interrelationships exist to the trace points in the OS and LAN.

195.3 General

The Hicom tracer provides the system specialist with a tool by means of which **message traffic** between the individual program complexes of the Hicom system and **LAN objects** can be conveniently traced. Therefore the Tracer is an important on-line test aid for use in the field and at customers' premises.

Communication with the terminal is handled by AMO TRACA. Although the tracer can select internal messages and other trace objects and write them into the buffer without this AMO, the AMO is essential for changing the selection and for outputting the trace objects.

Note

For the SWU, a similar tracer tool is available which is controlled with the AMO TRACS. The AMO offers a slightly more extensive range of trace options (see AMO description of [TRACS - Operation of the System Tracer \(SWU\)](#)).

195.3.1 Definition of Terms

Trace objects are:

- a) Messages that are exchanged between tasks
- b) LAN data of the various LAN layers

Trace points are locations in the Hicom software at which the tracer is called.

The tracer offers extensive options for selection criteria. There is a **selection table** for each trace point.

The selection table for a trace point contains the conditions which must be fulfilled by a message in order to be stored in the trace buffer by the tracer.

Typical, most frequently-used selection criteria in a message are for example:

- Byte 0 destination task
- Byte 1 source task
- Byte 4 event code

The selection table contains also "conditional conditions". During the trace process these conditions control a specific manipulation of the selections which depends on the content of the message.

195.3.2 Functional Overview

The following functions are implemented in the AMO:

- a) Storing the trace buffer in a file and store or restore tracer selection tables in or from a file with the command **COPY** see [Section 195.4.2.5, "Displaying and Storing of Trace-Data \(DISPLAY, DA, DB, DF, DL, DN, COPY\)"](#)
- b) Assignment of a file to the output by command **DISPLAY** see [Section 195.4.2.5, "Displaying and Storing of Trace-Data \(DISPLAY, DA, DB, DF, DL, DN, COPY\)"](#)
- c) Output of trace objects with **DA, DB, DF, DL** and **DN**
Output of trace objects without time stamps with **DA-T, DB-T, DF-T, DL-T** and **DN-T**
see [Section 195.4.2.5, "Displaying and Storing of Trace-Data \(DISPLAY, DA, DB, DF, DL, DN, COPY\)"](#)
- d) Termination of the AMO with **END**
- e) Important: The tracer itself remains unaffected !
- f) Definition of the maximum number of trace objects which are to be entered in the buffer, with **MAXNO**

- g) Definition of the maximum entry length for messages entered in the buffer, with **MSGLEN** (message length)
see [Section 195.4.2.3, "MSGLEN"](#)
- h) Activation of the tracer with **ON**
see [Section 195.4.2.4, "Activation and Deactivation of the Tracer \(ON, OFF\)"](#)
- i) Deactivation of the tracer with **OFF**
see [Section 195.4.2.4, "Activation and Deactivation of the Tracer \(ON, OFF\)"](#)
- j) Change the processor, which controls the Tracer with **P** (processor)
- k) Resetting a trace buffer, the trace buffer pool and selection tables with **RES** (RESet)
- l) Definition of the restart stability of the tracer with **RST**
- m) Selection of messages or LAN objects with **SELMSG** (select message)
see [Section 195.4.2.2, "SELMSG"](#)
- n) Selection of the serialization mechanism for the tracer with the command **SELSTOP** (stop selection in the event of a conflict)
- o) Selection of the LAN object types with **SETLAN**
see [Section 195.5.1, "Activating of a LAN Tracepoint"](#)
- p) Output of the tracer status with **STA** (STatus)
see [Section 195.4.2.6, "Displaying the Status of the Tracer \(STA\)"](#)
- q) Input of an advisory for other users of the tracer with command **USER**

In general the Hicom-tracer is not used by just one user. Therefore it is sometimes difficult to check who made the possibly existing tracer-settings and to check if they are still needed.

For assigning the tracer-settings to an user the user can enter any comment (e.g. name, telephone number,...). This comment will be displayed in connection with middle and long status displays (STA,M; or STA,L;).

195.4 Functions of the AMO

- EXEC-TRACA : Start of AMO TRACA
- INPUT-TRACA : Data input request in dialog mode

195.4.1 EXEC-TRACA

Procedure Overview

Command Code	Parameter
EXEC-TRACA	[UNIT=<param>;

Note

The AMO remains in the dialog mode for several minutes; if no input is made within this period, it terminates automatically.

Example

Input:

<EXEC-TRACA:A1 ;

Output:

AMO TRACA VARIANT/VERSION L2/001 OF 2001-04-18
TRACER VARIANT/VERSION L2/007 OF 2001-04-18
TRACER INPUT IN A1 PLEASE:

Input:

*END; * = command input prompt

195.4.2 INPUT-TRACA

195.4.2.1 General

The action INPUT-TRACA is only used for WRITE-READ access and cannot be entered by the operator at the administration and maintenance terminal (AMT). Only the text shown below is displayed at the AMT as an input request to the operator (the asterisk which follows the text indicates the ready state):

TRACER INPUT IN <processor name> PLEASE:
*

This output text also indicates that the AMO has successfully executed the previous command.

The following commands (CMD) are possible:

```

CMD= COPY,AREA=<string>-<param>,FILE=<string>;
CMD= DISPLAY,FILETYPE=<param>;
CMD= DISPLAY,FILETYPE=FILE,FILE=<string>;
CMD= DA,[CNT=<number>],[LEN=<number>],TYPE=ALL;
      (Subsequent parameter entries are disregarded by the AMO)
CMD= DA,[CNT=<number>],[LEN=<number>],[TYPE=<param>],,,TEST=SELMSG;
      (Other parameter entries are disregarded by the AMO)
CMD= DA,[CNT=<number>],[LEN=<number>],[TYPE=<param>]
      ,[DISPLACE=<param>,VAL=<hex>,TEST=<param>];
CMD= DB,[CNT=<number>],[LEN=<number>],TYPE=ALL;
      (Subsequent parameter entries are disregarded by the AMO)
CMD= DB,[CNT=<number>],[LEN=<number>],[TYPE=<param>],,,TEST=SELMSG;
      (Other parameter entries are disregarded by the AMO)
CMD= DB,[CNT=<number>],[LEN=<number>],[TYPE=<param>]
      ,[DISPLACE=<param>,VAL=<hex>,TEST=<param>];
CMD= DF,[CNT=<number>],[LEN=<number>],TYPE=ALL;
      (Subsequent parameter entries are disregarded by the AMO)
CMD= DF,[CNT=<number>],[LEN=<number>],[TYPE=<param>],,,TEST=SELMSG;
      (Other parameter entries are disregarded by the AMO)
CMD= DF,[CNT=<number>],[LEN=<number>],[TYPE=<param>]
      ,[DISPLACE=<param>,VAL=<hex>,TEST=<param>];
CMD= DL,[CNT=<number>],[LEN=<number>],TYPE=ALL;
      (Subsequent parameter entries are disregarded by the AMO)
CMD= DL,[CNT=<number>],[LEN=<number>],[TYPE=<param>],,,TEST=SELMSG;
      (Other parameter entries are disregarded by the AMO)
CMD= DL,[CNT=<number>],[LEN=<number>],[TYPE=<param>],
      ,[DISPLACE=<param>,VAL=<hex>,TEST=<param>];
CMD= DN,NO=<number>,[LEN=<number>],TYPE=ALL;
      (Subsequent parameter entries are disregarded by the AMO)
CMD= DN,NO=<number>,[LEN=<number>],[TYPE=<param>],,,TEST=SELMSG;
      (Other parameter entries are disregarded by the AMO)
CMD= DN,NO=<number>,[LEN=<number>],[TYPE=<param>]
      ,[DISPLACE=<param>,VAL=<hex>,TEST=<param>];

```

TRACA - System Message Tracer (IS)

Functions of the AMO

CMD= DA-T, DB-T, DF-T, DL-T, DN-T with the same branches like DA,DB,DF,DL,DN

CMD= END;

CMD= MAXNO, [MAXNO=<number>];

CMD= MSGLEN, TRACEPT=<param>, CONDGRP=[param], [LEN=<number>];

CMD= OFF;

CMD= ON, [STYPE=BUF];

CMD= ON, STYPE=HD, FILE=<string>, [MAXBLOCK=<number>], WRAP=<param>;
[OVERWRT=<J>], [POOLSIZE=<number>];

CMD= P, [UNIT=<string>];

CMD= RES, [RESOBJ=<param>];

CMD= RST, STYPE=<param>;

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=ALL;
(Subsequent parameter entries are disregarded by the AMO)

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
, FLDTYPE=BYTE, DISPLACE=<number>, VAL=<hex>, [TEST=<param>];

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
, FLDTYPE=DEST, VAL=<hex>, [TEST=<param>];

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
, FLDTYPE=EV, VAL=<hex>, [TEST=<param>];

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
, FLDTYPE=PST, DISPLACE=<number>, BITPOS=<param>, [TEST=<param>];

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
, FLDTYPE=SRC, VAL=<hex>, [TEST=<param>];

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
, FLDTYPE=SEVT, VAL=<hex>, [TEST=<param>];

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CCD1 | ... | CCD8
, STYPE=ADD | SET | SUB, AKTPOS=<number>, TARGETPO=<number>
, [TARGETTP=<param>], [TARGETGRP=G1 | ... | G4], [TARGETCD=CD1 | ... | CD8]
, [LOCK=<param>], [NUMCD=<param>], [CONVERT=<param>];

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CCD1 | ... | CCD8
, STYPE=DEL, [TARGETTP=<param>], [TARGETGRP=G1 | ... | G4]
, [TARGETCD=CD1 | ... | CD8], [LOCK=<param>], [NUMCD=<param>];

CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, [COND=OFF]
(Other parameter entries are disregarded by the AMO)

CMD= SELMSG, TRACEPT=<param>, CONDGRP=OFF
(Other parameter entries are disregarded by the AMO)

CMD= SELSTOP, STYPE=<param>;
CMD= SETLAN, CONDGRP=<param>, TYPE=<param>;
CMD= STA, [INFO=<param>];
CMD= USER, [TEXT=<string>];

Before the Tracer is started a selection of the tracepoints and traceobjects, which shall be recorded, has to be made. This is done with the command SELMSG.

195.4.2.2 SELMSG

The first parameter TRACEPT determines whether OS-messages (SD, RCV or OS in general) or LAN-data (to have a more specific selection at the LAN-tracepoint the command SETLAN is used: Section 195.5.1) are selected or whether Start- and Stopconditions should be set.

The following functions are possible:

1. All messages and trace objects can be selected for each trace point
2. Only those messages or LAN objects are selected, which fulfill one of the 4 groups with up to 8 conditions
3. No message or no LAN object is selected
4. Only those messages which fulfill one of the 4 groups with up to 8 conditions result in start or stop or stopall of tracing
5. Messages or LAN objects, which fulfill one of the 4 groups with up to 8 conditions, result during tracing in the specific message dependent change of selection conditions, which were defined in the "conditional conditions" .
6. The start, stop, stopall condition is deactivated
7. Up to 8 conditions can be formulated for post-selection
8. The conditions formulated for post-selection are deleted
9. The conditions for a group or for a tracepoint are deleted.

Note

Be aware of the fact, that if the parameters CONDGRP and COND are ignored (both are optional !), nothing will be traced at this tracepoint, because the defaultvalue is OFF.

Selection of Messages and LAN Objects

By setting conditions it is possible to select only those traceobjects which are of interest for the user. The tracer is able to make the valuation of messages in 2 different ways:

- The input of byte values as comparison data result in a tracer, which o n l y enters the message into the trace buffer, when the addressed byte is exactly equal to o n e of this byte values. It is possible to enter multiple values (up to 50) for each byte. It is also possible, to specify several conditions (up to 8) for one group, which must be performed all for a selection of a message.
- At mask comparison (parameter FLDTYPE = PST), the position of one or more bits (= mask) which must be contained in the desired message byte, have to be entered as trace data. If these bit(s) occur in the message byte, the message is taken into the trace buffer. Are there, additional to the mask-bit(s), also other bits which are set in the certain message byte, then the message is also taken into the buffer, because it corresponds likewise to the given bit mask. With this method, it is possible now, to watch powersets or variable byte values contained in a message byte, on bit level.

Example:

BITPOS	BIT1&BIT4&&BIT7	B'01111010	H'7A
	or	B'01111011	H'7B
	or generally	B'x1111x1x	

These two comparison methods may be combined, if needed, in any sequence for each condition group.

If several condition groups are defined the sequence of the groups has to be considered, because tracing works in following way:

The tracer checks the first group. If the conditions for the message are fulfilled, the message will be copied into the trace buffer corresponding to the definitions for that group (length, conditional conditions). Further groups will not be checked. If the conditions are not fulfilled the same procedure is repeated with the next group.

The user has the possibility to control the tracing himself by assigning in case of overlapping selections a lower groupnumber to the group which contains the more important definitions (that is: length, conditional conditions,...).

Rule of thumb: the more restrictive a condition is the lower its group number should be.

Generally: if the condition of a group is a subset of another one it must have the smaller groupnumber

Conditional Conditions

The byte values defined for selections can also be set, changed and deleted automatically during the tracing dependent of message contents. That happens according to the defined conditional conditions (parameter COND=CCD1/..CCD8).

That means: from the message which matches the selection conditions are used up to eight bytes as condition for a future message.

A larger example for the usage of this function is given in the AMO Description of the TRACS, chapter Examples.

Start, Stop and Stopall Conditions

The start condition describes the properties of a message or a LAN object which activates tracing (start object).

Example:

SELMSG, START, G1, CD1, SRC, 34&57, e;	the Tracer is started if a message
SELMSG, START, G1, CD2, EV, 3E, e;	occurs, which 4th Byte is 3E and its first Byte is either 34 or 57.

The stop condition describes the properties of a message or a LAN object which deactivates tracing (stop object).

The stopall condition describes the properties of a message or a LAN object which deactivates tracing (stopall object) for all configured processors in a HICOM system (including the IS).

If STOP and STOPALL conditions are defined together, the tracer checks at first the STOP conditions and then the STOPALL conditions. If there are identically conditions defined on both trace points, then the tracer only checks the STOP conditions and at positive result, only the tracer in the current processor will be stopped. In this case the STOPALL conditions will be ignored, i.e. they have no effect!

Note

A special case occurs, when messages or LAN objects with time selection should be taken into the trace buffer and a system restart happens (restart stability is on). When serializing with OS resources (SELSTOP, OS) no time and date information can be requested during a short period. The cause is, that the time data of the operation system (OS) are not valid, and DUMMY values are returned by the access routine of the OS.

TRACA - System Message Tracer (IS)

Functions of the AMO

In order to give the user sufficient time to define all the individual conditions required, the execution of the control condition is temporarily suspended until all conditions have been entered.

When a start condition is entered, the tracer is also deactivated. (When a stop or stopall condition is entered, this would not be practical, because the tracer should not be deactivated before the stop resp. stopall object has been received).

The definition status for the defined control conditions is terminated by the activation of the tracer (command ON); these control conditions are then placed in the waiting state.

At this stage each message and each LAN object is checked by the activated trace points to determine whether it meets the defined control conditions.

After the start object has been received, tracing is activated and the start message is entered in the buffer. (If no start condition is defined, tracing had been in effect from the activation of the tracer onward).

Further messages or LAN objects are then entered in the buffer according to the trace point selections.

When the stop object is received, tracing is deactivated. The stop object is the last object to be entered in the buffer.

When the stopall object is received, tracing is deactivated in all processors in which a tracer is active. The last object to be entered in the buffer is the stopall object.

The defined control conditions remain available (status = R for start, stop and stopall conditions) and come into effect again with the next ON command.

The STATUS command shows the states of the control conditions:

- D (definition status)
- R (reached)
- W (waiting status)

195.4.2.3 MSGLEN

The messages which have to be recorded might be very long and most of the times only the first part of it is of interest for the user. Therefore it is useful (especially with high data traffic) to determine a maximum length of the recorded messages with the command MSGLEN in order to prevent a possible loss of data.

This command just makes sense in connection with a SELMSG-input. The defaultvalue is 16, which is also used if this command is not executed.

Example:

```
'SELMSG,OS,G1,ALL;' the first 20 Bytes of all OS-messages are
'MSGLEN,OS,G1,20;' recorded
```

195.4.2.4 Activation and Deactivation of the Tracer (ON, OFF)

If no startcondition has been set, the Tracer starts to work immediately after entering the command ON and to write the data into the trace buffer. Any start, stop or stopall condition defined is placed in the waiting state.

While harddisk tracing is activated ("ON,HD,filename,..") every time the tracebuffer is full, the whole content is written into the tracefile. If there is already a tracefile with the same name on HD, it is possible to overwrite this file with OVERWRT: yes (default). If there is no tracefile on hd, the parameter OVERWRT is careless.

Operating mode in principle: As soon as the tracer buffer is full, the HD-writing tracer task store this buffer to the harddisk. While this is in progress tracing will be continued in another trace buffer.

The parameter MAXBLOCK determines the size of the tracefile and therefore also the number of tracebuffers which can be stored in this file (defaultvalue: 10). If WRAP is set to yes, elder data will be overwritten as soon as the file is full. 'WRAP: no' prevents this. The Tracer keeps on working but the tracebuffer is not copied to the file anymore. The current status of the StandardTrace file can be displayed with "STA,HD;".

If tracing of the StandardTracer to buffer is activated ("ON,BUF" or just "ON;") elder data will be overwritten in case of a full tracebuffer. In other words the wrapping-function is always activated.

If tracing of the StandardTracer to HD is on ("ON,HD,FILENAME,...") a trace buffer pool may be used for temporary storage of tracebuffer (HD-cache).

The command OFF deactivates the StandardTracer. The start, stop, stopall conditions are set to the definition state. When tracing to harddisk was activated also the only partially filled tracebuffer will be, if possible, copied into the trace file.

195.4.2.5 Displaying and Storing of Trace-Data (DISPLAY, DA, DB, DF, DL, DN, COPY)

Data stored in the tracebuffer can be displayed at any time (also while the Tracer is still running) with the following commands: DF, DL, DA, DB and DN. If data without time stamps will be displayed, the commands DF-T, DL-T, DA-T, DB-T, and DN-T are available.

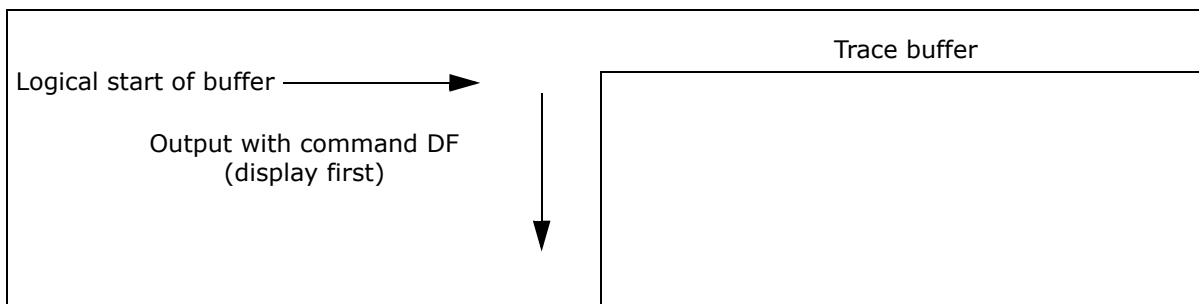
In order to display data from a Harddisk-Tracing-Session it is necessary to assign the file to the output with **DISPLAY,STDTR** or **DISPLAY,FILE,"filename"**. The status of the trace file listed in detail. The status of the trace file listed in detail. From now the whole trace file is handled with regard to the output commands (DA, DB, DF, DL, DN, DF-T, DL-T, DA-T, DB-T, DN-T) like a huge single trace buffer. If "*" is entered instead of the file name, the last filename, which has been used in the command ON or DISPLAY, will be inserted. The assignment of the file for output is detached through the command **DISPLAY,OFF**.

Output of trace objects

1. from the position of the read pointer, with **DA** (or **DA-T**) (display after read pointer)
2. up to the position of the read pointer, with **DB** (or **DB-T**) (display before read pointer)
3. the first <n> trace objects, with **DF** (or **DF-T**) (display first)
4. the last <n> trace objects, with **DL** (or **DL-T**) (display last)
5. from one specific object number to another or the next 10 objects starting with a specific object number, with **DN** (or **DN-T**) (display from number)

After each display command is executed, the read pointer points refers to the trace object following the last displayed trace object. If there are no more trace objects, it stops at the position of the write pointer.

Following the output of a brief status report with command STA, the read pointer is at the first available data record in the trace buffer if the pointer was previously invalid.



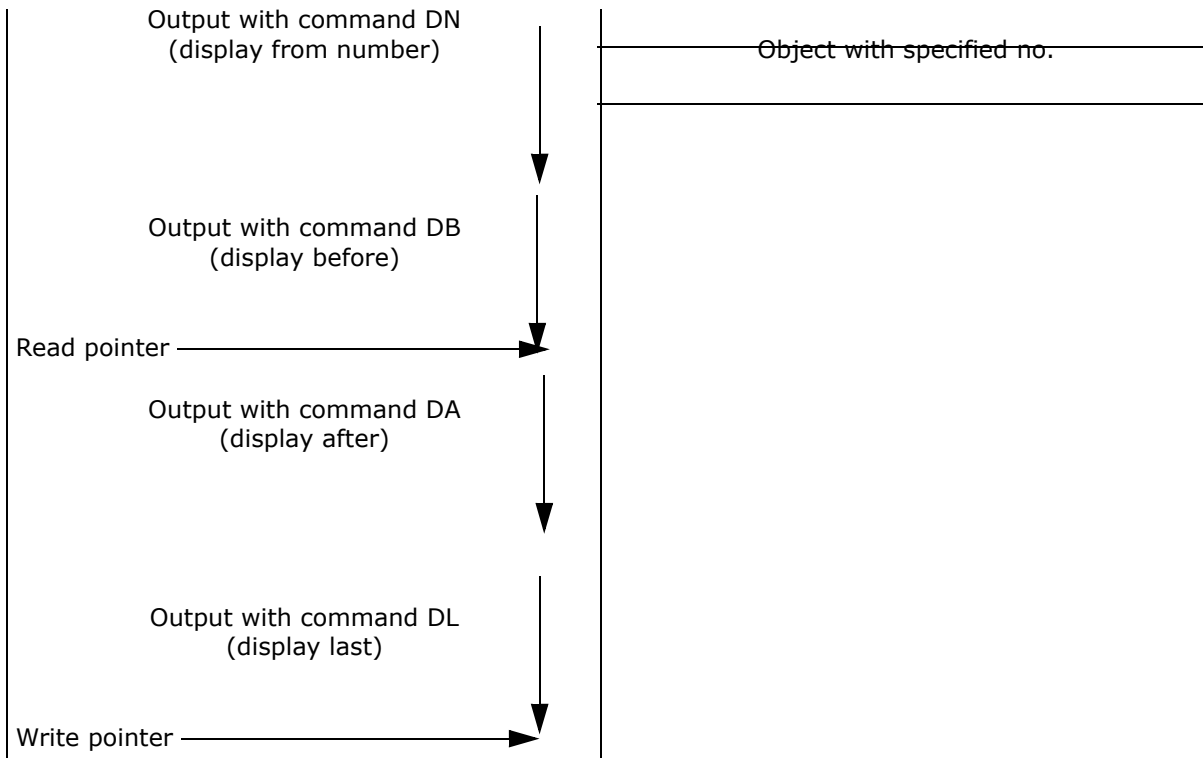


Figure 66

Options for reading out the trace buffer

A post-selection is provided for all the above display commands:

1. If requested, only certain types of trace objects are output. Note that the default value of the parameter TYPE is OS and not ALL.
2. In addition, by specifying values for any byte the output of trace objects can be restricted.
As an alternative to the specification of values for a single byte directly in the display command, up to 8 selection conditions can be defined (command SELMSG,BUF,..?), which can be applied to the current display command by specifying value SELMSG for parameter TEST. (Since these selection conditions are stored in the AMO data, they are only available until termination of the AMO). With the command copy the selection criterions can be stored in a file.
3. The post-selection is not put into effect when reading out a I I trace buffer entries (TYPE=ALL).

The parameter LAE determines a maximum output length for all trace objects to be displayed.

Example:

```
SELMSG,BUF,G1,CD1,SRC,34;           every single object betw. nr. 100 and 200,
SELMSG,BUF,G1,CD2,DEST,E5;         which meets the conditions CD1 and CD2 is
```

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DN,100-200,10,ALL,, ,SELMSG; going to be displayed

It is also possible to store tracedata, which has been traced to the tracebuffer. This is done with the command **COPY,STDTR,"filename"**. To display a file you can use the command **DISPLAY**.

195.4.2.6 Displaying the Status of the Tracer (STA)

By executing the command STA it is possible to display the status of Tracer at any given time. RES enables the user to put the settings to the standard values again and to clear the trace buffer.

1. Brief status report of the StandardTracer by entering **INFO=S**:
 - a) Maximum number of trace objects to be entered in the buffer
 - b) Number of selected trace objects
 - c) Number of trace objects in the buffer
 - d) Indication if the tracer is activated
 - e) Status of start and stop conditions
2. Medium-size status report of the StandardTracer by entering **INFO=M**:
 - a) Brief status report
 - b) Indication if the tracer has restart stability
 - c) StandardTracer file
 - d) Common information (user information, indication of the serialization mechanism which has been selected, number and size of buffers of resident tracer, number and size of buffers of trace buffer pool, information about Read Buffer and Read File).
3. Long status report of the StandardTracer by entering **INFO=L** or **INFO=STDTR**:
 - a) brief status report
 - b) Indication if the tracer has restart stability
 - c) Status report for the selection data
 - d) Standard tracer file (its name and status)
 - e) Common Information (user information, indication of the serialization mechanism which has been selected, number and size of buffers of resident tracer for each tracer type, number

and size of buffers of trace buffer pool for each tracer type, information about Read Buffer and Read File (name and status)).

4. Status report for selection data by entering INFO=**C**:
 - a) All set groups and set selection conditions for messages and LAN objects
 - b) All conditional conditions for the message dependent manipulation of the selection conditions during tracing
 - c) Condition bits for post-selection (if set)
 - d) Start, stop, stopall conditions (if set)
5. Status report for the trace file by entering INFO=**HD**:
 - a) Brief status report
 - b) Trace file and its status
 - c) Brief info about the content of the trace file (the detailed summary can be displayed by the command DISPLAY)

195.5 Technical Clarification

The following standard trace points and their corresponding trace object types are defined for message tracing:

- a) OS calls ON_P_SEND_MESSAGE_N, ON_P_SEND_MESSAGE_I, ON_P_SEND_MESSAGE_P, ON_P_SEND_MSG_N_NO_FREE, ON_P_SEND_MSG_I_NO_FREE, ON_P_SEND_MSG_P_NO_FREE with object type SD
- b) OS calls ON_P_RECEIVE_MESSAGE and ON_P_ACCEPT_MESSAGE, with object type RCV
- c) LAN trace point in the trace interface procedure in LAN subsystem. This LAN trace interface procedure is called by the various LAN layers with corresponding object types: ETHRV, ETHSD, TCP, TPI, IPDSD, IPDRV

If an error is detected during tracing, the tracer enters in the trace buffer a data record with an **error indication**. In the case of the display commands with TYPE=ALL these error indications are visible; they are indicated by the fact that a hexadecimal number is specified as the object type.

This hexadecimal number consists of 2 bytes:

- **first Byte** indicates the **type of Error**

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- **first hexadecimal digit** indicates **Group of conditions**, which is affected

1st digit of 1st byte	meaning
0	insignificant
1	Error in Group 1
2	Error in Group 2
3	Error in Group 3
4	Error in Group 4

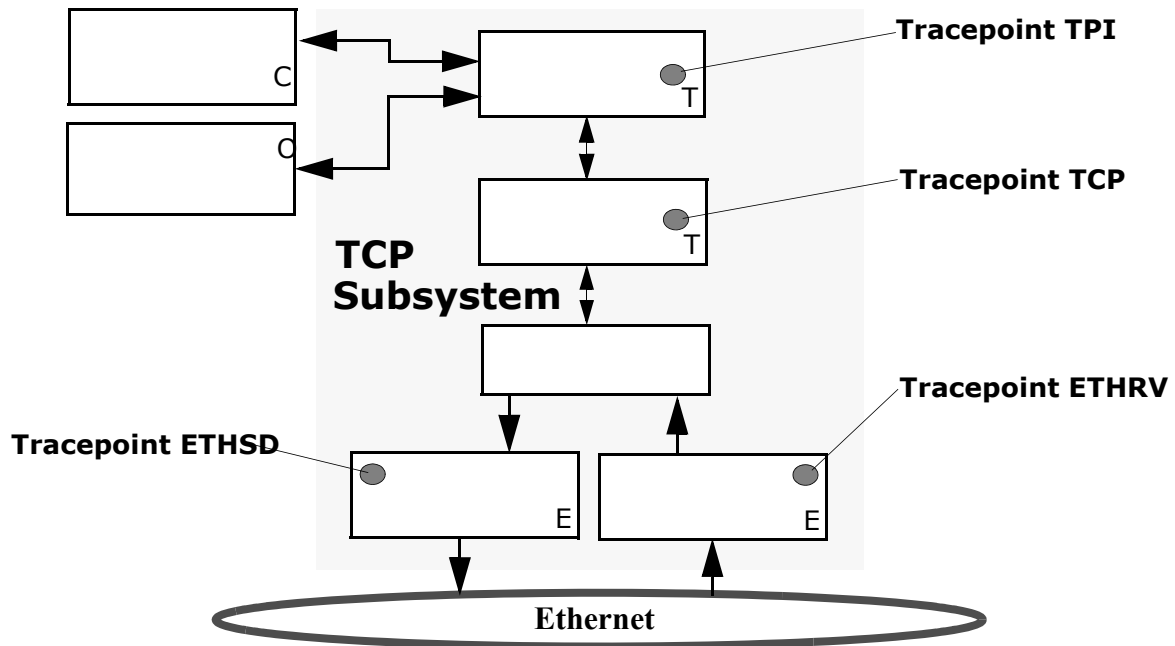
- **second hexadecimal digit** is an **Error code**

2nd digit of 1st byte	meaning	comment
1	nr. of comparison positions incorrect	the tracer administration variables have been destroyed
5	Message length incorrect	an inadmissible message token was transferred to the tracer
6	Offset incorrect for token	an inadmissible message token was transferred to the tracer
8	Trace point inadmissible	the tracing routine was branched to from a point which does not coincide with the scheduled trace points
A	Number of condition groups incorrect	the tracer's administration data has been (number of condition groups implausible) destroyed

- **second Byte** indicates involved **Object type**

errorcode 2nd byte	object type	comment
00	SD	an attempt was made to trace the message contents for a SEND_MESSAGE call
01	RCV	an attempt was made to trace the message contents for a RECEIVE_MESSAGE call
07	TIME	an attempt was made to trace time information
16	TPI	an attempt was made to trace the data of the TPI LAN layer
17	TCP	an attempt was made to trace the data of the TCP LAN layer
1A	IPDSD	an attempt was made to trace the data of IP Dual Port Ram Send
1B	IPDRV	an attempt was made to trace the data of IP Dual Port Ram Receive
1C	ETHSD	an attempt was made to trace the data of a protocol header of the outgoing frame in the ethernet driver
1D	ETHRV	an attempt was made to trace the data of a protocol header of the incoming frame in the ethernet driver

In the subsystem LAN there are 4 tracepoints:



- TPI:** This tracepoint makes it possible for the user to protocol and analyze connection specific one (the relevant) part of the interface between the LAN subsystem and its users (OS,CMS) . The activation of this tracepoint supplies instructive informations for clearing if an error occurs inside or outside of the LAN subsystem.
- TCP:** Via this tracepoint, again connection specifically, the calls to the protocol layer TCP itself and their processing can be watched. This tracepoint will supply necessary advisories for analyzing lost connections or problems concerning the build up of connections, keepalive functions, resource problems and so on.
- ETHSD, ETHRV:** For analyzing protocol data (Ethernet, IP, TCP, ICMP, ARP) the tracepoint ETHSD can be used for outgoing packages and the ETHRV for incoming packages. Both tracepoints provide exactly these (protocol) data, which were sent to or received from LAN. The Ethernet driver has no memory for connections, therefore the tracepoints are not connection specific. Further the protocolling of user data at this points it does not make sense, because TCP does **NOT** work message oriented.

195.5.1 Activating of a LAN Tracepoint

For activating the tracepoints ETHSD and ETHRV the commands

- selmsg,lan,g1,cd1..;
- setlan,g1,ethsd&ethrv;
- on;

The LAN Tracepoints (Application Description)

Technical Clarification

at the HICOM tracer will be sufficient. Additionally for the tracepoints TPI and TCP the connection must be selected, which is to be protocolled. Therefore the user must execute following steps:

1. Determine the data segment of OLTSTRX
2. Start the Debugger
3. Display the data segment of OLTSTRX

```
DEBUG INPUT FOR A1      :
    *`d c318:0(400)!` /* data segment of OLTSTRX */

0614T DISPLAY :DISPLAY EXECUTED

0000
C318:0000 = 53 74 61 72 74 20 6F 66 20 65 43 43 4F 4E 4E 00  Start of eCONN.
C318:0010 = 66 49 50 3A 20 00 00 00 00 66 50 6F 3A 20 00 00  fIP: ....fPo: ..
C318:0020 = 66 49 50 3A 20 00 00 00 00 66 50 6F 3A 20 00 00  fIP: ....fPo: ..
C318:0030 = 66 49 50 3A 20 00 00 00 00 66 50 6F 3A 20 00 00  fIP: ....fPo: ..
C318:0040 = 66 49 50 3A 20 00 00 00 00 66 50 6F 3A 20 00 00  fIP: ....fPo: ..
C318:0050 = 45 6E 64 20 6F 66 20 65 43 43 4F 4E 4E 20 20 00  End of eCONN  .
C318:0060 = 00 00 53 74 61 72 74 20 6F 66 20 53 74 61 62 6C  ..Start of Stabl
C318:0070 = 65 00 02 00 00 00 80 03 00 00 00 00 02 64 00 00  e.....d..
C318:0080 = 01 00 67 00 00 00 82 03 C0 00 02 01 02 64 02 80  ..g.....d..
C318:0090 = 01 00 05 00 00 00 80 03 00 00 00 00 00 66 00 00  .....f..
C318:00A0 = 00 00 0B 00 00 00 82 03 C0 00 02 02 02 64 02 80  .....d..
C318:00B0 = 00 00 08 00 00 00 82 03 C0 00 02 10 00 66 07 DA  .....f..
.....
```

4. The trace output shows 4 character strings. "Start of eCONN" and "End of eCONN" are enclosing the table „expected client connections“, "Start of Stable" and "End of Stable " the table „trace sockets“.
5. Both tables make it possible for the user to select the connections, which are to be protocolled.

195.5.1.1 Expected Client Connection

53	74	61	72	74	20	6F	66	20	65	43	43	4F	4E	4E	00	Start of eCONN.
66	49	50	3A	20	00	00	00	00	66	50	6F	3A	20	00	00	fIP: fPo: ..
66	49	50	3A	20	00	00	00	00	66	50	6F	3A	20	00	00	fIP: fPo: ..
66	49	50	3A	20	00	00	00	00	66	50	6F	3A	20	00	00	fIP: fPo: ..
66	49	50	3A	20	00	00	00	00	66	50	6F	3A	20	00	00	fIP: fPo: ..
45	6E	64	20	6F	66	20	65	43	43	4F	4E	4E	20	20	00	End of eCONN .
..																
IP address of										far end port						
far end host										number						

Figure 67 OLTSTRX.CC trace_client_conn_tbl

This table enables the user to set the trace-option for connections, which are not yet built up and where the station has the part of the client. Therefore the user enters the IP address of the partner processor and the portnumber of the partner in this table. Byte order: BIG ENDIAN (corresponds Network byte order). If a TCP user tries to establish a client- connection, the TCP is checking this table and if necessary will switch on the trace option for this socket.

Example:

For unknown reasons CCB can not establish a connection to CCB. By entering the IP address (192.0.2.1) and the portnumber (T'612) of the CCA in this table

```
>> 66 49 50 3A 20 C0 00 02 01 66 50 6F 3A 20 02 64 fIP:
....fPo: .d
```

and by switching on the tracepoints TCP and TPI with the HICOM tracer, the tester can watch the TCP during the buildup of the connection.

195.5.1.2 Trace Socket Table

example of trace socket table in ADP:

53	74	61	72	74	20	6F	66	20	53	74	61	62	6C	65	00	Start of Stable.
02	00	00	00	80	03	00	00	00	00	02	64	00	00	01	00	d....
67	00	00	00	82	03	C0	00	02	01	02	64	02	80	01	00	g.....d....
05	00	00	00	80	03	00	00	00	00	00	66	00	00	00	00	f....
0B	00	00	00	82	03	C0	00	02	02	02	64	02	80	00	00	d....
08	00	00	00	82	03	C0	00	02	10	00	66	07	DA	00	00	f....
.....																
socket		socket		IP address of		local		remote		trace_toggle						
identification		state		remote host		port		port		trace_state						
		lo hi						hi lo		hi lo						
.....																
45	6E	64	20	6F	66	20	53	74	61	62	6C	65	20	20	00	End of Stable

Figure 68 OLTSTRX.CC trace_socket_tbl

The only task of this table is to simplify the selection of TCP sockets/connections for protocolling. Therefore TCP enters every two seconds all valid sockets or connections respectively in the table and shows their state as well as their trace-option. By means of the last column of this table the user can switch over connection specifically the trace option by setting the "trace_toggle" byte to a value unequal 0. In case of the next update of this table TCP checks the "trace_toggle" column and switches over the trace option (ON->OFF resp. OFF->ON; ON=01, OFF=00). Then TCP sets the "trace_toggle" byte again to 00.

Note

If the IP address and the remote port are 0, it is a listener port. If a partner wants a connection to this port, then a copy of the socket is made for the new connection and the listener port remains unchanged. Making the copy also the trace option is taken over, so that the buildup of the connection can also be protocolled at the server.

Example

The user wants to watch the OS-message transfer between ADP and CCB and has already prepared the HICOM tracer appropriately. For the selection of the connection he has activated the HICOM debugger, has determined the beginning of the trace socket table and displayed the following table.

```
C318:0062 = 53 74 61 72 74 20 6F 66 20 53 74 61 62 6C 65
00 Start of Stable.

C318:0072 = 02 00 00 00 80 03 00 00 00 00 02 64 00 00 01
00 .....d....

C318:0082 = 67 00 00 00 82 03 C0 00 02 01 02 64 02 80 00
00 g.....d....

C318:0092 = 05 00 00 00 80 03 00 00 00 00 00 66 00 00 00
00 .....f....

C318:00A2 = 0B 00 00 00 82 03 C0 00 02 02 02 64 02 80 00
00 .....d....

C318:00B2 = 08 00 00 00 82 03 C0 00 02 10 00 66 07 DA 00
00 .....f....

C318:00C2 = 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 .....

C318:00D2 = 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 .....

.....
.....
```

Using the following "SET" command the trace option for the connection ADP<->CCB is switched on, as it is shown by the following command "DISPLAY".

```
* "set c318:C1(1)=5!"
* "d c318:b2(10)!"
```

```
C318:00B2 = 08 00 00 00 82 03 C0 00 02 10 00 66 07 DA 01
00 .....f....
```

Repeating the above command "SET" the trace option for the connection ADP<->CCB is switched off.

```
* "set c318:C1(1)=5!"
* "d c318:b2(10)!"
```

```
C318:00B2 = 08 00 00 00 82 03 C0 00 02 10 00 66 07 DA 00
00 .....f....
```

195.5.2 Format and Interpretation of the Trace Data

Remark: If the specified data doesn't exist, the corresponding component of the trace record is set to 0.

195.5.2.1 Tracepoint TPI

Offset	Data item	Size	Comment
0	IP address of remote host	4 Bytes	Byte order is BIG ENDIAN
4	local port	2 Bytes	
6	remote port	2 Bytes	
8	called TPI function	2 Bytes	See Table 18
10	return code of called function	2 Bytes	
12	additional parameter	2 Bytes	dependent on called function See Table 19
14	additional data array ...	max. 40 Bytes	

Table 17 Structure of the TPI trace record

TPI function identifier		TPI returncodes	
Value	Meaning	Value	Meaning
0x012E	TPI_LISTEN	0x0000	GOOD
0x012F	TPI_CONNECT	0x0028	RESOURCE_BUSY
0x0130	TPI_ACCEPT	0x0029	WOULD_BLOCK
0x0131	TPI_SEND	0x002A	CONN_LOSS
0x0132	TPI_RECEIVE	0x002B	TIMEOUT
0x0133	TPI_CLOSE	0x002C	DUMMY_CALLED
0x0134	TPI_SET_OPTION	0x002D	BAD_PARAM
0x0135	TPI_SET_MAILBOX	0x002E	FATAL_INTERNAL
0x0136	TPI_GET_OPTION		

Table 18 TPI function identifier and TPI returncodes

called function	add_param	add_data	len
TPI_LISTEN	none	NULL	0
TPI_CONNECT	none	NULL	0
TPI_ACCEPT	none	address info of remote host	16

Table 19 Additional parameter & additional data

The LAN Tracepoints (Application Description)

Technical Clarification

called function	add_param	add_data	len
TPI_SEND	bytes delivered for transmit	user data to be transferred	<= 40
TPI_RECEIVE	bytes received by the user	user data received by the user	<= 40
TPI_CLOSE	none	NULL	0
TPI_SET_OPTION	high byte: option group low byte: option; see Table 21	first byte: action set(1)/reset(0) other 2 bytes: option value	3
TPI_SET_MAILBOX	none	async message to be send to mailbox by TCP; see Figure 68	33
TPI_GET_OPTION	high byte: option group low byte: option; see Table 21	first byte: action set(1)/reset(0) other 2 bytes: option value	3

Table 19 Additional parameter & additional data

Offset	Data Item	Size	Comment
0	user data	16	defined by the user
16	Pointer to socket	4	pointer to the socket descriptor
20	socket identification	4	see <Betonung>Trace Socket Table on page 2516
24	message type	1	see Table 22
25	application tag	2	set by the user calling tpi_set_option (ROL_OPT_STD_CMS_COMM)
27	function identifier	2	identifier and return code of last called TPI function; see Table 18
29	return code	2	
31	info word	2	bytes sent/received or error information

Table 20 Structure of ASYNC message

Option Group		Option	
Value	Description	Value	Description
0X00	OL_LEVEL_DUMMY		No option defined
0X01	OL_LEVEL_IPPROTO	0X00	OL_IPPROTO_DUMMY
		0X01	OL_IPPROTO_NODELAY

Table 21 Option groups and options

The LAN Tracepoints (Application Description)

Technical Clarification

Option Group		Option	
Value	Description	Value	Description
0X02	OL_LEVEL_SOL_SOCKET	0X00	OL_SOL_SOCKET_DUMMY
		0X01	OL_SOL_SOCKET_SO_DEBUG
		0X02	OL_SOL_SOCKET_SO_KEEPALIVE
		0X03	OL_SOL_SOCKET_SO_DONTROUTE
		0X04	OL_SOL_SOCKET_SO_LINGER
		0X05	OL_SOL_SOCKET_SO_OOBLINLNE
		0X06	OL_SOL_SOCKET_SO_RCVBUF
		0X07	OL_SOL_SOCKET_SO_SNDBUF
		0X08	OL_SOL_SOCKET_SO_REUSEADDR
		0X09	OL_SOL_SOCKET_SO_RCVLOWAT
		0X0A	OL_SOL_SOCKET_SO_SNDLOWAT
		0X0B	OL_SOL_SOCKET_SO_RCVTIMEO
		0X0C	OL_SOL_SOCKET_SO_SNDTIMEO
		0X0D	OL_SOL_SOCKET_SO_USELOOPBACK
		0X0E	OL_SOL_SOCKET_SO_ERROR
0X03	OL_LEVEL_FCNTL	0X00	OL_FCNTL_DUMMY
		0X01	OL_FCNTL_FNDELAY
		0X02	OL_FCNTL_FASYNC
0X04	OL_LEVEL_IOCTL		No option defined
0X05	OL_LEVEL_ROLM	0X00	OL_ROLM_OPT_DUMMY
		0X01	OL_ROLM_OPT_OS_COMM
		0X02	OL_ROLM_OPT_APPL_TAG
		0X03	OL_ROLM_OPT_MBUF_DATA_SIZE
		0X04	OL_ROLM_OPT_CLUSTER_SIZE
		0X05	OL_ROLM_OPT_MTU_SIZE_MIN_HEAD
		0X06	OL_ROLM_OPT_STD_CMS_COMM

Table 21 Option groups and options

Value	Message Type	Description
0X01	ASYNC_MSG_ERROR	Some kind of fatal error has occurred on this socket.
0X02	ASYNC_MSG_ACCEPT_READY	The socket has a connection pending.
0X03	ASYNC_MSG_CONNECT_READY	The previously initiated connection call has completed.
0X04	ASYNC_MSG_WRITE_READY	Space is available in the socket output buffer. Note that this message is never sent if the socket is in OS communications mode.

Table 22 Asynchronous message types

Value	Message Type	Description
0X05	ASYNC_MSG_READ_READY	Data is available in the socket input buffer. Note that this message is sent for every incoming data segment received. Note that this message is never sent if the socket is in OS communications mode.
0X06	ASYNC_MSG_CONN_LOSS	The connection has been lost on this socket.
0X07	ASYNC_MSG_OOB_DATA	Out of Band data is coming in on this socket.

Table 22 Asynchronous message types

195.5.2.2 Tracepoint TCP

Offset	Data item		byte order	Comments
	byte0	byte1		
0	IP address of remote host		hi, lo	see Figure 68 on page 2516
4	local port		hi, lo	
6	remote port		hi, lo	
8	TCP location		lo, hi	see Table 24 on page 2522
10	TCP event		lo, hi	
12	socket state after		lo, hi	socket state after event processing see Table 26 on page 2523
14	connection state before		lo, hi	connection state before processing the event; see Table 27 on page 2523
16	actual chars in buffer		lo, hi	if the location is TA_INPUT or TA_DROP, this items refers to the receive buffer, otherwise to the send buffer
20	allocated memory		lo, hi	total memory allocated by mbufs and clusters (1 mbuf=256 byte, 1 clusters=1518 byte)
24	connection state after		lo, hi	connection state after event processing see Table 27 on page 2523
26	retransmit timer		lo, hi	Ticks to retransmit the data starting at "Seq-Nr: send unacknowledged" Note: 1 Tick = 0,5 sec.
28	persist timer		lo, hi	Ticks to send next data probe
30	keepalive timer		lo, hi	Ticks to send next keep-alive packet
32	number retransmissions		lo, hi	rexmit backoff idx

Table 23 Structure of the TCP trace record

The LAN Tracepoints (Application Description)

Technical Clarification

Offset	Data item		byte order	Comments
	byte0	byte1		
34	current rexmit interval		lo, hi	current retransmission interval
36	Seq-Nr: send unackn.		lo, hi	Sequence number send unacknowledged
40	Seq-Nr: send next		lo, hi	Sequence number send next
44	send window		lo, hi	max. number of unacknowledged bytes
46	Seq-Nr: receive next		lo, hi	Sequence number receive next
48				
50	receive window		lo, hi	amount of receive capacity (actually)
52	advertised rcv window		lo, hi	advertised receive window

Table 23 Structure of the TCP trace record

Value lo,hi	trace location	TCP events	comment
01 00	TA_USER	PRU_ATTACH	attach protocol to socket
		PRU_DETACH	detach protocol from socket
		PRU_BIND	bind socket to address
		PRU_LISTEN	listen for connection
		PRU_CONNECT	establish connection to peer
		PRU_ACCEPT	accept connection from peer
		PRU_DISCONNECT	disconnect from peer
		PRU_ABORT	abort (fast DISCONNECT, DETATCH)
		PRU_SLOWTIMO	500ms timeout
02 00	TA_OUTPUT	TCP-Flags + length of user data in WORDS	see TA_INPUT
03 00	TA_INPUT	TCP-Flags + length of user data in WORDS	the TCP-Flags (see Table 28 on page 2524) of received TCP packet will be saved into the Intel bits 0 - 5 of byte 0 in TCP event, the length of user data -counted in words- will be saved into the bits 6,7 of byte 0 and bits 0 - 7 of byte 1 (most significant byte)
04 00	TA_DROP	TCP-Flags + cause for dropping	analogous to TA_INPUT; the possible values of cause for dropping are listed in Table 25 on page 2523

Table 24 trace locations and their possible TCP events

Value lo,hi	trace location	TCP events	comment
05 00	TA_DROPAFTERACK	TCP-Flags + cause for dropping	analogous to TA_INPUT; the possible values of cause for dropping are listed in Table 25 on page 2523
06 00	TA_DROPWITHRST	TCP-Flags + cause for dropping	analogous to TA_INPUT; the possible values of cause for dropping are listed in Table 25 on page 2523

Table 24 trace locations and their possible TCP events

Value	Literal	Comment
1	TD_NOBUF	required memory resources not available
2	TD_NEWSOFAILED	creation of new socket failed due to no socket space
3	TD_TCPFLAG	unexpected flag received
4	TD_PCBFAILED	call of in_pcbconnect failed
5	TD_SEQFAIL	unexpected sequence number received
6	TD_CONNCLOSED	connection already closed
7	TD_WAITFIN	TCP waits for the FIN of communication partner

Table 25 Reasons for dropping a TCP packet and/or connection

Intel-Bit	Value lo, hi	Name	Comment
0	01 00	SS_NOFDREF	no file table ref any more
1	02 00	SS_ISCONNECTED	socket connected to a peer
2	04 00	SS_ISCONNECTING	in process of connecting to peer
3	08 00	SS_ISDISCONNECTING	in process of disconnecting
4	10 00	SS_CANTSENDMORE	can't send more data to peer
5	20 00	SS_CANTRCVMORE	can't receive more data from peer
6	40 00	SS_RCVATMARK	at mark on input
7	80 00	SS_PRIV	privileged for broadcast
8	00 01	SS_NBIO	non-blocking ops
9	00 02	SS_ASYNC	async i/o notify
10	00 04	SS_ISCONFIRMING	deciding to accept connection req

Table 26 Socket state bits

Value lo, hi	Name	Comment
00 00	TCPS_CLOSED	connection closed

Table 27 TCP FSM state definitions. Per RFC793, September, 1981.

The LAN Tracepoints (Application Description)

Technical Clarification

Value lo, hi	Name	Comment
01 00	TCPS_LISTEN	listening for connection
02 00	TCPS_SYN_SENT	active - have sent SYN
03 00	TCPS_SYN_RECEIVED	has send and received SYN
04 00	TCPS_ESTABLISHED	connection established
05 00	TCPS_CLOSE_WAIT	received FIN - waiting for close
06 00	TCPS_FIN_WAIT_1	has closed - sent FIN
07 00	TCPS_CLOSING	closed an FIN exchanged - await FIN ACK
08 00	TCPS_LAST_ACK	had FIN and close - await FIN ACK
09 00	TCPS_FIN_WAIT_2	has closed - FIN is acked
0A 00	TCPS_TIME_WAIT	quiet wait after close

Table 27 TCP FSM state definitions. Per RFC793, September, 1981.

Bit nr: ¹	Bit 5 (10)	Bit 4 (11)	Bit 3 (12)	Bit 2 (13)	Bit 1 (14)	Bit 0 (15)
Value:	H'20	H'10	H'08	H'04	H'02'	H'01
Name:	URG	ACK	PUSH	RST	SYN	FIN
Description:	"Urgent Pointer"- field is significant	Acknowledgment field is significant	Push Function	Reset (Close) the connection	Synchr. sequence numbers; start connection	No more data from sender; connection close

Table 28 TCP flags and their meaning

1 numbering in Intel-format (numbers in brackets correspond to network-numbering)

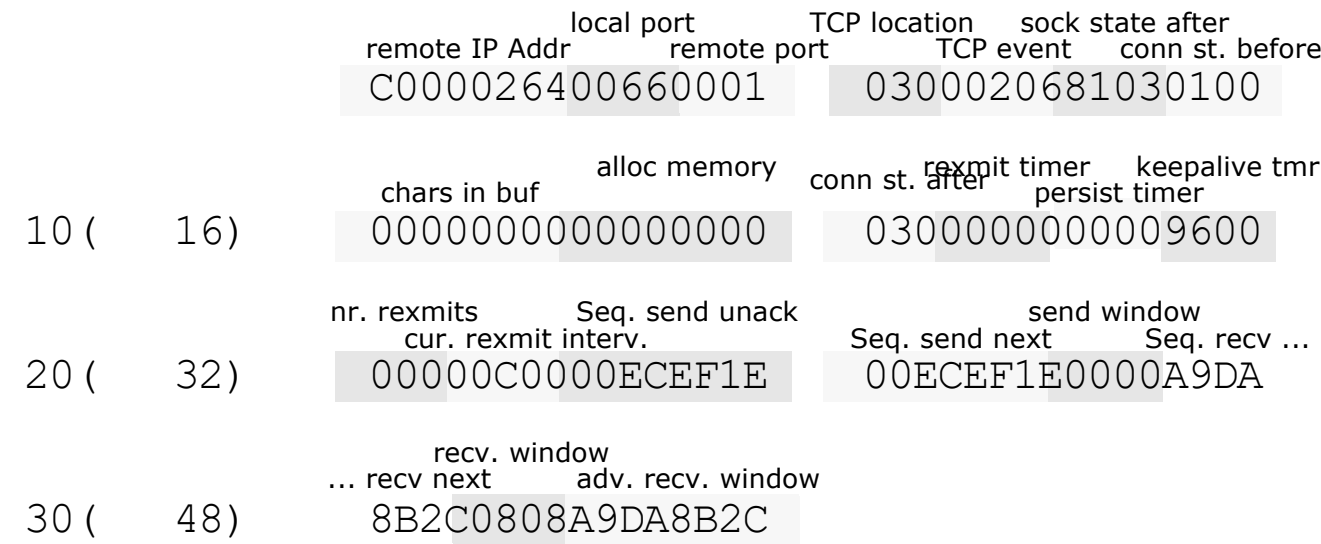


Figure 69 Trace example for trace point TCP

195.5.2.3 Tracepoint ETHSD, ETHRV

As already noticed at the beginning of Section 195.5 on page 195-2512, the trace points ETHSD and ETHRV have to be used if protocol data is needed. The structure of trace data is the same for the trace points ETHSD and ETHRV. This structure - for TCP communication - is shown and shortly commented in [Figure 71 on page 2527](#). For more details or other protocols, please look up to RFC791(IP), RFC792(ICMP), RFC793(TCP) and RFC826(ARP).

Note: for all protocol data the byte and bit order is BIG ENDIAN which is equal to the "network byte order" (this means: bits and bytes with lower position number have more significance).

		Destination MAC Addr	Source MAC Addr	Ver+IHL Type=IP TOS
		0020AFDDA7410200	C000020308004500	
		Identificat. Total Len	TTL Flags+Frag.Offs	Hdr. Chksum Prot=TCP
10 (	16)	00B47D0600003C06		7D2AC0000203C000
		... - Addr	Dst Port	Ackn Nr
20 (	32)	0210006607759986	Seq Nr	Flags Data Offs
		Src Port		
		0210006607759986		DEFA0F9115F05018
		Chksum Hdr+Data Window	Start of Data in case of "Data Offs" = 50	
30 (	48)	08089F0800000300		008C02F080648182

Figure 70 Trace example for trace points ETHSD & ETHRV

The LAN Tracepoints (Application Description)
Technical Clarification

The LAN Tracepoints (Application Description)

Technical Clarification

	byte0, bit0-bit7	byte1, bit8-bit15		
0	Destination MAC Address		E	Ethernet Header <u>Destination MAC Address</u> : Ethernet address of destination host (0xFF FF FF FF FF FF = Broadcast address) <u>Source MAC Address</u> : Ethernet address of source host <u>Type Field</u> : Ethernet Frame Type (EtherType_IP = 0x0800, EtherType_ARP = 0x0806)
2			T	
4			H	
6	Source MAC Address			
8			H	
10			D	
12	Type Field		R	
14	Ver+IHL	TypeOfService		
16	Total Length		I	
18	Identification		P	
20	Flags + Fragment Offset			IP Header <u>Ver (bit 0 - bit 3)</u> : IP Version 4 is the only supported <u>IHL (bit 4 - bit 7)</u> : length of IP header in Dwords (normally = 5) <u>TypeOfService</u> : unused inside the Atlantic LAN and always 0 <u>Total Length</u> : length of the datagram, measured in octets, including internet header and data <u>Identification: value</u> assigned by the sender to aid in assembling the fragments of a datagram. <u>Flags(bit0-2)</u> : Bit 0: reserved, must be zero Bit 1: 0 = may fragment, 1 = don't fragment Bit 2: 0 = last fragment, 1 = fore fragments. <u>Fragment Offset</u> : indicates where in the datagram this fragment belongs, it is measured in units of 8 octets <u>TimeToLive</u> : indicates the maximum time the datagram is allowed to remain in the internet system <u>Protocol</u> : indicates the next level protocol used in the data portion of datagram (ICMP = 0x0001, TCP = 0x0006, UDP = 0x0011) <u>Header Checksum</u> : a checksum on the header only <u>Source/Destination Address</u> : IP addr. of source/destination host TCP Header <u>Source/Destination Port</u> : The source/destination port number. <u>Sequence Number</u> : the sequence number of the first data octet in this segment <u>Acknowledgment Number</u> : contains the value of the next sequence number the sender of the segment is expecting to receive <u>Data Offset (bit 0 - 3)</u> : length of TCP header in Dwords(= 5) <u>Reserved (bit 4 - 9)</u> : Reserved for future use, must be zero. <u>Flags (bit 10 - 15)</u> : see Table 28 on page 2524 <u>Window</u> : number of data octets beginning with the one indicated in the acknowledgment field which the sender of this segment is willing to accept. <u>Checksum</u> : is the 16 bit one's complement of the one's complement sum of all 16 bit words in the header & data <u>Urgent Pointer</u> : communicates the current value of the urgentpointer as a positive offset from the sequence number in this segment. The urgent pointer points to the sequence number of the octet following the urgent data. This field is only be interpreted in segments with the URG control bit set
22	TimeToLive	Protocol	H	
24	Header Checksum		E	
26	Source Address		A	
28			D	
30	Destination Address		E	
32			R	
34	Source Port			
36	Destination Port		T	
38	Sequence Number		C	
40			P	
42	Acknowledgment Number			
44			H	
46	DataOffset +Reserved + Flags		D	
48	Window		R	
50	Checksum of Header + Data			
52	Urgent Pointer			

The LAN Tracepoints (Application Description)
Examples

195.5.2.4 Some Addresses

Addresses in network byte order (BIG ENDIAN)

Ethernet Addresses:	02 00 0C 00 02 01	CCA
	02 00 0C 00 02 02	CCB
	02 00 0C 00 02 03	ADP
IP Addresses:	0C 00 02 01	CCA
	0C 00 02 02	CCB
	0C 00 02 03	ADP
Port Addresses:	0200 - 0263	BOOT
	0264 - 02C7	OS
	02C8 - 032B, 0400 - 0463, 0066	CMS

195.5.2.5 Tracepoints IPDSD, IPDRV

These are the LAN tracepoints in the dual-port-ram for unixware 7. This are the IP-SEND and IP-Receive

195.6 Examples

Start AMO TRACA (in ADS), control of tracer in A1

Input:

<EXEC-TRACA:A1;

Output:

AMO TRACA VARIANT/VERSION L2/001 OF 2001-04-18
TRACER VARIANT/VERSION L2/007 OF 2001-04-18
TRACER INPUT IN A1 PLEASE:

Note

The user input request is followed by an asterisk to indicate that the user may now enter the next command.

Example 1: basic example

The buffer and all the selection tables of the StandardTracer must be reset.

Input:

```
*RES, STDTR;
```

Output:

```
TRACER INPUT IN A1 PLEASE:
```

Only the first 14 bytes of the OS_SEND and OS_RECEIVE messages are stored in the memory.

Input:

```
*MSGLEN, OS, G1, 14;
```

Output:

```
TRACER INPUT IN A1 PLEASE:
```

A maximum of 100 objects are entered in the trace buffer of the StandardTracer:

Input:

```
*MAXNO, 100;
```

Output:

```
TRACER INPUT IN A1 PLEASE:
```

Only the messages received by the AMC (task set value = H'33) or by an AMO (task set value = H'34) are to be selected:

Input:

```
*SELMSG, RCV, G1, CD1, DEST, 33&34;
```

Output:

```
TRACER INPUT IN A1 PLEASE:
```

The StandardTracer is activated:

Input:

```
*ON;
```

Output:

```
TRACER INPUT IN A1 PLEASE:
```

Get long information of StandardTracer:

Input:

```
*STA, STDTR;
```

Output:

```
*****
* STANDARD TRACER
*****
MAX:100      SELOBJ:34      ACTOBJ:34      TRC:ON      STARTCD:D      STOPCD:D
```

The LAN Tracepoints (Application Description)
Examples

```
RST:OFF      PETRACD:D      STOPALLCD:D

SELECTIONS AT TRACEPOINT RCV :
CONDITIONGROUP 1  ( MAX. MESSAGE LENGTH = 14 BYTES ) :
CONDITION 1: BYTE      0  = 33 34
*****
* COMMON INFORMATION                                     *
*****
USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:1  FLAGTR:2  AUTOTR:1  RDSTR:0  FREE:3
TRACER INPUT IN A1  PLEASE:
```

Deactivation of StandardTracer:

Input:

*OFF;

Output:

TRACER INPUT IN A1 PLEASE:

Interrogate number of trace objects in StandardTrace buffer:

Input:

*STA,S;

Output:

```
*****
* STANDARD TRACER                                     *
*****
MAX:100      SELOBJ:91      ACTOBJ:91      TRC:OFF  STARTCD:D  STOPCD:D
TRACER INPUT IN A1  PLEASE:
```

Output of the first 100 trace objects of the StandardTracer. Since there are only 91 objects in the buffer of the StandardTracer, only 91 objects are output.

The abbreviations in the header are defined as follows:

```
CURNO      =  Object number
SDNO       =  SD number for CP and DH, or type of task in the
case of PP
TY         =  Type of object
DE         =  Destination task
SC         =  Source task
PR         =  Processor in sequence no.
EV         =  Event code
```

Input:

*DF-T,100;

Output:

```
OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV  MESSAGE IN HEX      (ASCII)
   1 RCV   34 E5  1 20  34E5019020010301 88E300000054  4... .....T
   2 RCV   34 E5  1 24  34E5019124010301 88E3000000FF  4...$. ....
```

```

3 RCV      34 E5  1 24  34E5019224010301 88E300000101  4...$.
4 RCV      34 E5  1 24  34E5019324010301 88E3000002FF  4...$.
5 RCV      34 E5  1 24  34E5019424010301 88E3000003FF  4...$.
6 RCV      34 E5  1 24  34E5019524010301 88E3000004FF  4...$.
7 RCV      34 E5  1 24  34E5019824010301 88E3000005FF  4...$.
8 RCV      34 E5  1 24  34E5019A24010301 88E3000006FF  4...$.
9 RCV      34 E5  1 24  34E5019B24010301 88E3000007FF  4...$.
.
.
.
89 RCV     33 34  1  9  333401EC09132500 131200020154  34....%.T
90 RCV     33 38  1  1  333801EC01132500 131200020154  38....%.T
91 RCV     34 33  1  1  343301EC01132500 131200020154  43....%.T
H01: NO FURTHER OBJECT IS IN THE BUFFER
TRACER INPUT IN A1 PLEASE:

```

Output of last 3 objects in the buffer of the standard tracer

Input:

*DL-T, 3;

Output:

```

OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV  MESSAGE IN HEX  (ASCII)
89 RCV     33 34  1  9  333401EC09132500 131200020154  34....%.T
90 RCV     33 38  1  1  333801EC01132500 131200020154  38....%.T
91 RCV     34 33  1  1  343301EC01132500 131200020154  43....%.T
TRACER INPUT IN A1 PLEASE:

```

Example 2: Selection of messages with bit mask (for powerset)

All messages of an AMO (task value = H'34) should be selected, if the message byte 1 contains the bit mask H'E5.

The buffer and all selection tables of the StandardTracer are reset.

Input:

*RES, STDTR;

Output:

TRACER INPUT IN A1 PLEASE:

Input:

*SELMSG, OS, G1, CD1, DEST, 34;

TRACER INPUT IN A1 PLEASE:

*SELMSG, OS, G1, CD2, PST, 1, BIT1&BIT6&&BIT8&BIT3;

TRACER INPUT IN A1 PLEASE:

Output of the tracer status

Input:

*STA, STDTR;

Output:

The LAN Tracepoints (Application Description)

Examples

```
*****
* STANDARD TRACER                                     *
*****
MAX:UNLTD   SELOBJ:0      ACTOBJ:0      TRC:OFF   STARTCD:D   STOPCD:D
RST:OFF     PETRACD:D     STOPALLCD:D

SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      0 = 34
CONDITION 2: BYTE      1 = BIT1 BIT3 BIT6 BIT8
SELECTIONS AT TRACEPOINT RCV :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      0 = 34
CONDITION 2: BYTE      1 = BIT1 BIT3 BIT6 BIT8
*****
* COMMON INFORMATION                                   *
*****
USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:0  FLAGTR:2  AUTOTR:1  RDSTR:0  FREE:4

READ BUFFER: 1 BUFFER AT 64000 BYTE
TYPE:STANDARD  BEGOBJ:1      ENDOBJ:68      READPOINTER:37
TRACER INPUT IN A1  PLEASE:
```

Only received messages (RCV) should be selected when, additional to the prior conditions, bit 6 (= H'20) is contained in message byte 4.

Input:

```
*SELMSG, RCV, G1, CD3, PST, 4, BIT6;
TRACER INPUT IN A1 PLEASE:
```

Output of selection data of the StandardTracer

Input:

```
*STA,C;
```

Output:

```
SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      0 = 34
CONDITION 2: BYTE      1 = BIT1 BIT3 BIT6 BIT7 BIT8
SELECTIONS AT TRACEPOINT RCV :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      0 = 34
CONDITION 2: BYTE      1 = BIT1 BIT3 BIT6 BIT7 BIT8
CONDITION 3: BYTE      4 = BIT6
TRACER INPUT IN A1 PLEASE:
```

Output of messages between lower (5) and upper (12) limit

Input:

```
*DN-T,5-12;
```

Output:


```

OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV MESSAGE IN HEX (ASCII)
  5 SD      34 E5 13 A 34E513760A130900 13030C34020154 4.....T
  6 SD      34 E5 13 23 34E5137623130900 1303BE00020136 4..#.....6
  7 RCV      34 E5 13 23 34E5137623130900 1303BE00020136 4..#.....6
  8 SD      34 E5 13 2 34E5137602130900 13030000020100 4..v.....
  9 SD      34 E5 13 2F 34E513762F130900 13030001020154 4
10 RCV      34 E5 13 2F 34E513762F130900 13030001020154 4
11 SD      34 E5 13 29 34E5137629130900 13030550 4
12 RCV      34 E5 13 29 34E5137629130900 13030550 4
TRACER INPUT IN A1 PLEASE:

```

Example 3: Tracing of LAN-DATA; Storing with COPY

LAN objects of the ethernet layer with the values H'19 or H'1A in byte 5 are to be selected:

The buffer and all selection tables of the StandardTracer are reset.

Input:

```
*RES, STDTR;
```

Output:

```
TRACER INPUT IN A1 PLEASE:
```

Input:

```
*SELMSG, LAN, G1, CD1, BY, 5, 19&1A;
```

Output:

```
H10: TRACEPOINTS SET: ETHSD ETHRV
TRACER INPUT IN A1 PLEASE:
```

Additional LAN objects of the TCP layer with the value H'77 in byte 0 are to be selected:

Input:

```
*SELMSG, LAN, G2, CD1, BY, 0, 77;
```

```
*SETLAN, G2, TCP;
```

Output:

```
TRACER INPUT IN A1 PLEASE:
```

Output of the tracer status

Input:

```
*STA, STDTR;
```

Output:

```

*****
* STANDARD TRACER
*****
MAX:UNLTD SELOBJ:0 ACTOBJ:0 TRC:OFF STARTCD:D STOPCD:D
RST:OFF PETRACD:D STOPALLCD:D

SELECTIONS AT TRACEPOINT LAN :

```

The LAN Tracepoints (Application Description)
Examples

```
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
SELECTED LAN DATA: ETHSD ETHRV
CONDITION 1: BYTE      5  = 19 1A
CONDITIONGROUP 2 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
SELECTED LAN DATA: TCP
CONDITION 1: BYTE      0  = 77
*****
* COMMON INFORMATION                                     *
*****
USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:0  FLAGTR:2  AUTOTR:1  RDSTR:0  FREE:4

READ BUFFER: 1 BUFFER AT 64000 BYTE
TYPE:STANDARD  BEGOBJ:1      ENDOBJ:68      READPOINTER:37
TRACER INPUT IN A1  PLEASE:
```

Activating and deactivating the StandardTracer and displaying the first 8 trace objects:

Input:

```
*ON;
*OFF;
*DF-T,8,,ALL;
```

Output:

```
OUTPUT OF STANDARD TRACER BUFFER
CURN0 TY      OBJECT IN HEX                                     (ASCII)
  1 TCP        77E513760A130900 13030C34020154 4.....T
  2 ETHSD      34E5137623190900 1303BE00020136 4..#.....6
  3 ETHRV      34E5137623190900 1303BE00020136 4..#.....6
  4 TCP        77E5137602130900 13030000020100 4..v.....
  5 ETHSD      34E513762F1A0900 13030001020154 4
  6 ETHRV      34E513762F1A0900 13030001020154 4
  7 TCP        77E5137629130900 13030550      4
  8 TCP        77E5137629130900 13030550      4
TRACER INPUT IN A1 PLEASE:
```

Storing of StandardTrace buffer into a hard disk file:

Input:

```
*COPY,STDTR," :PAS:TRACER/TRACEBUF1";
```

Output:

```
H15: WRITING OF TRACE BUFFER COMPLETED
TRACER INPUT IN A1 PLEASE:
```

Display file status of the file " :PDS:TRACER/TRACEBUF2"

Input:

```
*DISPLAY,FILE," :PDS:TRACER/TRACEBUF2";
```

Output:

OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/TRACEBUF2

BLOCK	CURNO-BEG	CURNO-END	TIME	INFO
1	1	1708	2001-04-25 13:44:17	
2	1709	2612	2001-04-25 13:45:15	

TRACER INPUT IN A1 PLEASE:

Terminate AMO TRACS

Input:

*END;

Example 4: Storing selection table

Saving the selection criterions

Output:

H23: WRITING TRACET SELECTION TABLES FINISHED
TRACER INPUT IN A1 PLEASE:

Restore selectiontables from file:

Input:

*COPY,TAB-HD," :PAS:TRACER/SELTAB";

Output:

SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 16 BYTES) :
CONDITION 1: BYTE 0 = 34
CONDITION 2: BYTE 1 = BIT1 BIT3 BIT6 BIT7 BIT8

SELECTIONS AT TRACEPOINT RV :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 16 BYTES) :
CONDITION 1: BYTE 0 = 34
CONDITION 2: BYTE 1 = BIT1 BIT3 BIT6 BIT7 BIT8
COPY SELECTIONS FOR WHICH TRACEPOINTS?

Input:

SD

Output:

H24: READING TRACER SELECTION TABLES FINISHED
TRACER INPUT IN A1 PLEASE:

Example 5: HD-Tracen (StandardTracer)

All OS messages (SD and RV) will be selected. Messagelength will be set to 120 Byte.

SELNA,OS,G1,ALL;

TRACER INPUT IN A1 PLEASE:
*NALAE,OS,G1,120;

A StandardTracer file is created.

The LAN Tracepoints (Application Description)
Examples

Input:

*ON,HD," :PDS:TRACER/HD-TRACE1";

Output:

H19: :PDS:TRACER/HD-TRACE1 WITH 625 KB CREATED
H31: TRACE BUFFER POOL WITH 1250 KB CREATED

Output status of StandardTracer:

Input:

TRACER INPUT IN A1 PLEASE:
*STA,STDTR

* STANDARD TRACER *

MAX:UNBEG SELOBJ:579 ACTOBJ:579 TRC:EIN STARTBD:D STOPBD:D
RST:AUS PETRABD:D STOPALLBD:D

SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 120 BYTES) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

SELECTIONS AT TRACEPOINT RV :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 120 BYTES) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1
+-----+-----+-----+-----+
| BLOCK | CURNO-BEG | CURNO-END | INFO |
+-----+-----+-----+-----+
| 1-2 | 1 | 1287 | |
| 3-10 | 0 | 0 | LEER |
+-----+-----+-----+-----+

* COMMON INFORMATION *

USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER: 7 BUFFERS AT 64000 BYTE
STDTR:6 FLAGTR:0 AUTOTR:1 RDSTR:0 FREI:0

TRACE BUFFER POOL: 20 BUFFER WITH 64000 BYTE
STDTR:1 FLAGTR:0 DISPLAY:0 RDSTR:0 FREI:19
TRACER INPUT IN A1 PLEASE:

Display status of StandardTracer file

Input:

DISPLAY,

Output:

OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1
+-----+-----+-----+-----+-----+
| BLOCK | CURNO-BEG | CURNO-END | TIME | INFO |
+-----+-----+-----+-----+-----+

|	11	|	5974	|	6608	|	2001-05-22 11:47:37	|	|
|	12	|	6609	|	7181	|	2001-05-22 11:47:38	|	|
|	13	|	7182	|	7792	|	2001-05-22 11:47:42	|	|
|	4	|	1865	|	2458	|	2001-05-22 11:47:22	|	|
|	5	|	2459	|	3045	|	2001-05-22 11:47:23	|	|
|	6	|	3046	|	3616	|	2001-05-22 11:47:25	|	|
|	7	|	3617	|	4216	|	2001-05-22 11:47:26	|	|
|	8	|	4217	|	4789	|	2001-05-22 11:47:27	|	|
|	9	|	4790	|	5389	|	2001-05-22 11:47:28	|	|
|	10	|	5390	|	5973	|	2001-05-22 11:47:30	|	|

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

TRACER INPUT IN A1 PLEASE:

Output of the StandardTracer file:

Input:

TRACER INPUT IN A1 PLEASE:

*DF-T,5,16;

Output:

OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1

LFDNR	TY	ZDNR	DE	SC	PR	EV	MELDUNG IN HEX	(ASCII)
3617	SD		2C	2A	1	6E	2C2A01986E010000 150008FFFF085A53	,*.n.....ZS
3618	SD		E5	E5	10	0	E5E510E000100000 00000000	.....
3619	RV		E5	E5	10	0	E5E510E000100000 00000000	.....
3620	SD		1	1	1	16	010101D116000000 FFFF000002012C01	,
3621	RV		1	1	1	16	010101D116000000 FFFF000002012C01	,

TRACER INPUT IN A1 PLEASE:

Switch off StandardTracer

Input:

*AUS;

Output:

TRACER INPUT IN A1 PLEASE:

Status of StandardTracer file:

Input:

DISPLAY,;

Output:

OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1

BLOCK	CURNO-BEG	CURNO-END	TIME	INFO
21	12130	12802	2001-05-22 11:48:32	ENDE
22	12803	13328	2001-05-22 11:48:33	
23	13329	14059	2001-05-22 11:48:48	
24	14060	14581	2001-05-22 11:48:49	
25	14582	15190	2001-05-22 11:48:58	
16	9100	9758	2001-05-22 11:48:08	
17	9759	10376	2001-05-22 11:48:18	
18	10377	10958	2001-05-22 11:48:19	
19	10959	11538	2001-05-22 11:48:21	
20	11539	12129	2001-05-22 11:48:22	

The LAN Tracepoints (Application Description)
Parameter Description

```
+-----+-----+-----+-----+-----+
TRACER INPUT IN A1 PLEASE:

Output of StandardTracer file:

Input:

*DN,12800-12805,16;

OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1
LFDNR TY ZDNR DE SC PR EV  MELDUNG IN HEX          (ASCII)
12800 ZEIT                2001-05-22 11:48:32:440
12800 RV                  1 97  1  0  0197018800000900 001007000201705C .....p.
12801 ZEIT                2001-05-22 11:48:32:440
12801 SD                  1  1  1  D  010101890D0040B1 00000201705C40B1 .....p...
12802 ZEIT                2001-05-22 11:48:32:440
12802 RV                  1  1  1  D  010101890D0040B1 00000201705C40B1 .....p...
12803 ZEIT                2001-05-22 11:48:32:440
12803 SD                  33 38  1  1  3338015001131100 1308000201545241 38.P.....TRA
12804 ZEIT                2001-05-22 11:48:32:440
12804 SD                  E5 E5 10  0  E5E510E000100000 00000000 .....
12805 ZEIT                2001-05-22 11:48:32:440
12805 RV                  E5 E5 10  0  E5E510E000100000 00000000 .....
TRACER INPUT IN A1 PLEASE:
```

195.7 Parameter Description

AKTPOS	Used in command: SELMSG; specifies the position of the byte in current message (setting conditionals conditions) Type of Input : Single value, mandatory Possible Values : 0 - 12000
ANS	Used in command: COPY, ON; specifies if copy is to continue Type of Input : Single value, mandatory Possible Values : Y Yes N No
AREA	Used in command: COPY; areas for which the command is valid Type of Input : single Value, mandatory Possible Values STDTR StandardTracer buffer TAB-HD save selection table HD-TAB read selection table
BITPOS	Used in command: SELMSG;

Bitpositions which may be used for building a byte mask for mask comparison

Type of Input	: Single value, mandatory or linked Single values and/or range entries, mandatory	
Possible Values	: BIT1	Setting the 1. bit of a byte
	: BIT2	Setting the 2. bit of a byte
	: BIT3	Setting the 3. bit of a byte
	: BIT4	Setting the 4. bit of a byte
	: BIT5	Setting the 5. bit of a byte
	: BIT6	Setting the 6. bit of a byte
	: BIT7	Setting the 7. bit of a byte
	: BIT8	Setting the 8. bit of a byte

BLOCKNO Used in command: DN, DN-T;
specifies the block number on the harddisk

Type of Input	: Single value, mandatory
Possible Values	: 1 - 65535

CMD Branch parameter,
indicates the tracer command

Type of Input	: Single value, mandatory
Type of Input	: Single value, mandatory
Possible Values	: OFF, USER, DA, DB, DF, DISPLAY, DL, DN, ON, COPY, END, MAXNO,MSGLEN, P, RES, RST, SELMSG, SELSTOP, SETLAN, STA, DA-T, DB-T, DF-T, DL-T, DN-T (for explanation see Functional Overview)

CNT Used in commands: DA, DB, DF, DL, DA-T, DB-T, DF-T, DL-T, DN-T;
indicates number of trace objects to be output

Type of Input	: Single value, optional
Possible Values	: 1 - 65535
Default Value	: 10

COND Used in commands: SELMSG
branch parameter, specifies which condition is set.

Type of Input	: Single value, optional	
Possible Values	: ALL	Select all messages
	: OFF	Deactivate message selection for a group or deactivate selection at gate trace points

The LAN Tracepoints (Application Description)

Parameter Description

	CD1	1st condition
	CD2	2nd condition
	CD3	3rd condition
	CD4	4th condition
	CD5	5th condition
	CD6	6th condition
	CD7	7th condition
	CD8	8th condition
	CCD1	1st conditional condition (SELMSG only)
	CCD2	2nd conditional condition (SELMSG only)
	CCD3	3rd conditional condition (SELMSG only)
	CCD4	4th conditional condition (SELMSG only)
	CCD5	5th conditional condition (SELMSG only)
	CCD6	6th conditional condition (SELMSG only)
	CCD7	7th conditional condition (SELMSG only)
	CCD8	8th conditional condition (SELMSG only)
Default Value	: OFF	
CONDGRP	Used in commands: MSGLEN, SELMSG, SETLAN; specifies group for which conditions are to be set	
Type of Input	: Single value, optional (SELMSG) Single value, mandatory (MSGLEN, SETLAN)	
Possible Values	: For MSGLEN, SETLAN: G1 Condition group 1 G2 Condition group 2 G3 Condition group 3 G4 Condition group 4 : For SELMSG: G1 Condition group 1 G2 Condition group 2 G3 Condition group 3 G4 Condition group 4 OFF Deactivate message selection at a trace point	
Default Value	: OFF	
DISPLACE	Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SELMSG; indicates the displacement of the byte in the trace object which is to be compared with the values of parameter VAL	
Type of Input	: Single value,	

		mandatory in SELMSG optional in DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SELMSG
Possible Values	: 0 - 12000	
FILE	Used in command: COPY, DISPLAY, ON; defines the file name of a file for storing the trace buffer on hard disk.	
Type of Input	: Single value, mandatory	
Possible Values	: valid file name (e.g. ":PAS:TEST" or ":DBD:TEST") or "*" (just in DISPLAY) which stands for the last filename, which has been used in ON or DISPLAY.	
FILETYPE	Used in command: DISPLAY; file of the tracer type	
Type of Input	: Single value, mandatory	
Possible Values	: * last file is opened FILE user defined file name OFF block or deactivate or delete trace-criteria STDTR standard tracer buffer	
FLDTYPE	Used in command: SELMSG; branch parameter, specifies the field in the trace object on the basis of which selection is to be made.	
Type of Input	: Single value, mandatory	
Possible Values	: BY next defined byte DEST destination task EV event code PST powerset resp. mask comparison SRC source task SEVT subevent code SU subunit	
INFO	Used in command: STA; indicates how much information is output	
Type of Input	: Single value, optional	
Possible Values	: S short L long M medium C selection conditions STDTR long information of StandardTracer	
Default Value	: S	

The LAN Tracepoints (Application Description)

Parameter Description

LEN	Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, MSGLEN; Commands DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: maximum output length of a trace object in bytes Command MSGLEN: maximum entry length for a message. The supplementary data, e.g. SDNO, etc., is not included. Type of Input : Single value, optional Possible Values : 0 - 65535 (may be reduced by the AMO to the maximum value implemented) Default Values : Commands DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: None (full object length is default value) Command MSGLEN: 16
LOCK	Used in command: SELMSG; Specifies the lock of dynamic manipulations of conditions Type of Input : Single value, optional Possible Values : BLOCK blocking execution of conditional conditions UNBLO unblocking execution of conditional conditions
MAXBLOCK	Used in command: ON; Specifies the filesize in multiple of trace buffer. Type of Input : Single value, optional Possible Values : 1 - 99 Default Value : 10
MAXNO	Used in command: MAXNO; specifies the maximum number of trace objects to be written into the buffer. Type of Input : Single value, optional Possible Values : 0 to 65535 Default Value : 0 (= unlimited)
NO	Used in command: DN, DN-T; the objects in the trace buffer are consecutively numbered from 1 to 65535 (0 is 65536). This consecutive number can be used to specifically address each trace object. Type of Input : Single value, linked Single values mandatory Possible Values:: 0 - 65535
NUMCD	Used in command: SELMSG;

Specifies the NUMBER of ConDitions which are dynamic to change.

Type of Input : Single value, optional

Possible Values : 1 - 8

Default Value : 1

OVERWRT

Used in command: ON;

Specifies whether a file is overwritten or not

Type of Input : Single value, optional

Possible Values Y File will be overwritten

N File will be not overwritten

POOLSIZE

Used in command: ON

specifies the number of trace buffers in the trace buffer pool

Type of Input : Single value, optional

Possible Value : 0 (no trace buffer pool)

7 - 99

Default Value : 20

RESOBJ

Used in command: RES;

parts of the tracer that are reset.

Type of Input : Single value, optional

Possible Values : BUF Trace buffer, i.e. the buffer contents are deleted.

TBL All selection tables, i.e. no message is selected, no dynamic memory is selected, no control condition is set. All the length fields are set to 16 bytes. (The condition bits for post-selection remain unchanged).

ALL The trace buffer and all selection tables are reset.

Default Value : BUF

STYPE

Used in commands: ON, RST, SELMSG, SELSTOP;

specifies how the criterion for restart stability (RST)

and/or the serialization mechanism is to be set (SELSTOP)

and/or what action is to execute (SELMSG)

and/or if the trace result is also to store on harddisk (ON)

Type of Input : Single value, optional in ON
Single value, mandatory in RST, SELMSG, SELSTOP

Possible Values : For ON:

BUF Tracing only in trace buffer (Default Value)

The LAN Tracepoints (Application Description)

Parameter Description

	HD	the full trace buffer is to store in a file on HD
	For RST:	
	OFF	Tracer is not to have restart stability
	ON	Tracer is to have restart stability
	For SELMSG:	
	ADD	adding of a selection value
	DEL	deleting of selection values of a condition
	SET	setting of a selection value
	SUB	deleting of a selection value
	For SELSTOP:	
	OS	Serialization with OS resources
	LOCK	Serialization with interrupt disable
TARGETCD	Used in commands: SELMSG; indicates whether dynamic condition is to be set	
	Type of Input	: Single value, optional
	Possible Values	: CD1 first condition CD2 second condition CD3 third condition CD4 fourth condition CD5 fifth condition CD6 sixth condition CD7 seventh condition CD8 eighth condition
	Default Value	: Value of the parameter COND
TARGETGRP	Used in commands: SELMSG; indicates for what group a dynamic condition is to be set	
	Type of Input	: Single value, optional
	Possible Values	: G1 condition group 1 G2 condition group 2 G3 condition group 3 G4 condition group 4
	Default Value	: Value of the parameter CONDGRP
TARGETPO	Used in commands: SELMSG; indicates the byte position in the target message (for setting conditional conditions)	
	Type of Input	: Single value, mandatory
	Possible Values	: 0 - 12000

TARGETTP	Used in commands: SELMSG; indicates the target trace point for conditionals conditions Type of Input : Single value, optional Possible Values : LAN LAN data PT stop condition for peripheral lw tracer RCV tracepoint in OS_RECEIVE_message SD tracepoint in OS_SEND_message START start condition for tracer STOP stop condition for tracer STOPALL stop condition for all tracer in system TIME time condition for tracer Default Value : Value of the parameter TRACEPT
TEST	Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SELMSG; indicates how the value is to be tested in pre- or post-selection (comparison TEST). Type of Input : Single value, optional Possible Values : Commands DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: E equality NE inequality SELMSG in accordance with the set condition bits (For SELMSG,BUF,..?) Command SELMSG: E equality NE inequality Default Value : E
TEXT	Used in commands: USER; contains infotext assigned to other users of the tracer and/or a name of own switch for in the net stopped partner switch Type of Input : Single value, optional Possible Values : Text, max 70 chars
TRACEPT	Used in commands: SELMSG, MSGLEN; specifies the trace point or the control condition at which a select criterion is to be set for messages. Type of Input : Single value, mandatory Possible Values : BUF Buffer; setting of condition bits for post-selection (only SELMSG)

The LAN Tracepoints (Application Description)

Parameter Description

	LAN	LAN trace point
	OS	SD and RCV
	RCV	RECEIVE_MESSAGE in OS
	SD	SEND_MESSAGE in OS
	START	Start condition
	STOP	Stop condition
	STOPALL	Stopall condition
	TIME	Time condition
TYPE	Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SETLAN; For DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: specifies which type of trace objects is to be output For SETLAN: specifies which type of LAN objects is to be traced Type of Input : Single value, for SETLAN mandatory, else optional Possible Values : For SETLAN: ETHRV Ethernet driver: protocol headers of incoming frames ETHSD Ethernet driver: protocol headers of outgoing frames IPDSD IP data: dual-port-ram send IPDRV IP data: dual-port-ram receive TCP TCP data (Transmission Control Protocol) TPI TPI data For DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: ALL all objects ETHRV Ethernet driver: protocol headers of incoming frames ETHSD Ethernet driver: protocol headers of outgoing frames LAN all LAN objects: ETHRV, ETHSD, TCP, TPI, IPDSD, IPDRV OS SD and RCV RCV all messages from trace point RCV SD all messages from trace point SD TCP TCP data (Transmission Control Protocol) TPI TPI data Default Value : OS	
UNIT	Used in command P	

	Processor to which the AMO is connected
	Type of Input : Single value, optional
	Possible Values : A1 ADS
	Default Value : A1
VAL	Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SELMSG; Values with which the specified field is compared for selection. Several signal values must be viewed as logically OR Type of Input : Single value, linked Single values and/or range entries mandatory in SELMSG optional in DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T Possible Values : hex values 00 - FF.
WRAP	Used in commands: ON; indicates whether the trace file is to be wrap around Type of Input : Single value, optional Possible Values : Y wrap around the file N if file is full trace data are written only in the TB

195.8 Error Messages and Advisories

195.8.1 Error Messages

F01:	READ POINTER IS INVALID
F02:	TRACEPOINT IS ILLEGAL IN THIS PROCESSOR
F03:	RECORD WITH THIS NUMBER IS NOT IN THE BUFFER
F04:	THIS SELECTION IS ILLEGAL WITH THIS TRACEPOINT
F05:	LENGTH IS TOO HIGH
F06:	COMMUNICATION WITH THE TRACER IN <xxxxxx> IMPOSSIBLE
F07:	TRACER IS ALREADY ON; START CONDITION IS IN WAITING STATE
F08:	TRACEPOINT CANNOT BE SET
F09:	COND = ALL IMPOSSIBLE WITH START AND STOP
F10:	FUNCTION NOT ALLOWED BECAUSE OF DISABLED INTERRUPTS
F11:	ADRESSINFORMATION UNPLAUSIBLE, NO VALID DATABASE-INDEX

The LAN Tracepoints (Application Description)

Error Messages and Advisories

F12: ADDRESS MISSING OR UNCOMPLETE

F13: NO VALID SELECTOR

F14: NO GATE SELECTOR OR GATE NOT IN GTD

F15: DESIRED CALL GATE CANNOT BE SET AS TRACEPOINT

F16: LTG NUMBER EXCEEDS XX

F17: LTU NUMBER EXCEEDS XX

F18: LINE NUMBER EXCEEDS XXXX

F19: CIRCUIT ADDRESS INPLAUSIBEL OR LINE NOT CONFIGURED

F20: HIERARCHY IN FLEX-ADR NOT SUFFICIENT FOR ADRESSING

F21: TRACEPOINT CANNOT BE RESET

F22: CREATION OF FILE FAILED WITH STATUS @@@@H

F23: OPENING OF FILE FAILED WITH STATUS @@@@H

F24: SEEKING IN FILE FAILED WITH STATUS @@@@H

F25: READING FROM FILE FAILED WITH STATUS @@@@H

F26: WRITING TO FILE FAILED WITH STATUS @@@@H

F27: CLOSING OF FILE FAILED WITH STATUS @@@@H

F28: CREATION OF SEGMENT FAILED WITH STATUS @@@@H

F29: FILE DOES NOT CONTAIN TRACE DATA

F30: FILE CONTAINS SWU TRACE DATA. USE AMO TRACS

F32: LAN SELECTION COULD NOT BE SET FOR: @@@@

F33: TRACEPOINT <xxxxxxx> NOT DEFINED

F34: CAN NOT PERFORM CONVERSATION

F35: PROTOCOL OF THIS CIRCUIT CURRENTLY NOT SUPPORTED

F36: FEATURE NOT SUPPORTED BY CURRENT APS

F37: DELETING OF FILE FAILED WITH STATUS @H

F39: RECORD WITH INCONSISTENT DATA

F40: FILE CONTAINS NO TRACER SELECTION TABLES

F41: NOT ENOUGH MEMORY FOR A TRACE BUFFER POOL WITH @@@@ kB

F42: TRACE FILE IS USED BY ANOTHER TRACER

F43: NO VALID TRACE BUFFER POOL

F44: NOT ALL BUFFER WERE WRITTEN IN OLD FILE

F45: READ BUFFER DOES NOT EXIST

F46: TRACE BUFFER POOL NOT CREATED

F48: A ERROR OCCUR DURING RELEASE OF TRACEBUFFERPOOL

195.8.2 Advisories

H01: NO FURTHER OBJECT IS IN THE BUFFER

H02: PROCEEDING FROM THE DESIRED START THERE ARE ONLY <xxxxx> ENTRIES

H03: AMO TRACA NOT AVAILABLE ON A MONOPROCESSOR SYSTEM, USE AMO TRACS

H04: THIS SELECTION OCCUPIES CONDITION XX AND XX

H05: IN THIS CONTEXT THE VALUE MEANS THE ABSENCE OF A LIMIT

H06: DESIRED FUNCTION NOT AVAILABLE

H07: THE NUMBER OF (CYCLICALLY) ENTERED OBJECTS IS UNLIMITED NOW

H08: TRACE BUFFER IS EMPTY

H09: OBJECT COULD NOT BE OUTPUT COMPLETELY

H10: TRACEPOINTS SET: XXXXX XXXXX XXXXX

H11: TRACEPOINTS POSSIBLE AT MOST: CP DH PP

H12: LENGTH HAS BEEN REDUCED TO ITS ALLOWED MAXIMUM

H13: NO GROUPS FOR POSTSELECTION. INPUT INSIGNIFICANT

H14: NOT EXECUTED FOR TPT @@, NO SELECTION DEFINED FOR G@

H15: WRITING OF TRACE BUFFER COMPLETED

H17: FILE ALREADY EXISTS. OVERWRITE? (Y/N)

H18: TRACE BUFFER NOT EMPTY. OVERWRITE? (Y/N)

H19: '<xxxxxxxxxxxxxxxxxxxxxx>' WITH <xxxxxx> KB CREATED

H20: NUMBER EXISTS IN BLOCKS <xxx> <xxx> <xxx> <xxx> <xxx> <xxx>

H23: WRITING TRACER SELECTION TABLES FINISHED

H24: READING TRACER SELECTION TABLES FINISHED

H26: IRREGULAR INPUT

H27: TRACE BUFFER POOL RELEASED

H28: TRACE BUFFER POOL WITH @@@@ KB CREATED

H33: TIME IS ALWAYS RECORDED. INPUT IS IGNORED.

H34: TRACE FILE IS EMPTY

H35: RELEASE OF BUFFER POOL IS STARTED

H36: AMO-TRACA IS USED BY ANOTHER USER

OR

AMO-TRACA WAS ABORTED RESET WITH 'RELOVL;'

The LAN Tracepoints (Application Description)

Error Messages and Advisories

196 TRACS - Operation of the System Tracer (SWU)

Restrictions	Functions of the AMO	Examples
Interrelationships	Technical Clarification	Parameter Description
General	The LAN Tracepoints (Application Description)	Error Messages and Advisories

196.1 Restrictions

This AMO Description is valid from HiPath 4000 V1.0 on.

196.2 Interrelationships

AMO TRACS communicates with the tracer resident in the specified module (processor).

Direct interrelationships exist only to subsystems, containing trace points.

196.3 General

The tracer provides the system specialist with a tool by means of which **message traffic** between the individual program complexes of the system and **LAN objects** can be conveniently traced.

Further it is possible to record the most important **dynamic memories** of call processing, depending on line-addresses either referenced in messages or user-defined on CALL-gates of GDT.

Therefore the Tracer is an important on-line test aid for use in the field and at customers' premises.

Communication with the terminal is handled by AMO TRACS. Although the tracer can select internal messages and other trace objects and write them into the buffer without this AMO, the AMO is essential for changing the selection and for outputting the trace objects.

Note

For the IS, a similar tracer tool is available, which is controlled with the AMO TRACA (see AMO description of [TRACA - System Message Tracer \(IS\)](#)).

196.3.1 Definition of Terms

Trace objects are:

- Messages that are exchanged between tasks
- LAN data of the various LAN layers
- Dynamic memories addressable on a message-dependent basis
- Dynamic memories at call gates, addressable on a user-dependent basis.

Trace points are locations in the software at which the tracer is called.

The tracer offers extensive options for selection criteria. There is a **selection table** for each trace point.

The selection table for a trace point contains the conditions which must be fulfilled by a message or a LAN object in order to be stored in the trace buffer by the tracer.

Typical, most frequently used selection criteria in a message are for example:

- Byte 0 destination task
- Byte 1 source task
- Byte 4 event code

The selection table contains also "conditional conditions". During the trace process these conditions control a specific manipulation of the selections which depends on the content of the message.

196.3.2 Functional Overview

The following functions are implemented in the AMO:

- a) Activation / Deactivation of AutoTracer, storing an AutoTracer file with the command **AUTOTR**
- b) Storing a trace buffer of a specified tracer in a file and store or restore tracer selection tables in or from a file with the command **COPY**
see [Section 196.4.2.6, "Displaying Trace-Data \(DISPLAY, DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T\)"](#)
- c) Assignment of a file to the output with command **DISPLAY**
see [Section 196.4.2.6, "Displaying Trace-Data \(DISPLAY, DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T\)"](#)

- d) Output of trace objects with **DA**, **DB**, **DF**, **DL** and **DN** or with **DA-T**, **DB-T**, **DF-T**, **DL-T** and **DN-T** (output without time stamps)
see [Section 196.4.2.6, "Displaying Trace-Data \(DISPLAY, DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T\)"](#)
- e) Termination of the AMO with **END**.
Important: The tracer itself remains unaffected !
- f) Activation / Deactivation and definition of the Flagtrace selections with **FLAGTR**
see [Section 196.4.2.3, "FlagTracer \(FLAGTR\)"](#)
- g) Definition of the maximum number of trace objects which are to be entered in the buffer, with **MAXNO**.
- h) Definition of the maximum entry length for messages entered in the buffer, with **MSGLEN** (message length)
see [Section 196.4.2.4, "MSGLEN"](#)
- i) Definition of selections for a netwide trace-stop with the command **NETSTOP**.
- j) Deactivation of the StandardTracer with **OFF**
see [Section 196.4.2.5, "Activation and Deactivation of the StandardTracer \(ON, OFF\)"](#)
- k) Activation of the StandardTracer, determination of poolsize and tracing to hard disk with command **ON**
see [Section 196.4.2.5, "Activation and Deactivation of the StandardTracer \(ON, OFF\)"](#)
- l) Change the processor, which controls the Tracer with command **P** (processor)
- m) Activation / Deactivation and definition of selections for RDSTracer with the command **RDSTR**
- n) Resetting a trace buffer, the trace buffer pool and selection tables with **RES** (RESet)
- o) Definition of the restart stability of the tracer with **RST**
- p) Selection of dynamic device memories by means of the command **SELDYN** (SElect DYNamic memory)
see [Section 196.4.2.2, "Selection of dynamic memory \(SELDYN\)"](#)
- q) Selection of messages or LAN objects with **SELMSG** (select message)
see [Section 196.4.2.1, "SELMSG"](#)

TRACS - Operation of the System Tracer (SWU)

Functions of the AMO

- r) Selection of the serialization mechanism for the tracer with the command **SELSTOP** (stop selection in the event of a conflict)
- s) Selection of the LAN object types with **SETLAN**
see [Section 196.6.1, "Activating of a LAN Tracepoint"](#)
- t) Output of the tracer status with **STA** (STAtus)
see [Section 196.4.2.7, "Save the Trace data \(COPY\)"](#)
- u) Megatrace with **MAXBLKFL**
see [Section 196.4.2.11, "Megatrace"](#)
- v) Input of an advisory for other users of the tracer with command **USER**

In general the Hicom-tracer is not used by just one user. Therefore it is sometimes difficult to check who made the possibly existing tracer-settings and to check if they are still needed.

For assigning the tracer-settings to an user the user can enter any comment (e.g. name, telephone number,...). This comment will be displayed in connection with status displays (STA,...;).

196.4 Functions of the AMO

- [EXEC-TRACS](#) : Start of AMO TRACS
- [INPUT-TRACS](#) : Data input request in dialog mode

196.4.1 EXEC-TRACS

Procedure Overview

Command Code	Parameter
EXEC-TRACS	UNIT=<param>;

Notes

- a) AMO TRACS primarily controls the tracer in the SWU processor specified. The AMO itself is run in the ADS.
- b) The AMO remains in the dialog mode for several minutes; if no input is made within this period, it terminates automatically.

Example

Input:

```
<EXEC-TRACS:BPA;
```

Output:

```
AMO TRACS VARIANT/VERSION L2/001 OF 2001-04-18
TRACER    VARIANT/VERSION L2/007 OF 2001-04-18
TRACER INPUT IN BPA PLEASE:
```

Input:

```
*END;                                     * = command input
prompt
```

196.4.2 INPUT-TRACS

The action INPUT-TRACS is only used for WRITE-READ access and cannot be entered by the user at the administration and maintenance terminal (AMT). Only the text shown below is displayed at the AMT as an input request to the user (the asterisk which follows the text indicates the ready state):

```
TRACER INPUT IN <processor name> PLEASE:
*
```

This output text also indicates that the AMO has successfully executed the previous command.

The following commands (CMD) are defined:

```
CMD= AUTOTR, AUTOTR=OFF;
CMD= AUTOTR, AUTOTR=ON;
CMD= AUTOTR, AUTOTR=FILE, [MAXBLOCK=<number>], ARCHIVE=<string>;
CMD= COPY, AREA=<string>, FILE=<string>;
CMD= DISPLAY, FILETYPE=<param>;
CMD= DISPLAY, FILETYPE=FILE, FILE=<string>;
CMD= DA, [CNT=<number>], [LEN=<number>], TYPE=ALL;
    (Subsequent parameters are disregarded by AMO)
CMD= DA, [CNT=<number>], [LEN=<number>], [TYPE=<param>],,,,TEST=SELMSG;
    (Other parameters are disregarded by AMO)
CMD= DA, [CNT=<number>], [LEN=<number>], [TYPE=<param>]
    , [DISPLACE=<param>, VAL=<hex>, TEST=<param>];
CMD= DB, [CNT=<number>], [LEN=<number>], TYPE=ALL;
    (Subsequent parameters are disregarded by AMO)
CMD= DB, [CNT=<number>], [LEN=<number>], [TYPE=<param>],,,,TEST=SELMSG;
    (Other parameters are disregarded by AMO)
CMD= DB, [CNT=<number>], [LEN=<number>], [TYPE=<param>]
    , [DISPLACE=<param>, VAL=<hex>, TEST=<param>];
CMD= DF, [CNT=<number>], [LEN=<number>], TYPE=ALL;
    (Subsequent parameters are disregarded by AMO)
CMD= DF, [CNT=<number>], [LEN=<number>], [TYPE=<param>],,,,TEST=SELMSG;
    (Other parameters are disregarded by AMO)
CMD= DF, [CNT=<number>], [LEN=<number>], [TYPE=<param>]
    , [DISPLACE=<param>, VAL=<hex>, TEST=<param>];
CMD= DL, [CNT=<number>], [LEN=<number>], TYPE=ALL;
    (Subsequent parameters are disregarded by AMO)
CMD= DL, [CNT=<number>], [LEN=<number>], [TYPE=<param>],,,,TEST=SELMSG;
    (Other parameters are disregarded by AMO)
```

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Functions of the AMO

```
CMD= DL, [CNT=<number>], [LEN=<number>], [TYPE=<param>]
      , [DISPLACE=<param>, VAL=<hex>, TEST=<param>];
CMD= DN, NO=<number>, [LEN=<number>], TYPE=ALL;
      (Subsequent parameters are disregarded by AMO)
CMD= DN, NO=<number>, [LEN=<number>], [TYPE=<param>], , , TEST=SELMSG;
      (Other parameters are disregarded by AMO)
CMD= DN, NO=<number>, [LEN=<number>], [TYPE=<param>]
      , [DISPLACE=<param>, VAL=<hex>, TEST=<param>];
CMD= DA-T, DB-T, DF-T, DL-T, DN-T with the same branches like DA, DB, DF, DL, DN
CMD= END;
CMD= FLAGTR, FLAGTR=ADD | DEL, SELADR=CIR, LTU=<number>, SLOT=<number>
      , CCT=<number>, [SU=<number>], [DI=<number>];
CMD= FLAGTR, FLAGTR=ADD | DEL, SELADR=LN, LN=<number>;
CMD= FLAGTR, FLAGTR=ADD | DEL, SELADR=STNO, STNO=<number>, SVC=<param>;
CMD= FLAGTR, FLAGTR=OFF;
CMD= FLAGTR, FLAGTR=ON;
CMD= FLAGTR, FLAGTR=STOPALL;
CMD= FLAGTR, FLAGTR=FILE, MAXBLOCK=<number>, ARCHIVE=<string>;
CMD= MAXNO, [MAXNO=<number>];
CMD= MSGLEN, TRACEPT=<param>, CONDGRP=<param>, [LEN=<number>];
CMD= NETSTOP, NETPROT=CORNET, SELLINE=L1 | ... | L8, [NODEACC=<number>];
CMD= NETSTOP, NETPROT=CORNET, SELLINE=OFF;
CMD= OFF;
CMD= ON, [STYPE=BUF];
CMD= ON, STYPE=HD, FILE=<string>, [MAXBLOCK=<number>], [WRAP=<param>],
      [OVERWRT=<param>], [POOLSIZE=<number>];
CMD= P, UNIT=<param>;
CMD= RDSTR, RDSTR=ADD, SELADR=CIR, LTU=<number>, SLOT=<number>
      , CCT=<number>, [SU=<number>], [DI=<number>];
CMD= RDSTR, RDSTR=ADD, SELADR=LN, LN=<number>;
CMD= RDSTR, RDSTR=ADD, SELADR=STNO, STNO=<number>, SVC=<param>;
CMD= RDSTR, RDSTR=DEL, UNIT=<string>;
CMD= RDSTR, RDSTR=OFF;
CMD= RDSTR, RDSTR=ON;
CMD= RDSTR, RDSTR=HD, FILE=<string>, [MAXBLOCK=<number>], [WRAP=<param>],
      [OVERWRT=<param>], [POOLSIZE=<number>];
CMD= RES, [RESOBJ=<param>];
CMD= RST, STYPE=<param>;
CMD= SELDYN, CPPNT=<param>, [CONDGRP=OFF];
CMD= SELDYN, CPPNT=<param>, CONDGRP=G1 | ... | G4, [CPCOND=<param>];
CMD= SELDYN, CPPNT=GATE, PHYSEL=<hex>, COND=<param>, [CPCOND=<param>]
      , SELADR=CIR, LTU=<number>, SLOT=<number>, CCT=<number>
      , [SU=<number>], [DI=<number>];
CMD= SELDYN, CPPNT=GATE, PHYSEL=<hex>, COND=<param>, [CPCOND=<param>]
      , SELADR=LN, LN=<number>, [SU=<number>], [DI=<number>];
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=ALL;
      (Subsequent parameters are disregarded by AMO)
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
      , FLDTYPE=BYTE, DISPLACE=<number>, VAL=<hex>, [TEST=<param>];
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
      , FLDTYPE=DEST, VAL=<hex>, [TEST=<param>];
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
      , FLDTYPE=EV, VAL=<hex>, [TEST=<param>];
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
      , FLDTYPE=PST, DISPLACE=<number>, BITPOS=<param>, [TEST=<param>];
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
      , FLDTYPE=SRC, VAL=<hex>, [TEST=<param>];
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
      , FLDTYPE=SEVT, VAL=<hex>, [TEST=<param>];
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
      , FLDTYPE=SU, VAL=<hex>, [TEST=<param>];
CMD= SELMSG, TRACEPT=<param>, CONDGRP=G1 | ... | G4, COND=CD1 | ... | CD8
```



```

,FLDTYPE=SDNO,DISPLACE=<number>,VAL=<hex>,[TEST=<param>];
CMD= SELMSG,TRACEPT=<param>,CONDGRP=G1|...|G4,COND=CCD1|...|CCD8
,STY=ADD|SET|SUB,AKTPOS=<number>,TARGETPO=<number>
,[TARGETTP=<param>],[TARGETGRP=G1|...|G4],[TARGETCD=CD1|...|CD8]
,[LOCK=<param>],[NUMCD=<param>],[CONVERT=<param>];
CMD= SELMSG,TRACEPT=<param>,CONDGRP=G1|...|G4,COND=CCD1|...|CCD8
,STY=DEL,[TARGETTP=<param>],[TARGETGRP=G1|...|G4]
,[TARGETCD=CD1|...|CD8],[LOCK=<param>],[NUMCD=<param>];
CMD= SELMSG,TRACEPT=<param>,CONDGRP=G1|...|G4,[COND=OFF];
(Subsequent parameters are disregarded by AMO)
CMD= SELMSG,TRACEPT=<param>,[CONDGRP=OFF];
(Subsequent parameters are disregarded by AMO)
CMD= SELSTOP,STY=<param>;
CMD= SETLAN,CONDGRP=G1|...|G4,TYPE=<param>;
CMD= STA,[INFO=<param>];
CMD= USER,[TEXT=<string>];

```

old commands	new commands
STA,F;	STA,FLAGTR;
SELFLAG, STY=<param>, SELADR=CIR, LTU=<number>,SLOT=<number>,CCT=<number>, [SU=<number>],[DI=<number>];	FLAGTR, STY=<param>, SELADR=CIR, LTU=<number>,SLOT=<number>,CCT=<number>, [SU=<number>],[DI=<number>];
SELFLAG, STY=<param>, SELADR=LN, LN=<number>;	FLAGTR, STY=<param>, SELADR=LN, LN=<number>;
SELFLAG, STY=<param>, SELADR=STNO, STNO=<number>, SVC=<param>;	FLAGTR, STY=<param>, SELADR=STNO, STNO=<number>, SVC=<param>;
SELFLAG, STY=OFF;	FLAGTR, STY=OFF;
SELFLAG, STY=ON;	FLAGTR, STY=ON;
SELFLAG, STY=STOPALL;	FLAGTR, STY=STOPALL;
	FLAGTR, STY=FILE, MAXBLOCK=<number>, ARCHIVE=<string>;
SELNET,NETPROT=CORNET,SELLINE=L1|...|L8, [NODEACC=<number>];	NETSTOP,NETPROT=CORNET,SELLINE=L1|...|L8, [NODEACC=<number>];
SELNET,NETPROT=CORNET,SELLINE=OFF;	NETSTOP,NETPROT=CORNET,SELLINE=OFF;

Before the StandardTracer is started a selection of the tracepoints and traceobjects, which shall be recorded, has to be made. This is done with the commands SELMSG and SELDYN.

Note: Flagtrace and Autotrace are activated and standard-selections are set as default.

196.4.2.1 SELMSG

The first parameter TRACEPT determines whether switching-processing-messages (PP, CP or SW in general), OS-messages (SD, RCV or OS in general) or LAN-data (to have a more specific selection

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at the LAN-tracepoint the command SETLAN is used, see Section 196.6.1) are selected or whether Start- and Stopconditions should be set.

The following functions are possible for the StandardTracer:

1. All messages and trace objects can be selected for the corresponding trace points
2. Only those messages are selected, which fulfill one of the 4 groups with up to 8 conditions
3. No message or no LAN object is selected
4. Only those messages or LAN objects which fulfill one of the 4 groups with up to 8 conditions result in start or stop or stopall of tracing or in stop of PETRA
5. Messages or LAN objects, which fulfill one of the 4 groups with up to 8 conditions, result during tracing in the specific message dependent change of selection conditions, which were defined in the "conditional conditions".
6. The start, stop, stopall, PETRA condition is deactivated
7. Up to 8 conditions can be formulated for post-selection (Attention: no condition groups valid for this function !!)
8. The conditions formulated for post-selection are deleted
9. The conditions for a group or for a trace point are deleted.

The following functions are possible for the FlagTracer:

1. CP and PP messages can be selected for FlagTracer

The following functions are possible for the AutoTracer:

1. CP and PP messages can be selected for AutoTracer

The following functions are possible for the RDSTracer:

1. CP and PP messages of set monitors
2. PP messages for RDS ISDN Tracer.

NOTE: Be aware of the fact, that if the parameters CONDGRP and COND are ignored (both are optional !), the selection criteria will be reset, because the default value is OFF.

Selection of Messages and LAN Objects

By setting conditions it is possible to select only those traceobjects which are of interest for the user. The tracer is able to make the valuation of messages in 2 different ways:

- The input of byte values as comparison data result in a tracer, which *o n l y* enters the message into the trace buffer, when the addressed byte is exactly equal to *o n e* of this byte values. It is possible to enter multiple values (up to 50) for each byte. It is also possible, to specify several conditions (up to 8) for one group, which must be performed all for a selection of a message. In the case of SELMSG with FLDTYPE = SDNO, please note that the state diagram number in the display commands is represented as a word, with the result that byte 0 in the state diagram number consists of the last two digits in the state diagram number.
- At mask comparison (parameter FLDTYPE = PST), the position of one or more bits (= mask) which must be contained in the desired message byte, have to be entered as trace data. If these bit(s) occur in the message byte, the message is taken into the trace buffer. Are there, additional to the mask-bit(s), also other bits which are set in the certain message byte, then the message is also taken into the buffer, because it corresponds likewise to the given bit mask. With this method, it is possible now, to watch powersets or variable byte values contained in a message byte, on bit level.

Example:

BITPOS	BIT1&BIT4&&BIT7	B'01111010	H'7A
	or	B'01111011	H'7B
	or generally	B'x1111x1x	

These two comparison methods may be combined, if needed, in any sequence for each condition group.

If several condition groups are defined the sequence of the groups has to be considered, because tracing works in following way:

The tracer checks the first group. If the conditions for the message are fulfilled, the message will be copied into the trace buffer corresponding to the definitions for that group (length, conditional conditions). Further groups will not be checked. If the conditions are not fulfilled the same procedure is repeated with the next group.

The user has the possibility to control the tracing himself by assigning in case of overlapping selections a lower groupnumber to the group which contains the more important definitions (that is: length, dynamic memories, conditional conditions,..).

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Rule of thumb: the more restrictive a condition is the lower its group number should be.

Generally: if the condition of a group is a subset of another one it must have the smaller groupnumber

Conditional Conditions

The byte values defined for selections can also be set, changed and deleted automatically during the tracing dependent of message contents. That happens according to the defined conditional conditions (parameter COND=CCD1/..CCD8).

That means: from the message which matches the selection conditions are used up to eight bytes as condition for a future message. E.g. a LINE from the current message can be used as condition for a next message. Following conversions are made: LODAD, LODADP, LODEN, DTI, LTGLINE, LINE

Start, Stop, Stopall, PETRA Conditions and Trace Stop Netwide

The start condition describes the properties of a message or a LAN object which activates tracing (start object).

Example

SELMSG,START,G1,CD1,SRC,34&57,e;

SELMSG,START,G1,CD2,EV,3E,e;

the Tracer is started if a message

occurs, which 4th Byte is 3E *and* its first Byte is either 34 *or* 57.

The stop condition describes the properties of a message or a LAN object which deactivates tracing (stop object).

The stopall condition describes the properties of a message or a LAN object which deactivates the StandardTracer for all configured processors in a system (including the IS) and StandardTracer in partner systems if a netwide trace stop is defined (stopall object). If FLAGTR, STOPALL have been selected, the FlagTracer blocking is set, see Section 196.4.2.3 on page 196-2567.

The PETRA-condition describes the properties of a message, which switches off the PETRA (PERipheral TRAcing) in the actual processor (PETRA-message). The message, provided with the object type PT, will be entered into the trace buffer. In this way it is easy to find the message within the trace buffer (using the commands DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T and type=PT).

IF STOP, STOPALL and / or PETRA conditions are defined at the same time, the tracer checks the STOP conditions first, then the STOPALL conditions and at last the PETRA conditions. If there are identically conditions defined on more trace points, then the tracer only checks

the STOP conditions and if it is fulfilled, just the tracer in the current processor will be stopped. In this case the STOPALL conditions and PETRA conditions will be ignored, i.e. they have no effect!

In order to give the user sufficient time to define all the individual conditions required, the execution of the control condition is temporarily suspended until all conditions have been entered.

When a start condition is entered, the StandardTracer is also deactivated. (When a stop or stopall condition is entered, this would not be practical, because the StandardTracer should not be deactivated before the stop resp. stopall object has been received).

The definition status for the defined control conditions is terminated by the activation of the StandardTracer (command ON); these control conditions are then placed in the waiting state.

At this stage each message and each LAN object is checked by the activated trace points to determine whether it meets the defined control conditions.

After the start object has been received, tracing of the StandardTracer is activated and the start object entered in the buffer. (If no start condition is defined, tracing had been in effect from the activation of the tracer onward).

Further messages or LAN objects are then entered in the buffer according to the trace point selections.

When the stop object is received, tracing of the StandardTracer is deactivated and stopping is signaled at the console. The stop object is the last object to be entered in the trace buffer of the StandardTracer.

When the stopall object is received, tracing of the StandardTracer is deactivated in all processors in which a tracer is active and stopping is signaled at the console. The last object to be entered in the buffer is the stopall object. If FLAGTR, STOPALL have been selected, the tracing of the FlagTracer is stopped too, see Section 196.4.2.3 on page 196-2567. If in a processor a **netwide trace stop** has been defined with the **NETSTOP** command, stop-instructions will be sent to the selected partner switches. In the partner switches the StandardTracer in all configured processors are stopped and in case of a defined netwide trace stop the stop instruction will be also forwarded to partner switches.

The defined control conditions remain available (status = R) and come into effect again with the next ON command.

The STATUS command indicates the states of the control conditions:

- D (definition status)

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- R (reached)
- W (waiting status)

Stop condition with station selection can be made using the following command:

```
SELMSG,SW,G1,CD1,STN,<stno>;
```

Example of trace selection for station number:

```
SELMSG,SW,G1,CD1,STN,<stno>;
```

Example of trace selection for circuit number:

```
SELMSG,SW,G1,CD1,PEN,<pen_number>;
```

TRCCONF – Trace profiles settings

- Overview for TRACS/DIAGS improvements

The new feature allows storing / restoring DIAGS switches into / from specified file. The file is the one used for storing / restoring trace selection table.

New parameters were introduced on COPY,TAB-HD/HD-TAB branches in AMO TRACS.

- following commands can be used to store in file <file_name> the currently DIAGS switches set to on:

```
COPY,TAB-HD,<file_name>,<description>,,DIAGSON;           // SAVE  
ONLY DIAGS SWITCHES THAT ARE ON  
  
COPY,TAB-HD,<file_name>,<description>,,DIAGSALL;          // SAVE ALL  
DIAGS SWITCHES THAT ARE ON OR OFF  
  
COPY,TAB-HD,<file_name>,<description>,ALLSTD,DIAGSON;
```

- following commands can be used to restore (save to database) the DIAGS switches from specified file:

```
COPY,HD-TAB,<file_name>,NO,LIST;  
COPY,HD-TAB,<file_name>,NO,Y;  
COPY,HD-TAB,<file_name>,ALLSTD,Y;
```

Command DISPLAY,TRCCONF,<directory_name>; outputs the files created with command "COPY,TAB-HD...".

RES,DIAGS; resets the DIAGS switches to the default values:

for ZAND/ALLDATA/CNTRYCD = 0 (IM) defaults are

CP complex: S15 = ON

CP2 complex: S04 = ON

for ZAND/ALLDATA/CNTRYCD = K (USA) defaults are

CP complex: S15 = ON

CP2 complex: S04 = ON

DB complex: S00,S01 = ON

NOTE: The user can save existing trace settings and DIAGS switches values into a file on HD and import them afterwards.

Example of saving the DIAGS switches and trace settings into a file:

```
<CHANGE-DIAGS:COMP=DH,S03=ON;
CHANGE-DIAGS:COMP=DH,S03=ON;
H500: AMO DIAGS STARTED
H03: S03 OF COMPLEX DH IN LTG HAS BEEN CHANGED TO 'ON'
AMO-DIAGS-111      ADMINISTRATION OF DIAGNOSTIC SWITCHES,
SWITCHING UNIT
CHANGE COMPLETED;
    <exe-tracs:bp;
EXE-TRACS:BP;
H500: AMO TRACS STARTED
AMO TRACS VARIANT/VERSION 5E/001 OF 2016-05-24
TRACER    VARIANT/VERSION 5E/001 OF 2016-05-26
TRACER INPUT IN BPA    (STANDARD TRACER ) PLEASE:
    *res,all;
TRACER INPUT IN BPA    (STANDARD TRACER ) PLEASE:
    *selmsg,sw,g1,all;
TRACER INPUT IN BPA    (STANDARD TRACER ) PLEASE:
    *msglen,sw,g1,3000;
TRACER INPUT IN BPA    (STANDARD TRACER ) PLEASE:
    *copy,tab-hd,":diag:tracesettings","SW trace with 3000 bytes
messages",allstd,diagson;
H23: WRITING OF TRACE SELECTION TABLE COMPLETED
H56: WRITING OF DIAGS SWITCHES SELECTION COMPLETED
      (LOADDISP COMPLEX IS NOT AFFECTED)
TRACER INPUT IN BPA    (STANDARD TRACER ) PLEASE:
    *res,all
TRACER INPUT IN BPA    (STANDARD TRACER ) PLEASE:
    *sta,c
TRACER INPUT IN BPA    (STANDARD TRACER ) PLEASE:
```

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Functions of the AMO

```
*display, trcconf, :diag;
```

DISPLAYED DIRECTORY: :DIAG:

```
+-----+-----+
| TRACE NAME | DESCRIPTION |
|            | AND ACTIVATED DIAGS SWITCHES IN FILE |
+-----+-----+
| TRACESETTINGS | SW TRACE WITH 3000 BYTES MESSAGES |
|            | CP:14,15 DH:03 DB:03,10 CP2:02,04,09 |
+-----+-----+

TRACER INPUT IN BPA (STANDARD TRACER ) PLEASE:
*copy, hd-tab, :diag:tracesettings, allstd, y;
H24: READING OF TRACE SELECTION TABLE COMPLETED
*****
* STANDARD TRACER *
*****
MAX:UNLTD SELOBJ:0 ACTOBJ:0 TRC:OFF SITE:AMO RST:OFF
STARTCD:D STOPCD:D PETRACD:D STOPALLCD:D

SELECTIONS AT TRACEPOINT CP :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 3000 BYTES ) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

SELECTIONS AT TRACEPOINT PP :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 3000 BYTES ) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

STANDARD TRACER FILE :DIAG:NUME_TRACE02
*****
* COMMON INFORMATION *
*****
USER:
SERI:OS
BUFFER OF THE RESIDENT TRACER: 7 BUFFER AT 64000 BYTE
STDTR:0 FLAGTR:0 AUTOTR:7 RDSTR:0 FREE:0

TRACE BUFFER POOL: 20 BUFFER AT 64000 BYTE
STDTR:0 FLAGTR:0 DISPLAY:0 RDSTR:0 FREE:20
*****
H55: S14 OF COMPLEX CP IN CC IS ALREADY SET TO 'ON'
H55: S15 OF COMPLEX CP IN CC IS ALREADY SET TO 'ON'
H55: S03 OF COMPLEX DH IN LTG IS ALREADY SET TO 'ON'
H55: S03 OF COMPLEX DB IN CC IS ALREADY SET TO 'ON'
H55: S03 OF COMPLEX DB IN LTG IS ALREADY SET TO 'ON'
H55: S10 OF COMPLEX DB IN CC IS ALREADY SET TO 'ON'
H55: S10 OF COMPLEX DB IN LTG IS ALREADY SET TO 'ON'
H55: S02 OF COMPLEX CP2 IN CC IS ALREADY SET TO 'ON'
H55: S04 OF COMPLEX CP2 IN CC IS ALREADY SET TO 'ON'
H55: S09 OF COMPLEX CP2 IN CC IS ALREADY SET TO 'ON'
H57: READING OF DIAGS SWITCHES SELECTION COMPLETED
      (LOADDISP COMPLEX IS NOT AFFECTED)
TRACER INPUT IN BPA (STANDARD TRACER ) PLEASE:
```

Use RES,DIAGS; command mentioned above to reset the DIAGS switches from database.

The default trace profiles can be found under :DIAG:TRCCONF on the Hard Disk (they are added with the first RMX-HF applied to the system). They can be listed using the command below:

```
*display, trconf;
H60: DEFAULT DIRECTORY IS ":DIAG:TRCCONF"

DISPLAYED DIRECTORY: :DIAG:TRCCONF
+-----+-----+
| TRACE NAME | DESCRIPTION |
|            | AND ACTIVATED DIAGS SWITCHES IN FILE |
+-----+-----+
| 1          | GVS TRACE1 FOR REPRODUCIBLE FAULTS |
|            | CP:14 |
+-----+-----+
| 2          | GVS TRACE 1 WITH ACL FOR REPRODUCIBLE FAULTS |
|            | CP:14 |
+-----+-----+
| 3          | GVS TRACE2 FOR HIGH TRAFFIC |
|            | CP:14 |
+-----+-----+
| 4          | GVS TRACE2 WITH ACL FOR HIGH TRAFFIC |
|            | CP:14 |
+-----+-----+
| 5          | GVS TRACE 3 FOR PATH PROBLEMS |
|            | CP:14 DH:03 DB:03 |
+-----+-----+
| 6          | GVS TRACE 3 WITH ACL FOR PATH PROBLEMS |
|            | CP:14 DH:03 DB:03 |
+-----+-----+
| 7          | ISDN MESSAGES ONLY (TRACE FOR SERVICE) |
|            | NONE |
+-----+-----+
| 8          | GCS/GVS GENERAL TRACE TO CAPTURE MOST TYPES OF PROBLEM |
|            | CP:14 DH:03 DB:03,10 CP2:02,04 |
+-----+-----+
| 9          | GVS CDR GENERAL TRACE FOR REPRODUCIBLE FAULTS |
|            | CP:14 CDR:10,11 |
+-----+-----+
| 10         | GVS CDR TRACE FOR CHARGE CALCULATION PROBLEMS |
|            | CP:14 CDR:10,11,12 |
+-----+-----+
| 11         | GVS CDR HIGH TRAFFIC (INCLUDING CHARGE CALCULATION) |
|            | CP:14 CDR:10,11,12 |
+-----+-----+
| 12         | GVS CDR TRACE FOR HUNG COSTI BUFFER ISSUES |
|            | CP:14 CDR:10,11,15 |
+-----+-----+
TRACER INPUT IN BPA (STANDARD TRACER ) PLEASE:
```

To activate such a trace profile execute the following command:

COPY,HD-TAB,<trace_name>,ALLSTD,Y;

196.4.2.2 Selection of dynamic memory (SELDYN)

Device memories can be selected either through Lodad-Packed in the selected messages, or through user dependent line address at the trace point call-gate. Be aware that the associated database access functions may adversely affect the dynamic properties of the overall system.

If you want to trace dynamic memories with a message-dependent address (SELDYN,SW/CP/PP/FLAGTR,..), you also have to select the corresponding message itself (SELMSG,SW/CP/PP/FLAGTR,..).

For CP the tracer can only CP-memories and for PP only PP-memories output.

196.4.2.3 FlagTracer (FLAGTR)

With the FlagTracer it is possible to trace a call or a connection in CP and PP. The FlagTracer is switched on as default.

FlagTracer is activated and standard-selections for FlagTracer are set as default.

The FlagTracer Data are written in a separate trace buffer. Each time a FlagTracer buffer is full it is stored into the FlagTracer file (in case of duplex systems there are two FlagTracer files: one for BPA and one for BPB).

There are two possibilities to get the messages:

Dynamic flagtrace with digit analysis result (DAR)

A subscriber (all system devices) can activate the flagtrace by dialing a sign. This means that the messages at the tracepoints of SW are caught by the tracer and can then be interpreted.

For dynamic flagtracing it is possible to add a DAR from the HICOM for FlagTracer with AMO WABE.

```
ADD-WABE:xxx,, ,FLTRACE;
```

If subscriber A calls subscriber B and dials the flagtrace-sign, all messages sent from subscriber A are caught by FlagTracer. The FlagTrace data can be displayed with the display commands (DA, DB, DF, DL, DN or DA-T, DB-T, DF-T, DL-T, DN-T) and type FLAGTR. The value FLAGTR for parameter type in combination with one of this commands means, that all messages of the flagtracepoint are displayed.

Note: If the type is CP, PP, SW or MSG (default value), the messages at the flagtrace point will not be displayed.

Flagtracing of a static marked device (FLAGTR)

A device (subscriber or trunk) can be marked with the AMO TRACS. Each connection made from this device (subscriber or trunk) will be checked in the same way, like the subscriber has dialed the flagtrace sign.

Set the traceflag in the static device memory:

```
FLAGTR,ADD,STNO,34567,VCE;
```

The traceflag will be transfered in the dynamic device table by each connection and also to the dynamic device table of all call members. The tracing of the user will be finished with the command

```
FLAGTR,DEL,STNO,34567,VCE;
```

FlagTracer blocking (FLAGTR)

The flagtracing of a connection can be activated by the user of a device and need not be started or stopped with ON or OFF.

FlagTrace is active on all systems as default. It is possible to switch off this feature with the AMO TRACS (Setting the FlagTracer blocking).

```
FLAGTR,OFF;
```

To reset the FlagTracer blocking use one of these tracer commands:

```
FLAGTR,ON;  
RES,FLAGTR;
```

The FlagTracer blocking stops writing messages in the FlagTracer buffer, but further the CP-advisory messages will be displayed on the terminal. To avoid displaying CP-advisory messages of subscribers who are marked with a traceflag, you must reset the traceflag:

```
FLAGTR,DEL,STNO,34567,VCE;
```

The activation of FlagTracer by dialing a digit analysis result (DAR) for the HICOM can be deactivated with the AMO-WABE.

```
DEL-WABE:STNO,xxx,,FLTRACE;
```

The FlagTracer blocking is also set by getting a stopall-tracepoint, if FLAGTR, STOPALL was selected.

Changing the FlagTracer filesize

The full buffers of Flagtracer are always written into the same file. The filename (:AMD:ACTF/FT/A or B) could not be changed.

```
FLAGTR,FILE,60,":PAS:TEST"; 60 is the size of file (no. of  
block), default is 20
```

Through this command the FlagTracer filesize could be changed. Additional the FlagTracer file is saved with another filename. The old FlagTracer file is deleted and a new (empty) FlagTracer file is created.

To save the FlagTracer file without losing the data in the file use the AMO COPY.

196.4.2.4 MSGLEN

The messages which have to be recorded might be very long and most of the times only the first part of it is of interest for the user. Therefore it is useful (especially with high data traffic) to determine a maximum length of the recorded messages with the command MSGLEN in order to prevent a possible loss of data.

This command just makes sense in connection with a SELMSG-input. The default value is 16, which is also used if this command is not executed.

Example

```
'SELMSG,OS,G1,ALL;'  
'MSGLEN,OS,G1,20;'
```

the first 20 Bytes of all OS-messages are
recorded

For AutoTracer the default value is 48 bytes. Another length (e.g. 64 bytes) can be selected with

```
MSGLEN,AUTOTR,G1,64;
```

196.4.2.5 Activation and Deactivation of the StandardTracer (ON, OFF)

If no startcondition has been set, the StandardTracer starts to work immediately after entering the command ON and to write the data into the StandardTrace buffer. Any start, stop, stopall or PETRA condition defined is placed in the waiting state.

While harddisk tracing is activated ("ON,HD,filename,..") every time the tracebuffer is full, the whole content is written into the tracefile. If there is already a tracefile with the same name on HD, it is possible to overwrite this file with OVERWRT: yes (default). If there is no tracefile on hd, the parameter OVERWRT is careless.

Operating mode in principle: As soon as the tracer buffer is full, the HD-writing tracer task store this buffer to the harddisk. While this is in progress tracing will be continued in another trace buffer.

The parameter MAXBLOCK determines the size of the tracefile und therefor also the number of tracebuffers which can be stored in this file (defaultvalue: 10). If WRAP is set to yes, elder data will be overwritten as soon as the file is full. 'WRAP: no' prevents this. The Tracer keeps

on working but the tracebuffer is not copied to the file anymore. The current status of the StandardTrace file can be displayed with "STA,HD;".

The size of a StandardTracer file can be up to 2000 Block (122 MB). If the file size of the tracefile is greater than 99 Block the content of this file can not be displayed with the AMO - TRACS. To display the file content use COOL.

If tracing of the StandardTracer to buffer is activated ("ON,BUF" or just "ON;") elder data will be overwritten in case of a full tracebuffer. In other words the wrapping-function is always activated.

If tracing of the StandardTracer to HD is on ("ON,HD,FILENAME,...") a trace buffer pool may be used for temporary storage of tracebuffer (HD-cache).

The command OFF deactivates the StandardTracer. The start, stop, stopall and PETRA conditions are set to the definition state. When tracing to harddisk was activated also the only partially filled tracebuffer will be, if possible, copied into the trace file.

196.4.2.6 Displaying Trace-Data (DISPLAY, DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T)

Data stored in a tracebuffer can be displayed at any time (also while tracing or HD-tracing is on) with the following commands: DF, DL, DA, DB and DN. If data with time stamps will be displayed, the commands DF-T, DL-T, DA-T, DB-T, and DN-T are available.

In order to display data from a tracer file it is necessary to assign the file to the output with **DISPLAY**. The status of the trace file is listed in detail, except the file size of a StandardTracer file is greater than 99 Block. From now the whole trace file is handled with regard to the output commands (DA, DB, DF, DL, DN) like a huge single trace buffer. If "*" is entered instead of the file name, the last filename of the StandardTracer will be inserted.

The assignment of the file for output is detached through the command **DISPLAY,OFF**.

Output of trace objects

1. from the position of the read pointer, with **DA** (or **DA-T**) (display after read pointer)
2. up to the position of the read pointer, with **DB** (or **DB-T**) (display before read pointer)
3. the first <n> trace objects, with **DF** (or **DF-T**) (display first)
4. the last <n> trace objects, with **DL** (or **DL-T**) (display last)

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5. from one specific object number to another or the next 10 objects starting with a specific object number, with **DN** (or **DN-T**) (display from number)

After each display command is executed, the read pointer points refers to the trace object following the last displayed trace object. If there are no more trace objects, it stops at the position of the write pointer.

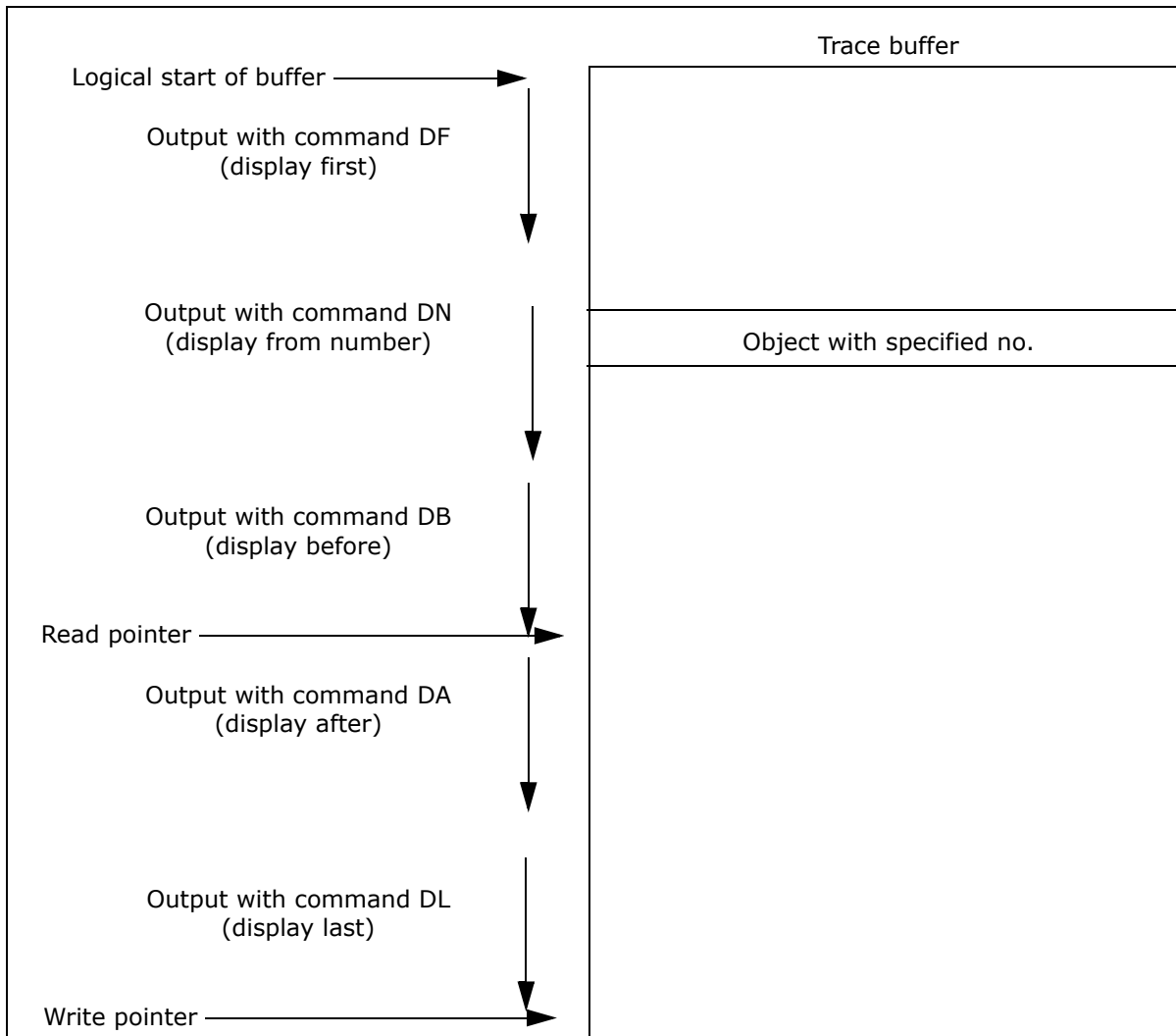


Figure 72

Options for reading out the trace buffer

A post-selection is provided for all the above display commands:

1. If requested, only certain types of trace objects are output. Note that the default value of the parameter TYPE is MSG (that is OS and SW) and not FLAGTR and not AUTOTR and not ALL.
2. In addition, by specifying values for any byte the output of trace objects can be restricted.

3. As an alternative to the specification of values for a single byte directly in the display command, up to 8 selection conditions can be defined (command SELMSG,BUF,..?), which can be applied to the current display command by specifying value SELMSG for parameter TEST. (Since these selection conditions are stored in the AMO data, they are only available until termination of the AMO). With the command copy the selection criterions can be stored in a file.

The post-selection is not put into effect when reading out a I I trace buffer entries (TYPE=ALL).

The parameter LAE determines a maximum output length for all trace objects to be displayed.

For call processing messages the output can be requested with or without state diagram information. Standard is the output without state diagram information.

Example

SELMSG,BUF,G1,CD1,SRC,34;	every single object betw. nr. 100 and 200,
SELMSG,BUF,G1,CD2,DEST,E5;	which meets the conditions CD1 and CD2 is
DN,100-200,10,OS,,,SELMSG;	going to be displayed

196.4.2.7 Save the Trace data (COPY)

The trace data which are actually in the trace buffer could be saved with the command COPY,<TRTYPE>,<FILENAME> in a file.

COPY,FLAGTR,":PDS:TRACER/COPY-FLAGTR"; Copy the data which are actually in the FlagTracer

Buffer in the file :PDS:TRACE:COPY-FLAGTR

196.4.2.8 Displaying the Status of a Tracer (STA)

By executing the command STA it is possible to display the status of a Tracer.

1. Brief status report of the StandardTracer by entering INFO=S:
 - a) Maximum number of trace objects to be entered in the buffer
 - b) Number of selected trace objects
 - c) Number of trace objects in the buffer
 - d) Indication if the tracer is activated

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- e) Status of start and stop conditions
- 2. Medium-size status report of the StandardTracer by entering INFO=**M**:
 - a) Brief status report
 - b) Indication if the tracer has restart stability
 - c) Status of stopall and PETRA
 - d) StandardTracer file
 - e) Common information (user information, indication of the serialization mechanism which has been selected, number and size of buffers of resident tracer, number and size of buffers of trace buffer pool, information about Read Buffer and Read File).
- 3. Long status report of the StandardTracer by entering INFO=**L** or INFO=**STDTR**:
 - a) brief status report
 - b) Indication if the tracer has restart stability
 - c) Status of stopall and PETRA
 - d) Status report for the selection data
 - e) Standard tracer file (its name and status)
 - f) Common Information (user information, indication of the serialization mechanism which has been selected, number and size of buffers of resident tracer for each tracer type, number and size of buffers of trace buffer pool for each tracer type, information about Read Buffer and Read File (name and status)).
- 4. Status report for selection data of the StandardTracer by entering INFO=**C**:
 - a) All set groups and set selection conditions for messages and LAN objects
 - b) All conditional conditions for the message dependent manipulation of the selection conditions during tracing
 - c) All dynamic memories for a call processing trace point
 - d) Markings for flagtrace
 - e) Condition bits for post-selection (if set)
 - f) Start, stop, stopall and PETRA conditions (if set)
 - g) Gate specifications and all dynamic memories requested therein

- h) Selections for a netwide trace stop
- 5. Status report for the trace file of the StandardTracer by entering **INFO=HD:**
 - a) Brief status report
 - b) Trace file and its status
 - c) Brief info about the content of the trace file (the detailed summary can be displayed by the command **DISPLAY**)
- 6. Status report of the FlagTracer **INFO=FLAGTR:**
 - a) Number of selected trace objects of the FlagTracer
 - b) Number of trace objects in the buffer of the FlagTracer
 - c) Indication if the FlagTracer is activated
 - d) Status report for the selection data of the FlagTracer
 - e) FlagTrace marker
 - f) FlagTracer file (name and status)
 - g) Common information (like **INFO=L**)
- 7. Status report of the AutoTracer **INFO=AUTOTR:**
 - a) Number of selected trace objects of the AutoTracer
 - b) Number of trace objects in the buffer of the AutoTracer
 - c) Indication if the AutoTracer is activated
 - d) Status report for the selection data of the AutoTracer
 - e) AutoTracer file
 - f) Common information (like **INFO=L**)
- 8. Status report for RDSTracer **INFO=RDSTR.**
- 9. Status report for all tracer **INFO=ALL:**
long information about all tracer type

Note

When selection conditions are displayed a selection based on bytes 0 and 1 of the state diagram number is symbolized by byte positions 65000 and 65001 in the message.

196.4.2.9 Resetting with RES

RES enables the user to put the settings to the default values again and to clear the trace buffer and trace buffer pool:

1. Release StandardTracer buffer, switch the StandardTracer off and reset selection tables
2. Release FlagTracer buffer, switch FlagTracer on and set selection table to default
3. Release the trace buffer pool
4. Reset selection table of AutoTracer to default and switch the AutoTracer on
5. Reset selection table and buffer of RDSTR, switch the RDSTR off.

196.4.2.10 AutoTracer (AUTOTR)

An automatic Tracer function (AutoTracer) is implemented in SWU-Tracer. If the AutoTracer is not deactivated by the user it starts automatically after every restart and the AutoTracer **buffers (up to 7 buffers if there is no other trace active and at least 2 buffers if other trace is active) are written to the AutoTrace file.** The AutoTracer message selection can be displayed using `STA,AUTOTR;`. Below you can find the default settings (which are set after every reload or if the selections are reset):

CONDITIONS GROUPS FOR CP/PP MESSAGES :

CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 280 BYTES) : /*
Standard PP networking

CONDITION 1: BYTE 4 = 74 97 BA

CONDITION 2: BYTE 15 = 8

CONDITION 3: BYTE 0 = 6F 71

CONDITIONGROUP 2 (MAX. MESSAGE LENGTH = 500 BYTES) : /*
UMI Connect & Disconnect Req

CONDITION 1: BYTE 4 = EF

CONDITION 2: BYTE 5 = 0 8

CONDITION 3: BYTE 0 = 6C

CONDITIONGROUP 3 (MAX. MESSAGE LENGTH = 48 BYTES) : /* All other
SW messages

ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

CONDITIONS GROUPS FOR RCV MESSAGES :

```
CONDITIONGROUP 5 ( MAX. MESSAGE LENGTH = 16 BYTES ) :      /*  
External messages received by FA  
CONDITION 1: BYTE      0  = 40  
CONDITION 2: BYTE      1  /= 40
```

The default message selection from AutoTracer can be changed by the usual `SELMSG, AUTOTR;` command. The current group selections are:

- Group 1 to 4 select record-type SW (CP and PP);
- Group 5 and 6 select record-type RCV.

IMPORTANT: It is not recommended to change the default AUTOTR trace message selection!

Please refer to command `RES, AUTOTR;` for resetting the **AutoTracer selection settings**.

In case of a standard trace buffer (`ON, BUF;`) the used buffers (by standard trace) are kept for two hours after the "OFF" command and afterwards those buffers are released to be available for AutoTracer again. In case of standard trace to HD the buffers are immediately released after "OFF" command, so they can be available for AutoTracer.

Activation and Deactivation of AutoTracer

With the commands

```
AUTOTR, ON;
```

and

```
AUTOTR, OFF;
```

it is possible to switch on and off the AutoTracer by the user.

Note: at a reload the AutoTracer is switched on automatically.

Changing the AutoTracer file size

After a restart the buffer of AutoTracer is always written into the same file. The filename (`:AMD:ACTF/AT/A` or `B`) could not be changed.

```
AUTOTR, FILE, 60, ":PAS:TEST";
```

60 is the size of file (no. of block), default is 20

Through this command the AutoTracer file size could be changed. Additional the AutoTracer file is saved with another filename. The old AutoTracer file is deleted and a new (empty) AutoTracer file is created.

To save the AutoTracer file without losing the data in the file use the AMO COPY.

196.4.2.11 Megatrace

The feature **Megatrace** offers the possibility to save trace data in multiple files (up to 100).

Service Information

- The feature is activated if AMO TRACS parameter **MAXBLKFL** in the branch **CMD=ON, STYPE=HD** contains two values connected by "-".
- The file names are constructed by parameter **FILE** plus a number starting with 00 up to 99 (e.g.: :DIAG:TRACE00, :DIAG:TRACE01, etc.).
- The other parameters of the branch **CMD=ON, STYPE=HD** work as usual; e.g. in case of **WRAP=Y** trace data saving continues after the last specified file again with the first file.

Note: As soon as some files are full, copy them to an external server. If later these files will be overwritten by wrapping the data are already saved. Therefore you have a real endless trace protocol, limited only by capacity of your external server.

- In case of too less space on the hard disk, trace files are reduced automatically according to the existing rules (occupy half of the available space) respectively, if there is no space anymore, the number of files is reduced.

Note: Calculate maximum number of blocks per file according to available space divided by the number of specified files (e.g. 100).

- Outputs of **STA,L DISPLAY,*** etc. are adapted to the extended trace file environment.
- If you don't specify in **MAXBLKFL** the second value, only one trace file will be generated with the specified size.

Generation (Example)

```
INPUT-TRACS:CMD=ON,STYPE=HD,FILE="DIAG:TRACE",MAXBLKFL=200-50;
```

This command starts saving trace data into file **:DIAG:TRACE00**. As soon as this file is full with 200 blocks saving data continues using **:DIAG:TRACE01** and so on up to **:DIAG:TRACE49**.

Important: Traces should be **always** activated to diag area of the hard disk. Always verify whether disk space is sufficient with **DIS-DDSM:A1,HD,1**; before activation and rectify as necessary.

Input:

```
*STA,L;
```

Output:

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```

*****
* STANDARD TRACER                                     *
*****
MAX:UNLTD   SELOBJ:30159   ACTOBJ:583   TRC:ON   SITE:AMO   RST:OFF
STARTCD:D   STOPCD:D      PETRACD:D      STOPALLCD:D

SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 3000 BYTES ) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

SELECTIONS AT TRACEPOINT RCV :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 3000 BYTES ) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

STANDARD TRACER FILES :DIAG:TRACE00 ... 49
CURRENTLY WRITING TO FILE :DIAG:TRACE01
+---+-----+-----+-----+-----+-----+
|NO|   BLOCK   | BLK:CURNO-BEG| BLK:CURNO-END| TIME-BEG/TIME-END | INFO |
+---+-----+-----+-----+-----+-----+
|00|   1-200   | 1: 34245   |           | 2016-09-29 13:30:32 |      |
| |           |           | 200: 6016  | 2016-09-29 13:36:59 |      |
+---+-----+-----+-----+-----+-----+
|01|  201-400  | 201: 6017   |           | 2016-09-29 13:37:00 |      |
| |           |           | 348: 30546  | 2016-09-29 13:39:28 |ACT BLK|
+---+-----+-----+-----+-----+-----+
|02| FILE DOES NOT CONTAIN TRACE DATA                                     |
+---+-----+-----+-----+-----+-----+
|03| FILE DOES NOT EXIST                                                  |
+---+-----+-----+-----+-----+-----+
.
.
.
.
+---+-----+-----+-----+-----+-----+
|49| FILE DOES NOT EXIST                                                  |
+---+-----+-----+-----+-----+-----+
*****
* COMMON INFORMATION                                     *
*****
USER:
SERI:OS

BUFFER OF THE RESIDENT TRACER:  7 BUFFER AT 64000 BYTE
STDTR:5  FLAGTR:0  AUTOTR:2  RDSTR:0  FREE:0

TRACE BUFFER POOL:  20 BUFFER AT 64000 BYTE
STDTR:5  FLAGTR:0  DISPLAY:0  RDSTR:0  FREE:15
TRACER INPUT IN BPA (STANDARD TRACER ) PLEASE:

```

Input:

DISPLAY,;

Output:

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Technical Clarification

```
OUTPUT OF STANDARD TRACER FILES :DIAG:TRACE00 ... 49
CURRENTLY WRITING TO FILE :DIAG:TRACE01

+-----+-----+-----+-----+-----+-----+
|NO|    BLOCK    | BLK:CURNO-BEG| BLK:CURNO-END| TIME-BEG/TIME-END | INFO |
+-----+-----+-----+-----+-----+-----+
|00|    1-200    | 1: 34245    |              | 2016-09-29 13:30:32 |      |
| |           |             | 200: 6016    | 2016-09-29 13:36:59 |      |
+-----+-----+-----+-----+-----+-----+
|01|    201-400  | 201: 6017    |              | 2016-09-29 13:37:00 |      |
| |           |             | 360: 32272   | 2016-09-29 13:39:34 |ACT BLK|
+-----+-----+-----+-----+-----+-----+
|02| FILE DOES NOT CONTAIN TRACE DATA                                     |
+-----+-----+-----+-----+-----+-----+
|03| FILE DOES NOT EXIST                                                  |
+-----+-----+-----+-----+-----+-----+
.
.
.
.
+-----+-----+-----+-----+-----+-----+
|49| FILE DOES NOT EXIST                                                  |
+-----+-----+-----+-----+-----+-----+
TRACER INPUT IN BPA      (STANDARD TRACER ) PLEASE:
```

TRACE FILE SIZE CALCULATION:

Traces files should be made to the :DIAG: partition only. A block is about 62.5K (62,500) bytes. For a 200 block file, it will be 200 x 62,500 = 12.5 MB (12,500,000).

You should never use all of the free blocks, so it is recommend to calculate trace file size based on a maximum of 580 MB free space, even though the partition size is actually 616 MB from V6 (this allows space for the other functions that use it e.g. Standard Trace files and RMX Hotfix activation, backup of previous AMOs to the RV directory).

As an example (using 580 MB as a guideline), 580 MB divided by 12.5 MB would allow just over 46 files 200 with blocks (580/12.5=46.4).

196.5 Technical Clarification

The following standard trace points and their corresponding trace object types are defined for **message tracing**:

- a) OS calls ON_P_SEND_MESSAGE_I, ON_P_SEND_MESSAGE_N, ON_P_SEND_MESSAGE_P, ON_P_SEND_MSG_I_NO_FREE, ON_P_SEND_MSG_N_NO_FREE, ON_P_SEND_MSG_P_NO_FREE with object type SD
- b) OS calls ON_P_RECEIVE_MESSAGE and ON_P_ACCEPT_MESSAGE, with object type RCV

- c) LAN trace point in the trace interface procedure in LAN subsystem. This LAN trace interface procedure is called by the various LAN layers with corresponding object types: ETHRV, ETHSD, TCP, TPI, IPDSD, IPDRV
- d) CP trace point in the trace interface procedure in call processing, with object type CP (used in StandardTracer and AutoTracer)
- e) PP trace point in the trace interface procedure in peripheral processing, with object type PP (used in StandardTracer and AutoTracer)
- f) FLAGTR-tracepoint in trace interface procedure of CP and PP
- g) Monitorpoints for the Realtime Diagnostic System (RDS) in CP and PP

Note

Since the call processing complexes DH (device handler) and PP (peripheral processor) are produced as a single memory-resident subsystem, only the PP has a trace point. This point is used to trace both the DH messages and the PP messages. It is possible to limit the trace objects to either DH messages or PP messages by defining selection criteria before the trace run.

The user may select any of the **CALL gates** of the GDT as trace point CALL-GATE by specifying the SELECTOR. Memory selections can be defined and activated for up to 8 gates. Prior to definition, the tracer simply checks to make sure that the selector belongs to a call gate. Before using this function, the user should therefore consider whether specification of the desired selector might affect the dynamic properties of the overall system.

Special care should be taken when using OS or DB call gates since some of them are also used by the tracer to enter the dynamic memories in the trace buffer (e.g. ON_P_RECEIVE_UNITS, ON_P_SEND_UNITS); such a case would result in a deadlock in the processor.

For call processing trace points and for the trace point 'Call Gate', the contents of the following memories can be entered in the trace buffer:

1. CPB : Element of DB_D_CPB_TBL for the associated CPB index.
(if != 0) and, if necessary, CPB extension (object type CB)
2. DCLD : 1st line: Element of DB_D_CP_DEV_STATE, DB_D_CP_DEV_STATUS
and DB_D_QC_DEV_STATUS (object type CT)
2nd line: Element of DB_D_CP_DEV_TYP (CPDT) and
DB_D_CP_LOGICAL_DEV_TBL (object type CT)
In addition, one element of the following is taken
depending on the device type:
DB_D_CP_DD_EXT_G_ATND (object type DCDEGA)
DB_D_CP_DEV_TBL_EXT_ATND (object type DCDTEA)
DB_D_TM_M_ATND_TIME_I_SERV (object type DCTMATIS)

TRACS - Operation of the System Tracer (SWU)

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DB_D_CP_DEV_TBL_TRUNK (object type DCDTT)

3. DCLT : One Element of the following is taken depending on the line type:
DB_D_TLN_DATA_TBL (subscriber table, object type DCST)
DB_D_TRUNK_DATA_TBL (trunk table, object type DCTT)
4. CPCRF : Element of DB_D_CP_NW_CR_TBL (object type CPCRF)
5. DDHD : Element of DB_D_DH_DEV_TBL (object type DT)
6. DHCRF : Element of DB_D_DH_NW_CR_TBL (object type DHCRF)

If an error is detected during tracing, the tracer enters in the trace buffer a data record with an **error indication**. The user may encounter this procedure if he selects a dynamic memory in a processor in which this dynamic memory is not located (e.g. SELDYN, CP, ALL as a command in the BPA for Hicom 3000; DB_D_DH_DEV_TBL is in the LTG). In the case of the display commands with TYPE=ALL these error indications are visible; they are indicated by the fact that "ER" is specified as the object type, and a 4 digit hexadecimal number is specified as the code (in this specific case the code "070A" indicating error type "No table" for object type "DT").

This hexadecimal number consists of 2 bytes:

- **first Byte** indicates the **type of Error**
 - **first hexadecimal digit** indicates **Group of conditions**, which is affected

1st digit of 1st byte	meaning
0	insignificant
1	Error in Group 1
2	Error in Group 2
3	Error in Group 3
4	Error in Group 4

- **second hexadecimal digit** is an **Error code**

2nd digit of 1st byte	meaning	comment
1	nr. of comparison positions incorrect	the tracer administration variables have been destroyed
2	Index for extended CPB incorrect	it was not possible to read the extended CPB with the established extended index because the index limits were found to show implausibilities during database access
3	Index for the table incorrect	this occurs if the Lodad-Packed in the message results in Loden = 0 or DTI = 0 or if there is a conflict between the Loden or DTI obtained from the Lodad-Packed and the corresponding memory index limits in the database

2nd digit of 1st byte	meaning	comment
4	Lodad-Packed incorrect	it is not possible to derive the loden from the Lodad-Packed contained in a call processing message; An example for this is the tracing at trace point PP for S0 bus messages. TSI = 0 is applicable in the DH, in the CP it would result in Loden = NULL. The same applies to the trace point GATE
5	Message length incorrect	an inadmissible message token was transferred to the tracer
6	Offset incorrect for token	an inadmissible message token was transferred to the tracer
7	No table	the relevant database table is not present in the processor in which the tracer is running
8	Trace point inadmissible	the tracing routine was branched to from a point which does not coincide with the scheduled trace points
9	Gate not assigned as trace point	the CALL gate tracing routine was activated from a code point that does not coincide with the assigned administration data
A	Number of condition groups incorrect	the tracer's administration data has been (number of condition groups implausible) destroyed

- **second Byte** indicates involved **Object type**

errorcode 2nd byte	object type	comment
00	SD	an attempt was made to trace the message contents for a SEND_MESSAGE call
01	RCV	an attempt was made to trace the message contents for a RECEIVE_MESSAGE call
02	PT	an attempt was made to trace the message contents at the logical PETRA tracepoint
03	CP	an attempt was made to trace the message contents at the CP trace point
04	PP	an attempt was made to trace the message contents at the PP trace point
07	TIME	an attempt was made to trace time information
08	CB	an attempt was made to trace the contents of an element of DB_D_CPB_TBL
09	CT	an attempt was made to trace the contents of an element of DB_D_CP_LOGICAL_DEV_TBL or DB_S_CP_DEV_TYPE or DB_D_CP_DEV_STATE or DB_D_CP_DEV_STATUS
0A	DT	an attempt was made to trace the contents of an element of DB_D_DH_DEV_TBL
0B	DCST	an attempt was made to trace the contents of an element of the dynamic subscriber table DB_D_TLN_DATA_TBL

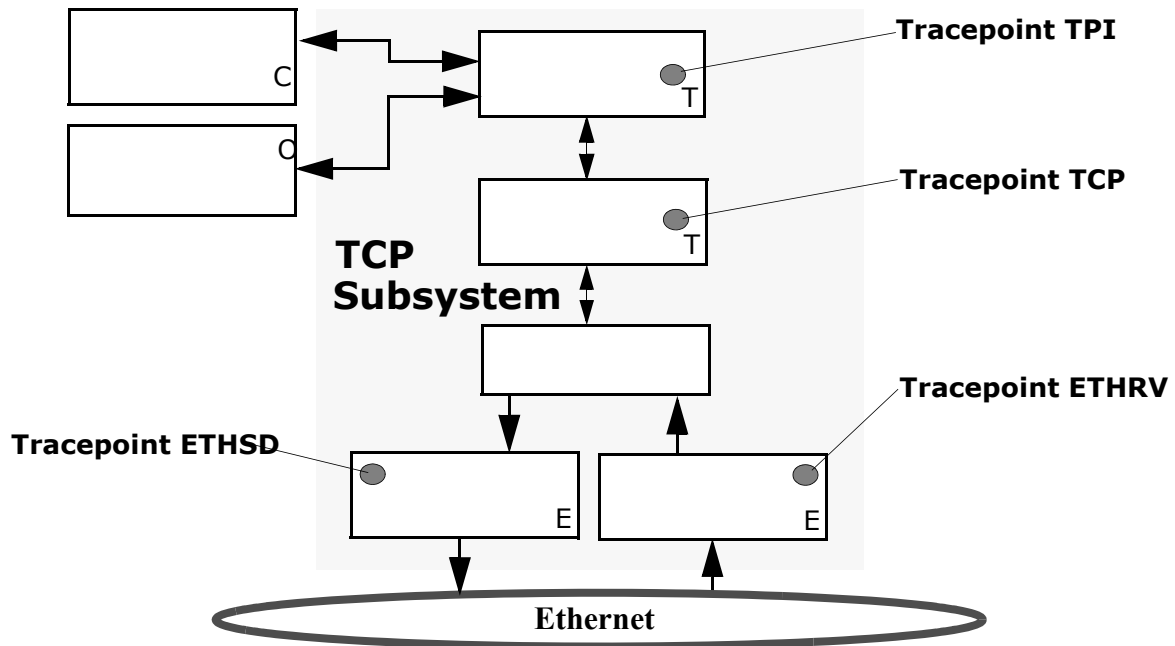
TRACS - Operation of the System Tracer (SWU)

The LAN Tracepoints (Application Description)

errorcode 2nd byte	object type	comment
0C	CPCRF	an attempt was made to trace the contents of an element of DB_D_CP_NW_CR_TBL
0D	DDTT	an attempt was made to trace the contents of an element of the dynamic trunk table DB_D_TRUNK_DATA_TBL
0E	DHCRF	an attempt was made to trace the contents of an element of DB_D_DH_NW_CR_TBL
0F	DCDEGA	an attempt was made to trace the contents of an element of DB_D_CP_NW_CR_TBL
10	DCDTEA	an attempt was made to trace the contents of an element of DB_D_CP_DD_EXT_G_ATND
12	DCTMATIS	an attempt was made to trace the contents of an element of DB_D_TM_M_ATND_TIME_I_SERV
13	DCDTT	an attempt was made to trace the contents of an element of DB_D_CP_DEV_TBL_TRUNK
16	TPI	an attempt was made to trace the data of the TPI LAN layer
17	TCP	an attempt was made to trace the data of the TCP LAN layer
1A	IPDSD	an attempt was made to trace the data of IP Dual Port Ram Send
1B	IPDRV	an attempt was made to trace the data of IP Dual Port Ram Receive
1C	ETHSD	an attempt was made to trace the data of a protocol header of the outgoing frame in the ethernet driver
1D	ETHRV	an attempt was made to trace the data of a protocol header of the incoming frame in the ethernet driver
1E	FLAGTR-CP	an attempt was made to trace the message contents of FlagTrace in CP
1F	FLAGTR-PP	an attempt was made to trace the message contents of FlagTrace in PP
20	RDSMON-CP	an attempt was made to trace RDS-MON-CP message
21	RDSMON-PP	an attempt was made to trace RDS-MON-PP message
22	RDS-ISDN	an attempt was made to trace RDS-ISDN message
23	AUTOTR-CP	an attempt was made to trace AutoTracer CP messages
24	AUTOTR-PP	an attempt was made to trace AutoTracer PP messages
FF	cannot be determined	an error was detected during tracing from a CALL gate which is not dependent on the object type

196.6 The LAN Tracepoints (Application Description)

In the subsystem LAN there are 4 tracepoints:



TPI:	This tracepoint makes it possible for the user to protocol and analyze connection specific one (the relevant) part of the interface between the LAN subsystem and its users (OS,CMS) . The activation of this tracepoint supplies instructive informations for clearing if an error occurs inside or outside of the LAN subsystem.
TCP:	Via this tracepoint, again connection specifically, the calls to the protocol layer TCP itself and their processing can be watched. This tracepoint will supply necessary advisories for analyzing lost connections or problems concerning the build up of connections, keepalive functions, resource problems and so on.
ETHSD, ETHRV:	For analyzing protocol data (Ethernet, IP, TCP, ICMP, ARP) the tracepoint ETHSD can be used for outgoing packages and the ETHRV for incoming packages. Both tracepoints provide exactly these (protocol) data, which were sent to or received from LAN. The Ethernet driver has no memory for connections, therefore the tracepoints are not connection specific. Further the protocolling of user data at this points it does not make sense, because TCP does NOT work message oriented.

196.6.1 Activating of a LAN Tracepoint

For activating the tracepoints ETHSD and ETHRV the commands

```
selmsg,lan,g1,cd1..;
setlan,g1,ethsd&ethrv;
on;
```

at the HICOM tracer will be sufficient. Additionally for the tracepoints TPI and TCP the connection must be selected, which is to be protocolled. Therefore the user must execute following steps:

TRACS - Operation of the System Tracer (SWU)
The LAN Tracepoints (Application Description)

- 1. Determine the data segment of OLTSTRX
- 2. Start the Debugger
- 3. Display the data segment of OLTSTRX

```
DEBUG INPUT FOR BPA      :
  *`d c318:0(400)!` /* data segment of OLTSTRX */

0614T DISPLAY :DISPLAY EXECUTED
0000
C318:0000 = 53 74 61 72 74 20 6F 66 20 65 43 43 4F 4E 4E 00  Start of eCONN.
C318:0010 = 66 49 50 3A 20 00 00 00 00 66 50 6F 3A 20 00 00  fIP: ....fPo: ..
C318:0020 = 66 49 50 3A 20 00 00 00 00 66 50 6F 3A 20 00 00  fIP: ....fPo: ..
C318:0030 = 66 49 50 3A 20 00 00 00 00 66 50 6F 3A 20 00 00  fIP: ....fPo: ..
C318:0040 = 66 49 50 3A 20 00 00 00 00 66 50 6F 3A 20 00 00  fIP: ....fPo: ..
C318:0050 = 45 6E 64 20 6F 66 20 65 43 43 4F 4E 4E 20 20 00  End of eCONN  .
C318:0060 = 00 00 53 74 61 72 74 20 6F 66 20 53 74 61 62 6C  ..Start of Stabl
C318:0070 = 65 00 02 00 00 00 80 03 00 00 00 00 02 64 00 00  e.....d..
C318:0080 = 01 00 67 00 00 00 82 03 C0 00 02 01 02 64 02 80  ..g.....d..
C318:0090 = 01 00 05 00 00 00 80 03 00 00 00 00 00 66 00 00  .....f..
C318:00A0 = 00 00 0B 00 00 00 82 03 C0 00 02 02 02 64 02 80  .....d..
C318:00B0 = 00 00 08 00 00 00 82 03 C0 00 02 10 00 66 07 DA  .....f..
.....
.....
```

- 4. The trace output shows 4 character strings. "Start of eCONN" and "End of eCONN" are enclosing the table „expected client connections“, "Start of Stable" and "End of Stable " the table „trace sockets“.
- 5. Both tables make it possible for the user to select the connections, which are to be protocolled.

196.6.2 Expected Client Connection

53	74	61	72	74	20	6F	66	20	65	43	43	4F	4E	4E	00	Start of eCONN.
66	49	50	3A	20	00	00	00	00	66	50	6F	3A	20	00	00	fIP: fPo: ..
66	49	50	3A	20	00	00	00	00	66	50	6F	3A	20	00	00	fIP: fPo: ..
66	49	50	3A	20	00	00	00	00	66	50	6F	3A	20	00	00	fIP: fPo: ..
66	49	50	3A	20	00	00	00	00	66	50	6F	3A	20	00	00	fIP: fPo: ..
45	6E	64	20	6F	66	20	65	43	43	4F	4E	4E	20	20	00	End of eCONN .
IP address of far end port									far end hostnumber							

Figure 73 OLTSTRX.CC trace_client_conn_tbl

This table enables the user to set the trace-option for connections, which are not yet built up and where the station has the part of the client. Therefore the user enters the IP address of the partner processor and the portnumber of the partner in this table. Byte order: BIG ENDIAN (corresponds Network byte order). If a TCP user tries to establish a client- connection, the TCP is checking this table and if necessary will switch on the trace option for this socket.

Example

For unknown reasons CCB can not establish a connection to CCB. By entering the IP address (192.0.2.1) and the portnumber (T'612) of the CCA in this table

```
>> 66 49 50 3A 20 C0 00 02 01 66 50 6F 3A 20 02 64 fIP:
....fPo: .d
```

and by switching on the tracepoints TCP and TPI with the HICOM tracer, the tester can watch the TCP during the buildup of the connection.

196.6.3 Trace Socket Table

example of trace socket table in ADP:

53	74	61	72	74	20	6F	66	20	53	74	61	62	6C	65	00	Start of Stable.
02	00	00	00	80	03	00	00	00	00	02	64	00	00	01	00	d....
67	00	00	00	82	03	C0	00	02	01	02	64	02	80	01	00	g.....d....
05	00	00	00	80	03	00	00	00	00	00	66	00	00	00	00	f....
0B	00	00	00	82	03	C0	00	02	02	02	64	02	80	00	00	d....
08	00	00	00	82	03	C0	00	02	10	00	66	07	DA	00	00	f....
.....																
socket		socket		IP address of				local		remote		trace_toggle				
identification		state		remote host				port		port		trace_state				
		lo hi						hi lo		hi lo						
.....																
45	6E	64	20	6F	66	20	53	74	61	62	6C	65	20	20	00	End of Stable

Figure 74 OLTSTRX.CC trace_socket_tbl

The only task of this table is to simplify the selection of TCP sockets/connections for protocolling. Therefore TCP enters every two seconds all valid sockets or connections respectively in the table and shows their state as well as their trace-option. By means of the last column of this table the user can switch over connection specifically the trace option by setting the "trace_toggle" byte to a value unequal 0. In case of the next update of this table TCP checks the "trace_toggle" column and switches over the trace option (ON->OFF resp. OFF->ON; ON=01,OFF=00). Then TCP sets the "trace_toggle" byte again to 00.

Note

If the IP address and the remote port are 0, it is a listener port. If a partner wants a connection to this port, then a copy of the socket is made for the new connection and the listener port remains unchanged. Making the copy also the trace option is taken over, so that the buildup of the connection can also be protocolled at the server.

Example

The user wants to watch the OS-message transfer between ADP and CCB and has already prepared the HICOM tracer appropriately. For the selection of the connection he has activated the HICOM debugger, has determined the beginning of the trace socket table and displayed the following table.

```
C318:0062 = 53 74 61 72 74 20 6F 66 20 53 74 61 62 6C 65 00 Start of Stable.
C318:0072 = 02 00 00 00 80 03 00 00 00 00 02 64 00 00 01 00 .....d....
C318:0082 = 67 00 00 00 82 03 C0 00 02 01 02 64 02 80 00 00 g.....d....
C318:0092 = 05 00 00 00 80 03 00 00 00 00 00 66 00 00 00 00 .....f....
C318:00A2 = 0B 00 00 00 82 03 C0 00 02 02 02 64 02 80 00 00 .....d....
C318:00B2 = 08 00 00 00 82 03 C0 00 02 10 00 66 07 DA 00 00 .....f....
C318:00C2 = 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
C318:00D2 = 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
.....
.....
```

Using the following "SET" command the trace option for the connection ADP<->CCB is switched on, as it is shown by the following command "DISPLAY".

```
* "set c318:C1(1)=5!"
* "d c318:b2(10)!"
```

```
C318:00B2 = 08 00 00 00 82 03 C0 00 02 10 00 66 07 DA 01 00 .....f....
```

Repeating the above command "SET" the trace option for the connection ADP<->CCB is switched off.

```
* "set c318:C1(1)=5!"
* "d c318:b2(10)!"
```

```
C318:00B2 = 08 00 00 00 82 03 C0 00 02 10 00 66 07 DA 00 00 .....f....
```

196.6.4 Format and Interpretation of the Trace Data

Remark: If the specified data doesn't exist, the corresponding component of the trace record is set to 0.

TRACS - Operation of the System Tracer (SWU)

The LAN Tracepoints (Application Description)

196.6.4.1 Tracepoint TPI

Offset	Data item	Size	Comment
0	IP address of remote host	4 Bytes	Byte order is BIG ENDIAN
4	local port	2 Bytes	
6	remote port	2 Bytes	
8	called TPI function	2 Bytes	See Table 29
10	return code of called function	2 Bytes	
12	additional parameter	2 Bytes	dependent on called function See Table 37 on page 2594
14	additional data array ...	max. 40 Bytes	

TPI function identifier		TPI returncodes	
Value	Meaning	Value	Meaning
0x012E	TPI_LISTEN	0x0000	GOOD
0x012F	TPI_CONNECT	0x0028	RESOURCE_BUSY
0x0130	TPI_ACCEPT	0x0029	WOULD_BLOCK
0x0131	TPI_SEND	0x002A	CONN_LOSS
0x0132	TPI_RECEIVE	0x002B	TIMEOUT
0x0133	TPI_CLOSE	0x002C	DUMMY_CALLED
0x0134	TPI_SET_OPTION	0x002D	BAD_PARAM
0x0135	TPI_SET_MAILBOX	0x002E	FATAL_INTERNAL
0x0136	TPI_GET_OPTION		

Table 29 TPI function identifier and TPI returncodes

called function	add_param	add_data	len
TPI_LISTEN	none	NULL	0
TPI_CONNECT	none	NULL	0
TPI_ACCEPT	none	address info of remote host	16
TPI_SEND	bytes delivered for transmit	user data to be transferred	<= 40
TPI_RECEIVE	bytes received by the user	user data received by the user	<= 40
TPI_CLOSE	none	NULL	0
TPI_SET_OPTION	high byte: option group low byte: option; see Table 30	first byte: action set(1)/reset(0) other 2 bytes: option value	3
TPI_SET_MAILBOX	none	async message to be send to mailbox by TCP; see Table 37 on page 2594	33

TRACS - Operation of the System Tracer (SWU)

The LAN Tracepoints (Application Description)

called function	add_param	add_data	len
TPI_GET_OPTION	high byte: option group low byte: option; see Table 30	first byte: action set(1)/reset(0) other 2 bytes: option value	3

Offset	Data Item	Size	Comment
0	user data	16	defined by the user
16	Pointer to socket	4	pointer to the socket descriptor
20	socket identification	4	see <Betonung>Trace Socket Table on page 2586
24	message type	1	see Table 31
25	application tag	2	set by the user calling tpi_set_option (ROL_OPT_STD_CMS_COMM)
27	function identifier	2	identifier and return code of last called TPI function; see Table 29
29	return code	2	
31	info word	2	bytes sent/received or error information

Option Group		Option	
Value	Description	Value	Description
0X00	OL_LEVEL_DUMMY		No option defined
0X01	OL_LEVEL_IPPROTO	0X00	OL_IPPROTO_DUMMY
		0X01	OL_IPPROTO_NODELAY
0X02	OL_LEVEL_SOL_SOCKET	0X00	OL_SOL_SOCKET_DUMMY
		0X01	OL_SOL_SOCKET_SO_DEBUG
		0X02	OL_SOL_SOCKET_SO_KEEPALIVE
		0X03	OL_SOL_SOCKET_SO_DONTROUTE
		0X04	OL_SOL_SOCKET_SO_LINGER
		0X05	OL_SOL_SOCKET_SO_OOBINLINE
		0X06	OL_SOL_SOCKET_SO_RCVBUF
		0X07	OL_SOL_SOCKET_SO_SNDBUF
		0X08	OL_SOL_SOCKET_SO_REUSEADDR
		0X09	OL_SOL_SOCKET_SO_RCVLOWAT
		0X0A	OL_SOL_SOCKET_SO_SNDLOWAT
		0X0B	OL_SOL_SOCKET_SO_RCVTIMEO
		0X0C	OL_SOL_SOCKET_SO_SNDTIMEO
		0X0D	OL_SOL_SOCKET_SO_USELOOPBACK
		0X0E	OL_SOL_SOCKET_SO_ERROR
0X03	OL_LEVEL_FCNTL	0X00	OL_FCNTL_DUMMY

Table 30 Option groups and options

TRACS - Operation of the System Tracer (SWU)

The LAN Tracepoints (Application Description)

Option Group		Option	
		0X01	OL_FCNTL_FNDELAY
		0X02	OL_FCNTL_FASYNC
0X04	OL_LEVEL_IOCTL		No option defined
0X05	OL_LEVEL_ROLM	0X00	OL_ROLM_OPT_DUMMY
		0X01	OL_ROLM_OPT_OS_COMM
		0X02	OL_ROLM_OPT_APPL_TAG
		0X03	OL_ROLM_OPT_MBUF_DATA_SIZE
		0X04	OL_ROLM_OPT_CLUSTER_SIZE
		0X05	OL_ROLM_OPT_MTU_SIZE_MIN_HEAD
		0X06	OL_ROLM_OPT_STD_CMS_COMM

Table 30 Option groups and options

Value	Message Type	Description
0X01	ASYNC_MSG_ERROR	Some kind of fatal error has occurred on this socket.
0X02	ASYNC_MSG_ACCEPT_READY	The socket has a connection pending.
0X03	ASYNC_MSG_CONNECT_READY	The previously initiated connection call has completed.
0X04	ASYNC_MSG_WRITE_READY	Space is available in the socket output buffer. Note that this message is never sent if the socket is in OS communications mode.
0X05	ASYNC_MSG_READ_READY	Data is available in the socket input buffer. Note that this message is sent for every incoming data segment received. Note that this message is never sent if the socket is in OS communications mode.
0X06	ASYNC_MSG_CONN_LOSS	The connection has been lost on this socket.
0X07	ASYNC_MSG_OOB_DATA	Out of Band data is coming in on this socket.

Table 31 Asynchronous message types

196.0.1.1 Tracepoint TCP

Offset	Data Item byte0 byte1	byte order	Comments
0	IP address of remote host	hi, lo	see Figure 74 on page 2586
4	local port	hi, lo	
6	remote port	hi, lo	
8	TCP location	lo, hi	see Table 33 on page 2592
10	TCP event	lo, hi	
12	socket state after	lo, hi	socket state after event processing see Table 35 on page 2593
14	connection state before	lo, hi	connection state before processing the event; see Table 36 on page 2593
16	actual chars in buffer	lo, hi	if the location is TA_INPUT or TA_DROP, this items refers to the receive buffer, otherwise to the send buffer
20	allocated memory	lo, hi	total memory allocated by mbufs and clusters (1 mbuf=256 byte, 1 clusters=1518 byte)
24	connection state after	lo, hi	connection state after event processing see Table 36 on page 2593
26	retransmit timer	lo, hi	Ticks to retransmit the data starting at "Seq-Nr: send unacknowledged" Note: 1 Tick = 0,5 sec.
28	persist timer	lo, hi	Ticks to send next data probe
30	keepalive timer	lo, hi	Ticks to send next keep-alive packet
32	number retransmissions	lo, hi	rexmit backoff idx
34	current rexmit interval	lo, hi	current retransmission interval
36	Seq-Nr: send unackn.	lo, hi	Sequence number send unacknowledged
40	Seq-Nr: send next	lo, hi	Sequence number send next
44	send window	lo, hi	max. number of unacknowledged bytes
46	Seq-Nr: receive next	lo, hi	Sequence number receive next
48			
50	receive window	lo, hi	amount of receive capacity (actually)

Table 32 *Structure of the TCP trace record*

TRACS - Operation of the System Tracer (SWU)

The LAN Tracepoints (Application Description)

Offset	Data Item byte0 byte1	byte order	Comments
52	advertised rcv window	lo, hi	advertised receive window

Table 32 *Structure of the TCP trace record*

Value lo,hi	trace location	TCP events	comment
01 00	TA_USER	PRU_ATTACH	attach protocol to socket
		PRU_DETACH	detach protocol from socket
		PRU_BIND	bind socket to address
		PRU_LISTEN	listen for connection
		PRU_CONNECT	establish connection to peer
		PRU_ACCEPT	accept connection from peer
		PRU_DISCONNECT	disconnect from peer
		PRU_ABORT	abort (fast DISCONNECT, DETATCH)
		PRU_SLOWTIMO	500ms timeout
02 00	TA_OUTPUT	TCP-Flags + length of user data in WORDS	see TA_INPUT
03 00	TA_INPUT	TCP-Flags + length of user data in WORDS	the TCP-Flags (see Table 37 on page 2594) of received TCP packet will be saved into the Intel bits 0 - 5 of byte 0 in TCP event, the length of user data -counted in words- will be saved into the bits 6,7 of byte 0 and bits 0 - 7 of byte 1 (most significant byte)
04 00	TA_DROP	TCP-Flags + cause for dropping	analogous to TA_INPUT; the possible values of cause for dropping are listed in Table 34 on page 2592
05 00	TA_DROPAFTERACK	TCP-Flags + cause for dropping	analogous to TA_INPUT; the possible values of cause for dropping are listed in Table 34 on page 2592
06 00	TA_DROPWITHRST	TCP-Flags + cause for dropping	analogous to TA_INPUT; the possible values of cause for dropping are listed in Table 34 on page 2592

Table 33 *trace locations and their possible TCP events*

Value	Literal	comment
1	TD_NOBUF	required memory resources not available
2	TD_NEWSOFAILED	creation of new socket failed due to no socket space
3	TD_TCPFLAG	unexpected flag received

Table 34 *Reasons for dropping a TCP packet and/or connection*

TRACS - Operation of the System Tracer (SWU)

The LAN Tracepoints (Application Description)

Value	Literal	comment
4	TD_PCBFAILED	call of in_pcbconnect failed
5	TD_SEQFAIL	unexpected sequence number received
6	TD_CONNCLOSED	connection already closed
7	TD_WAITFIN	TCP waits for the FIN of communication partner

Table 34 Reasons for dropping a TCP packet and/or connection

Intel-Bit	Value lo, hi	Name	Comment
0	01 00	SS_NOFDREF	no file table ref any more
1	02 00	SS_ISCONNECTED	socket connected to a peer
2	04 00	SS_ISCONNECTING	in process of connecting to peer
3	08 00	SS_ISDISCONNECTING	in process of disconnecting
4	10 00	SS_CANTSENDMORE	can't send more data to peer
5	20 00	SS_CANTRCVMORE	can't receive more data from peer
6	40 00	SS_RCVATMARK	at mark on input
7	80 00	SS_PRIV	privileged for broadcast
8	00 01	SS_NBIO	non-blocking ops
9	00 02	SS_ASYNC	async i/o notify
10	00 04	SS_ISCONFIRMING	deciding to accept connection req

Table 35 Socket state bits

Value lo, hi	Name	Comment
00 00	TCPS_CLOSED	connection closed
01 00	TCPS_LISTEN	listening for connection
02 00	TCPS_SYN_SENT	active - have sent SYN
03 00	TCPS_SYN_RECEIVED	has send and received SYN
04 00	TCPS_ESTABLISHED	connection established
05 00	TCPS_CLOSE_WAIT	received FIN - waiting for close
06 00	TCPS_FIN_WAIT_1	has closed - sent FIN
07 00	TCPS_CLOSING	closed an FIN exchanged - await FIN ACK
08 00	TCPS_LAST_ACK	had FIN and close - await FIN ACK
09 00	TCPS_FIN_WAIT_2	has closed - FIN is acked
0A 00	TCPS_TIME_WAIT	quiet wait after close

Table 36 TCP FSM state definitions. Per RFC793, September, 1981.

TRACS - Operation of the System Tracer (SWU)

The LAN Tracepoints (Application Description)

Bit nr: ¹	Bit 5 (10)	Bit 4 (11)	Bit 3 (12)	Bit 2 (13)	Bit 1 (14)	Bit 0 (15)
Value:	H'20	H'10	H'08	H'04	H'02'	H'01
Name:	URG	ACK	PUSH	RST	SYN	FIN
Description:	"Urgent Pointer"- field is significant	Acknowledgment field is significant	Push Function	Reset (Close) the connection	Synchr. sequence numbers; start connection	No more data from sender; connection close

Table 37 TCP flags and their meaning
1 numbering in Intel-format (numbers in brackets correspond to network-numbering)

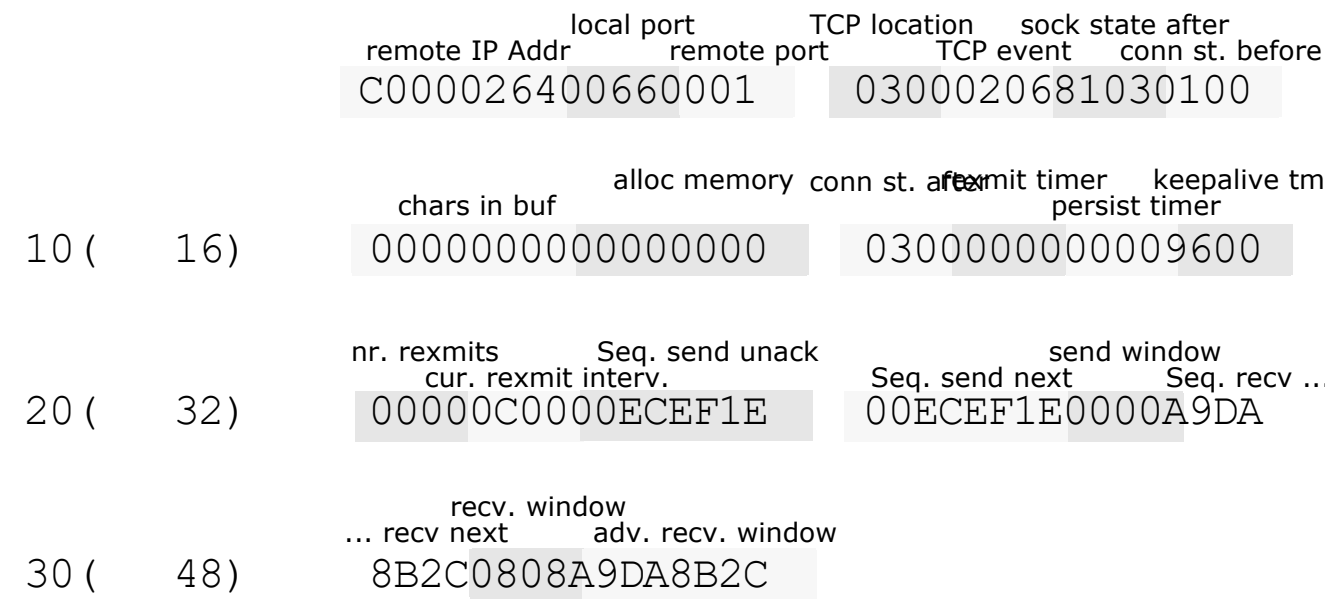


Figure 75 Trace example for trace point TCP

196.6.5 Tracepoint ETHSD, ETHRV

As already noticed at the beginning of Section 196.6 on page 196-2582, the trace points ETHSD and ETHRV have to be used if protocol data is needed. The structure of trace data is the same for the trace points ETHSD and ETHRV. This structure - for TCP communication - is shown and shortly commented in [Figure 77 on page 2596](#). For more details or other protocols, please look up to RFC791(IP), RFC792(ICMP), RFC793(TCP) and RFC826(ARP).

Note: for all protocol data the byte and bit order is BIG ENDIAN which is equal to the "network byte order". (this means: bits and bytes with lower position number have more significance)

		Destination MAC Addr	Source MAC Addr	Ver+IHL Type=IP	TOS
		0020AFDDA7410200	C000020308004500		
		Identificat. Total Len	TTL Flags+Frag.Offs	Hdr. Chksum Prot=TCP	IP Dest.- IP Source Addr
10 (	16)	00B47D0600003C06	7D2AC0000203C000		
		... - Addr Src Port	Dst Port	Seq Nr	Ackn Nr
20 (	32)	0210006607759986	DEFA0F9115F05018		
		Chksum Hdr+Data Window	Urg. Ptr	Start of Data in case of "Data Offs" = 50	
30 (	48)	08089F0800000300	008C02F080648182		

Figure 76 Trace example for trace points ETHSD & ETHRV

TRACS - Operation of the System Tracer (SWU)

The LAN Tracepoints (Application Description)

byte0, bit0-bit7		byte1, bit8-bit15			
0	Destination MAC Address			E T H	Ethernet Header <u>Destination MAC Address</u> : Ethernet address of destination host (0xFF FF FF FF FF FF = Broadcast address) <u>Source MAC Address</u> : Ethernet address of source host <u>Type Field</u> : Ethernet Frame Type (EtherType_IP = 0x0800, EtherType_ARP = 0x0806)
2					
4					
6	Source MAC Address			H D R	IP Header <u>Ver (bit 0 - bit 3)</u> : IP Version 4 is the only supported <u>IHL (bit 4 - bit 7)</u> : length of IP header in Dwords (normally = 5) <u>TypeOfService</u> : unused inside the Atlantic LAN and always 0 <u>Total Length</u> : length of the datagram, measured in octets, including internet header and data <u>Identification</u> : value assigned by the sender to aid in assembling the fragments of a datagram. <u>Flags(bit0-2)</u> : Bit 0: reserved, must be zero Bit 1: 0 = may fragment, 1 = don't fragment Bit 2: 0 = last fragment, 1 = fore fragments. <u>Fragment Offset</u> : indicates where in the datagram this fragment belongs, it is measured in units of 8 octets <u>TimeToLive</u> : indicates the maximum time the datagram is allowed to remain in the internet system <u>Protocol</u> : indicates the next level protocol used in the data portion of datagram (ICMP = 0x0001, TCP = 0x0006, UDP = 0x0011) <u>Header Checksum</u> : a checksum on the header only <u>Source/Destination Address</u> : IP addr. of source/destina. host
8					
10					
12	Type Field			R	
14	Ver+IHL	TypeOfService		I P H E A D E R	TCP Header <u>Source/Destination Port</u> : The source/destination port number. <u>Sequence Number</u> : the sequence number of the first data octet in this segment <u>Acknowledgment Number</u> : contains the value of the next sequence number the sender of the segment is expecting to receive <u>Data Offset (bit 0 - 3)</u> : length of TCP header in Dwords(= 5) <u>Reserved (bit 4 - 9)</u> : Reserved for future use, must be zero. <u>Flags (bit 10 - 15)</u> : see Table 37 on page 2594 <u>Window</u> : number of data octets beginning with the one indicated in the acknowledgment field which the sender of this segment is willing to accept. <u>Checksum</u> : is the 16 bit one's complement of the one's complement sum of all 16 bit words in the header & data <u>Urgent Pointer</u> : communicates the current value of the urgent pointer as a positive offset from the sequence number in this segment. The urgent pointer points to the sequence number of the octet following the urgent data. This field is only be interpreted in segments with the URG control bit set
16	Total Length				
18	Identification				
20	Flags + Fragment Offset				
22	TimeToLive	Protocol			
24	Header Checksum				
26	Source Address			A D E R	
28					
30					
32	Destination Address			R	
34	Source Port			T C P H D R	
36	Destination Port				
38	Sequence Number				
40					
42					
44	Acknowledgment Number				
46	DataOffset +Reserved + Flags				
48	Window				
50	Checksum of Header + Data				
52	Urgent Pointer				

Figure 77

Protocol header information available at the trace points ETHSD & ETHRV

196.6.5.1 Some Addresses

Addresses in network byte order (BIG ENDIAN)

Ethernet Addresses:	02 00 0C 00 02 01	CCA
	02 00 0C 00 02 02	CCB
	02 00 0C 00 02 03	ADP
IP Addresses:	0C 00 02 01	CCA
	0C 00 02 02	CCB
	0C 00 02 03	ADP
Port Addresses:	0200 - 0263	BOOT
	0264 - 02C7	OS
	02C8 - 032B, 0400 - 0463, 0066	CMS

196.6.5.2 Tracepoints IPDSD, IPDRV

This are the LAN tracepoints in dual-port-ram for UNIXWARE 7. These are IP-Send and IP-Receive. The two tracepoints are available in mono processor systems.

196.7 Examples

Start AMO TRACS (in ADS), control of tracer in BPA

Input:

```
<EXEC-TRACS:BPA;
```

Output:

```
AMO TRACS VARIANT/VERSION L2/001 OF 2001-04-18
TRACER    VARIANT/VERSION L2/007 OF 2001-04-18
TRACER INPUT IN BPA    PLEASE:
```

Note

The user input request is followed by an asterisk to indicate that the user may now enter the next command.

TRACS - Operation of the System Tracer (SWU)

Examples

Example 1: Basic Example (StandardTracer)

The buffer and all the selection tables of the StandardTracer must be reset.

Input:

```
*RES,STDTR;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Only the first 14 bytes of the OS_SEND and OS_RECEIVE messages are stored in the memory.

Input:

```
*MSGLEN, OS, G1, 14;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

A maximum of 100 objects are entered in the trace buffer of the StandardTracer:

Input:

```
*MAXNO, 100;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Only the messages received by the AMC (task set value = H'33) or by an AMO

(task set value = H'34) are to be selected:

Input:

```
*SELMSG, RCV, G1, CD1, DEST, 33&34;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

The StandardTracer is activated:

Input:

```
*ON;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Get long information of StandardTracer:

Input:

```
*STA,STDTR;
```

Output:

```
*****
* STANDARD TRACER
*****
MAX:100      SELOBJ:34      ACTOBJ:34      TRC:ON      STARTCD:D      STOPCD:D
RST:OFF      PETRACD:D      STOPALLCD:D

SELECTIONS AT TRACEPOINT RCV :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 14 BYTES ) :
CONDITION 1: BYTE      0 = 33 34
*****
* COMMON INFORMATION
*****
USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:1  FLAGTR:2  AUTOTR:1  RDSTR:0  FREE:3
TRACER INPUT IN BPA  PLEASE:
```

Deactivation of StandardTracer:

Input:

```
*OFF;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Interrogate number of trace objects in StandardTrace buffer:

Input:

```
*STA,S;
```

Output:

```
*****
* STANDARD TRACER
*****
MAX:100      SELOBJ:91      ACTOBJ:91      TRC:OFF      STARTCD:D      STOPCD:D
TRACER INPUT IN BPA  PLEASE:
```

Output of the first 100 trace objects of the StandardTracer. Since there are only 91 objects in the buffer of the StandardTracer, only 91 objects are output.

The abbreviations in the header are defined as follows:

```
CURNO      = Object number
SDNO       = SD number for CP and DH, or type of task in the
case of PP
TY         = Type of object
DE         = Destination task
SC         = Source task
PR         = Processor in sequence no.
EV         = Event code
```

Input:

```
*DF-T,100;
```

TRACS - Operation of the System Tracer (SWU)

Examples

Output:

```
OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV MESSAGE IN HEX (ASCII)
  1 RCV  34 E5  1 20 34E5019020010301 88E300000054 4... ..T
  2 RCV  34 E5  1 24 34E5019124010301 88E3000000FF 4...$.T
  3 RCV  34 E5  1 24 34E5019224010301 88E300000101 4...$.T
  4 RCV  34 E5  1 24 34E5019324010301 88E3000002FF 4...$.T
  5 RCV  34 E5  1 24 34E5019424010301 88E3000003FF 4...$.T
  6 RCV  34 E5  1 24 34E5019524010301 88E3000004FF 4...$.T
  7 RCV  34 E5  1 24 34E5019824010301 88E3000005FF 4...$.T
  8 RCV  34 E5  1 24 34E5019A24010301 88E3000006FF 4...$.T
  9 RCV  34 E5  1 24 34E5019B24010301 88E3000007FF 4...$.T
  .
  .
  .
 89 RCV  33 34  1  9 333401EC09132500 131200020154 34....%.T
 90 RCV  33 38  1  1 333801EC01132500 131200020154 38....%.T
 91 RCV  34 33  1  1 343301EC01132500 131200020154 43....%.T
H01: NO FURTHER OBJECT IS IN THE BUFFER
TRACER INPUT IN BPA PLEASE:
```

Output of last 3 objects in the buffer of the standard tracer

Input:

*DL-T, 3;

Output:

```
OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV MESSAGE IN HEX (ASCII)
  89 RCV  33 34  1  9 333401EC09132500 131200020154 34....%.T
  90 RCV  33 38  1  1 333801EC01132500 131200020154 38....%.T
  91 RCV  34 33  1  1 343301EC01132500 131200020154 43....%.T
TRACER INPUT IN BPA PLEASE:
```

Example 2: Tracing of dynamic memory

The buffer and all selection tables of the StandardTracer are reset.

Input:

*RES, ALL;

Output:

TRACER INPUT IN BPA PLEASE:

By means of the previous RESET, the maximum number of entries was set to 'unlimited'.

The length of the messages at trace point CP is limited to 50 bytes.

Input:

*MSGLEN, CP, G2, 50;

Output:

TRACER INPUT IN BPA PLEASE:

All the messages received in the top task of the call processing in the trace interface are selected.

Input:

```
*SELMSG, CP, G2, ALL;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

In addition, the dynamic memories DB_D_CPB_TBL and DB_D_CP_LOGICAL_DEV_TBL associated with the message (LODAD_PACKED) are to be selected.

Input:

```
*SELDYN, CP, G2, CPB & DCLD;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

The StandardTracer is activated.

Input:

```
*ON;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

After a telephone test, deactivation of the StandardTracer

Input:

```
*OFF;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Output of the total status of the StandardTracer

Input:

```
*STA, STDTR;
```

Output:

```
*****
* STANDARD TRACER *
*****
MAX:UNLTD  SELOBJ:61  ACTOBJ:61  TRC:ON  STARTCD:D  STOPCD:D
RST:OFF    PETRACD:D  STOPALLCD:D

SELECTIONS AT TRACEPOINT CP :
CONDITIONGROUP 2 ( MAX. MESSAGE LENGTH = 50 BYTES ) :
SELECTED TABLES:  CPB  DCLD
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER
```

TRACS - Operation of the System Tracer (SWU)

Examples

```
*****
* COMMON INFORMATION
*****
USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:1  FLAGTR:2  AUTOTR:1  RDSTR:0  FREE:3

READ BUFFER: 1 BUFFER AT 64000 BYTE
TYPE:STANDARD  BEGOBJ:1          ENDOBJ:91          READPOINTER:92

TRACER INPUT IN BPA  PLEASE:
```

Output of first 3 objects in buffer:

The abbreviations in the headers are defined as follows:

CPDT = DB_D_CP_DEV_TYP
TIMS = TIME_SLOT

Input:

*DF-T,3,,ALL;

Output:

```
OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV  MESSAGE IN HEX                      (ASCII)
    1 CP 3AA0 6C 6F  1 28  6C6F010028000800 00000000FF020100 1o..(.....
                                10( 16) 01FFFFFFFFFFFFFF FFFFFFFFFFFFFFFF .....
                                20( 32) FFFFFFF0FFFFFFFF FFFFFFFFFFFFFFFF .....
                                30( 48) FFFF ..
CURNO TY LODAD                OBJECT IN HEX                      (ASCII)
    2 CB 08000000              0000000000000000 0000000000000000 .....
                                10( 16) 0000000000000000 0000000000000000 .....
                                20( 32) 0000000000000000 0000000000000000 .....
                                30( 48) 0000000000000000 0000000000000000 .....
                                40( 64) 0000000000000000 0000000000000000 .....
                                50( 80) 0000000000000000 0000000000000000 .....
                                60( 96) 0000000000000000 0000000000000000 .....
                                70(112) 0000000000000000 0000000000000000 .....
                                80(128) 0000000000000000 0000000000000000 .....
                                90(144) 0000000000000000 0000000000000000 .....
                                A0(160) 0000000000000000 0000000000000000 .....
                                B0(176) 0000000000000000 0000000000000000 .....
                                C0(192) 0000000000000000 0000000000000000 .....
CURNO TY LODAD                CP-DEV-STATE CP-DEV-STATUS QC-DEV-STATUS
    3 CT 08000000 0C              C0080008      C00800
CURNO TY LODAD                CPDT TIMS OBJECT IN HEX                      (ASCII)
    3 CT 08000000 02   0000 0000000000000000 0200008DEC000009 .....
                                10( 16) 0009000000090000 000A6C0000000000 .....1....
                                20( 32) 0000000000000000 000100F4F40000 .....
TRACER INPUT IN BPA  PLEASE:
```

Output of call processing messages with additional SD-information.

Input:

*DN-T,32-36,,SWC;

Output:

```

OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV MESSAGE IN HEX (ASCII)
32 2713 CURR-SD-STATE: 0H CURR-SD-EVENT: 0H
32 PP 2713 71 6F 1 35 716F015E35003300 0000000701020300 qo..5.3.....
33 3AB7 CURR-SD-STATE: 0H CURR-SD-EVENT: 35H
33 CP 3AB7 6C 6F 1 2F 6C6F015E2F003300 0100000301030800 lo../.3.....
34 3B2A CURR-SD-STATE: 3H CURR-SD-EVENT: 34H
34 CP 3B2A 6C 6C 1 2F 6C6C015E2F003300 0100000301030800 ll../.3.....
35 2714 CURR-SD-STATE: 0H CURR-SD-EVENT: 0H
35 PP 2714 DE AE 6B F0 DEAE6B00F0730107 05000101FE00f508 ..j..r.....
36 4E23 CURR-SD-STATE: 7H CURR-SD-EVENT: 11H
36 PP 4E23 6F 71 6B 6B 6F716B006B633300 00008A0720000300 oqk.kc3.....
TRACER INPUT IN BPA PLEASE:

```

Example 3 : Selection of messages with bit mask (for powerset)

All messages of an AMO (task value = H'34) should be selected, if the message byte 1 contains the bit mask H'E5.

The buffer and all selection tables of the StandardTracer are reset.

Input:

```
*RES,STDTR;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Input:

```
*SELMSG, OS, G1,CD1, DEST, 34;
```

```
TRACER INPUT IN BPA PLEASE:
```

```
*SELMSG, OS, G1, CD2, PST, 1, BIT1&BIT6&&BIT8&BIT3;
```

```
TRACER INPUT IN BPA PLEASE:
```

Output of the tracer status

Input:

```
*STA,STDTR;
```

Output:

```

*****
* STANDARD TRACER *
*****
MAX:UNLTD SELOBJ:0 ACTOBJ:0 TRC:OFF STARTCD:D STOPCD:D
RST:OFF PETRACD:D STOPALLCD:D

SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE 0 = 34
CONDITION 2: BYTE 1 = BIT1 BIT3 BIT6 BIT8
SELECTIONS AT TRACEPOINT RCV :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE 0 = 34
CONDITION 2: BYTE 1 = BIT1 BIT3 BIT6 BIT8
*****
* COMMON INFORMATION *
*****

```

TRACS - Operation of the System Tracer (SWU)

Examples

```
USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:0  FLAGTR:2  AUTOTR:1  RDSTR:0  FREE:4

READ BUFFER: 1 BUFFER AT 64000 BYTE
TYPE:STANDARD  BEGOBJ:1          ENDOBJ:68      READPOINTER:37
TRACER INPUT IN BPA  PLEASE:
```

Only received messages (RCV) should be selected when, additional to the prior conditions, bit 6 (= H'20) is contained in message byte 4.

Input:

```
*SELMSG, RCV, G1, CD3, PST, 4, BIT6;
TRACER INPUT IN BPA PLEASE:
```

Output of selection data of the StandardTracer

Input:

```
*STA,C;
```

Output:

```
SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1  ( MAX. MESSAGE LENGTH = 16 BYTES ):
CONDITION 1: BYTE      0  = 34
CONDITION 2: BYTE      1  = BIT1 BIT3 BIT6 BIT7 BIT8

SELECTIONS AT TRACEPOINT RCV :
CONDITIONGROUP 1  ( MAX. MESSAGE LENGTH = 16 BYTES ):
CONDITION 1: BYTE      0  = 34
CONDITION 2: BYTE      1  = BIT1 BIT3 BIT6 BIT7 BIT8
CONDITION 3: BYTE      4  = BIT6
TRACER INPUT IN BPA PLEASE:
```

Output of messages between lower (5) and upper (12) limit

Input:

```
*DN-T,5-12;
```

Output:

```
OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV  MESSAGE IN HEX
(ASCII)
   5 SD      34 E5 13  A   34E513760A130900 13030C34020154
4.....T
   6 SD      34 E5 13 23   34E5137623130900 1303BE00020136
4..#.....6
   7 RCV     34 E5 13 23   34E5137623130900 1303BE00020136
4..#.....6
   8 SD      34 E5 13  2   34E5137602130900 13030000020100
4..v.....
   9 SD      34 E5 13 2F   34E513762F130900 13030001020154   4
  10 RCV     34 E5 13 2F   34E513762F130900 13030001020154   4
  11 SD      34 E5 13 29   34E5137629130900 13030550         4
  12 RCV     34 E5 13 29   34E5137629130900 13030550         4
TRACER INPUT IN BPA PLEASE:
```


Example 4: Tracing of LAN-DATA; Storing with COPY

LAN objects of the ethernet layer with the values H'19 or H'1A in byte 5 are to be selected:

The buffer and all selection tables of the StandardTracer are reset.

Input:

```
*RES,STDTR;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Input:

```
*SELMSG, LAN, G1, CD1, BY, 5, 19&1A;
```

Output:

```
H10: TRACEPOINTS SET: ETHSD ETHRV
TRACER INPUT IN BPA PLEASE:
```

Additional LAN objects of the TCP layer with the value H'77 in byte 0 are to be selected:

Input:

```
*SELMSG, LAN, G2, CD1, BY, 0, 77;
```

```
*SETLAN, G2, TCP;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Output of the tracer status

Input:

```
*STA,STDTR;
```

Output:

```
*****
* STANDARD TRACER                                     *
*****
MAX:UNLTD  SELOBJ:0      ACTOBJ:0      TRC:OFF  STARTCD:D  STOPCD:D
RST:OFF    PETRACD:D      STOPALLCD:D

SELECTIONS AT TRACEPOINT LAN :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
SELECTED LAN DATA: ETHSD ETHRV
CONDITION 1: BYTE      5 = 19 1A
CONDITIONGROUP 2 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
SELECTED LAN DATA: TCP
CONDITION 1: BYTE      0 = 77
*****
* COMMON INFORMATION                                   *
*****
USER:
SERI:OS
```

TRACS - Operation of the System Tracer (SWU)

Examples

```
BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:0  FLAGTR:2  AUTOTR:1  RDSTR:0  FREE:4
```

```
READ BUFFER: 1 BUFFER AT 64000 BYTE
TYPE:STANDARD  BEGOBJ:1      ENDOBJ:68      READPOINTER:37
TRACER INPUT IN BPA  PLEASE:
```

Activating and deactivating the StandardTracer and displaying the first 8 trace objects:

Input:

```
*ON;
*OFF;
*DF-T,8,,ALL;
```

Output:

```
      OUTPUT OF STANDARD TRACER BUFFER
      CURN O TY      OBJECT IN HEX
(ASCII)
      1 TCP          77E513760A130900 13030C34020154
4.....T
      2 ETHSD        34E5137623190900 1303BE00020136
4..#.....6
      3 ETHRV        34E5137623190900 1303BE00020136
4..#.....6
      4 TCP          77E5137602130900 13030000020100
4..v.....
      5 ETHSD        34E513762F1A0900 13030001020154
4
      6 ETHRV        34E513762F1A0900 13030001020154
4
      7 TCP          77E5137629130900 13030550
4
      8 TCP          77E5137629130900 13030550
4
      TRACER INPUT IN BPA PLEASE:
```

Storing of StandardTrace buffer into a hard disk file:

Input:

```
*COPY,STDTR,":PAS:TRACER/TRACEBUF1";
```

Output:

```
H15: WRITING OF TRACE BUFFER COMPLETED
TRACER INPUT IN BPA PLEASE:
```

Display file status of the file ":PDS:TRACER/TRACEBUF2"

Input:

```
*DISPLAY,FILE,":PDS:TRACER/TRACEBUF2";
```

Output:

```
OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/TRACEBUF2
```

BLOCK	CURNO-BEG	CURNO-END	TIME	INFO
1	1	1708	2001-04-25 13:44:17	
2	1709	2612	2001-04-25 13:45:15	

TRACER INPUT IN BPA PLEASE:

Terminate AMO TRACS

Input:

*END;

Example 5: Storing selection table

Saving the selection criterions

Output:

H23: WRITING TRACET SELECTION TABLES FINISHED
TRACER INPUT IN BPA PLEASE:

Restore selectiontables from file:

Input:

*COPY,TAB-HD," :PAS:TRACER/SELTAB";

Output:

SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 16 BYTES) :
CONDITION 1: BYTE 0 = 34
CONDITION 2: BYTE 1 = BIT1 BIT3 BIT6 BIT7 BIT8

SELECTIONS AT TRACEPOINT RV :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 16 BYTES) :
CONDITION 1: BYTE 0 = 34
CONDITION 2: BYTE 1 = BIT1 BIT3 BIT6 BIT7 BIT8

SELECTIONS AT TRACEPOINT FLAGTR :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 440 BYTES) :
CONDITION 1: BYTE 0 = 6F
CONDITION 2: BYTE 1 = 6F
CONDITION 3: BYTE 4 = BA
CONDITIONGROUP 2 (MAX. MESSAGE LENGTH = 280 BYTES) :
CONDITION 1: BYTE 4 = 97 BA
CONDITION 2: BYTE 15 = 8
CONDITIONGROUP 3 (MAX. MESSAGE LENGTH = 16 BYTES) :
ALLE MELDUNGEN WERDEN IN DEN TRACE-BUFFER AUFGENOMMEN

SELECTIONS AT TRACEPOINT AUTOTR :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 32 BYTES) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER
COPY SELECTIONS FOR WHICH TRACEPOINTS?

Input:

SD

Output:

TRACS - Operation of the System Tracer (SWU)

Examples

```
H24: READING TRACER SELECTION TABLES FINISHED
TRACER INPUT IN BPA PLEASE:
```

Example 6: Conditional conditions

In a larger example all messages of the subscriber A (LTG= H'209D), and all messages of the subscriber calling subscriber A, will be traced to the harddisk.

The buffer and all selection tables of the StandardTracer are reset.

Input:

```
*RES,ALL;
```

Output:

```
TRACER INPUT IN BPA PLEASE:
```

Input:

```
selmsg,cp,g1,cd1,byte,6,9d;
selmsg,cp,g1,cd2,byte,7,20;
selmsg,cp,g1,cd3,ev,4;
selmsg,cp,g2,cd1,byte,6,9d;
selmsg,cp,g2,cd2,byte,7,20;
selmsg,cp,g2,cd3,ev,2d;
selmsg,cp,g3,cd1,byte,6,9d;
selmsg,cp,g3,cd2,byte,7,20;
selmsg,cp,g1,ccd1,set,12,6,cp,g4,cd1,,,loden-ltgline;
selmsg,cp,g2,ccd1,set,6,6,cp,g4,cd1,,2;
ON;
sta,c;
```

Output:

```
SELECTIONS AT TRACEPOINT CP :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      6 = 9D
CONDITION 2: BYTE      7 = 20
CONDITION 3: BYTE      4 = 4
CCD1: SET BYTE 12 13 -> BYTE 6 IN CP-G4-CD1  LODEN-LTGLINE
CCD1: SET BYTE 12 13 -> BYTE 7 IN CP-G4-CD2  LODEN-LTGLINE
CONDITIONGROUP 2 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      6 = 9D
CONDITION 2: BYTE      7 = 20
CONDITION 3: BYTE      4 = 2D
CCD1: SET BYTE 6 -> BYTE 6 IN CP-G4-CD1
CCD1: SET BYTE 7 -> BYTE 7 IN CP-G4-CD2
CONDITIONGROUP 3 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      6 = 9D
CONDITION 2: BYTE      7 = 20
```

Subscriber A is just called, the selections have changed automatically:

Input:

```
sta,c;
```

Output:

```
SELECTIONS AT TRACEPOINT CP :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      6 = 9D
CONDITION 2: BYTE      7 = 20
CONDITION 3: BYTE      4 = 4
CCD1: SET BYTE 12 13 -> BYTE 6 IN CP-G4-CD1  LODEN-LTGLINE
CCD1: SET BYTE 12 13 -> BYTE 7 IN CP-G4-CD2  LODEN-LTGLINE
CONDITIONGROUP 2 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      6 = 9D
CONDITION 2: BYTE      7 = 20
CONDITION 3: BYTE      4 = 2D
CCD1: SET BYTE 6 -> BYTE 6 IN CP-G4-CD1
CCD1: SET BYTE 7 -> BYTE 7 IN CP-G4-CD2
CONDITIONGROUP 3 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      6 = 9D
CONDITION 2: BYTE      7 = 20
CONDITIONGROUP 4 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
CONDITION 1: BYTE      6 = 59
CONDITION 2: BYTE      7 = 10
```

Input:

```
*df-T,,16;
```

Output:

```
OUTPUT OF STANDARD TRACER BUFFER
CURNO TY SDNO DE SC PR EV MESSAGE IN HEX (ASCII)
1 CP 3B2A 6C 6C 1 4 6C6C01C7040F9D20 01010000CA000200 DB_CP_E_SEIZURE
2 CP 3AB7 6C 6F 1 2C 6C6F01C72C699D20 0001000000010E08 DB_CP_E_CAC
3 CP 3BA0 6C 6C 1 2C 6C6C01C72C699D20 0101003A00010E08 DB_CP_E_CAC
4 CP 3BA0 6C 6C 1 28 6C6C01C7280F5910 0101003900010502 DB_CP_E_CALL_AC-
KNOW
5 CP 3AB7 6C 6F 1 2B 6C6F01C72B699D20 0001000020010000 DB_CP_E_CAA
6 CP 3BA0 6C 6C 1 2B 6C6C01C72B699D20 0101003A20010000 DB_CP_E_CAA
7 CP 3BA0 6C 6C 1 5 6C6C01C705125910 0101003902020305 DB_CP_E_ANSWER
8 CP 3AB7 6C 6F 1 2D 6C6F01C72D699D20 0001000000010E90 DB_CP_E_CR
9 CP 3B2E 6C 6C 1 2D 6C6C01C72D699D20 0101005A00010E90 DB_CP_E_CR
10 CP 3B2A 6C 6C 1 57 6C6C01C757239D20 010100000100 DB_CP_E_TIME_OUT
```

Those bytes, which just have been in use, are marked. As you can see the subscriber A was called by the subscriber with the LODEN = H'00CA and the LTG-LINE = H'1059 .

Example 7: HD-Tracen (StandardTracer)

All OS messages (SD and RV) will be selected. Messagelength will be set to 120 Byte.

```
SELNA,OS,G1,ALL;
```

```
TRACER INPUT IN BPA PLEASE:
*NALAE,OS,G1,120;
```

A StandardTracer file is created.

Input:

```
*ON,HD," :PDS:TRACER/HD-TRACE1";
```

TRACS - Operation of the System Tracer (SWU)
Examples

Output:

H19: :PDS:TRACER/HD-TRACE1 WITH 625 KB CREATED
H31: TRACE BUFFER POOL WITH 1250 KB CREATED

Output status of StandardTracer:

Eingabe:

TRACER INPUT IN BPA PLEASE:
*STA,STDTR

* STANDARD TRACER *

MAX:UNLTD SELOBJ:579 ACTOBJ:579 TRC:EIN STARTBD:D STOPBD:D
RST:AUS PETRABD:D STOPALLBD:D

SELECTIONS AT TRACEPOINT SD :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 120 BYTES) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

SELECTIONS AT TRACEPOINT RV :
CONDITIONGROUP 1 (MAX. MESSAGE LENGTH = 120 BYTES) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER

STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1

BLOCK	CURNO-BEG	CURNO-END	INFO
1-2	1	1287	
3-10	0	0	LEER

* COMMON INFORMATION *

USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER: 7 BUFFERS AT 64000 BYTE
STDTR:6 FLAGTR:0 AUTOTR:1 RDSTR:0 FREI:0

TRACE BUFFER POOL: 20 BUFFER WITH 64000 BYTE
STDTR:1 FLAGTR:0 DISPLAY:0 RDSTR:0 FREI:19
TRACER INPUT IN BPA PLEASE:

Display status of StandardTracer file

Input:

DISPLAY,

Output:

OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1

BLOCK	CURNO-BEG	CURNO-END	TIME	INFO
11	5974	6608	2001-05-22 11:47:37	
12	6609	7181	2001-05-22 11:47:38	
13	7182	7792	2001-05-22 11:47:42	
4	1865	2458	2001-05-22 11:47:22	

5	2459	3045	2001-05-22 11:47:23
6	3046	3616	2001-05-22 11:47:25
7	3617	4216	2001-05-22 11:47:26
8	4217	4789	2001-05-22 11:47:27
9	4790	5389	2001-05-22 11:47:28
10	5390	5973	2001-05-22 11:47:30

TRACER INPUT IN BPA PLEASE:

Output of the StandardTracer file:

Input:

TRACER INPUT IN BPA PLEASE:

*DF-T,5,16;

Output:

OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1

LFDNR	TY	ZDNR	DE	SC	PR	EV	MELDUNG IN HEX	(ASCII)
3617	SD		2C	2A	1	6E	2C2A01986E010000 150008FFFF085A53	,*.n.....ZS
3618	SD		E5	E5	10	0	E5E510E000100000 00000000	.....
3619	RV		E5	E5	10	0	E5E510E000100000 00000000	.....
3620	SD		1	1	1	16	010101D116000000 FFFF000002012C01	,
3621	RV		1	1	1	16	010101D116000000 FFFF000002012C01	,

TRACER INPUT IN BPA PLEASE:

Switch off StandardTracer

Input:

*AUS;

Output:

TRACER INPUT IN BPA PLEASE:

Status of StandardTracer file:

Input:

DISPLAY,;

Output:

OUTPUT OF STANDARD TRACER FILE :PDS:TRACER/HD-TRACE1

BLOCK	CURNO-BEG	CURNO-END	TIME	INFO
21	12130	12802	2001-05-22 11:48:32	
22	12803	13328	2001-05-22 11:48:33	
23	13329	14059	2001-05-22 11:48:48	
24	14060	14581	2001-05-22 11:48:49	
25	14582	15190	2001-05-22 11:48:58	ENDE
16	9100	9758	2001-05-22 11:48:08	
17	9759	10376	2001-05-22 11:48:18	
18	10377	10958	2001-05-22 11:48:19	
19	10959	11538	2001-05-22 11:48:21	
20	11539	12129	2001-05-22 11:48:22	

Examples

Output of StandardTracer file:

```
*DN,12800-12805,16;
```

Create a file with 2000 blocks.

```
ON,HD," :GLA:TRACER/FILE2000",2000,Y,Y;
```

```
H19:  :GLA:TRACER/FILE2000 WITH 122 MB CREATED
H41:  TRACE FILE WITH MORE THAN 99 BLOCKS
      NO OUTPUT OF TRACE DATA WITH AMO-TRACS POSSIBLE
      FOR OUTPUT USE "COOL"
```

DISPLAY, *;

NO OUTPUT OF TRACE DATA WITH AMO-TRACS POSSIBLE
FOR OUTPUT USE "COOL"

Set the traceflag:


```
*FLAGTR,ADD,STNO,3156,VCE
```

TRACER INPUT IN BPA PLEASE:

Display flagtrace selections:

```
*STA,FLAGTR;
```

```
*****
* FLAG TRACER
*****
SELOBJ:1993      ACTOBJ:1993      FLAGTR:ON      FLAGTRACE-STOPALL-CONNECTION:OFF
```

```
SELECTIONS AT TRACEPOINT FLAGTR :
CONDITIONGROUP 1 ( MAX. MESSAGE LENGTH = 440 BYTES ) :
CONDITION 1: BYTE      0 = 6F
CONDITION 2: BYTE      1 = 6F
CONDITION 3: BYTE      4 = BA
CONDITIONGROUP 2 ( MAX. MESSAGE LENGTH = 280 BYTES ) :
CONDITION 1: BYTE      4 = 97 BA
CONDITION 2: BYTE     15 = 8
CONDITIONGROUP 3 ( MAX. MESSAGE LENGTH = 16 BYTES ) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER
FLAGTRACEMARKER:  L I N E      LTU   SLOT   CCT
                  1730T 6C2H      1     67     0
                  1731T 6C3H      1     67     1
```

```
FLAG TRACER FILE
+-----+-----+-----+-----+
|  BLOCK  | CURNO-BEG | CURNO-END | INFO  |
+-----+-----+-----+-----+
|    1    |    1      |    1523    |      |
|  2-20   |    0      |    0       | EMPTY|
+-----+-----+-----+-----+
```

```
*****
* COMMON INFORMATION
*****
USER:
SERI:OS
```

```
BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:0  FLAGTR:2  AUTOTR:1  RDSTR:0  FREE:6
```

TRACER INPUT IN BPA PLEASE:

Display messages from FlagTracer buffer

```
*DF-T,5,,FLAGTR;
```

```
OUTPUT OF FLAG TRACER BUFFER
CURNO TY SDNO DE SC PR EV  MESSAGE IN HEX (ASCII)
    1 CP 3B0A 6C 6C 5A  1  6C6C5A5A01145A5A 5A5A5A5A5A5A5A5A 11ZZ..ZZZZZZZZZZ
    2 CP 3B0A 6C 6C 5A  1  6C6C5A5A01145A5A 5A5A5A5A5A5A5A5A 11ZZ..ZZZZZZZZZZ
    3 CP 3B0A 6C 6C 5A  1  6C6C5A5A01145A5A 5A5A5A5A5A5A5A5A 11ZZ..ZZZZZZZZZZ
    4 PP 4E6A 6F 71 C6 BA  6F71C690BA008705 00200002010000C1 oq.....
    5 PP 2713 71 6F 5A 97  716F5A6D97008705 00203B00020020C9 qoZm..... ;...
TRACER INPUT IN BPA PLEASE:
```

Display information of FlagTracer file, display messages from file

TRACS - Operation of the System Tracer (SWU)

Examples

```
*DISPLAY,FLAGTR;
+-----+-----+-----+-----+
|  BLOCK  | CURNO-BEG | CURNO-END |      TIME      | INFO |
+-----+-----+-----+-----+
|    1    |    1      |    1523    | 2001-04-25 14:00:27 |      |
|   2-20   |    0      |    0       | 0000-00-00 00:00:00 | EMPTY|
+-----+-----+-----+-----+
TRACER INPUT IN BPA  PLEASE:

*DF-T,5,,FLAGTR;
```

```
OUTPUT OF FLAG TRACER FILE
CURNO TY SDNO DE SC PR EV  MESSAGE IN HEX          (ASCII
      1 CP 3B0A 6C 6C 5A  1  6C6C5A5A01145A5A  5A5A5A5A5A5A5A5A 11ZZ..ZZZZZZZZZZ
      2 CP 3B0A 6C 6C 5A  1  6C6C5A5A01145A5A  5A5A5A5A5A5A5A5A 11ZZ..ZZZZZZZZZZ
      3 CP 3B0A 6C 6C 5A  1  6C6C5A5A01145A5A  5A5A5A5A5A5A5A5A 11ZZ..ZZZZZZZZZZ
      4 PP 4E6A 6F 71 C6 BA  6F71C690BA008705  00200002010000C1 oq.....
      5 PP 2713 71 6F 5A 97  716F5A6D97008705  00203B00020020C9 qoZm..... ;...
TRACER INPUT IN BPA  PLEASE:
```

Delete the traceflag

```
*FLAGTR,DEL,STNO,3156,VCE;

TRACER INPUT IN BPA PLEASE:
*
END
```

Example 9: AutoTracer

Display status and selections of the AutoTracer:

STA,AUTOTR;

Output:

```
*****
*  AUTOMATIC RESTART TRACER                                     *
*****
SELOBJ:1963      ACTOBJ:1111      AUTOTR:EIN

SELECTIONS AT TRACEPOINT AUTOTR :
CONDITIONGROUP 1  ( MAX. MESSAGE LENGTH = 32 BYTES ) :
ALL MESSAGES ARE ENTERED INTO THE TRACE BUFFER
```

```
AUTO TRACER FILE
+-----+-----+-----+-----+
|  BLOCK  | CURNO-BEG | CURNO-END |      TIME      | INFO |
+-----+-----+-----+-----+
|    21    |    1      |    1007    | 2001-05-21 17:27:35 |      |
|    22    |    1      |    107     | 2001-05-21 17:50:30 |      |
|    23    |    1      |    7       | 2001-05-21 17:50:57 |      |
|    4     |    1      |    7       | 2001-05-17 12:06:18 |      |
|    5     |    149    |    347     | 2001-05-17 15:12:23 |      |
|    6     |    1      |    86      | 2001-05-17 15:14:25 |      |
|    7     |    149    |    94      | 2001-05-17 15:27:20 |      |
|    8     |    1      |    86      | 2001-05-17 15:30:07 |      |
|    9     |    1      |    25      | 2001-05-18 16:21:16 |      |
|   10     |    1      |    7       | 2001-05-18 16:21:43 |      |
|   11     |    5222   |    5276    | 2001-05-21 09:41:37 |      |
|   12     |    1      |    239     | 2001-05-21 12:16:15 |      |
|   13     |    1      |    876     | 2001-05-21 14:23:26 |      |
|   14     |    1      |    871     | 2001-05-21 15:00:57 |      |
```

TRACS - Operation of the System Tracer (SWU)

Examples

```
|      15      |      1      |      88      | 2001-05-21 15:06:02 |      |
|      16      |      1      |      84      | 2001-05-21 15:07:04 |      |
|      17      |      1      |     142      | 2001-05-21 16:05:45 |      |
|      18      |      1      |       7      | 2001-05-21 16:06:13 |      |
|      19      |      1      |     898      | 2001-05-21 16:38:27 |      |
|      20      |      1      |       7      | 2001-05-21 16:38:54 |      |
+-----+-----+-----+-----+-----+
*****
* COMMON INFORMATION                                     *
*****
USER:
SERI:OS

BUFFERS OF THE RESIDENT TRACER:  7 BUFFERS AT 64000 BYTE
STDTR:4  FLAGTR:2  AUTOTR:1  RDSTR:0  FREI:0
```

Output of AutoTracer file:

DISPLAY,AUTOTR;

OUTPUT OF AUTO TRACER FILE

BLOCK	CURNO-BEG	CURNO-END	TIME	INFO
21	1	1007	2001-05-21 17:27:35	
22	1	107	2001-05-21 17:50:30	
23	1	7	2001-05-21 17:50:57	
4	1	7	2001-05-17 12:06:18	
5	149	347	2001-05-17 15:12:23	
6	1	86	2001-05-17 15:14:25	
7	149	94	2001-05-17 15:27:20	
8	1	86	2001-05-17 15:30:07	
9	1	25	2001-05-18 16:21:16	
10	1	7	2001-05-18 16:21:43	
11	5222	5276	2001-05-21 09:41:37	
12	1	239	2001-05-21 12:16:15	
13	1	876	2001-05-21 14:23:26	
14	1	871	2001-05-21 15:00:57	
15	1	88	2001-05-21 15:06:02	
16	1	84	2001-05-21 15:07:04	
17	1	142	2001-05-21 16:05:45	
18	1	7	2001-05-21 16:06:13	
19	1	898	2001-05-21 16:38:27	
20	1	7	2001-05-21 16:38:54	

INPUT THE DESIRED BLOCK NUMBER

*14

TRACER INPUT IN BPA PLEASE:

DF-T,,,AUTOTR;

OUTPUT OF AUTO TRACER FILE

LFDNR	TY	ZDNR	DE	SC	PR	EV	MELDUNG IN HEX	(ASCII)
1	CP	3B0A	6C	88	1	1	6C88013D012B135A 5A5A5A5A5A5A5A5A	1..=+.ZZZZZZZZZZ
					10(	16)	5A5A5A5A5A5A5A5A 5A5A5A5A5A5A5A5A	ZZZZZZZZZZZZZZZZ
2	CP	3B0A	6C	88	1	1	6C88015E012A1300 0073690453736904	1....*...si.Ssi.
					10(	16)	B00B5A5A5A5A5A5A 5A5A5A5A5A5A5A5A	..ZZZZZZZZZZZZZZ
3	CP	3AC7	6C	6C	1	9E	6C6C015E9E2A7100 0000000153736904	1l...*q.....Ssi.
					10(	16)	B00B5A5A5A5A5A5A 5A5A5A5A5A5A5A5A	..ZZZZZZZZZZZZZZ
4	CP	3B0A	6C	B8	0	1	6CB8000001065A5A 005AFD0100010020	1.....ZZ.Z.....
					10(	16)	2020202020202020 2020202020202020	
5	CP	3AC7	6C	6C	0	B9	6C6C0000B9067100 0000000100010020	1l....q.....
					10(	16)	2020202020202020 2020202020202020	

TRACS - Operation of the System Tracer (SWU)

Parameter Description

```

6 CP 3B0A 6C B8 1 1 6CB801AC0106204C 4556454C02010146 1..... LEVEL...F
10( 16) 36353036204D3420 4E30303034205245 6506 M4 N0004 RE
7 CP 3AC7 6C 6C 1 B9 6C6C01ACB9067100 0000000002010146 11.....q.....F
10( 16) 36353036204D3420 4E30303034205245 6506 M4 N0004 RE
8 PP 2713 71 99 1 0 7199010000001400 5A5A120020C53D00 q.....ZZ... .=.
10( 16) 00000000C0800235 F001005A5A5A5A5A .....5...ZZZZZ
9 PP 2713 71 99 1 4C 719901004C001400 5A5A3D0000000000 q...L...ZZ=.....
10( 16) 0000C0800100025A 5A5A5A5A5A5A5A5A .....ZZZZZZZZZZ
10 PP 2713 71 99 33 1 7199337501003900 5A5A020018C51400 q.3u..9.ZZ.....
10( 16) 04000000C08002C4 FF01005A5A5A5A5A .....ZZZZZ
TRACER INPUT IN BPA PLEASE:
```

196.8 Parameter Description

AKTPOS	Used in command: SELMSG; specifies the position of the byte in current message (setting conditionals conditions) Type of Input : single value, mandatory Possible Values : 0 - 12000
ANS	Used in command: COPY, ON; specifies if copy is to continue Type of Input : Single value, mandatory Possible Values : Y Yes N No
ARCHIV	Used in command AUTOTR, FLAGTR define the file name of the backup file Type of Input : Single value, mandatory Possible Value : valid file name (e.g. ":PAS:TEST" or ":DBD:TEST")
AREA	Used in command: COPY; areas for which the command is valid Type of Input : single Value, mandatory Possible Values STDTR StandardTracer buffer FLAGTR FlagTracer buffer AUTOTR AutoTracer buffer RDSTR RDSTracer buffer TAB-HD save selection table HD-TAB read selection table
AUTOTR	Used in command: AUTOTR; type of autotracer selection

	Type of Input	: Single value, mandatory
	Possible Values	: FILE save file under different name OFF block or deactivate or delete trace-criteria ON activate a tracer function
BITPOS	Used in command: SELMSG; Bit positions which may be used for building a byte mask for mask comparison	
	Type of Input	: Single value, mandatory or linked Single values and/or range entries, mandatory
	Possible Values	: BIT1 Setting the 1. bit of a byte BIT2 Setting the 2. bit of a byte BIT3 Setting the 3. bit of a byte BIT4 Setting the 4. bit of a byte BIT5 Setting the 5. bit of a byte BIT6 Setting the 6. bit of a byte BIT7 Setting the 7. bit of a byte BIT8 Setting the 8. bit of a byte
BLOCKNO	Used in command: DN, DN-T; specifies the block number on the harddisk	
	Type of Input	: Single value, mandatory
	Possible Values	: 1 - 65535
CCT	Used in command: SELDYN and FLAGTR, RDSTR; circuit number (=CirCuiT)	
	Type of Input	: Single value, mandatory
	Possible Values	: 0 - 255
CMD	Branch parameter, specifies the tracer command	
	Type of Input	: Single value, mandatory
	Possible Values	: OFF, USER, DA, DB, DF, DL, DA-T, DB-T, DF-T, DL-T, DISPLAY, DN, DN-T, ON, COPY, END, MAXNO, MSGLEN, P, RES, RST, SELDYN, FLAGTR, NETSTOP, SELMSG, SELSTOP, SETLAN, STA (for explanation see Functional Overview)
CNT	Used in commands: DA, DB, DF, DL; DA-T, DB-T, DF-T, DL-T; specifies number of trace objects to be output	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 65535

TRACS - Operation of the System Tracer (SWU)

Parameter Description

Default Value : 10

COND

Used in commands: SELMSG, SELDYN;
branch parameter, specifies which condition is set.

Type of Input : Single value, optional in SELMSG

: Single value, mandatory in SELDYN

Possible Values : ALL Select all messages (SELMSG only)
OFF Deactivate message selection for a group
or deactivate selection at gate trace points
CD1 1st condition
CD2 2nd condition
CD3 3rd condition
CD4 4th condition
CD5 5th condition
CD6 6th condition
CD7 7th condition
CD8 8th condition
CCD1 1st conditional condition (SELMSG only)
CCD2 2nd conditional condition (SELMSG only)
CCD3 3rd conditional condition (SELMSG only)
CCD4 4th conditional condition (SELMSG only)
CCD5 5th conditional condition (SELMSG only)
CCD6 6th conditional condition (SELMSG only)
CCD7 7th conditional condition (SELMSG only)
CCD8 8th conditional condition (SELMSG only)

Default Value : OFF

CONDGRP

Used in commands: MSGLEN, SELDYN, SELMSG, SETLAN;
specifies group for which conditions are to be set

Type of Input : Single value, optional (SELDYN, SELMSG)

: Single value, mandatory (MSGLEN, SETLAN)

Possible Values : For MSGLEN, SETLAN:

G1 Condition group 1
G2 Condition group 2
G3 Condition group 3
G4 Condition group 4

For SELDYN, SELMSG:

G1 Condition group 1
G2 Condition group 2

	G3	Condition group 3
	G4	Condition group 4
	OFF	Deactivate message selection at a trace point
Default Value	: OFF	
CONVERT	Used in commands: SELMSG; conversion of switching values	
Type of Input	: Single value, 2 linked Single values, optional	
Possible Values	: DTI	device table index
	LINE	line number
	LODAD	logical device address
	LODADP	lodad packed
	LODEN	logical device number
	LTGLINE	ltg line
CPCOND	Used in command: SELDYN; indicates whether dynamic memories are also entered in the trace buffer for a selected SW message or a CALL gate.	
Type of Input	: Single value, linked Single values optional	
Possible Values	: ALL	select all dynamic memories
	OFF	deactivate memory selection
	CPB	DB_D_CPB_TBL
	CPCRF	DB_D_CP_NW_CR_TBL
	DCLD	DB_D_CP_LOGICAL_DEV_TBL
		additionally, depending on device type:
		DB_D_CP_DD_EXT_G_ATND
		DB_D_CP_DEV_TBL_EXT_ATND
		DB_D_TM_M_ATND_TIME_I_SERV
		DB_D_CP_DEV_TBL_TRUNK
	DCLT	DB_D_TLN_DATA_TBL or DB_D_TRUNK_DATA_TBL
	DDHD	DB_D_DH_DEV_TBL
	DHCRF	DB_D_DH_NW_CR_TBL
Default Value	: OFF	
CPPNT	Used in command: SELDYN; specifies the trace point at a call processing trace interface or the GATE trace point for which a dynamic memory is to be output (message-dependent address for SW trace points, explicit for GATEs)	

TRACS - Operation of the System Tracer (SWU)

Parameter Description

Type of Input	: Single value, mandatory
Possible Values	: CP call processing
	FLAGTR CP and PP messages with set flag
	PP peripheral processing
	SW CP and PP
	START start condition
	GATE gate trace point
	AUTOTR CP and PP of AutoTracer

DI Used in command: SELDYN, FLAGTR and RDSTR;
device indicator

Type of Input	: Single value, optional
Possible Values	: 0 - 255

DISPLACE Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SELMSG;
indicates the displacement of the byte in the trace object which is to be compared
with the values of parameter VAL

Type of Input	: Single value, mandatory in SELMSG optional in DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T
Possible Values	: For DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T and SELMSG with FLDTYPE = BYTE, PST: 0 - 12000 For SELMSG with FLDTYPE = SDNO: 0 - 1

FILE Used in command: COPY, DISPLAY, ON, RDSTR;
defines the file name of a file for storing the trace buffer on hard disk.

Type of Input	: Single value, mandatory
Possible Values	: valid file name (e.g. ":PAS:TEST" or ":DBD:TEST")

FLDTYPE Used in command: SELMSG;
branch parameter, specifies the field in the trace
object on the basis of which selection is to be made.

Type of Input	: Single value, mandatory
Possible Values	: BYTE next defined byte
	DEST destination task
	EV event code
	PST powerset resp. mask comparison

		SRC	source task
		SEVT	subevent code
		SU	subunit
		SDNO	status diagram number
FILETYPE	Used in command: DISPLAY; defined from which tracer type the file is displayed		
	Type of Input	: Single value, mandatory	
	Possible Value	: STDTR	StandardTracer file
		FLAGTR	FlagTracer file
		AUTOTR	AutoTracer file
		RDSTR	RDSTracer file
		OFF	Stop read from file
		FILE	User defined file name
		*	synonym for the file name of StandardTracer
FLAGTR	Used in command: FLAGTR type of flagtrace selection		
	Type of Input	: Single value, mandatory	
	Possible Values	: ADD	add tracing flag for a line or add selection value
		DEL	remove tracing flag or dyn. deleting of values
		FILE	save file under different name
		OFF	block or deactivate or delete trace-criteria
		ON	activate a tracer function
		STOPALL	stop systemwide or stop of flag tracing at stopall
INFO	Used in command: STA indicates how much or from which trace type information is output		
	Type of Input	: Single value, optional	
	Possible Values	: S	short information of StandardTracer
		L	long information of StandardTracer
		M	medium information of StandardTracer
		C	selection conditions of the StandardTracer
		HD	Tracefile info of the StandardTracer
		STDTR	long information of StandardTracer
		FLAGTR	long information of FlagTracer
		AUTOTR	long information of AutoTracer
		RDSTR	long information of RDSTracer
		ALL	information of all tracer types

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Parameter Description

	Default Value	: S
LEN	Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, MSGLEN; For DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: Maximum output length of a trace object in bytes For MSGLEN: Maximum entry length for a message The supplementary data, e.g. SDNO, etc., is not included. Type of Input : Single value, optional Possible Values : 0 - 65535 (may be reduced by the AMO to the maximum value implemented) Default Values : For DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: None (full object length is default value) For MSGLEN: 16	
LN	Used in command: SELDYN, FLAGTR and RDSTR; Specifies the line number Type of Input : Single value, in FLAGTR also range entries, mandatory Possible Values : 1 - 65535	
LOCK	Used in command: SELMSG; Specifies the lock of dynamic manipulations of conditions Type of Input : Single value, optional Possible Values : BLOCK blocking execution of conditional conditions UNBLO unblocking execution of conditional conditions	
LTU	Used in command: SELDYN, FLAGTR and RDSTR; Specifies the LTU number Type of Input : Single value, mandatory Possible Values : 1 - 15 and 17 - 99	
MAXBLOCK	Used in command: AUTOTR, FLAGTR, RDSTR, ON; Specifies the filesize in multiple of trace buffer. Type of Input : Single value, optional Possible Values : For AUTOTR, FLAGTR 10 - 99 Default Value : 20 Possible Values : For ON	

		1 - 2000
	Default Value	: 10
	Possible Values	: For RDSTR, ON
		1 - 99
	Default Value	: 10
MAXNO	Used in command: MAXNO; Specifies the maximum number of trace objects to be written into the buffer.	
	Type of Input	: Single value, optional
	Possible Values	: 0 to 65535
	Default Value	: 0 (= unlimited)
NETPROT	Used in command: NETSTOP; branch parameter, specifies the type of netprotocol of switch networking.	
	Type of Input	: Single value, mandatory
	Possible Values	: CORNET switch connected via CORNET-N
NO	Used in command: DN; the objects in the trace buffer are consecutively numbered from 1 to 65535 (0 is 65536). This consecutive number can be used to specifically address each trace object.	
	Type of Input	: Single value, linked Single values, mandatory
	Possible Values	: 0 - 65535
NODEACC	Used in command: NETSTOP Node access of target hicom	
	Type of input	Single value, optiona
	Possible Values	0 -65535
NUMCD	Used in command: SELMSG; Specifies the NUMber of ConDitions which are dynamic to change.	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 8
	Default Value	: 1
OVERWRT	Used in command: ON, RDSTR; Specifies whether a file is overwritten or not	
	Type of Input	Single value, optional
	Possible Values	Y File will be overwritten N File will be not overwritten

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Parameter Description

PHYSEL	Used in command: SELDYN;		
	physical selector of the call gate in the GDT.		
	Type of Input	: Single value, mandatory	
	Possible Values	: 0 - FFFF	
POOLSIZE	Used in command: ON, RDSTR;		
	specifies the number of trace buffers in the trace buffer pool		
	Type of Input	: Single value, optional	
	Possible Value	: 0 (no trace buffer pool)	
		7 - 99	
	Default Value	: 20	
RESOBJ	Used in command: RES;		
	parts of the tracer that are reset.		
	Type of Input	: Single value, optional	
	Possible Values	: BUF	Trace buffer of the StandardTracer, i.e. the buffer contents are deleted.
		TBL	All selection tables, i.e.: No message is selected. No dynamic memory addressed by a message is selected. No control condition is set. All the length fields are set to 16 bytes. (The condition bits for post-selection remain unchanged).
		GATE	Gate trace point. No dynamic memory is selected at gate.
		STDTR	The trace buffer and all selection tables of the StandardTracer are reset. StandardTracer is switched off.
		ALL	Like STDTR: The trace buffer and all selection tables of StandardTracer are reset.
		FLAGTR	The trace buffers of FlagTracer are reset; Selection table is reset to default. FlagTracer is switched on.
		AUTOTR	Selection table of AutoTracer is reseted to default, AutoTracer is switched on.
		RDSTR	The trace buffer and all selection tables of the RDSTracer are reset. RDSTracer is switched off.
		TRPOOL	Release the trace buffer pool. The buffers of the resident tracer are not affected.

Default Value : BUF

SELADR Used in command: SELDYN, FLAGTR and RDSTR;
 Specifies the type of address of dynamic memory at call gate.
 Type of Input : Single value, mandatory
 Possible Values : CIR Circuit address
 LN Line address
 STNO Input of station number (only in FLAGTR)

SELLINE Used in command: NETSTOP;
 Specifies the selection of the CORNET - Line (switch networking).
 Type of Input : Single value, mandatory
 Possible Values : OFF delete all NETSTOP conditions
 L1 Line of 1st partner switch
 L2 Line of 2nd partner switch
 L3 Line of 3rd partner switch
 L4 Line of 4th partner switch
 L5 Line of 5th partner switch
 L6 Line of 6th partner switch
 L7 Line of 7th partner switch
 L8 Line of 8th partner switch

SLOT Used in command: SELDYN, FLAGTR and RDSTR;
 Specifies the slot number
 Type of Input : Single value, mandatory
 Possible Values : 1 - 121

A suitable module must be configured for the slot addressed by PEN (AMO BCSU).
 The possible Slot values depend on the systems architecture and can be found in the BCSU AMO description.

STNO Used in command: FLAGTR, RDSTR
 specifies the station number
 Type of Input: Single value, mandatory
 Possible values: Letter A-D, digit, "#" and "*"

STYPE Used in commands: ON, RST, SELMSG, SELSTOP;
 specifies how the criterion for restart stability (RST)
 and/or the serialization mechanism is to be set (SELSTOP)
 and/or what action is to execute (SELMSG)

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Parameter Description

and/or if the trace result is also to store on harddisk (ON)

Type of Input	: Single value, optional in ON Single value, mandatory in RST, SELMSG, SELSTOP	
Possible Values	: For ON:	
	BUF	Tracing only in trace buffer (Default Value)
	HD	the full trace buffer is to store in a file on HD
	For RST:	
	OFF	Tracer is not to have restart stability
	ON	Tracer is to have restart stability
	For SELMSG:	
	ADD	adding of a selection value
	DEL	deleting of selection values of a condition
	SET	setting of a selection value
	SUB	deleting of a selection value
	For SELSTOP:	
	OS	Serialization with OS resources
	LOCK	Serialization with interrupt disable

SU Used in command: SELDYN, FLAGTR, RDSTR;
specifies the sub-unit

Type of Input	: Single value, optional
Possible Values	: 0 - 16
Default Value	: 0

SVC Used in command FLAGTR, RDSTR;
specifies the service identifier (SerViCe)

Type of Input:	Single Value, mandatory	
Possible Values	: VTX	videotext
	DTE	data
	FAX	fax
	TTX	teletext
	VCE	voice

TARGETCD Used in commands: SELMSG;
indicates weather dynamic condition is to be set

Type of Input	: Single value, optional	
Possible Values	: CD1	first condition
	CD2	second condition
	CD3	third condition

	CD4	fourth condition
	CD5	fifth condition
	CD6	sixth condition
	CD7	seventh condition
	CD8	eighth condition
Default Value	: Value of the parameter COND	
TARGETGRP	Used in commands: SELMSG; indicates for what group a dynamic condition is to be set	
Type of Input	: Single value, optional	
Possible Values	G1	condition group 1
	G2	condition group 2
	G3	condition group 3
	G4	condition group 4
Default Value	: Value of the parameter CONDGRP	
TARGETPO	Used in commands: SELMSG; indicates the byte position in the target message (for setting conditional conditions)	
Type of Input	: Single value, mandatory	
Possible Values	: 0 - 12000	
TARGETTP	Used in commands: SELMSG; indicates the target trace point for conditionals conditions	
Type of Input	: Single value, optional	
Possible Values	AUTOTR	automatic restart tracer
	CP	call processing in switching software module
	FLAGTR	CP and PP messages with set flag
	LAN	LAN data
	PP	preprocessing in switching software module
	PT	stop condition for periph al lw tracer
	RCV	tracepoint in OS_RECEIVE_message
	SD	tracepoint in OS_SEND_ message
	RDSISDN	isdn messages of pp of set monitors
	RDSMON	cp and pp messages of the set monitors
	START	start condition for tracer
	STOP	stop condition for tracer
	STOPALL	stop condition for all tracer in system
Default Value	: Value of the parameter TRACEPT	

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Parameter Description

TEST	Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SELMSG; specifies how the value is to be tested in pre- or post-selection (comparison TEST).
Type of Input	: Single value, optional
Possible Values	: Commands DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: E equal NE not equal SELMSG in accordance with the set condition bits (For SELMSG,BUF,..?) For SELMSG: E equal NE not equal
Default Value	: E
TEXT	Used in commands: USER; contains infotext assigned to other users of the tracer and/or a name of own switch for in the net stopped partner switch
Type of Input	: Single value, optional
Possible Values	: Text, max 70 chars (in USER)
TRACEPT	Used in commands: MSGLEN, SELMSG; Specifies the trace point or the control condition at which a select criterion is to be set for messages.
Type of Input	: Single value, mandatory
Possible Values	: AUTOTR CP and PP of AutoTracer BUF Buffer; setting of condition bits for post-selection (only SELMSG) CP Call processing FLAGTR CP and PP messages with set flag OS SD and RCV LAN LAN trace point PP Peripheral processing PT PETRA Stop condition RCV RECEIVE_MESSAGE in OS RDSMON CP and PP messages of set monitors RDSISDN ISDN messages of PP of set monitors SD SEND_MESSAGE in OS SW CP and PP

	START	Start condition
	STOP	Stop condition
	STOPALL	Stopall condition
	TIME	(dummy)
TYPE	Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SETLAN; For DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T: specifies which type of trace objects is to be output For SETLAN: specifies which type of LAN objects is to be traced Type of Input : Single value, for SETLAN mandatory, else optional Possible Values : For SETLAN:	
	ETHRV	Ethernet driver: protocol headers of incoming frames
	ETHSD	Ethernet driver: protocol headers of outgoing frames
	IPDSD	IP data: dual-port-ram send
	IPDRV	IP data: dual-port-ram receive
	TCP	TCP data (Transmission Control Protocol)
	TPI	TPI data
	For DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T:	
	ALL	all objects
	AUTOTR	CP and PP messages of AutoTracer
	AUOC	like AUTOTR, additional SD-information
	CP	all messages from trace point CP
	CPC	like CP, additional SD-information
	CPB	DB_D_CPB_TBL
	CPCRF	DB_D_CP_NW_CR_TBL
	DCLD	DB_D_CP_LOGICAL_DEV_TBL
		additionally, depending on device type:
		DB_D_CP_DD_EXT_G_ATND
		DB_D_CP_DEV_TBL_EXT_ATND
		DB_D_TM_M_ATND_TIME_I_SERV
		DB_D_CP_DEV_TBL_TRUNK
	DCLT	DB_D_TLN_DATA_TBL or DB_D_TRUNK_DATA_TBL
	DDHD	DB_D_DH_DEV_TBL
	DHCRF	DB_D_DH_NW_CR_TBL
	ETHRV	Ethernet driver: protocol headers of incoming frames

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	ETHSD	Ethernet driver: protocol headers of outgoing frames
	FLAGC	CP and PP messages with ZD-Infos
	FLAGTR	CP and PP messages with set flag
	IPDS	IP data: dual-port-ram send
	IPDRV	IP data: dual-port-ram receive
	LAN	all LAN objects: ETHRV, ETHSD, TCP, TPI
	MSG	OS and SW
	OS	SD and RCV
	PP	all messages from trace point PP
	PT	message, which stopped PETRA
	PPC	like PP, additional SD-information
	RCV	all messages from trace point RCV
	RDS	RDSMON and RDSISDN, and additional all supplementary data
	RDSMON	CP and PP messages of set monitors
	RDSISDN	ISDN messages of PP of set monitors
	SD	all messages from trace point SD
	SW	CP and PP
	SWC	like SW, additional SD-information
	TCP	TCP data (Transmission Control Protocol)
	TPI	TPI data
Default Value	: MSG	

UNIT

Used in commands: P and RDSTR;

Type of Input : Single value, mandatory

Possible Values : For P:

BP	Base processor active
BPA	Base processor A
BPB	Base processor B
BPS	Base processor stand by
For RDSTR:	
1-4	prime monitor index
ALL	all prime monitors

VAL

Used in commands: DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T, SELMSG;
values with which the specified field is compared for selection.

Linked Single values are treated as 'or' strings.

Type of Input : Single value,

	linked Single values and/or range entries
	mandatory in SELMSG
	optional in DA, DB, DF, DL, DN, DA-T, DB-T, DF-T, DL-T, DN-T
Possible Values	: hex values 00 - FF.
WRAP	Used in commands: ON, RDSTR;
	indicates whether the trace file is to be wrap around
Type of Input	: Single value, optional
Possible Values	: Y wrap around the file
	N if file is full trace data are written only in the TB
Default	Y

196.9 Error Messages and Advisories

196.9.1 Error Messages

F01: READ POINTER IS INVALID
 F02: TRACEPOINT IS ILLEGAL IN THIS PROCESSOR
 F03: RECORD WITH THIS NUMBER IS NOT IN THE BUFFER
 F04: THIS SELECTION IS ILLEGAL WITH THIS TRACEPOINT
 F05: LENGTH IS TOO HIGH
 F06: COMMUNICATION WITH THE TRACER IN <xxxxx> IMPOSSIBLE
 F07: TRACER IS ALREADY ON; START CONDITION IS IN WAITING STATE
 F08: TRACEPOINT CANNOT BE SET
 F09: COND = ALL IMPOSSIBLE WITH START, STOP AND STOPALL
 F10: FUNCTION NOT ALLOWED BECAUSE OF DISABLED INTERRUPTS
 F11: ADDRESSINFORMATION UNPLAUSIBLE, NO VALID DATABASE-INDEX
 F12: ADDRESS MISSING OR UNCOMPLETE
 F13: NO VALID SELECTOR
 F14: NO GATE-SELECTOR OR GATE NOT IN GDT
 F15: DESIRED CALL-GATE CANNOT BE SET AS TRACEPOINT
 F16: LTG NUMBER EXCEEDS @@H
 F17: LTU NUMBER EXCEEDS @@H
 F18: LINE NUMBER EXCEEDS @@@@H
 F19: CIRCUIT ADDRESS IMPLAUSIBLE OR LINE NOT CONFIGURED
 F20: HIERARCHY IN FLEX-ADR NOT SUFFICIENT FOR ADDRESSING
 F21: TRACEPOINT CANNOT BE RESET
 F22: CREATION OF FILE FAILED WITH STATUS @@@@H
 F23: OPENING OF FILE FAILED WITH STATUS @@@@H
 F24: SEEKING IN FILE FAILED WITH STATUS @@@@H
 F25: READING FROM FILE FAILED WITH STATUS @@@@H
 F26: WRITING TO FILE FAILED WITH STATUS @@@@H
 F27: CLOSING OF FILE FAILED WITH STATUS @@@@H

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Error Messages and Advisories

F28: CREATION OF SEGMENT FAILED WITH STATUS @@@@H
F29: FILE DOES NOT CONTAIN TRACE DATA
F30: FILE CONTAINS SWU TRACE DATA. USE AMO TRACS
F32: LAN SELECTION COULD NOT BE SET FOR: @@@@
F33: TRACEPOINT <xxxxxxx> NOT DEFINED
F34: CAN NOT PERFORM CONVERSION
F35: PROTOCOL OF THIS CIRCUIT CURRENTLY NOT SUPPORTED
F36: FEATURE NOT SUPPORTED BY CURRENT APS
F37: DELETING OF FILE FAILED WITH STATUS @H
F39: RECORD WITH INCONSISTENT DATA
F40: FILE CONTAINS NO TRACER SELECTION TABLES
F41: THE FLAG FOR FLAG TRACING COULD NOT BE SET, LINE: <xxxxxx>
F42: THE FLAG FOR FLAG TRACING COULD NOT BE REMOVED, LINE: <xxxxxx>
F44: SAME LINE NUMBER REPEATED OR LINE RANGE TOO LARGE (MAX RANGE 32)
F45: NO VALID TRACE BUFFER POOL
F46: NOT ENOUGH MEMORY FOR A TRACE BUFFER POOL WITH @@@@ kB
F47: TRACE FILE IS USED BY ANOTHER TRACER
F48: RDS-TRACER IN USE BY RDS-CONTROL (UNIXWARE7)
F49: NOT ALL BUFFER WERE WRITTEN IN OLD FILE
F50: READ BUFFER DOES NOT EXIST
F51: TRACE BUFFER POOL NOT CREATED
F52: A ERROR OCCUR DURING RELEASE OF TRACEBUFFERPOOL
F53: NOT ENOUGH MEMORY FOR A TRACE FILE WITH @@@@ @
F54: TRACE FILE WITH MORE THAN 99 BLOCKS"
NO OUTPUT OF TRACE DATA WITH AMO-TRACS POSSIBLE"
FOR OUTPUT USE "COOL"

196.9.2 Advisories

H01: NO FURTHER OBJECT IS IN THE BUFFER
H02: PROCEEDING FROM THE DESIRED START THERE ARE ONLY <xxxxxx> ENTRIES
H03: AMO TRACA NOT AVAILABLE ON A MONOPROCESSOR SYSTEM,
USE AMO TRACS
H04: THIS SELECTION OCCUPIES CONDITIONS <xx> AND <xx>
H05: IN THIS CONTEXT THE VALUE MEANS THE ABSENCE OF A LIMIT
H06: DESIRED FUNCTION NOT AVAILABLE
H07: THE NUMBER OF (CYCLICALLY) ENTERED OBJECTS IS UNLIMITED NOW
H08: TRACEBUFFER IS EMPTY
H09: OBJECT COULD NOT BE OUPUT COMPLETELY
H10: TRACEPOINTS SET: <xx> <xx> <xx>
H11: TRACEPOINTS POSSIBLE AT MOST: CP DH PP
H12: LENGTH HAS BEEN REDUCED TO ITS ALLOWED MAXIMUM
H13: NO GROUPS FOR POSTSELECTION. INPUT INSIGNIFICANT
H14: NOT EXECUTED FOR TPT @@, NO SELECTION DEFINED FOR G@
H15: WRITING OF TRACE BUFFER COMPLETED
H17: FILE ALREADY EXISTS. OVERWRITE? (Y/N)
H18: TRACE BUFFER NOT EMPTY. OVERWRITE? (Y/N)
H19: '<xxxxxxxxxxxxxxxxxxxxxx>' WITH <xxxxxx> KB CREATED
H20: NUMBER EXISTS IN BLOCKS <xxx> <xxx> <xxx> <xxx> <xxx> <xxx>

H23: WRITING TRACER SELECTION TABLES FINISHED
H24: READING TRACER SELECTION TABLES FINISHED
H26: IRREGULAR INPUT
H27: DEFAULT FLAGTRACE SELECTIONS SET
H29: A NEW FLAGTRACE MESSAGE IN TRACE BUFFER RECORDED
THE OUTPUT OF TRACE FILE INTERRUPTED
H30: READ BUFFER DOES NOT EXIST
H31: TRACE BUFFER POOL WITH @@@@ KB CREATED
H36: DEFAULT AUTOTRACER SELECTIONS SET
AUTOTRACER IS SWITCHED ON
H37: TIME IS ALWAYS RECORDED. INPUT IS IGNORED.
H38: TRACE FILE IS EMPTY
H39: RELEASE OF BUFFER POOL IS STARTED
H40: AMO-TRACS IS USED BY ANOTHER USER
OR
AMO-TRACS WAS ABORTED RESET WITH 'RELOVL;'
H41: TRACE FILE WITH MORE THAN 99 BLOCKS
NO OUTPUT OF TRACE DATA WITH AMO-TRACS POSSIBLE
FOR OUTPUT USE "COOL"
H42: PLEASE WAIT...
H43: NOT ENOUGH MEMORY FOR A TRACE BUFFER POOL WITH @@@@ kb. SMALLER BUFFER POOL
OR RESIDENT TRACE BUFFERS ARE USED. AT HEAVY LOAD, TRACE DATA CAN BE MISSED IN
TRACE FILE.
H44: TRACEINFO FILE IS FULL. TRACE ACTIVATED, BUT IT WILL NOT BE INCLUDED IN
STA,TRFILES AND RDS. REMOVE OLDER TRACEFILES TO RESOLVE THE ISSUE.
H45: SOME FILES ALREADY EXIST. TRACE WILL NOT BE WRITTEN IN FILES BUT ONLY IN TRACE
BUFFER. MEGATRACE IS OFF
H46: STANDARD TRACER BUFFERS WILL BE RELEASED AND USED FOR AUTOTR (STARTING NOW)
H47: SOME FILES ALREADY EXIST. OVERWRITE? (Y/N)
H48: AFTER TWO HOURS STANDARD TRACER BUFFERS WILL BE RELEASED AND USED FOR AUTOTR
H49: FILE ALREADY EXISTS. TRACE WILL NOT BE WRITTEN IN FILE BUT ONLY IN TRACE
BUFFER.
H54: ONLY THE FIRST AND THE LAST BLOCK ARE DISPLAYED
H55: @@@ of complex @@@@ in @@@ @@@@@@@@@@@@@@@@@@@@@@ '@@@'
H56: WRITING OF DIAGS SWITCHES SELECTION COMPLETED (LOADDISP COMPLEX IS NOT
AFFECTED)
H57: READING OF DIAGS SWITCHES SELECTION COMPLETED (LOADDISP COMPLEX IS NOT
AFFECTED)
H58: RESETTING THE DIAGS SWITCHES COMPLETED (LOADDISP COMPLEX IS NOT AFFECTED)
H59: ONLY DEFAULT DIRECTORY :DIAG:TRCONF" IS DISPLAYED"
H60: DEFAULT DIRECTORY IS :DIAG:TRCONF""
H61: TOO MANY SWITCHES TO DISPLAY SWITCHES CAN BE REVIEWED USING COPY,HD-
TAB,,NO,LIST" COMMAND"
H62: ONLY @@@ FILES ARE DISPLAYED
H63: THERE IS NOT ENOUGH SPACE ON @@@@@@@@ FOR ALL @@@ FILES AT THE MOMENT.NUMBER OF
FILES WILL BE REDUCED TO @@@.SOME TRACE FILES WILL HAVE BLOCKS REDUCED.
H64: RESTORING @@@@@@@@ FILES ON :DIAG:..
H65: TRACE IS OFF!
H66: NO TRACE IS RUNNING
H67: STOP, STOPALL WITH FLDTYPE STN ALSO USES CD2, CD3 & CD4 CONDITIONS

TRACS - Operation of the System Tracer (SWU)

Error Messages and Advisories

197 TREF - T-Reference point matrix

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

'T-Reference point' indicates a defined interface between a PABX and the public ISDN-Network, where a specified attenuation level has to be reached. For stable voice quality not depending on connection type and network size, these T-Reference point conditions are not only for digital interfaces but for analog interfaces, too. The attenuation values used for reaching the levels are stored, country specific, on HD in the TREF-TAB file. They will be loaded into the Database by means of AMO TREF. The values stored in Database can be changed by means of AMO TREF.

'T-Reference point' can only be used for compact PABX, where only LTUCE/SCC are assigned and no LTUC.

There is TRTON-TAB file on HD which has country specific db attenuation values corresponding to the matrix of devices versus tone groups . This table is also loaded by means of AMO TREF.

For all countries except USA (CC=K) all tones (see SIU in ZAND and UCSU) are assigned to TONGRP1.

In USA (CC=K) the following assignment is valid:

1	Internal dial tone	DB_GSGP_SIU_FKT_TON_00	TONGRP1
2	External dial tone	DB_GSGP_SIU_FKT_TON_01	TONGRP1
3	Special dial tone	DB_GSGP_SIU_FKT_TON_08	TONGRP1
15	Testtone	DB_GSGP_SIU_FKT_TON_15	TONGRP1
4	Ringback tone	DB_GSGP_SIU_FKT_TON_02	TONGRP2
5	Busy tone	DB_GSGP_SIU_FKT_TON_03	TONGRP2
7	Camp-on tone	DB_GSGP_SIU_FKT_TON_05	TONGRP2
8	Number Unobtainable tone	DB_GSGP_SIU_FKT_TON_09	TONGRP2
9	Data ring tone	DB_GSGP_SIU_FKT_TON_06	TONGRP2
11	Congestion tone	DB_GSGP_SIU_FKT_TON_11	TONGRP2
12	Conference tone	DB_GSGP_SIU_FKT_TON_12	TONGRP2
13	2nd CO dial tone	DB_GSGP_SIU_FKT_TON_13	TONGRP2
14	Negative Acknowledge tone	DB_GSGP_SIU_FKT_TON_14	TONGRP2
6	Override tone	DB_GSGP_SIU_FKT_TON_04	TONGRP3
10	Positive Acknowledge tone	DB_GSGP_SIU_FKT_TON_10	TONGRP3
23	Conference auxiliary tone 2	DB_GSGP_SIU_FKT_TON_16	TONGRP3
24	Conference auxiliary tone	DB_GSGP_SIU_FKT_TON_17	TONGRP3

TREF - T-Reference point matrix

Restrictions

26	LCR-Expensive tone	DB_GSGP_SIU_FKT_TON_18	TONGRP3
	Test Tone	DB_GSGP_SIU_FKT_TESTS	TONGRP4
0	Idle channel	DB_GSGP_SIU_FKT_TON_07	TONGRP5
16	Text: Please hold the line	DB_GSGP_SIU_FKT_TEXT_01	TONGRP6
17	Text: Number not available	DB_GSGP_SIU_FKT_TEXT_11	TONGRP6
18	Text: Function not possible	DB_GSGP_SIU_FKT_TEXT_02	TONGRP6
19	Text: Access not authorized	DB_GSGP_SIU_FKT_TEXT_03	TONGRP6
20	Text: Currently in use	DB_GSGP_SIU_FKT_TEXT_03	TONGRP6
21	Text: You have a message	DB_GSGP_SIU_FKT_TEXT_13	TONGRP6
22	Music on hold	DB_GSGP_SIU_FKT_MUSIK	TONGRP7

197.1 Restrictions

This description is valid from HiPath 4000 V1.0

197.2 Interrelationships

None

197.3 Functions of the AMO

• ACTIVATE-TREF	:	Load country specific matrix from HD into Database and activate T-Reference bit in central system data
• DEACTIVATE-TREF	:	Deactivate T-Reference bit in central system data
• CHANGE-TREF		Change loaded T-Reference point and TONE table matrix in Database
• DISPLAY-TREF	:	Display T-Reference point matrix and Tone Table loaded in Database
• REGENERATE-TREF		Regenerate T-Reference point and Tone Table matrix loaded in Database

197.3.1 ACTIVATE-TREF

By means of ACTIVATE, country specific TREF and TONE matrixes will be loaded from HD into the Database. If no TREF matrix is available for the entered country code, the error message F04 will be displayed. If no TONE matrix can not be loaded from HD, the error message F01 is displayed.

The system, for which T-Reference will be activated, has to be a compact HW and no LTUC boards have to be assigned. If not, error message F03 will be displayed.

Procedure Overview

Command Code	Parameter
ACTIVATE-TREF	TREFCCD=<param>;

Example

1. Activate T-Reference point matrix for Germany:

Input:

```
ACTIVATE-TREF:0;
```

197.3.2 DEACTIVATE-TREF

When deactivating T-Reference point, all attenuation values set on LTUCE/SCC will be reset to 0dB. If T-Reference point was already deactivated, the error message F05 will be displayed.

Procedure Overview

Command Code	Parameter
DEACTIVATE-TREF	;

Example

1. Deactivate T-Reference point matrix

Input:

```
DEACT-TREF;
```

197.3.3 CHANGE-TREF

CHANGE is only possible, if a matrix has been loaded into the database before, by means of ACTIVATE. If not, the error message F02 will be displayed.

Procedure Overview

Command Code	Parameter
CHANGE-TREF	[TYPE=TREFTAB, ORIGINAT=<param>, DESTINAT=<param>, TREFVAL=<param>]; OR [TYPE=TONETAB, TONEGRP=<param>, DESTINAT<param>, TONEVAL=<param>];

Example

1. Change attenuation value for the connection ANATE to SET600 in the T-Reference point matrix to 0dB

Input:

CHANGE-TREF:TREFTAB,ANATE,SET600,0DB;

197.3.4 DISPLAY-TREF

DISPLAY is only possible, if a matrix has been loaded into the database before, by means of ACTIVATE. If not, the message H01 will be displayed.

Procedure Overview

Command Code	Parameter
DISPLAY-TREF	[TYPE=TREFTAB, ORIGINAT=<param>]; OR [TYPE=TONETAB, TONEGRP=<param>];

Examples

1. Display T-Reference point matrix for ANATE

Input:

DISPLAY-TREF:ANATE;

Output:

T-REFERENCE POINT MATRIX

```

=====
COUNTRY CODE: 0
ORIGINATOR: ANATE
DESTINATION ATTENUATION
-----
UNDEFDEV      0DB
ANATE         8DB
SET600        8DB
OPTISET       0DB
DMAU          0DB
TMACO         1DB
TMDCO         4DB
TMA2WINT      2DB
TMA2WEXT      1DB
TMATIE4W      4DB
TMDTIE        4DB
TMDIUCAS      0DB

```

197.3.5 REGENERATE-TREF

If T-Reference point is activated, the ACTIVATE command will be regenerated. After comparing the T-Reference point and Tone table matrix stored in Database with the one on HD, all differences will be regenerated as CHANGE commands.

Procedure Overview

Command Code	Parameter
REGENERATE-TREF	;

Example

1. Regenerate T-Reference point matrix

Input:

```
REG-TREF;;
```

Output:

```

ACTIVATE-TREF:0;
CHANGE-TREF:TREFTAB,ANATE,SET600,0DB;
CHANGE-TREF:TONETAB,TONGRP1,SET600,0DB;

```

TREF - T-Reference point matrix

Parameter Description

197.4 Parameter Description

DESTINAT	Trunk / Device of connection destination			
	Type of input	Single value, mandatory		
	Possible values	ANATE	Analog Device	DB_CP_TREF_ANATE
		CONF3	Connected To Small Conference	DB_CP_TREF_LG_CONF
		CONF8	Connected To Large Conference	DB_CP_TREF_LG_CONF
		CORDLESS	Cordless Device	DB_CP_TREF_CORDLESS
		DALISDN	Digital Access Line - Integrated Services Trunk	DB_CP_TREF_DAL_IST
		DIG260	Dig260	DB_CP_TREF_DIG260
		DLI	Digital Line Interface	DB_CP_TREF_DLI
		DMAU	Digital Measurement Access Unit	DB_CP_TREF_DMAU
		ISDTT	Isdtt	DB_CP_TREF_ISD_TT
		OPS	Off Premises Station	DB_CP_TREF_OPS
		OPTISET	Optiset	DB_CP_TREF_SYMPHONY
		RES3	Reserve3	DB_CP_TREF_USED29
		RES4	Reserve4	DB_CP_TREF_USED30
		RES7	Reserve7	DB_CP_TREF_RES_END
		SET600	Set600	DB_CP_TREF_SET600
		TMA2WINT	Tie Line 2 Wire Analog Internal Calls	DB_CP_TREF_TMA_INT
		TMACO	Central Office Trunk,analog	DB_CP_TREF_TMA_AMT
		TMACOLOW	Central Office Trunk,with Low Loss,analog	DB_CP_TREF_TMA_CO_LLOSS
		TMAEXT	Tie Line 2 Wire Analog Trunk Calls	DB_CP_TREF_TMA_EXT
		TMASATL	Sattelite Tie Trunk, Analog	DB_CP_TREF_SAT_ATT
		TMATIE	Tie Trunk, Analog	DB_CP_TREF_TMA_TT
		TMATIE4W	Tie Trunk,analog 4 Wire Int.	DB_CP_TREF_TMA_4WIRE
		TMDCO	Central Office Trunk,digital	DB_CP_TREF_TMD_AMT_ISDN
		TMDCTSAT	Combination Tie Trunks And Sattelite, Digital	DB_CP_TREF_SAT_CTT
		TMDIUCAS	Digital Interface Unit Channel Assoc Signalling	DB_CP_TREF_TMD_DIUCAS
		TMDLONG	Central Office Trunk With Long Loop,digital	DB_CP_TREF_TMD_CO_LLOOP
		TMDPMI	Phonemail Interface	DB_CP_TREF_TMD_PMI
		TMDSATL	Sattelite Tie Trunk, Digital	DB_CP_TREF_SAT_DTT

TREF - T-Reference point matrix

Parameter Description

		TMDTIE	Tie Trunk, Digital	DB_CP_TREF_TMD_VERB_ISDN
		TMDTO	Tandem Office Trunk, Digital	DB_CP_TREF_TMD_TO
		TMDVOP	Voice Over Packet Connectivity - Tis	DB_CP_TREF_TMD_VOP
		TMTO	Tandem Office Trunk, Analog	DB_CP_TREF_TMA_TO
		UNDEFDEV	Undefined Device	DB_CP_TREF_UNDEF_DEV
ORIGINAT	Trunk / Device of connection originator			
	Type of input	Single value, mandatory		
	Possible value	see parameter DESTINAT		
TREFCCD	Country code of T-Reference point matrix to be loaded from HD into Database.			
	Type of input	Single value, mandatory		
	Possible values	0 to 19, A to Z, 1A to 1D		
		(Leading zeros will be ignored)		
		0	Germany	
		13	CIS	
		K	USA	
		all others	Reserved	
TREFVAL	New attenuation value for connection from origination to destination in T-Reference point matrix.			
	Type of Input	Single value, mandatory		
	Possible Values	0DB, 1DB, 2DB, 3DB, 4DB, 5DB, 6DB, 7DB, 8DB, 10DB, 12DB, -2DB, -3DB, -4DB		
TONEVAL	New Attenuation value for connection from tonegroup to destination to Tonegroup Table			
	Type Of Input	Single value,mandatory		
	Possible values	FFDB, 0DB, 1DB, 2DB, 3DB, 4DB, 5DB, 6DB, 7DB, 8DB, 10DB, 12DB, -2DB, -3DB, -4DB		
TONEGRP	Tone group no			
	Type Of Input	Single value, mandatory for CHANGE- optional for DISPLAY.		

TREF - T-Reference point matrix

Error Messages and Advisories

	Possible values	TONGRP1 TONGRP2 TONGRP3 TONGRP4 TONGRP5 TONGRP6 TONGRP7	Tone group 1 Tone group 2 Tone group 3 Tone group 4 Tone group 5 Tone group 6 Tone group 7	
TYPE	Type of table			
	Type Of Input	Single value, mandatory for CHANGE- optional for DISPLAY.		
	Possible values	TREFTAB TONETAB		

197.5 Error Messages and Advisories

197.5.1 Error Messages

F01: LOADING OF ^table^ MATRIX ^susy^ NOT POSSIBLE
F02: ^table^ MATRIX CANNOT BE CHANGED BEFORE LOADED.
LOAD FIRST BY MEANS OF ACTIVATE-TREF:TREFCCD=<?>;
F04: NO VALUES FOR TREFCCD=<trefccd> AVAILABLE ON HARD DISK
F05: T-REFERENCE POINT WAS NOT ACTIVATED

197.5.2 Advisories

H01: T-REFERENCE POINT MATRIX CANNOT BE CHANGED BEFORE LOADED.
LOAD FIRST BY ACTIVATE-TREF:TREFCCD=<?>;

198 TSCSU - Configuration of Special Circuits in the SWU

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

The AMO TSCSU is used to assign trunks to the TCOMs (trunk circuit outgoing multi-purpose) lines. The AMO allows the operator to activate trunks in conjunction with the action ADD-TSCSU only. Trunks already configured are activated or deactivated using the AMO DSSU.

Trunks can be added to trunk groups, provided that the new trunks have identical parameter specifications, with the exception of the parameters CCT (trunk circuit number) and INS (activate trunk circuit), as the trunks already in the group. It is possible to assign up to 2000 trunks to one trunk group (see AMO BUEND, parameter NO).

DEV=	DH device type	CP device type	Board	Service	Operating mode
DICT	APSE_DE	APSE_DE	TMOM2	VOICE	PSE_3ADR
CC	APSE_PSE	APSE_PSE	TMOM2	VOICE	PSE_2ADR
CCM	APSE_PSM	APSE_PSM	TMOM2	VOICE	PSE_2ADR
ANS	APSE_ANSE_M	APSE_ANSE_M	TMOM2	VOICE	ANSE
RA	APSE_ANSE_A	APSE_ANSE_A	TMOM2	VOICE	ANSE
RAS	APSE_ANSE_S	APSE_ANSE_S	TMOM2	VOICE	ANSE
SPKR	APSE_ELA	APSE_ELA	TMOM2	VOICE	LAUTSPRE
DOOR	APSE_TE	APSE_TE	TMOM2	VOICE	TUERFRE

Table 38 Device types of AMO TSCSU

In conjunction with TCOM's, the class of parameters (COP) have the following meaning:

CCR	for CCMs which are to be released after each individual job.
CCM	for CCs with 'Meet Me' operation (i.e. all CCs which a voice connection directly is possible via the search frame)
CCTN	for CCs and for some CCMs, an audible tone must be awaited after the A-block has been sent
SACK	set for all devices for which seize acknowledgements are sent during preprocessing
RBLK	set for CCs and CCMs which can transmit remote blocking signals as criteria (short pulses in specific intervals on an otherwise open line)(see also parameter SUPV).

TSCSU - Configuration of Special Circuits in the SWU

Interrelationships

LSUP	if this parameter value is not declared, trunk alarm signaling is suppressed (exception: ANS if time is exceeded). After the timeout specified in the parameter SUPV, the TCOM returns to idle state.
SDL	set for CCs and CCMs if it is necessary to wait for an audible signal before dialing.
EOD	set for CCM with absence/paging signaling (ESPA signaling, switching of + or - on the line)
DTMF	set for CC and CCM in case of DTMF signaling; if DEV=DICT, DTMF tones are always signaled directly.

198.1 Interrelationships

The AMO TSCSU is dependent on data administrated by other AMOs.

- AMO BCSU : Board configuration, switching unit
The AMO BCSU configures modules for trunks
- AMO BUEND : Trunk group access code
The AMO BUEND prepares empty trunk groups and administers their memory sizes.
- AMO COP : Class of parameter for device handler
The AMO COP is used to enter line parameters which can be assigned to trunks using the parameter COPNO.
- AMO COT : Class of trunk for call processing
The AMO COT is used to enter line parameters which can be assigned to trunks using the parameter COTNO.
- AMO CTIME : Customer-specific timers, switching unit
Timers assigned by the AMO CTIME are assigned with the parameters WAITT, DELANS and WAIT
- AMO DTIM1 : Device handler timers
Timers set by the AMO DTIM1 are assigned using the parameters SUPV, STADIAL, EOD and TBT.
- AMO DTIM2 : Device handler timers
Timers set by the AMO DTIM2 are assigned using the parameter STADIAL.
- AMO RICHT : Routing
The AMO RICHT is used to assign an route access code to trunk groups for outgoing/incoming traffic
- AMO SYNCA : Synchronized, customer specific announcement
The AMO SYNCA is used to assign the announcement type which must be allocated to a RAS device by parameter ANNTYPE

- AMO VADSU : Administration of NMC alarms in the SWU
The AMO VADSU is used to assign alarms, which can be assigned to trunks (see parameter ALARMNO)

Interrelationships to parameters from other AMOs

Interrelationships of COTs to the COPs:

ANS (answer form the line) may only be set if the parameter ANS (line with answer) is set in the COP.

198.2 Functions of the AMO

- [ADD-TSCSU](#) : Create special trunk circuits
- [CHANGE-TSCSU](#) : Change data of special trunk circuits
- [DELETE-TSCSU](#) : Delete special trunk circuits
- [DISPLAY-TSCSU](#) : Interrogate special trunk circuits
- [REGENERATE-TSCSU](#) : Regenerate special trunk circuits

198.2.1 ADD-TSCSU

The ADD action can be used to assign up to 30 trunks in a single session (parameter NO), provided that the trunks get identical parameter specifications.

The parameter PEN describes the physical port address (port equipment number) of the trunk. The remaining parameters describe the desired configuration of the trunk.

The signaling method used by the CCM is determined by the parameter COP (Class Of Parameter).

The following correlations exist between the parameters PEN and NO in the ADD command of the AMO TSCSU:

- If both PEN and NO are not declared, the AMO searches for an available port which suits the remaining parameters declared by the operator. If a port is available, a trunk is configured at that port and the port equipment number is displayed on the operator's screen.
- Parameter PEN specified but not parameter NO:
The AMO verifies that the specified port is compatible with the values declared for the remaining parameters. If this is the case, a trunk is configured at that port, and the port equipment number is displayed.

TSCSU - Configuration of Special Circuits in the SWU

Functions of the AMO

- Parameter PEN not specified, parameter NO specified:
The AMO searches for as many suitable available ports as the number of trunks specified in NO requires, and allocates a trunk to each port. All the port equipment numbers which the AMO has assigned are then displayed.
- Parameter PEN specified, parameter NO specified:
The AMO operates as above. However, the AMO will not assign an available port with a lower PEN than that specified in the parameter, i.e. the parameter PEN specifies the first port required and is used as a starting point for the automatic port allocation. This also applies if NO=1 and the trunk cannot be configured at the port declared in PEN, since the AMO initiates a search for a suitable port in this case, too. Thus, if the operator wishes to configure a particular trunk at a particular port (and at no other port), the parameter NO should not be declared.

The number of trunks that can be created is usually only limited by the capacity of the system (memory capacities, module frame capacities). In addition, the following feature-specific restrictions exist:

- RAS (recorded announcement facility, synchronized)
Max. 64 devices for each system.
- CCM (code calling equipment)
Max. two devices for each system and one device per trunk group and route access code.
- CC (code calling, single)
For operating mode 'meet-me' (AMO COP, PAR=CCM) there is only one device per trunk group and route access code admissible. In the other cases it is possible to assign more than one device per trunk group and trunk access code.
- SPKR (loudspeaker)
An access code is defined for each loudspeaker area with one device, i.e. for one trunk group and route access code, one device of this type is installed. A maximum of 10 devices of this type can be installed per PABX.
- DOOR (door opener)
One device per trunk group and route access code

With the aid of the parameter 'INS', the operator can choose to activate a trunk immediately after entering the static data.

If a CCM is assigned with operating mode 'meet-me', a routing access code with the DAR CCMANS (see AMO WABE) must be assigned using the AMO RICHT.

If a trunk is assigned to no or to an empty trunk group and the parameter COPNO or COTNO is omitted, recommended values are retrieved from the DB. According to the number of recommended values the AMO reacts as follows:

1. if exactly one value is found, it is assigned automatically:
H28: <parameter> <value> HAS BEEN ASSIGNED
2. if more than one value is found, the values and their info fields (help information) are listed and the parameter is prompted:

```
F34: PARAMETER HAS TO BE SPECIFIED
RECOMMENDED VALUES : <value> <description>
<description>
<parameter> = <value>
```

3. if no value is found, the parameter is prompted:

```
F34: PARAMETER HAS TO BE SPECIFIED
<parameter> =
```

If the trunk group is not empty, the parameters of the trunk (except the trunk individual values PEN and INS) are set according to the other trunks of the trunk group. If differing values are specified, the command is rejected.

Procedure Overview

Command Code	Parameter
ADD-TSCSU	<pre>[PEN=<gg-u-sss-cc>], [NO=<number>] , [COTNO=<number>], [DPLN=<number>] , [ITR=<number>], [TGRP=<number>] , [CCT=<string>], [ALARMNO=<param>] , [SRCGRP=<number>] , [INS=<param>] , DEV=DICT, [COFIDX=<dd>], [COPNO=<number>] , [SUPV=<param>], [ACKT=<param>], [DTYPE=<dd>]; |, DEV=CC, [COFIDX=<dd>], [COPNO=<number>] , [WIRES=<dd>], [SUPV=<param>] , [ACKT=<param>], [STADIAL=<param>], [ABLK=<param>] , [STNOLEN=<number>]; |, DEV=CCM, [COFIDX=<dd>], [COPNO=<number>] , [WIRES=<dd>], [SUPV=<param>] , [ACKT=<param>], [STADIAL=<param>] , [STNOLEN=<number>], [TBT=<param>], [EOD=<param>]</pre>

TSCSU - Configuration of Special Circuits in the SWU

Functions of the AMO

Command Code	Parameter
	<pre>[SRCHORD=,NUMBER],[SRCHATT=<number>] [OPTYPE=<param>],[WAIT=<param>],[SRCHANT=<param>] [WAITT=<param>],[CDGT=<dd>] [CONV=<param>],[MABLK=<number>]; |,DEV=DOOR|SPKR|ANS|RA,[COFIDX=<dd>],COPNO=<number>] ,[SUPV=<param>],[ACKT=<param>]; |,DEV=RAS,[COFIDX=<dd>],[COPNO=<number>] ,[SUPV=<param>],[ACKT=<param>],ANNNTYPE=<number>;</pre>

Example

Create the 1st trunk with the trunk number 722 (Datex-L, bothway) at pen 5-2-013-1 with the parameters: COT 4, trunk group 17, device type TCX21DTE, LCR class of service 1 and bit rate 2400 bps.

Input:

```
ADD-TSCSU: PEN=1-2-013-1, COTNO=4, TGRP=17, CCT="722    DB  1",
          DEV=ANS, COPNO=2;
```

Output:

```
H01: TRUNK ASSIGNED AT PEN 01-02-013-01
H02: TRUNK RELEASED FOR CALL PROCESSING
```

198.2.2 CHANGE-TSCSU

All parameters are optional except for PEN and DEV.

If the trunk to be changed is assigned to a trunk group, all the trunks of that trunk group are changed, unless the operator declares a value for the parameter CCT.

When canceling trunks from a trunk group (by specifying TGRP=0), the operator must ensure that those trunk groups allocated to a route access code always contain at least one device entry.

If the operating mode of a CCM is changed to 'meet-me', an access code with the DAR CCMANS (see AMO WABE) must be assigned using the AMO RICHT. Similarly, if the 'meet-me' operating mode for a CCM is cancelled, the routing access code with DAR CCMANS must also be deleted (with the AMO RICHT).

A trunk to be changed does not have to be deactivated.

However, changes of the data described by the parameters COFIDX, WIRES and DTYPE take effect only after these has been loaded at the trunk. The loading can be done by AMO-TSCSU (OFFTYPE=DC or DI) or explicitly by the user.

1. OFFTYPE=NL:
Advisory H04 reminds the user to force loading.
2. OFFTYPE=DC:
The trunk is soft locked. If the lock was successful, the trunk data is changed and the trunk is activated again forcing trunk data loading. If the trunk is busy, trunk data is changed but the user has to force loading explicitly (H04).
3. OFFTYPE=DI:
The trunk is locked, the trunk data is changed and the trunk is activated again forcing trunk data loading.

Procedure Overview

Command Code	Parameter
CHANGE-TSCSU	PEN=<gg-u-sss-cc>, [COTNO=<number>], [DPLN=<number>] , [ITR=<number>], [TGRP=<number>] , [CCT=<string>], [ALARMNO=<param>] , [SRCGRP=<number>] , [OFFTYPE=<param>] , DEV=DICT, [COFIDX=<dd>], [COPNO=<number>] , [SUPV=<param>], [ACKT=<param>], [DTYPE=<dd>]; |, DEV=CC, [COFIDX=<dd>], [COPNO=<number>] , [WIRES=<dd>], [SUPV=<param>] , [ACKT=<param>], [STADIAL=<param>], [ABLK=<param>] , [STNOLEN=<number>]; |, DEV=CCM, [COFIDX=<dd>], [COPNO=<number>] , [WIRES=<dd>], [SUPV=<param>] , [ACKT=<param>], [STADIAL=<param>] , [STNOLEN=<number>], [TBT=<param>], [EOD=<param>] , [SRCHORD=<NUMBER>], [SRCHATT=<number>] , [OPTYPE=<param>], [WAIT=<param>], [SRCHANT=<param>] , [WAITT=<param>], [CDGT=<dd>] , [CONV=<param>], [MABLK=<number>]; |, DEV=DOOR|SPKR|ANS|RA, [COFIDX=<dd>], [COPNO=<number>] , [SUPV=<param>], [ACKT=<param>]; |, DEV=RAS, [COFIDX=<dd>], [COPNO=<number>] , [SUPV=<param>], [ACKT=<param>], [ANNTYPE=<number>];

Example

Change the parameter 'COPNO' for the trunk at port 1-2-013-1.

Input:

CHANGE-TSCSU: PEN=1-2-013-1, COPNO=4;

Output:

H03: TRUNK AT PEN 01-02-013-01 CHANGED

198.2.3 DELETE-TSCSU

When deleting trunks from a trunk group, the operator must ensure that those trunk groups allocated a route code always contain at least one device entry.

When deleting a CCM with 'meet-me' operation, the operator must also delete the routing access code with DAR CCMANS using the AMO RICHT.

When OFFTYPE=NL is specified, active trunks are not deleted. When OFFTYPE=DI od DC is specified, trunks are locked implicitly during DELETE-TSCSU. Busy trunks are not deleted when OFFTYPE=DC is specified.

Procedure Overview

Command Code	Parameter
DELETE-TSCSU	[(min 1) PEN=<gg-uu-bbb-ss>, TRGRP=<number>] , [OFFTYPE=<param>];

198.2.4 DISPLAY-TSCSU

The action DISPLAY-TSCSU performs the following functions:

- Interrogation of the parameters and parameter values of trunks configured with the AMO TSCSU.
- Output of available PENs for which a module has been configured with the AMO BCSU (see parameter description for parameter TYPE, TYPE=CFIG).

All parameters are optional. If no parameter is specified, all trunks configured with the AMO TSCSU with their parameters and parameter values are output. If parameters are specified, output is restricted to certain trunks.

If the parameter DEV is specified, only data for the desired device type is output.

Partially qualified input may be given for PEN1 and PEN2, i.e. fewer than four parameter components may be input. Here too, the value entered first is always the LTG number, the value entered second is the LTU number, and the value entered third is the slot. This assures that all trunks of the unit in question are addressed, e.g. by entering two values all trunks of an LTU are addressed.

If PEN1 is specified (even if it is only partially qualified), only those trunks and trunk data identified with PEN1 are output. If PEN1 and PEN2 are specified, all trunks are output which are assigned in the range between PEN1 and PEN2. If only PEN2 is specified all trunks up to PEN2 are output. The output trunks are sorted according to DEV.

FORMAT=L (default value) shows trunk data in table form with up to 4 rows of trunks with the same DEV.

FORMAT=M shows trunk group common data (once per trunk group) and trunk individual data PEN, CCT and INS (one line per trunk) sorted by TRGRP.

FORMAT=S shows a short trunk overview with PEN, DEV and CCT.

Procedure Overview

Command Code	Parameter
DISPLAY-TSCSU	[PEN1=<gg-uu-sss-cc>], [PEN2=<gg-uu-sss-cc>] , [DEV=<param>], [TYPE=<param>], [TRGRP=<number>] , [FORMAT=<param>];

Examples

1. Interrogate all PENs available for DICT devices between PEN1=1-2-001-1 and PEN2=1-2-121-07 for which modules have been assigned by the AMO BCSU.

Input:

```
DISPLAY-TSCSU: PEN1=1-2-001-1, PEN2=1-2-121-07, DEV=DICT, TYPE=CFG;
```

Output:

```
FREE PENS FOR WHICH A MODULE TO DEVICE DICT      HAS BEEN
CONFIGURED:
    1-2- 13- 2      1-2- 13- 3      1-2- 37- 0      1-2- 37- 1
```

2. Interrogate all trunks between PEN1=1-2-001-1 and PEN2=5-4-121-7 assigned by the AMO TSCSU.

Input:

```
DISPLAY-TSCSU: PEN1=1-2, PEN2=1-4;
```

Output:

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Parameter Description

PEN	1-2- 73- 0	1-2-115- 1	1-2-115- 2	1-2-115- 3
DEV	DICT	DICT	DICT	DICT
COTNO	0	0	0	0
DPLN	0	0	0	0
ITR	0	0	0	0
TGRP	1	1	1	1
CCT	722	DB 6		
NNO	0	0	0	0
ALARMNO	0	0	0	0
CARRIER	1	1	1	1
ZONE	EMPTY	EMPTY	EMPTY	EMPTY
INS	Y	Y	Y	Y
COFIDX	0	0	0	0
COPNO	0	0	0	0
SUPV	SUPV5	SUPV5	SUPV3	SUPV1
ACKT	SZACK1	SZACK1	SZACK1	SZACK1
DTYPE	1	1	1	1

198.2.5 REGENERATE-TSCSU

Procedure Overview

Command Code	Parameter
REGENERATE-TSCSU	[PEN1=<gg-uu-sss-cc>], [PEN2=<gg-uu-sss-cc>] , [DEV=<param>], [TYPE=<param>];

Example

Regenerate all special trunks assigned by the AMO TSCSU between the
PENs PEN1=1-2-001-0 and PEN2=1-3-121-7.

Input:

REGENERATE-TSCSU:1-2-001-0,1-3-121-7;

Output:

ADD-TSCSU: 1-2- 67- 0,, 5, 0, 0, 9," ", 15,1, Y,
DICT , 0, 7, SUPV1, SZACK1,2;
ADD-TSCSU: 1-3- 25- 0,, 5, 0, 0, 14," ", 15,1, Y,
CC , 0, 11,2, SUPV1, SZACK1,STADIAL1, Y, 2;
ADD-TSCSU: 1-2- 73- 1,, 5, 0, 0, 13," ", 15,1, Y,
RA , 10, SUPV5, SZACK1;
ADD-TSCSU: 1-3- 31- 1,, 5, 0, 0, 17," ", 15,1, Y,
ANS , 0, 13, SUPV1, SZACK1;

198.3 Parameter Description

ABLK Specifies whether the CC or CCM send STNO of calling party

Type of Input : Single value, optional
 Possible Values : Y(ES), N(O)
 Default Value : N

ACKT Time for arrival of seizure acknowledgement
 (only relevant for lines with seizure acknowledgement)
 Type of Input : Single value, optional
 Possible Values : SZACK1, SZACK2 (see AMO DTIM1)
 Default Value : SZACK1

ALARMNO Alarm number of directional, logical alarm
 Type of Input : Single value, optional
 Possible Values : 0 no ALARMNO associated
 8-519 existing directional, logical alarm (AMO VADSU)
 Default Value : 0
 The alarm number must be assigned by AMO VADSU

ANNTYPE Announcement type
 Type of Input : Single value, mandatory
 Possible Values : 1-64 existing announcement type (AMO SYNCA)

CCT Circuit/trunk number
 Type of Input : Single value, optional
 Possible Values : String, 1-12 characters
 Default Value : None
 The circuit number can be displayed at the attendant terminal (line number interrogation).
 The following configuration of parameter CCT is recommended for customer service information:

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Parameter Description

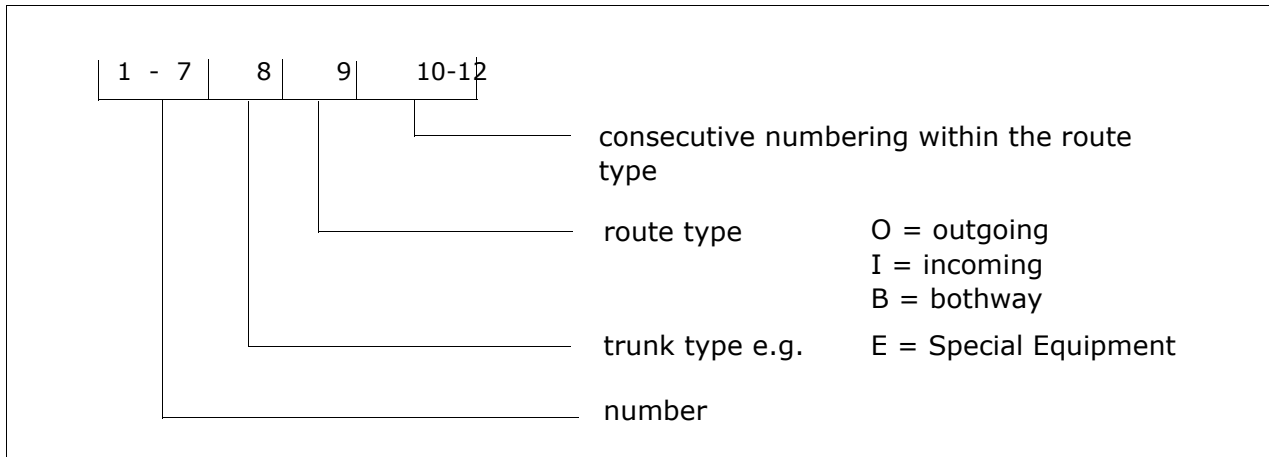


Figure 78 Format of the Circuit / Trunk Number

If several trunks are added simultaneously (NO > 1), all trunks get the same trunk number. Using the CHANGE action of the AMO, the trunks can then be allocated their own trunk numbers.

CDGT Code digits for code caller (CCM)
Type of Input : 2 combined single values, optional
Possible Values : 0-9
If no code number or '0' is entered, the CCM is created for a search without a code number. The first value that can be entered is the code number for "normal call", the second value is for "urgent call".

COFIDX Index of SICOFI data file to be loaded
Type of Input : Single value, optional
Possible Values : 0-7
Default Value : 0

CONV Dialed number to pager (CC) number conversion
Type of Input : Single value, optional
Possible Values : Y(ES) conversion is wanted
 N(O) conversion is not wanted
Default Value : N
If conversion is requested, the corresponding values must be entered in a table with the aid of AMO PERSI.

COPNO Class of Parameter

	Type of Input	: Single value, mandatory
	Possible Values	: 0-255 existing COPNO (AMO COP)
COTNO	Class of Trunk	
	Type of Input	: Single value, mandatory
	Possible Values	: 0-255 existing COTNO (AMO COT)
DEV	Device type	
	Type of Input	: Single value, mandatory
	Possible Values	: RA recorded announcement facility
		ANS answering device
		RAS recorded announcement facility, synchronized
		DICT dictation equipment
		SPKR loudspeaker
		CC code calling, single
		CCM multiple code calling equipment
		DOOR entrance telephone system
	CP_DEV_TYP, DH_DEV_TYP, service indicator and trunk operating mode are derived from this parameter (see also table 1).	
DPLN	Feature access group / dial plan	
	Type of Input	: Single value, optional
	Possible Values	: 0-15
	Default Value	: 0
	A dial plan group is only required for trunks with outgoing or bothway transmission.	
DTYPE	Type of dictation equipment	
	Type of Input	: Single value, optional
	Possible Values	: 1 dictation equipment in general
		2 specific dictation equipment, e.g., Grundig, Tele Diktat 2200
		3 one-way tie-trunk via TMOM; 2-wired with switching trough after seizure
	Default Value	: 1
EOD	End-of-dial timer	
	End-of-dial signal timer for CCMs with end-of-dial signaling, only relevant for lines with end-of-dial parameter (AMO COP, PAR=EOD)	
	Type of Input	: Single value, optional
	Possible Values	: CCMEOD1, CCMEOD2

Parameter Description

Default Value : CCMEOD1

INS In service for trunks

Type of Input : Single value, optional

Possible Values	: Y(ES)	trunk released for call processing.
		Dependability activates the trunk, if possible.

N(O) do not activate the trunk

Default Value : Y

| ITR | Internal traffic restriction group / closed user group |

Type of Input : Single value, optional

Possible Values : 0-15

Default Value : 0

MABLK	Length of stno (calling party) send in meet-me mode

Type of Input : Single value, optional

Possible Values	: 0	do not send stno
	1-16	

Default Value : 0

NO Number of trunks to be assigned

Type of Input : Single value, optional

Possible Values : 1-30

Default Value : 1

If parameter NO is specified, parameter PEN can also be specified; it defines the starting port.

OFFTYPE Type of deactivation during CHANGE or DELETE (see AMO DSSU)

Type of Input : Single value, optional

Possible Values	: DC	deactivate conditionally

DI deactivate immediately

NL no lock

Default Value : DI (DELETE)

NL (CHANGE)

OPTYPE Operating mode for CCM

Type of Input : Maximum of 4 linked single values, optional

Possible Values	: MEETME	the paged party is connected with the paging party on answering the code call if not specified: display mode
	DIS	display mode
	DELANS	cancel the job only after answer
	DELSEND	cancel the job after sending
	BLKEND	Der Suchblock wird durch "]" abgeschlossen, nur bei MFV
	NOBEND	No end-of-block identifier
	BLKSEP	A-block, B-block and code number, if applicable, are separated by "*", only for DTMF signaling
	NOBSEP	no block separators
Default Value	: DIS & DELSEND & NOBEND & NOBSEP	

The 10 parameter values listed here form 4 pairs of opposites (see table). If nothing is declared, then the AMO sets the above default value. By entering one or more of the alternative values (opposites) during the actions ADD or CHANGE, the 'opposite' (default) value can be changed.

Default	Opposite
DIS	MEETME
DELSEND	DELANS
NOBEND	BLKEND
NOBSEP	BLKSEP

Table 39 Opposite Values

PEN	Port equipment number: LTG-LTU-SLOT-CCT
Type of Input	: 4 combined single values, mandatory (CHANGE, DELETE), optional (ADD)
Possible Values	: g-uu-sss-ccc (LTG-LTU-SLOT-CIRCUIT) g = 1 (no other value) existing LTG (AMO UCSU) uu = 1-15 existing LTU (AMO UCSU) in HHS (Host Shelf) 17-99 in AP (Access Point Shelf) 16 not defined sss = 1-121 valid slot with suitable board (AMO BCSU) ccc = 0-254 valid circuit on the board
Default Value	: First suitable PEN (ADD only)

The possible LTU and Slot values for PEN depend on the systems architecture and can be found in the BCSU AMO description.

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Parameter Description

The possible Line values depend on the module type and its functionality.
They can be listed using DISP-BCSU: TYPE=PEN [,LTG=, LTU=, SLOT=, CCT=]; which will also output the actual PEN status (e.g. NOT CONNECTED).

PEN1	Port equipment number (start PEN): LTG-LTU-SLOT-CCT
PEN2	Port equipment number (stop PEN): LTG-LTU-SLOT-CCT
	Type of Input : 4 combined single values, optional (partially qualified)
	Possible Values : see parameter PEN
	Default Value : PEN1=1-1-1-0, PEN2=PEN1
	The parameters PEN1 and PEN2 delimit the search area for the actions DISPLAY and REGENERATE (PEN1 <= PEN2).
	If neither PEN1 nor PEN2 is specified, all trunks are output. If only PEN2 is specified, all trunks up to PEN2 are output. Even with partially qualified input, the first value always describes the LTG, the second the LTU and the third value the slot.
	See the description of the function DISPLAY for details on how to use the parameters PEN1 and PEN2.
SRCHATT	Maximum of search attempts (for CCMs in 'meet-me' mode)
	Type of Input : Single value, optional
	Possible Values : 1-99
	Default Value : 5
SRCGRP	Source group
	Type of Input : Single value, optional
	Possible Values : 1-255
	Default Value : 1
SRHCANT	Time after which search task should be cancelled
	If OPTYPE=DELANS was specified, the search task should be cancelled at the latest after this time limit has expired (for CCM)
	Type of Input : Single value, optional
	Possible Values : DELANS1, DELANS2, DELANS3, DLEANS4 (see AMO CTIME)
	Default Value : DELANS3
SRCHORD	Maximum simultaneous search orders
	Type of Input : Single value, optional
	Possible Values : 1-15
	Default Value : 5

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Parameter Description

Default Value : 0

Trunks intended for incoming traffic only should not be assigned to any trunk group.

Trunks assigned to a trunk group can be used for outgoing and bothway traffic.

If no trunk group number or 0 is entered, the trunk is not assigned to any trunk group.

The number of trunks that can be assigned to one trunk group depends of the device (see table) and the capacity of the trunk group (AMO BUEND, parameter NO; maximum 2000).

DEV	max. no. of trunks per trunk group	max. no. of trunks per PABX
RA	∞	∞
ANS	∞	∞
RAS	∞	64
DICT	∞	∞
SPKR	1	∞
CC	1	∞
CCM	1	2
DOOR	1	∞

Table 40 Maximum number of trunks per trunk group / per PABX

TYPE Options for trunk data interrogation

Type of Input : Single value, optional

Possible Values : A Activated trunks

D Deactivated trunks

CFIG Trunks not yet assigned (action DISPLAY)
(trunks for which a module has been configured with AMO BCSU)

This parameter is used to select trunks in the above-mentioned operating states for the actions DISPLAY and REGENERATE.

WAIT Time while search task can be inputted

Time during which the DH can still enter code calls while waiting for "READY" (for CCM)

Type of Input : Single value, optional

Possible Values : NOTRDY1,NOTRDY2 (see AMO CTIME)

Default Value : NOTRDY1

WAITT Time for dummy task for code calling equipment

Type of Input : Single value, optional

Possible Values : WAIT1, WAIT2 (see AMO CTIME)
 Default Value : WAIT1

WIRES Number of physical wires for code calling devices
 Type of Input : Single value, optional
 Possible Values : 2, 3, 4, 6
 Default Value : 2

198.4 Error Messages and Advisories

198.4.1 Error Messages

F01: PEN ERROR; PERMISSIBLE RANGE FOR LTG: 1-<ltg_max>
 F02: PEN ERROR; PERMISSIBLE RANGE FOR LTU: 1-<ltu_max>
 F03: PEN ERROR; SLOT <sss> FORMALLY INCORRECT
 F04: PEN ERROR; PERMISSIBLE RANGE FOR CIRCUIT NUMBER: 0-<cct_max>
 F05: NO FURTHER TRUNKS CAN BE ASSIGNED IN THE PABX
 F06: LTG <gg> NOT ASSIGNED
 F07: LTU <uu> NOT ASSIGNED
 F08: THE TRUNK WITH PEN <pen> IS ACTIVE
 REPEAT COMMAND WITH OFFTYPE=DI OR OFFTYPE=DC
 OR DEACTIVATE WITH AMO DSSU
 F09: THE TRUNK WITH PEN <pen> IS CAMP-ON BLOCKED
 REPEAT COMMAND LATER OR WITH OFFTYPE=DI
 OR DEACTIVATE IMMEDIATELY WITH AMO DSSU
 F10: TRUNK ALREADY ASSIGNED
 F11: TRUNK NOT ASSIGNED
 F12: NO FREE PEN FOUND FOR THIS DEVICE
 F13: REQUIRED MODULE NOT CONFIGURED AT SLOT <sss>
 F14: NO MODULE CONFIGURED AT SLOT <sss>
 F15: THE LAST TRUNK OF A TRUNK GROUP WHICH IS ASSIGNED TO AN ACCESS CODE MAY NOT BE
 DELETED
 F16: COT (TRUNK PARAMETER) NOT ASSIGNED
 F17: COP (LINE PARAMETER) NOT ASSIGNED
 F18: INSUFFICIENT MEMORY SPACE (AMO DIMSU: PARAMETER <param>)
 F20: <param> <value> NOT ASSIGNED
 F22: THE PARAMETERS OF THE TRUNK TO BE ASSIGNED DO NOT MATCH THE PARAMETERS OF THE
 OTHER TRUNKS IN THE TRUNK GROUP
 F23: TRUNK GROUP NOT YET ASSIGNED
 F24: TRUNK GROUP ALREADY FULL
 (Expand trunk group with AMO BUEND or configure new trunk group with the AMO
 BUEND and assign the identical route access code with the AMO RICHT)
 F25: TRUNK GROUP CANNOT ACCOMODATE ALL TRUNKS
 (Expand trunk group with AMO BUEND or configure new trunk group with the AMO
 BUEND and assign the identical route access code with the AMO RICHT)

TSCSU - Configuration of Special Circuits in the SWU

Error Messages and Advisories

F26: DEVICE TYPE MAY NOT BE CHANGED
F27: DEVICE IS NOT PROCESSED BY AMO TSCSU
F28: BLOCK SEPARATOR (OPTYPE=BLKSEP) ONLY POSSIBLE WITH DTMF SIGNALING
F29: END-OF-BLOCK (OPTYPE=BLKEND) SIGNAL ONLY POSSIBLE WITH DTMF SIGNALING
F30: ONLY TWO CCMS MAY BE ASSIGNED IN THE PABX
F31: A MAXIMUM OF 8 DICTATION SYSTEMS MAY BE ASSIGNED PER TRUNK GROUP
F32: ONLY 64 RAS DEVICES MAY BE ASSIGNED IN THE PABX
F33: THE TRUNK GROUP FOR THE TCOM MAY ONLY CONTAIN ONE DEVICE
F34: PARAMETER MUST BE SPECIFIED
(If no default value for COPNO or COTNO can be assigned, it must be entered.)
F41: PEN1 MAY NOT BE GREATER THAN PEN2
F43: PEN NOT SPECIFIED AT THE PHYSICAL MODULE LOCATION
F57: THE LINE CANNOT BE ADDED;
THE CONTRACTED NUMBER OF FLEX+TDM LINES <number> IS REACHED.
PLEASE USE DISP-CODEW FOR DISPLAY OF THE CONTRACTED FEATURE PACKAGES.
PLEASE CONTACT YOUR SERVICE CENTER IF YOU WISH TO ADD MORE LINES.
F62: THE TRUNK WITH PEN <pen> DOES NOT BELONG TO TRGRP ^tgrp^
F63: THE TRUNK WITH PEN @@@@@@@@@@ IS BUSY REPEAT COMMAND LATER OR WITH LOCK=DI
OR DEACTIVATE IMMEDIATELY WITH AMO DSSU
F99: THE NUMBER OF VARIABLE FIELDS IN THE MASK ABOVE IS EXCEEDED BY @@@@.
F100 THE GIVEN ALARM NUMBER IS NOT VALID BECAUSE IT DOES NOT LEAD EITHER TO A
LOGICAL ALARM OR THE ALARM TYPE DOES NOT MATCH DIR.

198.4.2 Advisories

H01: TRUNK ASSIGNED AT PEN <gg-u-sss-cc>
H02: TRUNK RELEASED FOR CALL PROCESSING
H03: TRUNK AT PEN <gg-u-sss-cc> CHANGED
H04: CHANGE TAKES EFFECT AFTER "ACTIVATION WITH LOADING" (AMO DSSU)
H05: TRUNK NOT ASSIGNED
H06: ASSIGN ROUTING CODE FOR MEET ME WITH AMO RICHT
H07: DELETE ROUTING CODE FOR MEET ME WITH AMO RICHT
H11: NO TRUNKS ASSIGNED
H13: TRUNK PARAMETER ANS (AMO COT) DOES NOT MATCH LINE PARAMETER ANS (AMO COP);
DEVIATION FROM STANDARD
H16: PARAMETER KNNR HAS BEEN ADAPTED TO THE OWN NODE NUMBER (AMO ZAND) ADAPTED NNO:
@@@@@@@@@
H23: TRKGRP <tgrp> IS EMPTY
H24: TRKGRP @@@@ DOES NOT CONTAIN ANALOG TRUNKS.
H28: <param> <value> HAS BEEN ASSINED.
(The AMO can assign default values for COPNO and COTNO.)
H29: TRUNK <pen> DELETED
H34: THE AUTOMATIC SEARCH FOR FREE PENS WILL TAKE PLACE IN THE HHS SHELVES
AND IN ACCESS POINTS WITH SOURCE GROUP 1.
THE GIVEN SOURCE GROUP <NUMBER> WILL BE APPLIED TO THE CONFIGURATION.
H35: The contracted number of TRUNK/NETWORKING lines is exceeded. Trunk has been
marked as trial entity. Marked entities will be locked at trial mode expiry, if
sufficient licenses are missing.
H36: PLEASE ENSURE THE CORRESPONDING WAV FILE FOR THIS ANNOUNCEMENT IS CONFIGURED IN
THE SOFTGATE.

198.4.3 Use of the Output Messages for Each Action

ADD	:	F01, F18, F33, H01,	F02, F20, F34, H02,	F03, F22, F57, H06,	F04, F23, H13,	F05, F24, H28,	F06, F25, H34,	F07, F28, H35,	F10, F29,	F12, F30,	F13, F32,
CHANGE	:	F01, F22, H03,	F02, F23, H04,	F03, F24, H06,	F04, F26, H07,	F06, F27, H13,	F07, F28, H35,	F11, F29,	F14, F33,	F15,	F20,
DELETE	:	F01, F15, H07,	F02, F27, H23,	F03, F62, H29,	F04, H35,	F06,	F07,	F08,	F09,	F11,	F14,
REGENERATE	:	F01, H35,	F02,	F03,	F04,	F06,	F07,	F14,	F41,		
DISPLAY	:	F01, H11,	F02, H23,	F03, H35,	F04,	F06,	F07,	F14,	F41,		

TSCSU - Configuration of Special Circuits in the SWU

Error Messages and Advisories

199 TSU - Test of Switching Unit

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

This AMO enables the operator to test the system units of the Switching Unit.

The AMO tests the peripherals (LTG, LTU, line modules, circuits, terminals, PNT, NT, PCM lines, SIU and CONF), the common control, the LTG switches and highways.

Warning

Running tests on the entire switch or shelf can take a long time.

199.1 Restrictions

This description is valid for HiPath 4000 V1.0

199.2 Interrelationships

AMO-FUNSU : Start of routine tests

199.3 Functions of the AMO

- [TEST-TSU /
DIAGNOSE-TSU](#) : Test the SWU units / Test the SWU units and let FA-RTO treat test errors

199.3.1 TEST-TSU / DIAGNOSE-TSU

Test system units in the SWU.

The AMO either starts test jobs for the system units, interrogates the status word of the processors or starts an external loop at a DIUS2 board.

The call of 'DIAGNOSE-TSU' is also possible. With 'DIAGNOSE-TSU' the same tests except T5 and T18 to T21 are run and the same test results are displayed by the AMO as after the call of 'TEST-TSU', but

TSU - Test of Switching Unit

Functions of the AMO

additionally test errors are treated by FA (Failure Analysis). The parameter tree is nearly identical in both cases (excluded are only T5 and T18 to T21).

Overview of test orders :

- T1 Test an LTG-active
including the speech highways to the CSN-active
Test of the LTG-standby possible from SP300-V3.2 upwards
This job consists of the linked jobs T3 (for the LTG-active control), T5 and T8 to T11.
- T2 Test the Common Control-active or the Common Control-standby
- T3 Test the Group Control of an LTG-active or LTG-standby
- T4 Test a specific LTU in an LTG-active
- T5 Test the board highways in an LTU shelf
- T6 Test a module in an LTU
- T7 Test a circuit in a module of an LTU
- T8 Test a circuit (as in T6), but using a defined highway and timeslot
- T9 Test the standard SIU in an LTG-active and LTG-standby
(Test T9 is included in T8 from SP300-V3.2 upwards.)
- T10 Test the MP of the CONF module in an LTG-active and LTG-standby
(Test T9 is included in T8 from SP300-V3.2 upwards.)
- T11 Test all timeslots on all speech highways between
an LTU and the group switching network (GSN) of an LTG-active.
- T13 Test a Cornet-T device,
a whole Workstation,
a Rolmphone Selftest,
a DCM Selftest (Data Communication Module),
a DCM looptest
an Optiset terminal
a Check alive test on an Optiset terminal
or a Linepower test on an Optiset terminal
Test a PNT (Private Network Terminator) or a
NT (Network Terminator) on a SLMU board,
a Cornet-T device,
all devices of a S0-bus,
a whole Workstation,
a Rolmphone Selftest,
a DCM Selftest (Data Communication Module),
a DCM looptest.
an Optiset terminal
a Check alive test on an Optiset terminal
a Linepower test on an Optiset terminal
or all terminals of one circuit (only loop 4)
- T14 Test a specified PCM line
- T16 Start of an external loop at a DIUS2, DIUS7 or SLMN-E1 for jitter measurements
(used for special admission tests only)
- T17 Test of connection WAML board - ADP
- T18 Line testing on SLMA boards
- T19 IPDA survivability modem

T20 IPDA survivability path
 T21 Central Byte Manipulation Module test loop

Note

T1 to T21 corresponds to the number (1) to (21) in the procedure overview.

No.	Release
T1	AS
T2	AS
T3	AS
T4	P
T5	P
T6	P
T7	AS
T8	AS
T9	P
T10	P
T11	P
T13	P
T14	P
T16	P
T17	P
T18	P
T19	P
T20	P
T21	P

Table 41 Overview of test jobs and test scope

AS = Both system halves can be tested; identification of the halves by means of parameter HALF.
 A = Active system half can be tested; standby half cannot be tested for hardware-related reasons.
 AP = Can be tested; the common control (active half) and the periphery are tested.
 P = Can be tested; element in non-duplicated periphery (active/ relevant in this case) standby distinction

Procedure Overview

Command Code	Parameter	
TEST-TSU	UNIT=LTG, LTG=<number>, [HALF=<param>];	(1)
	|UNIT=CC, [HALF=<param>];	(2)
	|UNIT=CLTG, LTG=<number>, [HALF=<param>];	(3)
	|UNIT=LTU[, LTG=<number>, LTU=<number>];	(4)

TSU - Test of Switching Unit

Functions of the AMO

Command Code	Parameter	
	|UNIT=BRDHWY[, LTG=<number>,LTU=<number>];	(5)
	|UNIT=MDL,LTG=<number>,LTU=<number> ,SLOT=<number>;	(6)
	|UNIT=CCT,LTG=<number>,LTU=<number> ,SLOT=<number>,CCT=<number> ,[LOOPBACK=<number>];	(7)
	|UNIT=CCTPATH,LTG=<number>,LTU=<number> ,SLOT=<number>,CCT=<number>,HWY=<number>,TSL=<number> ,[LOOPBACK=<number>];	(8)
	|UNIT=SIU,LTG=<number>;	(9)
	|UNIT=CONF,LTG=<number>;	(10)
	|UNIT=SPHW,LTG=<number>,LTU=<number>;	(11)
	|UNIT=T, |TYPE=STNO,STNO=<number>,[SERVICE=<param>] |TESTTYPE=LOOPBACK,LOOPBACK=<number>; |TESTTYPE=SELFTEST; |TESTTYPE=CHKALIV; |TESTTYPE=LINEPOW;	(13)
	|TYP=PEN,LTG=<number>,LTU=<number> ,SLOT=<number>,CCT=<number> ,OBJECT=SINGLE, |TESTTYPE=LOOPBACK,LOOPBACK=<number>, [TSI=<number>]; |TESTTYPE=SELFTEST,[TSI=<number>]; |TESTTYPE=CHKALIV,[TSI=<number>]; |TESTTYPE=LINEPOW; ,OBJECT=ALL;	(13)
	|UNIT=PCMLINE,LTG=<number>,LTU=<number> ,SLOT=<number>,[PCMLINE=<number>];	(14)
	|UNIT=JITTERLP,LTG=<number>,LTU=<number>, SLOT=<number>,CCT=<number>,BCHAN1=<number>, BCHAN2=<number>;	(16)
	|UNIT=CONWADP,LTG=<number>,LTU=<number>, EBT=<number>;	(17)

Command Code	Parameter	
	|UNIT=LINE, |TYPE=STNO, STNO=<number>, [SERVICE=<param>] |, LOOPBACK=<number>; |TYPE=PEN, LTG=<number>, LTU=<number> |, SLOT=<number>, CCT=<number> |, LOOPBACK=<number>;	(18)
	|UNIT=SURVMOD, LTU=<number>;	(19)
	|UNIT=SURVPATH, LTU=<number>;	(20)
	|UNIT=CBMM, LTU=<number>;	(21)
DIAGNOSE-TSU	UNIT=LTG, LTG=<number>, [HALF=<param>]; |UNIT=CC, [HALF=<param>]; |UNIT=CLTG, LTG=<number>, [HALF=<param>]; |UNIT=LTU, LTG=<number>, [LTU=<number>]; |UNIT=MDL, LTG=<number>, LTU=<number> |, SLOT=<number>; |UNIT=CCT, LTG=<number>, LTU=<number> |, SLOT=<number>, CCT=<number> |, [LOOPBACK=<number>]; |UNIT=CCTPATH, LTG=<number>, LTU=<number> |, SLOT=<number>, CCT=<number>, HWY=<number>, TSL=<number> |, [LOOPBACK=<number>]; |UNIT=SIU, LTG=<number>; |UNIT=CONF, LTG=<number>; |UNIT=SPHW, LTG=<number>, LTU=<number>; |UNIT=T, |TYPE=STNO, STNO=<number>, [SERVICE=<param>] |TESTTYPE=LOOPBACK, LOOPBACK=<number>; |TESTTYPE=SELFTTEST; |TESTTYPE=CHKALIV; |TESTTYPE=LINEPOW; |TYP=PEN, LTG=<number>, LTU=<number>	(1) (2) (3) (4) (6) (7) (8) (9) (10) (11) (13) (13)

TSU - Test of Switching Unit

Functions of the AMO

Command Code	Parameter	
	<pre>,SLOT=<number>,CCT=<number> ,OBJECT=SINGLE, |TESTTYPE=LOOPBACK,LOOPBACK=<number>, |TSI=<number>; |TESTTYPE=SELFTTEST,[TSI=<number>; |TESTTYPE=CHKALIV,[TSI=<number>; |TESTTYPE=LINEPOW; ,OBJECT=ALL;</pre>	
	<pre>|UNIT=PCMLINE,LTG=<number>,LTU=<number> ,SLOT=<number>,[PCMLINE=<number>;</pre>	(14)
	<pre>|UNIT=JITTERLP,LTG=<number>,LTU=<number>, SLOT=<number>,CCT=<number>,BCHAN1=<number>, BCHAN2=<number>;</pre>	(16)
	<pre>|UNIT=CONWADP,LTG=<number>,LTU=<number>, EBT=<number>;</pre>	(17)

Note

T1 to T21 corresponds to the number (1) to (21) in the procedure overview.

199.3.2 Notes

- The IPDA test loop for survivability path (UNIT=SURVPATH) will raise costs because the test is done via charged CO connections.
- The status "READY" means that the device is free for call processing and for routine tests. This status also implies the following:
 - device contained in customer's system configuration
 - device is present
 - device plugged into correct slot
 - device is not defective
 - device is not manually blocked for maintenance (via AMO, hardware switch or remote maintenance and administration procedure)
 - device is not hierarchically blocked (by a superordinate device or partner device)

- device is not in transition to or from the ready status
- "READY" defines both busy and idle statuses.
- "BUSY" means the device is seized or blocked by the switching system or by dependability.
- There are two exceptions from Release 6.0 for routine tests.
 1. When a device (A) is configured as a Keysystem, and this Keysystem (A) takes on the appearance of another Keysystem (B) in a 2-way connection, then the routine test for the device (A) will not run, even when the status shows "READY." This is because the status of device (A) should be "BUSY" (not "READY"), and running the routine test will cause the connection to be dropped.
 2. When an ACD agent is auto-logged on, the device status also incorrectly shows "READY" (instead of "BUSY"). In this case, the routine test also will not run so that the ACD connection is not dropped.
- It is not possible to switch a voice channel loopback on RLI board if AMO-TSU is called with UNIT = MDL or UNIT = CCT (see T6, T7.1); this loopback is possible, however, in the terminal attached to RLI board (UNIT = T, TYPE = PEN; see T13).
- Functional terminals can not be tested
- TMDN diagnostic tests are not possible over CorNet-N trunk links to a generic server (feature ACD-IV). In this case AMO-TSU displays 'F57: TMDN DIAGNOSTIC TESTS ARE NOT POSSIBLE OVER CORNET-N TRUNK LINKS TO GENERIC SERVER' and stops.

199.3.3 Test orders

Test orders:

- T1 Test an LTG-active or LTG-standby including all speech highways to the CSN-active.
This job consists of the linked jobs T3 (for the LTG-active control), T5 and T8 to T11.
- T2 Test the CC-active or the CC-standby
- T2.1 Test the firmware of the controller area
- T2.1.1 Interrogate the interface processor (IP)
- T2.1.2 Interrogate the cross channel (CCH)
- T2.1.3 Interrogate all message buffer units (MBUs)
- T2.1.4 Interrogate all central input/output controllers (IOCCs)

TSU - Test of Switching Unit

Functions of the AMO

- T2.2 Test data processor (DP) module (=base processor)
 - T2.2.1 Release hardware supervision switch for multibus timeout on the DP module.
 - T2.2.2 Release hardware supervision switch for watchdog counter 0 on the DP module.
 - T2.2.3 Release hardware supervision switch for watchdog counter 1 on the DP module.
 - T2.2.4 Interrogate ready line to the partner DP module
- T2.3 Test memories (common memory and local memory)
 - T2.3.1 Test memory allocations in CC-active or CC-standby
A parity check is carried out by reading all memory cells on all M8M memory modules (MEMs) and on the MDP3DM, MDP486-DYN and MDP486-STA. A READ-WRITE test is carried out on the DPML, MDP386-8M and the MIP.
 - T2.3.2 Interrogate all 1-bit error indicators on all M2M memory modules
- T2.4 Test IEC bus between CCH modules; only for CC-standby
- T3 Test the group control of an LTG-active or LTG-standby
The test job is rejected, if the LTG specified is not configured or not present.
 - T3.1 Test the firmware of the controller area
 - T3.1.1 Interrogate the input/output controller of the group processor (IOCG)
 - T3.1.2 Interrogate the data communication link (DCL)
 - T3.2 Interrogate the data processor (DP) module (=group processor)
 - T3.2.1 Release hardware supervision switch for multibus timeout on the DP module.
 - T3.2.2 Release hardware supervision switch for watchdog counter 0 on the DP module.
 - T3.2.3 Release hardware supervision switch for watchdog counter 1 on the DP module.
 - T3.3 Test memories (common memory and local memory)
 - T3.3.1 Test memory allocations in an LTG-active or LTG-standby
The test job is rejected, if the LTG specified is not configured or not present.
A parity check is carried out by reading all memory cells on all m M8M memory modules (MEMs) and on the MDP3DM, MDP486-DYN and MDP486-STA.
A READ-WRITE test is carried out on the DPML, MDP386-8M and the MIP.
 - T3.3.2 Interrogate all 1-bit error indicators on all M2M memory modules
- T4 Test a specific LTU in an LTG-active
The test job is rejected, if the LTU specified is not configured or not present.
In SP390/391 the test job is also rejected, if the LTG specified is not configured or not present.
 - T4.1 Test a specific LTUC
 - T4.1.1 Test the microprocessor of that LTUC
 - T4.1.2 Test one timeslot on all highways to the specified LTUC
The timeslot selected will always be in READY status and idle (i.e. not busy)
 - T4.2 Test all modules of the LTU specified (without LTUC)
This job consists of a multiple callup of the job T6 by the RTO.
In contrast to an operator callup of the job T6, a specific module is only tested if the module status is "READY".
- T5 Test the board highways on a LTU shelf
- T6 Test a specific line circuit module, SIU periphery module
All jobs affect modules in LTUs. However, the two modules of a "service unit" (SU) are not tested, although configured at the LTU number 5.

- T6.1 Test a specific line circuit module
The job is started if the module
- is contained in customer's system configuration
 - is present
 - is plugged into the correct slot
 - is not hierarchically blocked (by a superordinate device),
e.g. if the LTU is not defective or manually blocked.
- T6.1.1 Interrogate the microprocessor of the line circuit module
- T6.1.2 Test all line circuits of the line circuit module specified
The line circuit is only tested if the following conditions are met:
- The circuit is ready and not seized (idle).
 - The circuit is in "line alarm" status, e.g. if the circuit is not connected or the connection is faulty.
 - The terminal (which can be directly connected or connected via CTE) is defective or manually blocked.
 - There is no terminal connected (either directly or via CTE).
 - The circuit itself is faulty or manually blocked.
 - The line circuit module is manually blocked.
- T6.2 Test a specific module in the SIU periphery
The job is started if the module
- is contained in customer's system configuration
 - is present
 - is plugged into the correct slot
 - is not hierarchically blocked (by a superordinate device),
e.g. if the LTU is not defective or manually blocked.
- T6.2.1 Interrogate the microprocessor of the specified module in the SIU periphery.
- T6.2.2 Echoplex the specified module in the SIU periphery (loopback test from all code transmitters to all code receivers of the module).
Only those code transmitters and receivers are tested which are tested which are ready and idle.
- T7 Test a line circuit
- P7.1 Test SLMR, SLMR24:
The possible Loopbacks are as follows:
- interne loopback for voice (SLMRV)
 - interne loopback for data (SLMRD)
- Test TMD24, T1DN, TMDN :
The Test has to be performed on circuit 1 for both Boards.
any other circuit will be rejected.
The possible Loopbacks are as follows:
- TMD24 :
- internal local loopback (ILOC)
 - activate internal remote loopback (IDC)
this loopback is used in conjunction with EDC only.
 - deactivate internal remote loopback (IDL)
this loopback is used in conjunction with EDC only.
 - external remote Loopback (EDC)

TSU - Test of Switching Unit

Functions of the AMO

This test must be performed in multiple steps.

- a) the circuits of both local and remote Boards must be deactivated via AMO-DSSU.
- b) on The remote T1 the internal remote loopback has to be activated with LOOPBACK = IDC.
- c) Test for EDC (external remote loopback) can be performed now on the local T1 board.
- d) after output of the test result the internal remote loopback on the remote Board has to be released with LOOPBACK = IDL.

TMDN / SLMN-T1 :

- internal local loopback (ILOC)
- activate internal remote loopback (IDC)
this loopback is used in conjunction with EDC only.
- deactivate internal remote loopback (IDL)
this loopback is used in conjunction with EDC only.
- external remote Loopback (EDC)
This test must be performed in multiple steps.
 - a) the circuits of both local and remote Boards must be deactivated via AMO-DSSU.
 - b) on The remote T1 the internal remote loopback has to be activated with LOOPBACK = IDC.
 - c) Test for EDC (external remote loopback) can be performed now on the local T1 board.
 - d) after output of the test result the internal remote loopback on the remote Board has to be released with LOOPBACK = IDL.
- activate internal remote payload loopback (IPON)
- deactivate internal remote payload loopback (IPOFF)

T1DN

- internal local loopback (ILOC)
- activate internal remote loopback (IDC)
this loopback is used in conjunction with EDC only.
- deactivate internal remote loopback (IDL)
this loopback is used in conjunction with EDC only.
- external remote loopback (EDC) same process as for the TMD24.
- internal digital loopback (SMIDIG)
- internal analog loopback (SMIANA)

Test RLI

The possible Loopback is as follows:

- data channel loopback (RLITDM)
(voice channel loopback is not possible here, see Notes)

STMA-TFA / STMA-PSW

- Loop 1

Test of other boards

Loop number is defined by the internal test routines.

T8 Test of circuits (as in T7) but using defined highway and timeslot number

(after the test a 'hanging' timeslot (half path connection) is released)

- T9 Test the standard SIU in an LTG-active
- T9.1 Interrogate the microprocessor of the standard SIU
- T9.2 Echoplex the standard SIU by loopback test from any SIU transmitter to the appropriate receiver.
The transmitter/receiver pair selected will be in ready status and idle.
- T9.3 Transmit an external dial tone to the standard SIU and echo from any timeslot on any dial tone receiver.
The timeslot selected will be ready and idle.
- T9.4 Transmit cadenced tones (busy tone and internal dial tone) to the standard SIU and echo from any timeslot on any dial tone receiver.
The timeslot selected will be ready and idle.
- T9.5 Echo a test signal sent by any code transmitter of an SIU peripheral (SIU Type 2) in any LTU from all code receivers of the standard SIU.
The code transmitter selected and the receivers tested will be ready and idle.

- T10 Test the CONF module in an LTG-active (not possible on 80CMX-LC)
- T10.1 Interrogate the microprocessor of the CONF module

- T11 Test all timeslots on all speech highways between an LTU and the GSN of an LTG-active (not possible on 80CMX-DSC)
Only those timeslots are tested which are in ready status and idle.

- T13 Test a Cornet-T device (STNO, SERVICE and TESTTYPE=SELFTEST),
 a hole Workstation (STNO and TESTTYPE=SELFTEST),
 a Rolmphone Selftest (STNO and SERVICE=VCE and TESTTYPE=SELFTEST),
 a DCM / Optiset Selftest (STNO and SERVICE=DTE and TESTTYPE=SELFTEST),
 a DCM / Optiset looptest (STNO and SERVICE=DTE and TESTTYPE=LOOPBACK).
 a Check alive test on an Optiset terminal
 (STNO, SERVICE=DTE and TESTTYPE=CHKALIV);
 or a Linepower test on an Optiset terminal
 (STNO, SERVICE=DTE and TESTTYPE=LINEPOW);

Test all terminals on a circuit (OBJECT=ALL),
Test of one terminal (OBJECT=SINGLE),
 a Cornet-T device (STNO, SERVICE and TESTTYPE=SELFTEST),
 a hole Workstation (STNO and TESTTYPE=SELFTEST),
 a Rolmphone Selftest (STNO and SERVICE=VCE and TESTTYPE=SELFTEST),
 a DCM / Optiset Selftest
 (STNO and SERVICE=DTE and TESTTYPE=SELFTEST),
 a DCM / Optiset looptest
 (STNO and SERVICE=DTE and TESTTYPE=LOOPBACK).
 a Check alive test on an Optiset terminal
 (STNO, SERVICE=DTE and TESTTYPE=CHKALIV);
 or a Linepower test on an Optiset terminal
 (STNO, SERVICE=DTE and TESTTYPE=LINEPOW);

- T14 Test a specified PCM line

TSU - Test of Switching Unit
Functions of the AMO

- T16 Start of an external loop at DIUS2, DIUS7 or SLMN-E1 board for jitter measurements
- T17 Test of connection between WAML board and ADP
- T18 Line testing on SLMA boards
 - Test loop for subscriber in state onhook (ONHHOOK)
 - Test loop for subscriber in state offhook (OFFHOOK)
- T19 Test the modem for IPDA survivability connections
- T20 Test the IPDA survivability path
- T21 Test the modules on LTUCC board used for central byte manipulation

199.3.4 Examples for ISDN-terminal connections

Examples for ISDN-terminal connections:

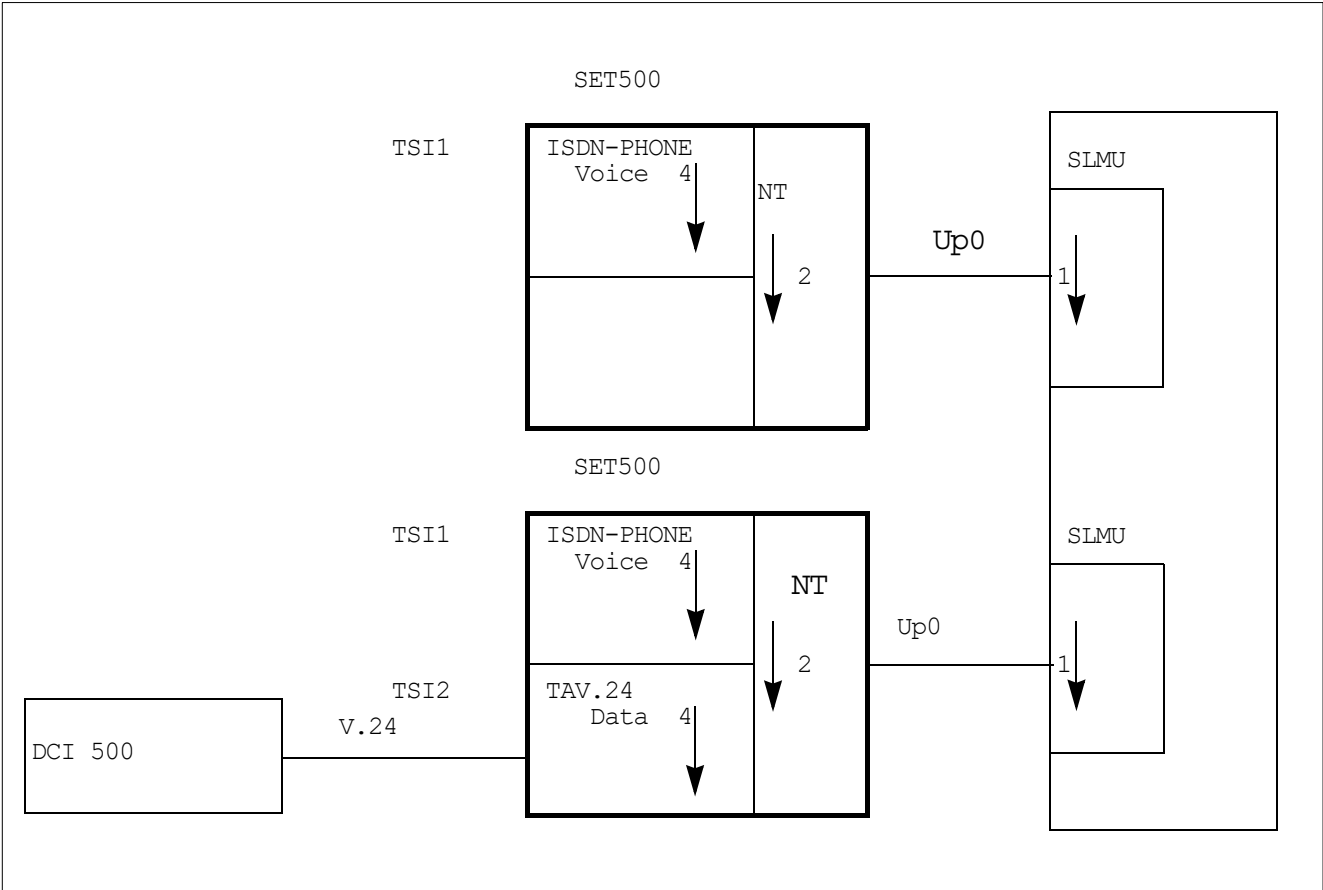


Figure 79 Cornet-T terminals connected to Up0 (SET500)

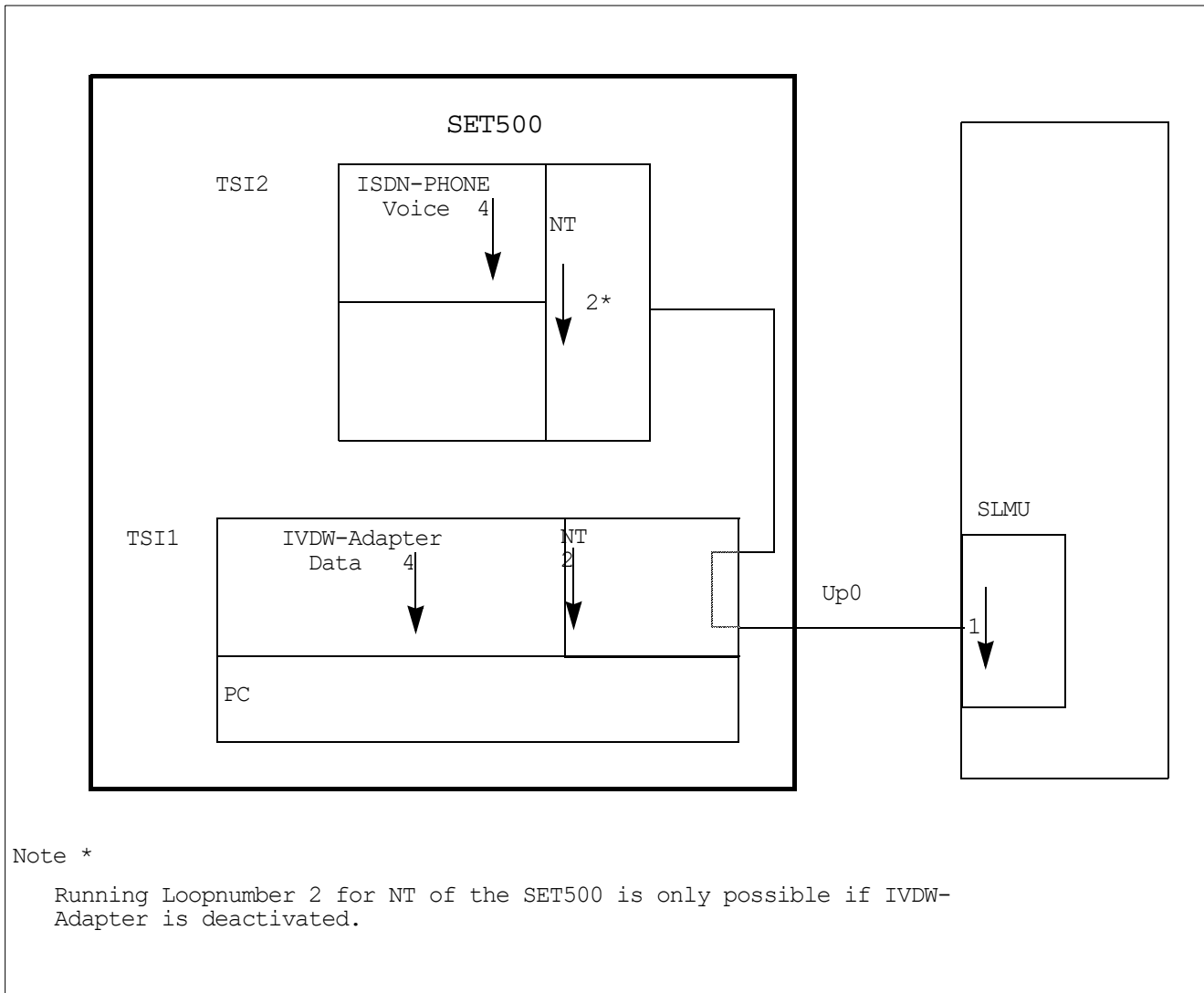


Figure 80

Cornet-t terminals connected to Up0

TSU - Test of Switching Unit
Functions of the AMO

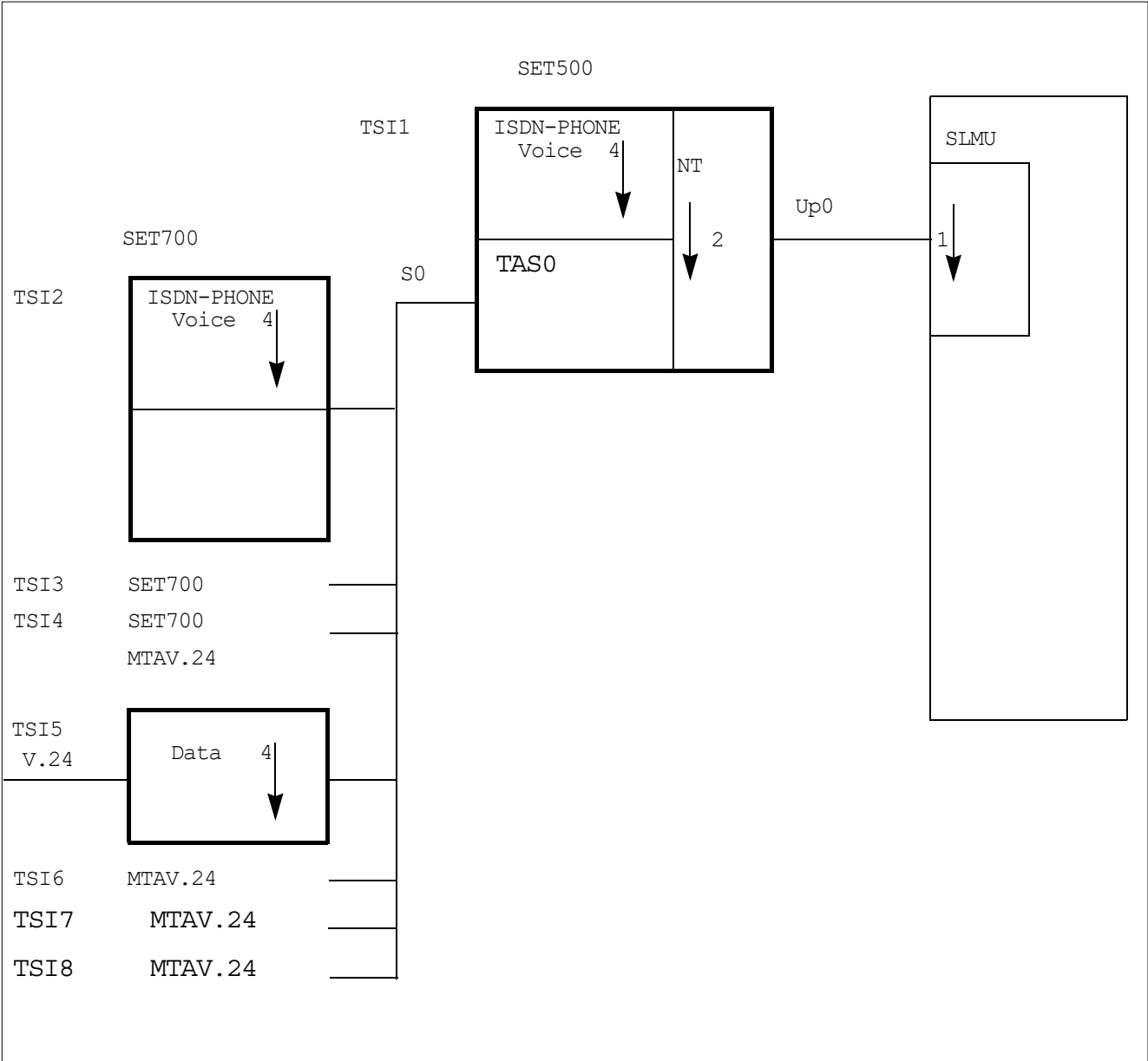


Figure 81 Cornet-T terminals connected to Up0 and S0-bus (by SET500)

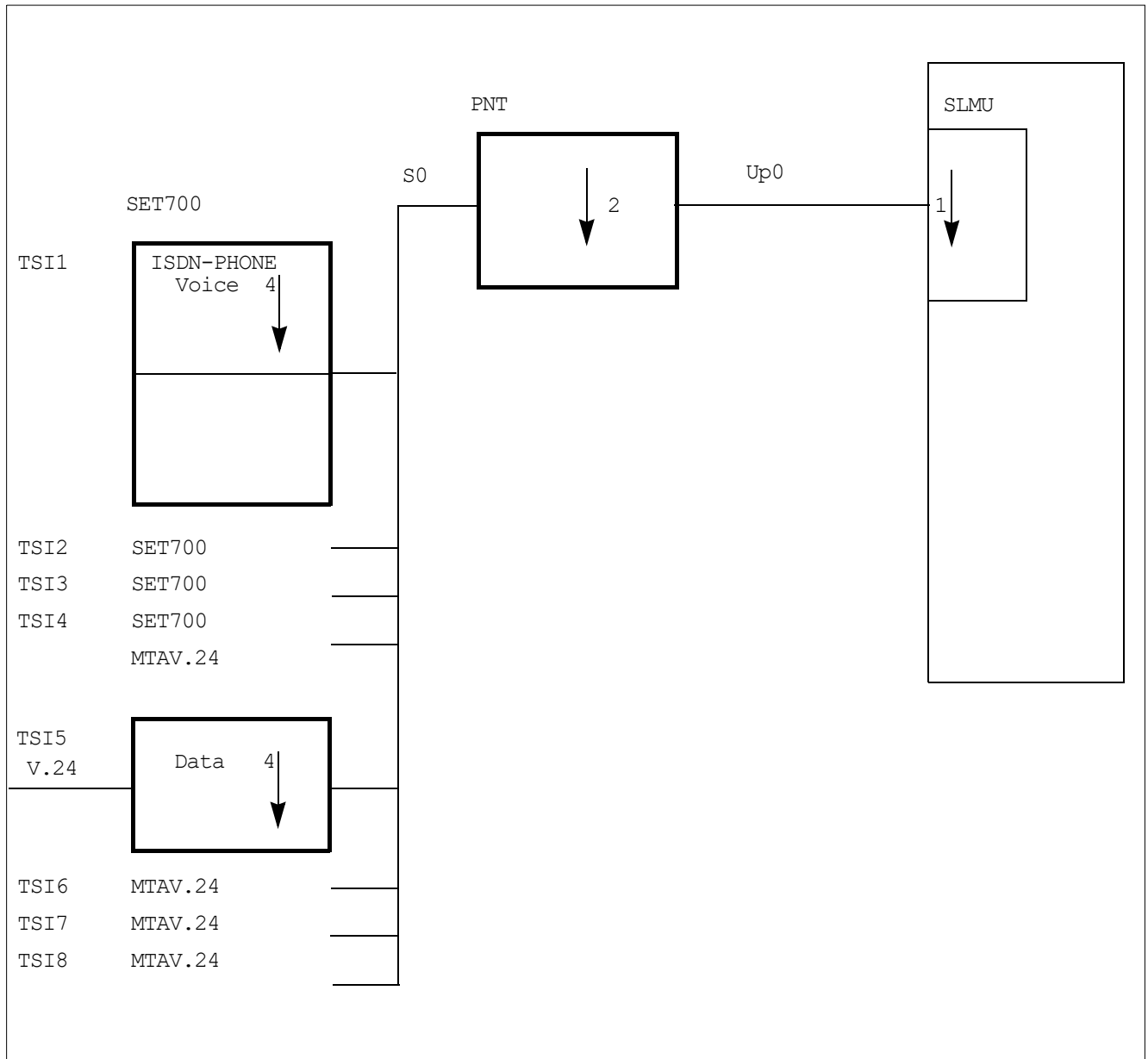


Figure 82 Cornet-T terminals connected to Up0 and S0-bus (by PNT)

TSU - Test of Switching Unit
Functions of the AMO

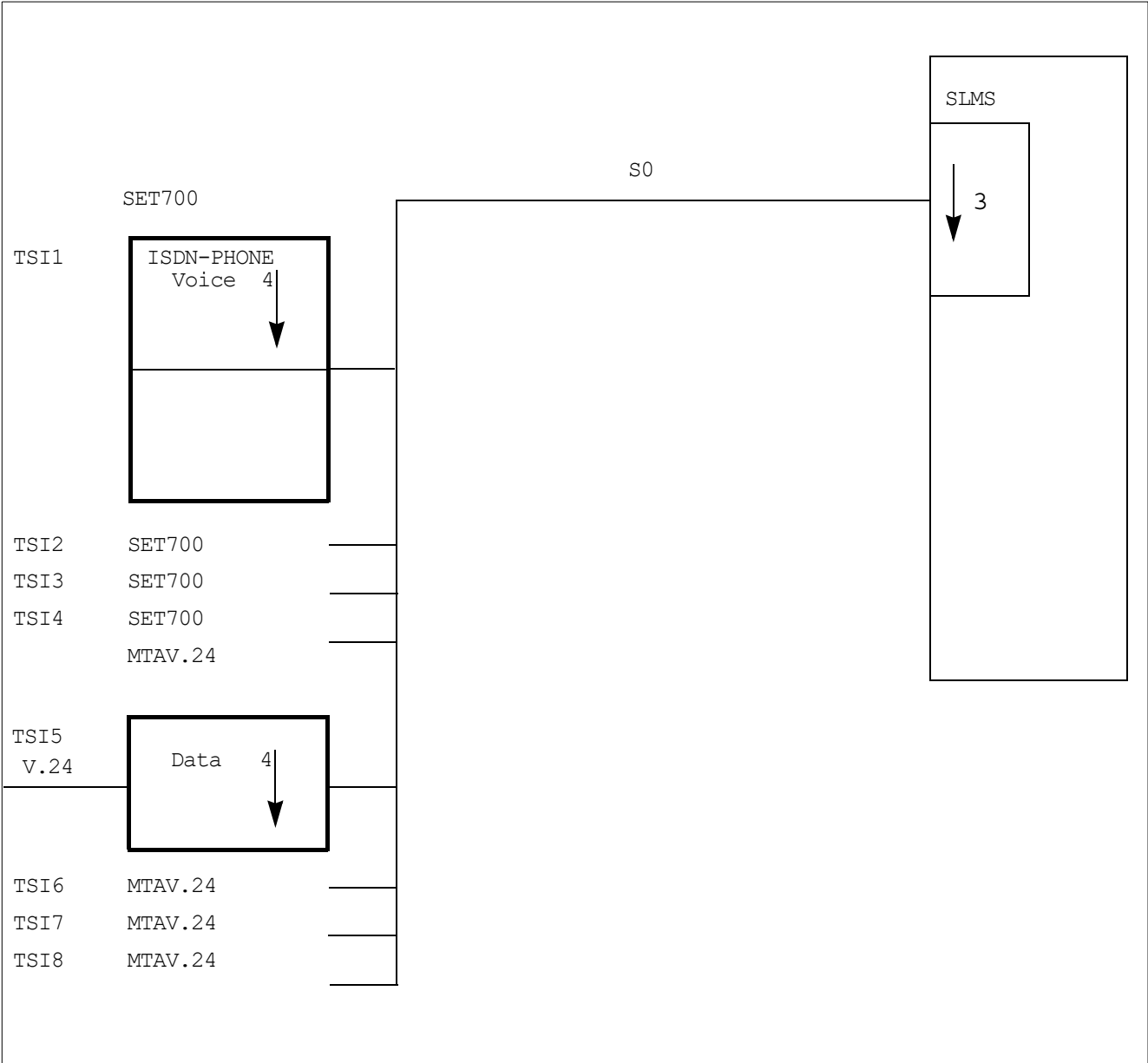


Figure 83 Cornet-T terminals connected to S0-bus (SLMS board)

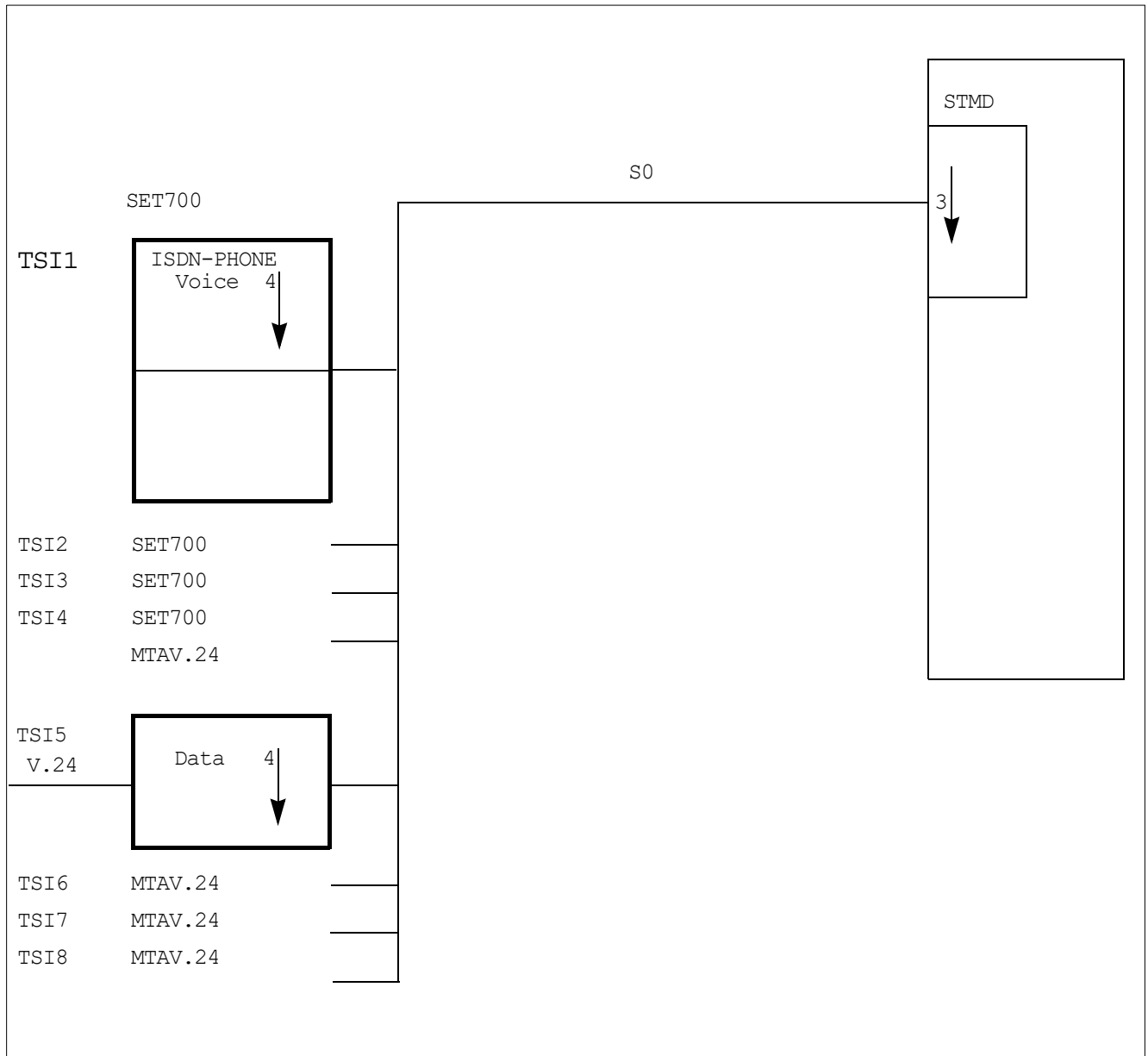


Figure 84

Cornet-T terminals connected to S0-bus (STMD board)

TSU - Test of Switching Unit

Functions of the AMO

Module type	Test loop number	
	Default	additional allowed
SLMR/SLMR24	SLMR-VOICE	SLMR-DATA
ATI OPS DiD DiD8 DiR COT TTI	SMIDIG	SMIANA
TMD24	ILOC	IDC, IDL, EDC
TMDN/SLMN-T1	ILOC	ILOC, IDC, IDL, EDC, PON, POFF
T1	ILOC	ILOC, IDC, IDL, EDC, SMIANA, SMIDIG
RLI	RLITDM	
STMA_TFA/ STMA_PSW	1	
SLMO/SLMO-REMOTE		1

Table 42 List of possible test loops for circuit test

Module type	Test loop number	
	Default	additional allowed
SLMSI DIUC/DIUC64/STMA DIUS2/DIUS7/SLMN-E1	4	
SLMU SLMU16 SLMQ/SLMQ-EXT	4	2 (PNT)
SLMO/SLMO-REMOTE	4	2

Table 43 List of possible test loops for device test

Note

Test loop number will be ignored on testing other modules. The loop number is defined by the internal test routines.

199.3.5 Examples of test orders

1. Test LTU2 of LTG1

Input:

TEST-TSU:LTU,1,2;

Output:

```
SWU-LTG (A HALF / ACTIVE)
TEST      : SPEECH HIGHWAYS; ANY TIME SLOT
ADVISORY: NO IDLE SIU RECEIVER FOUND
```

```

                HWY:          LTG = 1    LTU = 2    HWY = 27
                TRANSMITTER:LTG = 1    LTU = 7    SLOT = 13
FUNCTION = 2

```

2. Test the CC-active (active system half of the common control)**Input:**

```
TEST-TSU:CC,ACT;
```

Output:

```

SWU-CC (A HALF / ACTIVE)
TEST   : MEMORY; RELEASE 2-BIT ERROR

ERROR   : HARDWARE SUPERVISION CIRCUIT CANNOT BE RELEASED
ADDRESS  = 118/32424

```

The address of the defective memory cell is made up of the number of the 64K block in which it is located (in order to determine the module concerned) and the offset within the block. Both are represented as decimal values.

3. Test of a PNT (Private Network Terminator) of a SLMU16 board with PEN LTG=1, LTU=3, SLOT=61, CCT=2 and LOOPBACK=2**Input:**

```
TEST-TSU:T,PEN,1,3,61,2,2;
```

Output:

```
TEST   : SPECIFIED CIRCUIT; SPECIFIED TERMINAL
```

4. Test of a Cornet-T device of a SLMU16 board with the number STNO=3567 and SERVICE=VCE or with PEN LTG=1, LTU=3, SLOT=61, CCT=2, LOOPBACK=4 (STD) and TSI=1**Input:**

```

TEST-TSU:T,STNO,3567,VCE;
or
TEST-TSU:T,PEN,1,3,61,2,,1;

```

Output:

```

SWU-LTG (A HALF / ACTIVE)
TEST   : SPECIFIED CIRCUIT; SPECIFIED TERMINAL

```

5. Test of all devices of a S0-bus with PEN LTG=1, LTU=3, SLOT=61, CCT=2 and LOOPBACK=4**Input:**

```
TEST-TSU:T,PEN,1,3,61,2,4;
```

Output:

```

SWU-LTG (A HALF / ACTIVE)
TEST   : SPECIFIED CIRCUIT; ALL TERMINALS
TEST   : SPECIFIED CIRCUIT; ALL TERMINALS
ADVISORY: TEST IS NOT ALLOWED

```

TSU - Test of Switching Unit

Functions of the AMO

```

                TERMINAL :  LTG = 1      LTU = 3   SLOT = 61    NO = 2      TSI = 2
                        TYPE = SIMU16
TEST      : SPECIFIED CIRCUIT; ALL TERMINALS
ADVISORY: TEST IS NOT ALLOWED
                TERMINAL :  LTG = 1      LTU = 3   SLOT = 61    NO = 2      TSI = 3
                        TYPE = SIMU16
                        .
                        .
                        .
                        .
TEST      : SPECIFIED CIRCUIT; ALL TERMINALS
ADVISORY: TEST IS NOT ALLOWED
                TERMINAL :  LTG = 1      LTU = 3   SLOT = 61    NO = 2      TSI = 8
                        TYPE = SIMU16
```

The test for Cornet-T device TSI=1 was successful. The test is not allowed for functional devices TSI=2 to 8.

Note

Each test result message consists of at least two parts (A and B) and occasionally three parts (A, B and C). A successful test without errors consists only of one part (A).

A) TEST	:	Detailed test job executed
B) ERROR	:	Negativ result from the test A) Object couldn't be tested
C) ADVISORY	:	Additional data reported by the RTO

199.3.6 Texts

Texts for TEST and DIAGNOSE(part A):

- ' ALL CC INPUT/OUTPUT CONTROLLERS (IOCC) '
- ' ALL CC INPUT/OUTPUT CONTROLLERS (IOCC-STANDBY) '
- ' ALL CC INPUT/OUTPUT CONTROLLERS (IOCSN) '
- ' ALL CC INPUT/OUTPUT CONTROLLERS (IOCSN-STANDBY) '
- ' ALL CIRCUITS; ALL TERMINALS '
- ' ALL CIRCUITS '
- ' ALL FIRMWARE PROCESSORS '
- ' ALL LTUS '
- ' ALL MESSAGE BUFFER UNITS (MBU) '
- ' ALL MODULES OF LTU '
- ' ALL SERVERS; INTERROGATE '
- ' ALL TIMESLOTS OF ALL HIGHWAYS TO ALL LTUS OF ONE LTG '
- ' ANY CIRCUIT '
- ' ANY TIMESLOT ON ALL CSN-HWYS BETWEEN 2 LTGS '
- ' BOARD-HIGHWAYS OF A LTU-SHELF '
- ' CENTRAL SWITCHING NETWORK (CSN) '
- ' CLOCK GENERATOR; INTERROGATION '
- ' CHECK ALIVE TEST ON OPTISET TERMINALS '
- ' COMMON CONTROL '
- ' CONNECTION BETWEEN WAML BOARD AND ADP '
- ' CONF; ALL CELLS OF ALL HIGHWAYS '
- ' CONF; ANY CELL OF A SPECIFIED HIGHWAY '
- ' CONF; ANY CELL OF ALL HIGHWAYS '
- ' CONF; ANY CELL OF ANY HIGHWAY '
- ' CONF; SPECIFIED CELL OF A SPECIFIED HIGHWAY '


```

- ' CONF; STATUS WORD MICROPROCESSOR'
- ' CONF'
- ' CROSS CHANNEL; IEC BUS'
- ' CROSS CHANNEL; INTERROGATION'
- ' CROSS CHANNEL'
- ' CSN HIGHWAY (LONG ROUTE); ALL TIME SLOTS'
- ' CSN HIGHWAY (LONG ROUTE); ANY TIME SLOT'
- ' DATA COMMUNICATION LINK; INTERROGATION'
- ' DATA COMMUNICATION LINK'
- ' DATA PROCESSOR; MULTIBUS TIMEOUT'
- ' DATA PROCESSOR; STATUS OF PARTNER PROCESSOR'
- ' DATA PROCESSOR; WATCHDOG COUNTER 0'
- ' DATA PROCESSOR; WATCHDOG COUNTER 1'
- ' DATA PROCESSOR'
- ' DCM AND WORKSTATION SELFTEST'
- ' DOUBLE DATA COMMUNICATION LINK; INTERROGATION'
- ' DOUBLE DATA COMMUNICATION LINK'
- ' FIRMWARE, COMMON CONTROL'
- ' GSN/MTS IN THE STANDBY PART FOR MTS64-BOARDS'
- ' INPUT OUTPUT CONTROLLER, GP'
- ' INPUT OUTPUT CONTROLLER, GP'
- ' INTERFACE PROCESSOR; INTERROGATION'
- ' INTERFACE PROCESSOR'
- ' INTERROGATE ALL CC INPUT/OUTPUT CONTROLLERS (IOCC)'
- ' INTERROGATE ALL CC INPUT/OUTPUT CONTROLLERS (IOCC-ACTIV)'
- ' INTERROGATE ALL CC INPUT/OUTPUT CONTROLLERS (IOCSN)'
- ' INTERROGATE ALL CC INPUT/OUTPUT CONTROLLERS (IOCSN-ACTIV)'
- ' INTERROGATE ALL MESSAGE BUFFER UNITS (MBU)'
- ' INTERROGATE GP INPUT/OUTPUT CONTROLLER'
- ' INTERROGATE GP INPUT/OUTPUT CONTROLLER'
- ' INTERROGATE READY LINE OF PARTNER DATA PROCESSOR'
- ' LINE CIRCUIT MODULE; STATUS WORD MICROPROCESSOR'
- ' LINE CIRCUIT MODULE'
- ' LINEPOWER TEST ON OPTISET TERMINALS'
- ' LINE TEST BETWEEN SILMA BOARD AND SUBSCRIBER'
- ' LTG'
- ' LTU SPEECH HIGHWAYS; ANY TIME SLOT'
- ' LTU; STATUS WORD MICROPROCESSOR'
- ' LTU'
- ' MEMORY; INTERROGATE 1-BIT ERROR DETECTION'
- ' MEMORY; READING ALL CELLS'
- ' MEMORY; READING ANY CELL'
- ' MEMORY; RELEASE WRITE PROTECT MONITOR'
- ' MEMORY; RELEASE 1-BIT ERROR'
- ' MEMORY; RELEASE 2-BIT ERROR'
- ' MEMORY; READ SPECIFIED CELL'
- ' MEMORY'
- ' MEMORYTEST'
- ' MTS-64; READ TS ON ALL MTS-MODULES'
- ' MULTIBUS'
- ' PERIPHERAL SIU; LOOP ALL TRANSMITTERS TO ALL RECEIVERS'
- ' PERIPHERAL SIU; LOOP ANY TRANSMITTER TO SPECIFIED
RECEIVER'
- ' PERIPHERAL SIU; LOOP SPECIFIED TRANSMITTER TO ANY
RECEIVER'
- ' PERIPHERAL SIU; LOOP SPECIFIED TRANSMITTER TO SPECIFIED
RECEIVER'
- ' PERIPHERAL SIU; MICROPROCESSOR STATUS WORD'
- ' PERIPHERAL SIU'
- ' PERIPHERY'
- ' PHONE SELFTEST'
- ' SCC DATA COMMUNICATION LINK; INTERROGATION'

```

TSU - Test of Switching Unit

Functions of the AMO

- ' SCC DATA COMMUNICATION LINK'
- ' SCC-SIUCO MICROPROCESSORTEST'
- ' SCC-SIUCO; ALL CELLS OF ALL HIGHWAYS'
- ' SCC-SIUCO; ANY CELL OF A SPECIFIED HIGHWAY'
- ' SCC-SIUCO; ANY CELL OF ALL HIGHWAYS'
- ' SCC-SIUCO; ANY CELL OF ANY HIGHWAY'
- ' SCC-SIUCO; ANY TRANSMITTER, ALL RECEIVERS'
- ' SCC-SIUCO; ANY TRANSMITTER, SPECIFIED RECEIVER'
- ' SCC-SIUCO; CONTINUANCE TONE TO ANY RECEIVER'
- ' SCC-SIUCO; CONTINUANCE TONE TO SPECIFIED RECEIVER'
- ' SCC-SIUCO; LOOP BACK TEST TRANSMITTER TO ANY RECEIVER'
- ' SCC-SIUCO; LOOP BACK TEST TRANSMITTERS TO SPECIFIED RECEIVER'
- ' SCC-SIUCO; LOOP CADENCED TONE TO ANY RECEIVER'
- ' SCC-SIUCO; LOOP CADENCED TONE TO SPECIFIED RECEIVER'
- ' SCC-SIUCO; LOOP SPECIFIC DIAL TONE TO ANY RECEIVER'
- ' SCC-SIUCO; SPECIFIED CELL OF A SPECIFIED HIGHWAY'
- ' SCC-SIUCO; SPECIFIED TRANSMITTER, SPECIFIED RECEIVER'
- ' SCC-SIUCO; STATUS WORD MICROPROCESSOR'
- ' SCC-SIUCO; STATUS WORD MICROPROCESSOR'
- ' SCC-SIUCO'
- ' SERVICE UNIT OF ONE LTG'
- ' SIU; ANY TRANSMITTER, ALL RECEIVERS'
- ' SIU; ANY TRANSMITTER, SPECIFIED RECEIVER'
- ' SIU; CONTINUANCE TONE TO ANY RECEIVER'
- ' SIU; CONTINUANCE TONE TO SPECIFIED RECEIVER'
- ' SIU; LOOP BACK TEST TRANSMITTER TO ANY RECEIVER'
- ' SIU; LOOP BACK TEST TRANSMITTERS TO SPECIFIED RECEIVER'
- ' SIU; LOOP CADENCED TONE TO ANY RECEIVER'
- ' SIU; LOOP CADENCED TONE TO SPECIFIED RECEIVERS'
- ' SIU; LOOP SPECIFIC DIAL TONE TO ANY RECEIVER'
- ' SIU; SPECIFIED TRANSMITTER, SPECIFIED RECEIVER'
- ' SIU; STATUS WORD MICROPROCESSOR'
- ' SIU/CONF-MICROPROCESSORTEST'
- ' SIUCO; ALL CELLS OF ALL HIGHWAYS'
- ' SIUCO; ANY CELL OF A SPECIFIED HIGHWAY'
- ' SIUCO; ANY CELL OF ALL HIGHWAYS'
- ' SIUCO; ANY CELL OF ANY HIGHWAY'
- ' SIUCO; ANY TRANSMITTER, ALL RECEIVERS'
- ' SIUCO; ANY TRANSMITTER, SPECIFIED RECEIVER'
- ' SIUCO; CONTINUANCE TONE TO ANY RECEIVER'
- ' SIUCO; CONTINUANCE TONE TO SPECIFIED RECEIVER'
- ' SIUCO; LOOP BACK TEST TRANSMITTER TO ANY RECEIVER'
- ' SIUCO; LOOP BACK TEST TRANSMITTERS TO SPECIFIED RECEIVER'
- ' SIUCO; LOOP CADENCED TONE TO ANY RECEIVER'
- ' SIUCO; LOOP CADENCED TONE TO SPECIFIED RECEIVER'
- ' SIUCO; LOOP SPECIFIC DIAL TONE TO ANY RECEIVER'
- ' SIUCO; SPECIFIED CELL OF A SPECIFIED HIGHWAY'
- ' SIUCO; SPECIFIED TRANSMITTER, SPECIFIED RECEIVER'
- ' SIUCO; STATUS WORD MICROPROCESSOR'
- ' SIUCO-MICROPROCESSORTEST'
- ' SIUCO'
- ' SPECIFIED CIRCUIT; ALL TERMINALS'
- ' SPECIFIED CIRCUIT; SPECIFIED TERMINAL'
- ' SPECIFIED CIRCUIT'
- ' SPECIFIED LTU'
- ' SPECIFIED PCM-HWY'
- ' SPECIFIED SERVER; INTERROGATE'
- ' SPEECH HIGHWAYS; ALL TIME SLOTS'
- ' SPEECH HIGHWAYS; ANY TIME SLOT'
- ' SPEECH HIGHWAYS; SPECIFIED TIME SLOT'
- ' STANDARD SCC-SIUCO'

- ' STANDARD SIU'
- ' STANDARD SIUCO'
- ' SWITCHING NETWORK; READ ALL CONTROL MEMORY CELLS'
- ' SWITCHING NETWORK; READ ANY CONTROL MEMORY CELL'
- ' SWITCHING NETWORK; READ SPECIFIED CONTROL MEMORY CELL'
- ' SWITCHING UNIT'
- ' T1 MODULE'
- ' THE RESET OF THE ATTENUATION HAS BEEN INITATED BY RTO'
- ' THE TIMESLOT HAS BEEN SWITCHED OFF BY RTO'

(Test results (part B):

- 'ERROR : ANSWER DATA NOT PLAUSIBLE'
- 'ERROR : A TIMESLOT WAS FALSELY SWITCHED ON'
- 'ERROR : AT LEAST ONE TONE WAS NOT DETECTED BY RECEIVER'
- 'ERROR : BOARD CONTAINING THE DISTURBED TIMESLOT COULD NOT BE LOCALIZED'
- 'ADVISORY: CANNOT BE TESTED BECAUSE OF BASIC STATUS'
- 'ERROR : DISPLAY ERROR'
- 'ERROR : ERRONEOUS FUNCTION'
- 'ERROR : ERROR WHEN READING CLOCK CONFIGURATION REGISTER'
- 'ERROR : HARDWARE SUPERVISION CIRCUIT CANNOT BE RELEASED'
- 'ADVISORY: HIGHWAY TEST NOT ALLOWED FOR RMS SHELF'
- 'ERROR : INTERRUPT WHILE READING A FREE TIMESLOT'
- 'ERROR : MESSAGE EXCHANGE MONITORING TIMER TIMED OUT'
- 'ERROR : MESSAGE LOOPBACK TEST'
- 'ADVISORY: NO FREE PATH FOUND'
- 'ADVISORY: NO IDLE CODE-RECEIVER FOUND'
- 'ADVISORY: NO IDLE CODE-TRANSMITTER FOUND'
- 'ADVISORY: NO IDLE SIU RECEIVER FOUND'
- 'ADVISORY: OBJECT IS NOT OUT OF SERVICE'
- 'ERROR : LOOPBACK TEST FROM TDS PORT TO GSN NOT SUCCESSFUL'
- 'ERROR : NO RESULT MESSAGE FROM RECEIVER'
- 'ERROR : PARITY-ERROR (MDP3DM-BOARD)'
- 'ERROR : PARITY-ERROR (MDP486_DYN-BOARD)'
- 'ERROR : PARITY-ERROR (MDP486_STA-BOARD)'
- 'ERROR : PARITY-ERROR (M8M-MODULE)'
- 'ERROR : PARTNER NOT READY'
- 'ERROR : READ/WRITE-ERROR (DPLM-BOARD)'
- 'ERROR : READ/WRITE-ERROR (MDP386_8M-BOARD)'
- 'ERROR : READ/WRITE-ERROR (MIP-BOARD)'
- 'ERROR : SELFTEST ERROR'
- 'ERROR : SIGNALCHANNEL ERROR'
- 'ADVISORY: TEST HAD TO BE ABORTED DUE TO INCOMING SEIZURE'
- 'ADVISORY: TEST IS NOT ALLOWED'
- 'ADVISORY: TEST NOT IMPLEMENTED'
- 'ADVISORY: TEST OBJECT INACCESSIBLE'
- 'ADVISORY: TEST OBJECT NOT ASSIGNED'
- 'ADVISORY: TESTING NOT POSSIBLE IN PARTNER LTG'
- 'ERROR : THE ATTENUATION WAS NOT RESETED'
- 'ERROR : 1-BIT ERROR OCCURRED (SELF-CORRECTING)'
- 'ERROR : LOOPBACK TEST FROM TDS PORT TO GSN NOT SUCCESSFUL'
- 'ERROR : 2-BIT ERROR OCCURED'

Additional data (part C):

SIU:	LTG = aa	LTU = b	SLOT = ccc	
TRANSMITTER:	LTG = aa	LTU = b	SLOT = ccc	FUNCTION = d
RECEIVER:	LTG = aa	LTU = b	SLOT = ccc	FUNCTION = d
				TIMESLOT-INDEX = ee

TSU - Test of Switching Unit

Functions of the AMO

```
STATUS      :  fffff / fffff / fffff / fffff / fffff
```

```
Value abbreviations:  aa      LTG Number      1-32
                      b       LTU Number      1-99
                      ccc     Slot            1-151
                      d       SIU function    0-3
                      ee      Timeslot       0-255
                      fffff   Status
```

The status of the testobject will be displayed at test result
'ADVISORY: CANNOT BE TESTED BECAUSE OF BASIC STATUS'

Values for status are

```
NOGEN, AMO, LOCK, HIRAMO, SOFTLOCK, READY, UNACH,
UNACA, DEFECT, NPR, WBT, NL, TRS, WAIT, DEP, CP, CPH
```

If parts A (TEST) and B (ERRORS) cannot be determined within the program and thus no text output is possible, then additional data may be output. Some of this additional data is not pre-initialized by the RTO and may therefore be meaningless.

Example:

```
TEST       : 7
ERROR      : 42
OBJECT:     LTG = 1   LTU = 2   PBC = 14
TRANSMITTER: LTG = 1   LTU = 3   SLOT = 13   FUNCTION = 1
RECEIVER:   LTG = 1   LTU = 3   SLOT = 7     FUNCTION = 2
CSN:        MTS = 1   HWY = 3   TIMESLOT = 20
DATA:
CIRCUIT = 4   B-CHANNEL = 1   MODULE TYPE = 14   STATUS = 147
HWY      = 29   TIMESLOT = 21   TIMESLOT INDEX = 189   LOOPB = 3
QUANTITY = 49   ADDRESS = 136/30224
TONE = 12                      PROCESSOR = 5                      TSI = 3
```

Explanation:

```
TEST       : Detailed test job which led to negative result.
ERROR      : Test result
OBJECT     : Test object (LTG, LTU and PBC number)
TRANSMITTER : Tone transmitter used for echoplexing
RECEIVER   : Tone receiver used for echoplexing
CSN        : Central switching network
LTG        : Line/Trunk Group (1-32)
LTU        : Line/Trunk Unit (1-99)
PBC        : Peripheral Board Controller number (1-25)
SLOT       : Slot (1-151)
FUNCTION    : SIU funktion (0-3)
MTS        : Memory time switch (1-7)
HWY        : Highway number (0-127)
TIMESLOT   : Timeslot (0-31)
CIRCUIT    : Line circuit number (0-63)
B-CHANNEL  : B-channel (0, B, B')
MODULE TYPE : Line circuit module (SLMA, SLMD, OLMD, TMDE,
TMBD...?)
STATUS     : Status (0-255)
TS INDEX   : Timeslot index (0-255)
LOOPB     : Test loop (2A, 2B, 2C, 4, 5, 6)
```

QUANTITY : Number of 1-bit errors which occurred (0-1023)
 ADDRESS : Memory address (0-255 / 0-65535)
 TONE : Numerical value of TONE power set (int.dial
 tone, busy tone, .?)
 PROCESSOR : Processor (system unit) name (ADS, CM, VM1,
 TF1, ...?)
 TSI : Terminal selection identifier (1-8)

If an error message is output during a functional test which includes an echoplexing test step (echoing an external dial tone or a bit sequence), the SIU transmitter and receiver(s) used for echoing are specified in the error message displayed at the administration and maintenance terminal. For each SIU transmitter and receiver, the appropriate LTG number, LTU number, slot number and the SIU function are output. The SIU function is described with the appropriate value received by the RTO from DB_M_SIU_FKT_RNG (0-3), e.g. "FUNCTION = 1". This value does not usually need to be interpreted by maintenance personnel.

The DB_M_SIU_FKT_RNG values listed below are attributed to the various SIU transmitters or receivers as follows:

0 = Dial tone receiver (DTR) for external dial tones and
 cadenced tones.
 1 = Test receiver (TESTR) for bit sequence echoing.
 2 = Test transmitter (TESTS) for bit sequence echoing.
 3 = Dial tone transmitter (DTS) for external dial tones and
 cadenced tones.

In some country-specific variants, the DTS may be allocated a different value.

199.4 Parameter Description

BCHAN1	B CHANNEL 1 (only for JITTERLP)
Type of Input	: Single Value, optional
Possible Values	: 1 to 30 or 255 (loop over all b channels)
Default Value	: 255
BCHAN2	B CHANNEL 2 (only for JITTERLP)
Type of Input	: Single Value, optional
Possible Values	: 1 to 30
Default Value	: 2
CCT	Circuit/trunk number
Type of Input	: Single value, mandatory
Possible Values	: 0 to 255 (UNIT=CCT / CCTPATH / T / LINE)
	0 to 3 (UNIT=JITTERLP)

TSU - Test of Switching Unit

Parameter Description

HALF	Identifier for processor half		
	Type of Input	: Single value, optional	
	Possible Values	: ACT	= active system half
		SBY	= standby system half
		PARTA	= system half A
		PARTB	= system half B
	Default Value	: ACT	
HWY	Highway		
	Type of Input	: Single value, optional	
	Possible Values	: 0 to 127	
	Default Value	: (is defined by RTO)	
LOOPBACK	Type of loopback (test loop number)		
	Type of Input	: Single value, optional	
	Possible Values	: 2	only for PNT or NT (UNIT=T)
		: 4	only for Cornet-T devices (UNIT=T)
		SLMRV	only for Board SLMR (VOICE)
		SLMRD	only for Board SLMR (DATA)
		SMIDIG	only for LTUR SM Boards (DIGITAL)
		SMIANA	only for LTUR SM Boards (ANALOG)
		ILOC	internal local LB (TMD24, T1DN)
		IDC	activate int. remote LB (TMD24, T1DN)
		IDL	deactivate int. rem. LB (TMD24,T1,TMDN)
		EDC	external remote LB (TMD24, T1,TMDN)
		RLITDM	data channel LB (RLI)
		IPON	payload loopback on (TMDN)
		IPOFF	payload loopback off (TMDN)
		ONHOOK	test loop for a subscriber in state 'onhook'(line test on SLMA)
		OFFHOOK	test loop for a subscriber in state 'offhook'(line test on SLMA)
	Default Value	: look at list of possible test loops	
LTG	Line/trunk group		
	Type of Input	: Single value, mandatory	
	Possible Values	: 1 bis 32	

LTU	Line/trunk unit Type of Input : Single value, mandatory optional (UNIT=LTU) Possible Values : 1 to 99 Default Value : 1
OBJECT	Choice between test of one terminal or test of all terminals of a circuit Type of Input : Single value, mandatory Possible Values : SINGLE (Test of a single terminal) ALL (Test of all terminals of circuit using loop 4)
PCMLINE	PCM line number Type of Input : Single value, optional Possible Values : 1 to 4 Default Value : 1
SERVICE	Specify the type of service of the terminal to be tested Type of Input : Single value, optional for Workstations : Single value, mandatory Possible Values : DTE, FAX, VCE
SLOT	Slot number in the LTU Slots are numbered from left to right. Always state the lowest slot number for modules which occupy more than one location. (A mounting location is made up of 6 slots ; thus, valid slot numbers are 1, 7, 13, 19 etc. However: some modules - e.g. SLMA - occupy two locations; for this reason the valid slot number must always be the first, or lowest, of the two. LTUC cannot be tested!) Type of Input : Single value, mandatory Possible Values : 1 - 121 (non compact hardware) : 19 - 121 (compact hardware) A suitable module must be configured for the slot addressed by PEN (AMO BCSU). The possible Slot values depend on the systems architecture and can be found in the BCSU AMO description.
STNO	Station number of terminal to be tested Type of Input : Single value, mandatory Possible Values : 0 - 999999

TSU - Test of Switching Unit

Parameter Description

TESTTYPE	Type of terminal test (parameter exists only in Hicom 300 V3.4)		
	Type of Input	: Single value, mandatory	
		:	
	Possible Values	SELFTEST	
		LOOPBACK	
		CHKALIV	
		LINEPOW	
TSI	Terminal selection identifier		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 8	
	Default Value	: LOOPBACK	=4 : all devices of a S0-bus or a hole Workstation or
		LOOPBACK	=2 : PNT or NT
TSL	Timeslot		
	Type of Input	: Single value, optional	
	Possible Values	: 0 to 31	
	Default Value	: 1	
TYPE	Type of definiton of terminal to be tested		
	Type of Input	: Single value, mandatory	
		:	
	Possible Values	PEN	= Port equipment number
		STNO	= Station number
UNIT	System unit to be tested		
	Type of Input	: Single value, mandatory	
	Possible Values	: LTG	= Line trunk group
		CC	= Common control
		CLTG	= Central parts of LTG
		LTU	= Line trunk unit
		BRDHWY	=Board highway of LTUC
		MDL	= Module (in an LTU shelf)
		CCT	= Circuit
		CCTPATH	= Circuit using defined hwy and tsl
		SIU	= Signaling unit (Standard)
		CONF	= Conference board
		SPHW	= Speech highway

T	= Terminal
PCMLINE	= PCM line
JITTERLP	= Special loop on DIUS2, DIUS7, SLMN-E1 (only for jitter measurements)
CONWADP	= Connection betw WAML board and ADP
LINE	= Line testing on SLMA boards
SURVMOD	=IPDA survivability modem
SURVPATH	=IPDA survivability path
CBMM	=Central byte manipulation module

199.5 Error Messages and Advisories

199.5.1 Error Messages

F01: TEST IN PROGRESS - FURTHER START NOT PERMISSIBLE
(Any new test job may only be started when the test in progress has been terminated internally or aborted by the operator.)

F02: TEST NOT POSSIBLE AT THE MOMENT

F03: TEST HAS BEEN INTERRUPTED

F04: LTG NOT ASSIGNED

F05: LTG NOT PRESENT

F06: LTG NUMBER DOES NOT HAVE ADMISSIBLE VALUE; MAXIMUM LTG NUMBER: <number>

F07: LTU NOT ASSIGNED OR LOCKED

F08: LTU NOT PRESENT

F09: LTU NUMBER DOES NOT HAVE ADMISSIBLE VALUE; MAXIMUM LTU NUMBER: <number>

F10: MODULE NOT ASSIGNED (NOGEN)

F11: MODULE NOT PRESENT (NPR)

F12: MODULE HIERARCHICALLY LOCKED (UNACH)

F13: MODULE TYPE <brdtype> CANNOT BE TESTED

F14: WRONG MODULE TYPE (WBT)

F15: LOOP NOT ALLOWED FOR THIS MODULE TYPE

F16: NO RESPONSE FROM RTO

F17: TEST IS NOT POSSIBLE FOR THIS SYSTEM VARIANT

F18: CIRCUIT NUMBER DOES NOT HAVE ADMISSIBLE VALUE; MAXIMUM CIRCUIT NUMBER: <number>

F19: MODULE HAS NOT LINE CIRCUITS

F20: DESTINATION PROCESSOR NOT AVAILABLE

F21: WRONG SLOT OR MODULE NOT PRESENT

F22: NO STATION HAS BEEN CONFIGURED WITH THIS DATA

F23: LOOP TEST ONLY VALID FOR CORNET-T TERMINALS OR OPTISET-TERMINALS

F24: PCMLINE TEST NOT ALLOWED FOR <board-type>

F25: SELFTEST NOT ALLOWED FOR <board-type>

F26: LTG1 NOT ASSIGNED

F27: LTG1 NOT PRESENT

TSU - Test of Switching Unit

Error Messages and Advisories

- F28: LTG2 NOT ASSIGNED
- F29: LTG2 NOT PRESENT
- F30: LTG1 AND LTG2 ARE EQUAL
- F31: WORKSTATION NOT ASSIGNED
- F32: BOARD NOT LOADED (NL)
- F33: CIRCUIT NOT CONFIGURED
- F34: STATION WITHOUT PHYSICAL DEVICE
- F35: STATION NOT CONFIGURED FOR THIS NUMBER AND THIS SERVICE
- F36: TEST IN PROGRESS - FURTHER START NOT POSSIBLE !
- F37: AT TMD/T1 BOARDS ONLY CIRCUIT = 1 IS ALLOWED
- F38: TEST IS ONLY POSSIBLE AT AN OPTISET E TERMINAL
- F39: TEST IS ONLY POSSIBLE AT AN OPTISET MASTER TERMINAL
- F40: CIRCUIT TEST NOT POSSIBLE ON THIS BOARD
- F41: NO TERMINAL IS ASSIGNED TO THIS STATION NUMBER
- F42: TERMINAL IS SIGNED OFF AND THEREFORE IT CANNOT BE TESTED
- F43: IN THIS SLOT THERE IS NO WAML BOARD !
- F44: TEST ALLOWED ON DIUS2, DIUS7, DIUN2, DIUN4 OR SLMN-E1 ONLY !
- F45: ONLY MDL TEST IS POSSIBLE ON THIS CARD.
NO CIRCUIT TESTS OR DEVICE (TERMINAL) TESTS ARE ALLOWED.
- F46: TEST OF NAILED CONNECTIONS NOT ALLOWED
- F47: TEST OF LOCAL LOOP (ILOC) ON BOARD SLMN-T1 : THE FIRST 24 CIRCUITS OF A SPAN (1 - 24, 26 - 49, 51 - 74 OR 76 - 99) MUST BE TAKEN OUT OF SERVICE VIA AMO DSSU AND THE LAST CIRCUIT OF A SPAN VIA AMO BSSU ! AMO TSU EXPECTS THE NUMBER OF THE SPAN (1,2,3 OR 4) AS INPUT OF PARAMETER 'CIRCUIT'
- F48: TEST OF REMOTE LOOP (IDC OR EDC) ON BOARD SLMN-T1 : THE LAST CIRCUIT OF A SPAN (25, 50, 75 OR 100) MUST BE IN SERVICE, BUT THE OTHER CIRCUITS (1 -24, 26 - 49, 51 -74, 76 -99) MUST BE BLOCKED VIA AMO DSSU ! AMO TSU EXPECTS THE NUMBER OF THE SPAN (1,2,3 OR 4) AS INPUT OF PARAMETER 'CIRCUIT'
- F49: TEST OF TERMINALS CONNECTED TO SLMO-ROUTING BOARD NOT POSSIBLE
- F50: THIS TEST IS ONLY POSSIBLE IN SUBSCRIBER STATE 'OFFHOOK'. THIS DOES NOT CORRESPOND TO THE CALL PROCESSING STATE AT THE MOMENT. THE TEST CAN BE CARRIED OUT, WHEN THE LINE IS TAKEN OUT OF OPERATION BY CALLING AMO DSSU. AFTER THE TEST THE LINE MUST BE TAKEN BACK TO OPERATION !
- F51: THIS TEST IS ONLY POSSIBLE IN SUBSCRIBER STATE 'ONHOOK' (THIS DOES NOT CORRESPOND TO THE CALL PROCESSING STATE 'IDLE'). AT THE MOMENT THE SUBSCRIBER IS NOT IN STATE 'IDLE'. THE TEST CAN BE CARRIED OUT, WHEN THE LINE IS TAKEN OUT OF OPERATION BY CALLING AMO DSSU. AFTER THE TEST THE LINE MUST BE TAKEN BACK TO OPERATION !
- F52: SUBSCRIBER IS IN STATE 'CONNECTED'. THE TEST CAN ONLY BE STARTED WHEN THE LINE IS TAKEN OUT OF OPERATION BY CALL OF AMO DSSU. AFTER THE TEST THE LINE MUST BE TAKEN BACK TO OPERATION !
- F53: LINETEST IS ONLY POSSIBLE ON SLMA BOARD TYPES Q2141, Q2157, Q2246, ON SLMAR BOARD Q2480-X000 AND ON SLMA3 BOARD Q2191-X
- F54: LINETEST CAN NOT BE CARRIED OUT, BECAUSE NECESSARY SIUX BOARD (Q2233-X, FUNCTION ID 7) IS NOT AVAILABLE IN THE SWITCH
- F55: ON STMA CARD DEVICE (TERMINAL) TEST IS POSSIBLE ONLY IN OPERATION MODES 'TFA' OR 'PSW'
- F56: ON DSC80 CARD CONF, MDL AND HIGHWAY TESTS ARE NOT POSSIBLE.
- F57: TMDN DIAGNOSTIC TESTS ARE NOT POSSIBLE OVER CORNET-N TRUNK LINKS TO GENERIC SERVER.
- F58: ONLY SELFTEST VALID FOR WORKSTATIONS, ROLMPHONES OR DCM (DATA COMMUNICATION MODULE) .
- F59: HIGHWAY NOT ASSIGNED TO THIS BOARD
- F60: LOOP 4 TEST NOT POSSIBLE ON ANALOG TERMINAL ADAPTER.
- F61: TEST OF LTU 1 ON 80CMX-DSC AND 40CMX-DSC SWITCHES IS NOT POSSIBLE .

F62: PCMLINE <number> NOT ALLOWED FOR <boardtype>
F63: TEST IS ONLY ALLOWED ON LTUC BOARDS WITH CENTRAL BYTE MANIPULATION MODULES
F64: AP NOT ASSIGNED OR LOCKED
F65: AP NOT PRESENT
F66: THIS FUNCTION IS NOT ALLOWED FOR SOFTGATE SHELVES.

199.5.2 Advisories

H01: PLEASE SPECIFY LTG NUMBER
H02: SYSTEM UNIT NOT DUPLICATED
H03: PARAMETER LOOPBACK HAS BEEN IGNORED
H04: TEST IN PROGRESS
H05: PARAMETER TSI HAS BEEN IGNORED
H06: PARAMETER SELFTEST IS SET YES AUTOMATICALLY
H07: TEST: EXTERNAL REMOTE LOOPBACK TMD/T1DN/SLMN-T1

BOARD <pen> ** BOARD IS REMOTE BOARD **
 ** INTERNAL REMOTE LOOPBACK (IDC) ACTIVATED **
PLEASE CONTINUE TEST ON LOCAL BOARD (TEST-TSU:LOOPBACK = EDC)
H08: TEST: EXTERNAL REMOTE LOOPBACK TMD/T1DN/SLMN-T1

BOARD <pen> ** BOARD IS LOCAL BOARD **
 ** TEST EDC COMPLETED **
PLEASE DEACTIVATE THE INTERNAL REMOTE LOOPBACK ON THE REMOTE BOARD
(TEST-TSU:....LOOPBACK = IDL)
H09: TEST: EXTERNAL REMOTE LOOPBACK TMD/T1DN/SLMN-T1

BOARD <pen> ** BOARD IS REMOTE BOARD **
INTERNAL REMOTE LOOPBACK (IDC) DEACTIVATED
H10: AFTER CALL OF 'DIAGNOSE-TSU' TEST ERRORS ARE TREATED AUTOMATICALLY
BY FAULT ANALYSIS ! IN THIS CASE FA CAN CAUSE LOCKS,SWITCHING OR RESTARTS!
(IN CASE OF ERRORS SIGNALLING MESSAGES ARE DISPLAYED
ON SCREEN IF OUTPUT IS ASSIGNED RIGHT)
H11: TEST: EXTERNAL REMOTE PAYLOAD LOOPBACK TMD/SLMN-T1

BOARD <pen> ** BOARD IS REMOTE BOARD **
 ** INTERNAL REMOTE PAYLOAD LOOPBACK (IPON) ACTIVATED
PLEASE CONTINUE TEST ON LOCAL BOARD (TEST-TSU: ..LOOPBACK = EDC)
H12: TEST: EXTERNAL REMOTE PAYLOAD LOOPBACK TMD/SLMN-T1

BOARD <pen> ** BOARD IS REMOTE BOARD **
INTERNAL REMOTE PAYLOAD LOOPBACK (IPON) DEACTIVATED
H13: FRAME TABLE CAN NOT BE LOADED FROM HARD DISK
H14: TSI IS SET TO 1 FOR LINEPOWER TEST
H15: ACTIONS OF FA CAN LAST ABOUT 5 MINUTES WHEN MAJOR DEFECTS
OCCUR ON CSN HIGHWAY !
H16: ALL TERMINALS AT THIS CIRCUIT ARE TESTED
H17: THE TESTS CAN BE STOPPED USING CTRL/X

TSU - Test of Switching Unit

Error Messages and Advisories

WHILE DISPLAYING TEST RESULTS (PLEASE DO NOT USE 'CANCEL:..' TO STOP AMO TSU !)

H18: LOCKS ARE THE RESULTS OF THIS TEST ! IT MAY NOT BE STARTED IN NORMAL OPERATION !! LAST CHANCE TO STOP (CTRL/X) !

H19: SUBSCRIBER STATE HAS CHANGED DURING MEASUREMENT ! THE MEASUREMENT RESULTS ARE PROBABLY NOT USEFUL ! PLEASE REPEAT THE TEST !

H20: SUBSCRIBER STATE (ONHHOOK OR OFFHOOK) CAN NOT BE DETERMINED AT THE MOMENT (THERE IS NO DIFFERENCE IN MEASUREMENT BETWEEN ONHOOK AND OFFHOOK LOOP) .

H21: SIMPLE LINECHECK : SEE IMPORTANT INFORMATION IN SERVICE MANUAL ! THIS TEST SHOULD BE CARRIED OUT A FEW TIMES ! (TEST USEFUL UP TO 8 KM ONLY)

H22: TIMESLOT IS SET TO '1'

H23: TIMESLOT IS CHOSEN BY RTO.

H24: HIGHWAY IS CHOSEN BY RTO.

H25: THE BOARD HIGHWAY TEST CAN ONLY BE STARTED WITHOUT DIFFICULTIES, IF IT IS NOT ACTIVATED AS A ROUTINE TEST BY AMO FUNSU. PLEASE CHECK BY USING AMO FUNSU, WETHER THE TEST IS ACTIVE.
IF IT IS SO, THE ROUTINE TEST HAS TO BE DEACTIVATED BEFORE RUNNING THE MANUAL TEST AND IT HAS TO BE ACTIVATED AFTERWARDS.

H26: WRONG USAGE OF THIS FUNCTION CAN CAUSE HEAVY PROBLEMS IN THE SWITCH ! PLEASE CHECK THE INPUT PARAMETERS AND SKIP FUNCTION IF YOU ARE NOT SURE ! DO YOU WANT TO CONTINUE THIS FUNCTION ?

H27: COMMAND EXECUTION SUCCESSFULLY DONE

H28: COMMAND HAS NOT BEEN EXECUTED

200 TTBL - Administration of tariff tables

Cross reference	Parameter description	Error- and Advisory Messages
Functions of the AMO	Appendix to the parameter description	

The task of this AMO is to administer the tariff tables with and without call charge information, and the tariff groups.

There are 9 tariff tables with call charge information, 9 tariff tables without call charge information, 9 tariff tables with clock information and 6 tariff group tables.

Note: In the following examples the old european currencies ATS, DEM and LIRE are used.

Tariff group tables

The tariff group tables contain for each carrier and service and category of calling party a tariff table number. This is valid for connections with and without charge information. Tariff group table 0 is used for the GESP-display.

Carrier	Catpty	Service		
		Voice	Fax	DTE
0	NORM			
	SCRSPC			
	PUPHON			
	MTEQ			
...				
9	NORM			
	SCRSPC			
	PUPHON			
	MTEQ			

When a tariff group table is created, then a tariff table number is specified for each carrier and service and calling party.

Tariff tables with charge information

The tariff for connections with tariff information is divided into sub-tariff-intervalls. Each sub-tariff-intervall represents a charge unit limit. The actual tariff-intervall is valid until the charge unit limit. Each table contains 4 intervalls, a minimal charge and a multiplying factor. The multiplying factor is in thousandth. Cost values are in 1/1000ths of

TTBL - Administration of tariff tables

currency units¹, if in AMO DAVF the parameter COMPOS's value is 2T or 3T. Cost values are in 1/100ths of currency units, if in AMO DAVF the parameter COMPOS's value is between -3 and +3.

LIMIT_1	PRICE_1
LIMIT_2	PRICE_2
LIMIT_3	PRICE_3
LIMIT_4	PRICE_4
MIN_CHRG	
CHRG_FACTOR	

If the parameter METHOD = FACTOR is set in the tariff table with charge information (WCU) and by the network the charge information is supplied in form of (prepared) amounts, then the amounts are multiplied by the value of the FACTOR. The minimum amount is considered, in this case no basic charge is used.

With calculation after time likewise the calculated amount with the multiplication factor (FACTOR) from the WCU table with the same tariff table number, as the used WOCU table, is modified.

The calculated amounts become connection costs.

Note: The minimum charge is always indicated in 1/100 currency units, independent from the DAVF settings.

Tariff tables without call charge information

For connections without charge information, the tariff is calculated according to the actual distance and rate period.

Zones / Set Value	Day		Night 1		Night 2		Night 3		Night 4		TABT Nr.	Change Period	Min. Charge	Basic Charge	B-CHL Factor
NO_ENTRY / 0															
INT 01-09 / 01-09	xx	yy	xx	yy	xx	yy	xx	yy	xx	yy	tt	cc	mm	bb	ff
INC 01-09 / 11-19															
LOC / 21															
FREE / 29															
CHINFO / 30															
NEAR / 31															
DIST 01-50 / 51-100															

1. See explanation of currency units in the parameter description WCU table on page 2733.

Zones / Set Value	Day	Night 1	Night 2	Night 3	Night 4	TABT Nr.	Change Period	Min. Charge	Basic Charge	B-CHL Factor
ABR 01-99 / 101-199										
TIE 01-09 / 201-209										

xx: Time unit in 1/100th of seconds

yy: Price for this time unit, in 1/100th, 1/1000th or in 1/100000th of currency units¹ (eg. pfennigs, tenth pfennings or thousandth pfennings. Depending on adjustment of TBL=GEN)

tt: Number of the rate period-table (1-25)

cc: boolean value

(FALSE): the rate period selected at the beginning of the connection start is valid for the whole connection, i. e. a change of the rate period doesn't affect the price.

(TRUE): if the rate period changes, the costs are calculated according to the new rate period.

mm: minimal charge of a connection, in 1/100th of currency units

bb: base charge of a connection, in 1/100th of currency units

ff: Factor for multiplication per used B-Channel (in percent, 100% means multiplication with 1)

Each zone has 5 tariff ranges. The costs are calculated in dependence of the actual rate period. It is possible to specify a base- and minimum charge.

In tariff tables without charge information, the tariffs can be specified for each zone. Each zone has a day-, night1-, night2-, night3- and night4-tariff (yy) per time unit (xx). The time unit is in 1/100th of seconds, the day and night tariffs are in 1/100th, in 1/1000th or 1/100000th of currency units, depending on settings in branch GEN and parameter COMPOS.

The base charge (bb) can be negative and positiv as well. Negative base charge makes it possible to make a call free for the first n seconds. Negative costs are displayed as zero (0).

1. See explanation of currency units in the parameter description WOCU table on page 2734.

TTBL - Administration of tariff tables

A connection is divided into rate periods, with the help of rate period tables. The number of the rate period-table (tt) that should be applied, must be entered (see AMO-TABT). The sign for change period (cc) shows if a change of rate period affects the charge calculation or not.

The charge calculation is performed the following way: the connection time is divided into time units, according to the zone and the rate period, then the time units are multiplied by the actual tariff (cost), and added. If the rate period changes during the connection, it affects the charge calculation only if (bb) is set. After this, the base charge is added or subtracted. If the costs are more than zero and less than the minimum charge, the minimum charge is valid.

If several B-Channels (n) are used the costs will be calculated by using following formula:

$$\text{Costs per Channel} \times n \text{ B-Channels} \times \text{B-Channel factor}$$

Tariff Tables with clock information

There are 9 tariff tables with clock information which serve to set the charge pulses of analogue subscriber or public telephone

Zones	DAY			NIGHT1			NIGHT2		
	Fix	First	Period	Fix	First	Period	Fix	First	Period
LOC	xx	yy	zz	xx	yy	zz	xx	yy	zz
NEAR									
DIST01-50									
ABR01-99									
...									
TIE01-09									

Zones	NIGHT3			NIGHT4			TABTNr.	Change Period
	Fix	First	Period	Fix	First	Period		
LOC	xx	yy	zz	xx	yy	zz	tt	cc
NEAR								
DIST01-50								
ABR01-99								
...								
TIE01-09								

xx: basic charge: Zero, one or more charge pulses are generated and immediately sent. No periodic emission follows. (0-15)

yy: Time, after that is sent the first impulse (in 10 ms)

- (0): no first charge pulse is sent.
- (>0): a first charge pulse is sent after $n * 10 \text{ ms}$ (1-9999999).
- (KA) Method Karlsson added: The basic charge (xx) is automatically set to 1. A pulse is sent immediately. The next charge pulse follows after a random delay time which lies between 0 and the regular charge pulse period (zz). Afterwards the pulses are sent periodically with the appropriate time interval (zz).
- (KM) Method Karlsson modified: The basic charge (xx) is automatically set to 1. A pulse is sent immediately. The next charge impulse follows after a random delay time which lies between the regular charge pulse period (zz) and its twofold value ($2*zz$). Afterwards the pulses are sent periodically with the appropriate time interval (zz).
- (K) Method Karlsson: The basic charge (xx) is automatically set to 0. The first pulse is sent after a random delay time which lies between 0 and the regular charge pulse period (zz). Afterwards the pulses are sent periodically with the appropriate time interval (zz).

zz: Period time of the periodic charge pulses (in 10 ms).

tt: Number of the rate period table (1-25)

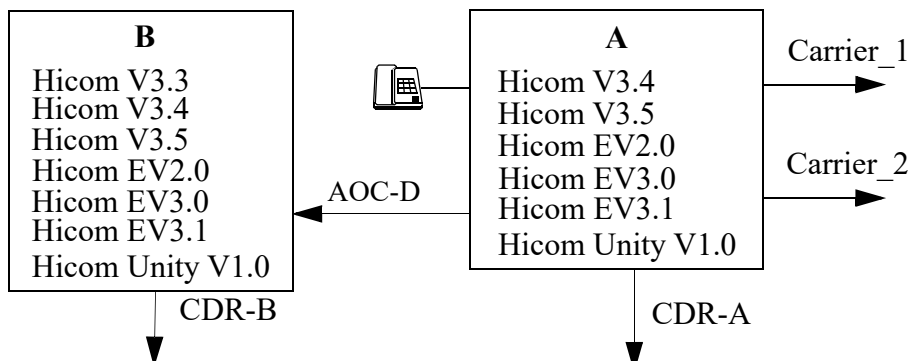
cc: Identifier for rate period table for connections without charge information

Boolean value:

(FALSE): Segment for time of day is valid for the whole connection (Segment changes will not be considered).

(TRUE): Segment for time of day is not valid for the whole connection (Segment changes will be considered).

Determination of CCU/COSTS by transmitted or calculated Call Charge Units/Values



TTBL - Administration of tariff tables

Carrier_1 and Carrier_2 with different:

- Costs per time unit
- Price per call charge unit

It means:

CCU = **C**all **C**harge **U**nits

CDR = **C**all **D**ata **R**ecord

DISPCCU-A = **CCU** shown at the **DISPLAY** of subscribers on System A

DISPCOST-A = **COSTS** shown at the **DISPLAY** of subscribers on

System A

CHRGUNIT-A = Field **CHRGUNIT** in **CDR** of the System A (Call charge units)

DISPCHRG-A = Field **DISPCHRG** in **CDR** of the System A (output of indicated costs)

CONCHRG-A = Field **CONCHRG** in **CDR** of the System A (in ISp calculated costs for the output)

AOCCCU-AtoB = The **CCU** are sent as **AOC-D** from System A to System B (LTMB = not set)

AOCVAL-AtoB = The **VALUES** are sent as **AOC-D** from System A to System B (LTMB = set)

DISPCCU-B = Indicated **CCU** at the **DISPLAY** of subscribers on System B

DISPCOST-B = Indicated **COSTS** at the **DISPLAY** of subscribers on System B

CHRGUNIT-B = Field **CHRGUNIT** in **CDR** of System B (call charge units)

DISPCHRG-B = Field **DISPCHRG** in **CDR** of System B (output of indicated costs)

CONCHRG-B = Field **CONCHRG** in **CDR** of System B (In ISp calculated costs for the output)

TARTBL = **T**ariff**T**able

CCI = **C**all **C**harge **I**nformation

The indicated call charge units DISPCCU or the costs DISPCOST (output in CDR as DISPCHRG) and the possibly calculated CHRGUNIT are continually determined during the connection or at the end of the connection respectively. The tariff group 0 is always taken and parameter CCUC from AMO-ZAND is used. The costs CONCHRG are put out in CDR and are calculated in ISp during the output. For this always the tariff group n from the selection group is used

TTBL - Administration of tariff tables

		Element	Carrier WITH Call Charge Information (AMO-GEFE: WITH)			Carrier (AMO-GEFE: WITHOUT)
				AOC-D with Value VAL	AOC-S	-
S D i s p l a y m A	D i s p l a y	DISPGE-A	DISPCOST-A / Price from ZAND The DISPCCU-A are displayed for the subscribers with a standardized price for a CCU. The CCU with different prices or different values of the carrier or the costs calculated by itself are changed in CCU with standardized prices. This happens because the subscriber normally doesn't know which carrier was used to build up the connection and what is the price for this value. CHRGUNIT-A (CCU in data record A) are possibly different to DISPCCU-A (CCU displayed at the subscriber) because these have possibly different prices. Differences are possibly caused by rounding up the calculation of the DISPCCU-A Therefore always values should be displayed in Hicom from V3.4			
		DISPCOST-A	TARGR_0: CCU * Price per CCU TARTBL mit CC I (graduated rate)	TARGR_0: VAL * Factor TARTBL with CCI	calculated from AOC-S	TARGR_0: calculated from Carrier/Zone/ Time TARTBL without CCI
	C a l l D a t a R e c o r d	CHRGUNIT-A	Call charge Units CCU received from the carrier	TARGR_0: DISPCOST-A / Price per CCU TARTBL with CCI (Calculating CCU)	TARGR_0: DISPCOST-A / Price per CCU TARTBL with CCI (Calculating CCU)	TARGR_0: DISPCOST-A / Price per CCU TARTBL with CCI (Calculating CCU)
		DISPCHRG-A	DISPCOST-A	DISPCOST-A	DISPCOST-A	DISPCOST-A
2704		CONCHRG-A	TARGR_n (SELG): CHRGUNIT-A * Price per CCU TARTBL with CCI (graduated rate)	TARGR_n (SELG): ----- ----- Charge = Factor (000-9999): DISPCOST-A * Factor TARTBL with CCI ----- ----- Charge = CCU: CHRGUNIT-A * Price per CCU TARTBL with CCI (graduated rate)	TARGR_n (SELG): ----- ----- Charge = Factor (000-9999): DISPCOST-A * Factor TARTBL with CCI ----- ----- Charge = CCU: CHRGUNIT-A * Price per CCU TARTBL with CCI (graduated rate)	TARGR_n (SELG): ----- ----- Charge = Factor (000-9999): Calculated from Carrier/Zone/ Time TARTBL without CCI ----- ----- Charge = CCU: CHRGUNIT-A * Price per CCU TARTBL with CCI (graduated rate)

		Element	Carrier WITH Call Charge Information (AMO-GEFE: WITH)			Carrier (AMO-GEFE: WITHOUT)
				AOC-D with Value VAL	AOC-S	-
Sy ste m A	Da ta Re co rd	CONCHRG-A Costs are new calculated in ISp for the output	TARGR_n (SELG): CHRGUNIT-A * Price per CCU TARTBL with CCI (graduated rate)	Following methods of calculation are used for the output of the element CONCHRG. The method depends alternatively of the FACTOR of the used TARTBL with CCI: 000 - 9999: CONCHRG = DISPCOST-A * FACTOR CCU : CONCHRG =Call charge units calculated back * price per CCU from TARTBL with CCI		

TTBL - Administration of tariff tables

		Element	Carrier WITH Call Charge Information (AMO-GEFE: WITH)			Carrier (AMO-GEFE: WITHOUT)
				AOC-D with Value VAL	AOC-S	-
System B		„Support“ B is Hicom V3.3 (The CCU are sent by System A, the trunk group parameter LTMB = not set):				
		AOCCCU-AtoB	DISPCOST-A / Price from AMO ZAND System A The AOCCCU-AtoB are sent to System B with standardized price per CCU. The CCU with different prices or the different values of the carrier or the costs calculated by itself will be changed in CCU with standardized prices. This happens because only one price can be installed for Hicom V3.3 (ZAND). CHRGUNIT-A (CCU in data record A) are possibly different to CHRGUNIT-B (CCU in data record B) because they have possibly different prices. After multiplication they give the same costs. Differences are caused possibly by rounding up by the calculation of the CCU.			
	D	DISPCCU-B	AOCCCU-AtoB			
		DISPCOST-B	AOCCCU-AtoB * Price from AMO ZAND System B (See branch CCU, AMO-ZAND V3.3)			
	CD R	CHRGUNIT-B	AOCCCU-AtoB			
		CONCHRG-B	TARTBL_n (SELG): CHRGUNIT-B * Price per CUU from TARTBL with CCI (graduated rate)			
		„Support“ B is Hicom greater equal V3.4 (The VALUES are sent by System A, the trunk group parameter LTMB = set):				
		AOCVAL-AtoB	DISPCOST-A			
	D	DISPCCU-B	DISPCOST-B / Price from ZAND System B			
		DISPCOST-B	TARGR_0: AOCVAL-AtoB * Factor from TARTBL with CCI			
	CD R	CHRGUNIT-B	TARGR_0: DISPCOST-B / Price per CCU from TARTBL with CCI (Calculating CCU)			
		DISPCHRG-B	DISPCOST-B			
		CONCHRG-B	TARGR_n (SELG): Factor=000 - 9999: DISPCOST-B * Factor from TARTBL with CCI Factor=CCU: CHRGUNIT-B * Price per CCU from TARTBL with CCI (graduated rate)			

For carrier with MIX (for some connections CCI are received, for otherone not) it is going on as follows:

- if CCI are not received it will be calculated as like by WITHOUT,
- if CCI are received it will be calculated as like by WITH

200.1 Cross reference

- AMO-DAVF : Display Characteristics for Call Charge Output
- AMO-FETA : Administration of Holiday Tables
- AMO-GETAB : charge data display from CDRS files
- AMO-SELG : Administration of Selection Groups and Selection Tables
- AMO-TABT : Administration of the Rate Period Tables

200.2 Functions of the AMO

- [ADD-TTBL](#) : Add tariff and tariff group tables
- [CHANGE-TTBL](#) : Changing tariff and tariff group tables
- [DELETE-TTBL](#) : Delete tariff group or tariff table entries
- [DISPLAY-TTBL/REGEN-TTBL](#) : Display tariff group or tariff table entries / Regenerate tariff group and tariff table entries

200.2.1 ADD-TTBL

Enters tariffs into the tariff tables and tariff group tables.

For tariff tables with charge information, the limit for the last graduated area must be zero. The AMO queries the parameter pair limit and tariff as long as a limit of zero is entered (maximum 4 times). If no zero is entered, then the AMO sets zero for the fourth element automatically.

1. Entering tariffs for connections with charge information
2. Entering tariffs for connections without charge information
3. Creating a tariff group table per Carrier and category of calling party and Service.
4. Creating a table with clock information.

Notice

If one of the parameters FPLSDAY, FPLSN1..FPLSN4 in the table with clock information is set to either value K (Karlson random value), KA (Karlson Added random value) or KM (Karlson Modified random value), then the corresponding FIXDAY, FIXN1..FIXN4 is changed too according the following table. Additionally advisory message H11 is printed.

TTBL - Administration of tariff tables

Functions of the AMO

FPLSDAY, FPLSN1..N4	Corrected FIXDAY, FIXN1..N4
KA (Karlson Added)	1
KM (Karlson Modified)	1
K (Karlson)	0

Procedure overview

Command code	Parameter	
ADD-TTBL	<pre>| TBL=WCU, TARTBLNO=<number>, TARMIN=<number> , |METHOD=FACTOR, FACTOR=<number> , LT1=0, TAR1=<number>; | TBL=WCU, TARTBLNO=<number>, TARMIN=<number> , |METHOD=UNITS , LT1=0, TAR1=<number>; | TBL=WCU, TARTBLNO=<number>, TARMIN=<number> , |METHOD=FACTOR, FACTOR=<number> , LT1=</=0>, TAR1=<number> , LT2=0, TAR2=<number>; | TBL=WCU, TARTBLNO=<number>, TARMIN=<number> , |METHOD=UNITS , LT1=</=0>, TAR1=<number> , LT2=0, TAR2=<number>; | TBL=WCU, TARTBLNO=<number>, TARMIN=<number> , |METHOD=FACTOR, FACTOR=<number> , LT1=</=0>, TAR1=<number> , LT2=</=0>, TAR2=<number> , LT3=0, TAR3=<number>; | TBL=WCU, TARTBLNO=<number>, TARMIN=<number> , |METHOD=UNITS , LT1=</=0>, TAR1=<number> , LT2=</=0>, TAR2=<number> , LT3=0, TAR3=<number>; | TBL=WCU, TARTBLNO=<number>, TARMIN=<number> , |METHOD=FACTOR, FACTOR=<number> , LT1=</=0>, TAR1=<number> , LT2=</=0>, TAR2=<number></pre>	(1)

Command code	Parameter	
	<pre> ,LT3=</=0>,TAR3=<number> ,TAR4=<number>; </pre>	
	<pre> |TBL=WCU,TARTBLNO=<number>,TARMIN=<number> ,|METHOD=UNITS ,LT1=</=0>,TAR1=<number> ,LT2=</=0>,TAR2=<number> ,LT3=</=0>,TAR3=<number> ,TAR4=<number>; </pre>	
	<pre> |TBL=CLK,TARTBLNO=<number>,ZONE=<param>, FIXDAY=<number>,FPLSDAY=<string>,PPLSDAY=<number>, FIXN1=<number>,FPLSN1=<string>,PPLSN1=<number>, FIXN2=<number>,FPLSN2=<string>,PPLSN2=<number>, FIXN3=<number>,FPLSN3=<string>,PPLSN3=<number>, FIXN4=<number>,FPLSN4=<string>,PPLSN4=<number>, SEGTBLNO=<number>,CHPER=<param>; </pre>	(2)
	<pre> |TBL=WOCU,TARTBLNO=<number>,ZONE=<string> ,INTDAY=<number>,TARDAY=<number> ,INTNT1=<number>,NTAR1=<number> ,INTNT2=<number>,NTAR2=<number> ,INTNT3=<number>,NTAR3=<number> ,INTNT4=<number>,NTAR4=<number> ,TARBAS=<number>,TARMIN=<number> ,SEGTBLNO=<number>,CHPER=<param>,[BCHLFACT=<number>]; </pre>	(3)
	<pre> |TBL=GRP,GROUPNO=<number>,CARRIER=<number>, CATPTY=<param>,SERVICE=<param>,TARTBLNO=<number>; </pre>	(4)

Examples

1. Creating a tariff without tariff ranges of 0,121 DM per call charge unit in the tariff table 1 with charge information, with minimum call charge of 5,01 DM, and with the cost calculation charge unit. (The comma position per AMO-DAVF must be set on 2T or 3T. The setting in AMO-DAVF works only for the cost calculation on tariff tables with cost informations.)

Input:

```

ADD-
TTBL:TBL=WCU,TARTBLNO=1,TARMIN=501,METHOD=UNITS,LT1=0,TAR1=12
1;

```

TTBL - Administration of tariff tables

Functions of the AMO

2. Creating table 2 with charge information, with a minimum charge of 2,00 DM with a cost calculation method FACTOR (=1000‰) and with the following tariff ranges (The comma position in the AMO-DAVF is either -3 or -2, -1,0, +1, +2 or +3. The setting in the AMO-DAVF works only for the cost calculation on tariff tables with cost informations.):

value range 1: from 0 to 25 units, 0,6 DM per unit

value range 2: from 26 to 50 units, 0,5 DM per unit

value range 3: from 51 to 75 units, 0,4 DM per unit

value range 0: 76 to -- units, 0,2 DM per unit

Input:

ADD-

TTBL:TBL=WCU, TARTBLNO=2, TARMIN=200, METHOD=FACTOR, FACTOR=1000, LT1=25, TAR1=60, LT2=50, TAR2=50, LT3=75, TAR3=40, TAR4=20;

3. Adding table 1 (without charge information) with the following values:

Zone LOC

with TARBAS=+50 (0,50 DM) and TARMIN=75 (0,75 DM),
SEGTBLNO=10, CHPER=Y, BCHLFACT= 100.

INTDAY (in 1/ 100 Sec)	TARDA Y (in 1/ 1000 CU)	INTNT1 (in 1/ 100 Sec)	NTAR1 (in 1/ 1000 CU)	INTNT2 (in 1/ 100 Sec)	NTAR2 (in 1/ 1000 CU)	INTNT3 (in 1/ 100 Sec)	NTAR3 (in 1/ 1000 CU)	INTNT4 (in 1/ 100 Sec)	NTAR4 (in 1/ 1000 CU)
18000	209	24000	231	28000	232	36000	233	40000	234

The calculation should result in 1/1000th currency units.

Allocation of the comma position: either 2T or 3T

(The price per time clock is given in 1/1000th currency units.)

Note: Allocation of the comma position should only result via AMO-TTBL and not by AMO-DAVF.

Input:

CHANGE-TTBL:TBL=GEN, ELEMENT=COMPOS, TARTBLNO=1, COMPOS=2T; or
CHANGE-TTBL:TBL=GEN, ELEMENT=COMPOS, TARTBLNO=1, COMPOS=3T;

Creating of the tariff table.

Input:

ADD-

TTBL:TBL=WOCU, TARTBLNO=1, ZONE=LOC, INTDAY=18000, TARDA=209, INTNT1=24000, NTAR1=231, INTNT2=28000, NTAR2=232, INTNT3=36000, NTAR3=233, INTNT4=40000, NTAR4=234, TARBAS=+50, TARMIN=75, SEGTBLNO=10, CHPER=Y, BCHLFACT=100;

Zone DIST01

with $TARBAS=+50$ (0,50 DM) and $TARMIN=75$ (0,75 DM),
 $SEGTBLNO=11$, $CHPER=N$, $BCHLFACT=100$.

INTDAY (in 1/ 100 Sec)	TARDA Y (in 1/ 100 CU)	INTNT1 (in 1/ 100 Sec)	NTAR1 (in 1/ 100 CU)	INTNT2 (in 1/ 100 Sec)	NTAR2 (in 1/ 100 CU)	INTNT3 (in 1/ 100 Sec)	NTAR3 (in 1/ 100 CU)	INTNT4 (in 1/ 100 Sec)	NTAR4 (in 1/ 100 CU)
3000	25	3500	25	3800	25	4200	25	4800	25

The calculation should result in 1/100th currency units.

Allocation of the comma position: either -3, -2, -1,0, +1, +2 or +3
 (The price per time clock is given in 1/100th currency units.)

Input:

CHANGE-TTBL:TBL=GEN,ELEMENT=COMPOS,TARTBLNO=1,COMPOS=+2;

Creating of the tariff table.

Input:

ADD-

TTBL:TBL=WOCU,TARTBLNO=1,ZONE=DIST01,INTDAY=3000,TARDA=25,INTNT1=3500,NTAR1=25,INTNT2=3800,NTAR2=25,INTNT3=4200,NTAR3=25,INTNT4=4800,NTAR4=25,TARBAS=+50,TARMIN=75,SEGTBLNO=11,CHPER=N,BCHLFACT=100;

Zone ABR01

with $TARBAS=+100$ (1,00DM) and $TARMIN=150$ (1,50 DM),
 $SEGTBLNO=20$, $CHPER=Y$, $BCHLFACT=100$

INTDAY (in 1/ 100 Sec)	TARDA Y (in 1/ 1000 CU)	INTNT1 (in 1/ 100 Sec)	NTAR1 (in 1/ 1000 CU)	INTNT2 (in 1/ 100 Sec)	NTAR2 (in 1/ 1000 CU)	INTNT3 (in 1/ 100 Sec)	NTAR3 (in 1/ 1000 CU)	INTNT4 (in 1/ 100 Sec)	NTAR4 (in 1/ 1000 CU)
1500	28	1800	28	2100	28	2400	28	3000	28

The calculation should result in 1/100th currency units.

Allocation of the comma position: either -3, -2, -1,0, +1, +2 or +3
 (The price per time clock is given in 1/100th currency units.)

Input:

CHANGE-TTBL:TBL=GEN,ELEMENT=COMPOS,TARTBLNO=1,COMPOS=+2;

Creating of the tariff table.

Input:

ADD-

TTBL:TBL=WOCU,TARTBLNO=1,ZONE=ABR01,INTDAY=1500,TARDA=28,INTNT1=1800,NTAR1=28,INTNT2=2100,NTAR2=28,INTNT3=2400,NTAR3=28,INTNT4=3000,NTAR4=28,TARBAS=+100,TARMIN=150,SEGTBLNO=20,CHPER=Y,BCHLFACT=100;

TTBL - Administration of tariff tables

Functions of the AMO

Zone ABR02

with TARBAS=-150 (1,50 DM) and TARMIN=200 (2,00 DM),
SEGTBLNO=22, CHPER=Y, BCHLFACT= 100.

INTDAY (in 1/ 100 Sec)	TARDA Y (in 1/ 100 CU)	INTNT1 (in 1/ 100 Sec)	NTAR1 (in 1/ 100 CU)	INTNT2 (in 1/ 100 Sec)	NTAR2 (in 1/ 100 CU)	INTNT3 (in 1/ 100 Sec)	NTAR3 (in 1/ 100 CU)	INTNT4 (in 1/ 100 Sec)	NTAR4 (in 1/ 100 CU)
1000	30	1500	30	2000	30	2500	30	3000	30

The calculation should result in 1/100th currency units.

Allocation of the comma position: either -3, -2, -1,0, +1, +2 or +3
(The price per time clock is given in 1/100th currency units.)

Input:

CHANGE-TTBL:TBL=GEN,ELEMENT=COMPOS,TARTBLNO=1,COMPOS=+2;

Creating of the tariff table.

Input:

ADD-

TTBL:TBL=WOCU,TARTBLNO=1,ZONE=ABR02,INTDAY=1000,TARDA=30,INTNT1=1500,NTAR1=30,INTNT2=2000,NTAR2=30,INTNT3=2500,NTAR3=30,INTNT4=3000,NTAR4=30,TARBAS=-150,TARMIN=200,SEGTBLNO=22,CHPER=Y,BCHLFACT=100;

- Adding tariff group table 1 for carrier 1 and service VOICE and NORM for category of calling party, with tariff table 1.

Input:

ADD-

TTBL:TBL=GRP,GROUPNO=1,CARRIER=1,CATPTY=NORM,SERVICE=VOICE,TARTBLNO=1;

- Adding tariff group 1 for carrier 1 and services VOICE and DTE and SCRSPC for category of calling party, with tariff table 1.

Input:

ADD-

TTBL:TBL=GRP,GROUPNO=1,CARRIER=1,CATPTY=SCRSPC,SERVICE=VOICE&DTE,TARTBLNO=1;

- Adding tariff group 1 with clock information for zone DIST01, FIXDAY=1, FPLSDAY=KA, PPLSDAY=999999, FIXN1=1, FPLSN1=KM, PPLSN1=0, FIXN2=12, FPLSN2=999999, PPLSN2=10000, FIXN3=12, FPLSN3=0, PPLSN3=0, FIXN4=1, FPLSN4=KA, PPLSN4=11111, SEGTBLNO=1, CHPER=Y.

Input:

ADD-

TTBL:TBL=CLK,TARTBLNO=1,ZONE=INT01,FIXDAY=1,FPLSDAY=KA,PPLSDAY=999999,FIXN1=1,FPLSN1=KM,PPLSN1=0,FIXN2=12,FPLSN2=999999,PPLSN2=10000,FIXN3=12,FPLSN3=0,PPLSN3=0,FIXN4=1,FPLSN4=KA,PPLSN4=11111,SEGTBLNO=1,CHPER=Y;

7. Set up of tariff CITY-CALL for carrier 1, zone INT01 and service VOICE. The category of calling party is NORM. The tariff table 1 should be used for the display and the rate periode table 1. The display should result on 2 positions after comma. In the selection group the tariff group1 should be used with the tariff table 2. The tariff group 1 with the tariff table 2 should be used too for the output on the OPP, where the costs are displayed on 2 comma positions.

In the tariff CITY-CALL one second takes 0,127 Pfennig (WOCU table).

Allocation of tariff group 0 on carrier 1 and entry of tariff table1 for the user category NORM and service VOICE for the display.

Input:

ADD-

TTBL:TBL=GRP, GROUPNO=0, CARRIER=1, CATPTY=NORM, SERVICE=VOICE, TARTBLNO=1;

Allocation of tariff group 1 for carrier 1 and entry of tariff table 2 for the calling party category NORM and service VOICE as base for the cost calculation in data record.

Input:

ADD-

TTBL:TBL=GRP, GROUPNO=1, CARRIER=1, CATPTY=NORM, SERVICE=VOICE, TARTBLNO=2;

Set up of general tariff records for display and data records. The cost calculation should result on 1/100000th currency units, the output on the display and on the operator's position (OPP) on 2 comma positions.

Input:

CHANGE-TTBL:TBL=GEN,ELEMENT=COMPOS,TARTBLNO=1,COMPOS=2HT;
CHANGE-TTBL:TBL=GEN,ELEMENT=COMPOS,TARTBLNO=2,COMPOS=2HT;

Set up tariff tables 1 and 2 with 0,127 Pfennig per second.

Input:

ADD-

TTBL:TBL=WOCU,TARTBLNO=1,ZONE=INT01,INTDAY=100,TARDAY=127,INTNT1=100,NTAR1=127,INTNT2=100,NTAR2=127,INTNT3=100,NTAR3=127,INTNT4=100,NTAR4=127,TARBAS=+0,TARMIN=0,SEGTBLNO=1,CHPER=Y,BCHLFACT=100;

ADD-

TTBL:TBL=WOCU,TARTBLNO=2,ZONE=INT01,INTDAY=100,TARDAY=127,INT

TTBL - Administration of tariff tables

Functions of the AMO

```
NT1=100,NTAR1=127,INTNT2=100,NTAR2=127,INTNT3=100,NTAR3=127,INTNT4=100,NTAR4=127,TARBAS=+0,TARMIN=0,SEGTBLNO=1,CHPER=Y,BCHLFACT=100;
```

To the controlling of the cost calculation still the carrier 1 must be placed on calculation after time.

Input:

```
CHANGE-GEFE:TYPPARAM=CAR,CARRIER=1,TYPE=TIME,CHRGPLS=N;
```

For back calculation of units, a WCU table with number 1 (which is entered in tariff group 0) and with 12,1 Pfennig per second is necessarily.

Input:

```
ADD-TTBL:TBL=WCU,TARTBLNO=1,TARMIN=0,METHOD=FACTOR,FACTOR=1000,LT1=0,TAR1=121;
```

The priority of the unity price of the WCU table must set on 1/1000th.

Input:

```
CHANGE-DAVF:COMPOS=2T;
```

Attention: If the comma position in AMO-DAVF is modified e.g. from +2 to 2T (of calculation in 1/100th currencies on calculation in 1/1000th currencies) it influences the calculations of all WCU tables. If the comma position in AMO-DAVF is modified the WCU tables have to be modified too.

Input:

```
ADD-TTBL:TBL=WCU,TARTBLNO=1,TARMIN=0,METHOD=FACTOR,FACTOR=1000,LT1=0,TAR1=12;
```

Note: As WCU table, if a CCU table is created instead of a FACTOR table, the field CONCHRG from the backcounted units (see "calculation method" in the table on page 2705) is calculated.

200.2.2 CHANGE-TTBL

Changing of tariffs in the tariff table with or without charge information, tariff group tables, clock tables or general charge records.

For tariffs with charge information, the minimum charge, the multiplication factor and entries of the graduation tariffs can be changed. The parameters TARMIN, GRTARRGN, LT, TAR and METHOD are in a min-1-group, at least one parameter must be given.

For changing the contents of a graduated tariff region it is necessary to enter an input for GRTARRGN and at least an input for LT or TAR. Missing inputs are requested by the Advisory Messages (H09, H08).

If for the tariff tables with charging info, the limit 0 is being changed, and it's not the last (fourth) entry in the table, then the next limit is set to zero and a tariff is requested through DIALOG.

If the last value is changed accidentally from 0 to another value, then this input is ignored, and a warning is displayed. The original entry doesn't get changed in this case.

For tariffs for connections with tariff information, the parameters can be changed one by one, together or all of them. For example for a zone, all five tariffs can be changed, together with the pulses (INTDAY, INTNT1 to INTNT4). The parameters INTDAY, INTNT1..INTNT4, NTAR4, TARBAS, TARMIN, SEGTBLNO and CHPER are in a min-1-group, a minimum of one parameter must be given.

1. Changing tariff tables for connections with call charge information
2. Changing tariff tables for connections without call charge information
3. Changing tariff group tables
4. Changing tables with clock information
5. Changing tables with general informations

Notice

If one of the Parameters FPLSDAY, FPLSN1..FPLSN4 in the tariff tables with clock information is set to either value K (Karlson random value), KA (Karlson Added random value) or KM (Karlson Modified random value), then the corresponding FIXDAY, FIXN1..FIXN4 is changed too according the following table. Additionally advisory message H11 is printed.

FPLSDAY, FPLSN1..N4	Corrected FIXDAY, FIXN1..N4
KA (Karlson Added)	1
KM (Karlson Modified)	1
K (Karlson)	0

Procedure overview

Command code

CHANGE-TTBL

Parameter

```
| TBL=WCU, TARTBLNO=<number>, { (min1) TARMIN=<number>
, GRTARRGN=<number>, LT=<number>, TAR=<number>
, |METHOD=FACTOR, FACTOR=<number>} ;

| TBL=WCU, TARTBLNO=<number>, { (min1) TARMIN=<number>
, GRTARRGN=<number>, LT=<number>, TAR=<number>
```

(1)

TTBL - Administration of tariff tables

Functions of the AMO

Command code	Parameter	
	, |METHOD=UNITS};	
	| TBL=WOCU, TARTBLNO=<number>, ZONE=<string> , { (min1) INTDAY=<number>, TARDAY=<number> , INTNT1=<number>, NTAR1=<number> , INTNT2=<number>, NTAR2=<number> , INTNT3=<number>, NTAR3=<number> , INTNT4=<number>, NTAR4=<number> , TARBAS=<number>, TARMIN=<number> , SEGTBLNO=<number>, CHPER=<param>, BCHLFACT=<number>;	(2)
	| TAB=CLK, TARTABLNO=<number>, ZONE=<param>, { (min1) FIXDAY=<number>, FPLSDAY=<string>, PPLSDAY=<number> , FIXN1=<number>, FPLSN1=<string>, PPLSN1=<number> , FIXN2=<number>, FPLSN2=<string>, PPLSN2=<number> , FIXN3=<number>, FPLSN3=<string>, PPLSN3=<number> , FIXN4=<number>, FPLSN4=<string>, PPLSN4=<number> , SEGTBLNO=<number>, CHPER=<param>;	(3)
	| TBL=GRP, GROUPNO=<number>, CARRIER=<number>, CATPTY=<param>, SERVICE=<param>, TARTBLNO=<number>;	(4)
	| TBL=GEN , |ELEMENT=COMPOS, TARTBLNO=<number>, COMPOS=<string>; , |ELEMENT=VAT, VAT=<number>;	(5)

Examples

1. In tariff table 1 with call charge information, the minimum charge should be changed to 4,00 DM, and the tariff for the graduated region 1 should be changed to 0,121 DM. (The comma position must be positioned on 2T or 3T per AMO-DAVF. The settings for AMO-DAVF work only for the cost calculation on tariff tables with charge informations.)

Input:

```
CHANGE-TTBL:TBL=WCU, TARTBLNO=1, TARMIN=400, GRTARRGN=1, TAR=121;
```

2. In tariff table 1 without call charge information, for zone LOC, the day tariff should be changed from 0,20 DM to 0,23 DM. AMO-DAVF COMPOS parameter's value is -3, -2, -1, 0, +1, +2 or +3 (The price per time clock is given in 1/100th currency units.).

Input:

```
CHANGE-TTBL:TBL=WOCU, TARTBLNO=1, ZONE=LOC, TARDAY=23;
```


3. In the tariff group table 1, for CARRIER 1 and Service VOICE and NORM for category of calling party, the number of the tariff table should be changed from 1 to 3.

Input:

CHANGE-

TTBL:TBL=GRP, GROUPNO=1, CARRIER=1, CATPTY=NORM, SERVICE=VOICE, TARTBLNO=3;

4. In the table 1 with clock informations for zone DIST01, the parameter FIXN2 should be changed from 12 to 15.

Input:

CHANGE-TTBL:TBL=CLK, TARTBLNO=1, ZONE=DIST01, FIXN2=15;

5. In the table with general informations the parameter VAT (value added tax in tenth percent to calculate the net fees) will be changed from 60 tenth percent (6%) to 150 tenth percent (15%).

Formula: $NET = (GROSS / (100 + VAT)) * 1000$

Input:

CHANGE-TTBL:TBL=GEN, ELEMENT=VAT, VAT=150;

6. In the table with general informations the parameter COMPOS in tariff table 3 will be changed to 3HT.

Input:

CHANGE-TTBL:TBL=GEN, ELEMENT=COMPOS, TARTBLNO=3, COMPOS=3HT;

7. In the tariff table 5 with charge information two graduated tariff regions are entered. (Action for entering a tariff value).

Input:

ADD-

TTBL:TBL=WCU, TARTBLNO=5, TARMIN=200, METHOD=UNITS, LT1=25, TAR1=60, LT2=50, TAR2=50, LT3=0, TAR3=30;

The limit of the graduation range 3 should be set to 75 units, and the tariff to 0.40 DM. The parameter COMPOS from AMO-DAVF is either -3 or -2, -1, 0, +1, +2 or +3.

Input:

CHANGE-TTBL:TBL=WCU, TARTBLNO=5, GRTARRGN=3, LT=75, TAR=40;

Output:

F07: THERE IS NO ENTRY YET FOR AREA LIMIT MORE THAN 75,
PLEASE INPUT VALUE
TAR =

Input:

20;

200.2.3 DELETE-TTBL

For deletion, the user can choose if he wants to delete a tariff table with call charge information, a tariff table without call charge information or the entries for a zone in a tariff table.

For tariff group tables, the user can choose if all entries of a carrier and all services, or all entries for a service and all carriers, or all entries for all carriers and services should be deleted.

When a whole table is deleted, the AMO checks, if a selection table uses this table. In this case a message is displayed to the user.

- 1. Deleting a tariff table with call charge information
- 2. Deleting a tariff table without call charge information
- 3. Deleting a tariff group table
- 4. Deleting a table with clock information
- 5. Delete a table with general Informations

For deletion the parameter COMPOS is set to standardvalue +2.

Procedure overview

Command code	Parameter	
DELETE-TTBL	| TBL=WCU, TARTBLNO=<number>;	(1)
	| TBL=WOCU, TARTBLNO=<number>, [ZONE=<string>;	(2)
	| TBL=GRP, GROUPNO=<number>, [CARRIER=<number> [CATPTY=<param>], [SERVICE=<string>;	(3)
	| TBL=CLK, TARTBLNO=<number>, [ZONE=<string>;	(4)
	| TBL=GEN , | ELEMENT=COMPOS, TARTBLNO=<number>; , | ELEMENT=VAT;	(5)

Examples

- 1. Deleting tariff table 5 with charge information
Input:
DEL-TTBL:TBL=WCU, TARTBLNO=5;
- 2. Deleting all entries for ABR02 in table 1 without call charge information.

Input:

DEL-TTBL:TBL=WOCU,TARTBLNO=1,ZONE=ABR02;

3. Deleting all entries for all CARRIERS and for service VOICE and NORM for category of calling party in tariff table 1.

Input:

DEL-TTBL:TBL=GRP,GROUPNO=1,CATPTY=NORM,SERVICE=VOICE;

4. Deleting entries for CARRIER 3 and all services and categories of calling party in tariff group table 2.

Input:

DEL-TTBL:TBL=GRP,GROUPNO=2,CARRIER=3;

5. Deleting the entry CARRIER 4 and service VOICE for all categories of calling party in tariff group table 2.

Input:

DEL-TTBL:TBL=GRP,GROUPNO=2,CARRIER=4,SERVICE=VOICE;

6. Deleting the entry for zone LOC in the table 1 with clock information.

Input:

DEL-TTBL:TBL=CLK,TARTBLNO=1,ZONE=LOC;

7. Deleting the entry for all zones in the table 1 with clock information.

Input:

DEL-TTBL:TBL=CLK,TARTBLNO=1;

8. Deleting of a comma position from tariff table 1 with general informations.

Input:

DEL-TTBL:TBL=GEN,ELEMENT=COMPOS,TARTBLNO=1;

9. Deleting from value added tax from table with general informations.

Input:

DEL-TTBL:TBL=GEN,ELEMENT=VAT;

200.2.4 DISPLAY-TTBL/REGEN-TTBL

1. Display entries of the tariff tables and tariff group tables, in list format (DISPLAY)
2. Display entries of the tariff tables and tariff group tables, in position oriented commands for regeneration (REGEN).

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Functions of the AMO

If only ZONE is specified in the WOCU branch, then all entries of the zone in all tariff tables with this zone will be displayed. If ZONE is not entered (only TARTBLNO), then the whole table is displayed. If both zone and table is entered, then only the entry for this zone is displayed.

Procedure overview

Command code	Parameter	
DISPLAY-TTBL	| TBL=WCU, [TARTBLNO=<number>];	(1)
	| TBL=WOCU, [TARTBLNO=<number>], [ZONE=<string>];	(2)
	| TBL=CLK, [TARTBLNO=<number>], [ZONE=<string>];	(3)
	| TBL=GRP, [GROUPNO=<number>];	(4)
	| TBL=GEN;	(5)
| REGENERATE-TTBL	| TBL=WCU, [TARTBLNO=<number>];	(6)
	| TBL=WOCU, [TARTBLNO=<number>], [ZONE=<string>];	(7)
	| TBL=CLK, [TARTBLNO=<number>], [ZONE=<string>];	(8)
	| TBL=GRP, [GROUPNO=<number>];	(9)
	| TBL=GEN;	(10)

Examples

1. Displaying tariff table 1 with call charge information

Input:

DISP-TTBL:TBL=WCU,TARTBLNO=1;

Output:

```
TAB: 1      TARIFF TABLE WITH CALL CHARGE INFORMATION

      MINIMUM CHARGE:  400
      COST CALCULATION METHOD: FACTOR
      MULTIPL. FACTOR FOR COSTS IN TENTH PERCENT: 1000

      AREA LIMIT      PRICE/CALL CHARGE UNIT
MORE THAN    0              121
```

2. Display tariff table 2 with call charge information

Input:

DISP-TTBL:TBL=WCU,TARTBLNO=2;

Output:

TAB: 2 TARIFF TABLE WITH CALL CHARGE INFORMATION

MINIMUM CHARGE: 200
COST CALCULATION METHOD: FACTOR
MULTIPL. FACTOR FOR COSTS IN TENTH PERCENT: 1000

AREA LIMIT	PRICE/CALL CHARGE UNIT
0 - 25	60
26 - 50	50
51 - 75	40
MORE THAN 75	20

3. If a table with call charge information has no entries at all, the output looks like the following:

Input:

DISP-TTBL:TBL=WCU,TARTBLNO=3;

Output:

H12: THE TARIFF TABLE WITH CALL CHARGE INFORMATION IS EMPTY

4. Displaying tariff table 1 without call charge information

Input:

DISP-TTBL:TBL=WOCU,TARTBLNO=1;

Output:

TAB: 1 TARIFF TABLE WITHOUT CALL CHARGE INFORMATION

	DAY	NIGHT1	NIGHT2	NIGHT3	NIGHT4	TARBA	TARM	TB	TW	FAC				
ZONE	INTVL	TARF	INTVL	TARF	INTVL	TARF	INTVL	TARF	INTVL	TARF	PR	PR		
LOC														
	18000	209	24000	231	28000	232	36000	233	40000	234	+50	75	10	Y|100
DIST01														
	3000	25	3500	25	3800	25	4200	25	4800	25	+50	75	11	N|100
ABR01														
	1500	28	1800	28	2100	28	2400	28	3000	28	+100	150	20	Y|100
ABR02														
	1000	30	1500	30	2000	30	2500	30	3000	30	-150	200	22	Y|100

5. If a table without call charge information has no entries at all, the display looks like the following:

Input:

DISP-TTBL:TBL=WOCU,TARTBLNO=2;

Output:

H13: THE TARIFF TABLE WITHOUT CALL CHARGE INFORMATION IS EMPTY

6. Example of a listing of a tariff group table

TTBL - Administration of tariff tables

Functions of the AMO

Input:

DISP-TTBL:TBL=GRP, GROUPNO=1;

Output:

TAB: 1 TARIFF GROUP TABLE					
CARRIER		CATPTY	TARIFF TABLE FOR SERVICE:		
			VOICE	FAX	DTE
0		NORM			
0		SCRSPC			
0		PUPHON			
0		MTEQ			
1		NORM	3		
1		SCRSPC	1		1
1		PUPHON			
1		MTEQ			
2		NORM			
2		SCRSPC			
2		PUPHON			
2		MTEQ			
.					
.					
.					
9		NORM			
9		SCRSPC			
9		PUPHON			
9		MTEQ			

7. Example of a listing of a tariff table with clock information

Input:

DISP-TTBL:TBL=CLK, TARTBLNO=1;

Output:

TAB: 1 TARIFF TABLE WITH CLOCK INFORMATION											
ZONE		DAY			NIGHT1/NIGHT3			NIGHT2/NIGHT4			
	FIX	FIRST	PERIOD	FIX	FIRST	PERIOD	FIX	FIRST	PERIOD	TABNU	TW
DIST01	1	KA	999999	1	KM	0	15	999999	10000		
				12	0	0	1	KA	11111	1	Y

8. Displaying tariff table 2 with call charge information, regeneration

Input:

REG-TTBL:TBL=WCU, TARTBLNO=2;

Output:

ADD-TTBL:WCU,2,200,FACTOR,1000,25,60,50,50,75,40,20;

9. Regenerating tariff table 1 without call charge information:

Input:

REG-TTBL:TBL=WOCU,TARTBLNO=1;

Output:

ADD-
TTBL:WOCU,1,LOC,18000,23,24000,231,28000,232,36000,233,40000,
234, +50,75,10,Y,100;
ADD-
TTBL:WOCU,1,DIST01,3000,25,3500,25,3800,25,4200,25,4800,25,
+50,75,11,N,100;
ADD-
TTBL:WOCU,1,ABR01,1500,28,1800,28,2100,28,2400,28,3000,28,
+100,150,20,Y,100;
ADD-
TTBL:WOCU,1,ABR02,1000,30,1500,30,2000,30,2500,30,3000,30, -
150,200,22,Y,100;

10. Regenerating tariff group table 1

Input:

REG-TTBL:TBL=GRP,GROUPNO=1;

Output:

ADD-TTBL:GRP,1,1,NORM,VOICE,3;
ADD-TTBL:GRP,1,1,SCRSPC,VOICE,1;
ADD-TTBL:GRP,1,1,SCRSPC,DTE,1;

11. Regenerating tariff table 1 with clock information

Input:

REG-TTBL:TBL=CLK,TARTBLNO=1;

Output:

ADD-
TTBL:CLK,1,DIST01,1,KA,999999,1,KM,0,15,999999,10000,12,0,0,1
, KA,11111,1,Y;

12. Regenerating table with general informations (comma position and value added tax).

Input:

REG-TTBL:TBL=GEN;

Output:

CHANGE-TTBL:GEN,VAT,150;
CHANGE-TTBL:GEN,COMPOS,1,2HT;
CHANGE-TTBL:GEN,COMPOS,2,2HT;
CHANGE-TTBL:GEN,COMPOS,3,3HT;
CHANGE-TTBL:GEN,COMPOS,4,+2 ;
CHANGE-TTBL:GEN,COMPOS,5,+2 ;
CHANGE-TTBL:GEN,COMPOS,6,+2 ;
CHANGE-TTBL:GEN,COMPOS,7,+2 ;
CHANGE-TTBL:GEN,COMPOS,8,+2 ;
CHANGE-TTBL:GEN,COMPOS,9,+2 ;

200.3 Parameter description

BCHLFACT	The charge calculation factor for a B-Channel, in percent
Type of input	: Single value, 15th parameter of a min-1-Group (TBL=WOCU) (CHANGE)
Possible values	: 0 to 999
Default value	: 100
CARRIER	Number of the carrier of a connection
Type of input	: Single value, required (ADD, CHANGE) optional (DELETE)
Possible values	: 0 to 9
CATPTY	Category of calling party
Type of input	: Single value, required (ADD, CHANGE)
Possible values	: NORM = Normal Subscriber SCRSPC = Subscriber with Special Charging PUPHON = Public Phone MTEQ = Maintenance Equipment
CHPER	Mark for changing the period
Type of input	: Single value, required (ADD) 17th parameter of a min-1-group (TBL=CLK) (CHANGE)
Possible values	: Y = Costs are calculated based on the actual time of day N = Costs are calculated based on connection start time of day (no section change)
Default value	: Y
COMPOS	Position of comma in cdr output at display console
	Works only on tariff tables without charge information
Type of Input	: Single Value, required (CHANGE)
Possible values	: -3, -2, -1, 0, +1, +2, +3, 2T, 3T, 2HT and 3HT
Default value	: +2
ELEMENT	Element
Type of Input	: Single Value, required (DELETE, CHANGE)

	Possible values	: COMPOS	= view 'COMPOS'
		VAT	= view 'FAT'
FACTOR	Multiplication factor in tenth percent, for the costs of connection with charge information		
	Type of input	: Single value, required (ADD) 6th parameter of a min-1-group (TBL=WCU) (CHANGE)	
	Possible values	: 0000 to 9999	
		0000	= Costs NULL (Multiplication by 0)
		1000	= Received costs are unchanged (Multiplication by 1)
		9999	= Received costs are multiplied by 9,999
	Default Value	: 1000	
FIXDAY	Number of pulses to be sent immediately (basic charge) for DAY		
	Type of input	: Single value, required (ADD) 1st parameter of a min-1-group (TBL=CLK) (CHANGE)	
	Possible values	: 0 to 15	
FIXN1	Number of pulses to be sent immediately (basic charge) for N1		
	Type of input	: Single value, required (ADD) 4th parameter of a min-1-group (TBL=CLK) (CHANGE)	
	Possible values	: 0 to 15	
FIXN2	Number of pulses to be sent immediately (basic charge) for N2		
	Type of input	: Single value, required (ADD) 7th parameter of a min-1-group (TBL=CLK) (CHANGE)	
	Possible values	: 0 to 15	
FIXN3	Number of pulses to be sent immediately (basic charge) for N3		
	Type of input	: Single value, required (ADD) 10th parameter of a min-1-group (TBL=CLK) (CHANGE)	
	Possible values	: 0 to 15	
FIXN4	Number of pulses to be sent immediately (basic charge) for N4		
	Type of input	: Single value, required (ADD) 13th parameter of a min-1-group (TBL=CLK) (CHANGE)	

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Parameter description

Possible values : 0 to 15

FPLSDAY Delay time for the first pulse (in 10 ms) for DAY

Type of input : Single value,
required (ADD)
2nd parameter of a min-1-group (TBL=CLK) (CHANGE)

Possible values : 0 to 999999 = Static delay in 10 ms
KA = Karlson added random value
KM = Karlson modified random value
K = Karlson random values

FPLSN1 Delay time for the first pulse (in 10 ms) for N1

Type of input : Single value,
required (ADD)
5th parameter of a min-1-group (TBL=CLK) (CHANGE)

Possible values : 0 to 999999 = Static delay in 10 ms
KA = Karlson added random value
KM = Karlson modified random value
K = Karlson random values

FPLSN2 Delay time for the first pulse (in 10 ms) for N2

Type of input : Single value,
required (ADD)
8th parameter of a min-1-group (TBL=CLK) (CHANGE)

Possible values : 0 to 999999 = Static delay in 10 ms
KA = Karlson added random value
KM = Karlson modified random value
K = Karlson random values

FPLSN3 Delay time for the first pulse (in 10 ms) for N3

Type of input : Single value,
required (ADD)
11th parameter of a min-1-group (TBL=CLK) (CHANGE)

Possible values : 0 to 999999 = Static delay in 10 ms
KA = Karlson added random value
KM = Karlson modified random value
K = Karlson random values

FPLSN4	Delay time for the first pulse (in 10 ms) for N4
Type of input	: Single value, required (ADD) 14th parameter of a min-1-group (TBL=CLK) (CHANGE)
Possible values	: 0 to 999999 = Static delay in 10 ms KA = Karlson added random value KM = Karlson modified random value K = Karlson random values
GROUPNO	Number of a tariff group table
Type of input	: Single value, required (ADD) optional (DISPLAY, REGENERATE)
Possible values	: 0 to 5
GRTARRGN	Graduated tariff region
Type of input	: Single value 2nd parameter of a min-1-group (TBL=WCU) (CHANGE)
Possible values	: 1 to 4
INTDAY	Time units in 1/100 seconds for day tariff
Type of input	: Single value, required (ADD) 1st parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 5 digits 00001 to 99999 (see Appendix)
INTNT1	Time units in 1/100 seconds for night tariff 1
Type of input	: Single value, required (ADD) 3rd parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 5 digits 00001 to 99999 (see Appendix)
INTNT2	Time units in 1/100 seconds for night tariff 2
Type of input	: Single value, required (ADD) 5th parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 5 digits 00001 to 99999 (see Appendix)

TTBL - Administration of tariff tables

Parameter description

INTNT3	Time units in 1/100 seconds for night tariff 3
Type of input	: Single value, required (ADD) 7th parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 5 digits 00001 to 99999 (see Appendix)
INTNT4	Time units in 1/100 seconds for night tariff 4
Type of input	: Single value, required (ADD) 9th parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 5 digits 00001 to 99999 (see Appendix)
LT	Limit value of units, valid until the entered value
Type of input	: Single value, required (ADD) 3rd parameter of a min-1-group (TBL=WCU) (CHANGE)
Possible values	: 0 to 9999
LT1	Limit value of units, valid until the entered value
Type of input	: Single value, required (ADD)
Possible values	: 0 to 9999
LT2	Limit value of units, valid until the entered value
Type of input	: Single value, required (ADD)
Possible values	: 0 to 9999
LT3	Limit value of units, valid until the entered value
Type of input	: Single value, required (ADD)
Possible values	: 0 to 9999
METHOD	Cost calculation method
Type of input	: Single value, required (ADD) 5th parameter of a min-1-group (TBL=WCU) (CHANGE)
Possible values	: FACTOR =Costs are multiplied by FACTOR UNITS =Costs are result of back calculated charge units

NTAR1	Currency value per Time units (NTAR1)
Type of input	: Single value, required (ADD) 4th parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
NTAR2	Currency value per Time units (NTAR2)
Type of input	: Single value, required (ADD) 6th parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
NTAR3	Currency value per Time units (NTAR3)
Type of input	: Single value, required (ADD) 8th parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
NTAR4	Currency value per Time units (NTAR4)
Type of input	: Single value, required (ADD) 10th parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
PPLSDAY	Period for the periodic pulses (in 10 ms) for DAY
Type of input	: Single value required (ADD) 3rd parameter of a min-1-group (TBL=CLK) (CHANGE)
Possible values	: 0 to 999999
PPLSN1	Period for the periodic pulses (in 10 ms) for N1
Type of input	: Single value

TTBL - Administration of tariff tables

Parameter description

		required (ADD) 6th parameter of a min-1-group (TBL=CLK) (CHANGE)
	Possible values	: 0 to 999999
PPLSN2	Period for the periodic pulses (in 10 ms) for N2	
	Type of input	: Single value required (ADD) 9th parameter of a min-1-group (TBL=CLK) (CHANGE)
	Possible values	: 0 to 999999
PPLSN3	Period for the periodic pulses (in 10 ms) for N3	
	Type of input	: Single value required (ADD) 12th parameter of a min-1-group (TBL=CLK) (CHANGE)
	Possible values	: 0 to 999999
PPLSN4	Period for the periodic pulses (in 10 ms) for N4	
	Type of input	: Single value required (ADD) 15th parameter of a min-1-group (TBL=CLK) (CHANGE)
	Possible values	: 0 to 999999
SEGTBLNO	Number of segmentation table for time of day	
	Type of input	: Single value, required (ADD) 13th parameter of a min-1-group (TBL=WOCU) (CHANGE) 16th parameter of a min-1-group (TBL=CLK) (CHANGE)
	Possible values	: 1 to 25
SERVICE	Communication service	
	Type of input	: Single value, chained single values required (ADD, CHANGE) optional (DELETE)
	Possible values	: ALL = All Services DTE = Data terminal equipment FAX = Telefax

VOICE = Voice connection

TAR	Currency value per call charge unit
Type of input	: Single value, required (DIALOG01) 4th parameter of a min-1-group (TBL=WCU) (CHANGE)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
TAR1	Currency value per call charge unit (for 1st limit)
Type of input	: Single value, required (ADD)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
TAR2	Currency value per call charge unit (for 2nd limit)
Type of input	: Single value, required (ADD)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
TAR3	Currency value per call charge unit (for 3rd limit)
Type of input	: Single value, required (ADD)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
TAR4	Currency value per call charge unit (for 4th limit)
Type of input	: Single value, required (ADD)
Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
TARBAS	Currency value for the base charge of a connection without charge information (in 1/100-ths or in 1/1000-ths currency units)
Type of input	: Single value, required (ADD) 11th parameter of a min-1-group (TBL=WOCU) (CHANGE)
Possible values	: maximum 5 characters -9999 to +9999 (see Appendix)
TARDAY	Currency value per time units (INTDAY)
Type of input	: Single value,

TTBL - Administration of tariff tables

Parameter description

		required (ADD)
		2nd parameter of a min-1-group (TBL=WOCU) (CHANGE)
	Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
TARMIN	Currency value for the minimum charge of a connection	
	Type of input	: Single value, required (ADD) 1st parameter of a min-1-group (TBL=WCU) (CHANGE) 12th parameter of a min-1-group (TBL=WOCU) (CHANGE)
	Possible values	: maximum 4 digits 0000 to 9999 (see Appendix)
TARTBLNO	Number of a tariff table	
	Type of input	: Single value, required (ADD) optional (DISPLAY)
	Possible values	: 1 to 9
TBL	Entry of a tariff or tariff group table	
	Type of input	: Single value, required optional (DISPLAY)
	Possible values	: WCU = Table with charge information WOCU = Table without charge information GRP = Tariff group table CLK = Table with clock information GEN = General charge information
VAT	Value added tax in tenth percent	
	Type of Input	Single value, required (CHANGE)
	Possible Values	: 0 to 9999
	Standard Value	: 0
ZONE	Distance zone for connections without call charge information	
	Type of input	: Single value, required (ADD, CHANGE) optional (DELETE, DISPLAY)

Possible values	: INC01	1st incoming zone
	INC0n	nth incoming zone
	INC09	9th incoming zone
	ABR01	1st abroad zone
	ABRnn	nnth abroad zone
	ABR99	99th abroad zone
	DIST01	1st distance zone
	DISTnn	nnth distance zone
	DIST50	50th distance zone
	FREE	Charge free
	CHINFO	Charge information from carrier
	INT01	1st internal zone
	INT0n	nth internal zone
	INT09	9th internal zone
	NEAR	Near zone
	LOC	Local zone
	TIE01	1st zone for tie connections
	TIE0n	nth zone for tie connections
	TIE09	9th zone for tie connections

200.4 Appendix to the parameter description

Parameterdescription for WCU tables

Supplement of with the parameters TARMIN, TAR, TAR1, TAR2, TAR3, TAR4 possible values:

Output format

The calculated costs are displayed according to the settings added through the AMO-DAVF. Display settings are:

1. Comma position: the position of the comma (-3 to 3 and 3T, 2T)

Examples:

Comma position: 3	Value: 30558	Output: 305,580
Comma position: 2	Value: 30558	Output: 305,58
Comma position: 1	Value: 30558	Output: 305,6
Comma position: 0	Value: 30558	Output: 306
Comma position: -1	Value: 30558	Output: 3056
Comma position: -2	Value: 30558	Output: 30558

TTBL - Administration of tariff tables

Appendix to the parameter description

Comma position: -3	Value: 30558	Output: 305580
Comma position: 2T (Rounded)	Value: 30558	Output: 30,56
Comma position: 3T	Value: 30558	Output: 30,558

2. Currency identifier: Character string z.B: DEM, ATS, USD etc.

Parameterdescription for WOCU tables

Supplement of with the parameters TARBAS, TARMIN, TARDAY, NTAR1, NTAR2, NTAR3, NTAR4 possible values

Output format

The calculated costs are output according to the representation features adjustable by means of branch GEN (appropriately to the respective tariff tables)

1. Comma position: the position of the comma (-3 to 3 and 3T, 2T)

Examples:

Comma position: 3	Value: 30558	Output: 305,580
Comma position: 2	Value: 30558	Output: 305,58
Comma position: 1	Value: 30558	Output: 305,6
Comma position: 0	Value: 30558	Output: 306
Comma position: -1	Value: 30558	Output: 3056
Comma position: -2	Value: 30558	Output: 30558
Comma position: -3	Value: 30558	Output: 30558
Comma position: 2T (Rounded)	Value: 30558	Output: 30,56
Comma position: 3T	Value: 30558	Output: 30,558
Comma position: 2HT (Rounded)	Value: 30558	Output: 0,31
Comma position: 3HT (Rounded)	Value: 30558	Output: 0,306

2. Currency identifier: Character string z.B: DEM, ATS, USD etc.

Cost calculation

Cost calculation (with charge information) is performed in 1/100ths of currency units if AMO- DAVF COMPOS parameter's value is 2T or 3T. The currency unit is the one unit with the indicated currency flags. This setting corresponds to comma position 2. For example the calculated amount is equal to 30558, which corresponds to the costs of 305,58 currency units.

If the comma position of AMO-DAVF is equal to 2T or 3T thus in 1/1000th currency units one counts. If the calculated costs amount to 30558, thus the display shows in case COMPOS=2HT the amount 30,56, in case 3HT the amount 30,558. This applies only, if the calculation takes place after the branch WCU of the AMO-TTBL.

The positive comma positions do not influence only the number of places which can be displayed after the comma, the value or amount however. From it results that all tariff specifications must be indicated in 1/100th currencies, if COMPOS is 0 to +3. If COMPOS is 2T or 3T then in 1/1000th.

For tariff values (TARMIN, TARIF1, etc.) the valid range is from 0000 to 9999.

Negative comma positions mean an output without comma position, with a shift of the comma by 1 to 3 positions to the right (this is equivalent to a division by $10^{\text{Comma position}}$). This means that a comma position of -1 and a value of 30558 gives a cost of $305,58 / 10^{-1} = 3056$, for comma position -2 a cost of $305,58 / 10^{-2} = 30558$, etc.

With calculation after zone the comma position configures tariff tables-non standard. In the branch GEN the comma position administers similar to as by AMO-DAVF. If the comma position is equal to -3, -2, -1, 0, +1, +2 oder +3, the cost calculation takes place in 1/100th currency units. At comma position equal to 2T or 3T the cost calculation takes place in 1/1000th currency units, at comma position 2HT or 3HT the cost calculation takes place in 1/100000th currency units.

The minimum tariff (TARMIN) and the basic tariff (TARBAS) become further 1/100th currency units.

Attention: The value of the comma position applies not only for the assigned tariff table! If there are different tariff table numbers used for the display output (tariff table 0) and the data record (tariff table from the selction group) then a comma position is for both tariff tables to set.

Example 1:

A call charge unit costs 12,1 Pfennigs.

Input: TARIF = 0121 (00,121 DEM), comma position 3, currency identifier = 'DEM'. The parameter COMPOS of AMO-TTBL ist 2T or 3T.

Example 2:

90 seconds connection time with day tariff costs 3,6 ATS.

Input: TARDAY = 0360 (03,60 ATS), INTDAY = 9000 (in 1/100ths of seconds), Comma position 1 or 2, Currency identifier = 'ATS'. The parameter COMPOS of AMO-TTBL is +2.

Example 3:

TTBL - Administration of tariff tables

Error- and Advisory Messages

A call charge unit costs 812 Lire. We would have to enter parameter TAR = 81200 (812,00 Liras). But only 4 digits are allowed, so this is not permitted.

Solution: Add comma position -1, then TAR = 8120. That's 81,20 Lire, but due to the negative comma position, the output is multiplied by 100.

Example 4:

A call charge unit costs 1350 Lire. We would have to enter parameter TAR = 135000 (1350,00 Lire).

Solution: Add comma position -2, then TAR = 1350. That's 13,50 Lire, but due to the negative comma position, the output is multiplied by 100.

Example 5:

The tariff modell CITY-CALL costs 0,127 Pfennig per second (every daytime).

Input: INTDAY, INTNT1, INTNT2, INTNT3, INTNT4 = 100 (1 second), TARDAY, NTAR1, NTAR2, NTAR3, NTAR4 =127. The used tariff table 2HT or 3HT installes in the branch COMPOS (the calculation in 1/100000th currency units and output on display in 2 or 3 back comma positions)

200.5 Error- and Advisory Messages

200.5.1 Error Messages

F01: ONLY VALUES FROM -9999 TO +9999 ARE ALLOWED
F02: ONLY VALUES FROM 0 TO 999999 OR K, KA, KM ARE ALLOWED
F03: SELECTED TABLE WAS ALREADY ONCE CREATED
F04: FOR THE DECIMAL POINT IS ONLY 2T, 3T, 2HT, 3HT AND THE RANGE FROM -3 TO +3
VALID
F05: IT IS NOT POSSIBLE TO CHANGE THE SELECTED FIELD
F06: NO TABLE ENTRY TO DELETE
F07: THERE IS NO ENTRY YET FOR AREA LIMIT MORE THAN 0, PLEASE INPUT VALUE
F08: PLEASE ENTER PARAMETER LT OR TAR
F09: PLEASE ENTER PARAMETER GRTARRGN
F10: AREA LIMIT SMALLER THAN PREVIOUS ONE, PLEASE INPUT A NEW ONE
F11: AREA LIMIT LARGER THAN THE NEXT ONE, PLEASE INPUT A NEW ONE
F12: VALUE ALL FOR PARAMETER SERVICE CANNOT BE CONCATENATED

200.5.2 Advisory Messages

H01: not in use
H02: not in use
H03: TABLE ENTRY DELETED, TABLE WAS STILL USED IN SELECTION GROUP
H04: not in use
H05: not in use
H06: not in use
H07: TABLE ENTRY DELETED, TABLE IS STILL USED IN TARIFF GROUP TABLE
H08: not in use
H09: not in use
H10: not in use
H11: IN CASE OF FPLSDAY=K FIXDAY MUST BE 0, WILL BE CHANGED FOR 0
H12: THE TARIFF TABLE WITH CALL CHARGE INFORMATION IS EMPTY
H13: THE TARIFF TABLE WITHOUT CALL CHARGE INFORMATION IS EMPTY
H14: THE TARIFF TABLE WITH TAKT INFORMATION IS EMPTY
H15: THE TARIFF GROUP TABLE IS EMPTY

201 TWABE - Partial Dialling Plan for Networking

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

AMO TWABE is used by call processing (CP) to collect dialed digits up to a predefined number in the device handler (DH) and to present them to digit analysis as a unit. This obviates the need to process those messages on the way between the DH and the CP which would otherwise be replaced after each digit dialed.

To set up TWABE, the digit sequence to be translated is specified first (up to 3 digits) followed by the number of digits to be collected before the dialed number is to be passed on to digit analysis.

Example:

Of the station numbers beginning with 32, there is not single one which has less than 5 digits and leads to a digit analysis result (DAR). To account for this fact, 5 digits are to be collected right as soon as the digit sequence "32" is detected.

It should be noted that unlike WABE (digit analysis) TWABE has no DPLN groups. This is why, for a specific digit sequence, only that value should be entered which corresponds to the shortest length of all station numbers which begin under any DPLN group with this digit sequence.

Example:

Under 4300, DAR=HUNT is set up in DPLN=1 and under 43 DAR=TIE in DPLN=2. If the value 4 were entered for parameter LEN in TWABE under STNO=43, the system would not be able to identify a situation in which DAR TIE is dialed because it would always expect 4 digits. Only LEN=2 must be entered under STNO=43. This, however, means that there is actually no entry since "43" already consists of 2 digits.

The TWABE is not automatically derived from specific entries in the WABE. AMO TWABE must therefore be used to set up the complete partial DPLN for all internal and external station numbers as well as all codes.

201.1 Restrictions

This description is valid from SP300-V3.4

201.2 Interrelationships

- AMO WABE : Dialling plans, feature access codes

201.3 Functions of the AMO

- ADD-TWABE : Add the partial dialling plan
- DELETE-TWABE : Cancel the partial dialling plan
- DISPLAY-TWABE : Interrogate the partial dialling plan
- REGENERATE-TWABE : Regenerate the partial dialling plan

201.3.1 AMO-Noun in USA

If the AMO is run in the US, TWABE is DPLNW

201.3.2 ADD-TWABE

Any existing entries will simply be overwritten by the new entries provided this does not give rise to any irregularities. If, for example, the entry LEN=4 is made for STNO=45 and the command "ADD-TWABE:457,6;" entered, LEN=6 will be entered for STNO=457, and LEN=4 (which used to be the entry for STNO=45) will now be entered for the station numbers 450 to 456 and 458 to 459. Advisories will be issued to notify the user of these changes. If, in our example, the old entry were 2, it would be impossible to relocate the entry. The command would be rejected and an error message issued.

Procedure Overview

Command Code	Parameter
ADD-TWABE	STNO=<key-num>, LEN=<number>;

Examples

1. Assign the call number 457 with combined length 6

Input:

ADD-TWABE:STNO=457, LEN=6;

2. Assign the station numbers 45 to 48 with combined length 7

Input:

```
ADD-TWABE:STNO=45&&48,LEN=7;
```

Output:

```
H01: OVERWRITING ENTRY FOR STNO 477
H01: OVERWRITING ENTRY FOR STNO 478
H01: OVERWRITING ENTRY FOR STNO 482
```

201.3.3 DELETE-TWABE

Deleting a station number or a range of station numbers means entering a value for each STNO specified which guarantees that the dialed digits are sent to the digit analysis (WABE) one by one. In doing so, a pre-analysis can be avoided. For all digit sequences which have not been entered the AMO will issue suitable advisories.

Procedure Overview

Command Code	Parameter
DELETE-TWABE	STNO=<key-num>;

201.3.4 DISPLAY-TWABE

There are two possible ways to interrogate the contents of the TWABE tree. contents of the TWABE tree. If the parameter STNO is given, a line is output for every entry in the specified range. If STNO is not specified, the contents appear in the form of a box table in which every row of entries represents a table of the TWABE tree. In each box is information for a chain (U) or a terminating entry.

For every terminating entry is output that it may be processed by the AMO TWABE (T). Next to this is a length entry (2 to 18 or N for NOGO=1). NOGO means that any digits which would exceed the length of the STNO of the entry will not be collected just as if the length of the STNO had been specified.

Example:

We assume that NOGO is entered for STNO=138&139. This corresponds to the value 1 but 3 digits have already been translated before the value is actually recognized. Any further digits will also be forwarded one by one (i.e. they will not be collected).

TWABE - Partial Dialling Plan for Networking

Functions of the AMO

Note:

If the user wishes to output the complete TWABE in STNO format, the parameter STNO=0&&9 should be specified in the command. By either specifying a small range of STNOs or a single STNO only those entries whose STNO begins with one of the specified digit sequences will be output (see examples).

Procedure Overview

Command Code	Parameter
DISPLAY-TWABE	[STNO=<key-num>];

Examples

1. Interrogate all TWABE tables in block form

Input:

DISPLAY-TWABE;

Output:

	0	1	2	3	4	5	6	7	8	9
	+	+	+	+	+	+	+	+	+	+
	.	| T N | U	| T 4 | T 5 | U	| U	| T 3 | T 8 | T N | T N |					
	+	+	+	+	+	+	+	+	+	+
1.	| U	| U	| T N | U	| T N | U	| T 5 | T 18 | U	| T N				
	+	+	+	+	+	+	+	+	+	+
4.	| T 5 | T 5 | U	| U	| T N | T 4 | T 4 | U	| U	| T N					
	+	+	+	+	+	+	+	+	+	+
5.	| T N | T 5 | T 5 | T 5 | T N | T N | T N | T N | T N | T N |									
	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+
10.	| T N | T 4 | T N | T N | T N | T N | T N | T N | T N | T N | T N |									
	+	+	+	+	+	+	+	+	+	+
11.	| T N | T N | T N | T N | T N | T 7 | T 4 | T N | T 4 | T N | T N |									
	+	+	+	+	+	+	+	+	+	+
13.	| T 7 | T N | T N | T N | T N | T 7 | T N | T N | T N | T N | T 7 |									
	+	+	+	+	+	+	+	+	+	+
15.	| T N | T N | T N | T N | T 4 | T N | T N | T N | T N | T N |									
	+	+	+	+	+	+	+	+	+	+
18.	| T 7 | T N | T N | T N | T N | T N | T N | T N | T 4 | T 4 | T 4 |									
	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+
42.	| T 4 | T 4 | T 4 | T N | T N | T N | T N | T 5 | T N | T N |									
	+	+	+	+	+	+	+	+	+	+
43.	| T 7 | T N | T 5 | T N | T N | T N | T N | T 5 | T 7 | T N |									
	+	+	+	+	+	+	+	+	+	+
47.	| T N | T N | T N | T 5 | T N | T 5 | T 5 | T 5 | T N | T N |									
	+	+	+	+	+	+	+	+	+	+
48.	| T N | T N | T 7 | T N | T 5 | T 5 | T N | T N | T 5 | T 5 |									
	+	+	+	+	+	+	+	+	+	+

The first line contains the entries in the entry-level table (i.e. those under one-digit STNOs. Wherever there is a "U" beneath a digit, a line will be created with this digit in the next block (in our example this is

the case for 1, 4 & 5). This line contains information about the two-digit STNOs. The last of these digits also reappears in the header. For each "U" entry in a line, a line with the configured data will be output in the corresponding block with the STNO at the beginning. No "U" will appear in these lines since the STNO to be entered was limited to three digits.

2. Interrogate the entries for station numbers 5 to 7 and above

Input:

```
DISPLAY-TWABE:STNO=5&&7;
```

Output:

STNO	SOURCE	LEN
50	TWABE	NOGO
51	TWABE	5
52	TWABE	5
53	TWABE	5
54	TWABE	NOGO
55	TWABE	NOGO
56	TWABE	NOGO
57	TWABE	NOGO
58	TWABE	NOGO
59	TWABE	NOGO
6	TWABE	3
7	TWABE	8

3. Interrogate the entries for station numbers 47 and above

Input:

```
DISPLAY-TWABE:STNO=47;
```

Output:

STNO	SOURCE	LEN
470	TWABE	NOGO
471	TWABE	NOGO
472	TWABE	NOGO
473	TWABE	5
474	TWABE	NOGO
475	TWABE	5
476	TWABE	5
477	TWABE	5
478	TWABE	NOGO
479	TWABE	NOGO

201.3.5 REGENERATE-TWABE

Procedure Overview

Command Code	Parameter
REGENERATE-TWABE	;

Example

Regenerate the TWABE tree

Input:

REGENERATE-TWABE;

Output:

ADD-TWABE: 6 , 3 ;
ADD-TWABE: 7 , 8 ;
ADD-TWABE: 16 && 17 , 5 ;
ADD-TWABE: 114 && 130 , 7 ;
ADD-TWABE: 135 && 139 , 7 ;
ADD-TWABE: 180 && 430 , 7 ;
ADD-TWABE: 438 && 482 , 7 ;

201.4 Parameter Description

LEN	Length for entry to table (at end of TWABE tree) Type of Input : Single value, mandatory Possible Values : 2-18, at least length of STNO
STNO	Station number (to be processed) Type of Input : 1-2 single values or 1 range mandatory (ADD, DELETE)optional (DISPLAY) Possible Values : 0-9, up to 3 digits must be equal length within a parameter

201.5 Error Messages and Advisories

201.5.1 Error Messages

F01: THE TWO VALUES OF STNO ARE NOT EQUAL IN LENGTH
F02: THE VALUE FOR LEN IS LESS THAN THE LENGTH OF STNO
F03: STNO @@@ ALREADY HAS A DPLN ENTRY

F04: ENTRY FOR STNO <stno> CANNOT BE RELOCATED
F05: UNABLE TO DELETE AN ENTRY
F06: ENTRY CANNOT BE RELOCATED AFTER STNO <stno>

201.5.2 Advisories

H01: OVERWRITING ENTRY FOR STNO <stno>
H02: ENTRY FOR STNO <stno> RELOCATED MINUS ONE DIGIT
H03: NO ENTRY FOUND

TWABE - Partial Dialling Plan for Networking

Error Messages and Advisories

202 UCSU - Unit Configuration of Switching Unit

Interrelationships	Parameter Description
Functions of the AMO	Error messages and advisories

By means of AMO UCSU the

- Line/Trunk Group (LTG),
- Line/Trunk Unit (LTU) or
- Line/Trunk Units for NBCS access points (AP)

are configured.

The data of the centralized modules is basically initialized in the HW structure memory of the SWU-DB. With the action 'ADD a call processing unit' the status except the central SIU 'not equipped' is cancelled.

Note

The AMO itself determines in which type of system it is running and reacts accordingly.

202.1 Interrelationships

- AMO CONSY : Administration of System Configuration Data
- AMO SIPCO : System IP address configuration
- AMO APRT : Access Point Routing Table
- AMO STMIB : Configuration of NCUI boards
- AMO USSU : Unit Switch of SWU
- AMO LPROF : LCR Profiles for source dependent routing
- AMO LDPLN : LCR Dialing Plan

202.2 Functions of the AMO

- [ADD-UCSU](#) : Create LTG and LTU
- [CHANGE-UCSU](#) : Change LTU, SIPARTNO, MTS/CONF-Module and configure overlay-LTUs

UCSU - Unit Configuration of Switching Unit

Functions of the AMO

- **DELETE-UCSU** : Cancel LTG, LTU and overlay-LTUs
- **DISPLAY-UCSU** : Interrogate status of LTG, LTU
- **REGENERATE-UCSU** : Regenerate LTG and LTU

202.2.1 ADD-UCSU

Create LTG

With the creation of an LTG the LTG status 'not equipped' is cancelled and the LTG is assigned the status 'not loaded'.

The LTG newly created by AMO UCSU can be placed into service by means of AMO USSU following complete configuration.

Since EV3.0 only one LTG (LTG1) can be configured. The parameter itself will not be canceled for certain reasons.

Create LTU or AP

The data (module type, identification code) required for the creation of an LTU is read out of the module table (UBGDAT) reloaded by the AMO and entered in the hardware structure memory of the SWU database. Before an LTU is created the associated LTG must be set up.

The LTPARTNO parameter specifies which LTUC board will be added.

If the LTUC board doesn't correspond to the system type the AMO will be aborted.

With parameter FRMTYPE the type of the LTU-shelf can be determined.

Hint:

- Due to the same hardware assembly, AMO UCSU can not distinguish the new HiPath4000 600 ECS from the old HiPath4000 600 ECX. The different restrictions between the HiPath4000 600 ECX /HiPath4000 600 ECS for configuring certain FRMTYPES at certain LTU-positions (see table above), must be checked by the system administrator.
- The parameters for system wide configurations in AMO-ZAND (SIUANN, SIUC, DTR, CP, SIU) are introduced in AMO-UCSU to have AP-specific configuration. The parameters in ZAND are still used to handle HHS configuration and default values APs.
- Parameters CONNTYPE, LOCID and LOCATION:
These parameters are used to configure FLEX (Fiber Linked Extension Shelf) and AP LTUs. This are LTUs of one HiPath4000 switch, which i.e. are located in different buildings and are connected to the switch via fiber link or IP . The reason (in case of FLEX) is, to use a - possibly already existing - fiber link connection

between the buildings for connecting the single LTUs to the switch and then connect the subscribers to this FLEX LTUs instead of installing the cables of the single subscribers to the switch room.

- **Parameter CONNTYPE:**

This parameter is used, to determine if the configured LTU is a LOCAL HHS -, a FLEX HHS - or an AP LTU.

- **Parameter LOCID:**

The parameter is used to identify the location of the switch for the system configurator. This parameter may only be changed by the service staff, after consulting the system configurator.

- **Parameter LOCATION:**

The parameter is used, to enter the postal address, where a FLEX LTU or a AP shelf is located.

The additional parameters PHONE and FAX specify a phone number or a fax device at this location.

Hints/Restrictions for parameters CONNTYPE, LOCID and LOCATION:

- The parameters are optional in case of a HHS LTU and mandatory in case of an AP LTU.
- Configuration of a HHS LTU and parameters not entered by user:
In this case, the default values are: parameter CONNTYPE = LOCAL , parameter LOCID = three blanks and parameter LOCATION is an empty (blanks) string with the maximal possible stringlength for this parameter.
- Configuration of a HHS LTU and parameters were entered by user:
If CONNTYPE = FLEX was entered, the user must enter a value for parameters LOCID and LOCATION. If no values were entered, the AMO will be terminated with an error message.
- Parameter LOCATION: When a LTU is configured, the parameter will not be checked. Any entered string, which does not exceed the maximal length, will be accepted. So the user can enter a blank string with the maximal string length of this parameter.
- If a HHS LTU with CONNTYPE = LOCAL was configured and then the CONNTYPE value is changed to FLEX (with CHANGE-UCSU), a value for parameter LOCID must be entered. A possibly still configured empty (blank) string for parameter LOCATION (default value for CONNTYPE= LOCAL LTU) is counted as a valid location string. If the CONNTYPE is now changed back to LOCAL again, there is no more possibility, to change the LOCID back to

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the default value of three blanks (because only numerical values can be entered for parameter LOCID). That means: once a LOCID was entered by the user, this LOCID value can only be set back to blanks by deleting the LTU.

- Parameter CONNTYPE and LOCATION must be entered for configuring an AP/EntGW shelf. The possible values for this configuration are only APNW or APDL.

- Parameters PHONE and FAX:

These parameters are used to give the information under which phone or fax number a crafts person can be reached at the extended shelf location. The configurable numbers are just used as a comment and are not considered AMO internally. The combination '*****' (five stars) leads to the configuration of the DB zero initialization values (no number).

- Parameter SRCGRP:

AP shelves have to be pooled within source groups. This source groups provide certain attributes of a location for some CP features like "Emergency Call", "Autoset Relocate", LCR and more.

The source group 1 is also reserved for traditional shelves in the LTU range 1 to platform dependent max value of LTU numbers.

If the LCR dialing plan contains a "source dependent number" instead of a normal route number (see AMO-LPROF, AMO-LDPLN), LCR can investigate different LCR route numbers (according to different locations with different CO area codes) dependent on the source group. This is mostly needed for providing emergency calls for all NBCS locations which are not in the same area code as the HiPath4000 host system.

- Parameter LSRTADDR and APRTADDR :

This both IP addresses are needed for TCP/IP signalling connections from the SWU processor to the AP shelf, respectively for TCP/IP payload connection from the AP shelf to the SWU processor.

Before an AP shelf can be configured the IP addresses for the second LAN must be created by means of AMO-SIPCO.

After configuring an AP shelf the AP doesn't get into service automatically. The connection build up for AP shelves has to be done by means of EXEC-USSU after configuring additional data via AMO-STMIB and AMO-APRT.

After the LTU or AP shelf has been created, the LTU modules can be configured by means of AMO BCSU.

When assigning LTG, LTU or AP the CONSY data will be checked and an appropriate advisory message will be displayed if not found.

Create SIU

The central SIU/LTG can be configured with the branch UNIT=LTG and the parameter SIPARTNO. Thereby those rules are valid:

- SIUCOE for extended compact X systems (ECX)
- SCC 80CMX
- DSCX 80CXE and 40CMX
- RTM 600 cPCI

Procedure Overview

Command Code	Parameter
ADD-UCSU	UNIT=LTG, LTG=<number>, SIPARTNO=<string>;
	|UNIT=LTU, [LTG=<number>], LTU=<number>,
	[LTPARNO=<string>], FRMTYPE=<param>,
	[CONNTYPE=<param>],
	[LOCID=<number>], [LOCATION=<string>],
	[PHONE=<key-number>], [FAX=<key-number>],
	[ALARMNR=<nummer>];
	|UNIT=AP, [LTG=<number>], LTU=<number>,
	[LTPARNO=<string>], SRCGRP=<number>,
	FRMTYPE=<param>, CONNTYPE=<param>,
	[LSRTADDR=<number>], [APRTADDR=<number>],
	LOCID=<number>, LOCATION=<string>,
	[PHONE=<key-number>], [FAX=<key-number>],
	[PLCHECK=<param>], [BCHLCNT=<number>],
	[CONVLAW=<param>], [TCLASS=<nummer>],
	[ALARMNR=<nummer>], [SOCOTYPE=<param>],
	[IPMODE=<param>], [DHCPV4=<param>],
	[DHCPV6=<param>], [SIUANN=<string>],
	[SIUC=<string>], [DTR=<string>],
	[CP=<param>], [SIU=<number>],
	[CNTRYCD=<string>], [SIGMODE=<param>],
	[TEXTSEL=<param>], [LANGID=<param>];

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Note

With UNIT=LTU and UNIT=LTU parameter LTG is only a single value.

Examples

1. Create LTU=1.

Input:

```
ADD-UCSU:LTU,1,1,,LTUW,LOCAL;
```

Output:

```
LTU 1.1  ADDED - IN OPERATION
```

Possible outputs:

```
LTU 1.1  ADDED - IN OPERATION
LTU 1.1  ADDED - OUT OF OPERATION
LTU 1.1  ADDED - OUT OF OPERATION (NOT PRESENT)
LTU 1.1  NOT ADDED
      |  |
      |  |
      |  +----- LTU
      |
      +----- LTG
```

2. Create LTU 1 to 4 (LTG 1)

Input:

```
ADD-UCSU:LTU,1,1&&4,"Q2248-X  ",LTUW,LOCAL,, "OCEAN DRIVE
17";
```

Output:

```
H01: LTU   1.1    ADDED - IN OPERATION (READY)
H02: LTU   1.2    ADDED - OUT OF OPERATION (DEF)
F14: LTU   1.3    ALREADY ADDED
F02: LTU   1.4    NOT ADDED (ORDER ERROR)
```

3. Create AP 20 (LTG 1)

Input:

```
ADD-UCSU:AP,1,20,"Q2302-X  ",5,INCH19,APDL,,,234,"WILSHIRE
BOULEVARD 123",6338234,6338236,30;
```

Output:

```
H15: PARAMETER APRTADDR CAN NOT BE CHECKED FOR A PLAUSIBLE
VALUE.
      THIS CHECK WILL BE DONE LATER WITHIN AMO-APRT.
H03: ADD DATA FOR LTU  1.20 WITH AMO CONSY
```

4. Create EntGW 70 (LTG 1)

Input:

```
ADD-UCSU:ENTGW,1,70,"Q2347-X",1,AP370013,APDL,,,005,"WILSHIRE
BOULEVARD
123",,,,YES,1,YES,0,0,IPV4,NO,NO,"1","0","0",,"0",HSRTCP,,;
```

Output:

```
H500: AMO UCSU STARTED
H03: ADD DATA FOR LTU 1.70 WITH AMO CONSY
```

202.2.2 CHANGE-UCSU

Modify by means of the action CHANGE:

- type of LTUC module and some other parameters of LTU
- IP address and some other parameters of AP shelves
- PARTNO of central SIU
- part number of the MTS/CONF-Module in cabinet configurations and compact systems (H600C)
- configure an overlay-LTU for an existing standard-LTU

Hints/Restrictions:

- An overlay configuration is only possible, if the HW platform is a H600ECX/ECS/cPCI or a H80CXE.
- Furthermore, when the LTU was configured, the LTUCX-board (Q2166-X) must have been configured.
- For cPCI platform the LTUCA board (Q2266-X) must be configured, respectively the overlay configuration is not permitted within a 19" shelf.
- When an overlay LTU is configured for a standard LTU and no value was entered for parameter OVERLAY, the number of the overlay LTU will be determined automatically by the AMO whereby the highest allowed free LTU number will be used. Following overlay LTU numbers, depending on the HiPath4000 type and configured SIU board are possible:

H80CXE:

- LTU 7 - LTU 2

H600ECX/ECS:

- Configured SIU board = Q2234-X: LTU 15 - LTU 1
- Configured SIU board = Q2234-X100: LTU 7 - LTU 1

H600EcPCI:

- Configured RTM board = Q2266-X: LTU 15 - LTU 1

The following LTUC/NCUI boards can be modified:

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LTUC-old	direction	LTUC-new
Q2148-X	--->	Q2248-X
Q2248-X	<--->	Q2166-X
Q2248-X	<--->	Q2189-X?00
Q2166-X	<--->	Q2189-X?00
Q23??-X	<--->	Q23??-X10

- Parameter LTPARTNO:
Concerns to new LTUC/NCUI board.
- Parameters CONNTYPE, LOCATION, PHONE and FAX:
See description of this parameters under action ADD.

Procedure Overview

Command Code	Parameter
CHANGE-UCSU	UNIT=LTU, [LTG=<number>], LTU=<number>, [LTPARNO=<string>], FRMTYPE=<param>, [CONNTYPE=<param>], [LOCID=<number>], [LOCATION=<string>], [PHONE=<key-number>], [FAX=<key-number>], [ALARMNO=<number>];
	|UNIT=AP, [LTG=<number>], LTU=<number>, [LTPARNO=<string>], [SRCGRP=<number>], [LSRTADDR=<number>], [APRTADDR=<number>], [LOCID=<number>], [LOCATION=<string>], [PHONE=<key-number>], [FAX=<key-number>], [PLCHECK=<param>], [BCHLCNT=<number>], [CONVLAW=<param>], [TCLASS=<number>], [ALARMNO=<number>], [SOCOTYPE=<param>], [SIUANN=<string>], [SIUC=<string>], [DTR=<string>], [CP=<param>], [SIU=<number>], [CNTRYCD=<string>], [SIGMODE=<param>], [TEXTSEL=<param>], [LANGID=<param>];
	|UNIT=ENTGW, [LTG=<number>], LTU=<number>;

Command Code	Parameter
	[SRCGRP=<number>], [FRMTYPE=<param>];
	[CONNTYPE=<param>], [LSRTADDR=<number>];
	[APRTADDR=<number>], [LOCID=<number>];
	[LOCATION=<string>], [PHONE=<key-num>];
	[PLCHECK=<param>], [BCHLCNT=<number>],
	[CONVLAW=<param>], [TCLASS=<nummer>],
	[ALARMNO=<nummer>], [SOCOTYPE=<param>],
	[SIUANN=<string>], [SIUC=<string>],
	[DTR=<string>], [CP=<param>],
	[SIU=<number>], [CNTRYCD=<string>],
	[SIGMODE=<param>], [TEXTSEL=<param>],
	[LANGID=<param>];

202.2.3 DELETE-UCSU

Delete LTG and LTUs

1. Delete LTG

The associated LTUs and the peripheral modules must be deleted first.

2. Delete LTU or AP/EntGW shelf

The associated peripheral modules must be deleted first (AMOs BSSU and BCSU).

3. Delete Overlay configuration

Before deleting the overlay configuration, it must be ensured, that no board of the standard LTU, to which the overlay LTU to be deleted is assigned, uses the highwaybundle "F" (AMO BCSU).

When deleting LTG or LTU the consy data will be checked and an appropriate advisory message will be output if still assigned.

Procedure Overview

Command Code	Parameter
DELETE-UCSU	UNIT=LTU, [LTG=<number>], LTU=<number>;
	UNIT=AP, [LTG=<number>], LTU=<number>;

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Command Code	Parameter
	UNIT=LTG,LTG=<number>;
	UNIT=ENTGW, [LTG=<number>],LTU=<number>,

Note

For UNIT=LTU parameter LTG is only a single value.

Examples

1. Delete LTU 2

Input:

```
DELETE-UCSU:UNIT=LTU,,2;
```

Output:

```
LTU  1.2      DELETED
LTU  1.2      NOT DELETED
|  |
|  +----- LTU no.
+----- LTG no.
```

2. Delete LTU 2 to 4 (LTG 1)

Input:

```
DELETE-UCSU:UNIT=LTU,LTG=1,LTU=1&&4;
```

Output:

```
H10: LTU  1.1      IS ALREADY DELETED
H07: LTU  1.2      DELETED
H07: LTU  1.3      DELETED
F07: LTU  1.4      NOT DELETED (ORDER ERROR)
```

202.2.4 DISPLAY-UCSU

The configuration and states of LTG and LTU can be determined by means of the action DISPLAY.

Procedure Overview

Command Code	Parameter
DISPLAY-UCSU	[UNIT=LTU], [LTG=<number>], [LTU=<number>;
	| [UNIT=SRCGRP], [SRCGRP=<number>;
	| [UNIT=LTG], [LTG=<number>;

Command Code	Parameter
	| [UNIT=AP], [LTG=<number>], LTU=<number> ,
	[APDATA=<param>];
	| [UNIT=ENTGW], [LTG=<number>], LTU=<number> ,
	[APDATA=<param>];

Note

If the parameter LTG is not specified for UNIT=LTG, all LTGs are interrogated. In neither parameter LTU nor parameter LTG is specified for UNIT=LTU, all LTUs are interrogated.

Examples

1. List all LTGs and LTUs. Overlay LTU 10 is assigned to standard LTU 3.

Input:

DISPLAY-UCSU:LTU;

Output:

ADDRESS	EXPECTED CONFIGUR.	STATE OF A/B HALF	PARTNO	SIU
LTG 1	ADDED	READY / ?	Q2261-X	

ADDRESS	EXPECTED CONFIGUR.	STATE	LTUC MODULE	LTU-TYPE	FRMTYPE
	CONNTYPE LOCATIONID LOCATION				SRCGRP
	PHONE:		FAX:		
	AMOUNT VCOM CHIPS	CHIPMODE1 CHIPMODE2 CHIPMODE3 CHIPMODE4			
		CHIPMODE5 CHIPMODE6 CHIPMODE7 CHIPMODE8			
	LOWER THRESHOLD	HIGHER THRESHOLD	RESERVED FOR AMC		
LTU 1.1	ADDED	READY	Q2261-X	CC80F	CC80F
	LOCAL				1
	PHONE:		FAX:		
LTU 1.2	ADDED	NPR	Q2166-X	EXT_COMP_X	L80XF
	LOCAL				1
	PHONE:		FAX:		
LTU 1.3	ADDED	NPR	Q2166-X	EXT_COMP_X	L80XF
	LOCAL				1
	PHONE:		FAX:		

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NPR	=	not present
READY	=	in operation
NL	=	not loaded
ORDER ERROR	=	order cannot be processed by DC
NEQ	=	not equipped
WBT	=	wrong board type
LOCKED	=	blocked
BUSY	=	busy

202.2.5 REGENERATE-UCSU

By means of this order, position-oriented commands for the regeneration of MBU, LTG or LTU data are output.

Procedure Overview

Command Code	Parameter
REGENERATE-UCSU	[UNIT=LTU], [LTG=<number>], [LTU=<number>;
	| [UNIT=AP], [LTG=<number>], [LTU=<number>;
	[REGDEF=<param>;
	| [UNIT=LTG], [LTG=<number>;
	| [UNIT=ENTGW], [LTG=<number>], [LTU=<number>;
	[REGDEF=<param>;

Note

If parameter LTG is not specified for UNIT=LTG, regenerate commands are created for all LTGs set up. If neither parameter LTU nor parameter LTG is specified for UNIT=LTU, regenerate commands are created for all LTUs set up.

Example

Regenerate all

```
REGENERATE-UCSU;
```

Output:

```
REGENERATE-UCSU;
```

```
H500: AMO UCSU  STARTED
```

```
ADD-UCSU:LTG,1,"Q2261-X ";
ADD-UCSU:LTU,1,1,"Q2261-X ",CC80F,LO-
CAL,, " " ,,,,,;
ADD-UCSU:LTU,1,2,"Q2166-X ",L80XF,LO-
CAL,, " " ,,,,,;
ADD-UCSU:LTU,1,3,"Q2166-X ",L80XF,LO-
CAL,, " " ,,,,,;
ADD-UCSU:LTU,1,4,"Q2166-X ",L80XF,LO-
CAL,, " " ,,,,,;
ADD-UCSU:AP,1,20,"Q2324-X10 ",45,AP37009,AP-
NW,167.123.111.12,123.0.111.12,234,"MOOSLACKEN-
GASSE " ,,,NO,120,NO,0,0;
ADD-UCSU:ENTGW,1,68,"Q2347-X",1,AP370013, APDL, 167.123.111.13,
123.0.111.13,005, " MOOSLACKEN-
GASSE",,,YES,1,YES,0,0,IPV4,NO,NO,"1","0","0",,,,"0",HSRTCP;
```

202.2.6 Configuration of a second LTU shelf for Enterprise Gateway

Precondition: both shelves are already configured as ENTGW with identical IP addresses and OOS.

```
CHA-UCSU:ENTGW,LTG = 1,LTU=<ap-bearer>,XEGWID=<id !=0 >, XEGWSHLF = 1;
CHA-UCSU:ENTGW,LTG = 1,LTU = <ap-trailer>,XEGWID=<id !=0, same as
above>,XEGWSHLF = 2;
```

NOTE: Bearer means the shelf to be configured as LTU1 on RTMX. Trailer means the shelf to be configured as LTU2 on RTMX. Configuration for OOS (Out Of Service):

```
DEACTIVATE-USSU:LTU=xx;EXEC-USSU:
```

NOTE: In WBM, the LTU number is presented without LTG and SLOT number.

202.2.7 Revert configuration of the second LTU shelf for Enterprise Gateway

Precondition: both shelves are already configured as XEGW and OOS. It is important to handle the trailer first.

```
CHA-UCSU:ENTGW,LTG = 1, LTU = <ap-trailer>,XEGWID=0;
CHA-UCSU:ENTGW,LTG = 1, LTU = <ap-bearer>,XEGWID=0;
```

Further to this configuration, the HW and IP addresses must be accordingly adapted in APRT.

202.3 Parameter Description

ALARMNO	Alarm number		
	Type of Input	:	Single value, optional (ADD, CHANGE)
	Possible Values	:	0, 8 to 519
	Default Value	:	0
APDATA	AP Data		
	Type of Input	:	Single value, optional (DISPLAY)
	Possible Values	:	GEN General Data
		:	TONES Tone Table
APRTADDR	AP gateway IP address (i.e 20.1.2.129)		
	Type of Input	:	1 to 4 single values, concatenated with "."
		:	optional (ADD, CHANGE)
	Possible Values	:	0 to 255
BCHLCNT	Amount of b-channels on NCUI board		
	Type of Input	:	single value, optional (ADD, CHANGE)
	Possible Values	:	1 - 30
	Default Value	:	30
CNTRYCD	Loadware variant for SLMA2 / SLMAR		
	Type of Input	:	Single value, optional (ADD, CHANGE)
	Possible Values	:	0 Germany (DB-Initialization)
		:	1 Austria
		:	10 Hungary
		:	11 India
		:	12 Oman
		:	13 GUS (Russia, Ukraine, Belorussia, Georgia)
		:	14 Cameroon
		:	15 Israel
		:	16 South Korea
		:	17 Turkey
		:	18 Japan
		:	19 Vietnam
		:	2 Switzerland
		:	20 Kenya

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Parameter Description

		21	Zimbabwe
		23	Algeria
		24	Nigeria
		25	Congo
		26	Ethiopia
		27	Burundi
		28	Pakistan
		29	Yugoslavia
		3	Belgium
		4	Australia
		5	Spain
		6	Republic South Africa
		7	Great Britain, Ireland
		8	Finland
		9	Portugal
		A	France
		B	Netherlands
		C	China, Tanzania
		D	Italy
		E	Malaysia
		F	Poland
		G	Mexico
		H	Denmark
		I	Argentina
		J	Czech Republic
		K	USA
		L	Luxembourg
		M	Singapore
		N	Indonesia
		O	Thailand
		P	Philippines
		Q	Brazil
		R	Greece
		S	Hongkong
		T	Morocco
		U	Sweden
		V	DSN - A-law coding
		W	DSN - U-law coding

CONNTYPE	Connection type of the LTU shelf		
	Type of Input	:	Single value, optional (ADD, CHANGE)
	Possible Values	:	LOCAL local LTU
			FLEX via Fiber Link connected LTU
			APDL AP shelf via IP - direct linked
			APNW AP shelf via IP - network
	Default Value	:	LOCAL only for HHS shelves
CONVLAW	Conversion from A-Law to Mu-Law on NCUIx board (in advance)		
	Type of Input	:	single value, optional (ADD, CHANGE)
	Possible Values	:	YES, NO
	Default Value	:	YES
CP	Call processing tone		
	Type of Input	:	Single value, optional (ADD, CHANGE)
	Possible Values	:	ALERT Notification/alert tone
			ANNICPT Announcement for attendant intercept
			BONHK B-party on hook (for US only)
			BRKMSGWT Broken dial tone when message waiting
			BUSY Busy tone
			CAMP Camp-on tone
			CAMPBRK Ringback tone when camped on
			CBKALERT Callback alert tone
			CCMABSEN CCM tracer in rack
			CMALTONE Call monitoring alerting tone
			CONFDISC Conference disconnect tone
			CONFTN Conference tone
			CONG Congestion tone
			DATA Data tone
			DISCTONE Disconnect tone
			DND Do not disturb tone
			EXTDTN External Dial tone
			EXTDTN2 Secondary co dial tone
			FCAMP first camp-on tone
			FRNGBK First burst of ringback tone
			HOLD Hold tone
			HOLDCCS Hold tone code calling system (ccs)
			HOLDEXT Hold tone external
			HOLDH1 Hold tone hold 1

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Parameter Description

		HOLDH2	Hold tone hold 2
		HOLDHUNT	Hold tone hunting-group
		HOLDINT	Hold tone internal
		HOLDLINE	Hold the line please
		HOWLTONE	Howltone after busytone timeout
		HUNTGRUP	Announcement huntgroup queue
		IMPOSSFM	Impossible for the moment
		INTDTN	Internal dial tone
		KNCONF	Camp-on tone for conference
		LCRET	LCR Expensive route tone
		LOCANN	Local announcement
		MOH	Music on hold
		MWI	Message waiting indication
		NACK	Negative acknowledgement tone
		NODIAL	Timeout tone if digits not dialed
		NOPO	Not possible
		NOTALWD	Not allowed
		NOTREACH	Not reachable
		NU	Number unobtainable tone
		OFFHKTRQ	Off hook trunk queueing
		OVR	Automatic override tone
		OVRTN	Override tone
		OVRWARN	Override warning tone
		PACK	Positive acknowledgement tone
		PACKWD	Positive acknowledge tone with dialing
		POSTDIAL	Announcement post dial
		RECDIALT	Recall dial tone
		REORDER	Reorder tone (includes BONHK-Tone outside US)
		REQDIALT	Request Dial Tone
		RNGBK	Ringback tone
		ROUTTONE	SCNF France: Connect routing tone
		RTCHKNTF	LCR route check not finished
		RTOTON1	Test for first tone receiver group
		RTOTON2	Test for second tone receiver group
		SECDIALT	Second Dial Tone
		SPEC	Special Dial Tone
		TEST	Test tone
		VOICEMAL	Voice mail
		ZIPTONE	Alerttone for acd-g automatic connection

DHCPV4	DHCP version 4		
	Type of Input	:	single value, optional (ADD)
	Possible Values	:	YES, NO
DHCPV6	DHCP version 6		
	Type of Input	:	single value, optional (ADD)
	Possible Values	:	YES, NO
DTR	Selection of country-specific dial tone receiver table		
	Type of Input	:	Single value, optional (ADD, CHANGE)
	Possible Values	:	0 Germany (DB-Initialization)
		1	Austria
		10	Hungary
		12	Oman
		13	GUS
		14	Cameroon
		15	Israel
		16	South Korea
		17	Turkey
		18	Japan
		19	Vietnam
		2	Switzerland
		20	Kenya
		21	Zimbabwe
		23	Algeria
		24	Nigeria
		25	Congo
		26	Ethiopia
		27	Burundi
		28	Pakistan
		29	Yugoslavia
		3	Belgium
		4	Australia
		5	Spain
		6	South Africa
		7	Great Britain, Ireland
		8	Finland
		9	Portugal, Brazil

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Parameter Description

		A	France
		B	Netherlands
		C	China, Tanzania
		D	Italy
		E	Malaysia
		F	Poland
		G	Mexico
		H	Denmark
		J	Czech Republic
		K	USA
		M	Singapore
		N	Indonesia
		O	Thailand
		P	Philippines
		Q	Brazil
		R	Greece
		S	Hongkong
		T	Morocco
		U	Sweden
FAX	Fax number at the shelf location		
	Type of Input	:	up to 22 digits, optional (ADD, CHANGE)
	Possible Values	:	0 - 9, *, #, A - D, up to 22 characters
ENTGW	LOCAL SYSTEM SHELF		
	Type of Input	:	single value, optional
FRMTYPE	Type of LTU frame		
	Type of Input	:	Single value, mandatory (ADD, CHANGE)
	Possible Values	:	AP370013 SAPP frame for 600cpci shelves
		:	AP37009 SAPP frame for ENTGW shelves
		:	INCH19 19 inch frame for AP shelves
		:	L80XF for 600cpci and AP shelves
		:	LTUW frame for 600ecx and AP shelves
		:	SOCOAP Virtual AP37009 frame for softgate AP shelves
IPMODE	IP Mode		
	Type of Input	:	single value, optional (ADD)

	Possible Values	:	DUALSTCK	IP version 4 and IP version 6
		:	IPV4	IP version 4
LANGID	LANGUAGE ID FOR OPTISET			
	Type of Input	:	1 to 5 single values, concatenated with &, optional	
	Possible Values	:	DUTCH	dutch
		:	ENGLISH	english
		:	FRENCH	french
		:	GERMAN	german
		:	GREEK	greek
		:	ITALIAN	italian
		:	PICTO	pictogram
		:	PORTUG	portuguese
		:	RES1	Reserve 1
		:	RES2	Reserve 2
		:	RES3	Reserve 3
		:	RES4	Reserve 4
		:	RES5	Reserve 5
		:	RES6	Reserve 6
		:	SPANISCH	spanish
LOCATION	postal adress of the LTU shelf			
	Type of Input	:	Single value, optional (ADD, CHANGE - UNIT = LTU)	
		:	Single value, mandatory (ADD, CHANGE - UNIT = AP)	
	Possible Values	:	Text string with max. 45 alphanumerical characters	
	Default Value	:	45 blanks	
LOCID	Location ID of LTU			
	Type of Input	:	Single value, optional (ADD, CHANGE - UNIT = LTU)	
		:	Single value, mandatory (ADD, CHANGE - UNIT = AP)	
	Possible Values	:	0 - 999	
LSRTADDR	IP address (i.e 198.16.16.78) of primary signalling router for NCUI board			
	Type of Input	:	1 to 4 single values, concatenated with "."	
		:	optional (ADD, CHANGE)	
	Possible Values	:	0 to 255	
LTG	Specification of the LTG			
	Type of Input	:	Single value, optional	

UCSU - Unit Configuration of Switching Unit

Parameter Description

		Single value or area, optional (DISPLAY, REGENERATE)
		mandatory (ADD, DELETE)
	Possible Values	: 1 - 1
	Default Value	: 1
LTPARTNO	Partnumber of adding LTUC module.	
	Type of Input	: Single value, optional (ADD, CHANGE)
	Possible Values	: Text string with max. 10 alphanumerical characters
LTU	Specification of the LTU in an LTG. The LTU shelves (module frames for line units) are numbered consecutively in the cabinet from top to bottom.	
	Type of Input	: Single value or area, optional (DISPLAY, REGENERATE)
		mandatory (ADD, DELETE)
	Possible Values	: 1 to LTU number max for UNIT = LTU
		: 17 to 99 for UNIT = AP (gap between LTU number max and 17 depends on the HW platform)
PHONE	Phone number at the shelf location	
	Type of Input	: up to 22 digits, optional (ADD, CHANGE)
	Possible Values	: 0 - 9, *, #, A - D, max 22 characters
PLCHECK	check payload quality matrix	
	Type of Input	: single value, optional (ADD, CHANGE)
	Possible Values	: YES, NO
	Default Value	: YES
REGDEF	regenerate also default values of tone table	
	Type of Input	: single value, optional (REG)
	Possible Values	: YES, NO
	Default Value	: NO
SRCGRP	SOURCE GROUP INDEX	
	Type of Input	: single value, mandatory
	Possible Values	: numeric, 1-255
SIGMODE	signaling mode	
	Type of Input	: single value, optional
	Possible Values	: HSRTCP HSR over TCP
		: HSRUDP HSR over UDP

SIPARTNO	Specification of the central SIU module for each LTG		
	Type of Input	:	single value, mandatory (ADD)
	Possible Values	:	text, up to 10 characters
SIU	Assigned siu tones. Countryspecific meanings are listed in Service Handbook in country chapters.		
	Type of Input	:	single value, optional (ADD, CHANGE)
	Possible Values	:	numeric, 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26
SIUANN	Set options for SIU announcement texts (no AC). Enter loadware variant into DB. (Reload of SIU data for AP shelves by means of EXEC-USSU:NCUILOAD;)		
	Type of Input	:	single value, optional (ADD, CHANGE)
	Possible Values	:	1 Germany (DB-Initialization)
			2 English
			3 French
			4 Spanish
			5 Portuguese
			6 Dutch
			7 Danish
			8 Finnish
			9 Portuguese (Brazil)
			A Italian
			C Chinese
			C chinese
			D American-English
			E Hungarian
			F Polish
			H Russian(CIS)
			N Greek
SIUC	Selection of country specific SIU tone table		
	Type of Input	:	Single value, optional (ADD, CHANGE)
	Possible Values	:	0 Germany (DB-Initialization)
			1 Austria
			10 Hungary
			12 Oman
			13 GUS

UCSU - Unit Configuration of Switching Unit

Parameter Description

		14	Cameroon
		15	Israel
		16	South Korea
		17	Turkey
		18	Japan
		19	Vietnam
		2	Switzerland
		20	Kenya
		21	Zimbabwe
		23	Algeria
		24	Nigeria
		25	Congo
		26	Ethiopia
		27	Burundi
		28	Pakistan
		29	Yugoslavia
		3	Belgium
		4	Australia
		5	Spain
		6	South Africa
		7	Great Britain, Ireland
		8	Finland
		9	Portugal, Brazil
		A	France
		B	Netherlands
		C	China, Tanzania
		D	Italy
		E	Malaysia
		F	Poland
		G	Mexico
		H	Denmark
		J	Czech Republic
		K	USA
		L	Luxembourg
		M	Singapore
		N	Indonesia
		O	Thailand
		P	Philippines
		Q	Brazil

		R	Greece
		S	Hongkong
		T	Morocco
		U	Sweden
		V	DSN - A-law coding
		W	DSN - U-law coding
SOCOTYPE	SoftGate config type		
	Type of Input	:	single value, optional (ADD, CHANGE)
	Possible Values	:	SOCO50 SoftGate with BCSU 50 STN port check
			SOCO1000 SoftGate with BCSU 1000 STN port check
			SOCO500 NO LONGER USED
SRCGRP	Source group index		
	Type of Input	:	1 to 2 single values, concatenated with "&"
			optional (DISPLAY / CHANGE)
			Singe value, mandatory (ADD)
	Possible Values	:	1 - 99
TCLASS	Time class index		
	Type of Input	:	Single value, optional (ADD, CHANGE -UNIT = AP)
	Possible Values	:	0 to 50
	Default Value	:	0
TEXTSEL	AP settings for individual language setting of display texts.		
	Type of Input	:	1 to 5 single values, concatenated with &, optional
	Possible Values	:	AMERICAN american english
			BRAZIL brazil
			CATALAN catalan
			CHINESE chinese
			CROATIAN croatian
			CZECH czech
			DANISH danish
			DUTCH dutch
			ENGLISH english
			ESTON estonian
			FINNISH finnish
			FRENCH french
			GERMAN german

UCSU - Unit Configuration of Switching Unit

Parameter Description

		GERNOUML	german without umlauts
		GREEK	greek
		HUNGARY	hungarian
		INDONES	indonesian
		ITALIAN	italian
		JPN	japanese
		KOREAN	korean
		LATVIAN	latvian
		LITHUAN	lithuanian
		MALAY	malayan
		NORWEG	norwegian
		POLISH	polish
		PORTUG	portuguese
		ROMANIAN	romanian
		RUSSCYR	russian (cyrillic letters)
		RUSSLAT	russian (latin letters)
		SERBCYR	serbian (cyrillic letters)
		SERBLAT	serbian (latin letters)
		SLOVAK	slovakian
		SLOVEN	slovenian
		SPANISH	spanish
		SWEDISH	swedish
		THAI	thai
		TURKISH	turkish
UNIT	Type of unit to be processed		
	Type of Input	: Single value, optional (DISPLAY, REGENERATE)	
		mandatory (ADD, CHANGE, DELETE)	
	Possible Values	: LTG	= LINE/TRUNK GROUP
			The LTG unit without its LTU and peripheral module configuration is processed. In duplex-systems, LTG halves A and B are processed.
		LTPARTNO	PARTNUMBER OF ADDING LTUC/NCUI MODULE
		LTU	= LINE/TRUNK UNIT
		LSRTADDR	AP PRIMARY ROUTER IP ADDRESS IN LS NET
			The LTU without its configuration of peripheral modules is processed.
		AP	= LINE/TRUNK UNIT access point for NBCS
		APRTADDR	IP ADDRESS OF AP FIRST-HOP ROUTER

			The LTU without its configuration of peripheral modules is processed.
		PARTNO	= cat. number (CHANGE)
			Change PARTNO of central SIU.
		SIPARTNO	CAT. NUMBER OF SIU/RTM FROM PART CATALOG
		SRCGRP	(DISPLAY)
	Default Value	: LTU	

202.4 Error messages and advisories

Abbreviations within error and advisory messages

<aaa>	=	LTG or LTU
<bbb>	=	LTG or LTU
<xxxx>	=	LTG or LTU address
<xx>	=	LTG address or LTU number
<reason>	=	ORDER ERROR or LACK OF MEMORY SPACE (Corrective measure: AMO DIMSU)
<status>	=	MANAMO, UNACH, UNACA, DEFECT, NPR, READY, NL, ORDER ERROR, NEQ,WBT, LOCKED, BUSY
<action>	=	CHANGED or DELETED

202.4.1 Error messages

F01:	<aaa> <xxxx> NOT ADDED (NEQ)
F02:	<aaa> <xxxx> NOT ADDED (<reason>)
F03:	LTU <xxxx>: LTU BOARDS ARE NOT (ALL) DELETED
F04:	LTG <xx>: LTU-S OF LTG ARE NOT (ALL) DELETED
F05:	ENTERED LTU <xx> IS ALREADY USED AS OVERLAY LTU FOR LTU <xx>.
F06:	PART NUMBER NOT FOUND IN BOARD TABLE
F07:	<aaa> <xxxx> NOT DELETED (ORDER ERROR)
F08:	CANNOT LOAD SUBSYSTEM "UBGDAT0"
F10:	FOR THIS PLATFORM ONLY LTG 1 TO <xx> ALLOWED
F11:	CONFIGURATION RUN STARTED - FURTHER START NOT ALLOWED
F12:	FOR THIS PLATFORM ONLY LTU 1 - <xx> ALLOWED, FOR UNIT=AP ONLY THE RANGE 17 TO 99 IS ALLOWED
F14:	<aaa> <xxxx> IS ALREADY ADDED

UCSU - Unit Configuration of Switching Unit

Error messages and advisories

F15:	ADDRESS <ip1.ip2.ip3.ip4> FOR PARAMETER <param> IS NOT VALID, BECAUSE THIS VALUE IS EQUAL TO THE CC-A/CC-B ADDRESS OF LS NET.
F16:	LTG <xx> CANNOT BE ASSIGNED; MEMORY VALUE FOR PARAMETER PERMDL MUST BE AT LEAST 20 (AMO DIMSU)
F17:	THE PERMITTED NUMBER OF MODULE TYPES HAS ALREADY BEEN ASSIGEND
F18:	THE NEW FRAMETYPE CANNOT BE CONFIGURED BECAUSE BOARDS ARE STILL CONFIGURED AT SLOTS WHICH ARE NOT COVERED BY THE NEW FRAMETYPE.
F20:	SINCE PAYLOAD ENCRPTION AND/OR DMC IS ENABLED, MANUAL CHANGE OF B-CHANNEL AMOUNTS IS NOT ALLOWED.
F21:	THE PERMITTED NUMBER OF SIU MODULES IST ALREADY IMPLEMENTED
F22:	MODULE PART NUMBER INVALID
F23:	THE ENTERED SIU MODULE IST NOT ALLOWED IN THE PARTICULAR SYSTEM
F24:	LTG <xx> THERE ARE STILL FICTIVE LINES EXISTING
F26:	THE LTUC PARTNO DOES NOT MATCH THE HW TYPE
F27:	THE SPECIFIED PART NUMBER IS NOT CORRECT
F40:	THE ENTERED FRMTYPE IS GENERALLY NOT ALLOWED FOR THIS SWITCH TYPE.
F41:	THE ENTERED FRMTYPE IS NOT ALLOWED FOR LTU <xx>.
F43:	THE LOCATION ID AND THE LOCATION ADDRESS OF THE LTU MUST BE SPECIFIED, IF FLEX WAS ENTERED AS TYPE OF THE LTU
F45:	INSUFFICIENT MEMORY FOR AP SHELVES. PLEASE INCREASE MEMORY WITH AMO DIMSU (PARAMETER: AP).
F46:	THE TDS PORT UPDATE TO THE DATABASE WAS UNSUCCESSFUL PLEASE CHECK DIMSU VALUES LODEN AND DTILTG
F47:	INSUFFICIENT MEMORY (AMO DIMSU: PARAMETER STN)
F48:	THE IP ADDRESS FOR PARAMETER <xxx> IS NOT WITHIN THE VALID RANGE OF LS NET<xxx>.
F49:	THE AMO COULD NOT FIND ENOUGH FREE IP-ADDRESSES.
F50:	FOR CONNTYPE=<conntype> PARAMETER <param> MUST BE SPECIFIED
F51:	NO LS NET CONFIGURED PLEASE CONFIGURE LS NET BY MEANS OF ADD-SIPCO
F52:	IF PARAMETERS PARTNO, BCHLCNT AND/OR PLCHECK ARE CHANGED, IT IS NECESSARY TO DEACTIVATE THE AP SHELF BY MEANS OF DEACT-USSU AND AFTER CHANGE TO ACTIVATE IT BY MEANS OF ACT-USSU. MAYBE SOME DATA WILL BE LOADED TO THE NEW NCUI BOARD AFTER ACTIVATION WHICH LEAD TO A LOSS OF THE CONNECTION BETWEEN AP AND CENTRAL SHELF! THEREFORE CHECK ALSO THE CONFIGURATION OF AMO-STMIB AND AMO-APRT.
F53:	THE AP SHELF IS NOT COMPLETELY DECONFIGURED FOR ACTION DELETE. THE CONNECTION BETWEEN AP SHELF AND CENTRAL SHELF HAS TO BE DEACTIVATED (EXEC-USSU:DELAP). FURTHER ALL SHELF SPECIFIC CONFIGURATIONS HAVE TO BE DELETED BY MEANS OF AMO-BCSU AND AMO-APRT.
F54:	THE DESIRED CONFIGURATION IS GENERALLY NOT ALLOWED FOR THIS HICOM CLASS.
F55:	THE BASIC LTU DATA COULDN'T BE CREATED BY DB.

F56:	THE GIVEN ALARM NUMBER IS NOT VALID BECAUSE IT DOES NOT LEAD EITHER TO A LOGICAL ALARM OR THE ALARM TYPE DOES NOT MATCH HW-UNIT.
F57:	THE SPECIFIED TIME CLASS IS NOT CONFIGURED. SEE AMO-SIPCO.
F58:	THE CURRENT NCUI IS NOT ALLOWED TO BE CHANGED TO THE SPECIFIED NCUI.
F59:	THE SOFTGATE TYPE CANNOT BE CHANGED AS LONG AS THE CONFIGURED VIRTUAL GATEWAYS NEED MORE PORTS THAN THE NEW SOFTGATETYPE ALLOWS OR ACTUALLY REDUNDANCY BOARDS ARE ASSIGNED.
F60:	THE SPECIFIED COMBINATION OF SOFTGATE AND TRADITIONAL HW COMPONENTS (LTPARTNO AND FRMTYPE) IS NOT ALLOWED.
F61:	SIU TONE TABLES ARE NOT LOADED PROPERLY, PLEASE CONFIGURE ALL RELEVANT SIU PARAMETERS BY MEANS OF AMO-ZAND FIRST.
F62:	THE GIVEN BOARD TYPE IS NOT ALLOWED ON RG8300.
F63:	IPV6 AND DHCP FUNCTIONALITY IS SUPPORTED ONLY FOR SOFTGATES.
F64:	SURVIVABILITY VIA ALTERNATIVE LAN IS CONFIGURED FOR THE AP. SIGMODE CANNOT BE CHANGED TO HSRTCP.
F65:	Textaps <filename> not present on Hard Disk. TEXTSEL <textsel> has not been written to DB.
F66:	ERROR
F67:	LTU SHELVES (1-15) ARE NOT ALLOWED TO BE ADDED WHEN AMO CPCI RTM=NO
F68:	LTU 1.<xx> NOT ADDED AS AP
F69:	LTU 1.<xx> NOT ADDED AS ENTGW

202.4.2 Advisories

H03:	ADD DATA FOR <bbb> <xxxx> WITH AMO CONSY
H04:	DELETE DATA FOR <bbb> <xxxx> WITH AMO CONSY
H06:	THE EXISTING OVERLAY CONFIGURATION WAS <action>
H07:	<aaa> <xxxx> DELETED
H08:	LTG <xx> ADDED (NL)
H09:	THE NEW OVERLAY CONFIGURATION HAS BEEN ASSIGNED. PLEASE MOUNT THE HWY-CABLE OF OVERLAY LTU <xx> TO STANDARD LTU <xx>. THE NEW OVERLAY HWYS CAN BE CHECKED VIA AMO TSU IN THE SAME WAY AS THE NORMAL HWYS FOR STANDARD LTUS.
H09:	THE NEW OVERLAY CONFIGURATION HAS BEEN ASSIGNED. THE NEW OVERLAY HWYS CAN BE CHECKED VIA AMO TSU IN THE SAME WAY AS THE NORMAL HWYS FOR STANDARD LTUS.
H10:	<aaa> <xxxx> ALREADY DELETED
H11:	THE STATUS OF AT LEAST ONE OVERLAY HWY IS DEFECT. PLEASE INITIATE A HARDRESTART OF THE SWU AFTER SAVING THE CHANGED CONFIGURATION VIA AMO UPDAT.

UCSU - Unit Configuration of Switching Unit

Error messages and advisories

H12:	THE AP SPECIFIC TONE AND ANNOUNCEMENT PARAMETERS HAVE TO BE LOADED MANUALLY. THIS CAN BE DONE BY MEANS OF COMMAND EXEC-USSU:NCUILOAD NOTE: CHANGES OF CP TONES MAY WORK IMMEDIATELY, BUT MANUAL LOADING IS STILL REQUIRED.
H13:	THE ACTUAL LTUC BOARD HAS <xx> MOUNTED CBM MODULES BUT FOR ONLY <xx> MODULES CONFIGURATION VALUES HAVE BEEN SPECIFIED. THE REMAINING MODULES WILL BE CONFIGURED WITH DEFAULT VALUE EC64.
H15:	PARAMETER APRTADDR CAN NOT BE CHECKED FOR A PLAUSIBLE VALUE. THIS CHECK WILL BE DONE LATER WITHIN AMO-APRT.
H16:	PARAMETER <param> IGNORED
H17:	PARAMETER <param> HAS NOT BEEN SPECIFIED, THEREFORE THE DEFAULT ROUTER ADDRESS <ip1.ip2.ip3.ip4> HAS BEEN ASSIGNED.
H18:	THE CHANGE TAKES EFFECT NOT BEFORE THE AFFECTED NCUI BOARD IS RESTARTED (EXEC-USSU:MODE=UPDATAP)
H19:	NO CONFIGURED DATA FOUND FOR ENTERED VALUE(S) .
H20:	THE AMOUNT OF AVAILABLE B-CHANNELS ON NCUI/NCUI2 BOARD HAS BEEN CHANGED ! PLEASE CHECK THE CONFIGURATION (ALSO AMO-STMIB)
H21:	IF THE PARAMETER BCHLCNT IS SPECIFIED, THE AMOUNT OF AVAILABLE B-CHANNELS ON NCUI/NCUI2 BOARD IS SMALLER AS THE DEFAULT VALUE OF THE BOARD ! THE RESOURCE MANAGEMENT IS ALSO AFFECTED BY SPECIFYING THIS PARAMETER, THEREFORE ONLY <xxx> B-CHANNELS WILL BE CONFIGURED.
H22:	SPE NOT ACTIVATED, NO SPE RESULT STATE INFORMATION AVAILABLE.
H23:	SINCE PAYLOAD ENCRPTION AND/OR DMC IS ENABLED, THE NUMBER OF B-CHANNELS HAS BEEN REDUCED BY @@@ B-CHANNELS DUE TO HIGH PERFORMANCE NEEDS.
H24:	THE SETTING OF PARAMETER BITRATE HAS BEEN CHANGED TO 100MBFD BECAUSE OF HW RELATED RESTRICTIONS. CHANGE POSSIBLE WITH AMO-STMIB.
H25:	THE PARAMETERS SOCOTYPE, IPMODE, DHCPV4 AND DHCPV6 ARE NOT RELEVANT FOR TRADITIONAL HW SHELVES AND WILL BE IGNORED.
H26:	UBGDAT ENTRY HAS BEEN MODIFIED INTERNALLY BEFORE FIRST USAGE.
H27:	SPE ON: TO GET THE SHELF FINALLY INTO SERVICE, FOLLOWING STEPS ARE NEEDED: -ENTER A MEK VIA THE @@@@@@@@@@@@@@@@@@@@@@ -AFTERWARDS ENTER THIS MEK VIA "MEK Administration Client" (Assistant)
H28:	PLEASE NOTE THAT IPV6 TUNNELING FOR CC<->AP COOMUNICATION IS NOT FULLY SUPPORTED YET (IN RELEASE 0) .
H29:	PLEASE NOTE THAT DHCP FUNCTIONALITY IS NOT FULLY SUPPORTED YET (IN RELEASE 0) .
H30:	Multiple entry of <textsel> has been ignored.
H31:	THE CHANGE TAKES EFFECT NOT BEFORE THE AFFECTED AP SHELF IS RESTARTED (RES-USSU) .
H32:	SOCO50 IS RECOMMENDED FOR VIRTUAL MACHINES WITH ONLY 2 CPU CORES. SOCO1000 IS RECOMMENDED FOR 4 CPU CORES OR MORE. SOCO500 IS NO LONGER USED.
H33:	SOCOTYPE AUTOMATICALLY CHANGED TO SOCO1000

202.4.3 Usage of error and advisory messages per action

ADD : F01, F02, F05, F06, F08, F10, F11, F12, F14, F16, F17, F20, F21, F22, F23, F26, F27, F40, F41, F43, F44, F45, F46, F47, F48, F49, F50, F51, F54, F55, F56, F57, F58, F59, F60, F61, F62, F63, F64, F65
H01, H02, H03, H08, H11, H12, H13, H14, H15, H17, H21, H23, H30, H31

CHANGE : F01, F02, F06, F08, F09, F10, F11, F12, F13, F17, F19, F21, F22, F23, F26, F27, F28, F29, F30, F31, F32, F33, F34, F35, F38, F39, F40, F41, F43, F44, F48, F50, F51, F52, F55, F56, F57, F58, F59, F60, F61, F62, F63, F64, F65
H05, H06, H09, H11, H12, H13, H14, H15, H18, H20, H21, H23, H24, H30, H31

DELETE : F03, F04, F07, F08, F10, F11, F12, F18, F24, F25, F31, F36, F37, F38, F42, F53
H04, H06, H07, H10

DISPLAY : F08, F10, F11, F12, F68, F69
H19, H22

REGENERATE : F08, F10, F11, F12

203 UPDAT - Update Control

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO UPDAT controls the hard disk update procedure (backup of the subsystems of the static customer database). The update is performed automatically each day at twelve freely selectable update times. Only the DB subsystems which were changed since the last update will be saved.

The AMO UPDAT can be used

- to activate or deactivate the automatic update procedure,
- to set (change) the twelve automatic update times,
- to initiate the update procedure manually.

203.1 Restrictions

This description is valid from SP300-V3.4.

203.2 Interrelationships

- AMO APC : Application Configuration

203.3 Functions of the AMO

- [DISPLAY-UPDAT](#) : Displaying update status and times
- [CHANGE-UPDAT](#) : Changing update status and times
- [EXEC-UPDAT](#) : Initiating manual update
- [REGENERATE-UPDAT](#) : Regenerating update status and times

203.3.1 DISPLAY-UPDAT

This function provides the following output on the service terminal:

UPDAT - Update Control

Functions of the AMO

- existing DB subsystems, their length in bytes and a statement indicating whether or not any data has been changed since the last update.
- preinitialized update times in hours and minutes
(The following update times are preinitialized in the SWU DB:
00:30, 02:30, 04:30, 06:30, 08:30, 10:30 12:30, 14:30, 16:30, 18:30, 20:30, 22:30),
- automatic update status
(update activated or deactivated, default value of SWU DB: deactivated),
- The cross channel state (free/blocked, only if duplex).

Procedure Overview

Command Code	Parameter
DISPLAY-UPDAT	UNIT=<string>;

Example

Displaying update data of the active base processor of the SWU.

Input:

DISPLAY-UPDAT:BP;

Output:

SUSY NAME	LENGTH (BYTES)	CHANGE
ZDBCCDSA	8001CH	NO
ZDBCCDSD	1001CH	NO
ZDBCCDS1	10001CH	NO
ZDBCCDS2	10001CH	NO
ZDACFG00	45CH	YES
ZDBCCDSF	B706AH	YES
ZDBCCDS0	10001CH	YES

UPDATE TIMES	H:MIN
1	00:30
2	02:30
3	04:30
4	06:30
5	08:30
6	10:30
7	12:30
8	14:30
9	16:30
10	18:30
11	20:30


```

|      12              22:30      |
+-----+

+-----+
| AUTOMATIC HD UPDATING :  ON  |
| CROSS CHANNEL BLOCKED :  YES |
+-----+
    
```

203.3.2 CHANGE-UPDAT

This function is used

- to set the twelve times for automatic update,
- to activate or deactivate the automatic update.

Note

- The cross signaling of data changes (if duplex) cannot be deactivated.
- The status and times of the automatic update are stored as data in the database itself so that any change will only be permanent after an automatic or manual update has been performed.
- The automatic update times for the various HW modules should not coincide, or else there will be a HD backup queue.
- If the automatic update is to be performed less than 12 times per day, the same update time should be entered several times (see Example).

Procedure Overview

Command Code	Parameter
CHANGE-UPDAT	UNIT=<param>, {STATE=<param> , UPDT01=<St-Mi>, ..., UPDT12=<St-Mi>};

Examples

1. Setting the update times in the SWU to 03:30 and 13:30 (twice a day).

Input:

```
CHANGE-UPDAT:BP,,03-30,13-30,13-30,13-30,13-30,13-30,13-30,
13-30,13-30,13-30,13-30,13-30,13-30;
```

2. Activating the automatic hard disk update in the SWU.

Input:

```
CHANGE-UPDAT:BP,ON;
```

203.3.3 EXEC-UPDAT

This initiates manual updating regardless of routinely executed updates. In this case, a selection can be made whether the entire database (SUSY= ALL) is to be updated or only those DB subsystems that have been changed since the last update (SUSY=DELTA).

Note

- Updating the entire database (SUSY=ALL) is only necessary and advisable if the data was changed (patched) manually.
- During the update, the database is write-protected. This does not apply for the duplex SWU if the base processor is in standby mode. In this case, the update invariably takes place in the standby base processor even if the AMO was started in the active base processor (BP, BPA/BPB).
- Since SP300-V3.2 SA07 also the PGLIB loading tables (excepting /L00 of LTGs) are written. Possible changes of applications with AMO APC should be done after EXEC-UPDAT, otherwise the changes will be lost.

Procedure Overview

Command Code	Parameter
EXEC-UPDAT	UNIT=<string>, [SUSY=<param>];

Example

Initiating the update in the SWU manually.

Input:

```
EXEC-UPDAT:BP;
```

203.3.4 REGENERATE-UPDAT

Regenerating the update status and update times.

Procedure Overview

Command Code	Parameter
REGENERATE-UPDAT	UNIT=<string>;

Example

Regenerating the update status and update times in the SWU.

Input:

REGENERATE-UPDAT:BP;

Output:

CHANGE-UPDAT:BP , OFF, 00-30, 02-30, 04-30, 06-30, 08-30, 10-30,
12-30, 14-30, 16-30, 18-30, 20-30, 22-30;

203.4 Parameter Description

STATE	State of the automatic update
Type of Input	: Single value, optional
Possible Values	: OFF = deactivated ON = activated
SUSY	DB subsystems to be updated
Type of Input	: Single value, optional
Possible Values	: ALL = all DELTA = where data has been changed
Default Value	: DELTA
UNIT	Mnemonic code of server in which the AMO is to be executed
Type of Input	: Single value, mandatory
Possible Values	: BP = active base processor (A or B) of SWU BPS = standby base processor (A or B) of SWU BPA = base processor A of SWU BPB = base processor B of SWU A1 = administration and data server (ADS) C1 = call charge server (CM) V1-V3 = voice mail server (VMS) T1-T3 = telecommunication server (TCS)
UPDT01	Time when updating is to start
to	Type of Input : Single value, optional
UPDT12	Possible Values : H-Mi
	H = hour Mi = minute

203.5 Error Messages and Advisories

203.5.1 Error Messages

F01: EXEC ERROR, UPDATE IS DEACTIVATED
F02: ACCESS ERROR; DMS ERROR CODE: <code>
F03: UPDATE TIME <H-Mi> INVALID

203.5.2 Advisories

None

203.5.3 Use of the Output Messages for Each Action

DISPLAY	: None
CHANGE	: F03
EXEC	: F02
REGENERATE	: None

204 USER - User Accounts

Functions of the AMO	Error Messages and Advisories
Parameter Description	

The AMO USER is used to create accounts for all users on the system, and to maintain these accounts by changing user passwords, execute permissions, and other account parameters when necessary. It can only process those user accounts whose execute permissions are a subset of the permissions of the account under which the AMO USER is activated.

204.1 Functions of the AMO

- **ADD-USER** : Add a new user account
- **CHANGE-USER** : Change the data of an existing user account
- **DEACTIVATE-USER** : Lock a user account
- **ACTIVATE-USER** : Unlock a user account
- **DELETE-USER** : Delete a user account
- **DISPLAY-USER** : Display one or all user accounts
- **REGENERATE-USER** : Regenerate all user accounts
- **COPY-USER** : Copy user accounts from backup file

204.1.1 ADD-USER

This action can be used to add a new user account to the system. It creates a new entry in the user data table that the system uses to let the user log in and execute MML-commands.

Procedure Overview

Command Code	Parameter
ADD-USER	NAME=<string>, [AUTH=<number>], [OPTIONS=<param>], [RETRIES=<number>], [LOCKTIME=<number> or *];

Example

Add user account "SMITH" to the system with execute permissions 0 to 4.

Input:

ADD-USER:NAME=SMITH,AUTH=0&&4;

The newly created user account cannot be used before an initial password is defined with the system command PASSW.

Input:

PASSW:SMITH;

Output:

NEW PASSW = <password>
PLEASE REENTER NEW PASSWORD
NEW PASSW = <password>

204.1.2 CHANGE-USER

The data of a user account (except the password) can be changed with this action. The user to be changed is identified with his name.

Procedure Overview

Command Code	Parameter
CHANGE-USER	NAME=<string>, {NEWNAME=<string>, AUTH=<number>, OPTIONS=<param>, RETRIES=<number>, LOCKTIME=<number> or *};

Examples

1. Grant execute permissions 0-5 to a user account.

Input:

CHANGE-USER:NAME=SMITH,AUTH=0&&5;

2. Systemadministrator allocates a new password to a user account with the PASSW function.

Input:

PASSW:SMITH;

Output:

NEW PASSW = <password>
PLEASE CREENTER NEW PASSWORD
NEW PASSW = <password>

Note: When the user logs on, he is compelled to change a password that is allocated by the Systemadministrator.

3. A user changes his own password with the PASSW function.

Input:

PASSW;

Output:

```
OLD PASSW=<old password>
NEW PASSW=<new password>
PLEASE REENTER NEW PASSWORD
NEW PASSW=<new password>
```

204.1.3 DEACTIVATE-USER

A user account can be locked with this action.

Procedure Overview

Command Code	Parameter
DEACTIVATE-USER	NAME=<string>;

204.1.4 ACTIVATE-USER

A locked user account can be reactivated again with this action.

Procedure Overview

Command Code	Parameter
ACTIVATE-USER	NAME=<string>;

204.1.5 DELETE-USER

This action deletes a user account.

Procedure Overview

Command Code	Parameter
DELETE-USER	NAME=<string>;

The user's own user account and *root* account (UID=1) cannot be deleted.

It is frequently a more sensible solution to lock a user account which is no longer being used. This means that this account can no longer be used, although it is possible to reconstruct the actions the user has carried out on the system if necessary (see AMO LOGBK).

Example

Delete a user account.

Input:

```
DEL-USER:SMITH;
```

204.1.6 DISPLAY-USER

One or all user accounts can be displayed with this action.

Procedure Overview

Command Code	Parameter
DISPLAY-USER	[NAME=<string>;

Example

List all user accounts of the system:

Input:

```
DISPLAY-USER;
```

Output:

USER TABLE							
|UID|	NAME	| AUTHORIZATIONS	| STATUS	| OPTIONS	| RE-	| LOCK-	|
|	|	|111111	|	| | | | | | |	| TRIES	| TIME	|
|	|	|5432109876543210|	|	|L|R|C|F|P|E|T|I|	|	|	|
+====+=====+=====+=====+=====+=====+=====+=====+							
| 1 |	ROOT	|.....XXXXXXXXXX|	|	|X X X X X X X|	|	|	|
| 2 |	LROOT	|..X..XXXXXXXXXX|	|	|X X X X X X X|	| 3 |	| 2 |	|
| 3 |	LIADMINI	|...X.....X...X|	|	|X X X X X X X|	| 1 |	| *	|
| 4 |	SMITH	|.....XXXXX|	INIT.	|X X X X X X X|	|	|	|

204.1.7 REGENERATE-USER

This action is used for transferring the user accounts to a backup file which can be reloaded with the action COPY-USER. The action creates this inverse copy command. Privileged accounts (with execute permissions higher than 10) are not stored in the backup file.

Procedure Overview

Command Code	Parameter
REGENERATE-USER	;

Example

Regenerate normal user accounts.

Input:

REG-USER;

Output:

COPY-USER;

204.1.8 COPY-USER

All user accounts from the backup file are reloaded with this action. The backup file must have been created with the action REGENERATE-USER. This action is possible only if the user data table is still empty, i.e. only the *root* and *lroot* accounts have been initialised.

Procedure Overview

Command Code	Parameter
COPY-USER	;

204.2 Parameter Description

AUTH	Execute permissions for the various AMO actions (every verb-noun combination possesses a necessary execute permission)
	Type of input : 1 to 16 single values or a range, optional
	Possible values : numeric, 0-15
	Default value : 0 lowest permission
LOCKTIME	Barring time (in minutes)
	Type of input : Single value, optional
	Possible values : 0 No barring
	1-9999 Barring time in minutes
	* Permanent barring

USER - User Accounts

Parameter Description

	Default value	: 0	
NAME	User name (user account, login name)		
	Type of input	: single value, mandatory	
	Possible values	: text, up to 8 characters	
NEWNAME	New user name		
	Type of input	: single value, optional	
	Possible values	: text, up to 8 characters	
OPTIONS	Options		
	Type of input	: 1 to 8 single values or a range, optional	
	Possible values	: L	ID can be used locally (devices CON1 to CON6)
		R	ID can be used remotely (telecontrol, device FAS)
		C	Own password can be changed (with PASSW function)
		F	Forced password change if default password is still set
		P	Password required
		E	ID can be deleted (is erasable)
		T	Session terminated after timeout (1 minute for Comtes, 2 minutes for Telnet, no limit for FAMOS - not configurable)
		I	International session language (English)
	Default value	: L&&E&I	(from session with option I)
		L&&E	(from session without option I)
RETRIES	Limit value for unauthorized login attempts		
	Type of input	: Single value, optional	
	Possible values	: 1-99	
	Default value	: 99	
	The barring time (see parameter LOCKTIME) becomes effective when the limit value is reached.		

204.3 Error Messages and Advisories

204.3.1 Error Messages

F01: FOUND NO FREE POSITION IN USER TABLE
F02: FOUND NO USER ACCOUNT
F03: USER ACCOUNT <name> ALREADY EXISTS
F04: USER ACCOUNT <name> DOES NOT EXIST
F05: USER ACCOUNT <name> IS ALREADY LOCKED
F06: USER ACCOUNT <name> IS NOT LOCKED
F07: USER ACCOUNT <name> CAN NOT BE DELETED
F08: CAN NOT DELETE USER ACCOUNT ROOT (UID 1)
F09: CAN NOT LOCK USER ACCOUNT ROOT (UID 1)
F10: CAN NOT DELETE OWN USER ACCOUNT
F11: CAN NOT LOCK OWN USER ACCOUNT
F12: CAN NOT EXECUTE, PERMISSION DENIED
F13: AUTH <number> INVALID, PERMISSION DENIED
F14: <param> <value> INVALID
F15: <param> INVALID, STRING SHOULD NOT CONTAIN SPACES
F16: ACCESS ERROR; DMS ERROR CODE: <xxxxx>
F17: BACKUP FILE FOR USER ACCOUNTS DOES NOT EXIST
F18: CAN NOT COPY USER ACCOUNTS, USER TABLE IS NOT EMPTY
F19: CAN NOT CHANGE AUTHORIZATIONS OF OWN USER ACCOUNT
F20: USER ACCOUNT <name> CAN NOT BE PROCESSED BY AMO USER
BECAUSE IT IS CONFIGURED AS A LAW USER ACCOUNT (SEE AMO LUSER)
F21: CAN NOT CHANGE THE LANGUAGE OF USER ACCOUNT <name> (OPTION I);
PLEASE USE AMO FUNCT (CHANGE-FUNCT:LANG=GER/ENG;)
F22: OPTION L(OCAL) OR R(EMOTE) MUST BE SET
F23: CAN NOT CHANGE OPTION=L OF THE LOCALLY LOGGED-IN USER ACCOUNT
F24: CAN NOT CHANGE OPTION=R OF THE REMOTELY LOGGED-IN USER ACCOUNT
F25: BACKUP FILE FOR USER ACCOUNTS (:AMD:UDT) INCONSISTENT

204.3.2 Advisories

H01: USER ACCOUNT <name> ADDED
H02: USER ACCOUNT <name> CHANGED
H03: USER ACCOUNT <name> DELETED
H04: USER ACCOUNT <name> LOCKED
H05: USER ACCOUNT <name> UNLOCKED
H06: USER ACCOUNT <name> COPIED
H07: NOTICE!
THE USER ACCOUNT CAN NOT BE USED BEFORE A PASSWORD IS DEFINED.
SYSTEM COMMAND: PASSW:<name>;
H08: @@@@ could not be imported as already existing.

205 USSU - Unit Switch of Switching Unit SWU

This AMO is used to process the switching unit system units. The server modules are processed by other AMOs.

LTG, LTUs, central SIUs, RTM and HDLC-DCL highways are activated and LTUs are deactivated. Peripheral SIUs has to be switched by means of AMO BSSU.

205.1 Interrelationships

None

205.2 Functions of the AMO

- [ACTIVATE-USSU](#) : Activate system units
- [DEACTIVATE-USSU](#) : Deactivate system units
- [EXEC-USSU](#) : AP Shelf configuration and deconfiguration.
- [DISPLAY-USSU](#) : Display Background Loading status of the files (for AP shelves)
- [RESTART-USSU](#) : Restart of all or individual AP shelves.

205.2.1 ACTIVATE-USSU

Activation of system units in the SWU.

1. Activating an LTU
2. Activating the LTG
3. Activating an central SIU
4. Activating an HDLC-DCL highway
5. Activating RTM board.
6. Download of RTM log files

Activating an LTU involves removing the state "manual blocking". When an LTU is activated, all hierarchically subordinate units are also unblocked by the CDC (Device Configuration, a part of Dependability).

The system units are activated without testing.

USSU - Unit Switch of Switching Unit SWU

Functions of the AMO

Before it is activated, the state of the LTU is interrogated. If the LTU is in a state that does not permit activation, the "activate" order is not issued, error message F22 is issued to the operator and the AMO is terminated.

After the "activate" order has been executed, a message is output providing information about the new switching state. No test is made after an LTU has been activated.

If an LTU is not specified, the LTG is activated.

Before activating the LTG, the AMO checks that it is configured. If it is configured, then the presence of the LTG is reported to the operating system. Activating the LTG may take up to several minutes. Thus, the AMO does not wait until the activation job is completed, but terminates immediately issuing advisory message H13. The present loadingstate of the LTG is displayed on DB-board.

When activating an central SIU, the AMO first sends a deactivation command which is immediately followed by the activation command. This ensures that the current circuit data is reloaded. In the case of a duplex LTG, both central SIUs of the LTG are reloaded. In such cases, the operator receives two advisories. Peripheral SIUs has to be switched by means of AMO BSSU.

WARNING: If an central SIU is activated on a running switch, DTMF tones will be lost during the deactivation and loading processes. Therefore, it is recommended that central SIU re-activation be done during low traffic periods to avoid any service interruption.

Activating an HDLC-DCL highway may take up to several minutes. Thus, the AMO does not wait until the activation job is completed, but terminates immediately issuing the advisory message H25.

Activation of RTM board has two types : BOARD and DATA. BOARD type activation is handled same as the SIU activation. The error and advisory messages ; F24, F25, F26 , H19 and H28 are used both for SIU and RTM activation.

For AP shelves (LTU from 17 to 99), there is a new mechanism. The AP shelf can not be activated before the connection to the AP shelf is established via EXEC-USSU.

Procedure Overview

Command Code	Parameter
ACTIVATE-USSU	|UNIT=LTG, [LTG=<number>], [LTU=<number>]; |UNIT=SIU, [LTG=<number>];

Command Code	Parameter
	<pre>|UNIT=HDL, [LTG=<number>], [HALF=<param>] ,NO=<number>; |UNIT=RTM, TYPE = BOARD; |UNIT=RTM, TYPE = DATA; |UNIT=DLLOGFL;</pre>

1. Activate LTU3 of LTG1

Input:

ACTIVATE-USSU:LTG,1,3;

Output:

H06: LTU ACTIVATED - NOT OPERATIONAL (NPR)

LTU3 of LTG1 has been manually unblocked. The module does not exist (NPR).

2. Activate LTG1

Input:

ACTIVATE-USSU:LTG,1;

Output:

H13: LTG ACTIVATED

LTG1 has been introduced to the operating system.

3. Activate LTU3

Input:

ACTIVATE-USSU:LTG,,3;

Output:

H06: LTU ACTIVATED - NOT OPERATIONAL (NPR)

LTU3 has been manually unblocked. The module does not exist (NPR).

4. Activate the SIU

Input:

ACTIVATE-USSU:SIU;

Output:

H28: SIU IN A-HALF WILL BE SWITCHED

H19: SIU ACTIVATED

H28: SIU IN B-HALF WILL BE SWITCHED

USSU - Unit Switch of Switching Unit SWU

Functions of the AMO

H19: SIU ACTIVATED

5. Activate HDLC-DCL highway #4 in LTG1

Input:

ACTIVATE-USSU:HDLC,1,4;

Output:

H25: HDLC-DCL HIGHWAY ACTIVATED

The HDLC highway is being activated though the process is not yet complete.

6. Activate LTU17

Input:

ACTIVATE-USSU:LTG,1,17;

F30: ACTIVATION OF THE AP SHELF NOT POSSIBLE.FIRST EXECUTE
'EXEC-USSU:CONFAP' .

7. Activate RTM

Input:

ACTIVATE-USSU:RTM,BOARD;

Output:

H28: RTM IN A-HALF WILL BE SWITCHED

H19: RTM ACTIVATED

H28: RTM IN B-HALF WILL BE SWITCHED

H19: RTM ACTIVATED

8. Download the RTM log files :

Input:

ACTIVATE-USSU:DLLOGFL;

Output:

F50: THIS COMMAND CAN ONLY BE EXECUTED ON CPCI ARCHITECTURE.

205.2.2 DEACTIVATE-USSU

Individual LTG or LTUs are deactivated. Deactivation involves setting of state "manual blocking". When the LTG or an LTU is deactivated, all hierarchically subordinate units are also deactivated by the CDC.

Before the LTG or an LTU is deactivated, its state is interrogated. If the LTG or LTU is in a state which does not permit deactivation, no deactivation order is issued and the AMO is terminated after issuing

error message F22 to the operator. After the deactivation order has been successfully executed, the operator receives a positive acknowledgement.

For deactivating the LTG the AMO does not wait until the activation job is completed, but terminates immediately issuing advisory message H26. The present loadingstate of LTG is displayed on DB-board.

The AMO also checks whether the deactivation job involves the current reference clock generator. If the current reference clock generator is on the LTG or LTU to be deactivated, and other reference clock generators are present outside the specified LTG or LTU, the operator is prompted for a value for the optional parameter REFOFF with advisory H22.

Message H23 is issued in the event the job affects all reference clock generators. In this case, the user is also warned if the value Y was entered for parameter REFOFF.

The operator can specify what to do with regard to the reference clock by giving parameter REFOFF the appropriate value. The value Y means that, if applicable, the LTG or LTU with the current reference clock supply may be deactivated. The value N means that the LTU with the current reference clock supply should not be deactivated. In this case, the AMO responds by issuing advisory H24 or H27.

The value PROMPT for parameter REFOFF (the default value) means that, in the event the current reference clock generator is within the specified LTU, the operator will be interrogated as to whether or not the LTU should really be deactivated.

Procedure Overview

Command Code	Parameter
DEACTIVATE-USSU	[LTG=<number>], [LTU=<number>], [REFOFF=<param>];

1. Deactivate LTU3 of LTG1

Input:

DEACTIVATE-USSU:1,3;

Output:

H03: LTU DEACTIVATED

LTU3 of LTG1 was deactivated. Hierarchically subordinate modules were also deactivated.

2. Deactivate LTU1

Input:

DEACTIVATE-USSU:1,1;

Output:

USSU - Unit Switch of Switching Unit SWU

Functions of the AMO

F16: LTU NOT DEACTIVATED (ACTIVATION/DEACTIVATION IN PROGRESS)

LTU1 of LTG1 has not been deactivated, because an order for activation/deactivation of this LTU is currently in progress.

205.2.3 EXEC-USSU

AP shelf configuration concerning establishing and closing of a connection and background loading of LW files.

EXEC-USSU involves 4 modes of operation :

- CONFAP
- DELLAP
- UPDATAP
- NCUILOAD

Procedure Overview

Command Code	Parameter
EXEC-USSU	[MODE= ~~CONFAP~~] , [LTU=<number>] ; [MODE= ~~DELLAP~~] , [LTU=<number>] ; [MODE= ~~UPDATAP~~] , [LTU=<number>] , [LOADTYPE=<param>] , [ANSW=<param>] ; [MODE= ~~NCUILOAD~~] , [LTU=<number>] , [FILES=<param>] ;

205.2.3.1 CONFAP

Before activating an AP shelf , "startup connection" message is sent to FA by means of CONFAP branch.

Before sending the message to FA , first the LTU status is checked. If the LTU status is not equal to "UNACH" then error message F32 is issued. In case , the LTU status is "UNACH" then the FA flag check is done.

The proper FA flag is either "CONNECTION_NULL" or "CONNECTION_DOWN". If the flag value differs from the above two values ,then error message F33 is issued. There is also one more check related with STMIB data. If the data is not valid then the error message F45 is issued.

If all the steps above are passed then the message is sent to FA and the response message is waited for. After receiving the response message the FA flag is set to "CONNECTION_ALIVE". For the case that the received message is not proper, the error message F38 is issued.

In case the LTU parameter is not specified, then all configured AP shelves are processed.

205.2.3.2 DELLAP

After issuing DEACT-USSU ,an AP (Access Point) shelf deconfiguration requires one more step to release the connection. This is done by sending "stop connection" message to FA. For this purpose the EXEC branch has the DELLAP mode.

Before sending the 'stop message" the DC status and FA control flags of the concerned LTU are checked. (DC status has to be "MAN_AMO".)

Improper DC status and FA flags (internal) cause the error message F34.

If the connection is shut down properly the advisory message H30 is issued and the FA flag of the concerned LTU is changed to "CONNECTION_DOWN" by AMO-USSU.

205.2.3.3 UPDATAP

This branch is used to update particular connection or board data of an NCUI board (e.g. IP routing tables). In order to send "update connection" message to FA, there are some prerequisite status checks; e.g.

-LTU status must be "READY ",

and no background loading is active for the concerned AP Shelf

Above constraints may issue the error messages F37, F36 and F35 respectively.

For parameter LOADTYPE=UL the parameter ANSW is prompted in any case (even if the parameter has already been specified by the user). For ANSW=YES the loading process is initiated even if all LW data on board and DB are equal. This function should only be used in case of changing the NCUI board - more details can be seen in the feature usage examples for IPDA.

If LOADTYPE is not specified or CL the parameter ANSW will be ignored in any case and additionally the loading process will only be initialized if there exist changed LW data.

205.2.3.4 NCUILOAD

This branch is used to initiate the background loading of the NCUI-LW and SIU tone tables.

This can be done only for the LTUs which are in "READY" state. If the LTU status is not "READY" then the error message F39 or F40 is issued.

The loading is supervised by a 10 min. timer. If this timer expires, the error message F42 is displayed.

Advisory messages H31,H32,H33,H34 are issued, if any other value is entered in the combination with the value "ALLSIU" or "ALL".

If no LTU number is entered , then all the configured LTU s which pass the necessary checks are processed.

When the background loading is completed successfully, advisory message H36 is displayed.

205.2.4 DISPLAY-USSU

Background loading status of a specific LTU (valid only for AP shelves) is displayed. It also provides :

- LTU number,
- Source group index,
- Name of the particular LW file or SIU tone files and
- load status

The masks corresponding to each control flag value are as follows :

FLAG	MASK
LOAD_NULL	NEVER LOADED
LOAD_STARTED	STARTED
LOAD_IN_PROGRESS	IN PROGRESS
LOAD_FINISHED	FINISHED
LOAD_FAILED	FAILED

Procedure Overview

Command Code	Parameter
DISPLAY-USSU	[LTU=<number>];

Display mask looks like as follows:

```

+-----+
|  LTU:      1          SOURCE GROUP: 3      READY      |
|  LW FILE   : XXXXXXXX FINISHED             SIU TONES: XXXXXXXX  FAILED  |
|  SIU RECV  : XXXXXXXX IN PROGRESS          SIU ANN   : XXXXXXXX  FAILED  |
|  SIU MOH   : XXXXXXXX FAILED               SIU TDS   : XXXXXXXX  NEVER LOADED|
+-----+

```

205.2.5 RESTART-USSU

All or individual AP shelves are restarted. (combination of deactivation and activation with waiting time). Restart action can only be executed for AP shelves (17-99). All possible error and advisory messages those are used for activation and deactivation branches are applied for restart branch , too.

Procedure Overview

Command Code	Parameter
RESTART-USSU	|RESTYPE = ALL; |RESTYPE = LTU, LTU=<number>;

205.3 Parameter Description

ANSW	Answer	
	Type of Input	: Single value, optional
	Possible values	: NO YES
	Default Value	: NO
FILES	To specify LW-	Files to be loaded
	Type of Input	concat. with & , optional
	Possible values	SIUTONES =SIU initialization data file -TONES SIURECV =SIU initialization data file -RECEIVERS SIUANN =SIU initialization data file -ANNOUNCEMENTS SIUMOH =SIU initialization data file -MUSIC ON HOLD SIUTDS =SIU initialization data file -TDS LW =LW subsystem of NCUI board ALLSIU =All possible SIU initialization data files. ALL =All possible loadable files

USSU - Unit Switch of Switching Unit SWU

Parameter Description

	Default Value	ALL
HALF	For specifying the unit half to be activated.	
	Type of Input	: Single value, optional
	Possible Values	: ACT = active unit half SBY = inactive half (standby) PARTA = Unit half A PARTB = Unit half B
	Default Value	: ACT
LOADTYPE	Type of loading	
	Type of Input	: Single value, optional
	Possible values	: CL Conditional loading UL Unconditional loading
	Default Value	: CL
LTG	Number of Line Trunk Group	
	Type of Input	: Single value, optional
	Possible Values	: 1
LTU	Number of Line Trunk Unit	
	Type of Input	: single value, mandatory for single LTG systems optional otherwise and optional for EXEC-USSU:CONFAP, DELLAP and UPDATAP branches
	Possible Values	: 1 to 99 1 to 15 for the 600-ECX 1 to 6 for the 600 1 to 8 for the 600-EC 1 to 2 for the 180 CN 1 to 4 for the 3000
MODE	To specify the mode of the opera.	
	Type of Input	Single value,mandatory
	Possible values	CONFAP =Initiate start connection message DELLAP =Initiate stop connection message UPDATAP =initiate update connection message NCUILOAD =initiate background loading of LW files

NO	For specifying the HDLC-DCL highway number		
	Type of Input	: Single value, mandatory	
	Possible Values	: 1 to 16	
REFOFF	Switch off reference clock generator if desired		
	Type of Input	: Single value optional	
	Possible Values	: Y, N, PROMPT	
		Y	= switch of if applicable
		N	= do not switch off
		PROMPT	= prompt if required
	Default Value	: PROMPT	
TYPE	Type of the RTM board activation		
	Type of Input	Single value, mandatory	
	Possible Values	BOARD	= Board
		DATA	= Data
UNIT	Name of system unit to be activated		
	Type of Input	: Single value, mandatory	
	Possible Values	: LTG	= Peripheral
		SIU	= SIU
		HDLC	= HDLC-highway
		RTM	= RTM
		DLLOGFL	= Download of RTM log files.

205.4 Error Messages and Advisories

205.4.1 Error Messages

F02: LTU NOT ASSIGNED

F14: LTU NOT ACTIVATED (ACTIVATION/DEACTIVATION IN PROGRESS)

USSU - Unit Switch of Switching Unit SWU

Error Messages and Advisories

- (The AMO was interrupted because either an activation or a deactivation is being processed.)
- F16: LTU NOT DEACTIVATED (ACTIVATION/DEACTIVATION IN PROGRESS)
(The AMO was interrupted because either an activation or a deactivation is currently in progress.)
- F18: LTU NUMBER DOES NOT HAVE ADMISSIBLE VALUE. MAXIMUM VALUE: <ltu>
- F19: LTG NOT CREATED
- F20: LTG NUMBER DOES NOT HAVE ADMISSIBLE VALUE
- F21: SPECIFIED VALUE IS NOT VALID FOR THIS SYSTEM VARIANT
- F22: UNEXPECTED PROGRAMM STATE
- F23: LTG DOES NOT EXIST
- F24: [SIU|RTM] IS NOT ACTIVATED (DEF)
- F25: [SIU|RTM] IS NOT ACTIVATED (WBT)
- F26: [SIU|RTM] IS NOT ACTIVATED (ORDER ERROR)
- F27: ONLY ONE LTG EXISTS. THIS LTG CANNOT BE SWITCHED OFF
- F28: STANDBY-PROCESSOR NOT AVAILABLE
- F29: THE ONLY EXISTING LTG ON ACTIVE PBX MAY NOT BE SWITCHED ON.
ACCORDING LTU MAY BE SWITCHED ON BY MEANS OF
ACT-USSU:LTG,,;
- F30: ACTIVATION OF THE AP SHELF NOT POSSIBLE.FIRST EXECUTE
'EXEC-USSU:CONFAP'.
- F31: DEACTIVATION OF THE AP SHELF NOT POSSIBLE.FIRST EXECUTE:
'EXEC-USSU:UPDATAP'.
- F32: STARTUP CONNECTION NOT POSSIBLE.LTU STATUS MUST BE -UNACH-
- F33: STARTUP CONNECTION NOT POSSIBLE. CONNECTION TO AP SHELF IS ALREADY ACTIVE.
- F34: SHUT DOWN CONNECTION TO AP SHELF NOT POSSIBLE. FIRST DEACTIVATE AP BY USING
'DEACT-USSU'.
- F35: UPDATE NOT POSSIBLE. BACKGROUND LOADING IS IN PROGRESS.
- F36: RESET OF NCUI DATA NOT POSSIBLE.ALL DATA IN NCUI-FLASH ARE ACTUAL TO THE DATA
IN NCUI RAM.
- F37: UPDATE NOT POSSIBLE. LTU STATUS MUST BE -READY-.
- F38: UNEXPECTED MESSAGE RECEIVED.PLEASE TRY THE LAST ACTION AGAIN.
- F39: LTU NUMBER ^ltu^ IS NOT IN -READY- STATE.
- F40: CONNECTION TO AP SHELF IS NOT -ACTIVE-.(LTU NUMBER = ^ltu^)
- F41: BACKGROUND LOADING NOT POSSIBLE. IT IS STILL IN PROGRESS.(LTU = ^ltu^)
- F42: BACKGROUND LOADING FOR LTU ^ltu^ FAILED BY TIME-OUT.
- F43: LOADING VIA FTP NOT POSSIBLE, CAUSE ANOTHER FTP IS ALREADY RUNNING.(LTU =
^ltu^).
- F44: LTU ^ltu^ NOT CONFIGURED.
- F45: THERE ARE NO DATA CONFIGURED BY MEANS OF AMO-STMIB.
THEREFORE THE CONNECTION TO THE AP CAN NOT BE SET UP.
PLEASE MAKE SURE THAT THESE ENTRIES ARE CORRECT.
- F46: LTU STATE CHANGE OCCURED.LTU ^ltu^ IS NOT IN -READY- STATE ANYMORE.
- F47: FOLLOWING FILES DO NOT EXIST ON HD. (LTU = ^ltu^):
^lwfile^ ^tonfile^ ^recfile^ ^annfile^ ^mohfile^ ^tdsfile^
PLEASE COPY THE MISSING SIU FILES IN DIRECTORY :
:PDS:APSP/LTG/LG63/
AND THE MISSING LW FILE IN DIRECTORY :
:PDS:APSP/LTG/LGA0/
- F48: THIS AMO ACTION CAN ONLY BE EXECUTED ON THE HOST SYSTEM.
- F49: THE RTM BOARD IS NOT CONFIGURED. (AMO-CPCI)
- F50: THIS COMMAND CAN ONLY BE EXECUTED ON CPCI ARCHITECTURE.
- F51: ACTIVATION OF THE AP SHELF @@ NOT POSSIBLE SINCE NO MASTER ENCRYPTION KEY
(MEK) HAS BEEN CONFIGURED YET.

F52: THIS FUNCTION IS NOT ALLOWED FOR SOFTGATE SHELVES. AP @@ HAS BEEN IGNORED.
 F53: ACTIVATION OF THE AP SHELF @@ NOT POSSIBLE SINCE SOFTGATE IS NOT CONFIGURED PROPERLY YET.
 F54: TIMER EXPIRED WHILE WAITING FOR THE ACKNOWLEDGEMENT MESSAGE FROM DC (@@@ sec).
 F55: SWITCHING @@@@ OF CGW BOARD IS NOT POSSIBLE, SINCE THE LINES FROM THE BOARD @@-@@-@@@ COULD NOT BE RELOCATED. ORIGINAL CONFIGURATION AND STANDBY MODES ARE MAINTAINED.
 F56: SWITCHOVER OF CGW BOARDS IS NOT POSSIBLE SINCE THE DESTINATION BOARD (OR LAN CONN.) @@-@@-@@@ IS NOT IN READY STATE.
 F57: SWITCHOVER OF CGW BOARDS IS NOT POSSIBLE SINCE THERE IS NO APPROPRIATE BOARD IN RECONFIGURATION POOL @@@@.
 F58: POOL @@@@ IS NOT CONFIGURED.
 F59: LTU @@ IS NOT IN ANY POOL.
 F61: SWITCHOVER NOT POSSIBLE. LTU STATUS MUST BE -READY- (LTU = @@)
 F62: COMMAND HAS NO EFFECT ON THIS HW. PLEASE DOWNLOAD LOGS FROM PORTAL.

205.4.2 Advisories

H01: LTU ACTIVATED
 (The AMO was carried out, LTU is in service.)
 H03: LTU DEACTIVATED
 (The AMO was carried out, LTU is out of service.)
 H06: LTU ACTIVATED - NOT OPERATIONAL (NPR)
 (The LTU has been manually unblocked, but is not in operation since it is not present.)
 H09: LTU ACTIVATED - NOT OPERATIONAL (UNACH)
 (The LTU has been manually unblocked, but is not in operation, since it is either still
 hierarchically blocked or is blocked due to a related fault, i.e. ring voltage generator is defective)
 H10: LTU ACTIVATED - NOT OPERATIONAL (UNACH-NPR)
 (The LTU has been manually unblocked, but is not in operation since it is not present, and is still hierarchically blocked or blocked due to a fault in a related device.)
 H13: LTG ACTIVATED
 (The AMO has been executed, the LTG is operational)
 H14: PLEASE SPECIFY LTU NUMBER
 H15: PLEASE SPECIFY LTG NUMBER
 H17: LTU ACTIVATED - NOT OPERATIONAL (DEF)
 H18: LTU ACTIVATED - NOT OPERATIONAL (NL-WAIT)
 H18: LTU ACTIVATED - NOT OPERATIONAL (UNACH-DEF)
 H19: [SIU|RTM] ACTIVATED - NOT OPERATIONAL (UNACH)
 H19: [SIU|RTM] ACTIVATED - NOT OPERATIONAL (GENNR)
 H19: [SIU|RTM] ACTIVATED
 H20: LTU ACTIVATED - NOT READY (WBT)
 H21: [SIU|RTM] ACTIVATED - NOT READY (UNACA)
 H22: THE DEACTIVATE JOB AFFECTS THE CURRENT REFERENCE CLOCK GENERATOR
 PLEASE ANSWER PARAMETER REFOFF
 Y DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
 N DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR

USSU - Unit Switch of Switching Unit SWU

Error Messages and Advisories

(If Y is answered, the dependability system switches over to a different reference clock generator.)

H23: THE DEACTIVATE JOB AFFECTS THE LAST POSSIBLE REFERENCE CLOCK GENERATOR
***** THE SYSTEM CANNOT ADOPT A REFERENCE CLOCK *****
PLEASE ANSWER PARAMETER REOFF
Y DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
N DO NOT DEACTIVATE CURRENT REFERENCE CLOCK GENERATOR
(If Y is answered, all reference clock generators are deactivated)

H24: LTU NOT DEACTIVATED (REFERENCE CLOCK GENERATOR)
(N has been specified for REOFF. The module is not deactivated.)

H25: HDLC-DCL HIGHWAY ACTIVATED

H26: LTG DEACTIVATED

H27: LTG NOT DEACTIVATED (REFERENCE CLOCK GENERATOR)

H28: [SIU|RTM] IN [A-HALF|B-HALF] WILL BE SWITCHED

H29: WHEN THE AP SHELF IS ACTIVATED AGAIN THE NCUI BOARD WILL PERFORM A RESET.

H30: CONNECTION TO AP SHELF HAS BEEN SHUT DOWN SUCCESSFULLY.

H31: ALL SIU FILES WILL BE LOADED.ALL ENTERED SINGLE VALUES IGNORED.

H32: ALL POSSIBLE LW-FILES FOR NCUI BOARD WILL BE LOADED.ALL ENTERED SINGLE VALUES IGNORED.

H33: ALL POSSIBLE LW-FILES FOR NCUI BOARD WILL BE LOADED.ALL ENTERED SINGLE VALUES IGNORED. (LTU= ^ltu^).

H34: ALL SIU FILES WILL BE LOADED.
ALL ENTERED SINGLE VALUES EXCEPT LW FILE ARE IGNORED. (LTU=^ltu^).

H35: BACKGROUND LOADING FOR LTU ^ltu^ CONTINUES.

H36: BACKGROUND LOADING COMPLETED. (LTU=^ltu^).
FOLLOWING FILES HAVE BEEN LOADED :
LW.....(^lwfile^) : ^state^ SIUTONES (^tonfile^) : ^state^
SIURECV (^recfile^): ^state^ SIUANN ..(^annfile^) : ^state^
SIUMOH..(^mohfile^): ^state^ SIUTDS.. (^tdsfile^) : ^state^

H37: NO CONFIGURED AP SHELF FOUND.

H38: CONNECTION TO AP SHELF ^ltu^ HAS BEEN ACTIVATED.

H39: THIS FUNCTION RESETS THE AP SHELF/SHELVES!
ARE YOU REALLY SURE TO PROCESS THIS FUNCTION?

H40 LTU ^ltu^ ACTIVATED.

H41 LTU ^ltu^ DEACTIVATED.

H42: Passphrase update failed at board 1-@@-@@@

H43: MODULE @@-@@-@@@ DEACTIVATED

H44: SWITCHOVER FROM BOARD @@-@@-@@@ TO BOARD @@-@@-@@@ SUCCESSFULLY
DONE (RECONFIGURATION POOL @@@@).

H45: SWITCHOVER OF CGW BOARDS IS NOT POSSIBLE SINCE THERE IS NO APPROPRIATE BOARD
IN RECONFIGURATION POOL @@@@.

H46: PARAMETER SWTYPE IGNORED FOR ACTION SWITCHOVER.

206 VADSM - Administration of NMC alarms in the SM

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The AMO VADSM is used to administer the validation data of the NMC alarms (NMC = Network Management Center) for the dependability system in the SM.

At a higher level, these alarms are used to indicate global system faults.

At the AMO level, NMC alarms are handled in much the same way as error messages, i.e. they are output to the standard output devices such as printer, PC, RMA (Hicom teleservice or NMC).

Validation data for an alarm:

- a) THRESHOLD VALUE for major (urgent) and minor (non-urgent) alarms

To indicate the respective alarm level the error counter assigned to the alarm must have reached or exceeded the threshold value within the specified validation time. Both major and minor alarms can also be deactivated.

- b) VALIDATION TIME for major and minor alarms

The validation time, which must be specified for each alarm level (major/minor), ensures that 'sporadic' faults are not indicated immediately. Much rather they are indicated upon expiry of the validation time, i.e. a specified time during which the error was continuously present. Only then will the alarm be indicated. Alternatively, the alarm will only be deactivated if the respective threshold value is not reached during the validation time.

- c) VALIDATION TIME for single device alarm

Failed units or devices below the threshold levels specified for the minor or major alarms are indicated by the single device alarm. The single device alarm is indicated when at least one unit is continuously defect during the validation time for single device alarm. The single device alarm is deactivated when its validation time is set to 0.

- d) PRIORITY

A global filter for alarm messages has been added to the system to prevent not-service-relevant messages. AMO-SIGNL defines the minimum priority of the alarms which are forwarded by SIT. The priority of each single alarm can be changed by AMO-VADSM.

e) HWCONT

Alarms can also be signalized by LEDs. The parameter 'HWCONT' defines, which LEDs are assigned to which alarm(s). Normally HWCONT = SU for all alarms. This means : When at least one minor alarm is active, the LEDs 'P2' on IOP and 'NAL' on DP are in state 'on' and when at least one major alarm is active, the LEDs 'C3' on IOP and 'UAL' on DP are in state 'on' (summary signalisation). When HWCONT is set to S1 for one (or more) alarm(s), 'P2' and 'NAL' are on only when this (or these) alarm(s) are active. In the same way : When HWCONT is set to S2 for one (or more) alarm(s), the LEDs 'C3' and 'UAL' are on only when this (or these) alarm(s) are active.

f) ALARM GROUP

1. Central SM alarms

Central SM alarms are used to indicate faults in common or shared HW components in the system.

Central alarms are preset by the system. There are central alarms for the SWU, the ISp (ADS) and the ISs (server). The AMO VADSM can only be used to change threshold values and validation times.

Out of 64 possible central alarms, the table below refers only to those central alarms which are used in the SM:

=====+=====+=====+=====+=====+=====+=====+=====+=====+=====+=====+=====											
+											
I	ALARM	I	THRSHD1	!	THRSHD2	!	TIME1	!	TIME2	!	TIME |PR|HW| NAME
I	NO	I	in %	!	in%	!	in sec	!	in sec	!	in h| !CO|
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----											
+											
I	9	I	0	!	1	!	0	!	600	!	!EO!SU| CHARGE COMPUTER
I	10	I	4	!	6	!	180	!	180	!	!EO!SU| IS RESTARTS
I	13*	I	1	!	0	!	1	!	0	!	!EO!SU| ALTERNATE LOAD AREA
I	21	I	5	!	8	!	90	!	90	!	!EO!SU| IS CENTRAL CONTROL
I	23	I	DEACT	!	DEACT	!	0	!	0	!	!EO!SU| SW ERRORS
I	25*	I	1	!	2	!	1	!	1	!	!EO!SU| POWER SUPPLY
I	27	I	1	!	2	!	1	!	1	!	!EO!SU| XENIX ALARM
I	28	I	DEACT	!	1	!	0	!	1	!	!EO!SU| SYSTEM TIME FAILURE
=====+=====+=====+=====+=====+=====+=====+=====+=====+=====+=====+=====											
+											
I	THRSHD1	... Threshold value for minor alarm (absolute value)									I
I	THRSHD2	... Threshold value for major alarm									I
I	TIME1	 Validation time for minor alarm (in seconds)									I
I	TIME2	 Validation time for major alarm (in seconds)									I
I	TIME	 Validation time for single device alarm (in hours)									I
I	PR	 Priority of the alarm; HW-CO HW-Contact (Alarm contact)									I

```
I DEACT ..... Major/minor alarm has been deactivated I
I *..... The threshold values for this alarm are preset; I
=====
+
```

Table 44 Central ISp alarms (basic initialization)

```
=====+=====+=====+=====+=====+=====+=====+=====+=====
+
I ALARM I THRESHD1 ! THRESHD2 ! TIME1 ! TIME2 !TIME !PR!HW| NAME I
I I in % ! in % ! in sec ! in sec ! in h! !CO| I
+-----+-----+-----+-----+-----+-----+-----+-----+-----
+
I 22 I 5 ! 8 ! 90 ! 90 ! 0 !E0!SU|SM CENTRAL CONTROL I
I 23 I DEACT ! DEACT ! 0 ! 0 ! 0 !E0!SU| SW ERRORS I
I 27 I 1 ! 2 ! 1 ! 1 ! 0 !E0!SU| XENIX ALARM I
+=====+=====+=====+=====+=====+=====+=====+=====+=====
+
I THRESHD1 ... Threshold value for minor alarm (absolute value) I
I THRESHD2 ... Threshold value for major alarm I
I TIME1 ..... Validation time for minor alarm (in seconds) I
I TIME2 ..... Validation time for major alarm (in seconds) I
I TIME ..... Validation time for single device alarm (in hours) I
I PR ..... Priority of the alarm; HW-CO ..... HW Contact (Alarm contact) I
I DEACT ..... Major/minor alarm has been deactivated I
I *..... The threshold values for this alarm are preset I
=====
+
```

Table 45 Central ISs alarms (basic initialization)

2. Peripheral SM alarms

Peripheral SM alarms (up to 24) are used to indicate faults in the SM periphery. The SM periphery includes the TTY / VM / FAX hardware configured in the ISp and ISs as well as the storage periphery (HD / cartridge).

Peripheral SM alarms are preset by the system. The AMO VADSM can only be used to change threshold values and validation times.

```
=====+=====+=====+=====+=====+=====+=====+=====+=====
+
I ALARM I THRESHD1 ! THRESHD2 ! TIME1 ! TIME2 !TIME !PR!HW| NAME I
I NO I in % ! in % ! in sec ! in sec ! in h! !CO| I
+-----+-----+-----+-----+-----+-----+-----+-----+-----
+
I 0 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE TELETYP I
I 1 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE UTC I
I 2 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE TTX I
I 3 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE FAX I
I 4 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE VOICE I
I 5 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE XENIX I
I 6 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE BSC I
I 7 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE ISO I
I 8 I DEACT ! 1 ! 0 ! 600 ! 0 !E0!SU| SERVICE IBM I
I 9 I - ! - ! - ! - ! 0 !E0!SU| NOT USED I
I 10 I - ! - ! - ! - ! 0 !E0!SU| NOT USED I
I 11 I - ! - ! - ! - ! 0 !E0!SU| NOT USED I
I 12 I - ! - ! - ! - ! 0 !E0!SU| NOT USED I
```

VADSM - Administration of NMC alarms in the SM
Restrictions

I	13	I	-	!	-	!	-	!	-	!	0	!E0!SU|	NOT USED	I
I	14	I	DEAKT	!	1	!	0	!	600	!	0	!E0!SU|	IS FLASH MEMORY	I
I	15	I	DEAKT	!	1	!	0	!	600	!	0	!E0!SU|	SM FLASH MEMORY	I
I	16	I	DEAKT	!	1	!	0	!	600	!	0	!E0!SU|	IS DAT RECORDER	I
I	17	I	DEAKT	!	1	!	0	!	600	!	0	!E0!SU|	SM DAT RECORDER	I
I	18	I	DEACT	!	1	!	0	!	600	!	0	!E0!SU|	IS HARD DISK	I
I	19	I	DEACT	!	1	!	0	!	600	!	0	!E0!SU|	IS CARTRIDGE	I
I	20	I	DEACT	!	1	!	0	!	600	!	0	!E0!SU|	IS TAPE	I
I	21	I	DEACT	!	1	!	0	!	600	!	0	!E0!SU|	SM HARD DISK	I
I	22	I	-	!	-	!	-	!	-	!	0	!E0!SU|	NOT USED	I
I	23	I	-	!	-	!	-	!	-	!	0	!E0!SU|	NOT USED	I
+=====+														
I	THRESHD1	...	Threshold value for minor alarm (in percent)											I
I	THRESHD2	...	Threshold value for major alarm (in percent)											I
I	TIME1	.....	Validation time for minor alarm (in seconds)											I
I	TIME2	.....	Validation time for major alarm (in seconds)											I
I	TIME	.....	Validation time for single device alarm (in hours)											I
I	PR	.....	Priority of the alarm; HW-CO HW Contact (Alarm contact)											I
I	DEACT	.....	Major/minor alarm has been deactivated											I
I	-	.....	Alarm number not used (reserved)											I
+=====+														

Table 46 Peripheral SM alarms (available for each server)

206.1 Restrictions

This description is valid from SP300 E V2.0

206.2 Interrelationships

- AMO VADSU : Administer NMC alarms in the SWU

206.3 Functions of the AMO

- CHANGE-VADSM : Change the validation data for central or peripheral NMC alarms in the SM
- ACTIVATE-VADSM : Activate a central or peripheral NMC alarm in the SM
- DEACTIVATE-VADSM : Deactivate a central or peripheral NMC alarm in the SM
- DISPLAY-VADSM : Display the validation data for central or peripheral NMC alarms in the SM
- REGENERATE-VADSM : Regenerate the validation data for central or peripheral NMC alarms in the SM

206.3.1 CHANGE-VADSM

CHANGE-VADSM can be used to change threshold values and validation times. An alarm is deactivated, when its threshold is set to 65535.

In case of a change of the threshold values of the central alarm 13 the error message

F09: CHANGE OF VALIDATION DATA FOR ALARM 13 NOT POSSIBLE

is displayed.

The threshold values of some central SM alarms cannot be changed (see Table 1).

Procedure Overview

Command Code	Parameter
CHANGE-VADSM	<pre>[UNIT=<param>], ALARMGR=CENTRAL, ALARMNO=<range> , { THRESHD1=<number>, THRESHD2=<number> , TIME1=<number>, TIME2=<number>, TIME=<number>, , PRIO=<number>, HWCONT=<param>} ; |ALARMGR=PERIPHER, ALARMNO=<range> , { THRESHD1=<number>, THRESHD2=<number> , TIME1=<number>, TIME2=<number>, TIME=<number>, , PRIO=<number>, HWCONT=<param>} ;</pre>

Example

Change the threshold value for the major alarm of central alarm 21 in the ISp.

Input:

```
CHANGE-VADSM:UNIT=A1,ALARMGR=CENTRAL,ALARMNR=21,THRESHD1=20;
```

206.3.2 ACTIVATE-VADSM

ACTIVATE-VADSM can be used to activate a deactivated alarm. This is possible also for alarms whose threshold values cannot be changed (see Table 1). When its threshold values can be changed, an alarm can also be activated using 'CHANGE-VADSM'.

VADSM - Administration of NMC alarms in the SM

Functions of the AMO

Procedure Overview

Command Code	Parameter
ACTIVATE-VADSM	[UNIT=<param>], ALARMGR=CENTRAL,ALARMNO=<range>; |ALARMGR=PERIPHER,ALARMNO=<range>;

Example

Activate central alarm 13 in the ISp.

Input:

```
ACTIVATE-VADSM:UNIT=A1,ALARMGR=CENTRAL, ALARMNR=13;
```

206.3.3 DEACTIVATE-VADSM

DEACTIVATE-VADSM can be used to deactivate an active alarm. This is possible also for alarms whose threshold values cannot be changed (see Table 1). When its threshold values can be changed, an alarm can also be deactivated using 'CHANGE-VADSM'.

Procedure Overview

Command Code	Parameter
DEACTIVATE-VADSM	[UNIT=<param>], ALARMGR=CENTRAL,ALARMNO=<range>; |ALARMGR=PERIPHER,ALARMNO=<range>;

Example

Deactivate central alarm 13 in the ISp.

Input:

```
DEACTIVATE-VADSM:UNIT=A1,ALARMGR=CENTRAL, ALARMNR=13;
```


206.3.4 DISPLAY-VADSM

Procedure Overview

Command Code	Parameter
DISPLAY-VADSM	[UNIT=<param>], [ALARMGR=CENTRAL], [ALARMNO=<range>; | [ALARMGR=PERIPHER], [ALARMNO=<range>;

Examples

1. Display peripheral SM alarms 0 to 2 in the ISp.

Input:

DISPLAY-VADSM: , PERIPHERAL, 0&&2;

Output:

```

=====
=+
| ALARM GROUP: PERIPHERAL SM ALARMS                                     |
+==+=====+=====+=====+=====+=====+=====+=====+=====+=====+
=+
|AL.|THRSHD1|THRSHD2|ERR.|ERR.|TOTAL|TIME1|TIME2|TIME|PR|HW|NAME|      |
|NO.|IN %   |IN %   |ABSOL|IN %|      |[SEC]|[SEC]| [H]|  |CO|      |
+---+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-+
| 0 | DEACT | 1   | 0 | 0 | 0 | 0 | 600 | 0 | E0 | SU | SERVICE TELETYPE |
| 1 | DEACT | 1   | 0 | 0 | 0 | 0 | 600 | 0 | E0 | SU | SERVICE TELETYPE |
| 2 | DEACT | 1   | 0 | 0 | 0 | 0 | 600 | 0 | E0 | SU | SERVICE TELETYPE |
+==+=====+=====+=====+=====+=====+=====+=====+=====+=====+
=+

```

The value "DEACT" in the column "THRSHD1" shows that the minor alarm has been deactivated. Similarly, "DEACT" in the column "THRSHD2" shows that the major alarm has been deactivated. The value '0' in the column 'TIME' shows that the single device alarm also is deactivated.

"ERR." corresponds to the number of errors found (actual). It is displayed as an absolute value and as a percent value.

"TOTAL" is the number of active units monitored by the dependability system under a specific alarm number

206.3.5 REGENERATE-VADSM

All alarms (already ADDED) are regenerated by means of CHANGE commands. Only those alarms are regenerated whose validation data (THRESHD1, THRESHD2, TIME1, TIME2, TIME) deviates from the basic initialization data, i.e. those which have been changed using the AMO VADSM. In the same way, only the validation values which deviate from the initialization data will be regenerated.

Procedure Overview

Command Code	Parameter
REGENERATE-VADSM	[UNIT=<param>] , [ALARMGR=CENTRAL] , [ALARMNO=<range>] ; | [ALARMGR=PERIPHER] , [ALARMNO=<range>] ;

Example

Regenerate central SM alarm 9 in the ISp.

Input:

REG-VADSM:A1,CENTRAL,9;

206.4 Parameter Description

ALARMGR	Alarm group
Type of Input	: Single value, mandatory (CHANGE) : Single value, optional (DISPLAY; REGENERATE)
Possible Values	: CENTRAL = central SM alarm group PERIPHER = peripheral SM alarm group
Default Value	: all SM alarm groups for DISPLAY, REGENERATE
ALARMNO	Alarm number
Type of Input	: Single value, mandatory (CHANGE) Single value, optional (REGENERATE) Single value or range, optional (DISPLAY)
Possible Values	: 0- 63 ... central SM alarm 0- 23 ... peripheral SM alarm
Default Value	: range of possible input values for DISPLAY, REGENERATE

HWCONT	Hardware-Contact (Alarm Kontakt)		
	Type of Input	: Single value, mandatory (CHANGE)	
	Possible Values	: SU	=Summary Signalization
		S1	= individual Signalization LED P2 (PAL) on IOP and NAL on DP
		S2	= individual Signalization LED C3 (ZAL) on IOP and UAL auf DP
	Default Value	: SU	
PRIO	Priority		
	Type of Input	Single value, optional (CHANGE)	
	Possible values	0 - 9	
	Default Value	0	
THRESHD1/2	Threshold for major alarm		
	The value "65535" stands for deactivation of the major alarm.		
	Type of Input	: Single value, optional (CHANGE)	
	Possible Values	: 0-65535 ... for central alarm group	
		0-100 in percent and 65535 for peripheral alarm group	
TIME	Validation time for single device alarm		
	Type of Input	: Single value, mandatory(CHANGE)	
	Possible Values:	: 0-255 in hours	
TIME1	Validation time for minor alarm		
	Type of Input	: Single value, optional (CHANGE)	
	Possible Values:	: 0-65535 in seconds	
TIME2	Validation time for major alarm		
	Type of Input	: Single value, optional (CHANGE)	
	Possible Values	: 0-65535 in seconds	
UNIT	Name of hardware unit		
	Type of Input	: Single value, optional	

Possible Values	: A1	ISp
Default Value	: A1	

206.5 Error Messages and Advisories

206.5.1 Error Messages

F01: ALARM NUMBER <ALARMNO> IS NOT USED;
FOR THIS REASON, CHANGE IS NOT POSSIBLE.

F02: THE THRESHOLD VALUES FOR THIS CENTRAL ALARM ARE PRESET;
FOR THIS REASON, CHANGE IS NOT POSSIBLE.

F03: THRESHOLD VALUE 2 MUST BE GREATER THAN THRESHOLD VALUE 1.

F04: THE VALIDATION TABLE CANNOT BE LOADED FROM THE HARD DISK.

F05: THE VALIDATION TABLE CANNOT BE WRITTEN TO THE HARD DISK.

F06: DEVICE ALARM NOT POSSIBLE FOR THIS ALARM NUMBER

F07: DEVICE ALARM CAN NOT BE ACTIVATED, BECAUSE ONE UNIT
IS ALREADY SUPERVISED BY MINOR OR MAJOR ALARM

F08: CHANGE NOT POSSIBLE, BECAUSE THE ENTERED THRESHOLD = 1 UNIT
AND DEVICE ALARM ALWAYS SUPERVISES ONE UNIT

F09: CHANGE OF VALIDATION DATA FOR ALARM 13 NOT POSSIBLE

206.5.2 Advisories

H01: MINOR ALARM <ALARMNO> HAS BEEN DEACTIVATED.

H02: MAJOR ALARM <ALARMNO> HAS BEEN DEACTIVATED.

H03: NO ALARM PRESENT FOR THE SPECIFIED PARAMETERS.

H04: MINOR ALARM <ALARMNO> HAS BEEN ACTIVATED.

H05: MAJOR ALARM <ALARMNO> HAS BEEN ACTIVATED.

H06: EXPLANATION OF ALARM PRIORITY :
PRIORITY = 0 : ALARM MESSAGES FOR THIS ALARM GET THE MESSAGE PRIORITY DEFINED
BY AMO-SIGNL (SEE A9000 TO A9007)
PRIORITY = 1 TO 8 : THIS PRIORITY IS USED AS MESSAGE PRIORITY FOR ALARM
MESSAGES (SEE A9000 TO A9007) WHICH CONCERN THIS ALARM
PRIORITY = 9 TO 11 : SEE PRIORITY 0, BUT ADDITIONALLY :
(PRIORITY = 9 : ALARM MESSAGE OF THIS ALARM CLASS IS NOT SENT TO AFR1 (HTS)
(PRIORITY = 10 : ALARM MESSAGE OF THIS ALARM CLASS IS NOT SENT TO AFR2 (DMS))
(PRIORITY = 11 : ALARM MESSAGE OF THIS ALARM CLASS IS NOT SENT TO AFR1 (HTS)
AND AFR2 (DMS))

H07: ONLY THE ALARMS WHOSE HWCONT IS S1 ARE SIGNALIZED TO LED P2 (PAL) ON IOP AND
NAL ON DP. FOR THIS HW-CONTACT THE SUMMARY SIGNALISATION (ALL MINOR ALARMS) IS
DEACTIVATED. IT WILL BECOME ACTIVE AGAIN, WHEN HW-CONTACT = S1 FOR NO ALARM.

H08: ONLY THE ALARMS WHOSE HWCONT IS S2 ARE SIGNALIZED TO LED C3 (ZAL) ON IOP AND
UAL ON DP. FOR THIS HW-CONTACT THE SUMMARY SIGNALISATION (ALL MAJOR ALARMS) IS
DEACTIVATED. IT WILL BECOME ACTIVE AGAIN, WHEN HW-CONTACT = S2 FOR NO ALARM.

VADSM - Administration of NMC alarms in the SM

Error Messages and Advisories

207 VADSU - Administration of NMC alarms in the SWU

Validation Data	Interrelationships	Error Messages and Advisories
Alarm Groups	Functions of the AMO	
Restrictions	Parameter Description	

The AMO VADSU is used to administer the validation data of the NMC alarms (NMC = Network Management Center) for the dependability system in the SWU.

At a higher level, these alarms are used to indicate global system faults. At the AMO level, NMC alarms are handled in much the same way as error messages, i.e. they are output to the standard output devices such as printer, PC, RMA (Hicom teleservice or NMC).

Via AMO VADSU the SLA-Time can be entered. The SLA-Time defines the time interval, within which the alarm 'BAD IP CONNECTIVITY' is active.

The SNAPSHOT function can be activated and deactivated via AMO VADSU. If the SNAPSHOT is activated, non existent system elements will be excluded from alarm control. If the SNAPSHOT is deactivated, non existent system elements will be submitted to alarm control.

207.1 Validation Data

The characteristic data of an alarm are THRESHOLD1, THRESHOLD2, TIME1, TIME2, TIME, PRIORITY and HWCONT (alarm-contact).

There are the following alarm levels : Major (urgent), minor (not-urgent) alarm and device alarm (single device alarm). Each alarm level is defined by its validation data.

The validation data of minor alarm are THRESHOLD1 and TIME1 (validation time), the validation data of major alarm are THRESHOLD2 and TIME2. The respective alarm level is indicated, when the error counter assigned to the alarm has reached or exceeded the threshold value continuously during the specified validation time. This ensures that 'sporadic' faults are not indicated. Alternatively, the alarm will only be deactivated if the respective threshold value is not reached during the whole validation time. The threshold values of central alarms are defined as absolute values, the threshold values of peripheral or logical alarms are defined in percent of the count of relevant units. The difference between major and minor alarm is only that THRESHOLD2

must be greater than THRESHOLD1. The major or minor alarm can be deactivated, when its threshold is set to 65535. This can be done by call of either CHANGE-VADSU or DEACTIVATE-VADSU.

The most alarms have the device alarm (single device alarm) as a third alarm level. Its purpose is to indicate failed units below the threshold level of major/ minor alarm. The two differences between the validation data of major / minor alarm and device alarm are the following : The threshold of device alarm is always equal to one unit and its validation time (TIME) can be much longer (255 hours instead of 65535 seconds). So the device alarm is indicated when at least one unit is defect during a long period. The device alarm can be deactivated, when its validation time is set to 0 (this is possible by CHANGE-VADSU only).

A global filter for alarm messages has been added to the system to prevent not-service-relevant messages. AMO-SIGNL defines the minimum priority of the alarms which are forwarded by SIT. The PRIORITY of each single SWU alarm can be changed by AMO-VADSU. Its default value is 0 (lowest priority).

Alarms can also be signaled by LEDs. The parameter 'HWCONT' defines, which LEDs are assigned to which alarm(s). Normally HWCONT = SU for all alarms. This means : When at least one minor alarm is active, the LEDs 'P2' on IOP and 'NAL' on DP are in state 'on' and when at least one major alarm is active, the LEDs 'C3' on IOP and 'UAL' on DP are in state 'on' (summary signalisation). But when HWCONT is set to S1 for one (or more) alarm(s), 'P2' and 'NAL' are in state 'on' only when this (or these) alarm(s) are active and when HWCONT is set to S2 for one (or more) alarm(s), the LEDs 'C3' and 'UAL' are in state 'on' only when this (or these) alarm(s) are active.

207.2 Alarm Groups

1. Central alarms

Central SWU (max. 64; alarm nos. 0-63) alarms are used to indicate faults in common or shared HW components in the system (e.g. failure of redundant SWU hardware).

By default, central alarms are preset by the system. There are central alarms for the SWU (administered by the AMO VADSU), and central alarms for the ADS and the servers (administered by the AMO VADSM). The AMO VADSU can only be used to change threshold values and validation times.

The table below refers only to the central alarms used in the SWU (all other types of alarm are either not used or administered by the AMO VADSM).

Alarm Groups

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VADSU - Administration of NMC alarms in the SWU

Alarm Groups

ALARMN O	THRSHD1 in %	THRSHD2 in %	TIME1 in sec	TIME2 in sec	TIME in h	PR	HW- CO	NAME
0	50	90	600	600	0	E0	SU	C-O-TRUNK/EXCH-LINE
1	50	90	600	600	0	E0	SU	TIE-LINE
2	50	90	600	600	0	E0	SU	MULTIPLE DEVICES
3	10	90	600	600	0	E0	SU	ANALOG VOICE DEVICES
4	10	90	600	600	0	E0	SU	DIGITAL VOICE DEVICES
5	DEACT	1	0	600	0	E0	SU	ATTENDANT-CONSOLE
6	50	90	600	600	0	E0	SU	C-O/EXCHANGE DATA LINE
7	50	90	600	600	0	E0	SUS	TIE DATA-LINE
10	25	50	600	600	0	E0	USU	TFS-LINE
11	25	50	600	600	0	E0	SU	VMS-LINE
12	50	90	600	600	0	E0	SU	APSE
13	DEACT	DEACT	0	0	0	E0	SU	OTHER-DEVICES
14	10	90	600	600	0	E0		DATA-DEVICES

THRSHD1 Threshold value for minor alarm (in percent)
 THRSHD2 Threshold value for major alarm (in percent)
 TIME1 Validation time for minor alarm (in seconds)
 TIME2 Validation time for major alarm (in seconds)
 TIME Validation time for single device alarm (in hours)
 PR Priority of the alarm
 HW-CO HW contact (alarm contact)
 DEACT Major/minor alarm has been deactivated

Table 47 Peripheral SWU alarms (basic initialization)

3. Locical SWU alarms

Logical SWU alarms (up to 583; alarm nos. 1 to 583) can be divided into the following three groups:

a) Special alarms

Special alarms (up to 7; alarm nos. 1 to 7) are 'aggregate' alarms which are used for example to indicate faults in route-specific CO trunks (outgoing/incoming).

By default, special alarms are preset by the system. The AMO VADSU can only be used to change threshold values and validation times.

ALARMNO	THRSHD1 in %	THRSHD2 in %	TIME1 in sec	TIME2 in sec	TIME in h	PR	HW- CO	NAME
1	DEACT	DEACT	0	0	0	E0	SU	INWARD-TRUNK/EX-LINE
2	DEACT	100	0	1	0	E0	SU	OUTWARD-TRUNK/EX-LINE
4	1	DEACT	300	0	0	E0	SU	DIUC-ITALY
5	50	90	600	600	0	E0	SU	PHONEMAIL-ACCESS
.....		...	...	...	..	..	..	...
THRSHD1 Threshold value for minor alarm (in percent) THRSHD2 Threshold value for major alarm (in percent) TIME1 Validation time for minor alarm (in seconds) TIME2 Validation time for major alarm (in seconds) TIME Validation time for single device alarm (in hours) PR Priority of the alarm HW-CO HW contact (alarm contact) DEACT Major/minor alarm has been deactivated								

Table 48 Special alarms (basic initialization)

Note

Alarm numbers 1 and 2 must only be activated alternatively since it is not possible to monitor both incoming/bothway CO trunks (ALARMNO 2) and incoming CO trunks (ALARMNO 1) for trunk failure transfer at the same time.

a) Directional alarms

Directional alarms (up to 512; alarm nos. 8 to 519) are used to indicate faults in trunk groups consisting of tie trunks, special equipment (APSE) or call charge lines. This means that all trunks of this type (which can be identified by the the fact that they have been set up with a "PEN") can be grouped together by setting up a directional alarm with the AMO VADSU. A single trunk, several trunks, a trunk group configured by the AMO BUEND or an individual group of trunks can be grouped together under one alarm type.

The AMO VADSU can be used to specify threshold values, validation times, priority, HW contact and alarm names.

The AMOs TACSU, TDCSU and TSCSU are used to assign the directional alarm numbers configured by means of the AMO VADSU to "PENs". Since V2.0 it is also possible to assign a directional alarm to a station number. This can be done only via a special DEP procedure.

Trunk groups and individual trunks (only 'incoming') can also be assigned to a directional alarm, provided they have not been assigned to alarm number 1 or 2 (special alarms) which are used for trunk failure transfer.

VADSU - Administration of NMC alarms in the SWU

Restrictions

b) Personal alarms

Personal alarms (up to 64; alarm nos. 520 to 583) are used to indicate faults in terminals which have been assigned a station number.

All terminals assigned to a station number (incl. multifunction terminals) are assigned to a particular alarm.

The AMO VADSU can be used to specify threshold values, validation times and alarm names.

The AMOs SBCSU and SCSU are used to assign the personal alarm numbers configured by means of the AMO VADSU to station numbers.

4. Peripheral alarms

Peripheral SM (Service Module) alarms are used to indicate faults in the SM periphery. They are administered by the AMO VADSM.

207.3 Restrictions

This description is valid from SP300 E V2.0.

207.4 Interrelationships

- AMO SBCSU : Configure terminals and S0 bus in the SWU
- AMO SCSU : Configure stations in the SWU
- AMO TACSU : Configure analog trunk circuits in the SWU
- AMO TDCSU : Configure digital trunk circuits in the SWU
- AMO TSCSU : Configure special circuits in the SWU
- AMO VADSM : Administer NMC alarms in the SM

207.5 Functions of the AMO

- [ADD-VADSU](#) : Add the directional or personal alarms for logical NMC alarms in the SWU
Add the SLA-Time
- [CHANGE-VADSU](#) : Change the validation data for central, peripheral or logical NMC alarms in the SWU
- [ACTIVATE-VADSU](#) : Activate a central, peripheral or logical alarm
Activate the SNAPSHOT function

- **DEACTIVATE-VADSU** : Deactivate a central, peripheral or logical alarm
Deactivate the SNAPSHOT function
- **DELETE-VADSU** : Delete the directional or personal alarms for the logical NMC alarms in the SWU (including their (assignments to "PENS" or station numbers)
- **DISPLAY-VADSU** : Display the validation data for central, peripheral or logical NMC alarms in the SWU, or display the assignments of logical NMC alarms in the SWU to "PENS" or station numbers
Display the status of the SNAPSHOT function
Display the SLA-Time
- **REGENERATE-VADSU** : Regenerate the validation data for central, peripheral, logical or all NMC alarms in the SWU

207.5.1 ADD-VADSU

Adding directional or personal alarms for logical alarms.

The alarm number can be specified directly using the parameter ALARMNO. If ALARMNO is not specified, the next free alarm number (directional or personal) will be assigned.

Add of SLA-Time: The SLA-Time (the time interval, within which the alarm 'BAD IP

CONNECTIVITY' is active) can be entered via the ramification parameter SLATIME.

The format of the further parameter 'begin time' and 'end time' is explained in the Procedure Overview.

Procedure Overview

Command Code	Parameter
ADD-VADSU	ANTYPE=<DIR>, [ALARMNO=<number>] ,THRESHD1=<number>,THRESHD2=<number> ,TIME1=<number>,TIME2=<number>, [TIME=<number>]

VADSU - Administration of NMC alarms in the SWU

Functions of the AMO

```
, [PRIO=<number>], [HWCONT=<param>], , NAME=<string>;

| ANTYPE=<PERS>, [ALARMNO=<number>]
, THRESHD1=<number>, THRESHD2=<number>
, TIME1=<number>, TIME2=<number>, [TIME=<number>]
, [PRIO=<number>], [HWCONT=<param>], , NAME=<string>;

| ANTYPE=<SPEC>, [ALARMNO=<number>]
, THRESHD1=<number>, THRESHD2=<number>
, TIME1=<number>, TIME2=<number>, [TIME=<number>]
, [PRIO=<number>], [HWCONT=<param>], , NAME=<string>;

| ANTYPE=SLATIME, BEGINH=<number>, BEGINM=<number>,
ENDH=<number>, ENDM=<number>;
```

Examples

1. Add a directional alarm (search for a free alarm number).

Input:

```
ADD-VADSU: ANTYPE=DIR, THRESHD1=10, THRESHD2=20, TIME1=300, TIME2=600, TIME=1, PRIO=2,
HWCONT=S1, NAME=EXAMPLEALARM;
```

Output:

```
H01: ALARM NUMBER 11 WAS ADDED.
```

2. Add directional alarm 8.

Input:

```
ADD-VADSU: ANTYPE=DIR, ALARMNO=8, THRESHD1=1, THRESHD2=65535, TIME1=300, TIME2=0,
NAME=EXAMPLEALARM2;
```

Output:

```
H03: MAJOR ALARM 8 HAS BEEN DEACTIVATED.
```

3. Add SLA-Time:

Input:

```
ADD-VADSU: ANTYPE=SLATIME, BEGINH=13, BEGINM=45, ENDH=20, ENDM=30;
```

Output:

```
ADD COMPLETED;
```

207.5.2 CHANGE-VADSU

Changing the validation data of central, peripheral or logical alarms. CHANGE-VADSU can be used to change threshold values and validation times. With directional or personal alarms, it can also be used to change the alarm name.

The threshold values of some central SWU alarms cannot be changed (see Table 1).

Procedure Overview

Command Code	Parameter
CHANGE-VADSU	<pre> ALARMGR=CENTRAL,ALARMNO=<number> , {THRESHD1=<number>,THRESHD2=<number> ,TIME1=<number>,TIME2=<number>,TIME=<number> ,PRIO=<number>,HWCONT=<param>; |ALARMGR=PERIPHER,ALARMNO=<number> , {THRESHD1=<number>,THRESHD2=<number> ,TIME1=<number>,TIME2=<number>,TIME=<number> ,PRIO=<number>,HWCONT=<param>; |ALARMGR=LOGICAL,ALARMNO=<number> , {THRESHD1=<number>,THRESHD2=<number> ,TIME1=<number>,TIME2=<number>,TIME=<number> ,PRIO=<number>,HWCONT=<param>,NAME=<string>; </pre>

Example

Change the threshold value for the major alarm of central alarm 5.

Input:

```
CHANGE-VADSU:ALARMGR=CENTRAL,ALARMNO=5,THRESHD2=4;
```

207.5.3 ACTIVATE-VADSU

Activate a not active alarm. When threshold values can be changed, activation of an alarm is also possible using 'CHANGE-VADSU'.

Procedure Overview

Command Code	Parameter
ACTIVATE-VADSU	[ALARMGR=CENTRAL,ALARMNO=<range>; |ALARMGR=PERIPHER,ALARMNO=<range>; |ALARMGR=LOGICAL,ALARMNO=<range>; |ALARMGR=SNAPSHOT;

Examples

1. Activate a central alarm:

Input:

ACT-VADSU:CENTRAL, 5;

Output:

H500: AMO VADSU STARTED
H09: MINOR ALARM 5 HAS BEEN ACTIVATED.
H10: MAJOR ALARM 5 HAS BEEN ACTIVATED.
AMO-VADSU-69 NMC ALARMS CONFIGURATION, SWITCHING UNIT
ACTIVATE COMPLETED;

2. Activate the SNAPSHOT function

Input:

ACT-VADSU:SNAPSHOT;

Output:

H500: AMO VADSU STARTED
AMO-VADSU-69 NMC ALARMS CONFIGURATION, SWITCHING UNIT
ACTIVATE COMPLETED;

207.5.4 DEACTIVATE-VADSU

Deactivate a not active alarm. All alarms can be deactivated, even those, whose thresholds can not be changed.

When threshold values can be changed, an alarm can also be deactivated using 'CHANGE-VADSU'.

Procedure Overview

Command Code	Parameter
DEACTIVATE-VADSU	[ALARMGR=CENTRAL,ALARMNO=<range>; |ALARMGR=PERIPHER,ALARMNO=<range>; |ALARMGR=LOGICAL,ALARMNO=<range>;; |ALARMGR=SNAPSHOT;

Examples

1. Deactivate a central alarm:

Input:

```
DEACT-VADSU:CENTRAL,5;
```

Output:

```
H500: AMO VADSU STARTED
H02: MINOR ALARM 5 HAS BEEN DEACTIVATED.
H03: MAJOR ALARM 5 HAS BEEN DEACTIVATED.
AMO-VADSU-69          NMC ALARMS CONFIGURATION, SWITCHING UNIT
DEACTIVATE COMPLETED;
```

2. Activate the SNAPSHOT function

Input:

```
DEACT-VADSU:SNAPSHOT;
```

Output:

```
H500: AMO VADSU STARTED
AMO-VADSU-69          NMC ALARMS CONFIGURATION, SWITCHING UNIT
DEACTIVATE COMPLETED;
```

207.5.5 DELETE-VADSU

Deleting directional or personal alarms for logical alarms (including their assignments to "PENs" or station numbers.

Procedure Overview

Command Code	Parameter
DELETE-VADSU	ALARMNO=<number>;

Example

Delete the directional, logical alarm 60.

Input:

DELETE-VADSU: 60;

Output:

H04: ALARM NUMBER 60 HAS BEEN DELETED;
ANY ASSIGNMENTS TO THE FOLLOWING PENS WERE CANCELED:
1-01-007-00 1-01-007-01 1-01-007-02 1-01-007-03
1-01-007-04
1-01-007-05 1-01-007-06

207.5.6 DISPLAY-VADSU

Displaying the validation data of central, peripheral or logical alarms, or displaying the assignments of logical alarm numbers to "PENS" or station numbers.

Procedure Overview

Command Code	Parameter
DISPLAY-VADSU	[TYPE=CENTRAL], [ALARMNO=<range>]; | [TYPE=PERIPHER], [ALARMNO=<range>]; | [TYPE=LOGICAL], [ANTYPE=SPEC], [ALARMNO=<range>]; | [ANTYPE=DIR], [ALARMNO=<range>]; | [ANTYPE=PERS], [ALARMNO=<range>]; | [TYPE=ASS], [ALARMNO=<range>]; | [TYPE=SNAPSHOT]; | [TYPE=SLATIME];

Examples :

- 1. Display peripheral alarms 0 to 2 :

Input:

DISPLAY-VADSU: PERIPHER,0&&2;

Output:

=====												
| ALARM GROUP: PERIPHERAL SWU ALARMS												
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+												
|AL.|THRSHD1|THRSHD2|ERR.|ERR.|TOTAL|TIME1|TIME2|TIME|PR|HW|NAME												
|NO.|IN %|IN %|ABSO|IN %||[SEC]|[SEC]|[H]|CO|												
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+												
|0|50|90|24|12|200|600|600|0|E0|SU|C-O-TRUNK/EXCH-												
LINE|												
|1|50|90|0|0|5|600|600|0|E0|SU|TIE-LINE												
|2|DEACT|50|5|10|50|0|600|0|E0|SU|MULTIPLE DEVICES												
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+												

The value "DEACT" in the column "THRSHD1" shows that the minor alarm has been deactivated. Similarly, "DEACT" in the column "THRSHD2" shows that the major alarm has been deactivated. The value '0' in the column 'TIME' shows that single device alarm also is deactivated.

"ERR." corresponds to the number of errors found (actual). The error count is displayed as an absolute value and, additionally, as a percent value. Note: Actual means an absolute from a system point of view e.g. for a Central Alarm LTU failure 2 would be set so a Major Alarm is generated. The value itself would never exceed 2 even with multiple LTU failures because 2 has already been reached and a Major Alarm set.

"TOTAL" is the number of active units (such as stations, CO/tie trunks etc.) monitored by the dependability system under a specific alarm number (e.g. trunks which have been deactivated by means of an AMO are not monitored).

2. Display the assignments for logical alarm numbers 61 to 66 :

Input:

DISPLAY-VADSU: ASS,61&&66;

Output:

=====				
| ASSIGNMENT: DIRECTIONAL ALARMS				
=====				
| ALARM | ASSIGNED PENS / STATION NUMBERS				
| NO. |				
=====				
| 61 |	1-01-007-00	1-01-007-01	1-01-007-02	1-01-007-03
=====				
| 63 |	1-01-007-05			
=====				

VADSU - Administration of NMC alarms in the SWU
Functions of the AMO

=====+									
+=====+									
| ASSIGNMENT: PERSONAL ALARMS									
+=====+									
| ALARM | ASSIGNED STATION NUMBERS									
| NO. |									
+=====+									
| 64 | 2500 2501 2503 2507 2511 2533 2534 2535									
| | 2536 2541									
+-----+									
| 65 | 3405 3502									
+-----+									
| 66 | 3300 3301									
+=====+									

3. Display the state of theSNAP function.

Input:

DISP-VADSU:TYPE=SNAPSHOT;

Output:

H500: AMO VADSU STARTED

=====+									
| DISPLAY SNAPSHOT: STATE									
+=====+									
| SNAPSHOT - STATE : OFF									
+=====+									

AMO-VADSU-69 NMC ALARMS CONFIGURATION, SWITCHING UNIT
DISPLAY COMPLETED;

Thereby "SNAPSHOT - STATE : ON": means that non existent system elements are exluded from alarm control. "SNAPSHOT - STATE : OFF": means that non existent system elements are submitted to alarm control.

4. Display of SLA - Time.

Input:

DISP-VADSU:TYPE=SNAPSHOT;

Output:

H500: AMO VADSU STARTED

=====+									
| SALATIME									
| BEGIN: 02:35 END: 13:40									
+=====+									

AMO-VADSU-69 NMC ALARMS CONFIGURATION, SWITCHING UNIT
DISPLAY COMPLETED;

This means that the alarm "BAD IP CONNECTIVITY" is activated from 02H:35M to 13H:40M.

207.5.7 REGENERATE-VADSU

Regenerating the validation data of central, peripheral, logical or all alarms.

Any existing personal or directional alarms are completely regenerated by the ADD command.

All other alarms (always existing) are regenerated by means of CHANGE commands. Only those alarms are regenerated whose validation data (THRESHD1, THRESHD2, TIME1, TIME2, TIME, PRIO, HWCONT) deviates from the basic initialization data, i.e. those which have been changed using the AMO VADSU. In the same way, only the validation values which deviate from the initialization data will be regenerated.

The validation table with the basic initialization values, which is stored on the hard disk, serves as a reference.

The assignments of the personal and directional alarm numbers are regenerated using the AMOs SBCSU, SCSU, TACSU, TDCSU and TSCSU.

Procedure Overview

Command Code	Parameter
REGENERATE-VADSU	[ALARMGR=CENTRAL], [ALARMNO=<number>; | [ALARMGR=PERIPHER], [ALARMNO=<number>; | [ALARMGR=LOGICAL], [ALARMNO=<number>;

Example

Regenerate central alarm 1.

Input:

REG-VADSU:CENTRAL,1;

Output:

CHANGE-VADSU:MMA,CENTRAL,1,,3,300,300,,,;

207.6 Parameter Description

ALARMGR	Alarm group	
Type of Input	: Single value, mandatory (CHANGE) Single value, optional (REGENERATE)	
Possible Values	: CENTRAL = central SWU alarm group PERIPHER = peripheral SWU alarm group LOGICAL = logical SWU alarm group SLATIME = Time interval, within which the alarm 'BAD IP CONNECTIVITY' is activated SNAPSHOT = Non existent sysrem elements submitted to or excluded from alarm control	
Default Value	: all alarm groups (REGENERATE)	
ALARMNO	Alarm number	
Type of Input	: Single value, optional (ADD, REGENERATE) Single value, mandatory (CHANGE, DELETE) Single value or range, optional (DISPLAY)	
Possible Values	: 8-583 for ADD, DELETE (8- 519 directional alarm 520 - 583 ... personal alarm) 0-583 for CHANGE (0 - 63 ... central SWU alarm 0 - 31 ... peripheral SWU alarm 1 - 583 ... logical SWU alarm) 0-583 for DISPLAY (0- 63 ... TYPE=CENTRAL 0- 31 ... TYPE=PERIPHER 1- 7 ... TYPE=LOGICAL and ANTYPE=SPEC 8 - 519 ... TYPE=LOGICAL and ANTYPE=DIR 520 - 583 ...TYPE=LOGICAL and ANTYPE=PERS 1-583 ... TYPE=ASS) 0-583 for REGENERATE (0- 63 ... ALARMGR=CENTRAL 0- 31 ... ALARMGR=PERIPHER 1 - 583 ... ALARMGR=LOGICAL)	
Default Value	: a free alarm number is searched for (ADD) range of possible input values (DISPLAY) all alarms in the specified alarm group	

(REGENERATE)

ANTYPE	Type of logical alarm number (to be added) Type of Input : Single value, mandatory (ADD) Single value, optional (DISPLAY) Possible Values : DIR = number of directional alarm PERS = number of personal alarm SPEC = number of special alarm (only for DISPLAY) SLATIME = Time interval, within which the alarm 'BAD IP CONNECTIVITY' is active Default Value : DIR, PERS and SPEC (DISPLAY)
HWCONT	Hardware-Contact (Alarm Kontakt) Type of Input : Single value, optional (CHANGE, ADD) Possible Values : SU =Summary Signalization (see 0.1.1) S1 = individual Signalization LED P2 (PAL) on IOP and NAL on DP S2 = individual Signalization LED C3 (ZAL) on IOP and UAL auf DP Default Value : SU
NAME	Alarm name The alarm name can only be changed for directional and personal alarms. The first four positions of the name of directional alarms must be unambiguous. The name must not begin with the strings "P00" through "P99" or "R00" through "R99". The string "FREE ALARM" must not be part of the name. These restrictions must be observed for administrative reasons. Type of Input : Single value, mandatory (ADD) Single value, optional (CHANGE) Possible Values : alphanumeric, up to 17 digits
PRIO	Priority Type of Input : Single value, optional (CHANGE) Possible values : 0 -11 (see advisory message H12) Default value : 0
THRESHD1	Threshold for minor alarm The value "65535" stands for deactivation of the minor alarm.

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Parameter Description

	Type of Input	: Single value, mandatory (ADD) Single value, optional (CHANGE)
	Possible Values	: 0-65535 ... for central alarm group 0-100 in percent and 65535 for peripheral and logical alarm group
THRESHD2	Threshold for major alarm	
	The value "65535" stands for deactivation of the major alarm.	
	Type of Input	: Single value, mandatory (ADD) Single value, optional (CHANGE)
	Possible Values	: 0-65535 ... for central alarm group 0-100 in percent and 65535 for peripheral and logical alarm group
TIME	Validation time for single device alarm in hours	
	Type of Input	: Single value, mandatory (CHANGE)
	Possible Values	: 0-255
TIME1	Validation time for minor alarm in seconds	
	Type of Input	: Single value, mandatory (ADD) Single value, optional (CHANGE)
	Possible Values	: 0-65535
TIME2	Validation time for major alarm in seconds	
	Type of Input	: Single value, mandatory (ADD) Single value, optional (CHANGE)
	Possible Values	: 0-65535
TYPE	Type of DISPLAY (special alarm group or assignments)	
	Type of Input	: Single value, optional
	Possible Values	: CENTRAL = central SWU alarm group PERIPHER = peripheral SWU alarm group LOGICAL = logical SWU alarm group ASS = assignments
	Default Value	: all alarm groups and assignments

207.7 Error Messages and Advisories

207.7.1 Error Messages

F01: ALARM NUMBER <ALARMNO> ALREADY EXISTS.
 F02: NO DIRECTIONAL ALARM NUMBER (8-519) FREE.
 F03: NO PERSONAL ALARM NUMBER (520-583) FREE.
 F04: THRESHOLD VALUE 2 MUST BE GREATER THAN THRESHOLD VALUE 1.
 F05: ALARM NAME IS IMPLAUSIBLE.
 F06: THE FIRST FOUR POSITIONS OF THE NAMES OF DIRECTIONAL ALARMS
 MUST BE UNAMBIGUOUS.
 F07: ALARM NUMBER <ALARMNO> IS NOT USED; FOR THIS REASON, CHANGE IS NOT POSSIBLE.
 F08: THE THRESHOLD VALUES FOR THIS CENTRAL ALARM ARE PRESET;
 FOR THIS REASON, CHANGE IS NOT POSSIBLE.
 F09: ONLY THE NAME OF DIRECTIONAL AND PERSONAL ALARMS MAY BE CHANGED.
 F10: ALARM NUMBER <ALARMNO> DOES NOT EXIST.
 F11: ALARM NUMBERS 1 AND 2 (SPECIAL ALARMS) MUST NOT BE ACTIVATED SIMULTANEOUSLY.
 ALARM NUMBER <1/2> CAN ONLY BE ACTIVATED WHEN ALARM NUMBER <2/1> WAS
 DEACTIVATED
 F12: THE VALIDATION TABLE CANNOT BE LOADED FROM THE HARD DISK.
 F13: THE VALIDATION TABLE CANNOT BE WRITTEN TO THE HARD DISK.
 F14: DEVICE ALARM NOT POSSIBLE FOR THIS ALARM NUMBER
 F15: WHEN ONE UNIT IS SUPERVISED BY MAJOR OR MINOR ALARM,
 DEVICE ALARM CAN NOT BE ACTIVE AT THE SAME TIME
 F16: CHANGE NOT POSSIBLE, BECAUSE THE ENTERED THRESHOLD = 1 UNIT
 AND DEVICE ALARM IS ACTIVE, WHEN ALWAYS SUPERVISES ONE UNIT
 F17: NO RESPONSE FOR THE SNAPSHOT MESSAGE FROM DEVICE CONTROL
 F18: BEGINTIME @@H,@@M DOES NOT LIE BEFORE ENDTIME @@H,@@M.
 F19: NEGATIVE RESPONSE FOR THE SNAPSHOT MESSAGE FROM DEVICE CONTROL

207.7.2 Advisories

H01: ALARM NUMBER <ALARMNO> HAS BEEN ADDED.
 H02: MINOR ALARM <ALARMNO> HAS BEEN DEACTIVATED.
 H03: MAJOR ALARM <ALARMNO> HAS BEEN DEACTIVATED.
 H04: ALARM NUMBER <ALARMNO> HAS BEEN DELETED;
 ANY ASSIGNMENTS TO THE FOLLOWING PENS HAVE BEEN CANCELED:
 <gg-u-bbb-ss> <gg-u-bbb-ss> ...
 H05: ALARM NUMBER <ALARMNO> HAS BEEN DELETED;
 ANY ASSIGNMENTS TO THE FOLLOWING STATION NUMBERS HAVE BEEN CANCELED:
 <stno> <stno> ...
 H06: ALARM NUMBER <ALARMNO> HAS BEEN DELETED; THERE WERE NO ASSIGNMENTS.
 H07: NO ALARM PRESENT FOR THE SPECIFIED PARAMETERS.
 H08: NO ALARM ASSIGNMENTS PRESENT.
 H09: MINOR ALARM <ALARMNO> HAS BEEN ACTIVATED.

VADSU - Administration of NMC alarms in the SWU

Error Messages and Advisories

- H10: MAJOR ALARM <ALARMNO> HAS BEEN ACTIVATED.
- H11: AN ALARM INITIALIZED WITH 'DEACT' CAN ONLY BE ACTIVATED USING 'CHANGE-VADSU'
- H12: EXPLANATION OF ALARM PRIORITY :
- PRIORITY = 0 : ALARM MESSAGES FOR THIS ALARM GET THE MESSAGE PRIORITY DEFINED BY AMO-SIGNL (SEE A9000 TO A9007)
 - PRIORITY = 1 TO 8 : THIS PRIORITY IS USED AS MESSAGE PRIORITY FOR ALARM MESSAGES (SEE A9000 TO A9007) WHICH CONCERN THIS ALARM
 - PRIORITY = 9 TO 11 : SEE PRIORITY 0, BUT ADDITIONALLY :
 - (PRIORITY = 9 : ALARM MESSAGE OF THIS ALARM CLASS IS NOT SENT TO AFR1 (HTS)
 - (PRIORITY = 10 : ALARM MESSAGE OF THIS ALARM CLASS IS NOT SENT TO AFR2 (DMS))
 - (PRIORITY = 11 : ALARM MESSAGE OF THIS ALARM CLASS IS NOT SENT TO AFR1 (HTS) AND AFR2 (DMS))
- H13: ONLY THE ALARMS WHOSE HWCONT IS S1 ARE SIGNALIZED TO LED P2 (PAL) ON IOP AND NAL ON DP. FOR THIS HW-CONTACT THE SUMMARY SIGNALISATION (ALL MINOR ALARMS) IS DEACTIVATED. IT WILL ONLY BECOME ACTIVE AGAIN, WHEN HW-CONTACT = S1 FOR NO ALARM.
- H14: ONLY THE ALARMS WHOSE HWCONT IS S2 ARE SIGNALIZED TO LED C3 (ZAL) ON IOP AND UAL ON DP. FOR THIS HW-CONTACT THE SUMMARY SIGNALISATION (ALL MAJOR ALARMS) IS DEACTIVATED. IT WILL ONLY BECOME ACTIVE AGAIN, WHEN HW-CONTACT = S2 FOR NO ALARM.
- H15: THE SNAPSHOT FUNCTION IS ALREADY DEACTIVATED.

208 VBZ - internal traffic restrictions

The description of this AMO is only available in html format!

209 VBZA - Internal traffic restrictions for stns. with card readers

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

A second static traffic relations matrix, traffic relations matrix 2, is introduced in addition to traffic relations matrix 1 (created by AMO VBZ). It regulates communications from subscribers with cards to stations with card readers.

The object is the limitation of the mobility of subscribers with ID cards, e.g. for tenant service, and limiting of follow-me call forwarding (AUL) of subscribers with ID cards. Without traffic relations matrix 2, subscribers with ID cards could move about freely within the system by bypassing the blocks set in traffic relations matrix 1.

The same traffic groups are used for traffic relations matrix 2 as for traffic relations matrix 1. Traffic relations matrix 2 is a fully-defined matrix (16 by 16).

The following traffic relations are possible between two traffic groups:

- A = allowed
- D = denied

Directional communications between 2 traffic groups can therefore be covered as well.

	Card	-->	Card reader
E.g.:	ITR Gr 05	-->	03 allowed
	ITR Gr 03	-->	05 denied

When a subscriber inserts his ID card into a card reader, a check is made via traffic relations matrix 2 as to whether he can raise his class of service.

If the call to the card reader is not permitted, he can telephone only with the station owner's classes of service, as if he had not inserted his card.

Traffic relations matrix 2 is set up by the data base and initialized with A (allowed); the ADD branch is unnecessary in this AMO.

VBZA - Internal traffic restrictions for stns. with card readers

Restrictions

Example:

Communications between ID card and card reader are shown and explained with the aid of an instantaneous representation of traffic relations matrix 2.

		ITR GROUPS (ID READER)															
ITR MATRIX																	
		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
ITR GROUPS (ID)	0	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	1	D	A	D	D	D	D	D	D	A	D	D	A	D	D	D	D
	2	D	D	A	D	D	D	D	D	D	D	D	D	D	D	D	D
	3	D	D	D	A	D	D	D	D	D	D	D	D	D	D	D	D
	4	D	D	D	D	A	D	D	D	D	D	D	D	D	D	D	D
	5	D	D	D	D	D	A	D	D	D	D	D	D	D	D	D	D
	6	D	D	D	D	D	D	A	D	D	A	D	D	A	D	D	D
	7	D	D	D	D	D	D	A	D	D	D	D	D	D	D	D	D
	8	D	D	D	D	D	D	D	A	D	D	D	D	D	D	D	D
	9	D	D	D	D	D	D	A	D	D	A	D	D	A	D	D	D
	10	D	D	D	D	D	D	D	D	D	A	D	D	D	D	D	D
	11	D	D	D	D	D	D	D	D	D	D	A	D	D	D	D	D
	12	D	A	D	D	D	D	A	D	D	A	D	D	A	D	D	D
	13	D	D	D	D	D	D	D	D	D	D	D	D	A	D	D	D
	14	D	D	D	D	D	D	D	D	D	D	D	D	D	A	D	D
	15	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	D

Meaning:

ITRGR 12 is permitted to communicate with traffic groups 1, 6, and 9. This means, for example, that a subscriber of traffic group 12 can insert his ID card in any card reader of traffic groups 1, 6, and 9 and use his own classes of service.

ITRGR 9 is not permitted to communicate with group 1, meaning that if a subscriber of traffic group 9 inserts his ID in a card reader of traffic group 1, he cannot use his own classes of service, but only those of the owner of the connection of group 1, as if he had not inserted his ID card.

209.1 Restrictions

This description is valid from SP300-V3.1

209.2 Interrelationships

None

209.3 Funtions of the AMO

- [CHANGE-VBZA](#) : Change traffic relations between ID card and card reader
- [DISPLAY VBZA](#) : Display traffic relations between ID card and card reader
- [REGENERATE VBZA](#) : Regenerate traffic relations between ID card card reader

209.3.1 CHANGE-VBZA

Procedure Overview

Command Code	Parameter
CHANGE-VBZA	ID=<number>, ITRGR=<param>, IDCR=<number>;

Examples

1. The traffic groups of traffic relations matrix 2 are to contain all non-permitted traffic relations.

Input:

CHANGE-VBZA:0&&15,D,0&&15;

2. All traffic groups for the ID card may have permitted communications with the card reader traffic groups (3,4,5,6).

Input:

CHANGE-VBZA:0&&15, ITRGR=A, IDCR=3&&6;

209.3.2 DISPLAY VBZA

Procedure Overview

Command Code	Parameter
DISPLAY-VBZA	;

Example

Display of traffic relations from ID card to card reader.

Input:

DISPLAY-VBZA;

Output:

VBZA - Internal traffic restrictions for stns. with card readers

Funtions of the AMO

ITR MATRIX	ITR GROUPS (ID READER)															
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
ITR GROUPS (ID)	0	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	1	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	2	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	3	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	4	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	5	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	6	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	7	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	8	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	9	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	10	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	11	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	12	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	13	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	14	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D
	15	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D

209.3.3 REGENERATE VBZA

Procedure Overview

Command Code	Parameter
REGENERATE-VBZA	;

Examples

Regeneration of traffic relations matrix given in example

Input:

REGENERATE-VBZA;

Output:

CHANGE-VBZA: 00&&15 , A , 00&&15 ;

CHANGE-VBZA: 0, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 1, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 2, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 3, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 4, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 5, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 6, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 7, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 8, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 9, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 10, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 11, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 12, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 13, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 14, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

CHANGE-VBZA: 15, D , 0& 1& 2& 7& 8& 9&10&11&12&13&14&15 ;

209.4 Parameter Description

ID	Internal traffic restriction groups of a stn. with ID facility		
Type of Input	:	Single value, chained single values, range mandatory	
Possible Values	:	00 to 15	
IDCR	Internal traffic restriction group of a station with card reader		
Type of Input	:	Single value, chained single values, range mandatory	
Possible Values	:	00 to 15	
ITRGR			
Type of Input	:	Single value, mandatory	
Possible Values	:	A	allowed from card user to card reader, card reader to card user unchanged.
		D	denied from card user to card reader, card reader to card user unchanged.

209.5 Error Messages and Advisories

none

VBZA - Internal traffic restrictions for stns. with card readers

Error Messages and Advisories

210 VBZGR - Internal Traffic Restriction Groups

Interrelationships	Parameter Descriptions
Functions of the AMO	Error Messages and Advisories

AMO VBZGR (internal traffic restriction groups) allocates the corresponding destinations for hotline (application) to the internal traffic restriction groups.

Hotline = Immediate call setup.

By means of this AMO, code calling system, customer names for call forwarding, listener, zone allocation for call detail recording for both internal and incoming connections and display suppression of the call forwarding destination can be entered.

Code calling (CC) system code /Paging system (PS) code

This code is sent after the search access code is dialed (or after the CC/ PS function key is pressed, if programmed) on a terminal.

Customer Name

The customer name is displayed on the attendant console in cases of call forwarding. If dialing is complete, the ITR group of the destination is used; if dialing is not completed, the ITR group of the trunk seized incoming

Application Number

Devices with ID card readers can be allocated a specific application, such as door opener or gas/petrol pump. The applications are identified with numbers that are allocated to the ITR groups.

In addition, the corresponding device must include the authorization "application hotline" in its COS (class of service). If a "neutral" ID card is inserted into a device thus identified, the application allocated to its ITR group is carried out. be initialized, that means that the first entry will be assigned to all groups. Every consecutive entry will be made in the groups specified in the AMO-call.

Listener

For each ITR-group one dial number for a listener can be assigned. This number must lead to a DAR STN in the digit analysis. The listener can be an internal number, then the number must be assigned; in case the listener is an external number, this number must be relocated to a route number.

VBZGR - Internal Traffic Restriction Groups

Interrelationships

Zone-allocation for call detail recording

For each ITR-group one zone can be assigned. The zone must be parameterized in CDR.

Display-suppression of the call forwarding destination

For each ITR-group the displayed call forwarding destination can be suppressed.

210.1 Interrelationships

- AMO SCSU/SBCSU : Configure subscriber in SWU
Allocate corresponding COS'
DAR groups,etc.
- AMO ACSU : Configure attendant console
- AMO VFGR : Attendant console group
Allocation the customer name for each area code
- AMO SA : Hunting group
Create hunting groups for hotline
Offhook recall, call forwarding
- AMO XAPPL : DPS applications
Create the application for an application hotline
- AMO COSSU : Classes of services
Create corresponding authorizations

210.2 Functions of the AMO

- [ADD-VBZGR](#) : Create/change destinations in ITR groups
- [DELETE-VBZGR](#) : Cancel destinations in ITR groups
- [DISPLAY-VBZGR](#) : Interrogate destinations in ITR groups
- [REGENERATE-VBZGR](#) : Regenerate destinations in ITR groups

210.2.1 ADD-VBZGR

Create and change destinations in ITR/FA groups:

4. Application hotline

5. Code calling system (paging system)
6. Customer name in cases of call forwarding
7. Listener
8. Zone allocation for call detail recording for internal connections
9. Zone allocation for call detail recording for incoming connections
10. Display suppression of the call forwarding destination

Procedure Overview

Command Code	Parameter
ADD-VBZGR	GROUP=<number>
	, TYPE=APPL, APPLNO=<number>; (1)
	|, TYPE=CC, CD=<key-num>; (2)
	|, TYPE=CUSNAME, NAME=<string>; (3)
	|, TYPE=LSTNR, STNO=<number>; (4)
	|, TYPE=CHRGINT, ITRGRB=<number>, ZONE=<param>; (5)
	|, TYPE=CHRGINC, ITRGRB=<number>, ZONE=<param>; (6)
	|, TYPE=CFW; (7)

Note:

Destinations for Hotlines and Code Blue are not checked for validity by the AMO. The user is responsible for correct entries.

Example

Create entries in internal traffic restriction groups 0 and 1, with code calling CD = 94.

Input:

```
ADD-VBZGR:0&1,CC,94;
```

210.2.2 DELETE-VBZGR

Cancel destinations in ITR/FA groups

1. Application hotline
2. Code calling system

VBZGR - Internal Traffic Restriction Groups

Functions of the AMO

- 3. Customer name in cases of call forwarding
- 4. Listeners
- 5. Zone allocation for call detail recording for internal connections
- 6. Zone allocation for call detail recording for incoming connections
- 7. Display suppression of the call forwarding destination
- 8. All types of the specified ITR/FA group

Procedure Overview

Command Code	Parameter
DELETE-VBZGR	GROUP=<number>
	,TYPE=APPL; (1)
	|, TYPE=CC; (2)
	|, TYPE=CUSNAME; (3)
	|, TYPE=LSTNR; (4)
	|, TYPE=CHRGINT, ITRGRB=<number>; (5)
	|, TYPE=CHRGINC, ITRGRB=<number>; (6)
	|, TYPE=CFW; (7)
	|, TYPE=ALL; (8)

Example

Delete the code calling of ITR group numbers 1 and 3.

Input:

DELETE-VBZGR:1&3,CC;

210.2.3 DISPLAY-VBZGR

Interrogate the destination of the ITR/FA groups with output in list format:

- 1. Application hotline
- 2. Code calling system
- 3. Customer name in cases of call forwarding

4. Listeners
5. Zone allocation for call detail recording for internal connections
6. Zone allocation for call detail recording for incoming connections
7. Display suppression of the call forwarding destination
8. All types of the specified ITR/FA group

These destinations specified in parameter TYPE are output.

When destinations in groups are interrogated, only those groups for which at least one destination is entered are output.

Procedure Overview

Command Code	Parameter
DISPLAY-VBZGR	GROUP=<number>
	, TYPE=APPL; (1)
	|, TYPE=CC; (2)
	|, TYPE=CUSNAME; (3)
	|, TYPE=LISTNR; (4)
	|, TYPE=CHRGINT; (5)
	|, TYPE=CHRGINC (6)
	|, TYPE=CFW; (7)
	|, TYPE=ALL; (8)

Examples

1. Display the code calling numbers of ITR groups 0 to 10.

Input:

DISPLAY-VBZGR:0&&10,CC;

Output:

+	-----	+
|	GROUP CC	|
|	1 94	|
+	-----	+

2. Display the customer names of ITR groups 3, 7, and 8.

VBZGR - Internal Traffic Restriction Groups

Functions of the AMO

Input:

```
DISPLAY-VBZGR:3&7&8,CUSNAME;
```

Output:

ITRGR. CUSTOMER NAME	
3	A COMPANY NAME
7	TELEFUNKEN
8	OPEL AG

3. Display the zone for call detail recording for internal connections of ITR groups 0 to 4.

Input:

```
DISPLAY-VBZGR:0&&4,CHRGINT;
```

Output:

```
TARIFF ZONES FOR INTERNAL CONNECTIONS  
FROM ITRGROUP 2 TO:
```

GROUP	ZONE
0	NOENTRY
1	INT01
2	NOENTRY
3	INT06

4. Display the display suppression for call forwarding of ITR groups 0 to 4.

Input:

```
DISPLAY-VBZGR:0&&4,CFW;
```

Output:

NO CFW INDICATION ACTIVE IN TRAFFIC-GROUP	
0,2,4	

210.2.4 REGENERATE-VBZGR

Interrogate destinations of the ITR/FA groups with output in position-oriented commands for regeneration:

1. Application hotline
2. Code calling system
3. Customer name in cases of call forwarding

4. Listeners
5. Zone allocation for call detail recording for internal connections
6. Zone allocation for call detail recording for incoming connections
7. Display suppression of the call forwarding destination
8. All types of the specified ITR/FA groups

Those destinations that are specified in parameter TYPE are output.

Procedure Overview

Command Code	Parameter
REGENERATE-VBZGR	GROUP=<number>
	, TYPE=APPL; (1)
	|, TYPE=CC; (2)
	|, TYPE=CUSNAME; (3)
	|, TYPE=LSTNR; (4)
	|, TYPE=CHRGINT; (5)
	|, TYPE=CHRGINC; (6)
	|, TYPE=CFW; (7)
	|, TYPE=ALL; (8)

Example

Regenerate the code calling of ITR groups 1-10.

Input:

```
REGENERATE-VBZGR:1&&10,CC;
```

Output:

```
ADD-VBZGR:1,CC,94;
ADD-VBZGR:2,CC,94;
ADD-VBZGR:3,CC,94;
ADD-VBZGR:4,CC,94;
ADD-VBZGR:5,CC,94;
```

VBZGR - Internal Traffic Restriction Groups

Parameter Descriptions

210.3 Parameter Descriptions

APPLNO	Application hotline number Type of Input : single value, required Possible Values : valid application number (from AMO XAPPL) 1 - 2 digits
CD	Access code Type of Input : single value, required Possible Values : valid access code (from AMO WABE) max. 6 digits
GROUP	internal traffic restriction group number or DPLN group number Type of Input : Single value, concatenated (single) values, range(s), mandatory Possible Values : 0 - 15 If TYPE=SM or CC, the parameter GROUP is treated as a DPLN group, otherwise, it denotes an internal traffic restriction group.
ITRGRB	internal traffic restriction group number of B subscriber Type of Input : single value, concatenated (single) values, range(s), mandatory Possible Values : 0 - 15
NAME	Customer name Type of Input : single value, required Possible Values : any
STNNO	Station number for listener Type of Input : single value, required Possible Values : 0 - 999999 (Call-number for listener)
TYPE	Branching parameter Type of Input : single value, required Possible Values : CHRGINC,CHRGINT,CC,CUSNAME,APPL,LSTNR, CFW,ALL

ALL means that all the values of TYPE are processed.

The value ALL is not permitted in the branch ADD.

ZONE	Zone	
	Type of Input	single value required
	Possible Values	INT01 - INT09 (for TYPE=CHRGINT), INC01 - INC09 (for TYPE=CHRGINC)

210.4 Error Messages and Advisories

210.4.1 Error Messages

F01: <dest> <x--x>: IMPERMISSIBLE DIRECTORY NUMBER OR CODE
 F02: <dest> <x--x>: DIRECTORY NUMBER/CODE IS NOT ASSIGNED
 F03: <n2> IS NOT A VALID APPLICATION NUMBER (SEE AMO XAPPL:APPLNO)
 F07: NO ROUTE NUMBER ENTERED FOR DAR
 F12: CODE DOES NOT LEAD TO A DIGIT ANALYSIS RESULT PROVISIONED FOR CC/PAGING
 F15: CALL NUMBER <x--x> DOES NOT LEAD TO A LISTENER.
 SET PARAMETER SPEC = WITNS IN AMO SCSU.

210.4.2 Advisories

H01: IN ITR GROUP <n1> FOR <type> DESTINATION <x--x> WAS ENTERED
 H02: IN ITR GROUP <n1> CUSTOMER NAME <x--x> WAS ENTERED
 H04: IN ITR GROUP <n1> <type> <x--x> WAS DELETED
 H05: NO DESTINATIONS WERE CREATED UNDER <type> FOR THE SPECIFIED GROUPS
 H08: ZONE HAS TO BE PARAMETERIZED AT CDR (AMO TTBL)
 H09: IN ITR GROUP @@ CUSTOMER NAME @@@@@@@@@@@@@@@@@@ WAS DELETED

210.4.3 Messages per Action

ADD	F01, F02, F03, F07, F12, F15
	H01, H02, H08

VBZGR - Internal Traffic Restriction Groups
Error Messages and Advisories

DELETE	
	H02, H04, H08
DISPLAY	
	H05
REGENERATE	

210.4.4 List of abbreviations

<service> Service indicator of the actual Servers
<name> Textstring, that is being entered in the data base
as customer name
<n1> ITR- or FA-Group-number
<n2> Application number
<type> Type of the processed value (acc. parameter TYPE)
<x--x> Code / station number to be entered for the specified groups
<dest> Type of the processed hotline-destination
<zone> Type of possible internzone

211 VEGAS - Administrative Generation Runs on Support System

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

Several execution AMOs (GENDB, REGEN) are to run simultaneously on a support system, but only one for each HW module (SWU, ADS). The "VEGAS" central administration file generated by this AMO is used to coordinate these sequences for each support processor.

In the DISPLAY branch, the AMO VEGAS checks the system status by interrogating the following:

- APS (SP) numbers in the DIR files
- System number in the database.

In addition, all execution AMOs marked as 'RUNNING' are checked to determine whether or not they are really running. If necessary, entries in the VEGAS file are then updated. If no VEGAS file yet exists on the hard disk, then the file is created in the DISPLAY branch of the AMO and the current system data is entered.

The data contained in the VEGAS file is edited and output on screen at the service terminal or as hardcopy on the printer. The standard output format (LIST=SHORT) gives an overview of the system number, execution AMOs entered, the APS (SP) number of the AMO Text APS (if the DIR file record is complete, i.e. the 3 relevant APSs 'RES-CODE-APS', 'AMO-CODE-APS' and 'AMO-TEXT-APS' are entered). In addition, the format shows the start time of the AMO, the user code and the AMO status. In the more detailed format (LIST=LONG), the following additional information is output:

The callup parameters of entered generating runs, the end time of the AMO or time of termination if the AMO was aborted (status= ('FINISHED' / 'INTRUPTD'), all relevant APS (SP) numbers as well as the BREAK mark and the RESERVE code (if RESERVE=Y declared). The output may also be completely suppressed if desired by declaring LIST=NONE (e.g. if starting VEGAS in a branch of an execution AMO).

The DELETE branch allows the user to cancel current entries or reservations in the VEGAS file. This releases the HW modules concerned, i.e. the status is reset to 'FREE'. HW module entries can only be cancelled if they no longer have the status entry 'RUNNING', in other words, entries for active (operational) AMOs cannot be cancelled.

The CHANGE action allows the user to reserve modules for a future run.

211.1 Restrictions

This description is valid from SP300-V3.1

211.2 Interrelationships

- AMO GENDB : Generate Data Base with MML Command File
- AMO REGEN : Regenerate Customer Data from Data Base
- AMO ANUM : Enter System Number into Data Base
- AMO ANSU : Enter System Number into the SWU Data Base
- AMO ASPIK : Change System Program Number in MML Command File

211.3 Functions of the AMO

- [DELETE-VEGAS](#) : Cancel entries in the VEGAS file
- [DISPLAY-VEGAS](#) : Check system status, enter data in VEGAS file, output on screen/
printer
- [CHANGE-VEGAS](#) : Reserve HW modules for future runs

211.3.1 DELETE-VEGAS

Cancel entries in the VEGAS file.

After cancellation, the status entry for the servers concerned is reset to "FREE". This is an important prerequisite for a successful start of the AMOs GENDB and REGEN. If Status = RESERVED, the user can simply cancel the reservation. The necessary parameters for the DELETE action are the entries for the reserved AMO, which the user can interrogate with the DISPLAY action (LIST=LONG).

If current entries are present (status neither FREE, RESERVED nor NOTPRSNT) and if a reservation has been made (RESERVE=Y for LIST=LONG), then a complete cancellation can only be undertaken in two steps: first the current entries must be cancelled, then the reservation entries. If Status = RES, then the AMO for which the reservation was made may be started directly without requiring the status to be reset to FREE.

Since the update of entries in the VEGAS file only takes place when the DISPLAY action of the AMO is started, the user must always call the

DISPLAY action before starting the DELETE action. If the system number in the database has changed since the last VEGAS update (e.g. due to a generating run with the AMO GENDB), then this new number will not have been updated in the VEGAS file, without which the server status cannot be reset to FREE.

Procedure Overview

Command Code

DELETE-VEGAS

Parameter

UNIT=<param>, SYSNO=<string>, AMO=<param>
, USERCODE=<string>;

Example

Cancel the entries in the VEGAS file from the last generating run with the AMO GENDB.

Input:

DELETE-VEGAS:SWU&ADS,L31616S0001X00001,GENDB,SMITH;

211.3.2 DISPLAY-VEGAS

Update and output the VEGAS file.

Procedure Overview

Command Code

DISPLAY-VEGAS

Parameter

[LIST=<param>], [UNIT=<param>;

Example

Output the VEGAS file in SHORT format.

Input:

DISPLAY-VEGAS;

Output:

LIST=SHORT:

SYSTEM	NUMBER	AMO	AMO-TEXT-APS-NR	START
USER	STATUS			
SWU:	L31615S0001X00001	GENDB	P30252B0011A60304	13.05.87 14:29
VAUSE	FINISHED			
ADS:	NOT ENTERED	GENDB	P30252B0011A60304	12.05.87 10:55
SMITH	FREE			

LIST=LONG, UNIT=SWU:

VEGAS - Administrate Generation Runs on Support System

Functions of the AMO

```

      SYSTEM NUMBER      AMO  AMO-TEXT-APS-NR  START
USER      STATUS
SWU: L31615S0001X00001 GENDB P30252B0011A60304 13.05.87 14:29
GRUFFYDD FINISHED
      CALLUP PARAMETERS: MMLFILE: :PAS:L31615/S0001X00001/0001/
MML
                                UNIT   : SWU
                                DBSAVE : N          USERCODE:
GRUFFYDD
                                DBHOLD : N          LOGGING  : N
                                PROT   : Y          FTRNS    : N
                                DEL     : N          BSPTNR   :
                                HWCHK  : N          BSLOGID  :
                                ARCHIVE: N          BSACCNO  :
                                HOLD   : N          BSPSWD   :
(SECRET)
      AMO COMPLETED   : 13.05.1987 16:18:05
      SWU-RES-CODE-APS-NR: P30252BS31EC02001 (DIR-FILE :
:PDS:APSI/PS/S3-EC0DC)
      SWU-AMO-CODE-APS-NR: P30252BS32EC02001 (DIR-FILE :
:PDS:APSI/PS/B3-EC0DC)
      SWU-AMO-TEXT-APS-NR: P30252B0011A60304 (DIR-FILE :
:PDS:APSI/PS/B3-EC1DC)
      BREAK-MARK      : N
      RESERVATION     : N
```

Self-explanatory short messages are output in the VEGAS list whenever data is not available:

The field SYSTEM NUMBER may contain the following texts:

'-----'	If STATUS=NOTPRSNT
'NO-ENTRY-IN-DBASE'	If no system number is entered or (in SWU DB) if the entered number does not start with "L31"
'DB--ACCESS--ERROR'	If the DBAR is completed with errors
'DB-NOT-CONSISTENT'	(Only in SWU): If different system numbers are present in different databases.
'PROCESSOR DOWN'	If server is not connected or switched off (does not apply to SWU).

In all other cases, the system number entered via the AMOs ANUM and ANSU (for SWU) is entered.

The field APS-NUMBER may contain the following texts:

- a) LIST=SHORT; If all 3 relevant APSs are present (RES-CODE-APS, AMO-CODE-APS,AMO-TEXT-APS), the APS (SP) number of the AMO-TEXT-APS is entered.
Other entries:
'DIR-FILES-UNCOMPL'

If a DB access error occurs while interrogating the language code (English, German), the following text is output:
'LANGUAGE-READ-ERR'

- b) LIST=LONG; the APS (SP) number of each relevant and present APS is output. If an APS is not present, then a broken line is output:
'-----'

The field STATUS may contain the following:

NOTPRSNT	At least one of the three necessary APSs is not entered
UNKNOWN	If an unknown AMO (GENDB, REGEN or some AMO which is internally called by one of these AMOs) is in running state when the VEGAS file is created. In order to recover from this state, ADP soft restart is required.
RUNNING	The HW module is being (re)generated
FREE	Prerequisite for (re)generating run. Status can be set with DELETE-VEGAS, if current status is not NOTPRSNT, UNKNOWN, RUNNING.
OCCUPIED	A generating AMO occupies all HW modules to be processed (defined in the callup parameters).
INTRUPTD	A GENDB run has been terminated abnormally. Continuation possible with parameter 'CONT'.
SYBRO	A (re)generating run has been terminated by a system crash. continuation possible with parameter 'CONT'.
ABORTED	A (re)generating AMO has been aborted, no continuation possible.
FINISHED	The (re)generating run has been completed.
RESERVED	HW module is reserved. If a reservation was entered at UNIT STATUS=FREE, or if a reservation code exists as a background entry after a DELETE action on a current entry, then STATUS=RES is entered. The AMO concerned can be directly started without having to reset the status.

211.3.3 CHANGE-VEGAS

Change entries in the VEGAS file and reservation of HW modules for future runs.

Only one reservation can be entered per HW module. The reservations can be interrogated with the DISPLAY action (LIST=LONG).

Procedure Overview

Command Code	Parameter
CHANGE-VEGAS	UNIT=<param>, SYSNO=<string>, AMO=<param>

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Parameter Description

Command Code	Parameter
	<code>,USERCODE=<string>;</code>
	Example:
	Input:
	<code>CHANGE-VEGAS:SWU&ADS,L31615S0001X00001,GENDB,SMITH;</code>

211.4 Parameter Description

AMO	AMOs (1 per HW module/server) which are to be called
	Type of Input : Single value, mandatory
	Possible Values : GENDB, REGEN
	for DELETE action also: UNKNOWN
LIST	Extent of data output
	Type of Input : Single value, optional
	Possible Values : SHORT, LONG, NONE
	Default Value : SHORT
SYSNO	Number of the customer system
	Type of Input : Single value, mandatory
	Possible Values : 17 chars. system number
UNIT	Functional system unit
	Type of Input : Single value, chained single values, mandatory
	Possible Values : SWU, ADS
	Default Value : SWU & ADS
USERCODE	User code
	Type of Input : Single value, mandatory
	Possible Values : 2 to 8 chars. user code

211.5 Error Messages and Advisories

211.5.1 Error Messages

F01: VEGAS FILE CANNOT BE WRITTEN.
DMS STATUS: <state>
F02: VEGAS FILE CANNOT BE READ.
DMS STATUS: <state>
F03: VEGAS FILE CANNOT BE CLOSED.
DMS STATUS: <state>
F04: VEGAS FILE IS NOT CATALOGED AND CANNOT BE SET UP.
DMS STATUS: <state>
F09: AMO ACTION ERROR
F10: DIRECTORY FILE :PDS:APSI/PS CANNOT BE READ
F11: DIRECTORY FILE CANNOT BE READ FOR SERVER <svr>

211.5.2 Advisories

H01: DELETE AT <svr> NOT POSSIBLE, BECAUSE AN AMO IS RUNNING
H02: DELETE AT <svr> NOT POSSIBLE, BECAUSE RESERVED BY OTHER USER
H03: DELETE AT <svr> NOT POSSIBLE, BECAUSE RESERVED FOR ANOTHER AMO
H04: DELETE AT <svr> NOT POSSIBLE, BECAUSE RESERVED FOR OTHER CUSTOMER SYSTEM
H05: SERVER <svr> IS NOT PRESENT
H06: SERVER <svr> IS IN USE BY ANOTHER USER
H07: SERVER <svr> IS OCCUPIED BY ANOTHER AMO
H08: SERVER <svr> IS IN USE FOR ANOTHER SYSTEM
H09: SINCE NO AMO IS RUNNING AT SERVER <svr>, INTERRUPTION IS NOT POSSIBLE
H10: SERVER <svr> IS ALREADY FREE
H11: SERVER <svr> IS ALREADY RESERVED
H12: DIRECTORY FILE <filename> CANNOT BE ASSIGNED TO ANY SERVER

Explanations:

<state> = DMS state
<svr> = SWU | ADS
<filename> = 21-characters indexfilename

211.5.2.1 Use of the output messages for each action

CHANGE : F1, F2, H5, H11, H12
DELETE : F2, H1, H2, H3, H4, H5, H6, H7, H8, H10
DISPLAY : F1, F2, F3, F4, F10, F11

VEGAS - Administrate Generation Runs on Support System

Error Messages and Advisories

212 VFGKZ - Administration of Attendant Group Dialing Codes

Interrelationships	Parameter Description
Functions of the AMO	Error Messages and Advisories

This AMO is used for assigning codes to *attendant groups* (ATNDGR) for exchange calls, internal calls and universal night answer.

At the same time, in certain cases, it is possible to discriminate between dial plan groups (DPLN) and/or call progress states (CPS) when allocating fixed call codes.

It is also possible to allocate several indial call codes (dial suffices) to one attendant group, e.g. in the case of several companies or corporate divisions ('customers') subscribing to the same system.

212.1 Interrelationships

- AMO ACDRT : Administration of ACD routing tables
- AMO SYNCA : Announcement synchronization
- AMO WABE : Dialing plans, feature access codes
- AMO VFGR : Attendant console groups
- AMO ZAND : Central system data

212.2 Functions of the AMO

- [ADD-VFGKZ](#) : Create call codes or customer names
- [CHANGE-VFGKZ](#) : Change the call codes or customer names
- [DELETE-VFGKZ](#) : Cancel the call codes or customer names
- [DISPLAY-VFGKZ](#) : Interrogate the call codes or customer names
- [REGENERATE-VFGKZ](#) : Regenerate the call codes or customer names

212.2.1 ADD-VFGKZ

The action ADD-VFGKZ has two functions:

VFGKZ - Administration of Attendant Group Dialing Codes

Functions of the AMO

- a) Allocation of the Call Codes to ATNDGRs (TYPE=ATNDGR)
Access codes with the digit analysis results ATND, ATNDDID and GENANS can be assigned an ATNDGR with this AMO. This then results in the following:

1. If DAR=ATND
the ATNDGR can be reached via an internal call code.
2. If DAR=ATNDDID
the ATNDGR can be reached via an indial call code (dial suffix).
3. If DAR=GENANS
incoming trunk or internal calls for the ATNDGR can be answered at any station (with the appropriate authorization).

It is only possible to discriminate according to the CPS if the appropriate branch is declared in the DPLN lists of the AMO WABE.

- b) Allocation of incoming Call Codes to Customer Names
(TYPE=NAME)

If a system is shared by several customers with one CAS attendant group, different attendant codes can be assigned per customer (DAR=ATND). These codes can be assigned a 'customer name'.

Two possibilities are existing for the assignment of the call code to the Customer Name. The possibility is selected by the AMO ZAND:

- 10 Customer Names for each attendant group (default)
The last digit of the indial call code for the attendant group is the index to the table with the Customer Names.
Consequently the codes can be assigned within the range 00 to 09.

1000 Customer Names for all attendant groups

"1000 Customer Names" will be activated by the element COMP1000 of the central system data by the AMO ZAND (CHANGE-ZAND:TYPE=ATND,COMP1000=YES;). In this case, entries are created according to the access codes. For one access code, only one attendant group can be entered. But it is possible to create different DPLNs for one access code.

In this case, entries are created according to the access codes. For one access code, only one attendant group can be entered. But it is possible to create different DPLNs for one access code.

The Customer Names are assigned by the indial call code for an attendant group.

The table for the assignment of initial code, attendant group and company name is used by the AMO SYNCA too. Overall there are 1000 entries possible.

Procedure Overview

Command Code	Parameter
ADD-VFGKZ	TYPE=ATNDGR,CD=<number>, [DPLN=<number>] , [CPS=<number>], ATNDGR=<number>; | TYPE=NAME,CD=<number>,NAME=<string>;

Examples

1. For attendant group 0, internal call code 6 is to be created.

Input:

```
ADD-VFGKZ:ATNDGR,6,,,0;
```

Output:

```
H500: AMO VFGKZ STARTED
```

2. When a call with the call code 09 is switched through to an ATND in the group, the name "A COMPANY NAME" is to be displayed at that ATND.

Input:

```
ADD-VFGKZ:NAME,09,"A COMPANY NAME";
```

212.2.2 CHANGE-VFGKZ

The parameter CD is the higher-order parameter, i.e. the attendant group assigned to a specific call code can be changed, but not vice-versa. In order to change the call code of an attendant group, the operator must cancel the existing call code and create a new one using the action ADD.

Procedure Overview

Command Code	Parameter
CHANGE-VFGKZ	TYPE=ATNDGR,CD=<number>, [DPLN=<number>] , [CPS=<number>], ATNDGR=<number>; | TYPE=NAME,CD=<number>,NAME=<string>;

Example

Change the name displayed on the attendant console for call code 09.

Input:

```
CHANGE-VFGZ:NAME,09,FIELD SERVICE DEPT.;
```

212.2.3 DELETE-VFGKZ

If the optional parameters are declared, the operation is restricted to the range specified. The operation can be further restricted by entering specific values for ATNDGR (when TYPE=ATNDGR).

An internal call code may be deleted only if it is no longer referenced in an ACD routing table. It has to be previously removed by AMO ACDRT.

Either CD or ATNDGR must be specified when TYPE=ATNDGR.

Procedure Overview

Command Code	Parameter
DELETE-VFGKZ	TYPE=ATNDGR, [CD=<number>], [DPLN=<number>] , [CPS=<number>], [ATNDGR=<number>]; | TYPE=NAME, [CD=<number>];

Example

Cancel all call code allocations of ATNDGR 2 between codes 1 and *11.

Input:

```
DELETE-ATNDGR:TYPE=ATNDGR,CD=1&*11,ATNDGR=2;
```

Output:

```
H08: AMO ACTION   EXECUTED FOR CODE      1
H08: AMO ACTION   EXECUTED FOR CODE     *11
```

212.2.4 DISPLAY-VFGKZ

The action DISPLAY-VFGKZ gives the operator an overview of

1. the call codes and their allocated ATNDGRs
(The type of call code is indicated by the digit analysis result.)
If the optional parameter ATNDGR is declared, the operation is restricted to the ATND group range specified.
2. the customer names assigned to the indial call codes.
By 1000 Customer Names all indial call codes - including the entries without an entry for the name - are displayed.

Procedure Overview

Command Code	Parameter
DISPLAY-VFGKZ	TYPE=ATNDGR, [ATNDGR=<number>]; TYPE=NAME, [CD=<number>];

Example

1. Interrogate the indial call codes with the associated customer names.

Input:

DISPLAY-VFGKZ:NAME;

Output:

INDIAL CALL CODE	CUSTOMER NAME
00	COMPANY NAME 1
01	COMPANY NAME 2

2. Interrogate the call codes for all attendant groups

Input:

DISPLAY-VFGKZ:ATNDGR;

Output:

ATNDGR	DAR	CD	DPLN	CPS
0	ATNDDID	0	--	6
0	ATND	90	--	5
0	ATND	90	--	8
0	ATND	90	--	9
0	ATND	90	--	10
0	ATND	90	--	11
0	ATND	90	--	12
0	GENANS	811	--	5
1	ATNDDID	1	0	6
1	ATND	91	0	5
1	ATND	91	0	8
1	ATND	91	0	9
1	ATND	91	0	10
1	ATND	91	0	11
1	ATND	91	0	12
1	GENANS	*11	0	5
2	ATNDDID	1	1	6
2	ATND	91	1	5

Functions of the AMO

212.2.5 REGENERATE-VFGKZ

1. A create command can be generated that restores the allocation of ATNDGRs to call codes (code combinations).
2. A create command can be generated that restores the allocation of names to call codes.

Procedure Overview

Example

Input:

Output:

2870

212.3 Parameter Description

ATNDGR	Attendant group number
Type of Input	: single value, mandatory (ADD, CHANGE) chained single values, ranges, optional (REGENERATE, DELETE, DISPLAY)
Possible Values	: one of the created attendant groups
CD	Attendant console group access code
Type of Input	: single value, chained single values : n action DISPLAY, TYPE=NAME only one single value (input is ignored if "1000 Customer Names" is not activated)
Possible Values	: TYPE=ATNDGR: call codes that have been allocated digit analysis results (AMO WABE), TYPE=NAME: - "1000 Customer Names" is not activated: customer names can only be assigned to the indial call codes 00,01,...,09 - "1000 Customer Names" is activated: indial call code of an attendant group (1 to 6 digits)
CPS	Call progress state
Type of Input	: single value, chained single values optional
Possible Values	: traffic situations allowed for the corresponding digit analysis result (see AMO WABE)
DPLN	Feature access group / dial plan
Type of Input	: single value, chained single values, ranges optional (REGENERATE) mandatory, if a CD is grouped according to DPLN groups in the DPLN lists (ADD, CHANGE, DELETE)
Possible Values	: 0 to 15
NAME	Customer name for an indial attendant group access code
	When a call with the indial call code is switched through to an ATND in the group, these name will be displayed at the ATND.
Type of Input	: single value, mandatory
Possible Values	: any (up to 22 characters)

VFGKZ - Administration of Attendant Group Dialing Codes

Error Messages and Advisories

TYPE	Type of function
	Type of Input : single value, mandatory
	Possible Values : ATNDGR = attendant group
	NAME = customer name

212.4 Error Messages and Advisories

212.4.1 Error Messages

F01: CODE <nr> CANNOT BE PROCESSED.
IT IS STILL REFERENCED IN THE ACD ROUTING TABLE <art-no>.
DELETE THE CODE BY AMO ACDRT FROM ROUTING TABLES BEFORE REPEATING THIS COMMAND.

F02: ASSIGNMENT OF CODE <xxxxxx> FOR ATND GROUP <gg> EITHER NOT POSSIBLE OR NOT COMPLETELY POSSIBLE, BECAUSE THE MAXIMUM NUMBER OF CODES THAT CAN BE ASSIGNED HAS BEEN REACHED (THE DPLN LISTS PERMITTED THE ENTRY)

F03: ATND GROUP <gg> DOES NOT EXIST OR THERE IS NOT A SINGLE ATND GROUP IN THE AREA WITH THE SPECIFIED ATND GROUP AS THE UPPER LIMIT

F04: ONE OF THE PARAMETERS "ATNDGR" OR "CD" MUST BE SPECIFIED

F05: CODE <xxxxxx> IS GROUPED ACCORDING TO DPLN GROUPS IN THE DPLN LISTS

F06: NO SUITABLE DAR HAS BEEN FOUND IN THE DPLN LISTS FOR CODE <xxxxxx> OR THE CODE COULD NOT BE INTERPRETED CORRECTLY BY THE DPLN

F07: IT WAS NOT POSSIBLE TO FIND A SUITABLE LOCATION IN THE DPLN LISTS FOR CODE <xxxxxx>, I.E.

DURING ASSIGNMENT: CODE ALREADY ASSIGNED,

OTHERWISE : NO CODE ASSIGNED YET

F08: NO CODE FOR ATND GROUP <gg> ASSIGNED

F09: IN CONTRAST TO PREVIOUS TESTS, NO ACTIONS COULD TAKE PLACE FOR CODE <xxxxxx>;
REASON: INDICATED IN PRECEDING MESSAGE OR DATABASE (DPLN LIST) MODIFICATION DURING AMO RUN (NOTE FURTHER MESSAGES)

F10: THERE CAN BE NO ENTRY, READOUT OR REMOVAL OF THE CUSTOMER NAME FOR CODE <xxxxxx>, I.E.,

DURING ASSIGNMENT: CUSTOMER NAME ALREADY ASSIGNED,

OTHERWISE : NO CUSTOMER NAME ASSIGNED YET

F12: CODE <xxxxxx> NOT ASSIGNED AS ATND GROUP CODE

F13: CODE <xxxxxx>: ASSIGNMENT OF NAME NOT POSSIBLE, BECAUSE THE MAXIMUM NUMBER OF NAMES THAT CAN BE ASSIGNED HAS BEEN ALREADY REACHED

F14: CODE <xxxxxx> NOT ALLOWED

F15: CODE @@@@@@@@@@ IS ALREADY ASSIGNED FOR AC GROUP.

F16: CPS PARAMETER MUST BE ENTERED IF VNR IS ACTIVE.

212.4.2 Advisories

H01: CODE <xxxxxx> NOT ASSIGNED FOR ATND GROUP <gg>

H02: CPS <cc> NOT REQUIRED FOR CODE <xxxxxx>

H03: DPLN <dd> NOT REQUIRED FOR CODE <xxxxxx>

H04: THERE IS NO NIGHT OPTION FOR "GENERAL ANSWERING" FOR ATND GROUP <gg>, ALTHOUGH THE RELEVANT CODE <xxxxxx> IS ENTERED IN THE DPLN LISTS

H05: CPS <cc> NOT REQUIRED

H06: DPLN <dd> NOT REQUIRED

H07: ATND GROUP <gg> REMAINS ASSIGNED FOR CODE <xxxxxx> AND DAR <d-----d>
IN THE CASE OF CERTAIN DPLN GROUPS AND/OR CALL PROGRESS STATES (CPS)

H08: AMO ACTION <tttttt> EXECUTED FOR CODE <xxxxxx>

H09: ATND GROUP <gg> DOES NOT EXIST OR THERE IS NOT A SINGLE ATND GROUP IN THE AREA WITH THE SPECIFIED ATND GROUP AS THE UPPER LIMIT

H10: THERE EXIST A CONFIGURATION WHICH CAN NOT BE DISPLAYED / DELETED BECAUSE OF CURRENT SETTINGS OF AMO-ZAND. TO DISPLAY / DELETE THIS CONFIGURATION, THE PARAMETER COMPI000, BRANCH ATND HAS TO BE CHANGED BY MEANS OF AMO-ZAND. IT CONCERNS THE FUNCTION > 1000 COMPANY NAMES

H11: DPLN PARAMETER IS IGNORED IF VNR IS ACTIVE

Output Texts

<cc>: call progress state

<dd>: feature access group / dial plan

<gg>: attendant group number

<xxxxxx>: attendant console group access code

<tttttt>: text ({ PARTLY, NOT, nil})

<d-----d>: digit analysis result

<rn timer>: internal call code

<art-no>: number of ACD routing table

212.4.3 Use of Output Messages for Each Action

ADD	:	F02,	F03,	F06,	F07,	F09,	F10,	F13,	F14,
		H02,	H03,	H04,	H05,	H06,	H08,		
CHANGE	:	F02,	F03,	F06,	F07,	F09,	F10,	F14,	
		H02,	H03,	H04,	H05,	H06,	H07,	H08,	
DISPLAY	:	H09,							

Error Messages and Advisories

REGENERATE : F14

```
DELETE      : F01,   F03,   F04,   F07,   F08,   F09,   F10,   F12,   F14
             H01,   H02,   H03,   H05,   H06,   H07,   H08,
```

213 VFGR - Attendant Console Groups

Interrelationships	Parameter Descriptions
Functions of the AMO	Error Messages and Advisories

This AMO unites the day attendant consoles created with the AMO ACSU (attendant console configuration) in attendant console groups (ATNDGR). Each day attendant console must be assigned to an ATNDGR. All attendant consoles (max. 64) can be assigned to an ATNDGR.

Before an ATNDGR can operate, at least one exchange access code or internal access code must be defined for that ATNDGR, using the AMO VFGKZ (administration of attendant group access codes).

Each attendant group can be assigned up to 8 night options (parameter NOPT1..8). These must have been previously assigned with AMO NAVAR with the night option numbers 1 to 128. One night option for each ATNDGR must be defined (at an attendant console of the ATNDGR concerned) as the one to represent the ATNDGR when the night service is activated.

The feature "Centralized Attendant Services" offers the option of temporarily transferring all attendant functions of one ATNDGR to another ATNDGR. This ATNDGR then becomes a centralized ATND services group (CASGR). The CASGR may belong to the same PABX as the ATNDGR which it represents (CASINT option), or may belong to another PABX within an integrated network (CASEXT option). The CASGR is defined as a night option with the AMO NAVAR, and automatically takes on its additional functions each time that night option is activated.

For the user, there is no difference between a CASGR night option and the other night options. However, care must be taken to ensure that at least one other night option is assigned to each ATNDGR, and that an ATNDGR may not be its own night option.

Only an existing internal CASGR can be assigned to an ATNDGR with the aid of a night option.

The ATNDs are automatically activated when added to an ATNDGR, and automatically deactivated when deleted from that group.

If a call to the attendant is forwarded using CASMCF and if the external AC group is also in CASMCF mode, a signal from the system where the call originated controls whether the call will be forwarded to the destination specified in the external AC group or to the destination in the local NOPT list.

Each ATNDGR has one call queuer, which, according to the mode of operation (daytime operation or night operation), distributes each internal call and each exchange call to one of the day ATNDs of the ATNDGR, or to one of the devices of the corresponding night option, as well as queuing the calls at the appropriate device. In addition, any calls which cannot terminate normally to a station are intercepted by one of the ATNDGRs following a predefined allocation procedure, i.e. on busy, on unassigned etc. (parameter ITDEST).

The assignment of the calls to the answer keys and the priority of the calls can be freely configured using the AMO VFGR.

The priority with which the calls are answered is set in two stages: each call type and each incoming trunk group is assigned a priority number (1 - 48). The incoming trunk priority can be overwritten, if needed, for multiple DID AC codes usage, by means of reroute internal to dummy trunk groups (still populated with trunk channels but not necessary in READY state- boards and cables not needed). The priority numbers are combined into priority levels and assigned to an answer key. The calls can be configured into eight priority levels in each case for each answer key. The priority numbers of the calls that are to be given the highest priority must be assigned to the relevant answer key with priority level 1.

The call queuer can be operated in two modes. These are set with parameter QUEMODE when the ATNDGR is set up:

- Double queue (QUEMODE=DQ):
The calls can be assigned to two answering keys - Line 1 and Line 2. The overall size of the call queuer (CQMAX), the number of first attendant calls per attendant console (CQMAXF), and the maximum number of calls waiting in the call queuer (WC) can be set for each ATNDGR.
- Multiple queue (QUEMODE=MQ):
The calls can be assigned to twelve answering keys - queues SQ01 to SQ12.
The overall size of the call queuer (CQMAX) can be set for each ATNDGR. Setting of the number of first attendant calls per attendant console (CQMAXF) and maximum number of calls waiting in the call queuer (WC) does not apply. Entries for these parameters are ignored. The operator is notified of this with an advisory message.
An ATNDGR with a multiple queue can only be assigned type ACWIN (AMO-ACSU:ACTYPE=ACWIN) attendant consoles.
When an ATNDGR is set up, the call queuer's priority control is configured with default values. Modifications must be performed subsequently using the CHANGE action.
- Priority control default values in the double queue mode:

CALL TYPE	PRIORITY NUMBER
EMERGENCY_CALL	3
HOTLINE_CALL	3
LOCAL_FIRST_CALL	2
LOCAL_RECALL	2
LOCAL_PRIO_CALL	4
CO_RECALL	5
CO_SERIAL_CALL	5
CO_IN_CONSULTATION	5
CO_ON_HOOK_IN_CONSULTATION	5
TIE_RECALL	2
TIE_SERIAL_CALL	2
TIE_IN_CONSULTATION	2
TIE_ON_HOOK_IN_CONSULTATION	2
OVFL_LOCAL_FIRST_CALL	2
OVFL_LOCAL_PRIO_CALL	2
OVFL_CO_FIRST_CALL	5
OVFL_TIE_FIRST_CALL	2

PRIORITY NUMBER	ANSWER KEY	PRIORITY LEVEL
1	L2	3
2	L1	3
3	L1	1
4	L1	2
5	L2	2
6 - 8	L1	8
9	L2	3 *)
10	L1	3 *)
11 - 48	L1	8

*) for calls for CAS from systems with a software status older than Hicom 300E-V3.0

- Priority control default values in the multiple queue mode:

CALL TYPE	PRIORITY NUMBER
EMERGENCY_CALL	36

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CALL TYPE	PRIORITY NUMBER
HOTLINE_CALL	36
LOCAL_FIRST_CALL	46
LOCAL_RECALL	42
LOCAL_PRIO_CALL	45
CO_RECALL	40
CO_SERIAL_CALL	40
CO_IN_CONSULTATION	43
CO_ON_HOOK_IN_CONSULTATION	43
TIE_RECALL	41
TIE_SERIAL_CALL	41
TIE_IN_CONSULTATION	44
TIE_ON_HOOK_IN_CONSULTATION	44
OVFL_LOCAL_FIRST_CALL	39
OVFL_LOCAL_PRIO_CALL	38
OVFL_CO_FIRST_CALL	37
OVFL_TIE_FIRST_CALL	38
PERSONAL	48
ATND_LOOP_TRANSFER	47

PRIORITY NUMBER	ANSWER KEY	PRIORITY LEVEL	
1	SQ01	3	CO calls
2	SQ02	3	Tie calls
3 - 8	SQ12	8	
9	SQ01	3	*)
10	SQ02	3	*)
11 - 35	SQ12	8	
36	SQ07	1	
37	SQ07	3	
38	SQ07	5	
39	SQ07	7	
40	SQ08	3	
41	SQ08	5	
42	SQ08	7	
43	SQ09	3	
44	SQ09	5	
45	SQ10	3	

PRIORITY NUMBER	ANSWER KEY	PRIORITY LEVEL	
46	SQ10	5	
47	SQ11	3	
48	SQ11	8	

*) for calls for CAS from systems with a software status older than Hicom 300E-V3.0

213.1 Interrelationships

- AMO ACSU : Attendant console configuration
Configuration of day ATNDs for the ATNDGRs
- AMO BUEND : Assign priority number to trunk group
- AMO DIMSU : Allocate database memory
- AMO NAVAR : Administration of the static night switch option data
Administration of night options for the ATNDGRs
- AMO VFGKZ : Administration of attendant group access codes
Administration of access codes for the ATNDGRs
- AMO ZAND : Administration of central system data

213.2 Functions of the AMO

- [ADD-VFGR](#) : Assign attendant console group (ATNDGR)
- [CHANGE-VFGR](#) : Change ATNDGR data
- [DELETE-VFGR](#) : Delete ATNDGR
- [DISPLAY-VFGR](#) : Interrogate ATNDGR static data
- [REGENERATE-VFGR](#) : Regenerate current ATNDGR data

213.2.1 ADD-VFGR

It should be noted that

- a given night ATND option may only be assigned to one ATNDGR.

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Functions of the AMO

- it is possible to create an ATNDGR without assigning it a day ATND. In this case, one night option (not the "none" night option) must be allocated, which constantly represents the ATNDGR (permanent night service).
- at all times every internal traffic restriction group (ITRGR) must have an ATNDGR as intercept destination. When the first ATNDGR is created, this ATNDGR is implicitly defined as intercept destination for all internal traffic restriction groups.
- each ATND may only be assigned to one ATNDGR. If more than 16 attendant consoles are to be assigned to an attendant console group, these must be assigned subsequently using the action CHANGE.
- parameters CQMAXF, SDIST, and WC are only taken into account or required in the operating mode QUEMODE=DQ.
- the priority control is configured with defaults. Changes must be carried out subsequently using the action CHANGE.

Procedure Overview

Command Code	Parameter
ADD-VFGR	ATNDGR=<number>, [QUEMODE=<param>], [ATNDNO=<number>] , {NOPT1=<number>, ... , NOPT8=<number>} , OPT=<number>, [NOPTNAME=<number>-<string>] , [CQMAXF=<number>], [CQMAX=<number>], [ITDEST=<number>] , [AUTNS=<param>], [SDIST=<param>], [CASMCF=<param>] , [ANSYN=<param>], [OFLGR=<number>], [WC=<param>] , [COD=<param>], [INIGHTPR=<param>;

Example

Create the ATNDGR 0 with the default value double queue for the mode of the queue and the day attendant 4300, assign NOPT1 to night option 3, NOPT2 to night option 2 and NOPT8 to night option 12. The initialized night option is 1. Each night option must be assigned a name. The call queue must be assigned for three CQ calls, first answer calls per attendant. The automatic night switch will be deactivated. The destination for call overflow is the attendant group 2.

Input:

```
ADD-  
VFGR:ATNDGR=0,QUEMODE=DQ,ATNDNO=4300,NOPT1=3,NOPT2=2,NOPT8=12,OP  
T=1,NOPTNAME="1-NIGHT 3"&"2-NIGHT 2"&"8-NIGHT  
12",CQMAXF=3,AUTNS=OFF,OFLGR=2;
```

213.2.2 CHANGE-VFGR

In order to facilitate the allocation of a day ATND to an ATNDGR, the parameter FUNCT offers three additional options.

FUNCT=ADD:

Add one or more ATNDs to the set of ATNDs allocated to the ATNDGR specified.

FUNCT=DEL:

Remove one or more ATNDs from the group. If more than one group is specified as a value of the parameter ATNDGR, then the ATND specified here is sought in all these ATNDGRs. However, for reasons of clarity, the system administrator may only specify either more than one ATND or more than one ATNDGR.

FUNCT=ND:

ND stands for New Definition and allows the system administrator to redefine the set of ATNDs of an ATNDGR without needing to know its previous configuration. The specification of ATNDs for the new definition is optional. However, if no ATND number is entered, then this is regarded in the same way as the non-declaration of the corresponding value for ADD-VFGR, i.e. then the ATNDGR will be redefined as an ATNDGR with permanent night service, in which case the necessary conditions for a permanent night service must be fulfilled (at least one night option which is not the "none" night option).

It is not possible to remove an allocated traffic restriction group (ITRGR) from an ATNDGR without allocating it to a new ATNDGR.

It is possible to remove a night option allocated to an ATNDGR by allocating the night option number "0" to that night option. However, this function may not be applied to an activated night option.

However, a night option set can be changed via the parameter OPT, or by setting a different night option at the attendant console.

When changing the parameters for a call queue (CQMAXF, CQMAX), the call queue must be idle, i.e. empty of calls. Otherwise the job will be ignored. The call queue can be emptied by deleting the appropriate dialing codes with the aid of the AMO VFGKZ.

An exception to this is when the length of the call queue is increased with the aid of the parameter CQMAX. This is also possible when some calls are still queued.

Any alteration via AMO of the night option assignments (NOPT1,...NOPT8) or the night option name (NOPTNAME) is automatically refreshed at the attendant console.

VFGR - Attendant Console Groups

Functions of the AMO

The priority control settings can be changed in two branches:

- In the TYPE=PRIOCALL branch, each call type can be assigned a priority number. The previous assignment is overwritten.
- In the TYPE=PRIOLEV branch, each priority number can be allotted to an answer key with the required priority level.

Procedure Overview

Command Code	Parameter
CHANGE-VFGR	<pre>ATNDGR=<number>, | TYPE=GENERAL , {ATNDNO=<number>, FUNCT=<param> , NOPT1=<number>, ... , NOPT8=<number>, OPT=<number> , NOPTNAME=<number>-<string>, CQMAXF=<number> , CQMAX=<number>, ITDEST=<number>, AUTNS=<param> , SDIST=<param>, CASMCF=<param>, ANSYN=<param>, , OFLGR=<number>, WC=<number>, CO=<param> , INIGHTPR=<param>}; | TYPE=PRIOCALL , {EMERG=<number>, HOT=<number> , LOFC=<number>, LOREC=<number>, LOPRIC=<number> , COREC=<number>, COSER=<number>, COINCO=<number>, , COONHOOK=<number>, TIREC=<number>, TISERTT=<number> , TIINCO=<number>, TIONHOOK=<number>, OVLOFC=<number> , OVLOPRIC=<number>, OVCOFC=<number>, OVTIFC=<number> , PERSONAL=<number>, ACLOOP=<number>}; | TYPE=PRIOLEV , PRIONO=<number>, ANSKEY=<param>, PRIOLEV=<number>;</pre>

Examples

1. Allocation of the night option number 2 as NOPT1 for ATNDGR 0.

Input:

```
CHANGE-VFGR:ATNDGR=0, TYPE=GENERAL, NOPT1=2;
```

2. Delete allocation of night option number 2 as NOPT1 for ATNDGR 0.

Input:

```
CHANGE-VFGR:ATNDGR=0, TYPE=GENERAL, NOPT1=0, OPT=2;
```

3. Redefine day option for attendant group 1.

The day attendant 490 is to replace the existing day attendants.

Input:

CHANGE-VFGR:ATNDGR=0,TYPE=GENERAL,ATNDNO=490,FUNCT=ND;

4. New definition of priorities for attendant console group 0.

- a) The call type "CO recall" is to be assigned priority number 2.
(If the values initialized for priority control during setup have not been changed, then after this change a "CO recall" - and all other call types and trunk groups with priority number 2 - will be taken to answer key L1 for answering with priority level 3).

Input:

CHANGE-VFGR:ATNDGR=0,TYPE=PRIOCALL,COREC=2;

- b) Priority number 2 is to be assigned to answer key L2 with priority level 5.
(After changes 4.1 and 4.2, a "CO recall" - and all other call types and trunk groups with priority number 2 - will be taken to answer key L2 for answering with priority level 5).

Input:

CHANGE-VFGR:ATNDGR=0,TYPE=PRIOLEV,PRIONO=2,ANSKEY=L2,PRIOLEV=5;

213.2.3 DELETE-VFGR

The following points must first be observed:

- the attendant group dialing code allocated to the ATNDGR with the aid of AMO VFGKZ must be deleted.
- existing allocations of ITRGRs to ATNDGRs must be deleted (see example).
- the call queuer of the ATNDGR is also deleted with this function. If the call queuer is not empty, then DELETE-VFGR is rejected.
- the ATNDGR may not be assigned as internal centralized ATND service in another ATDGR.

Procedure Overview

Command Code	Parameter
DELETE-VFGR	ATNDGR=<number>;

Example

Delete ATNDGR 1 with the ITR groups 3 and 5 for attendant intercept.

1. Re-allocate assignments to ATNDGR 0.

Input:

Functions of the AMO

```
DELETE-VFGR:1;
```


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Functions of the AMO

711NIGHT OPTION 7:ECD = 12345678901234567890

PRIORITY OF INDIVIDUAL NIGHT SERVICE: N

AUTOMATIC NIGHT SERVICE: OFF

SINGLE DISTRIBUTION: N

CENTRALIZED ATTENDANT SERVICE MULTIPLE CALL FORWARD: Y

CONTROL OF DIVERSION WHEN CALLING TARGET STATION: OFF

ANNOUNCEMENTS WITH SYNCHRONOUS START OF TEXT: N

IS INTERCEPT DESTINATION FOR THE FOLLOWING ITR GROUPS

0123456789101112131415

OVERFLOW ATTENDANT GROUP: 2

QUEUER MODE: DOUBLE QUEUES

SIZE OF CALL QUEUER

MAX. NO. OF CALLS : 13

MAX. NO. OF INTERNAL CALLS : 5

MAX. NO. OF WAITING CALLS : 8

PRIORITIES

CALLTYPE	PRIORITY NUMBER
EMERGENCY CALL	@@
HOTLINE CALL	@@
LOCAL FIRST CALL	@@
LOCAL RECALL	@@
LOCAL PRIO CALL	@@
CO RECALL	@@
CO SERIAL CALL	@@
CO IN CONSULTATION	@@
CO ON HOOK IN CONSULTATION	@@
TIE RECALL	@@
TIE SERIAL CALL	@@
TIE IN CONSULTATION	@@
TIE ON HOOK IN CONSULTATION	@@
OVERFLOW LOCAL FIRST CALL	@@
OVERFLOW LOCAL PRIO CALL	@@
OVERFLOW CO FIRST CALL	@@
OVERFLOW TIE FIRST CALL	@@

PRIORITY NUMBER OF TRUNK GROUPS: 1 ... 48 (AMO BUEND)

PRIO-NO	ANSKEY	PRIO-LEV	PRIO-NO	ANSKEY	PRIO-LEV
1	L2	3	2	L1	3
3	L1	1	4	L1	2
.	.	.	.	.	.
47	L1	8	48	L1	8

213.2.5 REGENERATE-VFGR

Procedure Overview

Command Code	Parameter
REGENERATE-VFGR	[ATNDGR=<number>];

Example

Regenerate ATNDGR 0.

Input:

REG-VFGR:ATNDGR=0;

Output:

ADD-VF-
GR:0,490,1,2,3,4,5,,,,1,,5,13,0&1&2&3&4&5&6&7&8&9&10&11&12
&13&14&15,OFF,N ,Y,N,2;
CHANGE-VFGR:0,TYPE=PRIOCALL,3,3,2,2,4,5,5,5,5,2,2,2,2,2,2,5,2;
CHANGE-VFGR:0,TYPE=PRIOLEV,1,L2,3;
CHANGE-VFGR:0,TYPE=PRIOLEV,2,L1,3;
CHANGE-VFGR:0,TYPE=PRIOLEV,3,L1,1;
CHANGE-VFGR:0,TYPE=PRIOLEV,4,L1,2;
CHANGE-VFGR:0,TYPE=PRIOLEV,5,L2,2;
CHANGE-VFGR:0,TYPE=PRIOLEV,6&&48,L1,8;

213.3 Parameter Descriptions

ACLOOP	Priority number of attendant loop transfer		
	Type of Input	Single value	optional in the case of QUEMODE=MQ
	Possible Values	: 1 - 48	not available in the case of QUEMODE=DQ (an entry will be ignored; the operator will be notified with an advisory message)
ANSKEY	Answer key		
	Type of Input	: Single value	
	Possible Values	: in the case of QUEMODE=DQ: L1	answer key Line 1

L2

answer key Line 2

in the case of
QUEMODE=MQ:

SQ01 - SQ12

Source Queue 1 - Source Queue 12

ANSYN

Announcements with synchronous start of text

Type of Input : Single value, optional

Possible Values : Y, N

Default Value : N

ATNDGR

Attendant group number

Type of Input : Single value,
concatenated single values, ranges
(except ADD)
required (ADD, DELETE, CHANGE)
optional (DISPLAY, REGENERATE)

Possible Values : 0 - 15

ATNDNO

Individual attendant directory number

Type of Input : Single value, concatenated single values,
ranges, optional

Possible Values : Call numbers of allocated daytime ATNDs

AUTNS

Automatic night switch,
i.e. call forwarding - no answer from ATND to NOPT 8 after time.

Type of Input : Single value, optional

Possible Values : ON, OFF
ON, only if NOPT8 is defined.

Default Value : OFF

Time for automatic night switch can be changed in AMO CTIME, parameter ATNDCALL.
Lock / unlock of the ATND after automatic night switching can be changed in AMO ZAND,
TYPE=ATND, parameter AUTNS.

CASMCF

Centr. Attendant Service Multiple Call Forward

Type of Input : Single value, optional

Possible Values : Y

The call is forwarded to the external CAS destination

N

The call is forwarded to the next local night option

Default Value : Y

VFGR - Attendant Console Groups

Parameter Descriptions

COD	Control of diversion when calling target station		
	Type of Input	: Single value, optional	
	Possible Values	: ON	The feature is permanently activated. The AC must decide for every station with call forwarding whether call forwarding is to be followed or whether the call is to be extended to the station.
		OFF	The AC can make temporary use of the feature by activating it with the DES key prior to each extending operation.
	Default Value	: OFF	
	Prerequisites: - type ACWinMQ attendant console - feature must be activated throughout the system with AMO ZAND If the feature has been deactivated with AMO ZAND, the extended call will follow the user's call forwarding.		
COINCO	Priority number of call type CO in consultation		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 48	
COONHOOK	Priority number of call type CO on hook in consultation		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 48	
COREC	Priority number of call type CO recall		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 48	
COSER	Priority number of call type CO serial call		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 48	
CQMAX	Maximum length (number of elements) of call queue		
	Type of Input	: Single value, optional	
	Possible Values	: 2 - 256	
	Default Value	: Number of ATNDs of the ATNDGR * 3 + 10	

It has to be considered that calls ringing at an attendant console are counted. Internal, central office calls and charge calls to this attendant group are counted. Two buffers from the allocated CQMAX buffers are reserved and cannot be used for regular queuing. Even if the attendant group is in permanent night mode to an external attendant group buffers need to be allocated in order to process recalls, intercept calls, serial calls and on hook transfer calls to the external attendant group. Each of these calls allocate one buffer in the originating attendant group till this call is answered. See also description of OFLGR.

CQMAXF	Determine max. of CQ calls, first answer calls per attendant		
	Type of Input	: Single value	required (ADD), optional (CHANGE) in the case of QUEMODE=DQ
			not available in the case of QUEMODE=MQ (an entry will be ignored; the operator will be notified with an advisory message)
	Possible Values	: 0 to 5	
	Note, changing on this parameter becomes effective only when the attendant terminal is reset (e.g. removal and reinsertion of the jack plug).		
EMERG	Priority number of call type emergency calling		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 48	
FORMAT	Format of the displayed data		
	Branch parameter for the action DISPLAY		
	Type of Input	: Single value, optional	
	Possible Values	: ALL	= Display all data
		PRIO	= Display priority data
		GENERAL	= Display general data
		SEARCH	= Search and display all AC without assignment to an ATND group
	Default Value	: ALL	
FUNCT	Whether devices are to be added or removed		
	Branch parameter for the parameter ATNDNO		
	Type of Input	: Single value, optional	
	Possible Values	: DEL	= Delete ATNDNO in the ATNDGR
		ND	= New definition of the set of ATNDNO for an ATNDGR
		ADD	= Add ATNDNO to an ATNDGR

VFGR - Attendant Console Groups

Parameter Descriptions

	Can only be declared in conjunction with ATNDNO
Default Value	: ADD (if ATNDNO is entered)
HOT	Priority number of call type hotline call
Type of Input	: Single value, optional
Possible Values	: 1 - 48
INIGHTPR	Priority of individual night service
Type of Input	: Single value, optional
Possible Values	: Y N
Default Value	: N
ITDEST	Internal traffic groups having ATND group as intercept dest.
Type of Input	: Single value, concatenated single values, ranges, optional
Possible Values	: 0 - 15
	Each ITRGR must be allocated to an ATNDGR at all times. When the first ATNDGR is assigned, then this is implicitly the intercept destination for all ITRGRs.
LOFC	Priority number of call type local first call
Type of Input	: Single value, optional
Possible Values	: 1 - 48
LOPRIC	Priority number of call type local prio call
Type of Input	: Single value, optional
Possible Values	: 1 - 48
LOREC	Priority number of call type local recall
Type of Input	: Single value, optional
Possible Values	: 1 - 48
NOPTNAME	Association between night option and night option name
	Allocation of a name to a night option
Type of Input	: Single value, concatenated single values, optional
Possible Values	: "<nopt> - <name>" "<nopt> - <name>" & "<nopt> - <name>" etc. nopt = Night option

Type of Input : Single value, required

Possible Values : 1 to 8

name = Night option name

Type of Input : Single value, required

The allocation of a name (1 - 20 characters) is only possible for defined night options. No entry = default value.

Default Value : "NIGHT OPTION <nopt>".

NOPT1 Device(s) assigned to night option 1

to Each ATNDGR must contain at least one night option.

NOPT8 If night service is not required for an ATNDGR, then the "none" night option must be allocated (cf. AMO NAVAR).

Type of Input : Single value, optional

Possible Values : 0 - 128

night option numbers assigned with AMO NAVAR

0 erases a night option

(except the active night option)

in the case of AUTNS = ON, NOPT8 must be defined.

OFLGR Number of assigned overflow attendant group

Type of Input : Single value, optional

Possible Values : 0 - 15

**

assigned attendant group number

erases the overflow to an attendant group

If OFLGR is set then calls to this attendant group who cannot be queued in the general attendant queue will be diverted to the assigned overflow attendant group. If no OFLGR value is assigned then CO calls who encounter "no queue element" will keep on trying to get into this queue; internal calls will get a busy indication.

The own attendant group number must not be assign as overflow attendant group.

OPT Night option on activation of night mode

Type of Input : Single value, required (ADD), optional (CHANGE)

Possible Values : 1 to 8

specified night option must be defined

OVCOFC Priority number of call type overflow CO first call

Type of Input : Single value, optional

Possible Values : 1 - 48

OVLOFC Priority number of call type overflow local first call

Type of Input : Single value, optional

VFGR - Attendant Console Groups

Parameter Descriptions

	Possible Values	: 1 - 48	
OVLOPRIC	Priority number of call type overflow local prio call		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 48	
OVTIFC	Priority number of call type overflow tie first call		
	Type of Input	: Single value, optional	
	Possible Values	: 1 - 48	
PERSONAL	Priority number of personal call		
	Type of Input	Single value	optional in the case of QUEMODE=MQ
			not available in the case of QUEMODE=DQ (an entry will be ignored; the operator will be notified with an advisory message)
	Possible Values	: 1 - 48	
PRIOLEV	Priority level		
	Type of Input	: Single value	
	Possible Values	: 1-8	
PRIONO	Priority number		
	Type of Input	: Single value	
	Possible Values	: 1-48	
QUEMODE	Call queuer mode		
	Type of Input	: Single value, optional	
	Possible Values	: DQ	Double queues
		MQ	Multiple queues
	Default Value	: DQ	
SDIST	Single distribution, fresh calls will only be signaled to entirely free ATNDs of the group		
	Type of Input	: Single value	optional if QUEMODE=DQ
			not available in the case of QUEMODE=MQ (an entry will be ignored; the operator will be notified with an advisory message)
	Possible Values	: Y [yes], N [no]	
	Default Value	: N	

TIINCO	Priority number of call type tie in consultation	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 48
TIONHOOK	Priority number of call type tie on hook in consultation	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 48
TIREC	Priority number of call type tie recall	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 48
TISERTT	Priority number of call type tie serial call	
	Type of Input	: Single value, optional
	Possible Values	: 1 - 48
TYPE	Branch parameter	
	Type of Input	: Single value, required (CHANGE)
	Possible Values	: GENERAL general data PRIOCALL priority number of call types PRIOLEV assignment of the priority number to answer key and priority level
WC	Max. number of waiting calls	
	Type of Input	: Single value optional in the case of QUEMODE=DQ not available in the case of QUEMODE=MQ (an entry will be ignored; the operator will be notified with an advisory message)
	Possible Values	: 0 - 255
	Default Value	: 0 limitation not activated
	This parameter limits the number of waiting calls in the call queue. The max. number is limited by the number of elements of the call queue (parameter CQMAX). If OFLGR is set then calls to this attendant group who exceeds the max. number of waiting calls will be diverted to the assigned overflow attendant group.	

213.4 Error Messages and Advisories

213.4.1 Error Messages

F01: ATNDGR <gg>: THE NUMBER OF ATND GROUPS THAT CAN BE ASSIGNED IS LIMITED TO <gg>
(AMO DIMSU: PARAMETER ATNDGR)

F02: ATNDGR <gg> ALREADY ASSIGNED

F03: ATNDNO <xxxxxx> ALREADY ASSIGNED TO ATNDGR <gg>

F04: ATNDGR <gg>: UNDER PERMANENT NIGHT SERVICE CONDITIONS AT LEAST ONE NIGHT
OPTION MUST BE ASSIGNED

F05: ATNDGR <gg>: NOPT<x> NOT DEFINED

F06: ATNDGR <gg>: AT LEAST ONE NIGHT OPTION MUST BE DEFINED

F07: NOPTNO <nnn> NOT ASSIGNED (AMO NAVAR)

F08: NOPTNO <nnn> IS A NIGHT ATND AND ALREADY ASSIGNED TO AN ATND GROUP

F09: NO PORT MEMORY TO ASSIGN AN ATND GROUP

F10: NO DEVICE MEMORY TO ASSIGN AN ATND GROUP (AMO DIMSU: PARAMETER LODEN)

F11: ATNDGR <gg>: NO ROUTES AVAILABLE FOR ASSIGNMENT
(AMO DIMSU: PARAMETER RTE)

F12: ATNDGR <gg>: NO MAIN GROUP INDEX AVAILABLE
(AMO DIMSU: PARAMETER MG)

F13: ATNDGR <gg>: NO MEMORY AVAILABLE FOR MAIN GROUP

F14: ATNDGR <gg>: NO SUBGROUP INDEX AVAILABLE
(AMO DIMSU: PARAMETER SG)

F15: ATNDGR <gg>: NO MEMORY AVAILABLE FOR SUBGROUP

F16: ATNDGR <gg>: NO MEMORY AVAILABLE FOR CALL QUEUER
(AMO DIMSU: PARAMETER ATNDCQ)

F17: ATNDGR <gg> NOT YET ASSIGNED

F18: ATNDGR <gg>: DELETE NOT POSSIBLE AS ATNDGR IS INTERCEPT DESTINATION FOR ITR
GROUPS

F19: ATNDGR <gg>: DELETE NOT POSSIBLE AS ATNDGR IS STILL ASSIGNED AT LEAST
ONE ACCESS CODE (DELETE ASSIGNMENT WITH AMO VFGKZ)

F20: ATNDGR <gg>: DELETE NOT POSSIBLE BECAUSE CALL QUEUER IS NOT YET EMPTY

F21: VALUES FOR PARAMETER PRI MUST START WITH 1

F22: VALUES FOR PARAMETER <param> ENTERED SEVERAL TIMES

F23: ATNDNO <xxxxxx> IS NOT AN ASSIGNED DAY ATND

F24: ATNDNO <xxxxxx> ENTERED SEVERAL TIMES

F25: RANGE <xxxxxx> TO <xxxxxx> DOES NOT CONTAIN ANY ASSIGNED ATNDNO

F26: INPUT OF SEVERAL VALUES FOR ATNDGR AND ATNDNO ONLY ALTERNATELY ADMISSIBLE

F27: FUNCTION ONLY PLAUSIBLE IF A SINGLE VALUE FOR ATNDGR IS ENTERED

F28: ATNDNO <xxxxxx> NOT ASSIGNED TO SPECIFIED ATNDGR <gg>

F29: ATNDNO <xxxxxx> NOT ASSIGNED TO ANY OF THE SPECIFIED ATND GROUPS

F30: ATNDGR <gg>: ACTIVATED NIGHT OPTION MAY NOT BE DELETED

F31: ATNDGR <gg>: AUTOMATIC NIGHT SERVICE REQUIRES NOPT8

F32: FORMAT ERROR IN NOPTNAME PARAMETER

F33: SPECIFICATION OF PARAMETER FUNCT ONLY ADMISSIBLE IF A VALID ATNDNO IS ENTERED

F35: NO ATNDGR ASSIGNED

F36: ATNDGR <gg>: VALUE OF PARAMETER CQMAXF TOO LARGE COMPARED WITH CQMAX

F37: IF AUTNS = ON IS INDICATED, "NONE" NIGHT OPTION MAY NOT BE SPECIFIED FOR NOPT8

F38: ATNDGR <gg>: A NIGHT OPTION NUMBER MAY ONLY BE ASSIGNED TO ONE NIGHT OPTION
F40: ATNDGR <gg> IS DEFINED AS INTERNAL CENTRALIZED ATND SERVICE IN NOPTNO <nnn>
F41: ONLY CENTRALIZED ATND SERVICE NIGHT OPTIONS ASSIGNED FOR ATNDGR <gg>
F42: INTERNAL CENTRALIZED ATND SERVICE <gg> OF NOPTNO <nnn> NOT ASSIGNED
F43: ATNDGR <gg>: DELETE NOT POSSIBLE, BECAUSE THE SPECIFIED ATNDGR IS ASSIGNED AS
INTERNAL CENTRALIZED ATND SERVICE IN ATNDGR <gg> IN NOPT<x>
F44: NO USER INDEX TO ASSIGN AN ATND GROUP
(AMO DIMSU: PARAMETER STN)
F45: ATNDGR <gg>: OVERFLOW TO OWN ATND GROUP NOT ALLOWED
F46: VALUE OF PARAMETER INADMISSIBLE
F47: ATNDNO <xxxxxx>: AC TYPE INADMISSIBLE
IN MULTIPLE QUEUES MODE ONLY AC OF TYPE=ACWIN CAN BE ASSIGNED
F48: ATNDGR <gg>: NIGHT OPTION <nnn> INADMISSIBLE
A NIGHT AC MAY NOT BE ASSIGNED IN MULTIPLE QUEUES MODE.
F49: ATNDGR <gg>: CALLTYPE <aaa> INADMISSIBLE IN <param> MODE
F50: ATNDGR <gg>: ANSWER KEY <param> INADMISSIBLE IN <param> MODE
F51: ATNDGR <gg>: PARAMETER <aaa> MUST BE SPECIFIED IN <param> MODE

213.4.2 Advisories

H01: DAY ATNDNO <xxxxxx> NOT ASSIGNED TO ANY ATNDGR
H02: ATNDGR <gg> IS IN PERMANENT NIGHT SERVICE
H03: ATNDGR <gg> NOT YET ASSIGNED
H04: RANGE <gg> TO <gg> DOES NOT CONTAIN ANY ASSIGNED ATNDGR
H05: VALUES FOR ATNDGR ARE IGNORED
H06: NIGHT SERVICE FOR ATNDGR <gg> NEEDS TO BE ACTIVATED
(AMO ACTDA:TYPE=ATNDGR,ATNDGR= ,NOPT= ,ACT=ACT)
H07: ATNDGR <gg>: PARAMETER <aaa> IS IGNORED IN <param> MODE
H08: ACCESSCODE FOR ATNDGR <gg> STILL NEEDS TO BE ASSIGNED
(ADD_VFGKZ:TYPE=ATNDGR)
H09: PLEASE NOTE THAT PRIOLEV ENTRIES WITH DEFAULT VALUES ARE NOT REGENERATED. USE
DISPLAY VFGR TO QUERY SETTINGS.

213.4.2.1 Output Texts

<aaa>	parameter name
<x>	1 - 8 (for NOPT1 - NOPT8)
<gg>	ATND group number
<nnn>	Night option number (assigned by AMO NAVAR)
<xxxxxx>	Code of devices
<param>	One of the parameters of the AMO

213.4.3 Use of the Output Messages for each action

ADD	:	F01, F13, F36, H02,	F02, F14, F37, H06,	F03, F15, F38, H07	F05, F16, F41, H08	F07, F21, F44,	F08, F22, F45,	F09, F23, F46,	F10, F24, F47,	F11, F25, F48,	F12, F32, F51
CHANGE	:	F03, F26, F38,	F04, F27, F45,	F05, F28, F46,	F07, F29, F47,	F08, F30, F48,	F16, F31, F49,	F22, F32, F50,	F23, F33, H02,	F24, F36, H07	F25, F37,
DELETE	:	F17,	F18,	F19,	F20,	F22,	F43,	H01,			
DISPLAY	:	H03,	H04,	H05							
REGENERATE	:	NONE									

214 VOICO - Administration of Voice Compression

Restrictions	Configure-sequence	Parameter Description
Interrelationships	Functions of the AMO	Error messages and advisories

The AMO VOICO can be used to set up Voice Compression (VC) connections. Further it can be used to DELETE, DISPLAY and REGENERATE the VC connections, and ACTIVATE and DEACTIVATE it.

214.1 Restrictions

This description is valid from SP300-V3.5

214.2 Interrelationships

- AMO BCSU : Configuration of boards
- AMO BUEND : Configuration of trunks
- AMO DIMSU : Configuration of memory
- AMO DSSU : Activation and deactivation of circuits
- AMO TDCSU : Configuration of circuits

214.3 Configure-sequence

AMO-DIMSU -> AMO-BCSU -> AMO-BUEND -> AMO-TDCSU -> AMO-DSSU.

214.4 Functions of the AMO

- [ADD-VOICO](#) : Create a VC connection
- [DELETE-VOICO](#) : Delete a VC connection
- [ACTIVATE-VOICO](#) : Activate the VC connection(s)

VOICO - Administration of Voice Compression

Functions of the AMO

- **DEACTIVATE-VOICO** : Deactivate the VC connection(s)
- **DISPLAY-VOICO** : Display the status of VCM/Partner connections
- **REGENERATE-VOICO** : Regenerate VCM connections

214.4.1 ADD-VOICO

This function configures the VC connections between a VCM board (VCSU) and a partner board (S0 or S2) (B-channel) in data base. Further the new STMA board working with mode PBB (port backboning) or NW20 (networking 2.0) can be used as partner board as well. In this case the STMA board is handled as S2 board.

Mind following steps:

- Both boards (VCM and S0/S2) have to be configured.
- At least on B-channel has to be configured for VCSU to be added, the circuit of a partner board has to be configured too.
- The VC connection of VCSU 1 has to be added first.
- All VCM subunits (VCSUs) have to be configured always to the same partner board.

Possible combinations:

VCM board	VCSU	Partner board	Circ./B-Channel	Possible Connection
VCM - B15	1-4	STMD (S0)	8 / 2	2
VCM - B15	1-4	DIUS2	2 / 30	4
VCM - B7	1-2	STMD (S0)	8 / 2	2
VCM - B7	1-2	DIUS2	2 / 30	2

A VC connection can be added in two ways:

- After adding no activation of VC connection (INS=N).
- After adding activation of VC connection (INS=Y).

Procedure Overview

Command Code	Parameter
ADD-VOICO	PEN1=<pen>, VCSU=<number>, PEN2=<pen>, BCHANNEL=<number> , [INS=<param>];

Examples

3. Add a VC connection with VCSU1 (VCM pen: 1-1-49-0) and B-channel 5 of partner board (pen: 1-2-55-0). The VC connection should not be activated after adding.

Input:

```
ADD-VOICO:1-1-49-0,1,1-2-55-0,5;
```

4. Add a VC connection with VCSU2 (VCM pen: 1-1-49-0) and B-channel 4 of partner board (pen: 1-2-55-0) . The VC connection should not be activated after adding.

Input:

```
ADD-VOICO:1-1-49-0,2,1-2-55-0,4;
```

5. Add a VC connection with VCSU1 (VCM pen: 1-1-43-0) and B-channel 3 of partner board (pen: 1-2-55-1). The VC connection should be activated after adding.

Input:

```
ADD-VOICO:1-1-43-0,1,1-2-55-1,3,Y;
```

214.4.2 DELETE-VOICO

This command is used to delete VC connections. Before deleting the VC connection has to be deactivated. The VC connection VCSU1 has to be deleted last.

Procedure Overview

Command Code	Parameter
DELETE-VOICO	LAGE1=<pen>, VCSU=<number>;

Examples

1. Delete the VC connection to VCSU1 on the VCM pen: 1-1-43-0.

Input:

```
DEL-VOICO:1-1-43-0,1;
```

214.4.3 ACTIVATE-VOICO

This command is used to activate the configured VC connections.

Mind following steps:

- Both circuits (VCM and partner board) have to be deactivated.

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- The VC connection of the specified VCSU has to be configured.
- The VC connection VCSU1 has to be activated first.

Procedure Overview

Command Code	Parameter
ACTIVATE-VOICO	PEN1=<pen>, [VCSU=<number>];

Examples

1. Activate a VC connection with VCSU1 for VCM pen: 1-1-49-0.

Input:

```
ACT-VOICO:1-1-49-0,1;
```

2. Activate all configured VC connections for VCM pen 1-1-49-0 .

Input:

```
ACT-VOICO:1-1-49-0;
```

214.4.4 DEACTIVATE-VOICO

This command is used to deactivate the activated VC connections.

Mind following steps:

- Both circuits (VCM and partner board) have to be deactivated.
- The VC connection of the specified VCSU has to be configured and activated.
- The VC connection VCSU1 has to be deactivated last.

Procedure Overview

Command Code	Parameter
DEACTIVATE-VOICO	PEN1=<pen>, [VCSU=<number>];

Examples

1. Deactivate a VC connection with VCSU2 for VCM pen: 1-1-49-0.

Input:

```
DEACT-VOICO:1-1-49-0,2;
```

2. Deactivate all activated VC connections for VCM pen: 1-1-49-0.

Input:

```
DEACT-VOICO:1-1-49-0;
```


214.4.5 DISPLAY-VOICO

This command can be used to display the contents of the Voice Compression Table. There are following display options to choose from :

- Type specific

In this case, the board type is used as the search criterium. The AMO scans the specified VCM or PARTNER type and displays the entries that meet the search criterium.

- Pen specific

The connections can be output as in part (for entered pen).

Procedure Overview

Command Code	Parameter
DISPLAY-VOICO	[TYPE=VCM], [PEN1=<pen>]; | [TYPE=PARTNER], [PEN2=<pen>];

Examples

1. List VCM board connections.

Input:

DISPLAY-VOICO:VCM;

Output:

VCM - BOARD			PARTNER - BOARD			IN	
PEN	VCSU		PEN	B-CHANNEL	HW-MODULE	SERVICE	
01-01-043-0	1		01-02-055-1	03	DIU-S2	YES	
01-01-049-0	1		01-02-055-0	05	DIU-S2	NO	
01-01-049-0	2		01-02-055-0	04	DIU-S2	NO	

2. List PARTNER board connections.

Input:

DISPLAY-VOICO:PARTNER;

Output:

PARTNER - BOARD			VCM - BOARD			IN	
PEN	B-CHANNEL	HW-MODULE	PEN	VCSU		SERVICE	
01-02-055-1	03	DIU-S2	01-01-043-0	1		YES	
01-02-055-0	04	DIU-S2	01-01-049-0	2		NO	

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01-02-055-0	05	DIU-S2	01-01-049-0	1	NO

3. List VC connections for PEN: 1-1-43-0.

Input:

DISPLAY-VOICO:VCM,1-1-43-0;

Output:

VCM - BOARD		PARTNER - BOARD			IN
PEN	VCSU	PEN	B-CHANNEL	HW MODULE	SERVICE
01-01-043-0	1	01-02-055-1	03	DIU-S2	YES

214.4.6 REGENERATE-VOICO

The verb REGENERATE is used to output the data of the Voice Compression table in the form of one or more position-oriented 'ADD' commands. The command can be regenerated for a specific PEN1.

It is possible that one of both or both circuits of one VC-connection that is marked as active, is/are deactivated by AMO-DSSU. In this case a DEACT-DSSU has to be regenerated before the ADD-VOICO-command, respectively an ACT-DSSU-command has to be regenerated after the ADD-VOICO-command for each deactivated circuit.

Procedure Overview

Command Code	Parameter
REGENERATE-VOICO	[PEN1=<pen>];

Examples

1. Regenerate VC connections for VCM PEN: 1-1-49-0.

Input:

REGEN-VOICO:1-1-49-0;

Output:

ADD-VOICO:1-1-49-0,1,1-2-55-0,5,N;

ADD-VOICO:1-1-49-0,2,1-2-55-0,4,N;

2. Regenerate the table for all configured VCM boards.

Input:

REGEN-VOICO;;

Output:

```
ADD-VOICO:1-1-49-0,1,1-2-55-0,5,N;
ADD-VOICO:1-1-49-0,2,1-2-55-0,4,N;
DEACT-DSSU:DC,PEN,1-2-55-0;
DEACT-DSSU:DC,PEN,1-1-43-0;
ADD-VOICO:1-1-43-0,1,1-2-55-0,3,Y;
ACT-DSSU:ACL,PEN,1-1-43-0;
ACT-DSSU:ACL,PEN,1-2-55-0;
```

214.5 Parameter Description

BCHANNEL	B-channel number on partner board
Type of Input	: single value, optional (ADD)
Possible Values	: 1 to 30
INS	Switch VCSU in service after add
Type of Input	: single value, optional (ADD)
Possible Values	: Y Switch in service after add N Don't switch in service after add
Default Value	: N
PEN1	Physical address of VCM board
Type of Input	: 4 compound values, required (ADD, DELETE, ACTIVATE, DEACTIVATE) optional (DISPLAY, REGENERATE)
Possible Values	: LTG-LTU-SLOT-CIRCUIT
	LTG-Number 1
	LTU-Number 1 to 99
	Slot 1 to 121
	Circuit 0
Default Value	: All VCM boards in system (DISPLAY and REGENERATE)
PEN2	Physical address of partner board
Type of Input	: 4 compound values, required (ADD) optional (DISPLAY)
Possible Values	: LTG-LTU-SLOT-CIRCUIT
	LTG-Number 1
	LTU-Number 1 to 99
	Slot 1 to 121

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	Circuit	0 to 1 for S2 0 to 7 for S0
Default Value	: All partner boards (DIUS2/STMD) in system (DISPLAY)	
TYPE	Type of display of boards	
Type of Input	: single value, optional (DISPLAY)	
Possible Values	: VCM	Output of VCM pens
	PARTNER	Output of partner pens
Default Value	: VCM	
VCSU	VCSU number of compressed VCM-channels	
Type of Input	: single value, required (ADD, DELETE) 3 chained single values, ranges, optional (ACTIVATE, DEACTIVATE)	
Possible Values	: 1	1 - 3 VCM B-Channels
	2	4 - 7 VCM B-Channels
	3	8 - 11 VCM B-Channels
	4	12 - 15 VCM B-Channels
Default Value	: 1&&4	(ACTIVATE, DEACTIVATE)

214.6 Error messages and advisories

214.6.1 Error messages

- F01: THE ADMISSIBLE RANGE FOR <param> IS: <number> TO <number>
Input range has been exceeded.
- F02: NOT POSSIBLE LOADING THE 'UBGDAT00' SUBSYSTEM
The board data can not be loaded.
- F03: ON PEN <ltg-ltu-slot> IS NO <bctype> BORD CONFIGURED
On the entered pen is no board configured or the configured board is not a VCM/S0/S2 board. Configuration by AMO BCSU.
- F04: INSUFFICIENT MEMORY (AMO DIMSU: PARAMETER VOICO, TYP=CC)
The system table in DB is too small, erlarge by AMO-DIMSU.
- F05: FOR VCSU <number> NO B-CHANNAL ON VCM BOARD HAS BEEN CONFIGURED
ADD WITH AMO-TDCSU
For the entered VC connection at least one B-channel has to be configured on the VCM board (VCSU).
- F06: CIRCUIT <number> ON S0/S2 BOARD HAS NOT BEEN CONFIGURED
ADD WITH AMO-TDCSU
The entered circuit of the partner board is not configured and has to be configured with AMO-TDCSU.
- F07: FOR VCM BOARD VCSU 1 HAS TO BE CONFIGURED FIRST
The VCconnection VCSU 1 has to be configured always first.

- F08: VCSU <number> HAS TO BE CONFIGURED ON SAME PARTNER BOARD: <ltg-ltu-slot>
AS VCSU 1
All VC connections has to use the same partner pen as VCSU 1 .
- F09: VCSU <number> HAS ALREADY BEEN CONFIGURED
The entered VCSU number has already been configured.
- F10: B-CHANNAL <number> OF PARTNERBOARD HAS ALREADY BEEN CONFIGURED
The entered B-channel number has already been configured.
- F11: VCSU <number> IS NOT CONFIGURED
The entered VC connection (VCSU) is not configured or already deleted.
- F12: VCSU 1 HAS TO BE DELETED AT LAST ONE
The VC connection to VCSU1 has to be deleted always last.
- F13: THE VCSU <number> HAS TO BE DEACTIVATED BEFORE ACTION DELETE
An active VC connection can not be deleted.
- F14: FOR <action> A VCSU THE CIRCUIT OF <type>PEN (<ltg-ltu-slot-circuit>)
HAS TO BE DEACTIVATED (DEACTIVATE WITH AMO DSSU)
<action> ACTIVATE or DEACTIVATE
<type> VCM or PARTNER
- F15: FOR VCM BOARD VCSU 1 HAS TO BE ACTIVATED FIRST
The VC connection VCSU1 has to be activated always first.
- F16: <action> OF VCSU <number> HAS BEEN REJECTED FROM DC
<action> ACTIVATE or DEACTIVATE
Unknown error at Device Control. A softrestart could solve the problem.
- F17: FOR VCM BOARD VCSU 1 HAS TO BE DEACTIVATED AT LAST
The VC connection VCSU1 has to be deactivated always last.
- F18: THERE ARE NO MORE FREE TIMESLOTS AVAILABLE
For the VC connection if was not possible to reserve free timeslots. Probably
too many connections are active.

214.6.2 Advisories

- H01: VCSU <number> IS ALREADY ACTIVATED
The entered VC connection (VCSU) is already activated and can only be
deactivated.
- H02: VCSU <number> IS ALREADY DEACTIVATED
The entered VC connection (VCSU) is already deactivated and can be deleted or
activated.
- H03: VCSU <number> HAS BEEN ACTIVATED
The entered VC connection(s) is/are active.
- H04: VCSU <number> HAS BEEN DEACTIVATED
The entered VC connection(s) is/are deactive.
- H05: NO VCSU CONFIGURED
By interrogating all VC connections no configured VC connection was found.
- H06: FOR SPECIFIED PEN NO VCSU CONFIGURED
For entered pen no configured VC connection was found (Display VCM, PEN or
Display PARTNER, PEN).
- H07: ATTENTION - THE CONFIGURATION OF VOICO HAS TO BE SYMMETRICAL!
BEFORE REACTIVATING THE S0/S2 CONNECTION BE CAREFUL TO SWITCH
THE SAME VCSU'S AT YOUR PARTNER PBX!

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Error messages and advisories

215 WABE - Digit Analysis

"Digit analysis" refers to the assignment of a digit analysis result (DAR) to a dialed digit sequence or code. This assignment is dependent on the call progress state (CPS) and digit analysis group or dial plan (DPLN).

In general it is recommended to allocate for each DAR only closed station number ranges (e.g. CD=3000&&3699 for DAR=STN), in this case the internal used dialling plan tree is very short, uses less memory space und works performant. The dialling plan tree will be then built-on until the 2. digit of the station number, because the following 3. and 4. digit are all available in the DAR, this means only a few number of dialplan blocks is needed. When now one station number (e.g. "DEL-WABE:CD,3111;") is deleted from this station number range, then the AMO WABE must extend the dialling plan tree in general by the 3. digit and for the station number range 3110 - 3119 also by the 4. digit. Note, additional memory space in the form of dialplan blocks is therefore necessary to remove the station number 3111 from dialling plan! Please pay attention during creation of a dialling number plan, as more as a station number range for a DAR is subdivided also more increases the need of dialplan blocks to perform a correct digit analysis.

There are two types of digit analysis result: DARs with a specific dialing outcome (e.g. 'STN'; dialing result is station number), and DARs whose dialing outcome must be defined in other AMOs (e.g. 'CO'; the trunk routes which can be accessed via this DAR are defined with the AMO RICHT).

The DARs NETW, NETWFAX and NETWDTE have a special status; for these DARs

the AMO WABE enters supplementary information (parameter DESTNO) as well as the digit analysis result. In addition, information entered with the AMO RICHT for the NETRTE DAR is relevant for call processing purposes.

The DAR STN in HICOM networks has a special status very similar to the DAR NETW. If an STN is in another node, it is added in the local node with the parameter DESTNO. Then it is used just like NETW. Every DAR STN is only permissible independently of DPLN, i.e. without specifying the parameter DPLN.

DAR NETRTE also has a special position: Just as with STN, it must be assigned independently of DPLN groups and only for CPS=0, so that it cannot be directly dialed.

Associated digit analysis results are combined into a digit analysis result pair.

Some digit analysis result pairs are viable only if both parts are assigned (e.g. activate call hunt group - deactivate call hunt group). An expanded input is provided so that such pairs can be handled together if changes are made in the DPLN table. Parameters exist for the partner DAR in the ADD and DELETE commands (CD2, CPS2 & CDDP2). The parameter DPLN applies to both DARs of a pair. In the DELETE command with TYPE=CD, the partner DAR must always be explicitly included. This is done automatically in the ADD command (default value CHECK=ALL), even if CHECK=PART is specified. By specifying CHECK=N, the user is able to specifically exclude the partner DAR. This can save time in some cases; however, the user must remember to create a new partner DAR with the appropriate command. The REGENERATE command generates an ADD command batch with CHECK=N in each case (i.e. with less parameters). This speeds up a generate command sequence because of less parameter checks.

When the feature VNR is activated (VNR switch in ZANDE is set), DPLN dependent configuration must be allowed for DAR=STN and forbidden for DAR=OWNNODE. Both station and node access code can not be deleted as long as at least one subscriber is configured for it, a delete command is rejected with the existing F11 error message. The destination number associated with an access code leading to DAR=STN can be configured individually for different virtual nodes in CHANGE-WABE. Therefore the CD parameter allows up to 12 digits representing a the station number with node access code. The CD parameter in ADD, DELETE, DISPLAY or REGENERATE remains up 6 digit long. When the feature is activated, the subscriber output has to be changed too. Together with the VNR feature that grouping makes no longer sense, because the same number can be configured in different destination nodes for the individual virtual nodes. In many cases it will also be configured for some of the virtual nodes and reserved for the other. Therefore the output for DAR=STN will show no extra lines with reservation flag or destination number. This information is displayed in individual blocks for each virtual node together with the associated DAR=OWNNODE entries.

The DARs APIN1 to APIN15 (activate personal identification number for copin1 to copin15) and the DAR DPIN (deactivate personal identification number) have a special status within the digit analysis result pairs. These DARs are practicable only in pairs, but have to be added with single AMO calls. This is because there is only 1 deactivation DAR for the 15 activation DARs. Independent of DPLN or for a specific DPLN, if one of the DARs APIN1 to APIN15 exists, the user is responsible for ensuring that the DAR DPIN exists and vice versa.

In addition, some DARs belong to specific DAR sequences, in other words, within the specific DPLN group and CD category a predecessor DAR must be entered before the successor DAR in the sequence can be added. The sequence must also be adhered to when deleting. The sequence may be ignored if CHECK=N is specified.

Associated pairs for simultaneous processing are listed in [Table 49](#) and pairs for sequential processing in Table 50. Digit analysis results AFWDVCE, ADND and ACOSX can also be used as 'feature toggling' digit analysis results. Thus, in the case of these digit analysis results, it is no longer necessary to handle them in pairs with the corresponding deactivation digit analysis results.

Simultaneous updating of the TWABE tables is not carried out automatically. In order to speed up call processing, it is recommended that the desired data be imported with the AMO TWABE (e.g. all CDs to DAR=STN).

Add simultaneously	
DAR 1	DAR 2
ACBK	DCBK
AFFWDDTE	DFFWDDTE
AFFWDFAX	DFFWDFAX
AFFWDVCE	DFFWDVCE
AFWDDTE	DFWDDTE
AFWDFAX	DFWDFAX
AFWDREM	DFWDREM
AHTDTE	DHTDTE
AHTFAX	DHTFAX
AHTVCE	DHTVCE
AREM	DREM
MBON	MBOFF
MHFALGON	MHFALGOF
VMOWN	VMFOR

Table 49 Digit analysis result pairs

Must be entered in sequence	
Enter first	Enter second
SPDC1	SPDC2
CCS	CCSURG
CCMS	CCMSURG

Table 50 DAR pairs for sequential processing

There are more features connected to special DARs, e.g. there are only decimal digits allowed with DAR STN or FLASHCD, also only 1 digit is allowed for DAR FLASHCD.

Call forwarding for DSS1 terminals

The range of validity for the DARs AFWDREM, DFWDREM and FWDREM is defined by AMO WABE as a supplementary information to the DARs according to the parameters CFREMVVAR and CFREMSE. Meaningful combinations of these parameters are listed in the following table (not checked by the AMO):

CF Remote Service CFREMSE	CF Remote Variant (forwarding variant) CFREMVVAR
ALL	CFU, CFNR, CFB
SPEECH	CFU, CFNR, CFB
UDI	CFU, CFNR
AUDIO3K1	CFU, CFNR, CFB
UDITA	CFU, CFNR
TEL3K1	CFU, CFNR, CFB
FAX4	CFU, CFNR
VIDEO	CFU, CFNR
FAX3	CFU, CFNR
TEL7K	CFU, CFNR, CFB
VOICE	CFU, CFNR, CFB
DTEH	CFU, CFNR
FAXH	CFU, CFNR

Table 51 Combination of CFREMVVAR and CFREMSE parameters

DAR for devices with dial pulse only option

If CD assigned to the DAR in question should also be available to terminals which only support the dial pulse option (previously known as pulse dialing), but contains special characters (SC),

- the parameter CDDP must be specified (except when CHECK=PART/N).
- the parameter CDDP2 must be specified in the case of DAR pairs (except when CHECK=PART/N).
- neither the parameter CDDP nor CDDP2 may be specified in the case of a CPS expansion.

Networks:

All STN codes in a network are stored with the DAR STN in the tables of each node. To the external STNs (these are the STNs in other nodes) the DESTNO is assigned with a separate CHANGE action.

With DAR NETW now only those codes are stored, that must be reached from all nodes of the network.

If an external STN becomes an internal one, first the DESTNO must be changed to 0.

The station number (CD) of DAR OWNNODE is used for feature networking route optimization of the AMO ZAND TYPE=ALLDATA, parameter NODECD. Before changing or deleting this digit code, the relating information has to be changed or deleted with the AMO ZAND.

The ISDN dial plan has been implemented via QSIG since Hicom 300 E V1.0 and V3.5. With this dial plan it is possible to image the public dial plan on a private network.

If a Hicom system is connected to or in a network that operates using the ISDN dial plan, the network access code to the ISDN network **must** be created with DAR=TIE (tie-trunk) instead of DAR=CO (attention must also be paid here to the CPS-dependent creation of the DAR TIE). There is no longer a CO DAR there as only the LCR decides whether the call is routed to a real public exchange or to a carrier.

Use of the ISDN dial plan for access to systems smaller than EV1.0 / V3.5 is not allowed in the private network.

Range inputs:

If a job with range inputs cannot be carried out completely, only the permissible entries are made in the DPLN table. The dominant parameter is the station number or digit code (CD). Error messages are generated for the entries that cannot be executed.

CPS range

Call progress states (CPS) cannot be specified as ranges. However, it is possible not to specify the parameter CPS, in which case all CPSs permitted for the associated digit analysis results are intended. The permitted values are defined in a table that cannot be changed by administration and maintenance.

The `DISP-WABE:TYPE=CPS` command allows the user to output either the complete table or a specific row (`DAR=<param>`).

Note for Optiset terminals:

The function of some digit analysis results can be called via the Optiset menu. This function is only displayed in the Optiset menu if at least one CD was set up for an Optiset-relevant DAR. Optiset-relevant digit analysis results are required to be added with full CPS range, i.e. with all CPSs permitted for the associated digit analysis result. This is achieved by entering no value for the CPS value. The CPS range permitted for the associated digit analysis result is stored in a read only table in the database of the system. This table, i.e. the CPS amount of digit analysis results, can be displayed using `DISPLAY-WABE:TYPE=CPS,[DAR=<param>];`.

Always create without CPS specification					
ACC	ACDAV	ACDEMMSG	ACDLOGOF	ACDLOGON	ACDEMMSG
ACDNAV	ACDPGS	ACDPQS	ACDSGS	ACDSQS	ACWORK
ACOSX	ADND	AFFWDVCE	AFWDREM	AFWDVCE	AHTVCE
APIN1	APIN2	APIN3	APIN4	APIN5	APIN10
APIN11	APIN12	APIN13	APIN14	APIN15	CBKKY
CCANS	CCKY	CCMANS	CCMS	CCMSURG	CCSCD
CCSN	CDRACC	CONFKY	CONSKY	CTLS	DAKY
DCOSX	DDND	DFFWDVCE	DFWDVCE	DHTVCE	DICT
DISUOFF	DISUON	DNDKY	DPIN	DSSKY	DTMFCONV
EOVR	EXHOLDKY	FWDKY	FWDREM	GENANS	HOLDKY
HTKY	IUSEKY	KNOVRKY	KYPROG	LNRY	MBKY
MHFALGOF	MHFALGON	MONSLNT	MONTONE	MSGRKY	NAMEKY
PARKKY	PRIVKY	PUDIR	RA	RCTOFFKY	RELEASE
REMKY	RLSKY	SNRKY	SPDC!	SPDI	SPDIPROG
STKY	TOGGLEKY	TRACE	TRNSKY	VCKY	VCRKY
VMFOR	VMOWN				

Table 52 Optiset-relevant DARs to be created without CPS specification

NOTE!

If the CPS range permitted for a digit analysis result has been enlarged, e.g. caused by a change request, all configured access codes for that digit analysis result must be expanded to fit the new CPS range. This can be done using the command `ADD-WABE` with `CHECK=N`. This action must be called for each access code assigned to the respective digit analysis result (see example below). If the additional new call progress states are specified in the `ADD` command, the advisory message H07 is

displayed and the action is performed using the full new CPS range to ensure that the CPS expansion really fits the full CPS range.

Example:

Optiset-relevant digit analysis result APIN1 has been enlarged from CPS 5 to 58&9&17:

```
DIS-WABE:TYPE=GEN,DPLN=0&15,DAR=APIN1;
```

DIGIT INTERPRETATION		VALID FOR ALL DIAL PLANS	
CODE	CALL PROGRESS STATE	DIGIT	RESERVED/DIALCONV
	1 11111 11112 22	ANALYSIS	DNI/ADD-INFO
	0 12345 67890 12345 67890 12	RESULT	*=OWN NODE
881	*	APIN1	
81		APIN1	

```
DIS-WABE:TYPE=CPS,DAR=APIN1;
```

STANDARD CPS SUBSETS	
	1 11111 11112 22
DAR	0 12345 67890 12345 67890 12
APIN1	* ..***... ..

Expand the access codes *81 and 881 assigned to the respective digit analysis result APIN1 to the full CPS range using the command ADD-WABE with CHECK=N (one command, giving the new, additional CPS values - therefore H07 - and one command without parameter CPS):

```
ADD-WABE:CD=881,CPS=8&9&17,DAR=APIN1,CHECK=N;
```

```
H07: OPTISET-RELEVANT DAR MUST ALWAYS HAVE FULL CPS SET.
```

```
- PARAMETER CPS WILL BE IGNORED.
```

```
- ACTION CONTINUES WITH FULL CPS SET.
```

```
ADDITION COMPLETE;
```

```
ADD-WABE:CD=*81,DAR=APIN1,CHECK=N;
```

ADDITION COMPLETE;

DISP-WABE:TYPE=GENERAL,DAR=APIN1;

DIGIT INTERPRETATION				VALID FOR ALL DIAL PLANS			
		CALL PROGRESS STATE		DIGIT	RESERVED/CONVERT		
CODE		1	11111	11112	22	ANALYSIS	DNI/ADD-INFO
		0	12345	67890	12345	67890	12
						RESULT	*=OWN NODE
881		.	....*	..**.	.....	.*...	..| APIN1
81		.	....*	..**.	.....	.*...	..| APIN1

Note for output interruption:

The output of long lists can be canceled using I/O interrupt. In the case of the actions DISPLAY and REGENERATE, the output can be canceled immediately. In the case of ADD, DELETE and CHANGE, the output of the error messages can be canceled. Cancellation is not carried out until the dominant parameter (CD) has been tested completely, i.e. error messages can still be output before the AMO is canceled.

Note for 7/8-digit codes:

This feature can not be activated together with the VNR feature. The code is converted to a 6-digit code within the dial plan.

In the case of a 7/8-digit code, the last 4 digits define the code base and the 3-4 digits ahead define the office code. The office code is assigned to DAR OWNNODE. A 2-digit alternative reference number (ARN) is assigned to the office code. The ARN is stored in the additional data of the DAR OWNNODE.

The 4-digit code base is prefixed with the 2-digit alternative reference number and results in a 6-digit alternative code. The 6-digit alternative code is assigned to the target DAR.

More than one office code can be assigned to the same ARN. This enables the access of a destination using several codes. However, only one office code can be defined for display. Using a CHANGE command, the office code used for the display can be specifically defined.

The feature was not developed to display the own 7/8 digits number on the IDLE devices.

If the real number configured by SBCSU is not desired on IDLE display, there is the option to hide it by:

ZAND:ALLDATA2 parameter DSPOWNNO for optiset, optipoint, Openstage 15/20/30, and by ZANDE:OPTFEA,708 for Openstage 40/60/80, DPIP, CP (device restart required).

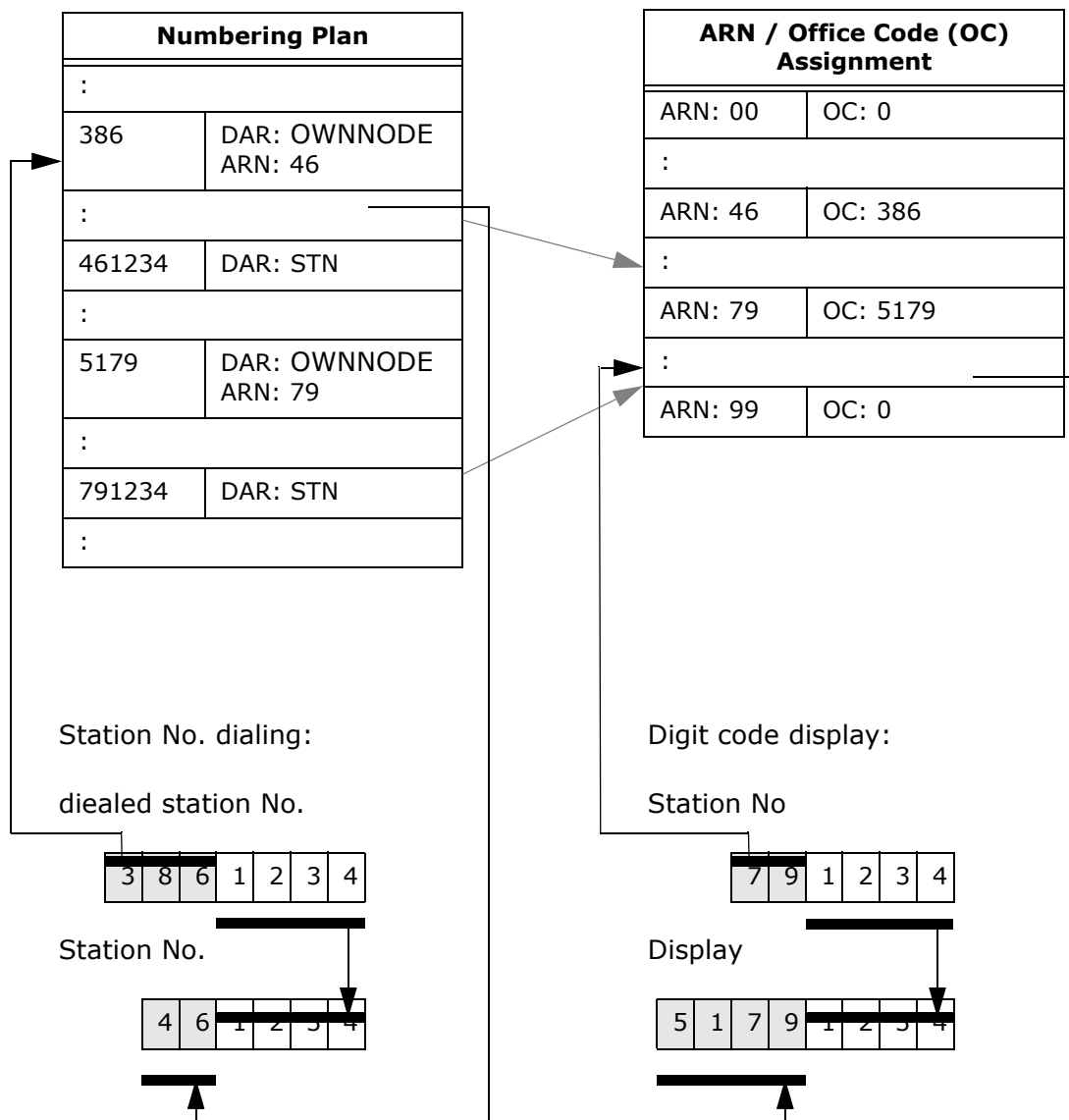


Figure 85

Example for a 7- and a 8-digit subscriber number:

In special cases, the code base can be defined with less than 3 digits, the office code even with less than 3 digits. However, the ARN always consists of 2 digits.

215.1 Interrelationships

- AMO ACSU : Configure attendant console
- AMO DIMSU : Feature capacities
- AMO LDPLN : LCR dial plan
- AMO PERSI : Personal identification data
- AMO RICHT : Routes
- AMO SA : Hunting group
- AMO SCSU/SBCSU : Configure station in SWU
- AMO VFGKZ : Attendant console group access codes
- AMO GKREG : Gatekeeper Registry
- AMO ZAND : System data

215.2 Functions of the AMO

- [ADD-WABE](#) : Assign digit analysis results
- [CHANGE-WABE](#) : Change digit analysis results
- [DELETE-WABE](#) : Delete digit analysis results
- [DISPLAY-WABE](#) : Display digit analysis results
- [REGENERATE-WABE](#) : Regenerate digit analysis results

215.2.1 ADD-WABE

With this command it is possible to create 1 DAR for one or more CDs or several DARs for one CD.

In the case of digit analysis result pairs, it is possible to assign both partners for the same station number if the desired call progress states are completely mutually exclusive.

If parameter DPLN is omitted, the DAR is created without DPLN branching for all DPLN groups.

When DARs for central offices and tie trunks are created, the AMO prevents the assignment of another CO/tie trunk DAR to the same station number using different CPS's only. The assignment is also prevented in the case of various long station numbers for CO and tie trunk DARs that correspond up to the number of digits of the shorter station number.

When a DAR for station is created, the AMO prevents the assignment of an individual attendant console DAR to the same station number using different CPS's only and vice versa. This is because stations are stored in station line memory only depending of the station number, but data cannot be stored depending on CPS.

The DAR NETRTE can be preset for a suitable route with the AMO WABE. The connection between all DARs NETW, NETWFAX and NETWDTE with the same DESTNO and a suitable NETRTE must be set up with the AMO RICHT.

If CHECK is not specified, CHECK=ALL is taken as default value.

The DAR STN can be marked as external with DESTNO as supplementary information. For operating reasons, the DESTNO should only be specified for individual STNs in the ADD command but for ranges in the CHA command. In the case of regeneration, normal ADD commands (without DESTNO) are also created for the external STN, followed by a list of CHA commands sorted in ascending order added to the end.

Station numbers for DAR=STN should, where possible, be set up in closed ranges. This applies both to external and internal STNs, as no external/internal distinction is made in WABE. This saves a significant amount of memory and runtime.

The specification of a value greater than 00 for the parameter ARN is only permitted in the case of a CD containing up to 4 digits and the DAR OWNNOE. The CD is then assigned to the ARN as office code for call number display. This action overwrites any previous office code assignment.

The assignment of CFREMPVAR and/or CFREMPSE is only permitted in the case of the DARs AFWDREM, DFWDREM and FWDREM.

Station number categories

A number of special characters cannot be dialed from all terminals. The digits are therefore split into categories:

- a) A,B,C,D only for devices with a 16-key keypad
- b) *, # also for devices with a 12-key keypad
- c) 0...9 for all devices

The highest value that occurs must correspond in both specified access codes.

Examples:

CD=A35 CD2=C* permitted

WABE - Digit Analysis

Functions of the AMO

CD=#5	CD2=*48	permitted
CD=#A37	CD2=B	permitted
CD=A	CD2=#	not permitted
CD=*12	CD2=123	not permitted

The following table provides a summary of the possible combinations of input parameters.

Add	CHECK	CD	CDDP	CD2	CDDP2
1. Indep. DAR w/o SC	in any case	DARw/oSC			
2. " " with SC	PART,N	DAR w SC			
3. " " " SC	(ALL)	DAR w SC	DARw/oSC		
4. DAR pair w/o SC	(ALL) , PART	DARw/oSC		DARw/oSC	
5. " " " SC	N	DARw/oSC			
6. " " with SC	(ALL)	DAR w SC	DARw/oSC	DAR w SC	DARw/oSC
7. " " " SC	PART	DAR w SC		DAR w SC	
8. " " " SC	N	DAR w SC			
Explanation: SC: Special Characters Digit analysis result without special characters Digit analysis result with special characters CD,CD2: Code 0 to 9, *, #, A to D CDDP,CDDP2: Code for dial pulsing devices 0 to 9					

Table 53 Combinations of possible input parameters

Procedure Overview

Command Code	Parameter
ADD-WABE	CD=<key-num>, [DPLN=<number>], [CPS=<number>]
	, DAR=<param>, [CHECK=<param>], [CDDP=<number>]
	, [CD2=<key-num>], [CPS2=<number>], [CDDP2=<number>]
	, [DESTNO=<number>], [ARN=<number>]
	, [CFREMVAR=<param>], [CFREMSE=<param>];

Examples

1. Assign the DAR=STN (station) to station numbers 3200-3299 for all call progress states allowed for STN.

Input:

ADD-WABE:CD=3200&&3299,DAR=STN;

2. Assign the DAR 'saved number redial' in DPLN group 2, for the CPSs 'station prefix dialing', 'in-house consultation', 'CO consultation'; code = *11 for dial pulsing = 5111.

Input:

```
ADD-WABE:CD=*11,DPLN=2,CPS=5&8&9,DAR=SNR,CDDP=5111;
```

3. Assign the DAR 'add station to hunt group, voice' in DPLN group 2 for all CPSs allowed for AHTVCE, with code = *56, dial pulsing = 5156. Since the DAR is part of a DAR pair, reporting of the partner code = #56 or 5256 in the CPS = 'station prefix dialing'.

Input:

```
ADD-  
WABE:CD=*56,DPLN=2,DAR=AHTVCE,CDDP=5156,CD2=#56,CPS2=5,CDDP2=  
5256;
```

4. Assign the DAR 'network point', without taking individual DPLN groups into account, in all CPSs provided for CDs 4800 to 4999, with DESTNO 213.

Input:

```
ADD-WABE:CD=4800&&4999,DAR=NETW,DESTNO=213;
```

5. Assign the DAR 'add station to hunt group, voice' in DPLN group 3, for all CPSs permitted for this DAR and CD = *86. Assign the partner DAR 'DHTVCE' with CD2 = #86, without associated DP station numbers.

Input:

```
ADD-WABE:CD=*86,DPLN=3,DAR=AHTVCE,CHECK=PART,CD2=#86;
```

CPS expansion

Each DAR is assigned a fixed range of possible CPSs (display with DIS-WABE:TYPE=CPS). By specifying the parameter CPS, a CD for a DAR can also be added for a subset of the possible CPSs of a DAR. The CD can be extended to the other CPSs by repeating the ADD action. Please note that the parameters CDDP, CD2 and CDDP2 must not be specified. The ADD action must be activated separately for CPS expansion for the CDDP, CD2 and CDDP2 station number. A CPS expansion is only possible for the applicable CPS range for the relevant DAR, provided a DAR has not yet been assigned for this CD/CPS combination (neither this nor another).

Example:

1. Add a DAR pair with CPS subset (specify parameter CD2)

Input:

```
ADD-WABE:CD=*75,CPS=1,DAR=CAFAFWD,CD2=#75,CPS2=1;
```

2. CPS expansion for the new station numbers of the DAR pair (parameter CD2 must not be specified - separate ADD command necessary for partner DAR)

Input:

```
ADD-WABE:CD=*75,CPS=5,DAR=CAFAFWD;
```

```
ADD-WABE:CD=#75,CPS=5,DAR=CAFDFWD;
```

3. Add a DAR for devices with dial pulse only option with DAR subset (specify parameter CDDP)

Input:

```
ADD-WABE:CD=*76,CPS=2,DAR=HUNT,CDDP=876;
```

4. CPS expansion for the new station numbers of the DAR for devices with dial pulse only option (parameter CDDP must not be specified - separate ADD command necessary for CDDP station number)

Input:

```
ADD-WABE:CD=*76,CPS=3,DAR=HUNT;
```

```
ADD-WABE:CD=876,CPS=3,DAR=HUNT;
```

215.2.2 CHANGE-WABE

With this command, different actions which change existing entries in the DPLN tree can be performed by entering the parameters CDNEW, DESTNO, ARN, CFREMVVAR or CFREMSE. The parameters can be entered alternative only, except CFREMVVAR and CFREMSE, that can be entered together.

1. Entering the parameter CDNEW allows to change the CD of existing entries. All data like DPLN or CPS is kept, the entry only is moved in the DPLN tree. It is also possible to move only such entries, that have certain characteristics in their DARs. After moving data to destination the entry at the source is deleted. In case of a CD range the action is performed for every single CD.

If a valid ARN (01 to 99) is stored for a CD with DAR OWNNOE, CDNEW must have maximum 4 digits. The CDNEW (office code) is assigned to the current ARN. A previously assigned office code is overwritten.

2. Entering the parameter DESTNO allows to change the DESTNO still assigned to the CD. If VNR feature is active, CD must be entered as long number for STN : Access code + STN. This function only affects the DAR STN, NETW, NETWFAX and NETWDTE. In case of DAR STN also DESTNO=0 is allowed (external->internal), just as the old value can be 0 (internal->external). If STN is still assigned internal, the command will be rejected with F11. For the network

DARs, only an external DESTNO (1..254) can be specified (as DESTNO=0 is the actual system -> internal DESTNO). In addition the parameter CPS must be specified (see also DAR parameter default values).

3. The alternative reference number of the CD can be changed by entering the parameter ARN (for information on ARN, see 7/8-digit DPLN). This action is valid only for CD with DAR OWNNO. Valid values for ARN are 00 for "no ARN" and 01 to 99 for "valid ARN".

The ARN to office code assignment table for digit code display is updated as follows:

- If the ARN is changed from no ARN to a valid ARN, the CD (office code) is assigned to the new ARN. A previously assigned office code is overwritten.
 - If the ARN is changed from a valid ARN to "no ARN", the CD (office code) is removed from the old ARN if this code is still assigned. Another office code is assigned to the old ARN if the old ARN is stored in the dial plan at another CD.
 - If the ARN is changed from a valid ARN to another valid ARN, the CD (office code) is removed from the old ARN if this code is still assigned and the CD is assigned to the new ARN. A previously assigned office code is overwritten. Another office code is assigned to the old ARN if the old ARN is stored in the dial plan at another CD.
 - If the ARN actually stored in the dial plan is entered, the CD is assigned to this ARN. A previously assigned office code is overwritten. This function is used to enter a CD (office code) selectively into the table or to rebuild the ARN to office code assignment table for digit code display during data output of action REGENERATE.
4. Entering the parameter CFREMVVAR and/or CFREMSE allows to change the supplementary information of a DAR assigned to the CD. This action is valid only for a CD of DAR AFDREM, DFDREM or FWDREM.
 5. DARs that receive additional information from other AMOs (LDPLN, SA, VFGKZ and RICHT and GKREG), e.g. GATEWAY(Gateway), CO (= central office), ATND (= attendant position) cannot be changed.

Note on CD relocations (parameter CDNEW)

It is not possible to change DAR=STN!

Procedure for changing DAR=STN:

- Create new station number range with AMO WABE

WABE - Digit Analysis

Functions of the AMO

- Transfer STN-CD to the new range with AMO SCSU.
- Delete old station number range with AMO WABE.

If a CD range is changed, only the lower range of destination is to be input. All data regarding DPLN, CPS and gaps are transferred identically, with numbering in ascending order, from the old range to the new range.

Note for all types of change commands

Changes which cannot be implemented with this function must be carried out using the delete command followed by the add command.

If the DPLN parameter is missing, only the CPSs that were added independently of the DPLN are modified. On the other hand, if the DPLN parameter is specified, the DPLN-independent CPSs are not modified.

If no appropriate point can be found among the specified station numbers for the requested change, an error message is output (F40).

DAR parameter default values

If the parameter DAR is not declared, different default values apply, depending on what is changed.

- If CDNEW is entered, the default value is ALL
- If DESTNO is entered, the default value is STN.
- If ARN is entered, the default value is OWNNODE.
- If CFREMVVAR and/or CFREMSE is entered, the default value is AFDWREM, DFDWREM or FWDREM.

Procedure Overview

Command Code	Parameter
CHANGE-WABE	CD=<key-num>
	, { DESTNO=<number>, CDNEW=<key-num>, ARN=<number>
	, CFREMVVAR=<param>, CFREMSE=<param> }
	, [DPLN=<number>], [DAR=<param>];

Examples

1. All DAR=SNR (and no other DARs) in the range 800-999 are relocated to the range 3800-3999.

Input:

```
CHANGE-WABE:CD=800&&999,DAR=SNR,CDNEW=3800;
```

2. DAR=NETW for the station number 7125 (DPLN=7) receives the new DESTNO 125 to replace the previous DESTNO.

Input:

`CHANGE-WABE:7125,125,,7,NETW;`

3. The default value DAR=STN (previously DESTNO=0) is assigned as an external DAR with DESTNO 164, for the station number range 2127 to 2133 **while VNR is not active.**

Input:

`CHA-WABE:2127&&2133,164;`

4. The default value DAR=STN (previously DESTNO=0) is assigned as an external DAR with DESTNO 164, for the station number range 2127 to 2133 in Virtual node with Access Code of 19 while VNR is active.

Input:

`CHA-WABE:192127&&192133,164;`

215.2.3 DELETE-WABE

This command deletes either the entries found for given CD's or all entries that can be deleted in the given DPLN groups.

Before DELETE-WABE can be used, all entries that are linked to the CDs to be deleted must be eliminated. This must be done in the reverse order in which they were assigned. This applies to the AMOs LDPLN, SBCSU, ACSU, SCSU, SA, VFGKZ, RICHT and GKREG for example.

NOTE: The DAR ATNDIND may be erased only if the correspondent attendant console has also been erased (AMO-ACSU).

Two types of deletion are available:

- **TYPE=CD is the exact opposite of the ADD command. All data specified for the delete command in this branch must match the actual entries for the CD in the database exactly. The CD is only deleted if no input errors exist, otherwise an error message is output. An executed CD delete command can be undone by performing an input command with the same data.**

To keep data consistency in the WABE tables, DAR pairs must be always deleted together. There are no exceptions here in contrast to CHECK=N in the case of ADD. As in the case of ADD, CD pairs which contain special characters must belong to the same category. If several equal DAR pairs of the same category are present, a delete pair has not to be identical with an assign pair. This association is not defined anywhere. It is essential that an even number of CD's of paired DAR's is assigned in each case.

As for the ADD command, if the parameter DPLN is not declared for DELETE, a DAR valid without DPLN branching is expected. Similarly, if CPS is not specified, the given DAR is expected for all possible CPSs, as entered in the table. The DAR is only deleted in these cases.

- In the TYPE=DPLN branch, all entries for a specified DPLN can be deleted, as long as additional information assigned with other AMOs is deleted first.

Independent from the type of deletion (TYPE=), for every CD of DAR OWNNOE with a valid ARN (01 to 99), the CD (office code) must be removed from the ARN to office code assignment table for digit code display at this ARN if this code is still assigned. Another office code is assigned to the old ARN if the old ARN is stored in the dial plan at another CD.

Procedure Overview

Command Code	Parameter
DELETE-WABE	TYPE=CD, CD=<key-num>, [DPLN=<number>]
	, [CPS=<number>], DAR=<param>
	, [CD2=<key-num>], [CPS2=<param>];
	| TYPE=DPLN, DPLN=<number>;

Examples

1. Delete station numbers 3200-3249, in CPS = station user preliminary dialing, DAR = station.

Input:

```
DELETE-WABE:TYPE=CD,CD=3200&&3249,CPS=5,DAR=STN;
```

2. Delete all DARs of the DPLN = 2

Input:

```
DELETE-WABE:TYPE=DPLN,DPLN=2;
```


3. Delete the digit analysis result pair = *75, #76 in all CPSs of DPLN = 15, DAR = 'Mailbox access by the owner'.

Input:

```
DELETE-WABE:TYPE=CD,CD=*75,DPLN=15,DAR=VMOWN,CD2=#76;
```

CPS reduction

A CD added for a DAR is assigned for a specific CPS range, i.e. that the CD in the assigned CPSs leads to this DAR. The CPS range assigned to a CD can be reduced by specifying the parameter CPS during the DELETE action. Please note, that the parameter CD2 is not permitted in the case of CPS reduction, even for DAR pairs (Exception: if a CD is completely deleted, i.e. for all CPSs configured, CD2 must be entered for DAR pairs). A CPS reduction for the CD of a partner DAR (CD2) must be performed by repeating the DELETE action.

Example:

1. Delete a DAR pair with full CPS range (specify the parameter CD2)

Input:

```
DELETE-WABE:TYPE=CD,CD=*75,CDDAR=CAFAFWD,CD2=#75;
```

2. CPS reduction for the new station numbers of the DAR pair (parameter CD2 must not be specified - separate DELETE command necessary for partner DAR)

Input:

```
DELETE-WABE:TYPE=CD,CD=*75,CPS=5,DAR=CAFAFWD;
```

```
DELETE-WABE:TYPE=CD,CD=#75,CPS=5,DAR=CAFDFWD;
```

215.2.4 DISPLAY-WABE

This function allows the user to

1. display the contents of the DPLN tables according to various criteria (TYPE=GEN).
2. display STN seizures throughout the network based on the destination numbers (TYPE=STN) or the destination node numbers (TYPE=DNNO).
3. output all CPS values valid for specific DARs (TYPE=CPS).
4. view the office codes currently assigned to the ARNs (TYPE=ARN). This display reflects the current data stored in the ARN to office code assignment table for digit code display.

In the TYPE=GEN branch, all dial plan data is listed in a table, that is valid independent of DPLN groups. This is followed by the specific tables for the individual DPLN groups. These tables show the CDs and CPSs for which a DAR is set up. To obtain a complete output (independent of DPLN groups and all DPLN group specific), enter the parameter DPLN=0&&15. If no value is entered for the parameter DPLN, then the table with the DPLN-independent entries is only output.

NOTE: When VNR is activated and a range in AMO WABE is displayed (DISP-WABE:GEN,29981&&29991;) the VNNO and DESTNO are missing in the output. If the display is made for each code, then the correct info is displayed.

The column for additional information (RESERVED and so on) shows which route DARs are predefined in the dial plan and are not otherwise used in the system. This is shown by the value 'R'. The same information is output for DAR=STN. If dialed number conversion is assigned to a station, then this will be shown by the value 'C' in this column (It is assigned by the AMO RUFUM). If a station is assigned as destination for DNI by ACD, then this will be shown by the value 'D' in this column (It is assigned by the AMO DNIT). The output of an ARN assigned to a CD of DAR OWNNO in the dial plan is done also in this column as well as the output of a DESTNO and DNNO assigned to a CD of DAR STN, NETW, NETRTE.

Apart from the parameter TYPE, all parameters are optional. If parameters are not explicitly declared, the inputs are initialized with the maximum permitted range in most cases. The default range for the parameter DESTNO is the entire possible range (0...254); the default value for DAR is ALL. The exception is parameter DPLN, which must be specified if any DPLN group specific data should be output.

In the DISPLAY command with TYPE=GEN, a range for the parameter CD may be specified both, with special characters and different length.

Notes for displayed tables

If value 0 is displayed for DESTNO, the DAR is located in the local node (e.g. for DAR=STN it is an internal subscriber). In this case, the DNNO of the own node is displayed.

If value > 0 is displayed for DESTNO, the DAR is located in a remote node (e.g. for DAR=STN it is an external subscriber). The DESTNO corresponding to the AMO RICHT configuration is output for this.

If value 0-0-0 is displayed for DNNO, the destination node number is undefined, i.e. there is (still) no route assigned (CD is reserved) in the case of DESTNO>0 or there is (still) no value defined for own node (AMO ZAND) in the case of DESTNO=0.

For TYPE=STN and TYPE=DNNO there are advisory messages displayed only if there were no STNs assigned for the DESTNO/DNNO range.

For DAR=GATEWAY , GWNO is displayed if any additional information is entered bei Amo-GKREG for this access code.

For TYPE=GEN , NODES that include this number should also be DISPLAYED If TLN number is not asked for a RANGE .(see examples 9 and 10)

Parameter FORM has the following values :

- L - large :Shows all entries with all data
- M - medium: Only one line with short info per node showing destination number (0 or other) and Reserved/Convert/DNIT flag :
- S - small : Same as M, reserved elements are not displayed
- XS - extra small : No info per node, only one line for DAR=STN (without extra info, as it is node dependant)

Default value is S, if only one ore more single values (concatenated with &) are entered for the CD parameter,

otherwise (no input or at least one range) the default is XS.

Procedure Overview

Command Code	Parameter
DISPLAY-WABE	TYPE=GEN, [CD=<key-num>] , [DPLN=<number>]
	, [CPS=<number>] , [DAR=<param>] ;
	| TYPE=STN, [DESTNO=<number>] ;
	| TYPE=CPS, [DAR=<param>] ;
	| TYPE=DNNO, [DNNO=<number>] ;
	| TYP=ARN, [ARN=<number>] ;

Examples

1. Display the DPLN data with the DAR=ADND

Input:

DISPLAY-WABE:TYPE=GEN,DAR=ADND;

Output:

DIGIT INTERPRETATION				VALID FOR ALL DIAL PLANS			
		CALL PROGRESS STATE		DIGIT		RESERVED/CONVERT	
STATION NUMBER	1	11111	11112	22	ANALYSIS	DNI/ADD-INFO	
	0	12345	67890	12345	67890	12	RESULT * =OWN NODE
812	.	....*	.....	.....	..	ADND	
12	.	....*	.....	.....	..	ADND	

2. Display the DPLN data for DPLN=2, access codes=0-999, DAR=STN, SNR and NETW, NETRTE while VNR feature is not active.

Input:

DISPLAY-WABE:TYPE=GEN,DPLN=2,CD=0&&999,DAR=STN&SNR&NETW&NETRTE;

Output:

DIGIT INTERPRETATION				VALID FOR ALL DIAL PLANS			
		CALL PROGRESS STATE		DIGIT		RESERVED/CONVERT	
STATION NUMBER	1	11111	11112	22	ANALYSIS	DNI/ADD-INFO	
	0	12345	67890	12345	67890	12	RESULT * =OWN NODE
03 - 07	*	.....	.....	.....	..	NETRTE	
2100 - 2139	.	.****	*****	**...	.....	..	STN
						DESTNO	0
						DNNO	1- 28-472*
2140	.	.****	*****	**...	.....	..	STN
						R	
						DESTNO	0
						DNNO	3- 28-472*

|	| 2149 - 2195	| . ***** **... ..	| STN	|
|	|	|	|	| DESTNO 0
|	|	|	|	| DNNO 3- 28-472*
|	|	|	|	| PDNNO 3- 29-472
|	| 2196	| . ***** **... ..	| STN	| C
|	|	|	|	| DESTNO 0
|	|	|	|	| DNNO 3- 28-472*
|	| 3300 - 3302	| . ***** **... ..	| NETW	| R
|	|	|	|	| DESTNO 213
|	|	|	|	| DNNO 1- 18- 172
|	|	|	|	| PDNNO 1- 19- 172
|	| 3303	| . ***** **... ..	| STN	| D
|	|	|	|	| DESTNO 0
|	|	|	|	| DNNO 3- 28-472*

|	DIGIT INTERPRETATION		DPLN 2	

|	CALL PROGRESS STATE		DIGIT	RESERVED/CONVERT
|	STATION NUMBER	1 11111 11112 22	ANALYSIS	DNI/ADD-INFO
|	0 12345 67890 12345 67890 12		RESULT	*=OWN NODE

|	| 972	| . **.* ..**.	| SNR	|

3. Display the data for the STNs with DESTNO 0 to 2 while VNR feature is not active.

Input:

DIS-WABE:STN,0&&2;

Output:

|	| STN FOR DESTNO 0	|
|	| DNNO 1- 2-100	|
|	| OWN NODE	|

|	| 2100 - 2199	|
|	| 2830 - 2849	|
|	| 3100 - 3199	|

|	3730	-	3769	|
|	67	-	69	|

|	STN FOR	DESTNO	2	|
|		DNNO	1- 1-202	|
|		PDNNO	1- 1-202	|

|	2200	-	2299	|
|	3200	-	3299	|

4. Display the standard CPS allocations for the 'STN' DAR.

Input:

DIS-WABE:CPS,STN;

Output:

|	STANDARD CPS SUBSETS								

|		|				1	11111	11112	22|
|	DAR	|	0	12345	67890	12345	67890	12|	

|	STN	|.	.	*****	*****	**	...	.....	..

5. Display the data for the STNs with DNNO 9-137-48 while VNR feature is not active.

Input:

DIS-WABE:DNNO,9-137-48;

Output:

|	STN FOR DNNO 9-137- 48								

|		30067	-	30096					|
|		32518	-	32519					|

6. Display the data for the DAR=GATEWAY.

Input :

DISPLAY-WABE:TYPE=GEN,DAR=GATEWAY;

Output :

|	DIGIT INTERPRETATION					VALID FOR ALL DIAL PLANS				|

|					CALL PROGRESS STATE	|	DIGIT	|	RESERVED/CONVERT	|
|	STATION NUMBER	|			1	11111	11112	22|	ANALYSIS|	DNI/ADD-INFO

|	|0 12345 67890 12345 67890 12|	RESULT	|	*=OWN NODE	|

|	791	|. .... **... ..|	GATEWAY	|GWNO 3	|

7. Display the data for the DAR=OWNNODE while VNR feature is active.

Input :

DISP-WABE:TYPE=GEN,KZP=OWNNODE,FORM=XS;

Output :

DIGIT INTERPRETATION		VALID FOR ALL DIAL PLANS		

	CALL PROGRESS STATE	NODE/DIGIT	RESERVED/CONVERT	
CODE	1 11111 11112 22	ANALYSIS	DNI/ADD-INFO	
	0 12345 67890 12345 67890 12	RESULT	*=OWN NODE	

19	. ***** **... .. *	OWNNODE	DPLN 0	
44	. ***** ***** **... .. *	OWNNODE	DPLN 0	
55	. ***** ***** **... .. *	OWNNODE	DPLN 0	
719	. ***** ***** **... .. *	OWNNODE	DPLN	
77	. ***** ***** **... .. *	OWNNODE	DPLN 1	

Input:

DISP-WABE:TYPE=GEN,KZP=OWNNODE,FORM=S;

Output :

|	DIGIT INTERPRETATION				VALID FOR ALL DIAL PLANS				|

|		CALL PROGRESS STATE				|NODE/DIGIT|	RESERVED/CONVERT		|
|	CODE	1 11111 11112 22|				ANALYSIS	DNI/ADD-INFO		|

	| 0 12345 67890 12345 67890 12 |	RESULT	|	*=OWN NODE	

| 19	| . .***** ***** **... .....	|	OWNNODE	| DPLN	0

|	ALL DIAL PLANS				|

|	| STATIONS IN NODE	19	| VNNO	1-	1-100

|	| 2100 - 2109	| STN	| DESTNO	0	|
|	| 2116 - 2117	| STN	| DESTNO	0	|
|	| 2120	| STN	| DESTNO	0	|
|	| 2130 - 2132	| STN	| DESTNO	0	|
|	| 2140 - 2142	| STN	| DESTNO	0	|
|	| 2200 - 2299	| STN	| DESTNO	2	|
|	| 2300 - 2399	| STN	| DESTNO	3	|
|	| 2400 - 2499	| STN	| DESTNO	4	|
|	| 2500 - 2599	| STN	| DESTNO	5	|
|	| 3118 - 3119	| STN	| DESTNO	0	|
|	| 3132 - 3135	| STN	| DESTNO	0	|
|	| 3137 - 3150	| STN	| DESTNO	0	|
|	| 3156 - 3165	| STN	| DESTNO	0	|
|	| 3167 - 3176	| STN	| DESTNO	0	|
|	| 3200 - 3299	| STN	| DESTNO	2	|
|	| 3300 - 3399	| STN	| DESTNO	3	|

|	| STATIONS IN NODE	19	| VNNO	1-	1-100

|	| 3400 - 3499	| STN	| DESTNO	4	|
|	| 3500 - 3599	| STN	| DESTNO	5	|
|	| 3840 - 3843	| STN	| DESTNO	3	|

	ACSU/VFGKZ ENTRIES IN NODE	19	VNNO	1-	1-100

	4100 - 4107	ATNDIND	DESTNO	0	

Output :

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WABE - Digit Analysis
Functions of the AMO

	2140	- 2142	STN	DESTNO	0	
	2143	- 2199	STN	DESTNO	0	R
|	|2200	- 2299	| STN	|DESTNO	2	|
|	|2300	- 2399	| STN	|DESTNO	3	|
|	|2400	- 2499	| STN	|DESTNO	4	|
|	|2500	- 2599	| STN	|DESTNO	5	|
|	|2830	- 2849	| STN	|DESTNO	0	R |
|	|3100	- 3117	| STN	|DESTNO	0	R |

|	|	STATIONS IN NODE	19	|VNNO	1-	1-100 |

|	|3118	- 3119	| STN	|DESTNO	0	|
|	|3120	- 3131	| STN	|DESTNO	0	R |
|	|3132	- 3135	| STN	|DESTNO	0	|
|	|3136		| STN	|DESTNO	0	R |
|	|3137	- 3150	| STN	|DESTNO	0	|
|	|3151	- 3155	| STN	|DESTNO	0	R |
|	|3156	- 3165	| STN	|DESTNO	0	|
|	|3166		| STN	|DESTNO	0	R |
|	|3167	- 3176	| STN	|DESTNO	0	|
|	|3177	- 3199	| STN	|DESTNO	0	R |
|	|3200	- 3299	| STN	|DESTNO	2	|
|	|3300	- 3399	| STN	|DESTNO	3	|
|	|3400	- 3499	| STN	|DESTNO	4	|
|	|3500	- 3599	| STN	|DESTNO	5	|
|	|3730	- 3769	| STN	|DESTNO	0	R |
|	|3840	- 3843	| STN	|DESTNO	3	|

|	|	STATIONS IN NODE	19	|VNNO	1-	1-100 |

|	|67	- 69	| STN	|DESTNO	0	R |

|	|	ACSU/VFGKZ ENTRIES IN NODE	19	|VNNO	1-	1-100 |

|	|0		| ATNDDID	|DESTNO	0	R |
|	|12	- 13	| ATNDDID	|DESTNO	0	R |
|	|4191		| ATND	|DESTNO	0	R |

|	| 900 - 902	| ATND	| DESTNO	0	R	|	
|	| 904	| ATND	| DESTNO	0	R	|	
|	| 4100 - 4107	| ATNDIND	| DESTNO	0		|	

| 44	| . .***** ***** **... .. .*	| OWNNODE	| DPLN	0		|	

|	|	ALL DIAL PLANS				|	

|	| STATIONS IN NODE	44	| VNNO	1-	1-400	|	

|	| 2100 - 2108	| STN	| DESTNO	0	R	|	
|	| 2109	| STN	| DESTNO	0		|	
|	| 2110 - 2599	| STN	| DESTNO	0	R	|	
|	| 2830 - 2849	| STN	| DESTNO	0	R	|	
|	| 3100 - 3599	| STN	| DESTNO	0	R	|	
|	| 3730 - 3769	| STN	| DESTNO	0	R	|	
|	| 3840 - 3843	| STN	| DESTNO	0	R	|	
|	| 67 - 69	| STN	| DESTNO	0	R	|	

|	| ACSU/VFGKZ ENTRIES IN NODE	44	| VNNO	1-	1-400	|	

|	| 0	| ATNDDID	| DESTNO	0	R	|	
|	| 12 - 13	| ATNDDID	| DESTNO	0	R	|	

--							
|	DIGIT INTERPRETATION		VALID FOR ALL DIAL PLANS			|	

|	|	CALL PROGRESS STATE	| NODE/DIGIT|	RESERVED/CONVERT			|
|	CODE	| 1 11111 11112 22|	ANALYSIS	| DNI/ADD-INFO		|	
|	| 0 12345 67890 12345 67890 12|	RESULT	| *=OWN NODE			|	

| 19	| . .***** ***** **... .. .*	| OWNNODE	| DPLN	0		|	

|	|	ALL DIAL PLANS				|	

WABE - Digit Analysis
 Functions of the AMO

| STATIONS IN NODE		19	| VNNO 1- 1-100 |

| 2100 - 2109	| STN	| DESTNO	0
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2110 - 2115	| STN	| DESTNO	0 R |
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2116 - 2117	| STN	| DESTNO	0
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2118 - 2119	| STN	| DESTNO	0 R |
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2120	| STN	| DESTNO	0
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2121 - 2129	| STN	| DESTNO	0 R |
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2130 - 2132	| STN	| DESTNO	0
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2133 - 2139	| STN	| DESTNO	0 R |
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2140 - 2142	| STN	| DESTNO	0
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2143 - 2199	| STN	| DESTNO	0 R |
|	|	| DNNO	0- 0- 0|
|	|	| PDNNO	0- 0- 0 |
| 2200 - 2299	| STN	| DESTNO	2
|	|	| DNNO	1- 1-202|
|	|	| PDNNO	1- 2-202 |
| 2300 - 2399	| STN	| DESTNO	3

WABE - Digit Analysis

Functions of the AMO

|	|	|	| DNNO	1-	1-302 |
|	|	|	| PDNNO	1-	2-302 |
|	| 2400	- 2499	| STN	| DESTNO	4 |
|	|	|	| DNNO	1-	1-402 |
|	|	|	| PDNNO	1-	2-402 |
|	| 2500	- 2599	| STN	| DESTNO	5 |
|	|	|	| DNNO	1-	1-502 |
|	|	|	| PDNNO	1-	2-502 |
|	| 2830	- 2849	| STN	| DESTNO	0 R |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3100	- 3117	| STN	| DESTNO	0 R |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3118	- 3119	| STN	| DESTNO	0 |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3120	- 3131	| STN	| DESTNO	0 R |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3132	- 3135	| STN	| DESTNO	0 |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3136		| STN	| DESTNO	0 R |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3137	- 3150	| STN	| DESTNO	0 |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3151	- 3155	| STN	| DESTNO	0 R |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3156	- 3165	| STN	| DESTNO	0 |
|	|	|	| DNNO	0-	0- 0 |
|	|	|	| PDNNO	0-	0- 0 |
|	| 3166		| STN	| DESTNO	0 R |
|	|	|	| DNNO	0-	0- 0 |

WABE - Digit Analysis
Functions of the AMO

|	|	|	| PDNNO	0-	0-	0	|
|	| 3167 - 3176	| STN	| DESTNO	0			|
|	|	|	| DNNO	0-	0-	0	|
|	|	|	| PDNNO	0-	0-	0	|
|	| 3177 - 3199	| STN	| DESTNO	0	R		|
|	|	|	| DNNO	0-	0-	0	|
|	|	|	| PDNNO	0-	0-	0	|
|	| 3200 - 3299	| STN	| DESTNO	2			|
|	|	|	| DNNO	1-	1-202		|
|	|	|	| PDNNO	1-	2-202		|
|	| 3300 - 3399	| STN	| DESTNO	3			|
|	|	|	| DNNO	1-	1-302		|
|	|	|	| PDNNO	1-	2-302		|
|	| 3400 - 3499	| STN	| DESTNO	4			|
|	|	|	| DNNO	1-	1-402		|
|	|	|	| PDNNO	1-	2-402		|
|	| 3500 - 3599	| STN	| DESTNO	5			|
|	|	|	| DNNO	1-	1-502		|
|	|	|	| PDNNO	1-	2-502		|
|	| 3730 - 3769	| STN	| DESTNO	0	R		|
|	|	|	| DNNO	0-	0-	0	|
|	|	|	| PDNNO	0-	0-	0	|
|	| 3840 - 3843	| STN	| DESTNO	3			|
|	|	|	| DNNO	1-	1-302		|
|	|	|	| PDNNO	1-	2-302		|
|	| 67 - 69	| STN	| DESTNO	0	R		|
|	|	|	| DNNO	0-	0-	0	|
|	|	|	| PDNNO	0-	0-	0	|

|	| ACSU/VFGKZ ENTRIES IN NODE	19	| VNNO	1-	1-100		|

|	| 0	| ATNDDID	| DESTNO	0	R		|
|	|	|	| DNNO	0-	0-	0	|
|	|	|	| PDNNO	0-	0-	0	|
	12 - 13	ATNDDID	DESTNO	0	R		
			DNNO	0-	0-	0	
			PDNNO	0-	0-	0	

Functions of the AMO

Input:

Output :

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WABE - Digit Analysis
 Functions of the AMO

	CODE		1 11111 11112 22	ANALYSIS	DNI/ADD-INFO
		0 12345 67890 12345 67890 12		RESULT	*=OWN NODE

19		. .**** ***** **... .. .*	OWNNODE	DPLN	0

	ALL DIAL PLANS				

	STATIONS IN NODE		19	VNNO	1- 1-100

	2100 - 2109		STN	DESTNO	0
				DNNO	0- 0- 0
				PDNNO	0- 0- 0
	2110 - 2115		STN	DESTNO	0 R
				DNNO	0- 0- 0
				PDNNO	0- 0- 0
	2116 - 2117		STN	DESTNO	0
				DNNO	0- 0- 0
				PDNNO	0- 0- 0
	2118 - 2119		STN	DESTNO	0 R
				DNNO	0- 0- 0
				PDNNO	0- 0- 0
	2120		STN	DESTNO	0
				DNNO	0- 0- 0
				PDNNO	0- 0- 0
	2121 - 2129		STN	DESTNO	0 R
				DNNO	0- 0- 0
				PDNNO	0- 0- 0
	2130 - 2132		STN	DESTNO	0
				DNNO	0- 0- 0
				PDNNO	0- 0- 0
	2133 - 2139		STN	DESTNO	0 R
				DNNO	0- 0- 0
				PDNNO	0- 0- 0
	2140 - 2142		STN	DESTNO	0
				DNNO	0- 0- 0
				PDNNO	0- 0- 0

WABE - Digit Analysis

Functions of the AMO

|	|2143 - 2199	| STN	| DESTNO 0 R |
|	|	|	| DNNO 0- 0- 0 |
|	|	|	| PDNNO 0- 0- 0 |
|	|2200 - 2299	| STN	| DESTNO 2 |
|	|	|	| DNNO 1- 1-202 |
|	|	|	| PDNNO 1- 2-202 |
|	|2300 - 2399	| STN	| DESTNO 3 |
|	|	|	| DNNO 1- 1-302 |
|	|	|	| PDNNO 1- 2-302 |
|	|2400 - 2499	| STN	| DESTNO 4 |
|	|	|	| DNNO 1- 1-402 |
|	|	|	| PDNNO 1- 2-402 |
|	|2500 - 2599	| STN	| DESTNO 5 |
|	|	|	| DNNO 1- 1-502 |
|	|	|	| PDNNO 1- 2-502 |
|	|2830 - 2849	| STN	| DESTNO 0 R |
|	|	|	| DNNO 0- 0- 0 |
|	|	|	| PDNNO 0- 0- 0 |
|	|3100 - 3117	| STN	| DESTNO 0 R |
|	|	|	| DNNO 0- 0- 0 |
|	|	|	| PDNNO 0- 0- 0 |
|	|3118 - 3119	| STN	| DESTNO 0 |
|	|	|	| DNNO 0- 0- 0 |
|	|	|	| PDNNO 0- 0- 0 |
|	|3120 - 3131	| STN	| DESTNO 0 R |
|	|	|	| DNNO 0- 0- 0 |
|	|	|	| PDNNO 0- 0- 0 |
|	|3132 - 3135	| STN	| DESTNO 0 |
|	|	|	| DNNO 0- 0- 0 |
|	|	|	| PDNNO 0- 0- 0 |
|	|3136	| STN	| DESTNO 0 R |
|	|	|	| DNNO 0- 0- 0 |
|	|	|	| PDNNO 0- 0- 0 |
|	|3137 - 3150	| STN	| DESTNO 0 |
|	|	|	| DNNO 0- 0- 0 |
|	|	|	| PDNNO 0- 0- 0 |
|	|3151 - 3155	| STN	| DESTNO 0 R |

WABE - Digit Analysis

Functions of the AMO

|	|	|	|	| DNNO	0-	0-	0 |
|	|	|	|	| PDNNO	0-	0-	0 |
|	|	| 3156 - 3165	| STN	| DESTNO	0		|
|	|	|	|	| DNNO	0-	0-	0 |
|	|	|	|	| PDNNO	0-	0-	0 |
|	|	| 3166	| STN	| DESTNO	0	R	|
|	|	|	|	| DNNO	0-	0-	0 |
|	|	|	|	| PDNNO	0-	0-	0 |
|	|	| 3167 - 3176	| STN	| DESTNO	0		|
|	|	|	|	| DNNO	0-	0-	0 |
|	|	|	|	| PDNNO	0-	0-	0 |
|	|	| 3177 - 3199	| STN	| DESTNO	0	R	|
|	|	|	|	| DNNO	0-	0-	0 |
|	|	|	|	| PDNNO	0-	0-	0 |
|	|	| 3200 - 3299	| STN	| DESTNO	2		|
|	|	|	|	| DNNO	1-	1-202 |	
|	|	|	|	| PDNNO	1-	2-202 |	
|	|	| 3300 - 3399	| STN	| DESTNO	3		|
|	|	|	|	| DNNO	1-	1-302 |	
|	|	|	|	| PDNNO	1-	2-302 |	
|	|	| 3400 - 3499	| STN	| DESTNO	4		|
|	|	|	|	| DNNO	1-	1-402 |	
|	|	|	|	| PDNNO	1-	2-402 |	
|	|	| 3500 - 3599	| STN	| DESTNO	5		|
|	|	|	|	| DNNO	1-	1-502 |	
|	|	|	|	| PDNNO	1-	2-502 |	
|	|	| 3730 - 3769	| STN	| DESTNO	0	R	|
|	|	|	|	| DNNO	0-	0-	0 |
|	|	|	|	| PDNNO	0-	0-	0 |
|	|	| 3840 - 3843	| STN	| DESTNO	3		|
|	|	|	|	| DNNO	1-	1-302 |	
|	|	|	|	| PDNNO	1-	2-302 |	
|	|	| 67 - 69	| STN	| DESTNO	0	R	|
|	|	|	|	| DNNO	0-	0-	0 |
|	|	|	|	| PDNNO	0-	0-	0 |

|	| ACSU/VFGKZ ENTRIES IN NODE	19	| VNNO	1-	1-100		|

Functions of the AMO

	| 0	| ATNDDID	| DESTNO	0	R	|
	|	|	| DNNO	0-	0-	0|
	|	|	| PDNNO	0-	0-	0|
	| 12 - 13	| ATNDDID	| DESTNO	0	R	|
	|	|	| DNNO	0-	0-	0|
	|	|	| PDNNO	0-	0-	0|
	| 4191	| ATND	| DESTNO	0	R	|
	|	|	| DNNO	0-	0-	0|
	|	|	| PDNNO	0-	0-	0|
	| 900 - 902	| ATND	| DESTNO	0	R	|
	|	|	| DNNO	0-	0-	0|
	|	|	| PDNNO	0-	0-	0|
	| 904	| ATND	| DESTNO	0	R	|
	|	|	| DNNO	0-	0-	0|
	|	|	| PDNNO	0-	0-	0|
	| 4100 - 4107	| ATNDIND	| DESTNO	0		|
	|	|	| DNNO	0-	0-	0|
	|	|	| PDNNO	0-	0-	0|

44	| . . **** * . . . . . *	| OWNNO	| DPLN	0		|

	| ALL DIAL PLANS					

	| STATIONS IN NODE	44	| VNNO	1-	1-400	|

	| 2100 - 2108	| STN	| DESTNO	0	R	|
	|	|	| DNNO	0-	0-	0|
	|	|	| PDNNO	0-	0-	0|
	| 2109	| STN	| DESTNO	0		|
	|	|	| DNNO	0-	0-	0|
	|	|	| PDNNO	0-	0-	0|
	| 2110 - 2599	| STN	| DESTNO	0	R	|
	|	|	| DNNO	0-	0-	0|

8. Display the DPLN data for codes=0-999, DAR=STN while VNR feature is active.

Input:
 DISPLAY-WABE:TYPE=GEN,CD=0&&9999,DAR=STN;

Output:

DIGIT INTERPRETATION					VALID FOR ALL DIAL PLANS					|		

		CALL PROGRESS STATE				NODE/DIGIT	RESERVED/CONVERT				|	
CODE	1 11111 11112 22					ANALYSIS	DNI/ADD-INFO				|	
		0 12345 67890 12345 67890 12				RESULT	*=OWN NODE				|	

2100	-	2599	|. .**** * . . . . . *				STN					|
2830	-	2849	|. .**** * . . . . . *				STN					|
3100	-	3599	|. .**** * . . . . . *				STN					|
3730	-	3769	|. .**** * . . . . . *				STN					|
3840	-	3843	|. .**** * . . . . . *				STN					|
67	-	68	|. . . . . * . . . . . *				STN					|
69			|. .**** * . . . . . *				STN					|
							19	VNNO	1-	1-100	|	
								R				|
								DESTNO	0			|
								DNNO	1-	2-100*	|	
							44	VNNO	1-	1-400	|	
								R				|
								DESTNO	0			|
								DNNO	1-	2-100*	|	
							55	VNNO	1-	1-500	|	
								R				|
								DESTNO	0			|
								DNNO	1-	2-100*	|	

9. Display the DPLN data with codes=0-999, DAR=STN while VNR feature is active.

Input:

DISPLAY-WABE:TYPE=GEN,CD=2100,DAR=STN,FORM=XS;

Output:

DIGIT INTERPRETATION				VALID FOR ALL DIAL PLANS			
		CALL PROGRESS STATE		NODE/DIGIT		RESERVED/CONVERT	
CODE		1 11111 11112 22		ANALYSIS		DNI/ADD-INFO	
		0 12345 67890 12345 67890 12		RESULT		*=OWN NODE	
2100		. .***** **... ..*		STN			

Input:

DISPLAY-WABE:TYPE=GEN,CD=2100,DAR=STN,FORM=S;

Output:

DIGIT INTERPRETATION				VALID FOR ALL DIAL PLANS			
		CALL PROGRESS STATE		NODE/DIGIT		RESERVED/CONVERT	
CODE		1 11111 11112 22		ANALYSIS		DNI/ADD-INFO	
		0 12345 67890 12345 67890 12		RESULT		*=OWN NODE	
2100		. .***** **... ..*		STN			
				19		VNNO 1- 1-100	
						DESTNO 0	

Input:

DISPLAY-WABE:TYPE=GEN,CD=2100,DAR=STN,FORM=M;

Output:

DIGIT INTERPRETATION				VALID FOR ALL DIAL PLANS			
		CALL PROGRESS STATE		NODE/DIGIT		RESERVED/CONVERT	
CODE		1 11111 11112 22		ANALYSIS		DNI/ADD-INFO	

|	| 0 12345 67890 12345 67890 12|	RESULT	|	*=OWN NODE			|

| 2100	| . ***** **... .. .*	| STN	|				
|	|	| 19	| VNNO	1-	1-100	|	
|	|	|	| DESTNO	0		|	
|	|	| 44	| VNNO	1-	1-400	|	
|	|	|	| DESTNO	0	R	|	
|	|	| 55	| VNNO	1-	1-500	|	
|	|	|	| DESTNO	0	R	|	

Input:

DISPLAY-WABE:TYPE=GEN,CD=2100,DAR=STN,FORM=L;

Output:

DIGIT INTERPRETATION		VALID FOR ALL DIAL PLANS	

	CALL PROGRESS STATE	|NODE/DIGIT|	RESERVED/CONVERT
CODE	1 11111 11112 22	ANALYSIS	DNI/ADD-INFO
	0 12345 67890 12345 67890 12	RESULT	*=OWN NODE

2100	. ***** **... .. .*	STN	
		19	VNNO 1- 1-100
			DESTNO 0
			DNNO 1- 2-100*
		44	VNNO 1- 1-400
			DESTNO 0 R
			DNNO 1- 2-100*
		55	VNNO 1- 1-500
			DESTNO 0 R
			DNNO 1- 2-100*

10.Display the data for the STNs with DESTNO 5 while VNR feature is active.

Input:

DIS-WABE:STN,0&&2;

Output:

```

-----
| STN FOR DESTNO  5                |
|           DNNO   1- 1-502        |
|           PDNNO  1- 1-502        |
-----
|-----|
| VIRTUAL NODE  19                |
|           VNNO  1- 1-100        |
|-----|
| 2500          - 2599            |
| 3500          - 3599            |
-----
|-----|
| STN FOR DESTNO  5                |
|           DNNO   1- 1-502        |
|           PDNNO  1- 1-502        |
-----
|-----|
| VIRTUAL NODE  44                |
|           VNNO  1- 1-400        |
|-----|
| 2500          - 2599            |
-----

```

215.2.5 REGENERATE-WABE

REGENERATE is similar to DISPLAY. First the commands are output which are valid for all DPLN (DLN group independent), followed by those that are valid for individual DPLN groups. All commands are output with CHECK=N.

The DARs STN always are treated as internal reserved stations. After the last ADD command is output, external stations are searched and the CHANGE commands are output for increasing order of station numbers. **New TYPE param is added to see only CHANGE commands by TYPE=STN.**

WABE - Digit Analysis

Parameter Description

The DARs OWNNOE are always displayed with the actual ARNs, stored in the dial plan. To rebuild the ARN to office code assignment table for digit code display, the CHANGE commands of TYPE=ARN are created after the last ADD command is output.

For the parameters of the REGENERATE command please refer the notes for the parameters of action DISPLAY / TYPE=GEN.

Procedure Overview

Command Code	Parameter
REGENERATE-WABE	[CD=<key-num>], [DPLN=<number>], [CPS=<number>]
	, [DAR=<param>], [TYPE=<param>];

Example:

Regenerate the DPLN group 2 when VNR feature is not active.

Input:

```
REG-WABE:DPLN=2;
```

Output:

```
ADD-WABE: 0          , , 9, ANSINT , N,,,,, , ;
ADD-WABE: 00         , , 2, SPDC1  , N,,,,, , ;
ADD-WABE: 00         , , 3, SPDC1  , N,,,,, , ;
ADD-WABE: 20         , , 2, SPDC2  , N,,,,, , ;
ADD-WABE: 28         , , 5, HUNT   , N,,,,, , ;
ADD-WABE: 3111       , , , ATNDDID , N,,,,, , ;
ADD-WABE: 3112  &&3199 , , 6, STN   , N,,,,, , ;
ADD-WABE: 401        , , 10, ATNDIND , N,,,,, , ;
ADD-WABE: 722        , , 5, AFWDDTE , N,,,,, , ;
ADD-WABE: 726        , , 5, DFWDDTE , N,,,,, , ;
ADD-WABE: DD8        , , , NETRTE  , N,,,,, , ;
ADD-WABE: 21011     , 2, 5, TIEATND , N,,,,, , ;
ADD-WABE: 401        , 2, , CONF3   , N,,,,, , ;
ADD-WABE: 401        , 2, 8, PRESCONF, N,,,,, , ;
ADD-WABE: 500        , 2, , CCMANS  , N,,,,, , ;
ADD-WABE: 51         , 2, 9, CCMS   , N,,,,, , ;
ADD-WABE: 50         , 2, 16, CCMSURG, N,,,,, , ;
ADD-WABE: 70*        , 2, , VMOWN   , N,,,,, , ;
ADD-WABE: 70#        , 2, , VMFOR   , N,,,,, , ;
ADD-WABE: 7A         , 2, , NETW    , N,,,,, 213, ;
CHANGE-WABE: 3127  &&3136 , 172;
CHANGE-WABE: 3137  &&3139 , 11;
```

215.3 Parameter Description

In this part, you can find the following parameter descriptions:

- [Basic parameters CD, DPLN, CPS and DAR](#)

- CHECK parameter for controlling the test scope during ADD
- Parameter CDDP for CD with special characters (*, #, A, B, C, D)
- Parameter CD2, CPS2 and CDDP2 for partner or sequence DAR
- Parameter DESTNO, ARN, CFREMVVAR and CFREMSE for additional information on DAR
- Other parameters CDNEW, TYPE and DNNO

Basic parameters CD, DPLN, CPS and DAR

CD	Station number Note: The station numbers are arranged according to Station number categories. Input type : Single value chained individual values (without SC and only for independent DAR) Area (without SC and only for independent DAR) Mandatory (for ADD-WABE, DELETE-WABE TYPE=CD, CHANGE-WABE; only 1 value or 1 range) Optional (for DISPLAY-WABE, REGENERATE-WABE) Possible values : 0 - 9, '*', '#', 'A', 'B', 'C', 'D'; up to 6 characters MMI interprets X.21 characters '-', ':', '/', ',' as control characters. This must therefore be displayed as follows for digit analysis: '-' corresponds to 'A' ':' corresponds to 'B' ',' corresponds to 'C' ',' corresponds to 'D'
DPLN	Digital analysis result group Note : Must not be specified for DAR=STN and NETRTE! Input type : Single value chained individual values, range Optional Mandatory (in DELETE-WABE TYPE=DPLN) Possible values : 0 to 15
CPS	Call progress state Note : In CPS, a subset of the CPS range permanently defined for each DAR can be specified Specification is not permitted for CPS expansion and CPS reduction. Note for Optiset terminals: may only be created with full CPS range.

WABE - Digit Analysis

Parameter Description

Input type : Single value

chained individual values (max. 10)

Optional

Possible values : 0 - 22

0	Help CPS for networking (DAR NETRTE)
1	Suffix dialing (for STN user, attendant console, consultation, satellite PABX, tie-trunk traffic (TIE))
2	Switching of in-house call at attendant console
3	Switching of central office call at attendant console
4	Prefix dialing at attendant console
5	Prefix dialing by station user
6	CO incoming DID
7	IDN connection from CO incoming in DID
8	Consultation of station user from in-house call (incl. TIE (tie-trunk) and SAT (satellite PABX))
9	Consultation of a station user from CO call
10	Incoming station line traffic
11	Incoming tie-line traffic
12	Incoming link traffic
13	Seizure from satellite PABX for data traffic
14	CHECK mode on attendant console
15	CHECK mode on Hicom terminal
16	Seizure in private network
17	Seizure in consultation in private network
18	Single code calling device: code digits in suffix dialing
19	Expiry of time supervision
20	Function assignment to key on Hicom terminal
21	Used only in USA
22	Consultation of station user from conference

DAR Digit analysis result

Input type : Single value

Mandatory (for ADD-WABE,
CHANGE-WABE,
DELETE-WABE TYPE=CD)

Optional (for DISPLAY-WABE,
REGENERATE-WABE)

Possible values : [General DARs](#)
[DARs for call forwarding feature](#)
[Activate via the attendant console](#)
[Miscellaneous](#)
[DARs for call pickup feature](#)
[DARs for call park feature](#)
[DARs for combi-code feature](#)
[DARs for hunting group feature](#)
[DARs for code calling feature](#)
[DARs for tie trunk traffic feature](#)
[DARs for IP Distributed Architecture \(IPDA\) feature](#)
[DARs for key function assignment](#)
[DARs for answering machine functions](#)
[DARs for broadcast functions](#)
[DARs for conference feature](#)
[DARs for MLPP feature](#)
[DARs for call center features](#)
[DARs for key functionality feature](#)
[DARs for national features](#)
[DARs for the Optiset API feature](#)
[DARs for service functions](#)

General DARs

ALL	All DARs (DISPLAY-WABE and REGENERATE-WABE only)
ACBK	Activate callback
DCBK	Delete callback or line queueing
ACOSX	Activate cos changeover from station
DCOSX	Deactivate cos changeover from station
ADND	Activate do not disturb
DDND	Deactivate do not disturb
ANSCO	Answering device for central office
ANSINT	Answering device, internal
APIN1	Activate PIN for COPIN 1 (see AMO PERSI)
APIN10	Activate PIN for COPIN 10 (see AMO PERSI)
APIN11	Activate PIN for COPIN 11 (see AMO PERSI)
APIN12	Activate PIN for COPIN 12 (see AMO PERSI)
APIN13	Activate PIN for COPIN 13 (see AMO PERSI)
APIN14	Activate PIN for COPIN 14 (see AMO PERSI)
APIN15	Activate PIN for COPIN 15 (see AMO PERSI)
APIN2	Activate PIN for COPIN 2 (see AMO PERSI)

WABE - Digit Analysis

Parameter Description

APIN3	Activate PIN for COPIN 3 (see AMO PERSI)
APIN4	Activate PIN for COPIN 4 (see AMO PERSI)
APIN5	Activate PIN for COPIN 5 (see AMO PERSI)
DPIN	Deactivate PIN
AREM	Activate reminder
DREM	Deactivate reminder
ATND	Attendant/internal operator code
ATNDDID	Indial to attendant console
ATNDIND	Individual attendant console
BABYLSNG	Baby listening
BUZZ	Alert (buzz) a target station
CDRACC	CDR account code
CO	Central office (Please see note for Networks :)
CTDL	Seize lines for cut-through or suffix dialling in tie traffic
DICT	Dictation equipment
DIGIDAT	DIGITE data input (DP systems)
DISUOFF	Display suppression off
DISUON	Display suppression on
DOORCL	Query of the entrance telephone system
DOOROPEN	Open via the entrance telephone system
DTE	Code for DTE service for analog traffic via DIUC
DTED	Code for DTE service for digital traffic via DIUC
DTMFCONV	DTMF-conversion when dialling to public network
EOVR	Emergency override (feature emergency override/release)
EXTANS	Interception by console in partner system
FAX	Code for fax service
GATEWAY	gateway
GENANS	General answering/universal night answering
HOLD	Call hold by an analog phone
KNOVR	Camp-on (knocking)/override
LNR	Last number redial
MANDOWNL	Manual downloading
MHFALGOF	Logoff by a mobile HFA subscriber
MHFALGON	Logon by a mobile HFA subscriber
NETRTE	Auxiliary DAR for networking

NETW	DAR for a voice feature in another node; route is automatically seized via DESTNO and the dialed digit sequence is repeated.
NETWDTE	DAR for a DTE feature in another node; route is automatically seized via DESTNO and the dialed digit sequence is repeated.
NETWFAX	DAR for a fax feature in another node; route is automatically seized via DESTNO and the dialed digit sequence is repeated.
NOPT	Change of night switch option
OUTPUTSE	Output specific digits on the line during call status for cut-through or suffix dialing in tie traffic e.g. for flashing to EB5 system
OWNNODE	Code number for own node
PUEXT	Acceptance (or pickup) of ext. consult call from remote system in simple tie trunk traffic
RA	Recorded announcement for a specific area (loudspeaker device)
RELEASE	Release (feature emergency override/release)
REMKY	Reminder key
RESDOWNL	Reset of modified parameters by downloading the basic parameter sets (DCI)
SIGNOFF	Sign off a line via terminal device (autoset relocate)
SIGNON	Sign on a line via terminal device (autoset relocate)
SNR	Stored number redial
SPD	Change the speed (DCI)
SPDC1	Speed calling central 1
SPDC2	Speed calling central 2
SPDI	Speed calling individual
SPDIPROG	Speed call individual programming code
SPLIT	Split/alternating calls
STN	Station
STNREL	STN DAR for destination-dependent release
TRACE	Malicious call tracing
VOICECAL	Voice call
WHISANN	Whisper Announcement

DARs for call forwarding feature

For voice service

AFWDVCE	Activate fixed call forwarding voice
DFWDVCE	Deactivate fixed call forwarding voice
AFFWDVCE	Program and activate fixed forwarding voice
DFFWDVCE	Deactivate and delete fixed forwarding voice

For fax service

AFWDFAX	Activate call forwarding fax

WABE - Digit Analysis

Parameter Description

DFWDFAX	Deactivate call forwarding fax
AFFWDFAX	Activate fixed forwarding fax
DFFWDFAX	Deactivate fixed forwarding fax

For DTE service

AFWDDTE	Activate call forwarding dte
DFWDDTE	Deactivate call forwarding dte
AFFWDDTE	Activate fixed forwarding dte
DFFWDDTE	Deactivate fixed forwarding dte

Activate via the attendant console

AFWDREM	Act call forwarding remote/follow me
DFWDREM	Deact call forwarding remote/follow me
FWDREM	Show call forwarding remote/follow me

Miscellaneous

AFWDDWD	Activate call forwarding for DIGITE without display (activate FWD without the Check key)
FWDTERM	Call forwarding for all stns assoc. to terminal
FWDIGNOR	Ignore call forwarding (in the case of FWD from STN-B to STN-C, STN-A can call STN-B directly with FWDIGNOR+CD-STN-B)
DFWDEXT	Deactivate call forwarding external
AFWDEXT	Activate call forwarding external
DFWDINT	Deactivate call forwarding internal
AFWDINT	Activate call forwarding internal
AFWDEXIN	Activate call forwarding ext and int
AFWDB	Activate call forwarding busy
AFWDNA	Activate call forwarding no answer
AFWDBNA	Activate call forwarding busy or no answer
DSYSFWD	Deactivate system call forwarding voice
ASYSFWD	Activate system call forwarding voice
FFWDREMK	Store call forwarding via remote by key

DARs for call pickup feature

PU	Call pickup
PUGDIS	Display group pickup information on request
PUDIR	Directed call pickup

DARs for call park feature

PARK	Call park and retrieve to system slot
CALLPARK	Call park for anate

DCPA	Park a user at a specific user (DARs for national features)
SELFPA	Park a user on one's own line (DARs for national features)
RECONNPA	Reconnect on held call (DARs for national features)

DARs for combi-code feature

DTEDNO	Combi-code for DTE terminal with digital traffic via DIUC
DTENO	Combi-code for DTE terminal with analog traffic via DIUC
FAXNO	Combi-code for fax terminal

DARs for hunting group feature

HUNT	Hunting group (HT)
HTKY	Hunt group key (on/off)
AHTVCE	Add station to hunt group voice
DHTVCE	Disassociate stn. from hunt group, voice eqpt.
AHTFAX	Add station to hunt group fax
DHTFAX	Disassociate station from hunt group, fax eqpt.
DHTDTE	Disassociate station from hunt group, DTE eqpt.
AHTDTE	Add station to hunt group DTE

DARs for code calling feature

(Single code calling / multiple code calling)

CCKY	Code calling key
CCDIS	Code calling display with code
CCMEETME	Code calling meet-me with code
CCSTN	Code calling station A with code
CCVCE	Code calling for voice with code
CCSURG	Code calling urgent search with code
CCS	Code calling normal search with code
CCANS	Code calling answer
CCSCD	Code calling search with code
CCSN	Code calling search normal
CCMANS	Code calling answer to mult. task page attempt
CCMSURG	Code calling multiple task paging urgent
CCMS	Code calling multiple task paging normal

DARs for tie trunk traffic feature

(network-wide features)

TIE	Tie line access (please see note for Networks:)
TIEATND	Analogue tie trunk, special seizure type
SCONSCO	Sat. connection in consultation hold from CO

WABE - Digit Analysis

Parameter Description

SCONSI	Sat. connection in consult hold from internal
SAT	Extend indial or trunk call to satellite system

DARs for IP Distributed Architecture (IPDA) feature

FRCALTRT	Force alternate route
INCALTRT	Incoming alternate route
NOEC	CLC without echo cancellation for encrypted calls

DARs for key function assignment

KYPROG	Key programming on digite
KNOVRKY	Knocking/camp-on, override key
DNDKY	Do not disturb
IUSEKY	Show-line-key-I-use key (DARs for key functionality feature)
FWDKY	Call forwarding key
MSGRKY	Messenger key (CHESE)
MBKY	Mailbox key
DAKY	Non-voice key
VCRKY	Voice call reject key
VCKY	Voice call key
DSSKY	Direct station select key
EXHOLDKY	Exclusive hold key (DARs for key functionality feature)
HOLDKY	Hold key (DARs for key functionality feature)
CONFKY	Conference key
TOGGLEKY	Toggle key
NAMEKY	Name key
PARKKY	Park key
PRIVKY	Privacy key (DARs for key functionality feature)
CONSKY	Consultation key
CBKKY	Callback key
RCTOFFKY	Ringer cutoff key (DARs for key functionality feature)
HTKY	Hunt group key (on/off)
FLASHCD	Equivalent flash signal code
STKY	Start key/output
RLSKY	Release/Cancel key
TRNSKY	Call transfer key
TIMEKY	Date/time

LNRKY Last number redial key

SNRKY Saved number redial key

DARs for answering machine functions

MBON Mailbox LED on

MBOFF Mailbox LED off

VMOWN Access to own voice mailbox
(routes to Voice Mail Service)

VMFOR Access to other ('foreign') user's voice mailbox
(routes to Voice Mail Service)

MWACT Message waiting activation

MWANS Message waiting answer

MWCAN Message waiting cancel by terminating party

MWCANORI Message waiting cancel by originating party

DARs for broadcast functions

BROADCAST Speaker call - one-way broadcast

COMGRP COM group call

COMSPK COM group speaker call - two way

SPKRCALL Speaker call - one way

DARs for conference feature

CONFKY Conference key

CONF Establish conference/add party to conference

RMCONFLP Remove last party from conference

RMCONFP1 Remove party at position 1 from conference

RMCONFP2 Remove party at position 2 from conference

RMCONFP3 Remove party at position 3 from conference

RMCONFP4 Remove party at position 4 from conference

RMCONFP5 Remove party at position 5 from conference

RMCONFP6 Remove party at position 6 from conference

RMCONFP7 Remove party at position 7 from conference

RMCONFP8 Remove party at position 8 from conference

WABE - Digit Analysis

Parameter Description

DARs for MLPP feature

FLASH	MLPP flash call
FLASHOV	MLPP flash override call - high level
IMMED	MLPP immediate call
PRTY	MLPP priority call - low level
DSNR	MLPP dsn-routine

DARs for call center features

ACC	Account code
ACDWORK	Agent works
ACDSHMSG	Short message
ACDLOGON	Agent logon
ACDLOGOF	Agent logoff
ACDEMMSG	Emergency message
ACDNAV	Agent not available
ACDPGS	Primary group status
ACDPQS	Primary queue status
ACDSGS	Secondary group status
ACDSQS	Secondary queue status
ACDAV	Agent available
CAFDFWD	CAF deactivate forwarding of RCG
CAFAFWD	CAF activate forwarding of RCG
CAFGROFF	CAF group logoff
CAFGRNAV	CAF group not available
CAFGRAV	CAF group available
CAFLOGOF	CAF Agent logoff
CAFNAV	CAF agent not available
CAFAV	CAF agent available
	CAF = Control of Agent Feature (only at telephones with CAF authorization) RCG = Route Control Group (the RCG is a table of AMO ACDSD, TYPE=CAFRCG)
MONSLNT	Silent monitoring
MONTONE	Tone monitoring
RCG	Route control group number

DARs for key functionality feature

IUSEKY	Show-line-key-I-use key
EXHOLDKY	Exclusive hold key
HOLDKY	Hold key
KEYPADIE	Keypad ie

TOGGLEKY	Toggle key
APRIV	Activate privacy
DPRIV	Deactivate privacy
PRIVKY	Privacy key
CONSKY	Consultation key
CBKKY	Callback key
RCTOFFKY	Ringer cutoff key
RLSKY	Release/Cancel key
TRNSKY	Call transfer key
LNRKY	Last number redial key
SNRKY	Saved number redial key
DARs for national features	
PROT	Override protection (Belgium) <i>Protected or prioritized connection; protected against override (CR: BEMILCOM Protected/Priority Call)</i>
ASTN	Check a-station number in the case of transit
CALLPARK	Call park for anate
OPROVR	Demand to override by CO operator (post) in call status (feature: earth CO trunk/flash to CO)
DCPA	Park a user at a specific user <i>Directed parking of a user at another station (Direct Call Park) (Feature: Directed Call Park)</i>
SELFPA	Park a user on one's own line <i>Parking a user but not in the PU group (SELF Park) (feature: Directed Call Park)</i>
RECONNPA	Reconnect on held call <i>Reconnecting with a user parked specifically on this line (RECONNect Park) (either self-parked with SELFPA or by another user with DCPA) (feature: Directed Call Park)</i>
RERING	Ring partner again
CTDL	Line seizure for cut-through or suffix dialing in tie traffic
OUTPULSE	Suffix-transmission of digits on the line during call status for cut-through or suffix dialing in tie traffic e.g. for flashing the EB5 system
DARs for the Optiset API feature	
WSS	Start workstation session (feature not released)
DARs for service functions	
FLTRACE	Activate flag trace

FREQTEST	DTMF/MFC transmitter test (check DTMF/MFC character at SIU, check DTMF/MFC character at SIUX, check DTMF/MFC character at SIUCX. check DTMF/MFC character of SIUCO, check MFC-R2 signal)
CTLS	Controlled trunk and line selection
HWTEST	Activate hw test on terminal device (optiset)
TESTLN	Test line
TESTTONE	Connect test tone transmitter for 800_hz-test
COMBO	Combination test (transmission test termination)
LOOPBACK	Loopback test (transmission test termination)
MILLWAT	Milliwatt test (transmission test termination)
SILENCE	Silence test (transmission test termination)
PRITEST	Primary rate test line loopback

CHECK parameter for controlling the test scope during ADD

Table 53 lists the possible input parameter combinations depending on the value of the CHECK parameter.

CHECK Tells which combination of CD parameters is expected, i.e. extent to which the consistency and integrity of CD combinations will be checked.

Note : If the parameter CHECK=N is specified, the user is responsible for checking the consistency of the data specified.

Input type : Single value, optional

Possible values : ALL All possible checks will be performed and, dependant on other data, parameters CDDP, CD2 and CDDP2 will be expected

N No consistency checks will not be performed and neither CD2 nor CDDP nor CDDP2 will be expected
(see also
CHECK=N for DAR pairs,
CHECK=N for sequence DAR,
CHECK=N for Optiset-relevant DAR)

PART Most of the checks will be performed depending on the CD and DAR (e.g. DAR pair, DAR sequence, etc.), but neither parameter CDDP nor CD2 will be accepted. It is thus possible to create a CD with special characters without specifying CDDP/CDDP2 for a DAR, the actual CDDP/CDDP2 was requested.

Parameter CDDP for CD with special characters (*, #, A, B, C, D)

If DAR should also be created for devices with dial pulse only option (dial pulse only option = pulse dialing):

CDDP Pulse dialing station number (analog terminal)

Note : Entry mandatory in DAR for devices with dial pulse only option if CD contains special characters and CHECK=ALL.
CDDP specification not permitted if CHECK/=ALL or if DAR already exists for this CD and DPLN (CPS expansion).

Input type : Single value, optional

Possible values : Digits 0 to 9, up to 6 digits

Parameter **CD2, **CPS2** and **CDDP2** for partner or sequence DAR**

CD2 Station number for partner DAR

Note : Mandatory if the DAR part is a pair and CHECK/=N; CD2 must be from the same Station number categories as CD.
Specification is not permitted in CPS expansion and CPS reduction.

Input type : Single value, optional

Possible values : 0 - 9, '*', '#', 'A', 'B', 'C', 'D'; up to 6 characters
MMI interprets X.21 characters '-', ':', '/', ',' as control characters. This must therefore be displayed as follows for digit analysis:
'-' corresponds to 'A'
'.' corresponds to 'B'
'/' corresponds to 'C'
'/' corresponds to 'D'

CPS2 Call progress state for the partner DAR

Input type :

Possible values :

CDDP2 Pulse dialing station number for the partner DAR (analog terminal)

Note : Entry mandatory if CD2 and CDDP were specified.
Specification not permitted in CPS expansion and if CDDP is not specified (e.g. because not necessary/permitted)

Input type : Single value, optional

Possible values : Digits 0 to 9, up to 6 digits

Parameter **DESTNO, **ARN**, **CFREMVAR** and **CFREMSE** for additional information on DAR**

DESTNO Destination number

Note : DESTNO is only permitted for DAR=STNREL, NETW, NETWFAX, NETWDTE or STN.
The value 0 is only permitted for DAR=STN and STNREL.
DESTNO must not be specified if the parameter CDNEW, ARN, CFREMSE or CFREMVAR is specified in CHANGE-WABE.

WABE - Digit Analysis

Parameter Description

	Input type	: Single value
	Range	(for DISPLAY-WABE)
	Optional	(in ADD-WABE, DISPLAY-WABE TYPE=STN)
	Possible values	: 0 - 254
	Default value:	0 (for ADD-WABE)
		0&&254 (see DISPLAY-WABE)
ARN	Alternative reference number (for Note for 7/8-digit codes: feature China)	
	Note	: ARN is only permitted for DAR=OWNNODE. ARN may not be entered if the parameter DESTNO, CFREMSE or CFREMVAR is specified in CHANGE-WABE.
	Input type	: Single value, (for ADD-WABE, CHANGE-WABE) optional
	Range	(for DISPLAY-WABE)
	Possible values	: 00 - 99
	Default value	: 00 (for ADD-WABE)
		01 - 99 (for DISPLAY-WABE)
CFREMVAR	Call forward remote variant (Call forwarding for DSS1 terminals variant)	
	Note	: CFREMVAR may not be entered if the parameter DESTNO, CDNEW or ARN is specified in CHANGE-WABE.
	Input type	: Individual values Optional
	Possible values	: CFU Call Forwarding - unconditional
		CFNR Call forwarding - no reply
		CFB Call Forwarding - busy (Call forwarding on busy, no answer advance)
	Default value	: CFU
CFREMSE	Call forward remote service (Call forwarding for DSS1 terminals services)	
	Note	: CFREMSE may not be entered if the parameter DESTNO, CDNEW or ARN is specified in CHANGE-WABE.
	Input type	: Individual values

	Optional	
Possible values	: ALL	All services
	SPEECH	Voice
	UDI	Unrestricted digital Information
	AUDIO3K1	Audio 3,1 khz (modem)
	UDITA	UDI with tones and announcements
	TEL3K1	Telephony 3.1 kHz (Anate)
	FAX4	Fax group 4
	VIDEO	Videotelephony
	FAX3	Fax group 2/3
	TEL7K	Telephony 7 kHz
	VOICE	Speech, audio 3.1 kHz, telephony 3.1 kHz, telephony 7 kHz (HICOM voice)
	DTEH	Summary of the UDI, UDITA and VIDEO values (HICOM DTE)
	FAXH	Fax group 2/3 and 4 (hicom fax)
Default value	: VOICE	

Other parameters **CDNEW, **TYPE** and **DNNO****

CDNEW	Station number new
Note	: Only used in CHANGE-WABE Used to move a configured CD. (see also Note on CD relocations (parameter CDNEW)) CDNEW may not be entered if the parameter DESTNO, ARN or CFREMSE is specified.
Input type	: Single value
Possible values	: 0 - 9, '*', '#', 'A', 'B', 'C', 'D'; up to 6 characters MMI interprets X.21 characters '-', ',', '/', ';' as control characters. This must therefore be displayed as follows for digit analysis: '-' corresponds to 'A' '.' corresponds to 'B' '/' corresponds to 'C' ';' corresponds to 'D'
TYPE	Deletion type
	Input type : Single value
	Possible values : CD or DPLN (for DELETE-WABE)

GEN, STN, CPS, DNNO or ARN (for DISPLAY-WABE)

DNNO	Destination node number
Note	: Only used in <u>DISPLAY-WABE</u> If a value is not entered for DNNO, the output is performed in the range 1-1-1 to 29-253-999
Input type	: Up to 3 individual values chained with '-' Optional
Possible values	: <ebene2> - <ebene1> - <ebene0> <ebene0> 0-999 <ebene1> 0-253 <ebene2> 0-29 In the case of 0 for lower levels, all values of these levels are displayed Example: Input 1-83-0 Output in the range 1-83-1 to 1-83-999 In the case of 0 for preceding levels, the current level value of the own node (AMO ZAND) is used. Example: Own node 1-35-194 Input 73 or 0-73 or 0-0-73 Output for 1-35-73 In the case of 0 for all levels, the current own node (AMO ZAND) is used. Example: Own node 1-35-194 Input 0 or 0-0 or 0-0-0 Output for 1-35-194

215.4 Messages and Advisories

215.4.1 Error messages

F01:	SPECIFY CODE FOR DIAL PULSE DEVICES
F02:	SPECIFY CODE FOR PARTNER DIGIT ANALYSIS RESULT
F03:	ENTRY FOR CODE @@@@@@@@@@@@@@ IS NOT POSSIBLE DUE TO SHORTAGE OF MEMORY SPACE (@@@ TABLES)

(The following steps help minimize memory space requirements:

- create digit analysis results for only a few CPSs and so that they are DPLN-independent
- create DAR STN as far as possible for complete (!) blocks of 10, 100 or 1000 units.)

F04: DELETION OF NUMBER @@@@@@@@@@@@@@ NOT POSSIBLE DUE TO SHORTAGE OF MEMORY SPACE (CD TABLES)

(When (individual) stations are being deleted, excessive memory may be required if a number of stations belonging to different blocks of ten is specified.)

F05: FOR CODE @@@@@@@@@@@@@@ THIS DIGIT ANALYSIS RESULT WAS ALREADY ADDED

F06: FOR CODE @@@@@@@@@@@@@@ ANOTHER DIGIT ANALYSIS RESULT WAS ALREADY ADDED

F07: CALL PROGRESS STATE @@ NOT PERMITTED FOR THIS DIGIT ANALYSIS RESULT

F08: NO SPECIAL CHARACTERS ARE POSSIBLE FOR THIS DIGIT ANALYSIS RESULT

F09: DPLN GROUP MAY NOT BE SPECIFIED FOR THIS DIGIT ANALYSIS RESULT

F10: SECOND CODES (CD2/CDDP2) ARE NOT PERMITTED
- FOR A DIGIT ANALYSIS RESULT THAT DOES NOT BELONG TO A PAIR
- IF CHECK=N

F11: ACTION NOT POSSIBLE - CODE @@@@@@ IS STILL ASSIGNED TO A STATION OR KNDEF ENTRY

(Any additional information must first be deleted with the appropriate AMOs.)

F12: DELETION OF CODE @@@@@@ FOR DPLN @@@@ AND CPS @@ NOT POSSIBLE AS ATTENDANT GROUP STILL ASSIGNED

F13: DELETION OF CODE @@@@@@ FOR DPLN @@@@ AND CPS @@ NOT POSSIBLE AS ROUTE STILL ASSIGNED

F14: FOR CODE RANGES, BOTH LIMITS MUST HAVE THE SAME NUMBER OF DIGITS

F15: TARGET RANGE EXCEEDS THE DECIMAL CODE RANGE

(In the destination range, the number of digits in the calculated upper limit is not the same as for the specified lower limit. However, only ranges with an equal number of digits are permitted.)

F16: CHANGING OF CODE @@@@@@ NOT POSSIBLE AS USED BY ANOTHER DAR

F17: CHANGING OF CODE @@@@@@ NOT POSSIBLE AS SAME DAR ALREADY ASSIGNED

F18: FOR DPLN @@ THE DIGIT ANALYSIS RESULT @@@@@@@@ HAS NOT YET BEEN ADDED

(The correct DAR sequence has not been observed. The digit analysis result shown must be created first.)

F19: FOR DPLN @@ THE DIGIT ANALYSIS RESULT @@@@@@@@ HAS NOT YET BEEN DELETED

(The correct DAR sequence has not been observed. The digit analysis result shown must be deleted first.)

F20: DAR @@@@@@@@ HAS NOT YET BEEN ADDED INDEPENDENTLY OF DPLN, I.E. WITHOUT SPECIFICATION OF SPECIFIC DPLN

(See explanation for [F18:.](#))

F21: DAR @@@@@@@@ HAS NOT YET BEEN DELETED INDEPENDENTLY OF DPLN, I.E. WITHOUT SPECIFICATION OF SPECIFIC DPLN

(See explanation for [F19:.](#))

F22: SPECIAL CHARACTERS ARE PERMITTED ONLY IN SINGLE ENTRIES FOR CODE

WABE - Digit Analysis

Messages and Advisories

- F23: ONLY SINGLE CODE ENTRIES ARE PERMITTED FOR A PAIRED DAR
- F24: SPECIAL CHARACTERS IN THE SPECIFIED CODES ARE NOT COMPATIBLE
(The numbers concerned must belong to the same special character category:
Cat DEC : digits 0...9 only
Cat 12-key: as for DEC, also *, #
Cat 16-key: as for DEC and 12-key, also A,B,C,D
- F25: IF DIAL PULSE STATION CODE IS SPECIFIED, ONLY ONE CODE IS PERMITTED
- F26: WITH ENTRY OF A CODE RANGE, LOWER LIMIT MUST BE <= UPPER LIMIT
- F27: THIS DIGIT ANALYSIS RESULT IS NOT PERMITTED FOR DIAL PULSE DEVICES
(Therefore, it makes no sense to specify CDDP.)
- F28: THE SPECIFICATION OF A DIAL PULSE STATION CODE IS NOT PERMITTED
- F29: ENTRY OF CDDP2 WITHOUT ENTRY OF CDDP IS NOT PERMITTED
- F30: PARAMETERS @@@@@ AND @@@@@ HAVE THE SAME VALUES
(Some combinations of numbers make it necessary to enter two values for certain parameters. In particular, this occurs if one number is contained in a higher number in the combination.)
- F31: ENTRY OF CPS2 WITHOUT ENTRY OF CD2 IS NOT PERMITTED
- F32: IF CD IS EXPANDED, NEITHER CDDP NOR CD2 MAY BE SPECIFIED
(A digit analysis result is already assigned to this code. At this stage, the DAR can only be entered when expanding the CPS allocation. Therefore, a (new) CDDP or CDDP2 is not permitted.)
- F33: EXPANSION OF PARAMETER @@@@@@ IS NOT PERMITTED
(The digit analysis result is already assigned to this number with a different CPS allocation. In this case, the DAR must be assigned to a different number.)
- F34: AN ENTRY FOR CODE @@@@@ IS NOT POSSIBLE BECAUSE A @@@@ DIGIT ANALYSIS RESULT ALREADY EXISTS HERE.
PLEASE DISPLAY USING: DIS-WABE:GEN, @@@@@&&@@@@@;
(The assignment of central office and tie trunk digit analysis results or station and individual attendant console digit analysis results to the same number is not permitted.)
- F35: ENTRY FOR CODE @@@@@ IS NOT POSSIBLE BECAUSE A CENTRAL OFFICE OR TIE TRUNK DIGIT ANALYSIS RESULT ALREADY EXISTS
(The assignment of central office and tie trunk digit analysis results to numbers which are contained in higher numbers (e.g. 12 and 125) is not permitted.)
- F36: DELETION OF CODES @@@@@@ IS NOT POSSIBLE BECAUSE THERE IS EITHER NO SUCH ENTRY OR THE ENTRY DOES NOT CORRESPOND EXACTLY WITH THE DATA INPUT
(The entries in the DPLN table do not match the data in the DELETE command. The parameter values entered in the DELETE command must match the entries in the table exactly, i.e. not only the CD, but also the CPS and DPLN allocations are checked. Use the DISPLAY function to view the table entries for the number (CD) concerned.)
- F37: SPECIFY CODE FOR DIAL PULSE DEVICES FOR PARTNER DIGIT ANALYSIS RESULT
- F38: CODES @@@@@ - @@@@@ NOT DELETED

(This error message occurs only in conjunction with F11. If individual stations of a specified block of 10, 100 or 1000 cannot be deleted, the stations concerned are shown in F11. In order to prevent such stations from unnecessarily occupying memory space, the entire range is not deleted. If individual stations within a range are to be kept, they must be explicitly left out of the range to be deleted, i.e. several smaller ranges must be entered instead of one large one.)

F39: SOURCE AND TARGET RANGES OVERLAP

(If two ranges overlap, the second range must initially be specified outside the first range (in the ADD command), and then changed to the actual range desired by means of a CHANGE command.)

F40: NO DIGIT ANALYSIS RESULTS COULD BE CHANGED

F41: SPECIFY DESTNO > 0

F42: STATIONS AND DIGIT ANALYSIS RESULT WITH ROUTING OR ATTENDANT GROUP ASSOCIATIONS CANNOT BE CHANGED

(If no digit analysis result is explicitly specified in the change command, then this error message means that no station, route or attendant DARs were changed.)

F43: NO CHAINED VALUES ARE PERMITTED FOR CODE

F44: CODE VALUES 0 TO 9 ONLY FOR DAR FLASHCD

F45: SPECIFIED DAR NOT PERMITTED FOR THIS COMMAND

F46: ACTION IMPOSSIBLE DUE TO SHORTAGE OF CD TABLES

F47: ACTION IN RULO NOT POSSIBLE FOR STNO @@@@@@ BECAUSE VALUE FOR DIMSU-PARAMETER @@@@@@ IS TOO SMALL

F48: PARAMETERS DESTNO, CDNEW, ARN, CFREMVVAR AND CFREMSE ARE VALID ONLY ALTERNATIVELY
EXCEPTION: CFREMVVAR AND CFREMSE CAN BE ENTERED TOGETHER

F50 IF 01 TO 99 IS ENTERED FOR ARN CD IS VALID ONLY UP TO 4 DIGITS

F51: ARN IS ALLOWED ONLY FOR DAR OWNNODE

F52: FOR CD @@@@@@ WITH DAR OWNNODE AND ARN > 00
CDNEW IS VALID ONLY UP TO 4 DIGITS

F53: DNNO IS INVALID
VALUE RANGE: <0-29> - <0-253> - <0-999>

F54: ACTION NOT POSSIBLE FOR CODE @@@@@@ - RCG IS STILL ASSIGNED (AMO ACDSD)

F55: FOR CODE STARTING WITH @@@@@@ A DIGIT ANALYSIS RESULT WAS ALREADY ADDED
PLEASE DISPLAY USING: DIS-WABE:GEN,@@@@@@&&@@@@@@,0&&15;

F56: LOWER BOUND OF @@@@@@@@ FOR DAR=PARK MUST END IN 0

F57: NOT ENOUGH CONSECUTIVE ACCESS CODES AVAILABLE
FOR DAR=PARK @@@@@@ - @@@@@@

F58: ACCESS CODE FOR DAR PARK CANNOT BE CHANGED
-> DELETE AND ADD WITH NEW ACCESS CODE

F59: CODE <xxxxxx> IS STILL ASSIGNED AS A COMBI CODE (AMO RUFUM)

F60: DELETION OF CODE <xxxxxx> FOR DPLN <xxxx> AND CPS <xx> NOT POSSIBLE AS GATEWAY NUMBER STILL ASSIGNED

F61: CHINA_7_DIG_NUMBERING IS NOT ACTIVE AND NUNP IS ACTIVE , ARN CAN NOT BE USED

F62: CODE <RNR> IS NOT A STN OR A COMBINATION OF OWNNODE AND STN FOR VNR

F63: PARAMETER DESTNO CAN NOT BE SET, AS NO DEFAULT NODE IS ASSIGNED (AMO KNDDEF).

WABE - Digit Analysis

Messages and Advisories

F64: DELETION OF CODES <xxxxxxx>-<xxxxxxx> IS NOT POSSIBLE AS ROUTE STILL ASSIGNED. IF YOU ARE SURE TO DELETE WABE ENTRIES , FIRSTLY YOU SHOULD DELETE THESE ROUTES BY USING FOLLOWING COMMANDS :
CHA-WABE:<xxxxxxxxxxxx>&&<xxxxxxxxxxxx>,0;

F65: DELETION OF CODE <xxxxxxx> IS NOT POSSIBLE AS ROUTE STILL ASSIGNED. IF YOU ARE SURE TO DELETE WABE ENTRY , FIRSTLY YOU SHOULD DELETE THESE ROUTES BY USING FOLLOWING COMMANDS :
CHA-WABE:<xxxxxxxxxxxx>,0;

F66: IT IS NOT POSSIBLE TO ADD <xxxxxxx> AS DPLN INDEPENDANT. PLEASE ADD THIS NUMBER AS DPLN DEPENDANT (E.G. DPLN = 0&&15) .

F67: OWNNOE CAN BE ADDED/DELETED ONLY DPLN INDEPENDENT, SINCE IT IS A VNR SYSTEM.

F68: OWNNOE IS POSSIBLE FOR ALL DPLN (0&&15) TOGETHER. IT CAN NOT BE DELETED FOR SUBSETS OF DPLN (0&&15) .

F69: DELETION OF CODE <xxxxxxx> IS NOT POSSIBLE WHEN IT IS ASSIGNED TO UFIP DEVICES. ONLY CHANGE IS ALLOWED.

F70: DELETION OF CODE <xxxxxxx> IS NOT POSSIBLE AS ROUTE STILL ASSIGNED. PLEASE CHECK AMO KNDDEF CONFIGURATION.

215.4.2 Advisory Messages

H01: THERE ARE NO DPLN INDEPENDENT ENTRIES IN THIS RANGE
or
H01: THERE ARE NO ENTRIES FOR DPLN @@ IN THIS RANGE

H02: DESTNO MAY NOT BE SPECIFIED FOR THIS DAR

H03: NO STN ENTERED FOR RANGE OF DESTNO

H04: STATION WITH STNO @@@@ WILL BE EXPANDED, DESTNO WILL BE IGNORED

H05: CHECK WHETHER THE CD FOR SPDC_X MUST BE UPDATED USING AMO LWPAR TYPE=NWWTK / PARAM DGTPRC OR DGTPR

H06: NO STN ENTERED FOR RANGE OF DNNO

H07: OPTISET RELEVANT DAR MUST ALWAYS HAVE FULL CPS SET.
- PARAMETER CPS WILL BE IGNORED.
- ACTION CONTINUES WITH FULL CPS SET.

H08: FOR ARN @@ THE OFFICE CODE @@@@ HAS BEEN ASSIGNED

H09: FOR ARN @@ THE OFFICE CODE @@@@ HAS BEEN REPLACED BY @@@@

H10: FOR ARN @@ THE OFFICE CODE @@@@ HAS BEEN REMOVED

H11: PARAMETER CFREMPAR AND CFREMPSE ARE ALLOWED ONLY FOR
DAR=FWDREM/AFWDREM/DFWDREM

H12: @@@@@@-@@@@@ HAVE BEEN ADDED FOR DAR PARK

H13: @@@@@@-@@@@@ HAVE BEEN DELETED FOR DAR PARK

H14:

H15: H15: PARAMETER DESTNO IS IGNORED, IF DAR=STN IS ADDED TO A VNR SYSTEM.
NODECD + STNO HAVE TO BE LINKED TO A DESTNO WITH CHANGE-WABE.

H16: PARAMETER DPLN IS IGNORED SINCE IT IS A NON-VNR SYSTEM.

H17: PARAMETER ARN IS IGNORED AS ARN IS ONLY MEANINGFUL IF SEVEN DIGIT
NUMBERING IS ACTIVE. (SEE PARAMETER SEVDIG IN DISP-ZAND:ALLDATA;)

H18: THE CODE ASSIGNED TO UFIP DEVICES CHANGED. NEW CODE @@@@ IS NOW
ASSIGNED TO UFIP DEVICES. PLEASE RESTART ALL UFIP GATEWAYS AND CONFIGURE THE
UFIP DEVICES WITH THE NEW CODE.

H19: CODE @@@@ IS NOW ASSIGNED TO UFIP DEVICES. PLEASE RESTART ALL UFIP
GATEWAYS AND CONFIGURE THE UFIP DEVICES WITH THE NEW CODE.

216 XAPPL - Data processing (dp) applications ACL

The description of this AMO is only available in html format!

217 ZAND - System data

The description of this AMO is only available in html format!

217.1 Restrictions

The parameter DISPMODE is only used on the devices which are using DSP_STRING messages (Optiset, Optipoint or lower CP phones).

218 ZANDE - System data - extended

The description of this AMO is only available in html format!

218.1 Activation of optional features

Optional features can be activated or deactivated via ZANDE, OPTFEA branch:

- CHANGE-ZANDE:TYPE=OPTFEA=A,FEANUM=<flag_value>;
- CHANGE-ZANDE:TYPE=OPTFEA=D,FEANUM=<flag_value>;

All optional features, activated or not, can be checked with

- DISPLAY-ZANDE:TYPE=OPTFEA,FLAGS=ALLFLAGS;

Only activated optional features can be checked with

- DISPLAY-ZANDE:TYPE=OPTFEA,FLAGS=ACTFLAGS;

The list of optional features with corresponding flag values:

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+		
FLAG	DESCRIPTION	
VALUE		
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+		
5	Deactivation of the circuit test for SLMA24 (G54654)	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+		
7	New startup of PSM/Support of TMOM devices which do not support	
	| line_alarm_end signal (G93147)	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+		
10	CM is not synchronised (G93094)	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+		
11	Patches for DEBUG DATA into TRACED DATA (H85389)	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+		
13	AOC in the EDSOES protocol not calculated (Austria) (H23179)	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+		
14	Different PayParty for FWD (F09683)	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+		
15	No update of connected number in case of busy subscriber (E88727)	

Activation of optional features

16	COT parameter DPRE should affect DESTPTY (G72434)
20	No Update of CONNPTY if VKNN and LOKN are set (E92464)
21	TLZO number to be recorded as pay party instead of Calling (H22943)
23	Ignoring the PRES_IND at the CALLING_PTY (G36091)
24	Encrypt Paying party BERLIN (F04552)
25	No section should be generated when CDRACC is entered (F66258)
26	GEFE parameter "ANKALT" should have an effect on the CALLED party (F86790)
27	Callback from unlisted station (F11508)
28	Video connections to the USA with 56kB/s (E51782)
29	Wrong Synchron Announcement after ATTENDANT intercept (H19997)
30	CR RQ00018276 Reverse charging ISDN CO for Brazil H07856
31	* and # should not be cut off from the destination number (F04560)
32	No Update of PPTY in transit if VKNN is set on incoming side (F49602)
33	ORIG_NET_ID to be ignored by CDR, depending on the setting of the COT parameter NCDR (G80068)
34	Zone defining from trunk only, not from ITRGR (G80646)
35	No takeover of CONNECTED NO if COT parameter AEOD is active

Activation of optional features

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ZANDE - System data - extended

Activation of optional features

```
| 55 | Obsolete!!! CDR: Costi lockup in case of GEBINT (F79502) - Now in |
|    | AMO DIAGS CDR S15 (I04430)                                     |
+-----+-----+
| 56 | Auto answer device connected by optiset analog adapter (AAO) will |
+-----+-----+
| 57 | Access code should not be removed before DEST_PTY (F69731)        |
+-----+-----+
| 58 | Patch prevents ANALOG device from disconnecting when XTRA DTMF    |
|    | digits are entered while in RING state to called (G34779)          |
+-----+-----+
| 59 | SRCGRP is determined from the MAIN_DEVICE in case of keyset        |
|    | (G66398)                                                            |
+-----+-----+
| 60 | Wrong conversion of some cyrillic characters on display of         |
|    | partners which are setup as "neutral charcon" (H04083)            |
+-----+-----+
| 62 | Additional tone heard in the headset in case of transaction code   |
|    | dialling (E87355)                                                  |
+-----+-----+
| 65 | Enable transfer of internal and incoming connections to ANATECM    |
|    | station (G85260)                                                    |
+-----+-----+
| 66 | Secret station (ONLYEXT and ONLYEXT0) displayed in diversion leg   |
|    | of Hunt Groups (F70692)                                            |
+-----+-----+
| 67 | Call is intercepted after ACL_Clear_Connection_Request (F29253)     |
+-----+-----+
| 68 | Prevent service start on emergency calls (E35944)                  |
+-----+-----+
| 69 | Authorization with CFU-external (F92808)                            |
+-----+-----+
| 70 | Parameter AFWDDWD should be added in AMO WABE (G64614)             |
+-----+-----+
| 71 | Display of buzz calls in the call log of the destination (G74433)  |
+-----+-----+
| 72 | Wrong LCR authorization at CFUEXT in a transit node (G66385)        |
+-----+-----+
```

|	78	|	ISDN country adaptation for UKR : Change Progress indicator #1 to	|
|		|	#8 (F63189)	|
+-----+-----+				
|	83	|	Error with Call Log when Hotline is used (G68437)	|
+-----+-----+				
|	84	|	To allow following of INT CFW in consultation (H51686)	|
+-----+-----+				
|	85	|	STNOOOS not working for CMI the same as Optiset (H03425)	|
+-----+-----+				
|	87	|	Wrong (different) behavior in case of APIN and COSHOME (H05578)	|
+-----+-----+				
|	89	|	RUFUM nr. displayed instead of converted nr, as fwd dest (H13648)	|
+-----+-----+				
|	90	|	Disable FORW & BACK keys in case of DIGITE without display	|
|		|	(F92898) for V10R1 and higher.	|
+-----+-----+				
|	91	|	Disable of "status audit" functionality for NI2 protocol (G69313)	|
+-----+-----+				
|	92	|	Analog calls with bearer capability 3.1 KHz are rejected by the	|
|		|	telco provider (NI2 protocol) (H24994)	|
+-----+-----+				
|	93	|	MOH after DCPA with using COT: CHRT (G78534)	|
+-----+-----+				
|	95	|	Workaround for protocol error caused by Avaya Modular Messenger	|
|		|	Voicemail system (G98834)	|
+-----+-----+				
|	96	|	No ringback after blind xfer of PRI from 9006 switch; no speech	|
|		|	path after blind xfer from 9005 switch (G47591)	|
+-----+-----+				
|	99	|	Group call only on external/network calls (F22166)	|
|		|	Pt.1 Group call signalling on phantom lines	|
+-----+-----+				
|	100	|	Send BC Speech to CO ISDN Trunk instead of 3.1khz Audio ETSI	|
|		|	(E46735)	|
+-----+-----+				
|	101	|	Group call only on external/network calls (F31114)	|
|		|	Pt.2 Group call only for external calls	|

Activation of optional features

114	External call number incorrect on station A's display (E52751)
121	Only manually logged-on agents can be silent monitored (A76161)
123	DO NOT ALLOW TRANSFER HOLD IF 2nd Consultation is permitted for ANATE/IVR (G44091)
124	Superfluous local trunk group name shown in case of secret CO call via ZVF extern (H28778)
125	Patch for PM with activated INCOLD (H30066)
126	PSM-answer not possible from act night station in satellite PBX (G71457)
127	Completion of ONS feature reg. display information (H26111)
128	Enhanced "Call Forwarding" and "log on" on a forwarded station enhanced (with PINNW) (H27621)
130	Conference implementation for customer "Deutscher Bundestag" (H25317)
136	Remove External & Internal FWD from optiset menuo (H30370)
137	(Intellidesk) After transferring call, console operator must hit RLS key again to clear dialtone (G40142)
138	Wrong display for AGENT if COLR is set (H34391)
139	Transfer to CO between authorized and unauthorized STN (H34947)
141	HP8K MWI interworking from R6.6 (H34903)
142	LED signaling at switchover device for night service (F57580)

Activation of optional features

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Activation of optional features

177	Missing Forward cause in ACL Route Table Selected Event for network forwarded calls to ACD (H43025)
179	Suppressed number and name display at calling party if called party has SSTNO=YES (H46758)
180	Display information by atnd transfered calls to mobile (H47881)
183	Activate CR for Multi-Line Keypad Bridging capabilities (H49275)
184	Customer-specific change of the CALL_ID behaviour in a conference (H30557)
185	Hotline feature: the second line of display of the hotline destination (H52902)
186	SWP should not change for Conference records TLZO (F22491)
187	Changed conference SWP handling for DBT (F22491)
188	No sending of ISOMWIInterrogate (H80746)
189	DIUCAPUL problem with transit call (H54049)
191	Parameter FWDMMMS cannot be set to "no" (H55349)
192	DSS not possible in consultation (H55461)
193	Suppression of incorrect 18h CDR records (F79502)
194	No billing-modification (H56158)
195	PIN "service brief": Identification not deleted after release key has been operated (H56154)
196	CMI ring tone error when callback call from MB (H56979)

Activation of optional features

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Activation of optional features

223	Customer request for feature modification -they want recall dial tone tone after entering apin code (G20789)
224	Do not display CLI for calls extended externally by the operator (H69867)
225	Conflict in creating user no. in case of VNNO and transit SW when Hipath Manager is used and more than 1 VNNO (H30176)
226	Customer specific change of SUPPL_SERV (H73972)
228	Incoming and outgoing phone calls must be possible without COSTI buffer (H71629)
229	Enhancement of function AUTOSSET-RELOCATE / New emergency numbers for Belgium -Pt.2(EMERGENCY NUMBERS 100,0100,101,0101) (H74253)
230	Paying Party in wrong Format in case of CFW and H8K (H70906)
232	Optional patch to change TOGGLE LED handling (F44314)
234	Prevent automatic switching back to LAN with Signalling Survivability (H83545)
237	Customer specific correction of RINGTIME in incoming transit record (I03261)
238	Suppress of sending lock indication to desktop phone (I05762)
239	Determination of DESTLV0-2 only from RICHT / LDAT configuration (I14341)
507	ACL monitoring changed for ONS slave (H61236)
510	Change to LW/BUSY-OUT Far End Mechanism CAS E&M Interface !!!ONLY FOR SMEO/MLPP!!!! (H58816)

512	Alternative key label text instead of "Besetztanz." (H68602)	
513	Inconsistent Tones for Outgoing Calls Barred from Analogue or Digital Station (H69419)	
515	Change of tone possibility for exisitng optional PIN function (H72748)	
522	ACL Twin group with CMI (H99439)	
523	Problem with PIN netwide if E.164 is used (G44741)	
524	Customer specific update of CALLEPTY in case of AUL (H95153)	
525	Multi frequency dialling not possible with active parameter USD in COT (F71353)	
527	Allow external hunt group member to be reached by incoming external call, by forcing CPS 5 to be used (I06388)	
528	Blockdial key processed as Name key in talk state (I08413)	
529	Wrong LAUTH in case of CFU from OSV to CO (I12319)	
530	MTX41xx_SIP OG Fax disconnect (Speech_vs_3.1KHz) (I16761)	
531	Customer specific change of SUPPL_SERV and CDR behaviour in case of SSCT to ATND MQ (I28137)	
601	CMI phone join MMCS/DAKS conference (I18763)	
631	Turn off RQ00022905: Use CTI interface to simulate the press of function button for release and consultation (H11122)	
634	Calling Number is not replaced when calling from ISDN Device with COS SPECAR (I11469)	

Activation of optional features

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703	L1 error at STMI where ACWinIP (last active console) is	
	configured causes switch to ATNDGR night service (I51887)	
+-----+-----+		
| 704 |	(V6 R2 only) SSCT Await Connect allowed with SA	|
+-----+-----+		
| 705 |	Ignore DELAYRB step from ACDRT in case of FWD (I53501)	|
+-----+-----+		
| 706 |	Ignore PATH_STREAM_DETECTION in case of half-way IPDA connections	|
+-----+-----+		
| 707 |	Pick-up signaling at AUN members only after call acceptance from	|
|	called SIP device (180 Ringing) (I56220)	|
+-----+-----+		
| 708 |	Restrict own number display in idle state for Openstage and	|
|	Deskphones IP Phones (I56603)	|
+-----+-----+		
| 709 |	RTO time error report does not lead to Out of Service of	|
|	the board. Warning is displayed with NO ACTION (H06312)	|
+-----+-----+		
| 710 |	Replaced by SDAT attribut CFWDISPF from OS4K V8 (OSFOURK-15641)	|
+-----+-----+		
| 711 |	Suppression of CF information (LEG1 LEG3) in CDR (I57581)	|
+-----+-----+		
| 712 |	Ignore E164 format. Make Number Implicit and do an LCR	|
|	digit plan evaluation (I57720)	|
+-----+-----+		
| 713 |	Customer specific change of CALLEPTY in outgoing CDR in case of	|
|	incoming forwarded call (I58165)	|
+-----+-----+		
| 714 |	Ignore ABCD signals in case of ANATE station (OSFOURK-10488)	|
+-----+-----+		
| 715 |	Support OOS deskphone and Circuit with OSCC (OSFOURK-13043)	|
+-----+-----+		
| 716 |	ACL Originated Event shows calling number	|
|	in implicit format (OSFOURK-12839)	|
+-----+-----+		
717	Enhancement of SUPPL_SERV handling in CDR for transferred calls	
	to HG for PM (OSFOURK-13275)	

Activation of optional features

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ZANDE - System data - extended

Activation of optional features

219 ZAUSL - User Activity Metering

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

Amongst other things, a PABX system offers a number of supplementary station features. User activity metering registers the active usage of each of these features.

This AMO evaluates the supplementary feature counters; no distinction is made between the communication services (voice, Fax, TTX, etc.) or traffic type. In addition, general traffic carried data is recorded and collated according to types of seizure.

After the counter states have been output, the text 'COUNTERS HAVE (NOT) BEEN CLEARED' is displayed.

The AMO permits the counter states for supplementary station features and general traffic carried data to be output simultaneously, as well as offering the option of resetting the counters after output.

If any counter state equals or exceeds 16777215, the counter state is replaced by the text 'OVERFLOW'.

A metering run is automatically initialized and started when the system is started or restarted.

In the case of duplex systems, the counter lists for each of the two processors (standby or active processor or processor A or B) must be evaluated separately if the metering is still in progress after a routine changeover. This is because the counter values are not saved on hard disk.

The following is a complete list of the supplementary station features and the respective actions metered:

- N0009: Individual speed dialing – used
- N0010: Destination keys – used
- N0011: Repertory keys – used
- N0012: DSS (Direct Station Selection) keys – used
- N0013: Call forwarding – activated
- N0014: Call waiting/override – executed
- N0015: Class of service changeover – executed
- N0016: Do-not-disturb – activated
- N0017: Add-on conference – established
- N0018: Saved number redial – used

- N0019: Callback/trunk queuing – activated
- N0020: Mixed-mode communication – executed

The following general traffic carried data is recorded:

- N0001: Num. of internal seizures

This counter logs the number of times internal system users lift the handset of their telephones either to make internal/external calls or to activate features. Feature activation or interrogation via the Memory key is also included. All user telephones including attendant consoles are scanned regardless of whether the seizure was made offhook, handsfree, or via a feature key.

- N0002: Num. of call processing events

This counter registers every software event in the central processor related to the processing (setup, release, transfer etc.) of calls in the system. An internal call between 2 analog telephones requires typically 9 events to be processed, a call between digital telephones typically 12 events; an external call from a digital telephone 18 events. The very large number of events processed for example in a large system in the course of a day can lead to overflow of this counter, (currently = 24 bit register) which will result in seemingly implausible values (eg. Dunton values attached).

- N0003: Num. of call processing buffers allocated

Call processing buffers are pooled memory elements which are dynamically allocated each time call setup is attempted. This count gives an approximate BHCA value assuming ZAUSL has been run for an hour only.

- N0004: Num. of external seizures incoming

This counter records the total number of calls signalled to the system node from an external source i.e. exchange calls, tie calls, transit seizures. A combination of this and "number of internal seizures" gives an accurate BHCA value for the system concerned.

- N0005: Num. of external seizures outgoing

This counter records the total number of calls leaving the system to an external destination (exchange, other node etc.).

- N0006: Num. of calls answ. at ATND queue A / S1 til S12 (ANSDEV=COIC)

This counter registers all calls appearing on the trunk answer key i.e. "T" category on the attendant screen.

- N0007: Num. of calls answered at ATND queue M (ANSDEV=O)

This counter registers all calls appearing on the operator key i.e. "O" category on the attendant screen.

- N0008: Num. of seizures with trunk group key (ANSDEV=OUTG)
These are outgoing seizures dialled via the trunk group keys marked.
- N0021: NCT invocation: Attempts that are successful
This counter logs the number of successful NCT (network call transfer) invocation attempts.
- N0022: NCT invocation: Attempts that fail
This counter logs the number of failed NCT invocation attempts.
- N0023: Num. of Rerouting Events
This counter logs the number of attempts to search for a possible route in case of network congestion.
- N0024: Num. of Transit Calls
This counter logs the number of (successful and unsuccessful) transit call attempts.
- N0025: Num. of Completed Calls
This counter logs the number of attempts to save two party connections.
- N0026: Num. of ACL Output (Monitoring) Messages
This counter logs the number of messages that CP sends to ACL.
- N0027: Num. of ACL Input (Commands) Messages
This counter logs the number of messages that ACL sends to CP.
- N0028: Num. of (1.5) Seconds in Dynamic Overload
This counter logs the total number of (1.5) Second intervals that the system is in Dynamic Overload condition.
- N0029: Num. of Transitions to Dynamic Overload
This counter logs the number of times the system goes from non Dynamic Overload into a Dynamic Overload condition.
- N0030: Num. of calls rejected due to Dynamic Overload
This counter registers every call attempt which is rejected because the system is in Dynamic Overload.
- N0031: Num. of all AM adapt Events
This counter logs the number of all events, which are released at AM adapt.

- N0032: Neg. ack. events of AM adapt due to timeout.
This counter logs the number of negativ acknowledge events of AM adapt, which are re-leased by timeout.
- N0033: Neg. ack. evts. of AM adapt due to num. of evt.
This counter logs the number of negativ acknowledge events of AM adapt, which are re-leased by max. number of events.
- N0034: Segments transferred by AM update
This counter logs the number of transferred segments by AM update.
- N0035: 1.5 sec spot check count. for incons. partner DB
This counter logs every 1.5 sec spot checks for an inconsistent partner database.
- N0036: 1.5 sec spot check count. for cons. partner DB
This counter logs every 1.5 sec spot checks for a consistent partner database.
- N0037: Update cycles started by AM update
This counter logs every updates, started by AM update cycles.
- N0038: Num. of messages from HSR to HHS
This counter logs the number of messages, sending from HSR to HHS.
- N0039: Num. of messages from a AP to HSR
This counter logs the number of messages, sending from any LS shelf (activation point AP) to HSR.
- N0040: Num. of blockades while sending from HSR to HHS
This counter logs the number of blockades, while sending from HSR to HHS.
- N0041: Num. of messages from HHS to HSR
This counter logs the number of messages, sending from HHS to HSR.
- N0042: Num. of messages from HSR to AP
This counter logs the number of messages, sending from HSR to any LS shelf (activation point AP).
- N0043: Num. of blockades while sending from HSR to AP
This counter logs the number of blockades, while sending from HSR to a LS shelf (activation point AP).

- N0044: Num. of network conn. attempts in HHS
This counter logs the number of B channel connection attempts (incoming or outgoing) between HHS and IP network.
- N0045: Num. of network conn. blocked in HHS (no B chl)
This counter logs the number of B channel connection blocked (incoming or outgoing) between HHS and IP network, because no more B channel or no DSP license is available.
- N0046: Num. of network conn. attempts in any AP
This counter logs the number of B channel connection attempts (incoming or outgoing) between any LS shelf (activation point AP) and IP network via NCUI.
- N0047: Num. of netw. conn. blocked in any AP (no B chl)
This counter logs the number of B channel connection blocked (incoming or outgoing) between any LS shelf (activation point AP) and IP network via NCUI, because no more B channel or no DSP license is available.
- N0048: Num. of seiz. attempts of code sender in HHS
This counter logs the number of seizure attempts of a code sender in HHS.
- N0049: Num. of seiz. rejected of code sender in HHS
This counter logs the number of blocking with the seizure of a code sender in HHS, since no more code sender was available.
- N0050: Num. of seiz. attempts of code sender in any AP
This counter logs the number of seizure attempts of a code sender in any LS shelf (activation point AP).
- N0051: Num. of seiz. rejected of code sender in any AP
This counter logs the number of blockings with the seizure of a code sender in any LS shelf (activation point AP), since no more code sender was available.
- N0052: Num. of seiz. attempts of code receiver in HHS
This counter logs the number of seizure attempts of a code receiver in the HHS.
- N0053: Num. of seiz. rejected of code receiver in HHS
This counter logs the number of blockings with the seizure of a code receiver in the HHS, since no more code receiver was available.
- N0054: Num. of seiz. attempts of code receiv. in any AP

This counter logs the number of seizure attempts of a code receiver in any LS shelf (activation point AP).

- N0055: Num. of seiz. rejected of code receiv. in any AP

This counter logs the number of blockings with the seizure of a code receiver in any LS shelf (activation point AP), since no more code receiver was available.

Shelf Blockage Counters

The following fields are output for every LTU/SLOT, where at least one timeslot seizure attempt fails:

- **LTU: Line trunk unit**
The LTU number at which timeslot seizure attempts failed.
- **SLOT: Specification of the mounting pitch in the LTU**
The SLOT number at which timeslot seizure attempts failed.
- **# Timeslot Seizures:**
The total number of attempts to make a connection to this LTU/SLOT.
- **# Failed Attempts:**
The number of attempts to make a connection to this LTU/SLOT which failed due to shelf timeslot blockage.

Message Blockage Counters between AP and HSR

The following fields are output for every LTU, where at least one message blockage between any IPDA shelf (LS) (activation point AP) and the HiPath signalling router (HSR) occurred:

- **LTU: Line trunk unit**
The LTU number during a message blockage occurred.
- **# Mess. to HSR:**
The total number of messages of this LTU from any LS shelf (activation point AP) to HSR.
- **# Mess. from HSR:**
The total number of messages of this LTU from HSR to any LS shelf (activation point AP).
- **# Blockades:**
The number of message blockages of this LTU between any LS shelf (activation point AP) and the HSR.

B Channel Blockage Counters between AP and IP Network via NCUI

The following fields are output for every LTU, where at least one B channel connection blockage (incoming or outgoing) between any IPDA shelf (LS) (activation point AP) and IP network via NCUI occurred:

- **LTU: Line trunk unit**
The LTU number during a B channel connection blockage occurred.

ZAUSL - User Activity Metering

Restrictions

- # Seizure Attempts:

The total number of B channel connection attempts of this LTU between any LS shelf (activation point AP) and IP network via NCUI.

- # Blocked B Channel:

The number of B channel connection blockages of this LTU between any LS shelf (activation point AP) and IP network via NCUI, because no more B channel or no DSP license is available.

Seizure Rejected Counters of a Code Sender

The following fields are output for every LTU, where at least one blockage with the seizure of a code sender in the IPDA shelf (LS) (activation point AP) occurred:

- LTU: Line trunk unit

The LTU number during a seizure blockage of a code sender occurred.

- # Seizure Attempts:

The total number of seizure attempts of a code sender of this LTU.

- # Seizure Rejected:

The number of rejected seizure attempts (seizure blockage) of a code sender of this LTU, since no more code sender was available.

Seizure Rejected Counters of a Code Receiver

The following fields are output for every LTU, where at least one blockage with the seizure of a code receiver in the IPDA shelf (LS) (activation point AP) occurred:

- LTU: Line trunk unit

The LTU number during a seizure blockage of a code receiver occurred.

- # Seizure Attempts:

The total number of seizure attempts of a code receiver of this LTU.

- # Seizure Rejected:

The number of rejected seizure attempts (seizure blockage) of a code receiver of this LTU, since no more code receiver was available.

219.1 Restrictions

Valid from HiPath 4000 V1.0 .

219.2 Interrelationships

None

219.3 Functions of the AMO

- [DISPLAY-ZAUSL](#) : Interrogate the counters for supplementary station features (and reset counters)

219.3.1 DISPLAY-ZAUSL

The function DISPLAY-ZAUSL accesses the counters in the database and outputs the counter states in tabular form for print-out. Depending on how 'DEL' is declared, the text 'COUNTERS HAVE (NOT) BEEN CLEARED' is also output.

The operator can interrogate the counters of the active processor (PROCID='BP', default value), the standby processor ('BPS'), processor A ('BPA') or processor 'B' ('BPB').

All counter states of the specified processor are output and can be optionally reset.

If DEL=Y is specified, the counters in the database of the processor are interrogated and subsequently reset. At the same time, the reset date and time are stored.

Procedure Overview

Command Code	Parameter
DISPLAY-ZAUSL	[PROCID=<param>], [DEL=<param>];

Example

Interrogation of the Counters

Input:

DISPLAY-ZAUSL:DEL=Y;

Output:

DIS-ZAUSL:BP;
H500: AMO ZAUSL STARTED

ZAUSL - User Activity Metering

Functions of the AMO

```
+-----+
|USER ACTIVITY METERING|
|METERING RUN FROM 02.08.2001, 08:13 HRS TO 02.08.2001, 08:14 HRS|
|=====|
|N0001: NUM. OF INTERNAL SEIZURES ..... 20|
|N0002: NUM. OF CALL PROCESSING EVENTS ..... 381|
|N0003: NUM. OF CALL PROCESSING BUFFERS ALLOCATED ..... 32|
|N0004: NUM. OF EXTERNAL SEIZURES INCOMING ..... 12|
|N0005: NUM. OF EXTERNAL SEIZURES OUTGOING ..... 12|
|N0006: NUM. OF CALLS ANSW. AT ATND QUEUE A / S1 TIL S12 0|
|N0007: NUM. OF CALLS ANSWERED AT ATND QUEUE M ..... 0|
|N0008: NUM. OF SEIZURES WITH TRUNK GROUP KEY ..... 0|
|N0009: INDIVIDUAL SPEED DIALING -USED ..... 0|
|N0010: DESTINATION KEYS -USED ..... 0|
|N0011: REPERTORY KEYS -USED ..... 0|
|N0012: DSS KEYS -USED ..... 0|
|N0013: CALL FORWARDING -ACTIVATED ..... 0|
|N0014: CALL WAITING/OVERRIDE -EXECUTED ..... 0|
|N0015: CLASS OF SERVICE CHANGEOVER -EXECUTED ..... 0|
|N0016: DO-NOT-DISTURB -ACTIVATED ..... 0|
|N0017: ADD-ON CONFERENCE -ESTABLISHED ..... 0|
|N0018: SAVED NUMBER REDIAL -USED ..... 0|
|N0019: CALLBACK/TRUNK QUEUING -ACTIVATED ..... 0|
|N0020: MIXED-MODE COMMUNICATION -EXECUTED ..... 0|
|N0021: NCT INVOCATION: ATTEMPTS THAT ARE SUCCESSFUL .... 0|
|N0022: NCT INVOCATION: ATTEMPTS THAT FAIL ..... 0|
|N0023: NUM. OF REROUTING EVENTS ..... 0|
|N0024: NUM. OF TRANSIT CALLS ..... 0|
|N0025: NUM. OF COMPLETED CALLS ..... 33|
|N0026: NUM. OF ACL OUTPUT (MONITORING) MESSAGES ..... 0|
|N0027: NUM. OF ACL INPUT (COMMANDS) MESSAGES ..... 0|
|N0028: NUM. OF (1.5) SECONDS IN DYNAMIC OVERLOAD .. 0|
|N0029: NUM. OF TRANSITIONS TO DYNAMIC OVERLOAD .. 0|
|N0030: NUM. OF CALLS REJECTED DUE TO DYNAMIC OVERLOAD .. 0|
|N0031: NUM. OF ALL AM ADAPT EVENTS ..... 0|
|N0032: NEG. ACK. EVENTS OF AM ADAPT DUE TO TIMEOUT ..... 0|
|N0033: NEG. ACK. EVTS. OF AM ADAPT DUE TO NUM. OF EVT. 0|
|N0034: SEGMENTS TRANSFERRED BY AM UPDATE ..... 0|
|N0035: 1.5 SEC SPOT CHECK COUNT. FOR INCONS. PARTNER DB. 0|
|N0036: 1.5 SEC SPOT CHECK COUNT. FOR CONS. PARTNER DB... 0|
|N0037: UPDATE CYCLES STARTED BY AM UPDATE ..... 0|
|N0038: NUM. OF MESSAGES FROM HSR TO HHS ..... 729|
|N0039: NUM. OF MESSAGES FROM AP TO HSR ..... 220|
|N0040: NUM. OF BLOCKADES WHILE SENDING FROM HSR TO HHS . 0|
|N0041: NUM. OF MESSAGES FROM HHS TO HSR ..... 749|
|N0042: NUM. OF MESSAGES FROM HSR TO AP ..... 404|
|N0043: NUM. OF BLOCKADES WHILE SENDING FROM HSR TO AP .. 0|
|N0044: NUM. OF NETWORK CONN. ATTEMPTS IN HHS ..... 48|
|N0045: NUM. OF NETWORK CONN. BLOCKED IN HHS (NO B CHL).. 0|
|N0046: NUM. OF NETWORK CONN. ATTEMPTS IN ANY AP ..... 18|
|N0047: NUM. OF NETW. CONN. BLOCKED IN ANY LS (NO B CHL) 0|
|N0048: NUM. OF SEIZ. ATTEMPTS OF CODE SENDER IN HHS .... 0|
|N0049: NUM. OF SEIZ. REJECTED OF CODE SENDER IN HHS .... 0|
|N0050: NUM. OF SEIZ. ATTEMPTS OF CODE SENDER IN ANY AP . 0|
|N0051: NUM. OF SEIZ. REJECTED OF CODE SENDER IN ANY AP . 0|
|N0052: NUM. OF SEIZ. ATTEMPTS OF CODE RECEIVER IN HHS .. 0|
|N0053: NUM. OF SEIZ. REJECTED OF CODE RECEIVER IN HHS .. 0|
|N0054: NUM. OF SEIZ. ATTEMPTS OF CODE RECEIV. IN ANY AP 20|
|N0055: NUM. OF SEIZ. REJECTED OF CODE RECEIV. IN ANY AP 10|
+-----+
| FAILED TIMESLOT SEIZURES DUE TO SHELF BLOCKAGE |
|=====|
```

```
|
+-----+-----+-----+-----+
| LTU | SLOT | # TIMESLOT SEIZURES | # FAILED ATTEMPTS |
+-----+-----+-----+-----+
| 1 | 49 | 537 | 37 |
+-----+-----+-----+-----+
|
|          MESSAGES
|          =====
|
+-----+-----+-----+-----+
| LTU | # MESS. TO HSR | # MESS. FROM HSR | # BLOCKADES |
+-----+-----+-----+-----+
| 8 | 254 | 375 | 12 |
+-----+-----+-----+-----+
|
|          B CHANNEL BLOCKED - INCOMING/OUTGOING (NCUI)
|          =====
|
+-----+-----+-----+-----+
| LTU | # SEIZURE ATTEMPTS | # BLOCKED B CHANNEL |
+-----+-----+-----+-----+
| 5 | 373 | 11 |
+-----+-----+-----+-----+
|
|          CODE SENDER
|          =====
|
+-----+-----+-----+-----+
| LTU | # SEIZURE ATTEMPTS | # SEIZURE REJECTED |
+-----+-----+-----+-----+
| 13 | 539 | 19 |
+-----+-----+-----+-----+
|
|          CODE RECEIVER
|          =====
|
+-----+-----+-----+-----+
| LTU | # SEIZURE ATTEMPTS | # SEIZURE REJECTED |
+-----+-----+-----+-----+
| 17 | 461 | 10 |
+-----+-----+-----+-----+

COUNTERS HAVE NOT BEEN CLEARED

AMO-ZAUSL-111      USER ACTIVITY METERING

DISPLAY EXECUTED;
```

219.4 Parameter Description

DEL	Delete counter(s)
Type of Input	: single value, optional
Possible Values	: Y [yes] reset the counters
	N [no] do not reset the counters

ZAUSL - User Activity Metering
Error Messages and Advisories

	Default Value	: N	
PROCID	Processor in which AMO is to run functional unit of SWU		
	Type of Input	: single value, optional	
	Possible Values	: BP	(active base processor of the SWU)
		BPS	(standby base processor of the SWU)
		BPA	(base processor A of the SWU)
		BPB	(base processor B of the SWU)
	Default Value	: BP	

219.5 Error Messages and Advisories

None

220 ZIEL - Destination Addresses for Stations

Key layout of the digital voice terminals	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

This AMO is used to enter, interrogate or regenerate destinations in the database (DB) for the following features:

- [Call forwarding - fixed](#) (FWD)
- [Messenger Call](#) (MSGR)
- [Direct station select keys](#) (DSS)
- [Name/repertory key](#) (NAME)
- [Individual speed dialing](#) (SPDI)
- [Saved Number Redial](#) (SNR)
- [Attendant Console Direct Destination Select keys](#) (DDS)
- [Destinations for the BUZZ Feature](#)

ZIEL is extended to allow administration of which type of Electronic Key Label shall be used and which individual text shall be used for the Electronic Key.

AMO-ZIEL is also used to add, delete, interrogate or regenerate for:

- dialing external servers to deposit messages
- identifying external servers when retrieving messages with the START key

Call forwarding - fixed

Two forwarding variants are possible:

- STATION forwarding
can be added or deleted by AMO ZIEL or by the subscriber, and activated or deactivated by the subscriber or by AMO ACTDA.
- SYSTEM forwarding is a new forwarding type
Adding and deleting destinations is only possible by AMO ZIEL, whereby different destinations can be entered for different forwarding types (eg. busy, no response), immaterial, if the incoming call is internal or external. The forwarding can be activated or deactivated by AMO ACTDA, or by the subscriber using the relevant codes .

ZIEL - Destination Addresses for Stations

- Call forwarding on no response
The fixed call forwarding destinations do not act as destinations for call forwarding on no response any more. These can be added as fixed destinations for forwarding type CFNR (no response) or CFB (busy) in the SYSTEM forwarding (AMO ZIEL), and activated by AMOACTDA, or can be added and activated as variable forwarding (CFNR or CFB) (AMO ACTDA).

Fixed destinations can be created for each service. This AMO however does not activate or deactivate forwarding. Destinations can be entered in the services VCE (voice), FAX and DTE. Destinations for devices working to the DSS1 protocol can only be activated as variable forwarding destinations by AMO ACTDA.

Destinations can be entered for all created STNOs (station numbers) with the exception of attendant terminals, irrespective of whether or not the station concerned has any terminal devices.

The following diversion types can be used:

for SYSTEM forwarding

- CFU (Call Forward Unconditional)
- CFB (Call Forward Busy)
- CFNR (Call Forward No Reply)
- CFDND (Call Forward Do Not Disturb)

for STATION forwarding

- CFU (Call Forward Unconditional)

At the system forwarding it is distinguished, whether it is operative for internal or external calls.

Destinations can be entered for all added phone numbers except attendant consoles, immaterial, if a device is installed or not.

The following destinations are allowed:

- Existing station numbers and hunting group masters for each service
- Personal attendant call numbers
- General attendant call numbers
- Specific hunting groups
- PSs (paging systems, also 'code calling' systems)
- Voice mailboxes
- Announcements via TMOM (adapter set for special equipment)

- External destinations
- ACD (automatic call distribution) DNIS (dialed number identification service) routing number
- special codes for CP
 - C13: NON VOICE KEY
 - C14: DUE KEY
 - C15: START KEY
 - C18: HOLD KEY
 - C24: CONSULTATION KEY

Destinations are not checked any more, except for few cases. To external destinations a name can be assigned.

More informations about call forwarding can be found in the service handbook .

Messenger Call

The members of an integrated executive/secretary system can have a messenger call key on their voice terminal for which a fixed destination can be entered. This destination can also be programmed at the administration and maintenance terminal. Only analog stations are permitted.

Direct station select keys

Direct station select (DSS) keys can be assigned to all terminals. The key functions for OPTISET and Optipoint 500 are defined with the help of the AMO TAPRO.

Only internal destinations are possible (analog telephone, digital voice terminal, and personal attendant call number).

In addition to entering the destination in the database, the AMO ZIEL also enters partner information for the destination station (controls the lamps in the DSS key).

The DSS functionality is kept if the number of source or DSS destination is changed with SBCSU or SDAT (parameter NEWNO).

Example: Station X is configured as DSS destination for station A

- If station A's number is changed, then the ZIEL/DSS entry is updated with new number of A and X stays as DSS destination.
- If station X's number is changed, then the ZIEL/DSS entry is updated for station A with new number of X as DSS destination.

Name/repertory key

The key functions for the OPTISET and Optipoint 500 are defined with the help of the AMO TAPRO. Destinations can only be entered after the key functions have been defined. The destination entry may be any combination of digits comprising a maximum of 22 characters. Destination entries may be protected against changing and deleting by the destination terminal user, using parameter PROTECT=YES. Changing or deleting by AMO will be possible furthermore. Name/repertory keys of OPTISET / Optipoint 500 add on terminals have two (Spirit IP add on terminals: four) levels to store destination entries. A level can be selected by entering a value for parameter LEVEL.

Individual speed dialing

Stations that are permitted to use the SPDI are provided an SPDI list when created by means of AMO SBCSU. Stations with an analog telephone, a voice terminal, mobile users (without a device, but with a separate terminal connection), and DTE stations may use the SPDI. Voice terminals can also used name/repertory keys and DSS keys.

Saved Number Redial

Each analog telephone and voice terminal can store a dialed number with up to 22 digits for redial. The destination can be any combination of digits (0-9,*,#,A,B,C,D).

Attendant Console Direct Destination Select keys

Each attendant console has 42 destination (DDS) keys

- 40 destinations via the destination keys
- 2 destinations via R1, R2 keys (trunk group keys for reserving lines).

The destinations are entered into a storage area that can hold up to 42. The configuration is carried out when the attendant console is created by means of AMO ACSU.

The destination keys write memory locations 1-40, while the trunk group keys R1 and R2 are always defined at locations 41 and 42.

Destinations for the BUZZ Feature

The buzz feature allows a user to alert (buzz) a predefined keyset or DFT (Optiset and Optipoint 500) by pressing the BUZZ key or by keying an access code. Voice communication is not possible. Buzz causes the target keyset or DFT to be alerted and the originator's station number to be displayed for two seconds. The buzz target (destination) and the originator must be located in the same node.

Entries for dialing external servers

Any INFO 2000 server can be connected via a Common Voice Mail Interface (EVM). To this end, the type of seizure of the server, a master hunting group number for dialing the server, and if necessary, a call code for identifying the call code for PREDIA=Y (AMO SCSU) must be assigned to one another.

The following types of seizure are implemented:

FWD	Call Forwarding
FWDNANS	Seizure after no answer forward
DSZINT	Direct Seizure internal
DSZCO	Direct Seizure CO Call
EXPR	Expressbox Seizure - achieved through suffix dialing
ATND	Seizure for EVM Attendant - allows simplified recording of messages without specifying ID or mailbox number

The following types of seizure can be grouped together:

- FWD/FWDNANS
- DSZINT/DSZCO/EXPR/ATND

If the type of seizure is entered in concatenated form, the AMO does not check for the validity of the entry.

The station number assigned to the type of seizure must be the station number of a master hunting group. The AMO simply checks as to whether the station number leads to the digit analysis result STN.

If the interfaces with the server have been parameterized as PREDIA=Y using AMO SCSU, each type of seizure must be assigned a call code; for PREDIA=N, the call code should not be specified. The AMO does not check this interrelationship. The call code must match the server.

Entries for message retrieval using the START key

When the START key is pressed to retrieve voice or FAX messages from an external server, the server must first be identified. For the VOICE service, the code VMWON is entered in the database ; for the FAX service, the codes FAX and VMOWN are entered.

If the server is located in a remote node, the code NETW or TIE is entered for the VOICE service and the codes FAX and NETW or FAX and TIE are entered for the FAX service in the database of the local node.

ZIEL - Destination Addresses for Stations

Key layout of the digital voice terminals

220.1 Key layout of the digital voice terminals

For standard key layout numbers for programmable function keys, see AMO TAPRO.

220.2 Interrelationships

- AMO SBCSU : Configure station for S0-Bus
- AMO SCSU : Configure station
- AMO SSCSU : Configure special subscribers
- AMO ACSU : Configure attendant console
- AMO SSC : Configure special station (messenger station etc.)
- AMO TAPRO : Key mapping (arrangement), DIGITE (standard)
- AMO DIMSU : Feature set (no. stations with indiv. speed dial)
- AMO DNIT : Set up ACD DNIS routing numbers

220.3 Functions of the AMO

- [ADD-ZIEL](#) : Create destinations
- [DELETE-ZIEL](#) : Cancel destinations
- [DISPLAY-ZIEL](#) : Interrogate destinations
- [REGENERATE-ZIEL](#) : Regenerate destinations

220.3.1 ADD-ZIEL

Creation of destinations for

1. call forwarding - fixed
2. messenger call
3. DSS keys
4. name/repertory keys
5. individual speed dialer
6. saved no. redial
7. DDS keys for attendant console

8. BUZZ feature

Enter data for

1. dialing external servers to deposit messages
2. identifying external servers when retrieving messages with the START key

Procedure Overview

Command Code	Parameter
ADD-ZIEL	TYPE=FWD, SRCNO=<number>, SI=<param> , DESTNOF=<number> (1) , [NAME=<string>], DTYPE=<param>, [ITYPE=<param>] , CFVAR=<param>;
	| TYPE=MSGR, SRCNO=<number>, DESTNOM=<number>; (2)
	| TYPE=DSS, SRCNO=<number>, KYNO=<number> (3) , DESTNOD=<number>, DEV=<param> , [SLKTYPE=SLKSTNO]; , | [SLKTYPE=SLKNAME]; , | [SLKTYPE=SLKTEXT, SLKTEXT=<string>;
	| TYPE=NAME, SRCNO=<number>, KYNO=<number> (4) , DESTNON=<number>, [DEV=<param>] , [LEVEL=<number>], [PROTECT=<param>] , [SLKTYPE=SLKSTNO]; , | [SLKTYPE=SLKNAME]; , | [SLKTYPE=SLKTEXT, SLKTEXT=<string>;
	| TYPE=SPDI, SRCNO=<number>, SPDNO=<number> (5) , DESTNOR=<key-num>;
	| TYPE=SNR, SRCNO=<number>, DESTNOR=<keynum>; (6)
	| TYPE=DDS, SRCNO=<number>, ATNDKYNO=<number> (7) , DESTNOR=<key-num>;
	| TYPE=BUZZ, SRCNO=<number>, DESTNOBZ=<number>; (8)
	| TYPE=EVMTAB, SZTYPE=<param>, EVMCD=<number>; (9) , [SZCD=<number>;
	| TYPE=EVMACC, SI1=<param>, MRCD=<keynum>; (10)

ZIEL - Destination Addresses for Stations

Functions of the AMO

Example

A fixed call forwarding destination for diversion type CFNR to STNO 3101 for the VOICE service can be created for voice station 2100.

Input:

```
ADD-  
ZIEL:TYPE=FWD, SRCNO=2100, SI=VCE, DESTNOF=3101, DTYPE=CFNR, ITYPE=GE  
N, CFVAR=SYSTEM;
```

Note

A CFW destination number, which was added with a LCR Digit Pattern with "Z" (AMO LDPLN), must be completed by a "#".

220.3.2 DELETE-ZIEL

Cancel destinations for:

- 1. call forwarding - fixed
- 2. messenger call
- 3. DSS keys
- 4. name/repertory keys
- 5. individual speed dialer
- 6. saved no. redial
- 7. DDS keys
- 8. BUZZ feature

Delete data for

- 1. dialing external servers to deposit messages
- 2. identifying external servers when retrieving messages with the START key

Procedure Overview

Command Code	Parameter
DELETE-ZIEL	TYPE=FWD, SRCNO=<number>, [SI=<param>] (1) , [DTYPE=<param>], [ITYPE=<param>], [CFVAR=<param>];
	| TYPE=MSGR, SRCNO=<number>; (2)
	| TYPE=DSS, SRCNO=<number>, [KYNO=<number>], (3)

Command Code	Parameter
	, [DEV=<param>];
	| TYPE=NAME, SRCNO=<number>, [KYNO=<number>], [DEV=<param>], [LEVEL=<number>]; (4)
	| TYPE=SPDI, SRCNO=<number>, [SPDNO=<number>]; (5)
	| TYPE=SNR, SRCNO=<number>; (6)
	| TYPE=DDS, SRCNO=<number>, [ATNDKYNO=<number>]; (7)
	| TYPE=BUZZ, SRCNO=<number>; (8)
	| TYPE=EVMTAB, [SZTYPE=<param>]; (9)
	| TYP=EVMACC, [SI1=<param>]; (10)

Note

If one or more of the parameters CFVAR, DTYPE, ITYPE or SI is entered, the AMO deletes forwarding destinations to the entered values, otherwise destinations to all possible values of the not entered parameters are deleted.

220.3.3 DISPLAY-ZIEL

Interrogate destinations for

1. call forwarding - fixed
2. messenger call
3. DSS keys
4. name/repertory keys
5. individual speed dialing
6. saved no. redial
7. DDS keys
8. BUZZ feature
9. all specified features

Interrogate data for

ZIEL - Destination Addresses for Stations

Functions of the AMO

- 1. dialing external servers to deposit messages
- 2. identifying external servers when retrieving messages with the START key

Procedure Overview

Command Code	Parameter
DISPLAY-ZIEL	TYPE=FWD, [SRCNO=<number>], [DESTNOF=<number>] (1) , [DTYPE=<param>], [ITYPE=<param>], [CFVAR=<param>];
	| TYPE=MSGR, [SRCNO=<number>], [DESTNOM=<number>]; (2)
	| TYPE=DSS, [SRCNO=<number>], [DESTNOD=<number>]; (3)
	| TYPE=NAME, [SRCNO=<number>], [DESTNON=<string>]; (4)
	| TYPE=SPDI, [SRCNO=<number>], [DESTNOR=<keynum>]; (5)
	| TYPE=SNR, [SRCNO=<number>], [DESTNOR=<keynum>]; (6)
	| TYPE=DDS, [SRCNO=<number>], [DESTNOR=<keynum>]; (7)
	| TYPE=BUZZ, [SRCNO=<number>], [DESTNOBZ=<keynum>]; (8)
	| TYPE=ALL; (9)
	| TYPE=EVMTAB; (10)
	| TYP=EVMACC; (11)

Example

Interrogate the call forwarding destination for station 2100.

Input:

DISPLAY-ZIEL:TYPE=FWD,SRCNO=2100;

Output:

FWD					
SOURCE	SERVICE	DTYPE	ITYPE	CFVAR	DESTINATION
-----+-----+-----+-----+-----+-----					
2100	VCE	CFU	INT	SYSTEM	3140

Display EVM-Server

Input:

DISPLAY-ZIEL:TYPE=EVMTAB;

Output:

EVMTAB		
SZTYPE	EVMCD	SZCD
-----+-----		
FWD	|	|
FWDNANS	|	|
DSZINT	|	|
DSZCO	|	|
EXPR	|	|
ATND	|	|

Display EVMACC

Input:

DISPLAY=ZIEL:TYPE=EVMACC;

Output:

SERVER	
EVMACC	MRC
-----+-----	
VCE	|
FAX	|

220.3.4 REGENERATE-ZIEL

Regenerate destinations for:

1. call forwarding - fixed
2. messenger call
3. DSS keys
4. name/repertory keys
5. individual speed dialing
6. saved no. redial
7. DDS keys
8. all specified features
9. BUZZ feature

Regenerate data for

ZIEL - Destination Addresses for Stations

Functions of the AMO

1. dialing external servers to deposit messages
2. identifying external servers when retrieving messages with the START key

Procedure Overview

Command Code	Parameter
REGENERATE-ZIEL	TYPE=FWD, [SRCNO=<number>], [DESTNOF=<number>]; (1) [, [DTYPE=<param>], [ITYPE=<param>], [CFVAR=<param>];
	| TYPE=MSGR, [SRCNO=<number>], [DESTNOM=<number>]; (2)
	| TYPE=DSS, [SRCNO=<number>], [DESTNOD=<number>]; (3)
	| TYPE=NAME, [SRCNO=<number>], [DESTNON=<keynum>]; (4)
	| TYPE=SPDI, [SRCNO=<number>], [DESTNOR=<keynum>]; (5)
	| TYPE=SNR, [SRCNO=<number>], [DESTNOR=<keynum>]; (6)
	| TYPE=DDS, [SRCNO=<number>], [DESTNOR=<keynum>]; (7)
	| TYPE=BUZZ, [SRCNO=<number>], [DESTNOBZ=<number>]; (8)
	| TYPE=ALL; (9)
	| TYPE=EVMTAB; (10)
	| TYP=EVMACC; (11)

Example

Regenerate the call forwarding destination for station 2100.

Input:

```
REGENERATE-ZIEL:TYPE=FWD,SRCNO=2100;
```

Output:

```
ADD-ZIEL :FWD,2100,VCE,2100,VCE,3101,,CFNR,GEN,SYSTEM;
```

220.4 Parameter Description

ATNDKYNO	Key number			
	Type of Input	:	1 to 10 single values, concatenated with & or &&, optional (DELETE,TYPE=DDS-direct destination selection for attendant) single value, mandatory (ADD,TYPE=DDS-direct destination selection for attendant)	
	Possible Values	:	numeric, 1-42	
CFVAR	Call forwarding variant			
	Type of Input	:	Single value, mandatory (ADD,TYPE=FWD-call forwarding)) single value, optional (DELETE,TYPE=FWD-call forwarding) 1 to 2 single values, concatenated with &, optional (DISPLAY,TYPE=FWD-call forwarding / REGENERATE,TYPE=FWD-call forwarding)	
	Possible values	:	STATION	station call forwarding fix
		:	SYSTEM	system call forwarding
			CLIENT	circuit client data
			STAOND	static OND
DESTNOBZ	Destination number for BUZZ feature			
	Type of Input	:	Single value, mandatory (ADD,TYPE=BUZZ-buzz destination) 1 to 10 single values, concatenated with & or &&, optional (DISPLAY,TYPE=DSS-direct station selection / REGENERATE,TYPE=DSS-direct station selection)	
	Possible Values	:	numeric, up to 6 characters	
DESTNOD	Destination number for direct station select			
	Type of Input	:	Single value, mandatory (ADD,TYPE=DSS-direct station selection) 1 to 10 single values, concatenated with & or &&, optional (DISPLAY,TYPE=DSS-direct station selection / REGENERATE,TYPE=DSS-direct station selection)	
	Possible Values	:	numeric, up to 6 characters	
DESTNOF	destination number for forwarding			

ZIEL - Destination Addresses for Stations

Parameter Description

	Type of Input	: Single value, mandatory (ADD,TYPE=FWD-call forwarding)		
		1 to 10 single values, concatenated with & or &&, optional (DISPLAY,TYPE=FWD-call forwarding / REGENERATE,TYPE=FWD-call forwarding)		
	Possible Values	: 0 - 9,*,#,A,B,C,D max. 22 chars.		
DESTNOM	Destination number for messenger service			
	Type of Input	: Single value, mandatory (ADD,TYPE=MSGR-messenger)		
		1 to 10 single values, concatenated with & or &&, optional (DISPLAY,TYPE=MSGR-messenger / REGENERATE,TYPE=MSGR-messenger)		
	Possible Values	: numeric, 3 characters (ADD,TYPE=MSGR-messenger)		
		numeric, up to 3 characters (DISPLAY,TYPE=MSGR-messenger / REGENERATE,TYPE=MSGR-messenger)		
DESTNON	Destination station number for name key / data terminals			
	Type of Input	: Single value, mandatory (ADD,TYPE=NAME-name key)		
		1 to 10 single values, concatenated with & or &&, optional (DISPLAY,TYPE=NAME-name key / REGENERATE,TYPE=NAME-name key)		
	Possible Values	: text, up to 22 characters		
DESTNOR	Destination number for redial, speeding or DDS			
	Type of Input	: Single value, mandatory (ADD,TYPE=DDS-direct destination selection for attendant / ADD,TYPE=SNR-saved number redial / ADD,TYPE=SPDI-speed calling individual)		
		1 to 10 single values, concatenated with & or &&, optional (DISPLAY,TYPE=DDS-direct destination selection for attendant / DISPLAY,TYPE=SNR-saved number redial / DISPLAY,TYPE=SPDI-speed calling individual / REGENERATE,TYPE=DDS-direct destination selection for attendant / REGENERATE,TYPE=SNR-saved number redial / REGENERATE,TYPE=SPDI-speed calling individual)		
	Possible Values	: 0-9,*,#,A-D, up to 22 characters		
DEV	Type of terminal			
	Type of Input	: Single value, optional		
	Possible Values	: BD Basic device		
		AD1 Add-on terminal 1 for OPTISET		

ZIEL - Destination Addresses for Stations

Parameter Description

		AD2	Add-on terminal 2 for OPTISET	
		AD3	Add-on terminal 3 for OPTISET	
		AD4	Add-on terminal 4 for OPTISET	
DTYPE	Diversion type			
	Type of input	: 1 to 4 single values, concatenated with &, mandatory (ADD,TYPE=FWD-call forwarding) 1 to 4 single values, concatenated with &, optional (DELETE,TYPE=FWD-call forwarding / DISPLAY,TYPE=FWD-call forwarding / REGENERATE,TYPE=FWD-call forwarding)		
	Possible values	: CFU	Call Forward Unconditional	
		CFB	Call Forward Busy	
		CFNR	Call Forward NO Reply	
		CFDND	Call Forward Do Not Disturb	
EVMCD	Code to access EVM			
	Type of Input	: Single value, mandatory		
	Possible Values	: numeric, up to 6 characters		
ITYPE	incoming seizure of fwd feature			
	Type of Input	: single value, optional		
	Possible Values	INT	internal calls	
		EXT	external calls	
		GEN	all calls	
KYNO	Key/button number			
	Type of Input	: single value, mandatory (ADD,TYPE=DSS-direct station selection / ADD,TYPE=NAME-name key) 1 to 10 single values, concatenated with & or &&, optional (DELETE,TYPE=DSS-direct station selection / DELETE,TYPE=NAME-name key)		
	Possible Values	: numeric, 1-19		
LEVEL	Keylevel for OPTISET add-on-terminal			
	Type of Input	: Single value, optional		
	Possible Values	: numeric, 1-4		
MRCD	vmx access code for message retrival after msg scan			

ZIEL - Destination Addresses for Stations

Parameter Description

	Type of Input	: Single value, optional		
	Possible Values	: 0 - 9,*,#,A,B,C,D max. 6 chars.		
NAME	Name			
	Type of Input	: single value, optional		
	Possible Values	: text, up to 30 characters		
PROTECT	CP write protection for name key			
	Type of Input	: Single value, optional		
	Possible Values	: YES	yes	
		NO	no	
SI	Service indicator for dss1			
	Type of Input	: 1 to 3 single values, concatenated with &, mandatory	(ADD,TYPE=FWD-call forwarding)	
		1 to 3 single values, concatenated with &, optional	(DELETE,TYPE=FWD-call forwarding)	
	Possible values	VCE	service voice	
		FAX	service fax (facsimile)	
		DTE	service data terminal equipment	
SI1	Service indicator			
	Type of Input	: Single value,mandatory	(ADD,TYPE=EVMACC-access codes for evm server)	
		1 to 2 single values, concatenated with &, optional	(DELETE,TYPE=EVMACC-access codes for evm server)	
	Possible Values	: FAX	service facsimile	
		VCE	service voice	
SLKTEXT	user individual text for electronic key label			
	Type of Input	: single value, mandatory		
	Possible Values	: text (case sensitive), up to 12 characters		
SLKTYPE	type of electronic key label to be used			

ZIEL - Destination Addresses for Stations

Parameter Description

	Type of Input	: single value, optional		
	Possible Values	: SLKSTNO	display of subscriber number	
		SLKNAME	display of subscriber name (from AMO PERSI)	
		SLKTEXT	display of individual text	
SPDNO	index to individual speed calling list			
	Type of Input	: 1 to 10 single values, concatenated with & or &&, optional	(DELETE,TYPE=SPDI-speed calling individual)	
		single value, mandatory	(ADD,TYPE=SPDI-speed calling individual)	
	Possible Values	: numeric 2 characters	(DELETE,TYPE=SPDI-speed calling individual)	
		numeric, up to 2 characters	(ADD,TYPE=SPDI-speed calling individual)	
SRCNO	Station number of source			
	Type of Input	: 1 to 10 single values, concatenated with & or &&, optional (DELETE,TYPE=BUZZ-buzz destination / DELETE,TYPE=DDS-direct destination selection for attendant / DELETE,TYPE=DSS-direct station selection / DELETE,TYPE=MSGR-messenger / DELETE,TYPE=NAME- name key / DELETE,TYPE=SNR-saved number redial / DELETE,TYPE=SPDI-speed calling individual) 1 to 10 single values, concatenated with & or &&, optional (DISPLAY,TYPE=BUZZ-buzz destination / DISPLAY,TYPE=DDS-direct destination selection for attendant / DISPLAY,TYPE=DSS-direct station selection / DISPLAY,TYPE=FWD-call forwarding / DISPLAY,TYPE=MSGR-messenger / DISPLAY,TYPE=NAME-name key / DISPLAY,TYPE=SNR- saved number redial / DISPLAY,TYPE=SPDI-speed calling individual / REGENERATE,TYPE=BUZZ-buzz destination / REGENERATE,TYPE=DDS-direct destination selection for attendant / REGENERATE,TYPE=DSS-direct station selection / REGENERATE,TYPE=FWD-call forwarding / REGENERATE,TYPE=MSGR-messenger / REGENERATE,TYPE=NAME-name key / REGENERATE,TYPE=SNR-saved number redial / REGENERATE,TYPE=SPDI-speed calling individual)		

Parameter Description

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		FWD	call forwarding	
		MSGR	messenger	
		NAME	name key	
		SNR	saved number redial	
		SPDI	speed calling individual	

220.5 Error Messages and Advisories

220.5.1 Error Messages

F00: FUNCTION NOT IMPLEMENTED

F01: SOURCE STATION <srcno> IS UNASSIGNED OR AS AN ACD NUMBER (AMO DNIT) CONFIGURED.

F02: SOURCE STATION <srcno> IS AN ATND

F03: SOURCE STATION <srcno> IS NOT AN ATND

F04: SOURCE STATION <srcno> IS NOT A DIGITE WITH PROGRAMMABLE KEYS

F05: SOURCE STATION <srcno> IS NOT AN ANATE / DIGITE

F06: SOURCE STATION <srcno> IS NOT A MEMBER OF AN EXEC./SECRETARY SYSTEM

F07: SOURCE STATION <srcno> HAS NO SPEED CALLING DIRECTORY

F08: DESTINATION NO. IS UNASSIGNED

F09: DESTINATION NO. IS NOT A MESSENGER

F10: FOR SOURCE STATION <srcno>, THE MAX. VALUE FOR SPDNO IS <num>.

F11: DESTINATION NO. MAY ONLY CONTAIN THE CHARACTERS 0-9,*,#, AND THE CODES C13, C14, C15, C18, OR C24

F12: DESTINATION NO. IS NOT ALLOWED AS FORWARDING DESTINATION.

F13: DSS LIMIT EXCEEDED, INCREASE PARAMETER DSS IN AMO DIMSU

F14: KEY <kyno> IS AT <dev> NOT PREASSIGNED FOR DIRECT STATION SELECTION

F15: KEY <kyno> IS AT <dev> NOT PREASSIGNED AS A REPERTORY KEY

F16: SOURCE STATION <srcno> IS NOT AN OPTISET/OPTIP500

F19: ADD-ON TERMINAL @@@ HAS NOT BEEN ADDED. LEVEL 3 AND 4 CAN NOT BE ENTERED.

F20: KEY <kyno> IS INVALID

F21: ADD-ON TERMINAL <terminal> HAS NOT BEEN ADDED.

F22: NO FREE MEMORY FOR DESTINATION ENTRY
INCREASE PARAMETER CFWDEST IN AMO DIMSU

F23: NO FREE MEMORY FOR ENTRY IN LEVEL 3 OR 4.
INCREASE PARAMETER DSSNA IN AMO DIMSU.

F24: NO FREE MEMORY FOR SLK-TEXT ENTRY.
INCREASE PARAMETER SLKTEXT IN AMO DIMSU.

F25: DESTINATION NO. IS NOT A ROUTE CODE

F26: DESTINATION NO. LEADS TO DAR 'VMOWN';
ONLY POSSIBLE FOR SERVICES VOICE/FAX

F27: DESTINATION NO. DOES NOT LEAD TO DAR 'STN'

ZIEL - Destination Addresses for Stations

Error Messages and Advisories

- F28: FUNCTIONAL TERMINALS AND ATTACHED ANALOG TERMINALS ARE NOT PREASSIGNED FOR DSS.
- F29: DESTINATION HAS ALREADY BEEN ENTERED AS DSS DESTINATION BY MAX. NO. OF DSS USERS. SEE PARAMETER DSSRT IN AMO ZAND.
- F30: IN THE CASE OF SI1=VCE, A CODE MUST BE SPECIFIED FOR DAR VMOWN (FOR SERVERS LOCATED IN THE LOCAL NODE) OR DAR NETW (FOR SERVERS LOCATED IN REMOTE NODES) FOR PARAMETER MRCD
- F31: IN THE CASE OF SI1=FAX, A CODE MUST BE SPECIFIED FOR DAR FAX FOLLOWED BY A CODE EITHER FOR DAR VMOWN (FOR SERVERS LOCATED IN THE LOCAL NODE) OR DAR NETW (FOR SERVERS LOCATED IN REMOTE NODES) FOR PARAMETER MRCD
- F32: DEV=<dev> IS INVALID FOR SOURCE STATION <srcno>
- F33: LEVEL IS NOT VALID FOR THE ENTERED DEVICE.
LEVEL=2 IS VALID ONLY FOR NAME KEYS ON OPTISET/OPTIPOINT ADD ON TERMINALS OR OPENSTAGE/DPIP MAIN DEVICES.OR OPENSTAGE/DPIP/DPCP MAIN DEVICES.
LEVEL=3 AND 4 ARE VALID ONLY FOR NAME KEYS ON OPTISET ADD ON TERMINALS AD1 AND AD2.
- F34: WITH CFVAR = SYSTEM, PARAMETER ITYPE MUST BE ENTERED (INT/EXT).
- F35: SOURCE STATION <srcno> IS A SPECIAL SUBSCRIBER WHICH MUST NOT BE ASSIGNED AS DESTINATION.
- F36: SOURCE @@@@ does NOT HAVE A DEVICE CONFIGURED WITH THE VALUE ENTERED UNDER PARAMETER SERVICE INDICATOR(SI)
- F37: Forwarding is not allowed for value entered in parameter SI and API configuration
- F40: THE STATION NUMBER IS NOT ALLOWED TO BE SET UP AS A FWD-DESTINATION, BECAUSE IT IS USED AS ACD HELP STATION NUMBER.
- F42: SOURCE STATION <srcno> IS UNASSIGNED FOR SERVICE <si>.
- F43: THE FEATURE FWD FOR SERVICE <si> IS NOT RELEASED.
- F44: RANGE LIMIT VALUES FOR PARAMETER <par> HAVE DIFFERENT LENGTHS
- F45: HE GIVEN DSS-KEY IS WRITE-PROTECTED AND CAN ONLY BE PROCESSED BY AMO ZIELN.
- F46: PARAMETER COMBINATION NOT ALLOWED.
PERMISSIBLE COMBINATIONS:

PARAMETER:	CFVAR	DTYPE	ITYPE
VALUES:	STATION	CFU	GEN
	SYSTEM	CFU	INT,EXT
		CFB	INT,EXT
		CFNR	INT,EXT
		CFDND	INT,EXT

- F47: SRCNO IS A DSS1 DEVICE: FOR ADMINISTRATION USE AMO ACTDA.
- F48: NO DESTINATION ADDED TO THE ENTERED <type>-KEYS ON <dev>.
- F49: DESTINATION NUMBER LEADS TO AN EMERGENCY ROUTE.
- F50: INTERNAL LOGIC FAULT
- F51: KEY <tasnr> IS AT <ger> NOT PREASSIGNED AS A REPERTORY KEY OR TERMINAL TYPE <ger> IS NOT CONFIGURED.(DISPLAY-SBCSU:<qnr>;AND CHECK PARAMETER REP).
- F52: CALL FORWARDING IS NOT ALLOWED BETWEEN MEMBERS OF THE SAME ONS GROUP.
- F53: NO FREE MEMORY FOR EXTNAME ENTRY. INCREASE PARAMETER EXTNAME IN AMO DIMSU.
- F54: DEV=@@@ AND LEVEL=@ ARE INVALID FOR SOURCE STATION @@@@
- F55: ONLY LEVEL=1 & 2 ARE SUPPORTED FOR NAME KEYS ON OPENSTAGE/DPIP/DPCP MAIN MODULES AND ADD ON TERMINALS.
- F56: ONLY LEVEL=1 IS SUPPORTED FOR NAME KEYS ON OS15 ADD ON TERMINAL.
- F57: BG5 IS SUPPORTED ONLY FOR BLF.

F58: ONLY LEVEL=1 IS SUPPORTED FOR KEYS ON BLF.
 F59: NO NAME KEYS WITH CONFIGURED DESTINATIONS COULD BE FOUND
 F60: NO NAME KEY CONFIGURED ON @@@
 F61: NO DESTINATION ADDED TO THE ENTERED @@@@-KEYS.
 F62: SRCNO is not a DESK number. (AMO SBSCU)

220.5.2 Advisories

H01: SOURCE STATION <srcno> HAS NO DSS KEYS
 H02: SOURCE STATION <srcno> HAS NO NAME KEYS FOR DEV=<dev> AND LEVEL=<level>
 H03: NAME MUST NOT BE SPECIFIED FOR INTERNAL FORWARD DESTINATIONS; ENTRY IGNORED
 H04: NO ADD-ON TERMINAL POSSIBLE AT SOURCE STATION <srcno>. PARAMETER DEV=AD IGNORED.
 H05: The station is signed off / not active, therefore the destination number was checked with the source group index of HHS. When the station is signed on / activated in an other source group, the LCR configuration has to be checked by means of AMO-LPROF and AMO-LDPLN.
 H08: THE GIVEN NAME-KEY IS MARKED FOR DIRECT ACCESS (AMO ZIELN).
 WRITE PROTECTION STAYS ON.
 H09: MORE DSS-DESTINATIONS CAN BE DISPLAYED BY AMO ZIELN.
 H10: FOR THE ENTERED <type>-KEYS ON <dev> THE DESTINATIONS WERE DELETED.
 H11: ALTHOUGH SLKTYPE=SLKNAME IS SET, THE STATION NUMBER WILL BE DISPLAYED ON THE LABEL INSTEAD AS LONG AS THE RESPECTIVE PERSI NAME ENTRY IS NOT WELL DEFINED (E.G. NAME ENTRY DOES NOT EXIST YET/ANYMORE, NON-LATIN CHARACTER CONVERSION USED, ETC.).
 H12: NO TERMINAL PLUGGED (YET) WITH SELF-LABELLING KEYS SUPPORT.
 H13: THE SPECIFIED DESTINATION NUMBER IS TOO LONG. ONLY THE FIRST SIX DIGITS ARE CONSIDERED, THE OTHERS WILL BE IGNORED. PROBABLY THE PROBLEM IS CAUSED BY A TYPING ERROR.
 H14: THE PARAMETERS SLKTYPE AND SLKTEXT ARE IGNORED FOR THE KEYS 13, 14 OR 15 OF AN ADD-ON TERMINAL
 H15: THE FEATURE SELF LABELING KEY IS NOT SUPPORTED ON ADD-ON UNITS 3 AND 4.
 H16: CHANGE OF KEY 17 AND 18 ONLY TAKES PLACE IF PLUGGED ADD-ON IS LOW-COST ADD-ON.
 H17: TO CONFIGURE A CALL FORWARDING FOR AN ONS GROUP, DESTINATION OF MASTER SHOULD BE SET ALSO FOR SLAVE DEVICES OF THE ONS GROUP.
 H18: STATION @@@@ HAS NOT BEEN ASSIGNED.
 H19: FOR THE ENTERED @@@@-KEYS THE DESTINATIONS WERE DELETED.

220.5.3 Usage of Error and Advisory Messages

ADD:F01,F02,F03,F04,F05,F06,F07,F08,F09,F10,
 F11,F12,F13,F14,F15,F16,F20,F21,F22,F23,
 F24,F25,F26,F27,F28,F29,F30,F31,F32,F33,
 F34,F35,F40,F42,F43,F44,F45,F46,F47,F49
 H01,H02,H03,H04,H08,H10,H11

DELETE:F14,F15,F16,F20,F32,F33,F45,F46F48,F50

DISPLAY:F44,H09,H10

ZIEL - Destination Addresses for Stations

Error Messages and Advisories

REGENERATE:F44

221 ZIELN - Destination for network-wide teams

The description of this AMO is only available in html format!

222 ZRUNGZ - Central Speed Calling Digit Series

Restrictions	Functions of the AMO	Error Messages and Advisories
Interrelationships	Parameter Description	

The *central automatic dialer* is a memory area of abbreviated numbers which is distributed among several lists. All system subscribers can access a maximum of 2 lists each. The speed dialing lists are created by AMO LRNGZ.

An abbreviated number is used to simplify dialing. Each abbreviated number can be assigned an unabbreviated number. The number of suffix dialing digits describes the number of digits in the unabbreviated number which are to be transmitted with a time lag during automatic suffix dialing.

222.1 Restrictions

This description is valid from SP300-V3.4

222.2 Interrelationships

- AMO LRNGZ : Speed call dialing central, lists
- AMO DIMSU : Dimensioning of features (switching unit)
- AMO FEASU : Customer feature list (switching unit)

222.3 Functions of the AMO

- [ADD-ZRUNGZ](#) : Creating abbreviated number destinations
- [DELETE-ZRUNGZ](#) : Cancelling abbreviated number destinations
- [DISPLAY-ZRUNGZ](#) : Displaying abbreviated number destinations
- [REGENERATE-ZRUNGZ](#) : Regenerating abbreviated number destinations

222.3.1 ADD-ZRNGZ

Creating destinations for abbreviated numbers of the central automatic dialer.

If a destination has already been created for the abbreviated number, the previous entry is deleted automatically.

Procedure Overview

Command Code	Parameter
ADD-ZRNGZ	LST=<number>, SPDNO=<number>, DESTNO=<key-num> , [SUPDIAL=<number>], [NAME=<string>];

Example

The external subscriber with directory number 0897220 is to be accessed with abbreviated number 00; the final digit of the destination directory number is to be transmitted with a time lag. The name of the external subscriber is MUNICH. The list has the number 12.

Input:

```
ADD-ZRNGZ:LST=12, SPDNO=00, DESTNO=00897220, SUPDIAL=1, NAME=MUNICH;
```

222.3.2 DELETE-ZRNGZ

Delete the entries for the abbreviated numbers in the central automatic dialer list.

Procedure Overview

Command Code	Parameter
DELETE-ZRNGZ	LST=<number>, SPDNO=<number>;

222.3.3 DISPLAY-ZRNGZ

Interrogating the entries for the abbreviated numbers in the central automatic dialer lists (with output in list form).

1. All lists in the system
2. One list in the system
3. Specific abbreviated numbers in a list

Procedure Overview

Command Code	Parameter
DISPLAY-ZRNGZ	TYPE=SYS; (1)
	| TYPE=LST, LST=<number>; (2)
	| TYPE=SPDNO, LST=<number>, SPDNO=<number>; (3)

Example

Displaying abbreviated numbers 00 to 49 in list number 12.

Input:

DISPLAY-ZRNGZ:TYPE=SPDNO,LST=12,SPDNO=00&&49;

Output:

```

LST: 12      SPDNO RANGE: 00 TO 49
SPDNO DESTNO      SUPDIAL NAME
00 00897221      1 MUNICH
02 003432564738  0 SPAIN
03 0613111515    0 MAINZ MOVIE THEATER SERVICE

```

222.3.4 REGENERATE-ZRNGZ

1. All lists in the system
2. One list in the system
3. Specific abbreviated numbers in a list

Procedure Overview

Command Code	Parameter
REGENERATE-ZRNGZ	TYPE=SYS; (1)
	| TYPE=LST, LST=<number>; (2)
	| TYPE=SPDNO, LST=<number>, SPDNO=<number>; (3)

Example

Regenerating all abbreviated numbers in list number 12.

Input:

REGENERATE-ZRNGZ:TYPE=LST,LST=12;

Output:

ZRNGZ - Central Speed Calling Digit Series

Parameter Description

```
ADD-ZRNGZ:12, 00, 0897221, 1,
"MUNICH
ADD-ZRNGZ:12, 02, 003432564738, 0,
"SPAIN
ADD-ZRNGZ:12, 03, 0613111515, 0,
"MAINZ MOVIE THEATER SERVICE
```

222.4 Parameter Description

DESTNO	Complete destination station number
Type of Input	: Single value, mandatory
Possible Values	: 1-22 positions; digits (0-9), #,*,A,B,C,D
LST	Central speed calling list number
Type of Input	: Single value, mandatory
Possible Values	: 0-15
NAME	Name of destination station (in words)
Type of Input	: Single value, optional
Possible Values	: 1-50 positions
SPDNO	Speed call destination number
Type of Input	: Single value, chained single values, area, single value, (ADD) mandatory
Possible Values	: 00-99; 000-999
SUPDIAL	Number of digits to be held back for automatic suffix dialing
Note	: SUPDIAL is not supported in the U.S.
Type of Input	: Single value, optional
Possible Values	: 0 to number of digits of DESTNO - 1
TYPE	Branching parameter (desired option)
Type of Input	: Single value, mandatory
Possible Values	: SYS = SYSTEM LST = LIST SPDNO = SPEED CALLING NUMBER

222.5 Error Messages and Advisories

222.5.1 Error Messages

F01: NUMBER OF SUFFIX-DIALING DIGITS IS GREATER THAN THE NUMBER OF DIGITS IN THE UNABBREVIATED CALL NUMBER. ADMISSIBLE VALUES FOR SUPDIAL: 0 TO xx
 F02: ABBREVIATED CALL NUMBER NOT FOUND LIST CONTAINS ABBREVIATED CALL NUMBERS: xxx TO xxx
 F03: ABBREVIATED CALL NUMBER(S) NOT FOUND LIST CONTAINS ABBREVIATED CALL NUMBERS: xxx TO xxx
 F04: LIST NOT CREATED.
 F06: ADMISSIBLE LIST NUMBERS: 0 TO xx
 F07: NO LISTS CREATED IN SYSTEM.

222.5.2 Advisories

H01: NO LISTS CREATED IN SYSTEM.
 H02: LIST HAS NOT BEEN CREATED.

222.5.3 Use of the Output Messages for Each Action

ADD	:	F01,	F02,	F04,	F06,	F07,
DELETE	:	F03,	F04,	F06,	F07	
DISPLAY	:	F03,	H01,	H02		
REGENERATE	:	F03,	H01,	H02		

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ZRINGZ Central Speed Calling Digit Series 3025

