

MiVoice MX-ONE

Technical Reference Guide, MML Parameters

Release 7.8

PARAMETER DESCRIPTION

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1

ABB

Common/individual abbreviated number.

1.1

FORMAT

ABB = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	0 - 99999 99999 99999 999999 The common abbreviated number. When dialed, the number is translated to a complete number.
D ₁ =	0-9 The individual abbreviated number. When dialed, the number is translated to a complete number.

1.2

FUNCTION

The parameter states the abbreviated number. When dialed, this number is translated to a complete number (the complete number associated to an abbreviated number is defined using the TRA parameter).

1.3

EXAMPLE 1

The common abbreviated number shall be 0361.

ABB=0361

1.4

EXAMPLE 2

The individual abbreviated number shall be 1.

ABB=1

2

AC

Area Code

2.1

FORMAT

AC = D₁D₂D₃D₄D₅D₆

D₁D₂D₃D₄D₅D₆= 0 - 999999

2.2

FUNCTION

The parameter states the area code in which a specific LIM is situated.

2.3

EXAMPLE

The LIM is situated in area code 214.

AC=214

3 ACCDIG

Access digits

3.1 FORMAT

ACCDIG = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅= 0 - 99999 Access code for PSTN calls.

3.2 FUNCTION

The parameter defines the access code for PSTN calls. This SOM parameter is applicable only when CNTRY=1 (Russia).

3.3 EXAMPLE

Set the access code for calls to PSTN to 9.

ACCDIG=9

4

ACCT

Account Code information.

4.1

FORMAT

ACCT = D ₁		
D ₁ =	0	Never require Account code.
	1	Require Account Code for Account Code catgory=0.
	2	Require Account Code for Account Code catgories=0 and 1.

4.2

FUNCTION

The parameter states if account code dialing shall be required or not.

4.3

EXAMPLE

Account code is never required.

ACCT=0

5 ACCTYP

ISDN S0 terminal access type

5.1 FORMAT

ACCTYP = D₁

- | | |
|------------------|---|
| D ₁ = | 0 The access follows ETSI protocol and will be set up for point-to-multipoint mode of operation.
Several ISDN terminals may be connected to the ISDN terminal interface.

1 The access follows ETSI protocol and will be set up for point-to-point mode of operation.
Only one terminal may be connected to the ISDN terminal interface.

2 The access follows Bellcore protocol and will be set up for point-to-multipoint mode of operation.
Several ISDN terminals may be connected to the ISDN terminal interface. |
|------------------|---|

5.2 FUNCTION

The parameter states the standard protocol used and also, when the ETSI protocol is defined, the mode of operation at the ISDN terminal interface. The access type for the Bellcore protocol is always point-to-multi-point. When point-to-multi-point is stated (ACCTYP=0 or ACCTYP=2), up to 8 physical terminals can be connected to the interface. When point-to-point is stated (ACCTYP=1), only one terminal may be connected.

This parameter is affiliated to the ISDN terminal interface and not to the ISDN terminal directory number, that is, all directory numbers on the same interface must have the same value for ACCTYP. The first directory number that is initiated on every ISDN terminal interface decides which access type that is to be valid. Attempts to initiate directory numbers with ACCTYP different from the already defined ACCTYP for the desired interface, will not succeed.

If the parameter ACCTYP is omitted, the default value (0) will be used.

5.3 EXAMPLE

Set the ISDN terminal interface with the ETSI protocol and point-to-multipoint mode of operation at the access.

ACCTYP=0

6 ACDNUM

ACD parameter number

6.1 FORMAT

ACDNUM = D₁

- | | | |
|------------------|---|--|
| D ₁ = | 1 | Type of delayed call selection. |
| | 2 | Obsolete. (Was used for Management Information System, MIS, connection in earlier releases). |
| | 3 | Direct call to ACD member. |
| | 5 | ACD call overflow to the next free ACD agent. |
| | 6 | Validation of PIN Code. |
| | 7 | Deflect calls from the ACD queue or the CTI queue. |

6.2 FUNCTION

The parameter states that each ACDNUM has its own function.

6.3 EXAMPLE

ACD parameter number is 1.

ACDNUM=1

7

ACDVAL

ACD parameter value

7.1

ACDNUM=1

Type of delayed call selection

7.1.1

FORMAT

ACDNUM=1, ACDVAL = D ₁	
D ₁ =	0 Individual selection.
	1 Load selection.

7.1.2

FUNCTION

The parameter states to an agent position as it becomes free how it shall select a delayed call. Selection of delayed calls can only be done for the ACD groups to which the agent position is assigned.

ACDVAL=0, Individual Selection

A delayed call will be selected by the queue priority.

At equal priorities, the call with the longest queue time will be selected.

ACDVAL=1, Load Selection

The delayed call with the highest number of queue cycles will be selected. The time for a queue cycle is shorter with a higher queue priority. Delayed calls with a low priority can now be selected even though there are delayed calls with a higher priority.

If two or more delayed calls have the same number of queue cycles, the call with the longest queue time will be selected.

7.1.3

EXAMPLE

The delayed calls shall be selected according to the individual selection method.

ACDNUM=1,ACDVAL=0

7.2 ACDNUM=3

Direct call to ACD member.

7.2.1 FORMAT

ACDNUM=3, ACDVAL = D ₁		
D ₁ =	0	Direct call to ACD member is not allowed in the exchange.
	1	Direct call to ACD member is allowed in the exchange.

7.2.2 FUNCTION

The parameter states to the exchange whether it is allowed to make direct calls to an ACD member by dialling the ADN number.

7.2.3 EXAMPLE

It is allowed to make direct calls to ACD members.

ACDNUM=3, ACDVAL=1

7.3 ACDNUM=5

ACD call overflow to the next free ACD agent.

7.3.1 FORMAT

ACDNUM=5, ACDVAL = D ₁		
D ₁ =	0	ACD call will continue to reach next free ACD agent on Time Expiry. I.e. Maximum ringing time on ACD agent.
	1	ACD call will not be distributed to next free ACD agent on Time Expiry. I.e. Maximum ringing time on ACD agent.

7.3.2 FUNCTION

The parameter states whether the ACD call will continue to reach the next free ACD agent or not be distributed to the next free ACD agent on timer expiry, that is, the maximum ring time on an ACD member.

7.3.3 EXAMPLE

The ACD call will not be distributed to reach the next free ACD agent on timer expiry.

ACDNUM=5, ACDVAL=1

7.4 ACDNUM=6

Validation of PIN Code.

7.4.1 FORMAT

ACDNUM=6, ACDVAL = D ₁	
D ₁ =	0 PIN code is not validated when ACD agent unlock the extension.
	1 PIN code is validated when ACD agent unlock the extension.

7.4.2 FUNCTION

The parameter states whether the PIN code will be validated when the ACD agent unlocks the extension.

7.4.3 EXAMPLE

The PIN Code will be validated when the ACD agent unlock the extension.

ACDNUM=6, ACDVAL=1

7.5 ACDNUM=7

Deflect calls from the ACD queue or the CTI queue.

7.5.1 FORMAT

ACDNUM=7, ACDVAL = D ₁	
D ₁ =	0 Deflection of calls from ACD Queue / CTI queue is not permitted, when the last ACD agent logs off / when the CSTA monitor is lost on a CTI group.
	1 Deflection of calls from ACD Queue / CTI queue is permitted, when the last ACD agent logs off / when the CSTA monitor is lost on a CTI group.

7.5.2 FUNCTION

The parameter states the deflection of calls from the ACD queue or the CTI queue, when the last ACD agent logs off or when the CSTA monitor is lost on a CTI group. The diverttee position is set by the *diversion* command.

7.5.3 EXAMPLE

The deflection of calls from the ACD queue or the CTI queue is permitted to the diverttee position.

ACDNUM=7, ACDVAL=1

8

ACF

Area Code flag

8.1

FORMAT

ACF = D ₁		
D ₁ =	Y	Prefix number with own area code.
	N	Do not prefix number with own area code.

8.2

FUNCTION

The parameter states if the analyzed number shall be prefixed with the own area code or not.

8.3

EXAMPLE

The analyzed number shall be prefixed with the own area code.

ACF=Y

9

ACTC

Average conversation time constant

9.1

FORMAT

ACTC = D₁D₂D₃
D₁D₂D₃ = 10 - 900
Time in seconds.

9.2

FUNCTION

The parameter states the average conversation time for an ACD group. The parameter is used for calculation of AVCT (AVERAGE Conversation Time) as a start value. If the parameter is adjusted by command, the calculated AVCT value will be set to the constant and then it will be adjusted again for every call. If the parameter is omitted, a default value is set to 180 seconds.

9.3

EXAMPLE

Average conversation time constant for an ACD group should be 120 seconds.

ACTC=120

10

ADC

10.1

ADC - ANALOG EXTENSION

Additional Category

10.1.1

FORMAT

ADC = D ₁	
D ₁ =	Allowed bearer services for terminating extension
0	Speech and 3.1 kHz audio (normal extension)
1	64 kbit/s restricted (only for EL7 extensions)
2	64 kbit/s unrestricted and 16 kbit/s unrestricted (only for EL7 extensions)

10.1.2

FUNCTION

The parameter states:

- Allowed bearer services for terminating extensions. This category is introduced to be able to allow other bearer services than speech and 3.1 kHz audio for analog extensions. For normal speech extensions, speech and 3.1 kHz audio must always be assigned. It is only allowed to affiliate other bearer services than speech and 3.1 kHz audio to CAS extensions.

If the parameter is omitted, the default value (zeros) will be used.

10.1.3

EXAMPLE

The ADC categories shall be:

- The MX-ONE can only handle the bearer services speech and 3.1 kHz audio.

ADC=0

10.2

ADC - DIGITAL KEY SYSTEM TELEPHONE

Additional Category

10.2.1

FORMAT

ADC = D ₁ D ₂ D ₃	
D ₁ =	Agent position
0	Normal extension, or if this feature is not used in the system.
1	The position is to be initiated as an agent position.
D ₂ =	Multi Member Busy (MMB)
0	No MMB
1	The extension is to be initiated with MMB on non-ACD / ACD agent's ODN at call to / from a non-ACD ADN or the ADN (ACD and normal) is to be initiated with MMB at call to / from the ODN.
2	The extension is to be initiated with MMB on ACD agent's ODN at call to / from ACD ADN.
3	The extension is to be initiated with MMB on ACD agent's ODN at call to / from ACD / non-ACD ADN.
NOTE: 1, 2 or 3 is not permitted, if reception of call waiting tone (--ext-serv parameter extension_profile) is selected.	
D ₃ =	Number Log
0	Number log is always active. All unanswered and answered calls are logged.
1	When Personal number is used, number logging is done only for the extension that owns the Personal number, not for any other destination in the list.
2	Number log for unanswered calls only.
NOTE: The values <i>cannot</i> be combined. For example, the value 3, as 1 plus 2, cannot be used as input to the D ₃ digit.	

10.2.2

FUNCTION

The parameter states:

- Agent position, that is, whether the extension is permitted to have ADNs as members of ACD groups.

Note: The category needs to be set for the ODN and for the ADNs which should be part of an ACD group.

When the Multi-Member Busy on ACD agent's ODN function is selected, the ACD agent is not able to receive new calls to the ACD agent position when an ACD member is busy. The calling party will receive a busy tone, and will only be able to perform call back, camp-on (if PBX operator), or intrusion (if ACD supervisor). Call back can be performed if the calling party has the proper class of service. The category for reception of call waiting tone (--ext-serv parameter extension_profile) cannot be selected.

- Multi-Member Busy (MMB): If MMB is set on ODN and if ADN is busy, then ODN is treated as busy for incoming calls. If ADN has MMB set and if the ODN is busy, then ADN is treated as busy for incoming calls.
- Number log can be set to always active or no number log when the answering position is not the personal number.

If the parameter is omitted, the default value (zeros) will be used.

10.2.3

EXAMPLE

The ADC categories should be the following:

- Normal extension.
- The extension has MMB set for non-ACD members. That means if any non-ACD ADN is busy, ODN is treated as busy for incoming calls.
- Number log is always active.

ADC=010

10.3

ADC - ROUTE DATA

Additional Category for External Traffic

10.3.1

FORMAT

$ADC = D_1 D_2 \dots D_{28}$

Type of Seizure of External Line

$D_1 = 0$	Immediate seizure
1	Seizure when minimum number length is attained. (When the whole number shall be sent at the same time (so called enbloc sending), set number length MIN=MAX).
2	Seizure when maximum number length is attained, or when minimum number length is attained and time out between digits has elapsed. Used when trunk seizure is not allowed until complete B-number is dialled and the number length is variable, that is, MIN and MAX are different.

Type of Number (TON) See also D_{19}

Type of Called Public Number (B-Number)

Used *instead* of prefix digits (for example 00 for international calls) to indicate to the closest following exchange/network, the type of called public number (of the calls using this destination).

D ₂ = 0	Unknown public
1	International
2	National
3	Network specific
4	Local public
	Type of Called Private Number (B-Number)
	Used <i>instead of</i> prefix digits to indicate to the closest following exchange/network, the type of called private number (of the calls using this destination).
5	Unknown private
6	Local private
	Note that this TON requires the use of the RNDI route number data command.
7	Level 1 Regional
	Note that this TON requires the use of the RNDI route number data command.
	Type of Calling Public Number (A-Number)
	Used to <i>control</i> the composing of a complete calling/connected public number to send to the interworking exchange/network.
D ₃ = 0	Unknown public
1	International
2	National
3	Network specific
4	Local public
	Type of Calling Private Number (A-Number)
	Used to <i>control</i> the composing of a complete calling or connected private number to send to the interworking exchange or network.
D ₄ = 5	Unknown private
6	Local private
7	Level 1 Regional
	Supplementary Services Using UII (ISDN, H.323)
D ₅ = 0	Not allowed
1	Allowed, <i>only</i> permitted for calls terminating in another MX-ONE or an ASB 501 04.
2	Allow informative signalling to MX-ONE gateway for calls to public destinations.
	Intra-User (MFE, ISDN)
0	No Intra-User (Call over a different network)
1	Intra-User** (Call within the same network)
**	In ISDN trunks, the route must be enabled for net services (see D ₁₂ in parameter SIG), to send UII and charging IBERCOM data (see VARI & VARO for SL60).
	Type of Network
D ₆ = 0	Not fibre route or Transit Network Selection (TNS)
1	Fibre route or TNS
	Type of Release

$D_7 = 0$ Release when one of the parties goes on hook (terminates the call), that is, first party release.

1 Release controlled by A-party, that is, calling party release

2 Release controlled by B-party, that is, called party release

Backward Signals for MFC-Signalling

$D_8 = 0$ Send from first digit

1 Send next digit

2 Repeat latest sent digit

3 Send the previous digit

4 Send the two previous digits

5 No backward signal before direct through-connection

6 Received digit(s), and acknowledged digit(s) that have been transmitted, shall be acknowledged before direct through-connection. No signal shall be sent backwards in the network.

7 Send from first digit, alternative routing has been executed (CEPT L1 signal)

Terminating and Transit Seizure

$D_9 = 0$ Send terminating seizure signal. Terminating seizure signal means that the call shall be terminated in the next exchange.

1 Send transit seizure signal.
Transit seizure signal means that the call shall be transmitted through the next exchange.

Threshold Level for OFF-HOOK Queuing

$D_{10} = 0$ No threshold level (default value)

1 Threshold level 1

2 Threshold level 2

A search for free route starts with the ordinary route, and if this is busy the call continuous to the first alternative route (Alternative routing).

By affiliating a threshold level to the route choice, and comparing this to the call originator's Least Cost Routing Class of Service (LCR COS, see parameter SERV), a route choice can be made more or less exclusive to call originators with higher LCR COS.

Call originators with:

A threshold level may only be affiliated to one of the route choices for a destination.

LCR COS=3 are not affected by any threshold level setting, they have full access to all route choices.

LCR COS=2. When (in the search for a free route choice) the route choice with threshold level 2 is encountered the call is put in queue to the ordinary choice for 8*) seconds. If the ordinary route choice does not become free within this time, a new search is started from the ordinary route choice and continued up to the last alternative route choice. This time with no restrictions.

LCR COS=1. When the route choice with threshold level 1 is encountered the call is put in queue to the ordinary route choice for 8*) seconds.

A new search is started from the ordinary route choice and continued up to the route choice with threshold level 1. This route choice is not allowed and the call fails.

LCR COS=0. When the route choice with threshold level 1 is encountered the search stops. No queuing is allowed.

*) Application system Parameter PARNUM=107 (8 seconds is default).

		Sending of Expensive Route Warning Tone (ERWT)
D ₁₁ =	0	ERWT not sent (default value)
	1	ERWT sent
		Controls whether or not ERWT shall be sent to the call originator when a selected route choice is seized (except for call originators with TCD category 15).
		Least Cost Routing (LCR)
D ₁₂ =	0	Available to all calls (default value)
	1	Available only to calls with LCR facility, and to calls from originators with TCD category 15.
		Means that the route choice can be selectively restricted for the calling party.
		Sending of Travelling Class Mark (TCM)
D ₁₃ =	0	TCM not sent (default value)
	1	TCM sent
		Defines whether or not a calling party's class of service (in form of TCM) shall be sent to the co-operating exchange. Used when the signalling system in the network does not allow sending of calling party's category.
		Loop Avoidance or Transit Counter
D ₁₄ D ₁₅ =	00-25	Defines maximum allowed number of transit exchanges a call can be routed through in order to reach the final destination. Default value is 25.
		PNR Number Translation Information or LCR Dialed Number Retrieval
D ₁₆ =	0	No individual number translation information is available
	1	Number translation information according to PRE/TRC shall be used (see the LC parameters).
	2	Number translation information according to PRE1/TRC1 shall be used (see the LC parameters).
	3	LCR dialed number retrieval (used for the last choice in the RCT).
		Type of Protocol to Use for Supplementary Service Call Back or Call Completion
D ₁₇ =	0	Proprietary UUI protocol
	1	Standardized Generic Functional Protocol
		Destination Sends B-Answer Signal
D ₁₈ =	0	Yes, B-Answer signal is available (default value)
	1	No, B-Answer signal is not available. Only for specific markets where the connected network offer free-of-charge calls without B-answer. The parameter setting shall only be used for the free-of-charge destinations. This setting generates an internal B-answer, which is required if the call is to be transferred to another extension.
		Type of Called Number (TON) See also D₂.
		Normal Case
D ₁₉ =	0 - 7	Set D ₁₉ to the same value as D ₂ .
		When the Route is Used for MX-ONE VPN(VPN without IN Node) and the Public Network Does not Accept Private TONs

	0	Unknown public
	1	International
	2	National
	3	Network specific
	4	Local public
		D ₁₉ shall be set to the same value as D ₂ except when the route is used for MX-ONE VPN (Virtual Private Network without Intelligent Network node) and the public network cannot handle private TONs. When this is the case the private TON shall be set in D ₂ (in order to have net services) and a public TON shall be set in D ₁₉ (the TON to send to the public network that does not accept private TONs).
		Start Selection Point (SSP)
D ₂₀ D ₂₁ =	00	Function not in use (default)
	01-21	Number of digits in a CCSS7 set-up (initial address) message. The digit appointed by the SSP is the last digit included in the message.
		Original A-Number
D ₂₂ =	0	Diverted party number shall be sent as A-number at external follow-me, personal number deflection, or call deflect/single step transfer (SST) to public party.
	1	Original A-Number (Calling party number) shall be sent as A-number at external follow-me, personal number deflect, or call deflect/single step transfer (SST) to public part.
		Type of Number (TON) of the Original A-Number Only valid if D ₂₂ = 1
D ₂₃ =	0	The destination type of number shall be sent as A-number type of number at external follow me or personal number deflection to public party.
	1	Original A-Number type of number shall be sent as A-number type of number at external follow me or personal number deflection to public party.
		Enhanced Sent A - Number Conversion
D ₂₄ =	0	Disable conversion
	1	Enable conversion. If conversion is enabled, the parameter <i>targetdest</i> in the <i>number conversion</i> command must be used.
		ISDN: Type of Protocol to Use for Supplementary Service Call Offer (UUI/GFP), or SIP: Handling of Diversion information in transit call scenarios
D ₂₅ =	0	ISDN: Proprietary UUI protocol SIP: Do not forward incoming "Diversion" information for SIP-to-SIP calls
	1	ISDN: Standardized Generic Functional Protocol SIP: Forward incoming "Diversion" information for SIP-to-SIP calls
		Emergency Destination
D ₂₆ =	0	No
	1	Yes
		Defines if an external destination associated to the existing public route to the PSTN shall be used for emergency calls. Only select Yes when the route is used for emergency calls for IP extensions.

	ETSI Diversion supplementary service support towards PSTN (ISDN), or Support of Original Called Address in IAI message for Redirected call (CCSS7)
	Only valid if D ₅ = 2 and D ₂₂ = 1
D ₂₇ = 0	No
1	Yes
	Forward switching
D ₂₈ = 0	No
1	Yes
	Defines if forward switching shall be done for all redirection services requested from trunks. (Only relevant for ISDN and H.323).

10.3.2 **FUNCTION**

The parameter states the additional category for an external destination.

10.3.3

EXAMPLE

Type of seizure of external line	Seizure when minimum number length...
Type of called number (B-number)	National
Type of calling public number (A-number)	National
Type of calling private number (A-number)	Level 1 Regional
Supplementary Services using UUI...	Allowed
Type of network	Not fibre route or TNS
Type of release	Release when one of the parties goes on hook
Backward signals for MFC-signaling	Send from first digit.
Terminating and transit seizure	Send transit seizure...
Threshold level for OFF-HOOK...	Threshold level 2
Sending of Expensive Route...	ERWT not sent
Least Cost Routing (LCR)	Available to all calls
Sending of Traveling Class Mark	TCM sent
Loop avoidance / Transit counter	Defines maximum allowed numbers of transit... = 03
PNR number translation information /LCR dialed number retrieval	No individual number translation information is available
Type of protocol to use for Supplementary ...	Proprietary UUI protocol
Destination sends B-Answer signal	Yes, B-Answer signal is available
Type of called number (TON)	National (same as D ₂)
Start Selection Point (SSP)	Function not in use
Original A-Number	Original A-Number shall be sent
Original A-Number's type of number (TON)	The destination type of number shall be sent
Enhanced Sent A - Number Conversion	Enable the Enhanced Sent A - Number Conversion
Type of protocol to use for Supplementary Service call offer	Proprietary UUI protocol
Emergency destination	No external destination associated to the existing public route to the PSTN shall be used for emergency calls
ETSI Diversion supplementary service support towards PSTN	Diverting leg 2 information can be sent to a PSTN.s
Forward switching	Forward switching is not used.

ADC = 1227100012001030002001010010

11 ADDNUM

Additional Number

11.1 FORMAT

ADDNUM = D₁D₂...D₂₀

D₁D₂...D₂₀= 0 - 99999 99999 99999 999999

Additional number for an extension.

11.2 FUNCTION

The parameter states the additional number for an extension. The value must belong to an extension number series and the number must also be assigned to an extension.

11.3 EXAMPLE 1

The additional number shall be 4401.

ADDNUM=4401

11.4 EXAMPLE 2

The additional number shall be 5400000000.

ADDNUM=5400000000

12

ADN

Additional Directory Number

12.1

FORMAT

ADN = $D_1D_2...D_{20}$
 $D_1D_2...D_{20}$ = 00 - 99999 99999 99999 99999
Additional Number for a digital key system telephone.

12.2

FUNCTION

The parameter states an additional directory number for a digital key system telephone.

12.3

EXAMPLE 1

A digital key system telephone should be assigned the additional directory number 5106.

ADN=5106

12.4

EXAMPLE 2

A digital key system telephone should be assigned the additional directory number 2500000000.

ADN =2500000000

13

AGP

Announcement Group Number

13.1

FORMAT

$AGP = D_1D_2$ $D_1D_2 = 0 - 29$ Announcement group.
--

13.2

FUNCTION

The parameter states the number for an AGP in a Private Branch Exchange (PBX) operator case.

13.3

EXAMPLE

The announcement group number is 12.

AGP=12

14

ANCD

ANCD group number

14.1

FORMAT

ANCD = D ₁ D ₂ ...D ₂₀
D ₁ D ₂ ...D ₂₀ = 0 - 99999 99999 99999 99999
Directory number of an ANCD group

14.2

FUNCTION

The parameter states the directory number of the superior ANCD, that is, the ANCD group that the satellite group shall belong to.

14.3

EXAMPLES

14.3.1

EXAMPLE 1

The directory number of the superior ANCD group shall be 80000.

ANCD=80000

14.3.2

EXAMPLE 2

The directory number of the superior ANCD group shall be 8000000000.

ANCD=8000000000

15 ANN

Announcement Number

15.1 FORMAT

ANN = D₁D₂D₃D₄D₅
 D₁D₂D₃D₄D₅ = 1 - 250, 256-65535
 Announcement number.

15.2 FUNCTION

The parameter states the number of the announcement.

Note: If the announcement is resulting in a message which is residing on an RTP resource, i.e. MGU, the values 1-250 and 256 to 65535 are allowed. Values 251 - 255 are reserved for internal use.

15.3 EXAMPLE

The announcement is number 26.

ANN=26

16

ANSW

Answer type

16.1

FORMAT

ANSW = D₁

D ₁ =	A	Automatic answer.
	M	Manual answer.
	N	Neutral selectable answer type.

16.2

FUNCTION

The parameter states how a call to the PBX operator console, all types of consoles, should be answered. The parameter values A and M mean that the answer type cannot be altered from the PBX operator console. The parameter value N means that the answer type can be altered via a button on the PBX operator console.

16.3

EXAMPLE

Set the answer type to manual. It is not possible to alter it from the PBX operator console.

ANSW=M

17

AUD

Audible indication type

17.1

FORMAT

AUD = D₁D₂

D ₁ =	T	Tone burst call
	C	Continuous call
	N	Neutral, selectable type of call
D ₂ =	0	Periodic tone burst (default)
	1	Single tone burst
	2	No tone burst

17.2

FUNCTION

The parameter states the signaling method for calls to the PBX operator consoles symbolic, OPI-II, and OPI 3214. The parameter bit D₁ values T and C mean that the signaling method cannot be altered from the PBX operator console. Parameter value N means that the signaling method can be altered via a button on the PBX operator console.

Continuous call tone however always has normal sound level and cannot be altered.

The parameter bit D₁ is always T for the Operator Assistant.

The parameter bit D₂ can be set to 0, 1, 2 for IP operators. It specifies periodic tone burst, single tone burst, or no tone, when a call is queued at the IP operator. It is set to 0 if not specified.

For operators other than of type 7, it will always be 0.

17.3

EXAMPLE

Set the signaling method to continuous call tone. It is not possible to alter this from the PBX operator console.

AUD=C

18

AUX

Auxiliary Number

18.1

FORMAT

AUX = D ₁ D ₂ ...D ₂₀
D ₁ D ₂ ...D ₂₀ = 0 - 99999 99999 99999 999999 Directory number of a secondary extension.

18.2

FUNCTION

The parameter states the directory number of a secondary extension.

18.3

EXAMPLE

The auxiliary number shall be 4498.

AUX=4498

19 BCAP

Bearer Capability

19.1 FORMAT

BCAP=D ₁ D ₂ D ₃ D ₄ D ₅ D ₆		
64 kbit/s Unrestricted Digital		
D ₁ =	0	Not allowed
	1	Allowed
64 kbit/s Restricted Digital		
D ₂ =	0	Not allowed
	1	Allowed
3.1 kHz Audio		
D ₃ =	0	Not allowed
	1	Allowed
SPEECH		
D ₄ =	0	Not allowed
	1	Allowed
7 kHz Audio (UDI-TA)		
D ₅ =	0	Not allowed
	1	Allowed
16 kbit/s Unrestricted Digital		
D ₆ =	0	Not allowed
	1	Allowed

19.2 FUNCTION

The parameter states the bearer capability of a route. The bearer capability of a route is what type of calls (regarding bandwidth) that are allowed to use a route. The bearer capability of a route is only used for **outgoing** calls. All outgoing calls have a bearer capability request. This bearer capability request is checked against the bearer capability of the possible route choices. Only routes supporting the bearer capability requested for the call can be selected.

64 kbit/s Unrestricted means that the whole bandwidth is used. 64 kbit/s Restricted means that not the whole bandwidth is used. 3.1 kHz audio. Telephony and/or data calls with modem. SPEECH. Telephony calls only. 7 kHz audio (UDI-TA) is used for video-telephony and for high quality ISDN telephony. 16 kbit/s Unrestricted means that 16 kbit/s of the whole bandwidth (64 kbit/s) is used.

If the parameter is omitted, bearer capability SPEECH and 3.1 kHz audio are assumed as default for the route. This means that only calls with bearer capability request Speech or 3.1 kHz audio are allowed to use the route.

Note: Bearer capability 64 kbit/s Unrestricted shall be set if a SIP route shall support MSRP.

Note: The parameter has no relevance whatsoever for incoming calls on the route. For the signaling system DPNSS, DASS, ISDN, H.323 and CCSS7 a bearer capability request (to be used for further routing of the call) will be received as a part of the incoming call. For other signaling systems (CAS) no bearer capability request is received for incoming calls. The bearer capability request SPEECH will be assigned to these calls. If another value than the assigned one is required the assigned bearer capability request SPEECH must be substituted with the required value, see the operational directions for NUMBER CONVERSION AND BEARER CAPABILITY SUBSTITUTION.

19.3

EXAMPLE

The route shall have the following bearer capability:

64 kbit/s unrestricted digital	Allowed
64 kbit/s restricted digital	Not allowed
3.1 kHz audio	Allowed
SPEECH	Allowed
7 kHz audio (UDI-TA)	Not allowed
16 kbit/s unrestricted digital	Not allowed

BCAP = 101100

20 BKG

Back-up group number

20.1 FORMAT

BKG = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	00 - 99999 99999 99999 99999 Directory number of an ACD group.

20.2 FUNCTION

The parameter states the directory number of an ACD group serving as a back-up group.

20.3 EXAMPLES

20.3.1 EXAMPLE 1

The directory number of the back-up group shall be 8500.
BKG=8500

20.3.2 EXAMPLE 2

The directory number of the back-up group shall be 8500000000.
BKG=8500000000

21

BPOS

Board Position

21.1

FORMAT

BPOS = D ₁ D ₂ D ₃ D ₄ -D ₅ -D ₆ D ₇		
D ₁ D ₂ D ₃ =	1-124	LIM number
D ₄ =	A-O	Gateway. One of fifteen, set by a letter from A to O. A is default.
D ₅ =	0-3	Magazine number
D ₆ =	0-7	Board position
D ₇ =	0-3 *	Board position. * Only 0 is valid for LBP22.

21.2

FUNCTION

The parameter states the board position. In the Media Gateway the board concept means a 32-individual group of lines and ports addressed with BPOS values between 1A-0-00 and 1A-3-70, when they are located in gateway A.

The different boards, which have no physical existence, have fix address positions. If used in gateway A they have the following ranges:

Resource types	BPOS values
RTP/H.323 resources	1A-2-00 up to 1A-3-10
ISDN resources	1A-1-00 up to 1A-1-70
Analog extension resources	1A-0-70
Multi party resources	1A-0-00 up to 1A-0-30

21.3

EXAMPLE

The board position is LIM number=2, gateway C, magazine number=3, and position=10.

BPOS=2C-3-10

22 BRDID

Interface numbers for virtual and physical boards

22.1 FORMAT

BRDID =	D ₁ D ₂ D ₃
	D ₁ D ₂ D ₃ = 1-128, interface number

22.2 FUNCTION

The parameter indicates the interface number of a virtual or a physical device board. Virtual boards are used in MX-ONE Lite and MX-ONE Classic. Physical boards are used in the MX-ONE Lite, and MX-ONE Classic.

22.3 EXAMPLE

Board with interface number 117.

BRDID = 117

22.4 TABLE

The composition of the table is based on different sorting principles. The first part of the table is sorted with respect to interface number, the second part with respect to block, or unit, and the third with respect to device board position.

First the virtual boards of the Media Gateway are shown, then the physical device boards of the MX-ONE Classic.

22.4.1 PHYSICAL AND VIRTUAL BOARDS SORTED BY INTERFACE NUMBERS:

Interface Number		Device Board	Board-Handling Function Block	Auto-Init.	Number of Individuals	Remarks
DEC	HEX					
20	# 14	FTU2	FT	Yes	8	1)
20	# 14	FTU2/11	FT	Yes	8	1)
27	# 1B	TLU20	EL7, TL30, TL37, TL38, TL51, TL95	No	30/32	
27	# 1B	TLU76/13 TLU76/3	EL7, TL30, TL37, TL95	No	30/32	1)
48	# 30	TLU76/12 TLU76/2	TL50	No	30/32	1)
52	# 34	TLU45	EL7, TL45	No	24	

Interface Number		Device Board	Board-Handling Function Block	Auto-Init.	Number of Individuals	Remarks
DEC	HEX					
52	# 34	TLU77/3	EL7, TL45	No	23-24	
57	# 39	TLU76/11	SL60	No	30/32	1)
58	# 3A	TLU79/11	SL60	No	8	1) 4 ISDN/BRA
70	# 46	ELU26/12	ITL	No	8	1)
71	# 47	TLU77/11	SL63	No	23-24	
74	# 4A	TLU77/12	TL50	No	23-24	
76	# 4C	TLU75	TL4, TL11, TL25, TL26, TL35, PG3	No	8	1)
95	# 5F	MFU	MF3	Yes	8	
96	# 60	ALU2/11	ALDP	Yes	1	1)
99	# 63	TLU80/11	TL19, TL22, TL49, PG1, RA1	No	4	
100	# 64	TLU76/14	TL81	No	32	
102	# 66	TMU/12	AD	Yes	32	1)
109	# 6D	TLU81	TL12	No	8	1)
110	# 6E	TLU82	TL1, PG3	No	8	1)
115	# 73	SPU4 with DTMF32	AD	No	32	1, 2)
117	# 75	ELU33	KL1, OL	No	16/32	1, 2)
118	# 76	ELU34/1	EL6	No	32	1, 2)
118	# 76	ELU34/2	EL6	No	32	1, 2)
121	# 79	ELU31/3	CTL	Yes	16/32	1, 2, 4)
124	# 7C	TLU83	TL1, TL11, TL25, TL26, TL35, TL72, PG3	No	8/12	1)
125	# 7D	ISDN on MGU, ISDN on MGU2	SL60, SL63	No	32, 24	1, 2)
126	# 7E	TMU/3	AD	Yes	32	1)
126	# 7E	TMU/13	AD	Yes	32	1)
127	# 7F	ELU31/4	CTL	Yes	16/32	1, 2, 4)
128	# 80	ELU34/6	EL6	No	32	1, 2)
128	# 80	ELU34/7	EL6	No	32	1, 2)

- 1) Reading and writing of board R-state is supported. (Not good to have the same board identity for both FTU board types).
- 2) The firmware is down-loadable (single version).
- 3) IPL, TL65, OL, and SIPL all contact RTPCON, which handles all RTP resources.
- 4) 8 base stations can be connected. 32 time slots are occupied in the back plane.

22.4.2

PHYSICAL AND VIRTUAL BOARDS SORTED BY DEVICE BOARD NAME:

Device Board	Board-handling Function Block	Interface Number		Number of individuals	Auto-init	Remarks
		DEC	HEX			
ALU2/11	ALDP	96	# 60	1	Yes	1)
ELU26/12	ITL	70	# 46	8	No	1)
ELU31/3	CTL	121	# 79	16/32	Yes	1, 2, 4)
ELU31/4	CTL	127	# 7F	16/32	Yes	1, 2, 4)
ELU33	KL1, OL	117	# 75	16/32	No	1, 2)
ELU34/1	EL6	118	# 76	32	No	1, 2)
ELU34/2	EL6	118	# 76	32	No	1, 2)
ELU34/6	EL6	128	# 80	32	No	1, 2)
ELU34/7	EL6	128	# 80	32	No	1,2)
FTU2	FT	20	# 14	8	Yes	1)
FTU2/11	FT	20	# 14	8	Yes	1)
ISDN/ MGU, MGU2, MGU2-X	SL60 SL63	125	#7D	32 24	No	1,2
MFU	MF3	95	# 5F	8	Yes	
SPU4 with DTMF32 fw	AD	95	#5F	8	Yes	
SPU4	RA1	122	# 7A	8/16	No	1, 2)
TLU20	EL7, TL30, TL37, TL38, TL51, TL95	27	# 1B	30/32	No	
TLU45	EL7, TL45	52	# 34	24	No	
TLU75	TL4, TL11, TL25, TL26, TL35, PG3	76	# 4C	8	No	1)
TLU76/11 TLU76/1	SL60, TL99	57	# 39	30/32	No	1)
TLU76/12 TLU76/2	TL50	48	# 30	30/32	No	1)
TLU76/13 TLU76/3	EL7, TL30, TL37, TL38, TL95	27	# 1B	30/32	No	1)
TLU76/14 TLU76/4	TL81	100	# 64	32	No	
TLU77/11 TLU77/1	SL63	71	# 47	23-24	No	
TLU77/12 TLU77/2	TL50	74	# 4A	23-24	No	
TLU77/13 TLU77/3	EL7, TL45	52	# 34	23-24	No	
TLU79/11	SL60	58	# 3A	8	No	1, 5)
TLU80/11	TL19, TL22, TL49, PG1, RA1	99	# 63	4	No	1)

Device Board	Board-handling Function Block	Interface Number		Number of individuals	Auto-init	Remarks
		DEC	HEX			
TLU81	TL12	109	# 6D	8	No	1)
TLU82	TL1, PG3	110	# 6E	8	No	1)
TLU83/1, TLU83/2	TL1, TL11, TL25, TL26, TL35, TL72, PG3	124	# 7C	8/12	No	1)
TMU/3	AD	126	# 7E	32	Yes	1)
TMU/13	AD	126	# 7E	32	Yes	1)
TMU/12	AD	102	# 66	32	Yes	1)

- 1) Reading and writing of board R-state is supported.
- 2) The firmware is down-loadable (single version).
- 3) IPL, TL65, OL, and SIPL all contact RTPCON, which handles all RTP resources.
- 4) 8 base stations can be connected. 32 time slots are occupied in the back plane.
- 5) 4 ISDN, BRA

23

BSEC

Boss-Secretary Category

23.1

FORMAT

BSEC = D₁

D ₁ =	0	None (Default).
	1	Secretary.
	2	Boss.

23.2

FUNCTION

The parameter states the Boss-secretary category code.

23.3

EXAMPLE

The Boss-secretary category is boss.

BSEC=2

24

BTON

Type of external B-number

24.1

FORMAT

BTON = D₁

D ₁ =	0	Unknown B-number.
	1	International B-number.
	2	National B-number.
	3	Network specific B-number.
	4	Local directory B-number.
	5	Unknown private B-number. Q-signalling.
	6	Local private B-number. Q-signalling.
	7	Level 1 regional B-number. Q-signalling.

24.2

FUNCTION

The parameter states the type of the external B-number for the destination.

Note: Overrides the tone for call set with the RODDI command.

24.3

EXAMPLE

The type of external B-number for the destination is an international number.

BTON=1

25CALALT

Call Alternative

25.1FORMAT

CALALT = D ₁ D ₂	
D ₁ =	Call alternative
0	Not ringing.
1	Ringing.
2	Ringing after delay.
3	Only the first ringing period (always muted).
4	Ringing period after delay (always muted).
5	Immediate voice connection with tone burst, controlled by a function key.
6	Automatic immediate voice connection with tone burst.
D ₂ =	Programming of call alternative from extension.
0	Programming is permitted.
1	Programming is not permitted.

25.2FUNCTION

The first parameter states the call alternative for the own directory number, additional directory number, or multiple representation number. The following default values apply if the parameter is omitted:

Table 1 D1 default values

Default		Range
1	for Own directory number	0-6
0	for additional directory number	0-6
0	for Line pick-up number	0-4

The second parameter determines if the call alternative can be set from the extension. It only applies for the Own Directory Number extension.

Note: CALALT D₂ is applicable only for ODN extensions.

25.3EXAMPLE 1

The call alternative is to be immediate voice connection with tone burst, controlled by a function key. The call alternative can be set from the extension.

CALALT=50

26

CALLST

ISDN call state

26.1

FORMAT

CALLST = D_1D_2

D_1D_2 = 0 - 25
 ISDN call state.

26.2

FUNCTION

The parameter states an ISDN call state.

26.3

EXAMPLE

The ISDN call state is 5.

CALLST=5

27

CALT

Call type

27.1

FORMAT

CALT = D ₁			Parameter OACC should be stated	Parameter ROU should be stated.
D ₁ =	0	Emergency calls	YES	NO
	1	Rerouted calls.	YES	NO
	2	Diverted/deflected calls	YES	NO
	3	Internal calls	YES	NO
	4	(Not used)		
	5	Normal external line (exchange line)	NO	YES
	6	Automatic tie line	YES	YES
	7	Direct indialling	YES	YES

27.2

FUNCTION

The parameter states which type of a call it is.

Parameter CALT is intimately affiliated to parameters OACC and ROU (Direct indialling number to PBX operator or common PBX operator number or route number). The table above states when each parameter, OACC and ROU, should be given or omitted for the different CALT values.

For the call types rerouted, diverted and internal calls (CALT=1, 2 and 3) a common PBX operator number is used in parameter OACC. For calls from an automatic tie line circuit (CALT=6) a common PBX operator number is used in parameter OACC. For calls from direct indialling circuit (CALT=7) a direct indialling number to the PBX operator is used in parameter OACC. For emergency call (CALT=0) an emergency number to the PBX operator is used in parameter OACC.

27.3

EXAMPLE 1

The call type is direct indialling line.

CALT=7

In this case parameters OACC and ROU should be stated together with parameter CALT. OACC is the direct indialling number to the PBX operator.

27.4

EXAMPLE 2

The call type is internal calls.

CALT=3

In this case parameter OACC should be stated but not parameter ROU. OACC is the common call number to PBX operators.

27.5

EXAMPLE 3

The call type is exchange line.

CALT=5

In this case parameter ROU should be stated but not parameter OACC.

28

CBCS

Call By Call Service number

28.1

FORMAT

CBCS = D₁D₂

D₁D₂ = 0-31

The CBC service number for the destination.

Note: Refer to network documentation for service numbers supported by the public network.

28.2

FUNCTION

The parameter states the service to be requested from the ISDN network.

28.3

EXAMPLE

Service number 16 is to be requested for the call.

CBCS=16

29

CCHECK

Character Check

29.1

FORMAT

CCHECK = D₁D₂D₃

D₁D₂D₃= YES Character check is to be applied.

NO Character check is not to be applied.

29.2

FUNCTION

The parameter states whether a character check is to be applied in the signal interface between the PBX and the information system with regard to parity and framing errors. If CCHECK is set to NO, parity errors and framing errors are ignored.

29.3

EXAMPLE

A character check shall be applied.

CCHECK=YES

30 CCLDEV

Control channel identity

30.1 FORMAT

CCLDEV = D₁D₂ ...D₁₄

D₁D₂ ...D₁₄ = Control channel parameter, 1-14 alphanumeric characters.

30.2 FUNCTION

The parameter states the identity of the SOM control channel.

30.3 EXAMPLE

CONCHAN1 shall be the name of the control channel.

CCLDEV=CONCHAN1

31

CDU

Equipment position for call metering equipment

31.1

FORMAT

CDU = D ₁ -D ₂ D ₃ -D ₄ D ₅		
D ₁ = 0-3		Magazine number
D ₂ = 0-7		Board position
D ₃ = 0-3 *		Board position. * Only 0 is valid for LBP22.
D ₈ D ₉ = 1 - 15		Individual on CDU1 and CDU2

31.2

FUNCTION

The parameter states a call metering individual to the system. It affiliates the individual on the call metering board (CDU) to the individual on the external line board (TLU).

31.3

EXAMPLE

The equipment position is magazine number = 3, board position = 70 and individual number = 03.

CDU = 3-70-03

32 CENUM

Common abbreviated number for central answer position or customer centralized operator

32.1 FORMAT

CENUM = D₁D₂ ...D₁₀

D₁D₂ ...D₁₀ = 0-99999 99999

Common abbreviated number that contains the external number of the central answer position or the customer centralized operator.

32.2 FUNCTION

The parameter states a common abbreviated number which can be translated to a central operator answer position number or customer centralized operator number.

32.3 EXAMPLE 1

Set the number for the central answer position in the network as abbreviated number 080.

CENUM=080

32.4 EXAMPLE 2

Set the number for the customer centralized operator in the network as abbreviated number 180.

CENUM=180

33

CHL

Channel number

33.1

FORMAT

$CHL = D_1D_2D_3$ $D_1D_2D_3 = 0-255$ Channel number.

33.2

FUNCTION

This parameter specifies the number for a channel for external. A channel consists of a connection between an exchange and external paging equipment. The channel can administer one call to the paging equipment at a time. A channel belongs to a specific search area and goes to a specific paging unit.

33.3

EXAMPLE

The channel number is 33.

CHL=33

34 CHO

34.1 CHO - AUTOMATIC NETWORK CALL DISTRIBUTION

Choice

34.1.1 FORMAT

CHO = D₁
 D₁= 1-3
 Sequence number for alternative GICI communication channel.

34.1.2 FUNCTION

The parameter states the sequence number for an alternative GICI communication channel.

34.1.3 EXAMPLE

State the second alternative GICI channel to establish an information channel from one ANCD node to another within the ANCD network.

CHO=2

34.2 CHO - LEAST COST ROUTING

Route choice

34.2.1 FORMAT

CHO = D₁
 D₁ = 1-7
 The sequence number for alternative route choices.

34.2.2 FUNCTION

The parameter states the sequence number for route choices.

34.2.3 EXAMPLE

State the second alternative route selection for the ordinary route to an external destination.

CHO=2

34.3 CHO - PBX OPERATOR TRAFFIC

Choice

34.3.1 FORMAT

CHO = D ₁		
D ₁ =	1	First choice
	2	Second choice

34.3.2 FUNCTION

The parameter states whether a PBX operator should answer calls from a specific origin group (CORG) as first choice or second choice.

34.3.3 EXAMPLE

Calls are answered as first choice.

CHO=1

34.4 CHO - ROUTE DATA

Choice

34.4.1 FORMAT

CHO = D ₁	
D ₁ =	0-7 Sequence number for choice in alternative routing.

34.4.2 FUNCTION

The parameter states the sequence number for the route choice in alternative routing. Up to eight route choices may be defined for a destination, but this includes route choices for customers as well.

CHO=0 is default, and is the same as the primary choice.

34.4.3 EXAMPLE

State the second alternative route choice to an external destination.

CHO = 2

35

CHRVAL

Character Number for Special Characters

35.1

FORMAT

CHRVAL = D₁

D₁ = 0-7

Number for a special character on the display included in a text string.

35.2

FUNCTION

The parameter states the number for a special character for which a specific bit matrix may be assigned. The given number is equal to the corresponding ASCII value, that is, the special character 0 has the value hexadecimal 00, character 1 has the value hexadecimal 01, and so on.

The character may be assigned to a certain position in text strings that are to be presented on the display of the digital key system telephone for various traffic cases or states.

35.3

EXAMPLE

Design a new layout for the special character hexadecimal 04.

CHRVAL=4

36

CIDREQ

Customer Identity Request Announcement Number

36.1

FORMAT

CIDREQ = $D_1D_2D_3$

$D_1D_2D_3$ = 0 - 250

Customer identity request announcement number.

0 signifies that no customer identity request announcement is to be provided.

36.2

FUNCTION

The parameter states the number of the customer identity request announcement for the Automatic Call Distribution (ACD) group.

36.3

EXAMPLE

The CIDREQ is number 23.

CIDREQ=23

37 CLASS

Abbreviated number class

37.1 FORMAT

<p>CLASS = D₁</p> <p>D₁ = 0-3 Class for a common abbreviated number.</p>
--

37.2 FUNCTION

The parameter states a traffic class for a common abbreviated number.

37.3 EXAMPLE

A class shall be stated for a common abbreviated number. The class shall be abbreviated number class 3.

CLASS=3

38

CLT

38.1

CLT - AUTOMATIC CALL DISTRIBUTION

Clerical time for ACD members

38.1.1

FORMAT

CLT = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	0 - 999 Time in seconds.

38.1.2

FUNCTION

The parameter states a time delay, prior to free marking the agent position, to receive new calls. Each group member assigned to the agent position can have different clerical times.

38.1.3

EXAMPLE

Clerical time for a group member shall be 120 seconds.

CLT=120

39

CNTRL

Controlling side indicator

39.1

FORMAT

CNTRL=D₁D₂D₃

D ₁ D ₂ D ₃ =	NO	The cooperating exchange is the controlling exchange for the stated trunk, or the function is not in use.
	YES	The own exchange is the controlling exchange for the stated trunk.

39.2

FUNCTION

The parameter states the priority for trunk seizure in the case of dual seizure. If dual seizure occurs, the call processed by the controlling exchange is allowed to be completed while the other call will be rejected. Also used for ITU-T method 2 line selection.

Note: The parameter is only used for CCSS7 routes.

39.3

EXAMPLE

The own exchange must have control over the stated trunk.

CNTRL = YES

40

CNTRY

Country code

40.1

FORMAT

CNTRY= D ₁			
	D ₁ =	0	Other market than Russia (Default value)
		1	Russian market. (Part of the Market Group 2 Application system).

40.2

FUNCTION

The parameter defines country code.

40.3

EXAMPLE

Set the country code to Russian market.

CNTRY=1

41

COACC

Common PBX operator access code

41.1

FORMAT

COACC = D ₁ D ₂ ...D ₂₀		
D ₁ D ₂ ...D ₂₀ =	0 - 99999 99999 99999 99999	
	Call number to PBX operator.	

41.2

FUNCTION

The parameter states the customer group common call number to a PBX operator for internal, diverted and rerouted calls. The number permits all customers to use the same common call number to a PBX operator for internal, diverted and rerouted calls, and still be connected to the PBX operator of their own customer.

41.3

EXAMPLE

09 is to be used as the customer group common call number to a PBX operator for internal, diverted and rerouted calls.

COACC=09

42

CODE

Alarm group code

42.1

FORMAT

CODE = D₁D₂D₃D₄

D₁D₂D₃D₄ = 0-9999

Alarm group code.

42.2

FUNCTION

This parameter specifies the alarm group code which is to be transmitted to the paging receiver's display when an alarm is initiated from an extension with the aid of a special procedure for initiating alarms. The alarm group code is common to a group of extensions, for example a storey in a building, and specifies the origin of the alarm. If no alarm group code is specified, an A- number is sent instead of an alarm group code when initiating alarms from an extension and code 0000 is sent when initiating alarms from an external line.

42.3

EXAMPLE

The alarm group code is 9000.

CODE=9000

43CODECS

Coder/Decoder priority list

43.1FORMAT

CODECS = D₁- ... -D₁₃
D₁ ... D₁₃ = From 1 to 13 hexadecimal values (0-C) separated by a dash (-).
Each value corresponds to an audio CODEC according to the table below.

Number	CODEC	Supported
0	G.729 annex A and annex B	X
1	G.729 annex B	X
2	G.729 annex A	X
3	G.729	X
4	G.723.1	
5	G.723.1 annex C	
6	GSM Enhanced Full Rate	
7	GSM Full Rate	
8	G.728	
9	G.711 A-law, 56 kbit/s	
A	G.711 μ-law, 56 kbit/s	
B	G.711 A-law, 64 kbit/s	X
C	G.711 μ-law, 64 kbit/s	X

43.2

FUNCTION

The virtual RTP resource boards used for H.323 traffic are capable of receiving and transmitting media using different types of CODECs. This parameter states, on a per-route basis, the priority-ordered list of the audio CODECs to be used for media reception/transmission among those supported by these boards.

Priorities in the CODECs list are established according to the preferences of the system administrator. In this way, D₁ represents the preferred CODEC in the list.

The default value of the priority list is 9-A-B-C-0-1-2-3-4-5-6-7-8.

There is no need to specify all the positions of the list. If the parameter contains less than thirteen CODECs, the list is completed by the rest of audio CODECs ordered according to the default value.

It is not possible to repeat the same audio CODEC value in the parameter.

43.3

EXAMPLE 1

The preferred CODECs shall be G.711 A-law (64 kbit/s), G.711 μ -law (64 kbit/s) and G.729 annex A.

CODECS = B-C-2

The priority list will be B-C-2-9-A-0-1-3-4-5-6-7-8.

44COM

Communication channel connection type for SOM

44.1FORMAT

COM = D ₁ D ₂ D ₃		
D ₁ =	Y, YES	The channel is connected using a V.24 port for both ECL (event channel) and CCL (control channel).
	N, NO	The channel is connected using a V.24 port for CCL, and USB for ECL.
	U, USB	The channel is connected using a USB port for both ECL and CCL.

44.2FUNCTION

The parameter states if the SOM channel is connected through a V.24 port, a USB port, or mixed.

The table below shows which devices are in use for the different values given:

COM	ECLDEV	CCLDEV
YES	/dev/ttyS1	/dev/ttyS0
NO	/dev/ttyDEV0	/dev/ttyDEV0
USB	/dev/ttyUSB1	/dev/ttyUSB0

44.3EXAMPLE

The channel is connected through a V.24 port for both ECL and CCL.

COM = YES

45

CONF

Conflict number flag

45.1

FORMAT

CONF = D ₁
D ₁ = Y Number is a conflict number.
N Number is not a conflict number.

45.2

FUNCTION

The parameter states if the analyzed number is a conflict number or not.

45.3

EXAMPLE

The analyzed number is a conflict number.

CONF = Y

46

CONT

Continuous Announcement Number

46.1

FORMAT

CONT = D ₁ D ₂ D ₃ D ₄ D ₅		
D ₁ D ₂ D ₃ D ₄ D ₅ =	0, 1-254, 256 - 65535	
	Continuous announcement number.	0 signifies that no continuous announcement is to be provided. Values 1-254 are continuous announcement numbers. All values can be used with MGU.
	251	Tone message, Music-on-hold input 1 ¹⁾
	252	Tone message, Music-on-hold input 2 ^{*)}
	253	Tone message, Music-on-hold input 3 ^{*)}
	254	Silence, no announcement or tone
	256 - 65535	are valid only if the resulting message is MGU based.

^{*)} If the value of the CONT parameter is in the range 251-253, at least one Tone and Multiparty Unit (TMU) in each MX-ONE Classic LIM must be connected to an auxiliary device, for example, tape recorder, live microphone, or radio set, to have consistent behavior across all Media Gateway and LIM types

Note: Values 251-253 are not supported/valid for TMU/13. In case no TMU is used, the values will be valid towards the MGU.

If the value of the CONT parameter is 254, only silence is provided.

46.2

FUNCTION

The parameter states the number of the continuous announcement message for the ACD, Group hunting group, operator call origin group, or for the extension individuals.

46.3

EXAMPLE

The CONT is to be number 22.

CONT = 22

47

CORG

Call Origin Group

47.1

FORMAT

$CORG = D_1D_2D_3$

$D_1D_2D_3 = 1 - 250$

Call origin group.

47.2

FUNCTION

The parameter states the call origin group number. A unique combination of call type, route number (if any) and PBX operator call number form a call origin type. Different such origin types can be combined into one call origin group. For each such call origin group, the PBX operators state whether they should answer calls from the call origin group as first choice or second choice.

47.3

EXAMPLE

The CORG is group 27.

CORG=27

48 COST

Cost per Unit Pulse

48.1 FORMAT

$COST = D_1D_2D_3D_4$

$D_1D_2D_3D_4 = 0 - 9999$

Cost per unit pulse value.

48.2 FUNCTION

The parameter states the value of cost per unit pulse associated with a particular charging tariff model.

48.3 EXAMPLE

The cost per unit pulse will be 4432.

COST=4432

49

COUNT

Counter

49.1

FORMAT

COUNT = D₁

- | | | |
|------------------|---|--|
| D ₁ = | 0 | No printout of the counter value. |
| | 1 | Printout of the counter value. |
| | 2 | Printout and reset of the counter value. |

49.2

FUNCTION

The number of times that a common abbreviated number has been used is registered by a counter. The parameter states whether a printout and reset of the counter's contents is to be made.

49.3

EXAMPLE

Print the number of times the common abbreviated number has been used.

COUNT = 1

50

CPN

Common paging number

50.1

FORMAT

CPN = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	00 - 99999 99999 99999 99999 Common Paging Number.

50.2

FUNCTION

This parameter specifies a common directory number for a group of individuals with paging receivers who are to be paged simultaneously. The common paging number shall be included in the paging number series.

50.3

EXAMPLE

A group of individuals, all of whom shall be accessible by means of a single paging call, are provided with paging receivers all of which have been encoded for the same group paging code. It shall be possible to page the group in the exchange with the aid of the common paging number 7933.

CPN = 7933

51

CSIU

Call Service Information Users

51.1

FORMAT

CSIU=D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
CLASS E		
D ₁ =	0	Allowed
	1	Not allowed
PBX Operator		
D ₂ =	0	Allowed
	1	Not allowed
Data Extension		
D ₃ =	0	Allowed
	1	Not allowed
CLASS D		
D ₄ =	0	Allowed
	1	Not allowed
CLASS C		
D ₅ =	0	Allowed
	1	Not allowed
CLASS B		
D ₆ =	0	Allowed
	1	Not allowed
CLASS A		
D ₇ =	0	Allowed
	1	Not allowed
Normal Extension		
D ₈ =	0	Allowed
	1	Not allowed

51.2

FUNCTION

The parameter states which categories that are allowed to use this route. Category types that do not fit in as PBX operator or normal extension can be assigned one of the classes A, B, C, D, or E.

The parameter is used for all kinds of routes. Defined value will be ignored when the route is used for incoming traffic. Default value for all category types is 0.

51.3 EXAMPLE

CLASS E	Not allowed
PBX operator	Allowed
Data extension	Not allowed
CLASS D	Not allowed
CLASS C	Allowed
CLASS B	Not allowed
CLASS A	Not allowed
Normal extension	Not allowed

CSIU = 10110111

52

CSP

Extension common service profile.

52.1

FORMAT

CSP = D1D2D3		
D1D2D3 =		Extension common service profile 1-500.

52.2

FUNCTION

The parameter states the extension common service profile defined with command `extension_profile`.

52.3

EXAMPLE

10 shall be the extension common service profile.
CSP = 10

53 CTYCDS

City codes

53.1 FORMAT

CTYCDS= D ₁ D ₂ D ₃ D ₄ D ₅		
D ₁ D ₂ D ₃ D ₄ D ₅ =	0 - 99999	Area code for the connected city (or cities)

53.2 FUNCTION

The parameter defines the access codes to the cities to which the MX-ONE is connected. This SOM parameter is only applicable when CNTRY=1 (Russia).

53.3 EXAMPLE

Set the area codes for the connected cities to 812 and 813.

CTYCDS=812&813

54

CUST

54.1

CUST

Customer number

54.1.1

FORMAT

CUST = D₁D₂D₃D₄D₅
 D₁D₂D₃D₄D₅= 1- 50000
 Customer number
Note: 0 is valid only for Cordless extension.

54.1.2

FUNCTION

The parameter states the customer number.

Note: Valid for Analogue extension

If CUST is omitted in command EXCUC the customer affiliation of the extension will be removed.

Note: Valid for Cordless extension

When the CUST is 0, the extension has no customer number.

Note: Valid for Digital Key System Telephone

If CUST is omitted in command KSCUC, the customer affiliation of the extension will be removed.

Note: Valid for ISDN Terminal

When CUST is omitted in command ITCUC, the customer number will be removed.

54.1.3

EXAMPLE

The customer number shall be 5.

CUST = 5

54.2

CUST - PBX OPERATOR TRAFFIC

Customer number

54.2.1

FORMAT

CUST = D₁D₂D₃D₄D₅
 D₁D₂D₃D₄D₅= 1- 50000
 Customer numberR.

54.2.2 FUNCTION

CALT 0

Call type 0 is an emergency call which defaults to all customer numbers.

CALT 1-3

The parameter CUST is closely associated with the parameters OACC and CALT. CUST indicates the call origin group to be seized when an extension dials the customer group's common PBX operator number after a call has been diverted or rerouted to that number.

CALT 4,5

The parameter CUST affiliates the route to a customer. On rerouting to a night service position the call is directed to that customer's night service position.

CALT 6,7

The parameter CUST affiliates the OACC number to a customer. On rerouting to a night service position the call is directed to that customer's night service position.

54.2.3 EXAMPLE 1 (FOR CALT 3)

For customer number 3, call origin group is 1, PBX operator common access code is 2540, and call type is 3.

CORG=1,CALT=3,OACC=2540,CUST=3;

54.2.4 EXAMPLE 2 (FOR CALT 7)

For customer number 3, call origin group is 1, PBX operator common access code is 4000, call type is 7, and route number is 3.

CORG=1,CALT=7,ROU=3,OACC=4000,CUST=3;

54.2.5 EXAMPLE 3 (FOR CALT 4)

For customer number 3, call origin group is 1, call type is 4, and route number is 3.

CORG=1,CALT=4,ROU=3,CUST=3;

55

DATE

Date

55.1

FORMAT

DATE = D₁D₂D₃D₄-D₅D₆-D₇D₈

D₁D₂D₃D₄ = 0000 - 9999
Year

D₅D₆ = 01 - 12
Month

D₇D₈ = 01 - 31
Day

55.2

FUNCTION

The parameter defines the date when measurement takes place.

55.3

EXAMPLE

Traffic measurement takes place on 2 July 2002.

DATE = 2002-07-02

56DAY

56.1DAY

Day group

56.1.1FORMAT

DAY = D ₁ D ₂ D ₃		
D ₁ D ₂ D ₃ =	M-F	Monday to Friday
	SAT	Saturday
	SUN	Sunday

56.1.2FUNCTION

The parameter states the type of day in the week.

56.1.3EXAMPLE

The type of day is Saturday.

DAY = SAT

56.2ROUTE DATA

Day Number

56.2.1FORMAT

DAY = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	0 - 99999 99999 99999 99999 Directory number of day service position.

56.2.2FUNCTION

The parameter states a directory number to which calls on incoming routes, shall be connected to during day service.

For direct indialing lines, routes or customer-dependent day service positions, the parameter states the directory number to which a call shall be rerouted to due to, for example, no answer.

The directory number may be:

- extension
- individual PBX operator number
- group number (Group hunting number (PBX) or common bell group)

- direct inward system access (DISA)
- common PBX operator number on direct in-dialling traffic and tie line traffic.
- common abbreviated number

56.2.3

EXAMPLE

The day service position shall be the holder of directory number 5196.

DAY = 5196

57

DEST

External destination

57.1

FORMAT

DEST = D ₁ D ₂ ...D ₁₀		
D ₁ D ₂ ...D ₁₀ =	0 - 99999 99999	Destination code for external traffic.

57.2

FUNCTION

The parameter states a destination code for external traffic.

57.3

EXAMPLE

State 00 as destination code for external traffic.

DEST = 00

58

DFMT

Directory Number Format

58.1

FORMAT

$$\text{DFMT} = D_1 D_2$$

$$D_1 D_2 = 2 - 20$$

Number of digits in the directory number.

58.2

FUNCTION

The parameter states the format, that is, the exact quantity of directory number digits in the interface between the interception computer and the system. The directory number format can be determined by the miniformats (if any) of the interception computer, or by the maximum length of the directory number.

If for example, the interception computer requires 4 digits and the maximum length of the directory number is 3 digits, then the format will be set to 4 digits. If the interception computer requires at least 4 digits and the maximum length of the directory number is 5 digits, then the format is set to 5 digits.

The directory number format can be set to 20 digits since the maximum length of a network number is 20 digits.

If there are directory numbers with fewer digits than the indicated format, these are right-justified and filled to the left with the filler character up to the indicated format of the Private Branch Exchange (PBX). For example, number 123 is sent as 0123 to the interception computer if the filler character was set to character 0, and the DFMT was set to 4.

If the interception computer sends a directory number beginning with one or more filler characters, these will be deleted in the subsequent processing in the PBX. For example, 0123 will be processed as 123 in the PBX if the filler character was set to character 0.

58.3

EXAMPLE

The directory number format is 4 digits.

DFMT = 4

59DIG

59.1DIG - DIGITAL KEY SYSTEM TELEPHONE

Digit or Personal Number List

59.1.1FORMAT

DIG = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	0-9 Digits A = Character * B =Character #

Table 2 DIG for KSFKC command when FCN=PEN

DIG = D ₁ D ₂	
D ₁ D ₂ =	1-10 Personal number list

Table 3 DIG for KSFKC command when FCN=PEN and BSEC category=1 (secretary).

DIG = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	00 - 99999 99999 99999 99999 DIG may contain up to 20 characters

59.1.2FUNCTION

The parameter states the number information for name selection numbers. When used for the Personal number key, FCN = PEN, the parameter states the list number associated with the key. The allowed values in this case are from 1 to 5.

In case of a DTS with Boss-secretary category as secretary (1), the allowed values are up to 20 digits, it indicates the boss directory number for secretary.

Wait for second dial tone should never be stated for name selection numbers.

59.1.3EXAMPLE 1

When a key is pressed, a number for a call to a subscriber, who is accessed with route access code 00, area code 08 and subscriber number 368476, should take place.

DIG = 0008368476

59.1.4EXAMPLE 2

When a key is pressed the Call diversion procedure that is given with *21* and diversion should take place to extension 24019. The procedure is ended with #.

DIG = A21A24019B

59.1.5 EXAMPLE 3

The personal number key interacts with list 4.

DIG = 4

59.1.6 EXAMPLE 4

The personal number key interacts with the boss directory number 2314.

DIG = 2314

59.2 DIG - INFORMATION SYSTEM

Digit

59.2.1 FORMAT

DIG = D ₁ D ₂ ...D ₂₀			
D ₁ D ₂ ...D ₂₀ =	0-9	Digits	
	A	Character *	
	B	Character #	

59.2.2 FUNCTION

The parameter states digit information for establishment of message waiting connection.

If the information system is located in own exchange, DIG is the PBX group number or directory number for the analog port or the IP extension.

The directory number format can be set to 20 digits since the maximum length of a network number is 20 digits. The combination of node number and extension number must be maximum 20 digits.

59.2.3 EXAMPLE

59.2.3.1 EXAMPLE 1

Connection to directory number 312 is required.

DIG = 312

59.2.3.2 EXAMPLE 2

Connection to information system in exchange number 30 and directory number 456 is required.

DIG = 30456

59.2.3.3

EXAMPLE 3

Procedure #91# is provided on the connection.

DIG = B91B

60

DIR

Directory Number

60.1

FORMAT

Table 4 Format for directory numbers in general, except for the types stated in table 5. (2 - 20 digits)

DIR = D ₁ D ₂ ...D ₂₀
D ₁ D ₂ ...D ₂₀ = 00 - 99999 99999 99999 99999
Directory number of a user.

Table 5 Format for Analog extension, Abbreviated Dialing (PBX operator), Common bell group. (1 - 20 digits)

DIR = D ₁ D ₂ ...D ₂₀
D ₁ D ₂ ...D ₂₀ = 00 - 99999 99999 99999 99999
Directory number of a user.

60.2

FUNCTION

The parameter states a directory number for an extension, an operator, a group member or a group.

60.3

EXAMPLE 1

The directory number shall be 4432.
DIR = 4432

60.4

EXAMPLE 2

The directory number shall be 3400000000.
DIR = 3400000000

61

DIRK

Directory Number and Key Placing

61.1

FORMAT

DIRK = D₁D₂...D₂₀ - D₂₁D₂₂D₂₃

D₁D₂...D₂₀= 00 - 99999 99999 99999 99999
Extension number.

D₂₁D₂₂D₂₃= Key placing (see parameter KEY).
Older phone models use letters and digits, like A7, C4, and so on.

61.2

FUNCTION

The parameter states both the extension number and the key placing.

61.3

EXAMPLE 1

Extension with number 1147 and key placing 37.

DIRK = 1147-37

61.4

EXAMPLE 2

Extension with number 5500000000 and key placing 33.

DIRK = 5500000000-33

62

DISL

Disturbance Level

62.1

FORMAT

$$\text{DISL} = D_1 D_2 D_3$$

$D_1 D_2 D_3 =$ 10-128
Disturbance level

62.2

FUNCTION

The parameter states the number of consecutive, faulty seizures and for the same external line that is tolerated before the external line is given a disturbance marking.

A disturbance marked external line is only selected when no disturbance free lines are available.

It should be noted that DISL must not be assigned a too low value as the external line can then be marked for disturbance due to correct seizure of so short duration that they have been registered as incorrect. For example a call to a busy subscriber during busy hour.

62.3

EXAMPLE

10 incorrect seizures in succession are required to give the external line a disturbance marking.

DISL = 10

63 DISPOS

Display Conversion Table Position

63.1 FORMAT

DISPOS = D₁D₂
D₁D₂= 20-7E, A0-FF
Display conversion table position in hexadecimal format.

63.2 FUNCTION

The parameter states the positions in the ISO 8859-1 code table used to convert the characters in the text strings, which are to be presented on the display of the telephone for various traffic cases or states, into the values that the display can handle. For the allowed values, see figure Character Code Set below.

MSB: Most Significant Byte

MSB \ LSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			SP	0	@	P	·	p	À	á	NSBP	·	À	Ð	à	ð
1			!	1	A	Q	a	q	Č	č	ı	±	Á	Ñ	á	ñ
2			“	2	B	R	b	r	Ď	ď	¢	²	Â	Ò	â	ò
3			#	3	C	S	c	s			£	³	Ã	Ó	ã	ó
4			\$	4	D	T	d	t	Ě	ě	¤	ˆ	Ä	Ô	ä	ô
5			%	5	E	U	e	u	Ě	ě	¥	µ	Å	Ö	å	ö
6			&	6	F	V	f	v	É	é	¦	¶	Æ	Ö	æ	ö
7			·	7	G	W	g	w	Ĺ	ĺ	§	·	Ç	×	ç	÷
8			(	8	H	X	h	x	Ň	ň	¨	·	È	Ø	è	ø
9			)	9	I	Y	i	y	Ř	ř	©	¹	É	Ù	é	ù
A			*	:	J	Z	j	z	Š	š	®	º	Ê	Ú	ê	ú
B			+	;	K	[	k	{	Ť	ť	«	»	Ë	Û	ë	û
C			,	<	L	\	l	|	Ů	ů	¬	¼	İ	Ü	ı	ü
D			-	=	M	]	m	}	Ů	ů	SHY	½	Í	Ý	í	ý
E			.	>	N	^	n	~	Ů	ů	®	¾	Î	Þ	î	þ
F			/	?	O	_	o		Ž	ž	ˆ	¸	Ï	ß	ï	ÿ

MSB: Least Significant Byte

Figure 1: Character Code Set (ISO 8859-1)

63.3 EXAMPLE

Character ñ is concerned.

DISPOS = F1

64

DIST

Disturbance time

64.1

FORMAT

$DIST = D_1D_2D_3$

$D_1D_2D_3 = 005 - 050$

Disturbance time in seconds.

64.2

FUNCTION

Call duration times shorter than the stated disturbance time will be registered as a disturbance. The external line informs the system every time a call duration is shorter than the time specified in the DIST-parameter.

64.3

EXAMPLE

Send a disturbance marking if the call duration is shorter than 5 seconds.

DIST = 005

65 DISTNO

Distribution number

65.1 FORMAT

DISTNO = D₁D₂...D₂₀

D₁D₂...D₂₀= 0 - 99999 99999 99999 99999

Distribution number to a satellite group.

65.2 FUNCTION

The parameter states the distribution number to a satellite group in another node. Complete number to a satellite group for call distribution. If an ANCD group and a satellite group are located in the same node, this parameter is not used. If the parameter is omitted, the directory number of a satellite group will be used.

65.3 EXAMPLE

The number of the satellite group is 80200000 and the destination number is 02. The distribution number to the satellite group shall be 0280200000.

DISTNO = 0280200000

66

DISVAL

Display Conversion Table Value

66.1

FORMAT

DISVAL = D₁D₂D₁D₂= 00-07, 20-7E, A0-FF

Display conversion table values in hexadecimal format.

66.2

FUNCTION

The parameter states the conversion values of the positions in the ISO 8859-1 code table used to convert the characters in the text strings, which are to be presented on the display of the digital key system telephone for various traffic cases or states, into the values that the display can handle.

For the allowed values, see 2 Alphanumerical Telephone Display Character Set on page 90

Note: Hexadecimals 00-07 are allowed for special characters.

66.3

EXAMPLE

Character ñ is concerned.

DISVAL = EE

D2 \ D1	0	2	3	4	5	6	7	A	B	C	D	E	F
0	CG RAM (1)		0	@	P	`	F		-	9	E	Q	P
1	(2)	!	1	A	Q	a	4	■	7	3	4	5	9
2	(3)	"	2	B	R	b	r	┐	ı	7	x	P	0
3	(4)	#	3	C	S	c	s	J	U	7	E	s	w
4	(5)	\$	4	D	T	d	t	˘	I	ı	7	H	a
5	(6)	%	5	E	U	e	u	•	ı	7	ı	0	Ü
6	(7)	&	6	F	V	f	v	7	ı	ı	ı	P	ı
7	(8)	'	7	G	W	g	w	7	ı	7	ı	9	ı
8	(1)	<	8	H	X	h	x	ı	ı	ı	ı	ı	ı
9	(2)	>	9	I	Y	i	y	ı	ı	ı	ı	ı	ı
A	(3)	*	:	J	Z	j	z	ı	ı	ı	ı	ı	ı
B	(4)	+	;	K	[	k	{	ı	ı	ı	ı	ı	ı
C	(5)	,	<	L	#	ı	ı	ı	ı	ı	ı	ı	ı
D	(6)	-	=	M	ı	m	}	ı	ı	ı	ı	ı	ı
E	(7)	ı	>	N	^	n	+	ı	ı	ı	ı	ı	ı
F	(8)	/	?	O	_	o	+	ı	ı	ı	ı	ı	ı

Figure 2: Alphanumerical Telephone Display Character Set

67

DNUM

DNIS number

67.1

FORMAT

DNUM = D ₁ D ₂ ...D ₂₀
D ₁ D ₂ ...D ₂₀ = 00 - 99999 99999 99999 99999 DNIS directory number.

67.2

FUNCTION

The parameter states a Dialed Number Information Service directory number.

67.3

EXAMPLE

The DNIS directory number should be 9000.

DNUM = 9000

68

DPC

Destination Point Code

68.1

FORMAT

DPC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ = 000 000-003 FFF for point code size 14 bits. 000 000-FFF FFF for point code size 24 bits.

68.2

FUNCTION

The parameter states the signaling point code for the destination point of a signaling link set.

68.3

EXAMPLE

The destination point code is H"002A11.

DPC = 002A11

69
DRN

Direction

69.1
FORMAT

DRN = D ₁ D ₂	D ₁ D ₂ = 00-99 Direction
-------------------------------------	--

69.2
FUNCTION

The parameter states the direction to the external destination.

69.3
EXAMPLE

The direction to the external destination shall be 01.

DRN = 01

70

DTERM

Default Terminal Number

70.1

FORMAT

$$DTERM = D_1 D_2 \dots D_{10}$$

$D_1 D_2 \dots D_{10} = 00-9999999999$
Terminal number.

70.2

FUNCTION

The parameter states the terminal number of a message printout position that is to be selected when no other message printout position has been stated in the extension procedure. The number of digits in DTERM is determined by parameter TIFMT.

If, for example, the procedure sequence #23*06# is used, a message (if any) will be printed on the specified terminal with number 06.

However, if the procedure sequence #23# is used, messages will be printed on the terminal with the number stated in parameter DTERM.

70.3

EXAMPLE 1

Unless otherwise stated, 07 is to be the number of the message printout terminal.

DTERM = 07

70.4

EXAMPLE 2

Unless otherwise stated, 88888888 is to be the number of the message printout terminal.

DTERM=88888888

71

DTIME

Day time threshold

71.1

FORMAT

DTIME = D ₁ D ₂ D ₃ D ₄	
D ₁ D ₂ = 00-23	Time in hours.
D ₃ D ₄ = 00-59	Time in minutes.
ALL	Indicates that the day status will be set up for all day and starts from zero hour of the day.
NONE	Indicates that day or night status depends on the operator presence or absence status.

71.2

FUNCTION

The parameter states the turning point of day time for the day or night exchange status. When the DTIME parameter is entered as ALL it indicates that the day status will be set up for all day, which starts from zero hour of the day. When the DTIME parameter is entered as NONE it removes the day time and night time thresholds in the day of week table.

71.3

EXAMPLE 1

At 8:30 AM turn to day status for the system day or night exchange status.

DTIME = 0830

71.4

EXAMPLE 2

Set the day status for all day, to start from zero hour of the day.

DTIME = ALL

72

DTXT

Display Text

72.1

FORMAT

DTXT = D ₁ D ₂ ...D ₁₅		
D ₁ D ₂ ...D ₁₅ =	0-9	Digits
	A-Z	Alphabets (not case sensitive)
	*	Character star
	.	Character dot
	-	Character hyphen
	/	Character slash for initial space or space within the test.
		Cannot be entered at the end of a existing string.

Note: Alphabetic characters are only printed in upper case.

72.2

FUNCTION

The parameter states display text affiliated to a message system. The text string can be maximum 15 characters, including slash (/) characters.

72.3

EXAMPLE 1

The following text is desired on the display: E *1*

The following text must be entered:

DTXT = E/*1*

72.4

EXAMPLE 2

The following text is desired on the display: MX-ONE V.3

The following characters must be entered:

DTXT = MX-ONE/V.3

73 ECLDEV

Event channel identity

73.1 FORMAT

$ECLDEV = D_1D_2 \dots D_{14}$

$D_1D_2 \dots D_{14} =$ Event channel parameter, 1-14 alphanumeric characters

73.2 FUNCTION

The parameter states the identity of the event channel.

73.3 EXAMPLE

EVCHAN1 shall be the name of the event channel.

ECLDEV = EVCHAN1

74

EGCSP

Extension group common service profile.

74.1

FORMAT

EGCSP = $D_1D_2D_3$

$D_1D_2D_3$ = Extension group common service profile 1-350.

74.2

FUNCTION

The parameter states the extension group common service profile defined with command `extension_group_profile`.

74.3

EXAMPLE

70 shall be the extension group common service profile.

EGCSP = 70

75

ENTRY

75.1

ENTRY - ISDN TRUNK PROTOCOL DATA

Entry

75.1.1

FORMAT

ENTRY = D₁D₂ ... D₂₅D₁D₂ ... D₂₅ = [Name of ISDN protocol related parameter]
See Table below

An X in the column for an indexing parameter indicates that the parameter is mandatory for that specific ENTRY value.

Table 6 ENTRY values with description and indexing parameters

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
ALARMPRIORITY	Alarm handling on A/B level.				
CAUSEBCNOTAUT	Cause Value to send in Cause IE when Bearer capability is not authorized.				
CAUSEBCNOTAVAIL	Cause Value to send in Cause IE when Bearer capability is not presently available.				
CAUSEBCNOTIMP	Cause Value to send in Cause IE when Bearer capability is not implemented.				
CAUSECALREJ	Cause Value to send in Cause IE when Call is rejected.				
CAUSECHNLNOTACC	Cause Value to send in Cause IE when Channel is not acceptable.				
CAUSECHNLNOTEXIST	Cause Value to send in Cause IE when Identified channel does not exist.				
CAUSECHNLORPROTNOTAVAIL	Cause Value to send in Cause IE when Channel or protocol is not available.				
CAUSECHNLTYPENOTIMP	Cause Value to send in Cause IE when Channel type is not implemented.				
CAUSECTRL	Mapping of ITU Cause values to internal codes.				X (0-127)
CAUSECTRLINT	Mapping of internal codes to ITU Cause values.				X (0-15)
CAUSECUGMEMBER	Cause Value to send in Cause IE when Called user is member of CUG.				
CAUSECUGNOTEXIST	Cause Value to send in Cause IE when Closed user group does not exist.				
CAUSEDESTINCOMP	Cause Value to send in Cause IE when Incompatible destination.				
CAUSEDESTOUTOFSERVICE	Cause Value to send in Cause IE when Destination is out of service.				
CAUSEFACREQREJ	Cause Value to send in Cause IE when Facility is rejected.				

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
CAUSEICONUM	Cause Value to send in Cause IE when Invalid number format.				
CAUSEIENOTEXIST	Cause Value to send in Cause IE when Information element is non-existent or not implemented.				
CAUSEINCCALLBARRED	National Cause Value to send in Cause IE Incoming calls barred.				
CAUSEINTERWORKING	Cause Value to send in Cause IE when Interworking, unspecified.				
CAUSEINVALIDIE	Cause Value to send in Cause IE when Invalid information element contents.				
CAUSEINVCALLINGPTYNUM	National Cause Value to send in Cause IE Invalid calling party number.				
CAUSEINVCALLREF	Cause Value to send in Cause IE when Invalid call reference.				
CAUSEINVTRANSNETSEL	Cause Value to send in Cause IE when Invalid transit network selection.				
CAUSEISUPNOTAVAIL	National Cause Value to send in Cause IE ISUP not available.				
CAUSEMANDATIEMISSING	Cause Value to send in Cause IE when Mandatory information element is missing.				
CAUSEMESSAGENOTEXIST	Cause Value to send in Cause IE when Message type non-existent or not implemented.				
CAUSEMESSINV	Cause Value to send in Cause IE when Invalid message.				
CAUSEMESSNOCOMPNOEXIST	Cause Value to send in Cause IE when Message is not compatible with call state or message type non-existent or not implemented.				
CAUSEMESSNOTCOMP	Cause Value to send in Cause IE when Message is not compatible with call state.				
CAUSENOANSWER	Cause Value to send in Cause IE when No answer from user.				
CAUSENOBCHNL	Cause Value to send in Cause IE when No B-channel is available.				
CAUSENOCHA	Cause Value to send in Cause IE when Number is changed.				
CAUSENORESPONSE	Cause Value to send in Cause IE when No user is responding				
CAUSENORMALCLEAR	Cause Value to send in Cause IE when Normal call clearing.				
CAUSENORMALUNSPEC	Cause Value to send in Cause IE when Normal, unspecified.				
CAUSENOROUTE	Cause Value to send in Cause IE when No route to specified transit network.				
CAUSENOROUTETODEST	Cause Value to send in Cause IE when No route to destination.				
CAUSENOTCUGMEMBER	National Cause Value to send in Cause IE Called user is not member of CUG.				

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
CAUSENTWOUTOFORDER	Cause Value to send in Cause IE when Network out of order.				
CAUSEONLYRESTRBCAVAIL	Cause Value to send in Cause IE when Only restricted digital bearer capability is available.				
CAUSEOTGCALLBARRED	National Cause Value to send in Cause IE Incoming calls barred.				
CAUSEPROTERR	Cause Value to send in Cause IE when Protocol error.				
CAUSEQUALOFSERVNOTAVAIL	Cause Value to send in Cause IE when Quality of service is not available.				
CAUSERECOVERYTIMEXP	Cause Value to send in Cause IE when Recovery on timer expiry.				
CAUSEREQBCHNLNOTFREE	Cause Value to send in Cause IE when Requested B-channel is not available.				
CAUSEREQFACNOTIMP	Cause Value to send in Cause IE when Requested facility is not implemented.				
CAUSEREQFACNOTSUB	Cause Value to send in Cause IE when Requested facility is not subscribed.				
CAUSERESUNAVAILABLE	Cause Value to send in Cause IE when Resources is unavailable.				
CAUSESERVNOTAVAIL	Cause Value to send in Cause IE when Service is not available.				
CAUSESERVNOTIMP	Cause Value to send in Cause IE when Service is not implemented.				
CAUSESTAENQRES	Cause Value to send in Cause IE when Response to Status enquiry message.				
CAUSESWIEQUCONG	Cause Value to send in Cause IE when Switching equipment congestion.				
CAUSETEMPFAIL	Cause Value to send in Cause IE when Temporary failure.				
CAUSEUIDISC	Cause Value to send in Cause IE when Access information is discarded.				
CAUSEUNASSIGNEDNO	Cause Value to send in Cause IE when Unallocated (unassigned) number.				
CAUSEUSERBUSY	Cause Value to send in Cause IE when User busy.				
CHANNELNUMB7	Channel number octet in the Channel Identification IE is used.				
CHARGINFIE	Information Element which contains charging information.				
CHARGINFRECINCURRENCY	Charging information received in currency.				
CHARGINFREQCHARGADV	Charging information request can be sent in Charge Advice IE if charging is used.				
CHARGINFREQKEYPAD	Charging information request can be sent in Keypad Facility IE if charging is used.				

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
CLEARCALL	Disconnect call when receiving Status message with compatible call state and with one of the following Cause values: CAUSEIENOTEXIST, CAUSEINVALIDIE, CAUSEMANDATIEMISSING, CAUSEMESSAGENOTEXIST.				
COMPATCS	Message is compatible/not compatible with call state. If a received message is not compatible with call state the message will be ignored and normally a Status message will be returned. If a message to be sent is not compatible with the call state the message will not be sent.	X		X	
COMPATCS-NET	Message is compatible/not compatible with call state on DSS1 network side. If a received message is not compatible with call state the message will be ignored and normally a Status message will be returned. If a message to be sent is not compatible with call state the message will not be sent.	X		X	
COSTPERPULSE	Cost per pulse in units.				
CRC4MODE	Cyclic Redundancy Checks on TLU-ISDN.				
FACIDCHARG1A	Facility identifier for charging information during call, character 1.				
FACIDCHARG2A	Facility identifier for charging information during call, character 2.				
FACIDCHARG3A	Facility identifier for charging information during call, character 3.				
FACIDCHARG4A	Facility identifier for charging information during call, character 4.				
FACIDCHARG5A	Facility identifier for charging information during call, character 5.				
FACIDCHARG6A	Facility identifier for charging information during call, character 6.				
FACIDCHARG7A	Facility identifier for charging information during call, character 7.				
FACIDCHARG8A	Facility identifier for charging information during call, character 8.				
FACIDCHARG1B	Facility identifier for charging information at the end of call, character 1.				
FACIDCHARG2B	Facility identifier for charging information at the end of call, character 2.				
FACIDCHARG3B	Facility identifier for charging information at the end of call, character 3.				
FACIDCHARG4B	Facility identifier for charging information at the end of call, character 4.				
FACIDCHARG5B	Facility identifier for charging information at the end of call, character 5.				
FACIDCHARG6B	Facility identifier for charging information at the end of call, character 6.				

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
FACIDCHARG7B	Facility identifier for charging information at the end of call, character 7.				
FACIDCHARG8B	Facility identifier for charging information at the end of call, character 8.				
FACIDCHARGCC1	Control code for charging information facility identifier, character 1				
FACIDCHARGCC2	Control code for charging information facility identifier, character 2.				
FACIDCHARGNUMA	Number of characters in facility identifier for charging information during call.				
FACIDCHARGNUMB	Number of characters in facility identifier for charging information at the end of call.				
FACIDCHARGREQCC1	Control code for charging information request, character 1.				
FACIDCHARGREQCC2	Control code for charging information request, character 2.				
FACIDCLIR	Facility identifier for Calling Line Identification Restriction.				X (0-4)
FACIDCLIRCC	Control code for CLIR facility identifier.				X (0-4)
FACIDCLIRNUMCC	Number of characters in calling line identification restriction control code.				
FACIDCLIRNUMFI	Number of characters in calling line identification restriction string.				
FACIDCUG1	Facility identifier for Closed User Group, character 1.				
FACIDCUG2	Facility identifier for Closed User Group, character 2.				
FACIDCUG3	Facility identifier for Closed User Group, character 3.				
FACIDCUG4	Facility identifier for Closed User Group, character 4.				
FACIDCUGNUM	Number of characters in facility identifier for Closed User Group				
FACIDMCT1	Facility identifier for Call Tracing, character 1.				
FACIDMCT2	Facility identifier for Call Tracing, character 2.				
FACIDMCT3	Facility identifier for Call Tracing, character 3.				
FACIDMCT4	Facility identifier for Call Tracing, character 4.				
FACIDMCTCC1	Control code for MCT: MCT request, character 1.				
FACIDMCTCC2	Control code for MCT: MCT request, character 2.				
FACIDMCTCC3	Control code for MCT: MCT acknowledge, character 1.				
FACIDMCTCC4	Control code for MCT: MCT acknowledge, character 2.				

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
FACIDMCTCC5	Control code for MCT: MCT rejected, character 1.				
FACIDMCTCC6	Control code for MCT: MCT rejected, character 2.				
FACIDMCTCC7	Control code for MCT: MCT not available, character 1				
FACIDMCTCC8	Control code for MCT: MCT not available, character 2.				
FACIDMCTNUM	Number of characters in facility identifier for Call Tracing.				
FACIDREQUI1	Facility identifier for Request of User-User signaling service 2 and 3, character 1.				
FACIDREQUI2	Facility identifier for Request of User-User signaling service 2 and 3, character 2.				
FACIDREQUI3	Facility identifier for Request of User-User signaling service 2 and 3, character 3.				
FACIDREQUI4	Facility identifier for Request of User-User signaling service 2 and 3, character 4.				
FACIDREQUINUM	Number of characters in facility identifier for Request User-User signaling.				
FCTIMMFU	Flow control is supervised using timer T397.				
IECODESETREC	Codeset to use for received Information Elements		X		
IECODESETSEND	Mapping of internal codes to Information Element identifiers.		X		
IEIDENTIFIER	Information Element Identifier.		X		
IEINDEX	Mapping of Information Element identifiers to internal codes.				X (0-127)
IEMAXLENGTH	Maximum number of octets after the Information Element length indicator.		X		
IEMAXLENGTH30B	Maximum number of octets after the Information Element length indicator.		X		
IEORDER	Order of Information Elements when sending a message.		X		
INDINTF	Type of B-channel restart. Class octet in Restart Indicator IE.				
ISDNRATEADAP	Mapping of internal code to standard coding for Rate Adaptation in Bearer Capability IE or Low Layer Compatibility IE octet 5.				X (0-15)
L1HANDLER	Type of Layer 1 handler.				
MAXDELAYACK-L2	Maximum delay for acknowledge pending.				
MAXNUMBYTE	Maximum number of data bytes in signals between layer 2 and layer 3 (DATA-LINK-REQUEST-DATA and DATA-LINK-DATA-INDICATION).				
MAXNUMK2B	Maximum number of unacknowledged I-frames on the 2B+D link (Window size).				

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
MAXNUMK30B	Maximum number of unacknowledged I-frames on the 30B+D link (Window size).				
MCIDMESSAGE	ISDN message which contains Call Identification request.				
MCIDREQIE	Information Elements which contains Call Identification request.				
MCTDETACH	Use Detach procedure for MCT.				
MESS-REC-CTRL-NET	Handling of Information Elements in received ISDN message when MX-ONE is acting as DSS1 network side.	X	X		
MESS-SEN-CTRL-NET	Handling of Information Elements to be sent in ISDN message when MX-ONE is acting as DSS1 network side.	X	X		
MESSAGEERRPROC	Error procedure when Information Element in received message is considered to be faulty.	X	X		
MESSAGEERRPROC-NET	Error procedure when Information Element in received message is considered to be faulty when MX-ONE is acting as DSS1 network side.	X	X		
MESSAGEGROUP	Type of codeset for ISDN message	X			
MESSAGERECCTRL	Handling of Information Elements in received ISDN message.	X	X		
MESSAGESENCTRL	Handling of Information Elements to be sent in ISDN message.	X	X		
MESSAGETYPE	Mapping of internal codes to ISDN messages.	X			
MESSAGEVALIDITY	Validity of received message.	X			
MINNUMBYTE2B	Minimum number of layer 3 bytes in a 2B+D message.				
MINNUMBYTE30B	Minimum number of layer 3 bytes in a 30B+D message.				
MODEMTYPEINC	Mapping of modem type in Bearer Capability IE or Low Layer Compatibility IE to internal code.				X (0-15)
MODEMTYPEOTG	Mapping of internal code to ISDN modem types to send in Bearer Capability IE or Low Layer Capability IE.				X (0-15)
MSGINDEX	Mapping of ISDN message to internal code.				X (0-127)
N200	Maximum number of retransmissions of frames on the data link (Layer 2).				
N201	Maximum number of octets in an I-frame (Layer 2).				
N202	Maximum number of transmissions of TEI-identity-request message (Layer 2).				
NUMOFBRESTAT	Number of B-channel restart attempts before the data link is restarted (N316).				
NUMOFIDENTIFIERSA	Total number of identifiers in AOC string, A=Charge during call				

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
NUMOFIDENTIFIERSB	Total number of identifiers in AOC string, B=Charge at the end of call.				
OCT3ETSI	Location to send in Cause/Progress IE (octet 3) for coding standard ETSI.				
RECINFORMATION	Information message is received and processed in all call states except 0,1,6,19 and 30.				
RECRELCOMP	Release Complete message is received and processed in all call states.				
RECSETUP	Setup message is received and ignored in call states 6 -10.				
RECSTATUS	Status message is received and ignored in call state zero.				
RELBCHNLDIRECT	All B-channels are released when receiving DATA-LINK-RELEASE-INDICATION.				
RELCOMATCLEARCOLL	Send Release Complete after clear collision.				
REPOLDCS	Call state to report in Status message.				
RESETINVOKEIDCOUNTER	Reset the INVOKEID counter for every call (ASN1).				
SENMULCHNLRESTACK	Send Restart Acknowledge message after T317 time out.				
SENSTATUS	Send Status message when received message is incompatible with call state in release sequence.				
STAERRCTRL	Action taken when Status message is received. The action is dependent on own call state and received call state in Status message.			X	X (0-25)
SUPCLEARBLEV	Support sending of internal MX-ONE-signal CLEARBLEV (which executes all jobs in the B-level queue before starting a new job on the A-level).				
SUPPINBANDTONE	Support reception of inband tones/announcements indicated in Disconnect message.				
SUPSTAENQ	Support of Status Enquiry message (normal case) and in connection with data link restart.				
T200	Maximum waiting time for acknowledgement signal from the data link.				
T201	Time between retransmission of signal ID-check request on the data link.				
T202	Minimum time between retransmissions of TEI-identity request message on the data link.				
T203	Maximum period of data link inactivity.				
TIM-TONE-ANNOUNCE	T306 Time before Release message is sent, when sending tones/announcement.				

ENTRY	Description of ENTRY value	MSG	IE	CALLST	OFFSET
TIMBEFANSACK	T313 Time before reception of Connect Acknowledge message.				
TIMBEFDETACK	T311 Time before reception of Detach acknowledgement.				
TIMBEFEOS	T310 Time in call state incoming/outgoing call proceeding.				
TIMBEFFACACK	T3SS Time before reception of Facility acknowledgement.				
TIMBEFOTGCALACK	T303 Time before acknowledgement to sent Setup message.				
TIMBEFRELCOM	T308 Time before reception of Release Complete message.				
TIMBEFRELMES	T305 Time before reception of Release message.				
TIMBEFRESTRACK	T317 Time before sending of Restart Acknowledge message.				
TIMBETRECDIG	T302 Time between received digits				
TIMBETSENDIG	T304 Time between sent digits.				
TIMDATLNKEST2B	T309 Time to perform data link establishment 2B+D.				
TIMDATLNKEST30B	T309 Time to perform data link establishment 30B+D.				
TIMFLOWCTRL	T397 Time before User Information messages may be sent again in active state after having been shut off due to flow control of User Information messages.				
TIMINTRESTRACK	T316 Time before reception of Restart Acknowledge message.				
TIMSTATUSENQ	T322 Time before reception of response to Status Enquiry message.				
TREFUUS2COUNT	Number of User Information messages permitted for UUS service 2.				

75.1.2

FUNCTION

The parameter states an ISDN protocol related parameter. Some ISDN protocol related parameters require that also one or two of the indexing parameters MSG, IE, CALLST and OFFSET are stated. The parameter values that can be stated and which indexing parameters they require are described in table 5.

75.1.3

EXAMPLE 1

The ISDN protocol related parameter is TIMBETRECDIG.

ENTRY = TIMBETRECDIG

75.1.4

EXAMPLE 2

The ISDN protocol related parameter is CAUSECTRL. In accordance with table 5 CAUSECTRL also requires that the indexing parameter OFFSET is stated.

ENTRY = CAUSECTRL

75.2 ENTRY - LEAST COST ROUTING

Number to be analyzed

75.2.1 FORMAT

The format for parameter ENTRY depends on the value of the parameter TAB.

Table 7 Number to be analyzed. TAB=NLT

ENTRY = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ = 0 - 999999
Number to be inserted in the analysis table

Table 8 Number to be analyzed, TAB=ENT, DNT1

ENTRY = D ₁ D ₂ D ₁₆
D ₁ D ₂ D ₁₆ = 0 - 9999999999999999
Number to be inserted in the analysis table

Table 9 Number to be analyzed, TAB = DNT2

ENTRY = D ₁ D ₂ D ₈
D ₁ D ₂ ....D ₈ = 0 - 99999999
Number to be inserted in the analysis table

Table 10 Number to be analyzed, TAB=PNR

ENTRY = D ₁ D ₂ ....D ₁₀
D ₁ D ₂ ....D ₁₀ = 0 - 9999999999
Number to be inserted in the analysis table

75.2.2 FUNCTION

The parameter states the number that shall be inserted in the analysis table given by the parameter TAB.

75.2.3 EXAMPLE

Insert the number 91535 in an analysis table.

ENTRY = 91535

76

EPN

Extra paging number

76.1

FORMAT

EPN = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	00 - 99999 99999 99999 99999 Extra Paging Number.

76.2

FUNCTION

This parameter specifies an extra directory number for an individual who has a paging receiver but does not have an extension of its own. The extra paging number is not, in other words, linked to an extension in the exchange.

76.3

EXAMPLE

An individual, who is visiting a company, is to be provided with a paging receiver. The visitor does not have an extension of its own in the exchange and it shall be possible to page the visitor by means of the extra paging number 6780.

EPN = 6780

77

EQU

Equipment position

77.1

FORMAT

EQU = D ₁ D ₂ D ₃ D ₄ -D ₅ -D ₆ D ₇ -D ₈ D ₉		
D ₁ D ₂ D ₃ = 1-124	LIM number	
D ₄ = A-O	Gateway.	One of fifteen, set by a letter from A to O. A is default.
D ₅ = 0-3	Magazine number	
D ₆ = 0-7	Board position	
D ₇ = 0-3 *	Board position.	* Only 0 is valid for LBP22.
D ₈ D ₉ = 0-31	Individual number	

77.2

FUNCTION

The parameter is used to inform the system about the position of an external line. The individuals 0 and 16 are not used as these correspond to the time slots in the PCM-line which are used for synchronization and signaling

77.3

EXAMPLE

The equipment position is LIM number = 4, gateway = A, magazine = 2, board position = 40 and individual number = 15.

EQU = 4A-2-40-15

78 EQUA

Equipment position for port A

78.1 FORMAT

EQUA = D ₁ D ₂ D ₃ D ₄ -D ₅ -D ₆ D ₇ -D ₈ D ₉		
D ₁ D ₂ D ₃ = 1-124	LIM number	
D ₄ = A-O	Gateway.	One of fifteen, set by a letter from A to O. A is default.
D ₅ = 0-3	Magazine number	
D ₆ = 0-7	Board position	
D ₇ = 0-3 *	Board position.	* Only 0 is valid for LBP22.
D ₈ D ₉ = 0-31	Individual number	

78.2 FUNCTION

The parameter is used to inform the system of the position of a port designated as port A in a static semipermanent connection.

78.3 EXAMPLE 1

The equipment position is LIM number = 4, gateway = B, magazine number = 1, board position = 10 and individual number = 0, **EQUA = 4B-1-10-0**

78.4 EXAMPLE 2

The equipment position is LIM number = 1, gateway = A, magazine number = 3, board position = 3 and individual number = 5 **EQUA = 1A-3-03-5**

79

EQUB

Equipment position for port B

79.1

FORMAT

EQUB = D ₁ D ₂ D ₃ D ₄ -D ₅ -D ₆ D ₇ -D ₈ D ₉		
D ₁ D ₂ D ₃ = 1-124	LIM number	
D ₄ = A-O	Gateway.	One of fifteen, set by a letter from A to O. A is default.
D ₅ = 0-3	Magazine number	
D ₆ = 0-7	Board position	
D ₇ = 0-3 *	Board position.	* Only 0 is valid for LBP22.
D ₈ D ₉ = 0-31	Individual number	

79.2

FUNCTION

The parameter is used to inform the system of the position of a port designated as port B in a static semipermanent connection.

79.3

EXAMPLE 1

The equipment position is LIM number = 4, the default gateway, magazine number = 1, board position = 10 and individual number = 0,

EQUB = 4A-1-10-0

79.4

EXAMPLE 2

The equipment position is LIM number = 1, gateway B, magazine number = 3, board position = 3 and individual number = 5, **EQUB = 1B-3-03-5**

80

EWT

Estimated Waiting Time

80.1

FORMAT

EWT = D₁D₂D₃D₄D₅
 D₁D₂D₃D₄D₅ = 1 - 65535
 Estimated waiting time in seconds.

80.2

FUNCTION

The parameter states the EWT a call stays in the queue.

Different messages can be assigned to different EWTs to customize the announcement.

The parameter must be given a minimum and a maximum value.

80.3

EXAMPLE

A message is to be played for calls with an EWT between 1 and 60 seconds.

EWT = 1&&60

81

EWTA

Estimated Waiting Time Announcement

81.1

FORMAT

EWTA = $D_1D_2D_3$

$D_1D_2D_3$ = YES Estimated waiting time announcement is wanted.

NO Estimated waiting time announcement is not wanted.

81.2

FUNCTION

The parameter states if an EWTA is wanted.

81.3

EXAMPLE

An EWTA will be played for the specified group.

EWTA = YES

82 EXNOPR

Exchange Number for Private Network

82.1 FORMAT

EXNOPR=D ₁ D ₂ ...D ₁₁	
Type of number (TON)	
D ₁ =	5 Unknown private (QSIG)
	6 Local private (QSIG)
	7 Level 1 Regional (QSIG)
Private Exchange Number	
D ₂ D ₃ ...D ₁₁ =	0 - 99999 99999
	Exchange number

82.2 FUNCTION

The parameter consists of two parts: Type of number and Private exchange number. The *type of number* part states what type of number that the Exchange Number represents. This type of number part is optional with default value 5.

The *Exchange Number* part states an exchange number to use with the directory number when composing a complete number for the private network. The exchange number is the digits to place in front of the directory number. Up to three different exchange numbers may be stated.

For TON = Local private the exchange number to use is the Location code (Local private). For TON = Level 1 regional the exchange number to use is Location code (Level 1 Regional), including any Network access code.

82.3 EXAMPLE

Type of number	Local private
Private exchange number	Location code = 2

EXNOPR = 6-2

83

EXNOPU

Exchange Number for Public Network

83.1

FORMAT

EXNOPU=D ₁ D ₂ ...D ₁₁		
		Type of number (TON)
D ₁ =	0	Unknown public
	1	International
	2	National
	3	Network specific
	4	Local public
		Public Exchange Number
D ₂ D ₃ ...D ₁₁ =	0 - 99999 99999	Exchange number

83.2

FUNCTION

The parameter consists of two parts: type of number (TON) and public exchange number. The TON part states what type of number the exchange number represents. This type of number part is optional with default value 0.

The exchange number part states the exchange number to use with the directory number when composing a complete number for the public network. The exchange number is the digits to place in front of the directory number. Up to five exchange numbers can be stated. For TON = International, the exchange number to use is the Country code. For TON = National, the exchange number to use is the Trunk code. For TON = Local, public the exchange number to use is the Local code.

When EXNOPUs are initiated both per route (command RNDI) and per LIM (command *route_data_common*), the EXNOPUs per LIM have priority over the EXNOPUs per route. The prerequisite is that the call originates in a different LIM than the LIM where the route is situated. If the call originates in the same LIM as the LIM where the route is situated, the EXNOPUs per route will be used. That is, the EXNOPUs per LIM will not override the EXNOPUs per route.

83.3

EXAMPLE

Type of number	Local public	D ₁ = 4
Public exchange number	Local code	D ₂ D ₃ D ₄ D ₅ D ₆ = 682

EXNOPU = 4-682

84 EXTEND

The extending mode defines the procedure used by operators when extending (transferring) an incoming call to a directory number. The directory number is an extension or an ACD, CTI, or group hunting group.

84.1 FORMAT

EXTEND = D₁

- | | |
|------------------|--|
| D ₁ = | <p>A Automatic extending.
The call is extended immediately after the operator has entered the directory number, provided that the extension or group is free.</p> <p>M Manual extending.
To extend the call, the operator first enters a directory number. Provided that the extension or group is free, the operator then extends the call by pressing the call extending key.</p> <p>N Neutral.
The extending mode is selected from the operator console. Available selections are automatic or manual.</p> |
|------------------|--|

84.2 FUNCTION

The parameter states the extending mode for the PBX operator console, for all types of consoles.

The parameter values A and M mean that the call extending type cannot be altered from the PBX operator console.

The parameter value N means that the extending type can be altered with a button on the PBX operator console.

84.3 EXAMPLE

Set the extending type to manual. It is not possible to alter this from the PBX operator console.

EXTEND = M

85

EXTYPE

Type of extension

85.1

FORMAT

EXTYPE = D ₁ D ₂ D ₃		
D ₁ D ₂ D ₃ =	ATS	Analog telephone set
	CAS	CAS (channel associated signaling) extension
	CBG	Common Bell Group
	CXN	Cordless DECT extension
	DTS	Digital key system telephone
	EDN	Extra directory number (of a SIP extension)
	GEN	Generic extension
	IPX	IP extension (SIP or H.323)
	ITS	ISDN S0 extension
	MSC	Short Message Service Center (for SMS)
	PBX	PBX group (including Cascade Ring Group)
	REM	Remote (mobile) extension
	VIR	Virtual extension (a generic extension with specific configuration)

85.2

FUNCTION

The parameter states the type of extension or type of group.

85.3

EXAMPLE

The extension is an analogue telephone set.

EXTYPE = ATS

86

FCN

Key Function

86.1

FORMAT

FCN = D₁D₂D₃D₄D₁D₂D₃D₄=

AANS	Automatic call acceptance ¹⁾
CAB	Call back ^{1), 2)}
CAD	Call diversion ^{1), 2)}
CAL	Calendar
CAW	Call waiting
CNF	Conference
CUP	Call pick-up and common parking. Whichever of the two functions is applicable will depend on the traffic case
DND	Individual do not disturb ¹⁾
ENR	Last number redial on external calls
INT	Intrusion
MCT	call tracing
MEW	Message waiting ¹⁾
MMW	Manual message waiting ¹⁾
NLOG	Name and number log ^{1), 3), 4)}
ODN	ODN number key ⁶⁾
ODN2	Free on second line ¹⁾
PROG	Programming mode ^{1), 5)}
PEN	Personal number ¹⁾
TNS	Telephone name selection
TFR	Transfer ⁵⁾

- 1) The function is recommended to be placed on a key with a LED.
- 2) The function is placed on a predefined key when the telephone is initiated (KSEXI). The function can be terminated or moved with KSFKC.
- 3) The function can only be defined on telephone types DBC 203/213, DBC 222, DBC223 or DBC225.
- 4) The function can only be defined on telephone types DBC 203/213 and DBC 22x. This function cannot be defined for the Hospitality class, Service quarter.
- 5) The function can only be defined on telephone types DBC 223 and DBC 225.
- 6) This function is used to turn back an ODN button that was changed. It is applicable for button 9 and 10 for telephone types DBC 201/211, DBC 202/222, DBC 210, DBC 220, and DBC 222.

86.2

FUNCTION

The parameter states the function to be assigned to a stated key on the Digital key system telephone. The functions may be positioned on any key except (A)0, (A)9, (A)10, or (A)11. (See also the parameter KEY for more restrictions on available keys). Selection of key takes place with the parameter KEY.

86.3

EXAMPLE

The key should have the call diversion function.

FCN = CAD

87

FDT1, FDT2, FDT3

Fictitious Destination Table entry for TIM1, TMI2 and TIM3

87.1

FORMAT

FDT1 = D ₁
<div> D₁ = 1-9 Fictitious Destination Table. </div>

87.2

FUNCTION

The parameter is used to indicate which of the fictitious destination subtables that is referred to.

87.3

EXAMPLE

Indicate fictitious destination subtable number 5

FDT1 = 5

88

FILLER

Filler Character Value

88.1

FORMAT

FILLER = D ₁ D ₂ D ₃
D ₁ D ₂ D ₃ = 0-127 Filler character value. Note the exception values.

88.2

FUNCTION

The parameter states the filler character value used to pad directory numbers that are sent across the GICI interface. The default value for this parameter is 64 (decimal American Standard Code for Information Interchange (ASCII) value for character @).

Note: Do not set the filler character value to 2, 10, 13, 49, 50, 51, 52, 53, 54, 55, 56, or 57 (decimal ASCII value for characters STX, LF, CR, 1, 2, 3, 4, 5, 6, 7, 8, and 9). Unpredictable results may occur.

88.3

EXAMPLE

The filler character value must be 32 (decimal ASCII value for space character).

FILLER = 32

89 FONT

Character Font for Special Characters

89.1 FORMAT

<div> <div>FONT = D₁D₂</div> <div> <div>D₁D₂= 00-1F</div> <div>Bit patterns in hexadecimal form for one single row of the character matrix</div> </div> </div>
--

89.2 FUNCTION

The parameter states the bit setting for one single row of the character matrix, given in hexadecimal form.

The character matrix can be set only for special characters. One single character is built by a matrix of 8 rows X 8 bits, but only 5 are shown, see 2 Alphanumerical Telephone Display Character Set on page 90.

Every display element is represented by one bit each out of the value given for the parameter FONT. That means if the bit is set (= 1), the display element is shown on the display.

The values needed for a complete character must be given all together at the same time. Therefore, the parameter has only one specific syntax which will be accepted as valid input:

Table 11 Required parameter entry

FONT = H₁L₁&H₂L₂&H₃L₃&H₄L₄&H₅L₅&H₆L₆&H₇L₇&H₈L₈

H_x states the most significant half-byte of one single row given as D₁

L_x states the least significant half-byte of one single row given as D₂

x states the number of the row within the matrix.

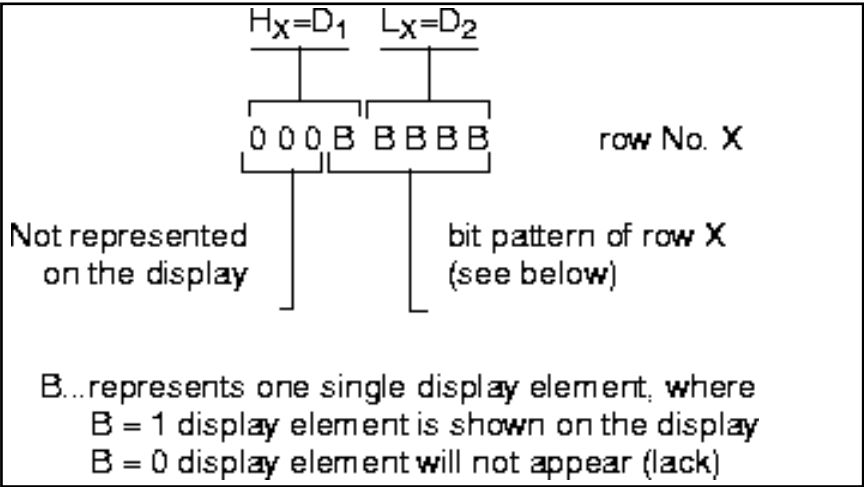


Figure 3: Bit pattern of one single row.

89.3

EXAMPLE 1

Create the Ericsson logo as a special character.

Table 12 Character matrix

									Corresponding binary value	Hexadecimal value in parameter FONT
row 1	-	-	-	-	-	-	X	-	B"0000 0010	H"02
row 2	-	-	-	-	-	X	-	-	B"0000 0100	H"04
row 3	-	-	-	-	X	-	X	-	B"0000 1010	H"0A
row 4	-	-	-	X	-	X	-	-	B"0001 0100	H"14
row 5	-	-	-	-	X	-	X	-	B"0000 1010	H"0A
row 6	-	-	-	X	-	X	-	-	B"0001 0100	H"14
row 7	-	-	-	-	X	-	-	-	B"0000 1000	H"08
row 8	-	-	-	X	-	-	-	-	B"0001 0000	H"10

FONT = 02&04&0A&14&0A&14&08&10

89.4

EXAMPLE 2

Create a filled box as special character.

FONT = 1F&1F&1F&1F&1F&1F&1F&1F

90

FRCT

Fictitious Route Choice Table

90.1

FORMAT

FRCT = D ₁ D ₂ D ₃		
D ₁ D ₂ D ₃ =	0	Denotes a default destination.
	1 - 250	Entry in the fictitious route choice table.
	1 - 500	Entry in the factious destination table.

90.2

FUNCTION

The parameter states an entry in the fictitious destination table.

Note: FRCT = 0 is only valid if TAB = DNT1 or DNT2. No entry in the fictitious destination table can be assigned for FRCT = 0.

Note: In the PNR and RCT tables the value range is 1-250.

90.3

EXAMPLE

Point at individual 63 in the fictitious destination table.

FRCT = 63

91

FRL

Facilities Restriction Level

91.1

FORMAT

FRL = D ₁	
D ₁ =	0-7 Facilities Restriction Level for an outgoing route choice

91.2

FUNCTION

The parameter states the Facilities Restriction Level (FRL) for a route choice. The call is allowed access to the route, if the FRL of the call originator is equal or higher than the FRL of the route choice.

91.3

EXAMPLE

Set the FRL for a route choice to 5.

FRL = 5

92

GRP

Group Number

92.1

FORMAT

Table 13 Hunt Group, ACD group or Common Bell group

GRP = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	0 - 99999 99999 99999 99999 Directory number.

Table 14 Group call pickup

GRP = D ₁ D ₂ ...D ₉	
D ₁ D ₂ ...D ₉ =	1-99999 9999 Sequence number for Group Call Pickup group.

Table 15 Group do not disturb

GRP = D ₁ D ₂	
	D ₁ D ₂ = 0 - 99 Group do not disturb group number.

Table 16 Charging

GRP = D ₁ D ₂ D ₃	
	D ₁ D ₂ D ₃ = 0 - 254 Charging group number.

92.2

FUNCTION

The parameter states a group number, which is either a directory number or a sequence number.

92.3

EXAMPLE

Set the directory number of the common bell group to 8000.

GRP = 8000

93

HKID

Hide Key Information Display.

93.1

FORMAT

HKID = D ₁		
D ₁ =	0	Not active (default)
	1	Active

93.2

FUNCTION

The parameter states if feature Hide Key Information, is active or not. Default is that the service is not active.

93.3

EXAMPLE

Hide Key Information on Display.

HKID = 1

94

IADTYP

Type of individual abbreviated number

94.1

FORMAT

IADTYP = D ₁ D ₂		
D ₁ D ₂ = NN		Normal number.
AU		Authorization code.
AO		Account code.
RA		Individual /Regional) authorization code.

94.2

FUNCTION

The parameter states the type of the number that is assigned as an individual abbreviated number.

94.3

EXAMPLE

The type of the individual abbreviated number shall be account code.

IADTYP = AO

95

ICAT

95.1

ICAT - ANALOG EXTENSION - EL6

Instrument Category for TYPE EL6

95.1.1

FORMAT

ICAT = D₁D₂D₃D₄D₅D₆D₇**D₁ = Bearer services for originating extension**

- 0 Speech
- 1 3.1 kHz (FAX machine)

Global no-progress tone for voice mail systems

- 0 Global dial tone for main no-progress cases (VMX voice mail system)
- 4 Global interception tone (AVT voice mail system).
Value 4 only has effect if enhanced global tone is selected. See D₃.

Caller identity presentation on analog telephones

- 0 No
- 8 Yes. (D₅ and D₆ must also be set.)

D₂ = Polarity reversal

- 0 No polarity reversal for call progress messages.
- 1 Reversal at seizure acknowledge.
- 2 Reversal at end of selection.
- 3 Reversal at B-answer.

The values 1, 2 and 3 can be selected for an equipment connected to an ELU34 board only.

D₃ = Enhanced global tone

- 0 Normal tones
- 1 Enhanced global tone is provided to extension.

Message waiting lamp

- 0 Message waiting lamp with voltage ramp.
- 2 Extension does not have message waiting lamp.
- 4 Message waiting lamp with polarity reversal, (if this option is selected, D₂ must be 0).
- 6 Message waiting lamp with polarity reversal new cadence (if this option is selected, D₂ must be 0). Applicable only for Dialog 4187 phones.

Call metering

- 0 Call metering pulses are not sent to the equipment connected to the ELU board.
- 8 Call metering pulses are sent to the equipment connected to the ELU board.

Select and add one value from each group to form a hexadecimal value. To indicate the decimal values 10, 11, 12, 13, 14 and 15, use the letters A, B, C, D, E, and F respectively.

The Message waiting lamp can only have the value 2 when used for an equipment connected to a virtual ELU29 of the Media Gateway.

Call metering can only have the value 0 when used for an equipment that is connected to the virtual ELU29 of the Media Gateway.

For equipment connected to the ELU34 board of the MX-ONE Classic all values can be selected.

D₄ = Inquiry

- 0 Extension is allowed to initiate inquiry.
- 1 Extension is not allowed to initiate inquiry.

Noprogress indication

- 0 Normal
- 2 Special noprogress tone (always the same).
The tone is set with an MDP.
- 4 Send release signal (Current feed disconnect) to the connected equipment when the other party disconnects.

Ringing signal

- 0 Normal
- 8 Internal ringing signal for external calls.

Select and add one value from each group to form a hexadecimal value. To indicate the decimal values 10, 11, 12, 13, 14 and 15, use the letters A, B, C, D, E, and F respectively.

D₅ = Type of signalling

- 0 FSK
- 1 DTMF

Type of standard

- 0 ETSI
- 2 Bellcore

Select and add values taking one from each group to form the required value. The valid values are: 0, 1 and 2.

If caller identity presentation is enabled (see D₁), the values 0 and 2 can be selected for an equipment connected to an ELU34 board only.

Only available for countries allowed to use the license FAL 104 1691. The command *license_print* can be used to verify that the exchange has the license.

D₆ = FSK Data transmission mode

- 0 During ringing
- 1 Prior to ringing using DT-AS (Dual Tone Alerting Signal)
- 2 Prior to ringing using RP-AS (Ringing Pulse Alerting Signal)
- 3 Prior to ringing using LR + DT-AS (Line Reversal followed by Dual Tone Alerting Signal).
(This option can be selected only when D₂=0 and D₃ is not equal to 4, 5, C or D).

DTMF Data transmission mode

- 0 During ringing
- 8 Prior to ringing using RP-AS (Ringing Pulse Alerting Signal).
The value 8 is allowed when D₅ is set to 1 and the equipment is connected to ELU29 or later boards.

If caller identity presentation is enabled (see D₁), a value other than 0 is allowed when D₅ is set to 0 and the equipment is connected to an ELU34 board only.

D₇ = **FSK ASCII character filter**

0 Filter is enabled.

1 Filter is disabled.

The valid values are 0 and 1 and is only relevant if FSK signaling is selected (see D₅). If the DTMF signaling is selected (in D₅), then the value specified in this digit will be ignored.

95.1.2

FUNCTION

The parameter states functions for different types of telephones or equipment that can be connected to an analog extension line circuit.

- Bearer services for originating extension. This category is introduced to be able to allow two different bearer services, 3.1 kHz (useful when it is connected to a fax machine) or speech (default value).
- Global no-progress tone for voice mail systems. It is used to select the global tone to use for the main no-progress cases: global dial tone (default value) or global interception tone. If the enhanced global tone option is not selected, it has no effect.
- Caller identity presentation. It is used to activate the display of the caller identity on the types of telephones supporting this function. The caller identities of calling internal parties or parties via trunk or tie lines with number/name information transmission capability, will be displayed.
- Polarity reversal. It is used to indicate to the extension that some event has happened in the progress of the call.
- Enhanced global tone. The normal tones defined for the market are replaced by standard tones: standard global busy, ringback, noprogess and reorder tones. This may be required when a voice system is connected via analog extension line circuits.
- Message waiting lamp. The telephone may have a dedicated lamp for message waiting indications. This lamp can be handled with voltage ramp or polarity reversal.
- Call metering. Used to send 12 kHz or 16 kHz metering pulses to the extension according to the charging information received from the public network. This function is available for extensions when the call is made via ISDN trunks.
- Inquiry. The use of inquiry can be restricted for certain extensions, no matter if it is initiated with hook flash, R-button, or earth button.
- Noprogess indication. In error situations or when the other party clears the call different types of release indications or release signals can be selected for certain extensions such as paging and answering machines or Release Link Trunks.
- Ringing signal. Both private and public calls to the extension can be indicated with internal ringing signal.
- Type of signalling. Selects the type of signalling for sending the caller identity information.
- Type of standard. Selects the type of standard to follow for FSK signalling.

- Data transmission mode. Selects the caller identity data transmission mode when FSK signalling following ETSI is used.

95.1.3

EXAMPLE

The instrument category shall be:

- Bearer service is 3.1 kHz = 1.
- Caller identity presentation = 8.
- Polarity reversal at B-answer = 3.
- Normal tone = 0.
- Message waiting lamp with voltage ramp = 0.
- No call metering pulses = 0
- The extension is not allowed to initiate inquiry = 1.
- The extension is not allowed to initiate inquiry = 1.
- Special no progress tone shall be used = 2.
- Internal ring signal for external calls = 8.
- Type of signalling = 0.
- Type of standard = 2.
- Data transmission mode = 0.

The hexadecimal sum of these categories for D_1 is $(1+8) = 9$.

The hexadecimal sum of these categories for D_3 is $(0+0+0) = 0$.

The hexadecimal sum of these categories for D_4 is $(1 + 2 + 8) = B$.

The hexadecimal sum of these categories for D_5 is $(0 + 2) = 2$.

ICAT=930B200

95.2

ICAT - ANALOG EXTENSION - EL7

Instrument Category for TYPE EL7

95.2.1

FORMAT

ICAT = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇	
D ₁ =	Board configuration
0-F	TLU77, see Table 17 Value of D1 for the TLU77 board on page 135
0	TLU76
D ₂ =	Slip alarm
0	Show slip alarm
1	Inhibit slip alarm
	Voice Mail fast transfer
0	Disable Voice Mail fast transfer (to allow Voice Mail screened transfer).
2	Enable Voice Mail fast transfer.
	Fax server
0	Extension is a normal extension.
4	Extension is used by a fax server (3.1 khz audio for outgoing calls).
D ₃ =	See Table 18 Value of D3 on page 135
D ₄ =	Type of digital diagram
0	Multiplexer 2Mbit/s, RSM standard signalling.
1	Ericsson Cordless Switch (free standing).
2	Application computer IBM Direct Talk.
3	Multiplexer 1.5 Mbit/s, T1 interface with Loop Start Central Office signalling.
4	Multiplexer 2 Mbit/s, P7 signalling.
5	Mobility Server
6	Voice Mail system
7	Eripax PFA
8	Enhanced CAS interface for mobility.
9	1 Bit Signalling Protocol.
A	2 Bit Signalling Protocol.
B	Enhanced CAS for Interactive Voice Response (IVR).
C	Interface to other products (e.g. Wi-Fi phones).
D	Nokia Multiplexer 2Mbit/s, RSM standard signalling.
D ₅ =	Not applicable for these types of extensions. This value shall always be zero.
D ₆ =	Not applicable for these types of extensions. This value shall always be zero.
D ₇ =	Not applicable for these types of extensions. This value shall always be zero.

D_2 Select and add one value from each group to form a hexadecimal value.
Voice mail fast transfer ($D_2=2$) is not dependent on the value of D_4

Note: D_1 , D_2 and D_4 must have the same value for all extensions initiated in the same board (these parameters are common for each board).

Table 17 Value of D_1 for the TLU77 board

		0	2	4	6	8	9	A	B	C	D	E	F
SIGNALLING MODE		.	.	.	.	.	.	.	.	.	.	.	.
	CAS	X	X	X	X	.	.	.	.	.	.	.	.
	CCS	.	.	.	.	X	X	X	X	X	X	X	X
ZERO SUPPRESSION		.	.	.	.	.	.	.	.	.	.	.	.
	ZCS	X	X	.	.	X	X	X	X	.	.	.	.
	B8ZS	.	.	X	X	.	.	.	.	X	X	X	X
FRAME FORMAT		.	.	.	.	.	.	.	.	.	.	.	.
	SF	X	.	X	.	X	X	.	.	X	X	.	.
	ESF	.	X	.	X	.	.	X	X	.	.	X	X
DMI		.	.	.	.	.	.	.	.	.	.	.	.
	No	X	X	X	X	X	.	X	.	X	.	X	.
	Yes	.	.	.	.	.	X	.	X	.	X	.	X

CAS = Channel associated signalling.

CCS = Common channel signalling.

ZCS = Zero code suppression.

B8ZS = Bipolar eight zero substitution.

SF = Super-frame.

ESF = Extended super-frame.

DMI = Digital multiplexed interface.

Note: Digital multiplexed interface (DMI) is not allowed in combination with signal mode CAS. This means that the values 1, 3, 5 and 7 are not possible for D_1 .

Table 18 Value of D_3

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
ALLOWED BEARER SERVICES FOR ORIGINATING EXTENSION
Speech and 3.1 kHz audio	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
64 kbit/s restricted	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
64 kbit/s unrestricted	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
16 kbit/s unrestricted	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X
TONES PROVIDED TO EXTENSION
Normal tones	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
No tones	X	X	X	X	.	.	.	.	.	.	.	.
Enhanced global tones	X	X	X	X	.	.	.	.
Enhanced global tones including interception tone	X	X	X	X

95.2.2

FUNCTION

The parameter states terminal data for CAS extensions such as:

- The type of board configuration and the signalling format for the TLU77 board (T1 interface). The board configuration is included in the selection of DMI application, the framing format and the type of zero code suppression.
- The option to show or inhibit when slip alarm occurs.
- The option to enable or disable Voice Mail fast transfer. The fast transfer option allows message diversion information to be presented to an operator when transfer is done from a Voice Mail system. This option must be disabled if the Voice Mail system is used for screened transfers and global tones are provided.
- Allowed bearer services for originating extensions. This category is introduced to be able to allow other bearer services than speech and 3.1 kHz audio for analog extensions.
- The option to provide normal tones, global tones without interception tone, global tones including interception tone, or no-tones to the extension.
- The type of digital diagram to the external equipment connected. The interface can be connected to:
 - 2 Mbit/s Multiplexer with RSM standard signalling
 - 2 Mbit/s Multiplexer with P7 signalling
 - Ericsson Cordless Switch (free standing)
 - Application computer (for example IBM Direct Talk)
 - 1.5 Mbit/s Multiplexer (T1 interface) with CAS and Loop Start signalling
 - Mobility Server
 - Voice Mail system
 - Eripax PFA
 - Enhanced CAS interface for mobility

If the parameter is omitted, the default value (zeroes) will be used.

95.2.3

EXAMPLE 1

- TLU76 is used.
- The slip alarm will be shown when excessive slips.
- Normal tones and 3.1 kHz audio and speech bearer services.
- The interface is connected to an **Ericsson cordless switch (free standing)**.

ICAT=0001000

95.2.4

EXAMPLE 2

- TLU77 (T1 interface) is used with CAS signalling and board configuration B8ZS, SF format and no DMI mode.
- The slip alarm will not be shown when excessive slips.
- Normal tones and 3.1 kHz audio and speech bearer services.
- **1.5 Mbit/s multiplexer** with T1 Loop Start signalling is connected.

ICAT=4103000

95.2.5

EXAMPLE 3

- TLU76 is used.
- The slip alarm will be shown when excessive slips.
- Voice Mail fast transfer option is enabled.
- Global tones (without interception tone) and 3.1 kHz audio and speech bearer services.
- The interface is connected to a **Voice Mail system**.

ICAT=0286000

95.2.6

EXAMPLE 4

- TLU76 is used.
- The slip alarm will be shown when excessive slips.
- No tones and 16 kbit/s unrestricted bearer services.
- The interface is connected to an **Eripax PFA**.

ICAT=0077000

95.2.7

EXAMPLE 5

- TLU76 is used.
- The slip alarm will be shown when excessive slips.
- No tones, 3.1 kHz audio and Speech bearer services.
- The interface is connected to an **Nokia Multiplexer 2 Mbit/s, RSM standard signalling**.

ICAT=000C000

96

ICEXG

Information System own Exchange ID

96.1

FORMAT

ICEXG = D₁D₂D₃D₄D₅
D₁D₂D₃D₄D₅= 0-99999.
Own exchange ID.

96.2

FUNCTION

This parameter is used in voice mail application in conjunction with network message waiting. It states the own exchange ID of the voice mail system. It is used as a routing code for the local directory number (extensions located in the same node as the voice mail system) to form a uniform network number to the voice mail system. This ID must be used for OPEN numbering plan in a private network for network message waiting. If CLOSED numbering plan is used, a default value zero (none) must be used.

96.3

EXAMPLE 1

The information system own exchange ID 800 is intended.

ICEXG = 800

96.4

EXAMPLE 2

The information system own exchange ID is not intended (closed numbering plan is used).

ICEXG = 0

97 ICSPOS

Type of Interception Service Position

97.1 FORMAT

ICSPOS = D ₁	
D ₁ =	A Answer position for message diversion.
	M Message printout position.

97.2 FUNCTION

The parameter states the type of interception service position, that is, an answer position for a message diversion or a message printout position.

97.3 EXAMPLE

The interception service position must be of the type answer position for a message diversion.

ICSPOS = A

98

ICTDIG

Inter-city digits

98.1

FORMAT

ICTDIG= D ₁ D ₂ D ₃ D ₄ D ₅		
D ₁ D ₂ D ₃ D ₄ D ₅ =	0 - 99999	Access code for inter-city calls

98.2

FUNCTION

The parameter defines the access code for inter-city calls. This SOM parameter is only applicable when CNTRY=1 (Russia).

98.3

EXAMPLE

Set the access code for inter-city calls to 6.

ICTDIG=6

99

IE

ISDN information element identifier

99.1

FORMAT

IE =	D ₁ D ₂ ...D ₃₀	
	D ₁ D ₂ ...D ₃₀ =	[Name of ISDN information element identifier] See table below.

Table 19 ISDN information element identifiers

Name of ISDN information element identifier
BEARERCAPABILITY
CALLEDPARTYNUMBER
CALLEDPARTYSUBADDRESS
CALLINGPARTYNUMBER
CALLINGPARTYSUBADDRESS
CALLSTATE
CAUSE
CHANNELIDENTIFICATION
CHARGEADVICE
CONGESTIONLEVEL
CONNECTEDNUMBER
CONNECTEDSUBADDRESS
DATETIME
DISPLAY
FACILITY
HIGHLAYERCOMPATIBILITY
KEYPAD
LOWLAYERCOMPATIBILITY
MOREDATA
NETWORKSPECIFICFACILITY
NOTIFICATIONINDICATOR
ORIGINALLYCALLEDPTYNUMBER
ORIGINALLYCALLEDPTYSUBADDRESS
PARTYCATEGORY
PROGRESSINDICATOR
REDIRECTINGNUMBER
REDIRECTINGSUBADDRESS
REDIRECTIONSUBADDRESS
RESTARTINDICATOR

Name of ISDN information element identifier
SEGMENTEDMESSAGE
SENDINGCOMPLETE
TELESERVICETYPE
TRANSITCOUNTER
TRANSITNETWORKSELECTION
USERUSERINFORMATION

99.2

FUNCTION

The parameter states an ISDN information element identifier (IE).

99.3

EXAMPLE 1

The ISDN information element identifier is Call State.

IE = CALLSTATE

99.4

EXAMPLE 2

The ISDN information element identifier is Calling Party Number.

IE = CALLINGPARTYNUMBER

100

IFCIND

Information computer individual

100.1

FORMAT

IFCIND = D ₁ D ₂
D ₁ D ₂ = 0-15
Information computer individual number. In own exchange.

Table 20 Information systems

IFCIND = D ₁ D ₂
D ₁ D ₂ = 0-16
Information computer individual number.

100.2

FUNCTION

The parameter states the sequence number of an information system. The number is affiliated to a GICI communication channel and is ready for use in an information system application.

Note: Valid for Information systems

- IFCIND 0 through 15 is used for the information system individual located in the own exchange.
- IFCIND 16 (virtual information system) is used for the information system individual located in another node within an intelligent private network.
- IFCIND 16 can only be used in the ICUPI command.

100.3

EXAMPLE

Define individual 14 as an ANCD information channel.

IFCIND = 14

101

INDDAT

101.1

INDDAT - SL63

Data to define the board configuration

101.1.1

FORMAT

INDDAT = D ₁ D ₂ ...D ₁₂	
D ₁ D ₂ ...D ₁₁ = 000000000000	Reserved
D ₁₂ = 0 - F	See Table 21 Value of D12 in INDDAT on page 144

Table 21 Value of D12 in INDDAT

	0	1	2	3	4	5	6	7
Board configuration								
B8ZS	X	X	X	X	.	.	.	.
ZCS	.	.	.	.	X	X	X	X
ESF	X	X	.	.	X	X	.	.
SF	.	.	X	X	.	.	X	X

- B8ZS Bipolar eight zero substitution
- ZCS Zero code suppression
- ESF Extended super-frame
- SF Super-frame

101.1.2

FUNCTION

The parameter states the type of board configuration which includes the selection of the type of zero code suppression, the framing format and the format of maintenance messages used on an ESF data link.

The default value is zero when it is the first assigned trunk of a board.

The default value is the same as the previously assigned trunk on the same board when it is the non-first assigned trunk of a board.

101.1.3

EXAMPLE

The trunk is using the board configuration, B8ZS and ESF.

INDDAT = 000000000001

101.2

INDDAT - TL45

Data to define the T1 configuration

101.2.1

FORMAT

INDDAT = D ₁ D ₂ ...D ₁₂	
D ₁ D ₂ ...D ₁₀ = 0000000000	Reserved
D ₁₁ = 0 -1	See Table 22 Values of D 11 (INDDAT) on page 145
D ₁₂ = 0 -F	See Table 23 Values of D12 (INDDAT) on page 145

Table 22 Values of D11 (INDDAT)

	0	1
Blocking on excessive slip	.	.
No	X	.
Yes	.	X

Table 23 Values of D12 (INDDAT)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Signal mode	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel associated signalling, CAS	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Common channel signalling, CCS	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Zero suppression	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Zero code suppression, ZCS	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Bipolar eight zero substitution, B8ZS	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Frame format	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Super-frame, SF	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Extended super-frame, ESF	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Digital Multiplexed Interface, DMI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

101.2.2

FUNCTION

The parameter states the type of board configuration, the signalling format, and the option to block the interface when slip count exceeds the threshold. The board configuration includes the selection of DMI application, the framing format, and the type of zero code suppression.

The default value is zero when it is the first assigned trunk of a board.

The default value is the same as the previously assigned trunk on the same board when it is the non-first assigned trunk of a board.

Note: The DMI mode configuration should be in CCS signalling.

The 24th channel is reserved for signalling if any assigned channel on the same board is in CCS signalling.

The board configuration (ZERO, FRM and DMI) can only be assigned the same value for the different trunks of the same board.

The CO trunk can only support dial tone as proceed-to-send.

The DID trunk can only support wink start as proceed-to-send.
The B-answer is never received from the CO trunk.

101.2.3 EXAMPLE

Blocking on excessive slip	Yes
Signal mode	Common channel ...
Zero suppression	Bipolar eight zero
Frame format	Super-frame, SF
Digital Multiplexed Interface, DMI	No

INDDAT = 00000000001C

101.3 INDDAT - TL50

Individual Trunk Data for External Line

101.3.1 FORMAT

INDDAT = D ₁ D ₂ ...D ₁₂	
D ₁ D ₂ ...D ₁₁ = 000000000000	Reserved
D ₁₂ = 0 -3	See Table 24 Values of D12 (INDDAT) on page 146

Table 24 Values of D12 (INDDAT)

	0	1	2	3
Zero code				
Bipolar 8 zero substitution (B8ZS)	X	X	.	.
Zero code suppression (ZCS)	.	.	X	X
Framing format				
Extended superframe	X	.	X	.
Superframe	.	X	.	X

101.3.2 FUNCTION

The parameter is used for market type USA only. It defines the type of board configuration for the 1.544-Mbps trunk board. The board configuration includes the selection of framing format and the type of zero code.

101.3.3 EXAMPLE

Zero code	B8ZS
Framing format	Extended superframe

INDDAT = 000000000000

101.4 INDDAT - TL66

101.4.1 FORMAT

INDDAT = D ₁ D ₂ ...D ₁₂		
D ₁ ...D ₁₁ =	000000000000	Reserved.
D ₁₂ =		Set where the trunk is registered.
	0	Only in Server 1. Default.
	1	Do NOT register in this Server.
	2	Register in this Server.

101.4.2 FUNCTION

INDDAT, D₁₂ determines to which MX-ONE Service Node a SIP trunk is registered when the command **sip_route -register** is given for ALL_NUMBERS, ALL_EXT, or Broadworks.

102

INFTYP

Information flow type

102.1

FORMAT

INFTYP = D₁

D₁ = E Event driven information flow.

 P Periodic information flow.

102.2

FUNCTION

The parameter states on which criteria the status information shall be sent between the satellite group and the superior ANCD group. The status information from the satellite group is either sent periodically or every time a status change occurs in the group. The INFTYP parameter is used if the satellite group is an ACD group. If the parameter is omitted, a default value is set to periodic information flow. For ANCD groups the parameter is always set with the default value periodic information flow.

102.3

EXAMPLE

The status information from the satellite group to the ANCD group shall be sent periodically.

INFTYP = P

103

INTTYP

Interface Type

103.1

FORMAT

INTTYP = D ₁		
D ₁ =	0	V.24 Interface
	1	Ethernet Interface
	2	USB Interface

103.2

FUNCTION

The function is to set the interface type to a particular interface.

103.3

EXAMPLE

The interface type is Ethernet.

INTTYP=1

104

IP

IP Address, in IPv4 format

104.1

FORMAT

IP = D ₁ D ₂ D ₃ .D ₄ D ₅ D ₆ .D ₇ D ₈ D ₉ .D ₁₀ D ₁₁ D ₁₂		
D ₁ D ₂ D ₃ =		1-255
D ₄ D ₅ D ₆ =		0-255
D ₇ D ₈ D ₉ =		0-255
D ₁₀ D ₁₁ D ₁₂ =		0-255

104.2

FUNCTION

The parameter states an IP address in IPv4 format for a network interface. The use is for example network interfaces of an information computer or for H.323 trunk traffic.

Certain IP addresses that are reserved or have a special meaning (for example for this network, this system, broadcast, and loop-back) are not allowed. For example, the following IP addresses must not be used in certain networks: 0, 127, 128, 191, 192, 223.

See en.wikipedia.org/wiki/IPv4#Addressing or RFCs for details on IPv4 addresses.

Note: Always consult your network administrator for available IP addresses.

104.3

EXAMPLE

The IP address is: 153.88.40.85

IP = 153.88.40.85

105
IP1

First IP address for PNR Destination

105.1
FORMAT

IP1 = D ₁ D ₂ D ₃ .D ₄ D ₅ D ₆ .D ₇ D ₈ D ₉ .D ₁₀ D ₁₁ D ₁₂
D ₁ D ₂ D ₃ = 1-255
D ₄ D ₅ D ₆ = 0-255
D ₇ D ₈ D ₉ = 0-255
D ₁₀ D ₁₁ D ₁₂ = 0-255

105.2
FUNCTION

The parameter states an IP address in IPv4 format for a network interface. This parameter is only used in the PNR table for Private Network Routing.

Certain IP addresses that are reserved or have a special meaning (for example for this network, this system, broadcast, and loop-back) are not allowed. For example, the following IP addresses must not be used in certain networks: 0, 127, 128, 191, 192, 223.

See en.wikipedia.org/wiki/IPv4#Addressing or RFCs for details on IPv4 addresses.

Note: Always consult your network administrator for available IP addresses.

Note: If parameters IP1 and IP2 are used simultaneously, they should be connected to the same route on the receiving switch.

Note: IP address 255.255.255.254 means that there is no IP configuration data for this ENTRY. Order to the satellite to use alternative route.

105.3
EXAMPLE

The IP address of the network interface at the external destination shall be 129.2.7.9.

IP1 = 129.2.7.9

106

IP2

Second IP address for PNR Destination

106.1

FORMAT

IP2 = D₁D₂D₃.D₄D₅D₆.D₇D₈D₉.D₁₀D₁₁D₁₂

D₁D₂D₃= 1-255

D₄D₅D₆= 0-255

D₇D₈D₉= 0-255

D₁₀D₁₁D₁₂= 0-255

106.2

FUNCTION

The parameter states an IP address in IPv4 format for a network interface. This parameter is only used in the PNR table for Private Network Routing.

Certain IP addresses that are reserved or have a special meaning (for example for this network, this system, broadcast, and loop-back) are not allowed. For example, the following IP addresses must not be used in certain networks: 0, 127, 128, 191, 192, 223.

See en.wikipedia.org/wiki/IPv4#Addressing or RFCs for details on IPv4 addresses.

Note: Always consult your network administrator for available IP addresses.

Note: If parameters IP1 and IP2 are used simultaneously, they should be connected to the same route on the receiving switch.

Note: IP address 255.255.255.254 means that there is no IP configuration data for this ENTRY. Order to the satellite to use alternative route.

106.3

EXAMPLE

The IP address of the network interface at the external destination shall be 129.2.7.9.

IP2 = 129.2.7.9

107

IPOPT - ROUTE DATA

IP data option

107.1

FORMAT

IPOPT=D ₁ D ₂ D ₃		
D ₁ D ₂ D ₃ =	NO/N	Do not print IP data
	YES/Y	Print IP data

107.2

FUNCTION

The parameter states what kind of printout that is to be displayed. If NO or N is entered (or the parameter is not entered), the usual printout is provided (with no IP data). If YES or Y is entered, the IP data of the selected destinations will be provided.

107.3

EXAMPLE

Print the IP data of an external destination.

IPOPT = YES

108

IPOPT

IP Print Flag Indicator

108.1

FORMAT

IPOPT = D₁

D ₁ =	Y	IP information is printed
	N	IP information is not printed
	2	USB Interface

108.2

FUNCTION

The parameter states whether IP information should be printed or not.

108.3

EXAMPLE

Print the IP information.

IPOPT = Y

109

ISORER

Isolated LIM Rerouting Number

109.1

FORMAT

ISORER = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0-99 999

Rerouting number for isolated LIM

109.2

FUNCTION

The parameter states a number to place in front of the dialled number at congestion due to an isolated LIM. The number (first part) shall be a route access code for external traffic, so that the call is rerouted via a private or public network.

109.3

EXAMPLE

The Isolated LIM rerouting number shall be 010. The number is also initiated in the number series for external destination.

ISORER = 010

110

ISTYPE

Interception Service Type

110.1

FORMAT

ISTYPE = D ₁		
D ₁ =	1	Interception Computer
	2	Voice Mail system
	3	ANCD Application

110.2

FUNCTION

The function is to set the interception service type to a particular desired service.

110.3

EXAMPLE

The interception service type is Voice Mail system.

ISTYPE=2

111

ITYPE

Instrument Telephone Type

111.1

FORMAT

ITYPE = D ₁ D ₂		
D ₁ D ₂ = 0		DTS without physical terminal (earlier called Application Link DTS)
19		DBC 202 / DBC 212 (Dialog 3202 / Dialog 3212) ^{*)}
20		DBC 203 / DBC 213 (Dialog 3203 / Dialog 3213) ^{*)}
21		DBC 203 / DBC 213 with one extra key panel (Dialog 3203 / Dialog 3213) ^{*)}
22		DBC 203 / DBC 213 with two extra key panel (Dialog 3203 / Dialog 3213) ^{*)}
23		DBC 201 / DBC 211 (Dialog 3201 / Dialog 3211) ^{*)}
24		DBC 210 (Dialog 3210) ^{*)}
25		DBC 220 ^{*)}
26		DBC 222 ^{*)}
27		DBC 222 with one extra key panel ^{*)}
28		DBC 223 ^{*)}
29		DBC 223 with one extra key panel ^{*)}
30		DBC 223 with two extra key panel ^{*)}
31		DBC 223 with three extra key panel ^{*)}
32		DBC 223 with four extra key panel ^{*)}
33		DBC 225 ^{*)}
34		DBC 225 with one extra key panel ^{*)}
35		DBC 225 with two extra key panel ^{*)}
36		DBC 225 with three extra key panel ^{*)}
37		DBC 225 with four extra key panel ^{*)}

^{*)} Refer to the KEY parameter for a picture of the digital key system telephone.

111.2

FUNCTION

The parameter states the type of digital key system telephone.

111.3

EXAMPLE

The digital key system telephone is DBC 220.

ITYPE = 25

112 KEY

Key Placings for a DTS without physical terminal (earlier called ApplicationLink-DTS)

112.1 FORMAT

KEY = D₁D₂
D₁D₂= 1-8, 12-91 Key placings.

ITYPE = 0

112.2 KEY PLACINGS FOR DBC 202/DBC 212-DIGITAL KEY SYSTEM TELEPHONE

112.2.1 FORMAT

KEY = D₁D₂
D₁D₂= 1-3, 13, 14 Key placings.

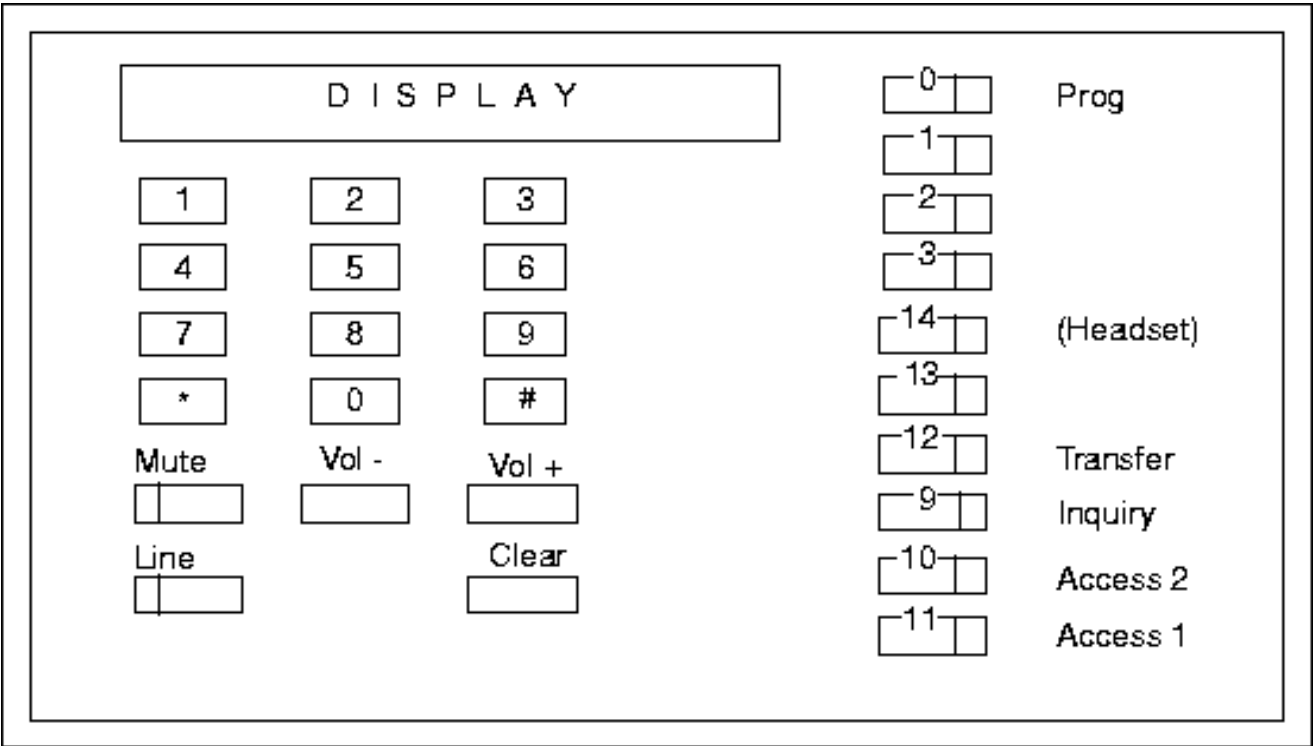


Figure 4: ITYPE=19

Note that button 14, for DBC 212 equipped with headset function, will act as a fixed key. When the headset function is not used, it should be possible to use the button for other functions.

112.3

KEY PLACINGS FOR DBC 203/DBC 213-DIGITAL KEY SYSTEM TELEPHONE

112.3.1

FORMAT

KEY = D₁D₂

D₁D₂= 1-3, 13-23 Key placings.

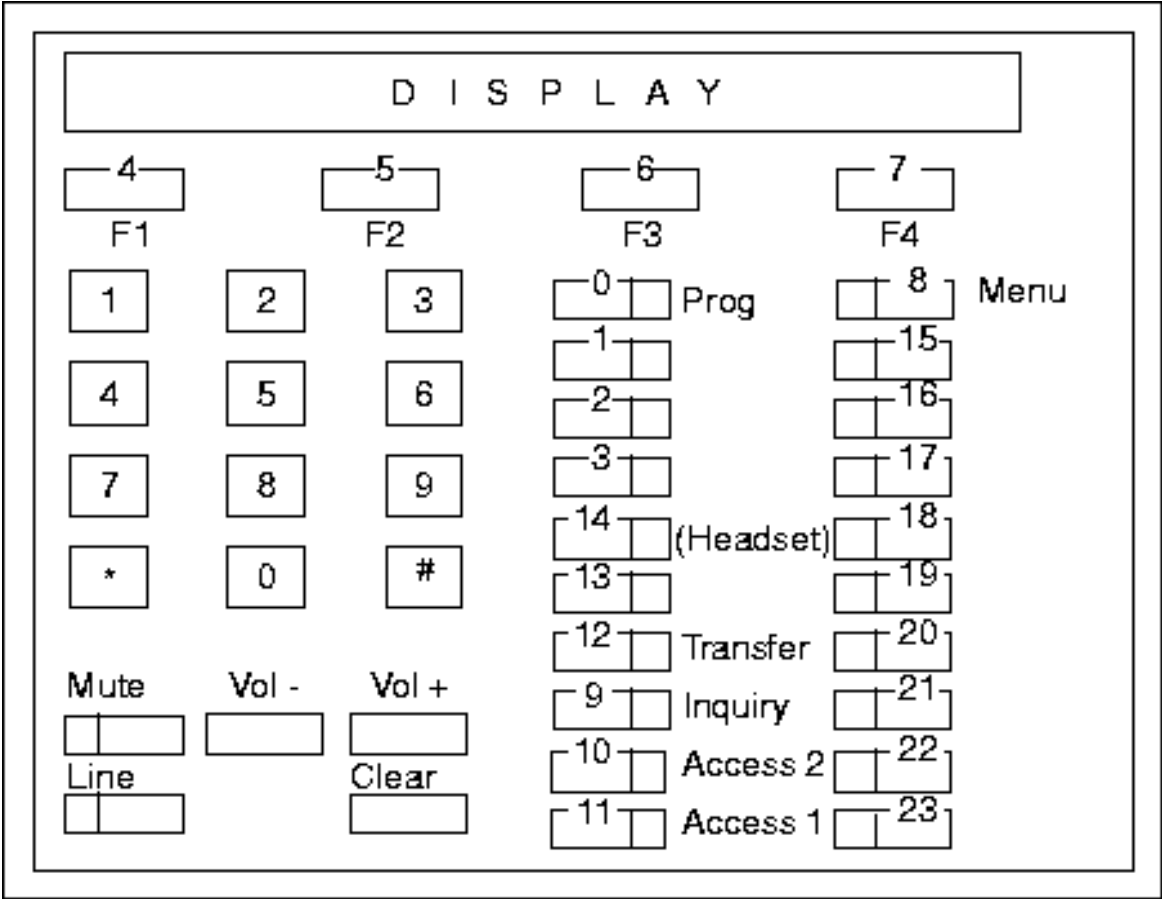


Figure 5: ITYPE=20

Buttons 4 - 7 are soft-keys buttons F1 - F4.

Note that button 14, for DBC 213 equipped with headset function, will act as a fixed key. When the headset function is not used, it should be possible to use the button for other functions.

112.4

KEY PLACINGS FOR DBC 203/DBC 213 WITH ONE EXTRA KEY PANEL-DIGITAL KEY SYSTEM TELEPHONE

112.4.1

FORMAT

KEY = D₁D₂

D_1D_2 = 1-3, 13-40 Key placings.

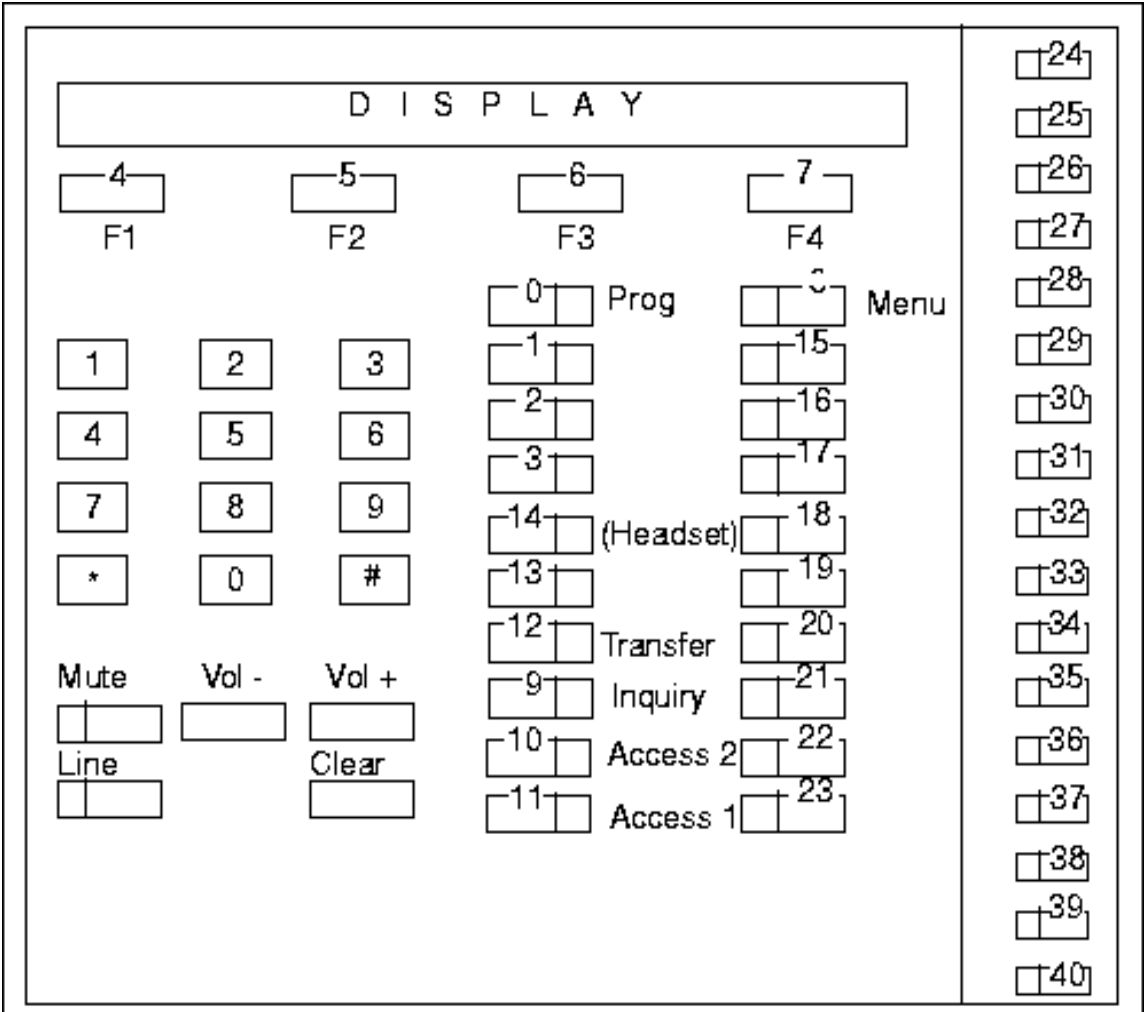


Figure 6: ITYPE=21

Buttons 4 - 7 are soft-keys buttons F1 - F4.

Note that button 14, for DBC 213 equipped with headset function, will act as a fixed key. When the headset function is not used, it should be possible to use the button for other functions.

112.5 KEY PLACINGS FOR DBC 203/DBC 213 WITH TWO EXTRA KEY PANELS-DIGITAL KEY SYSTEM TELEPHONE

112.5.1 FORMAT

KEY = D_1D_2
 D_1D_2 = 1-3, 13-57 Key placings.

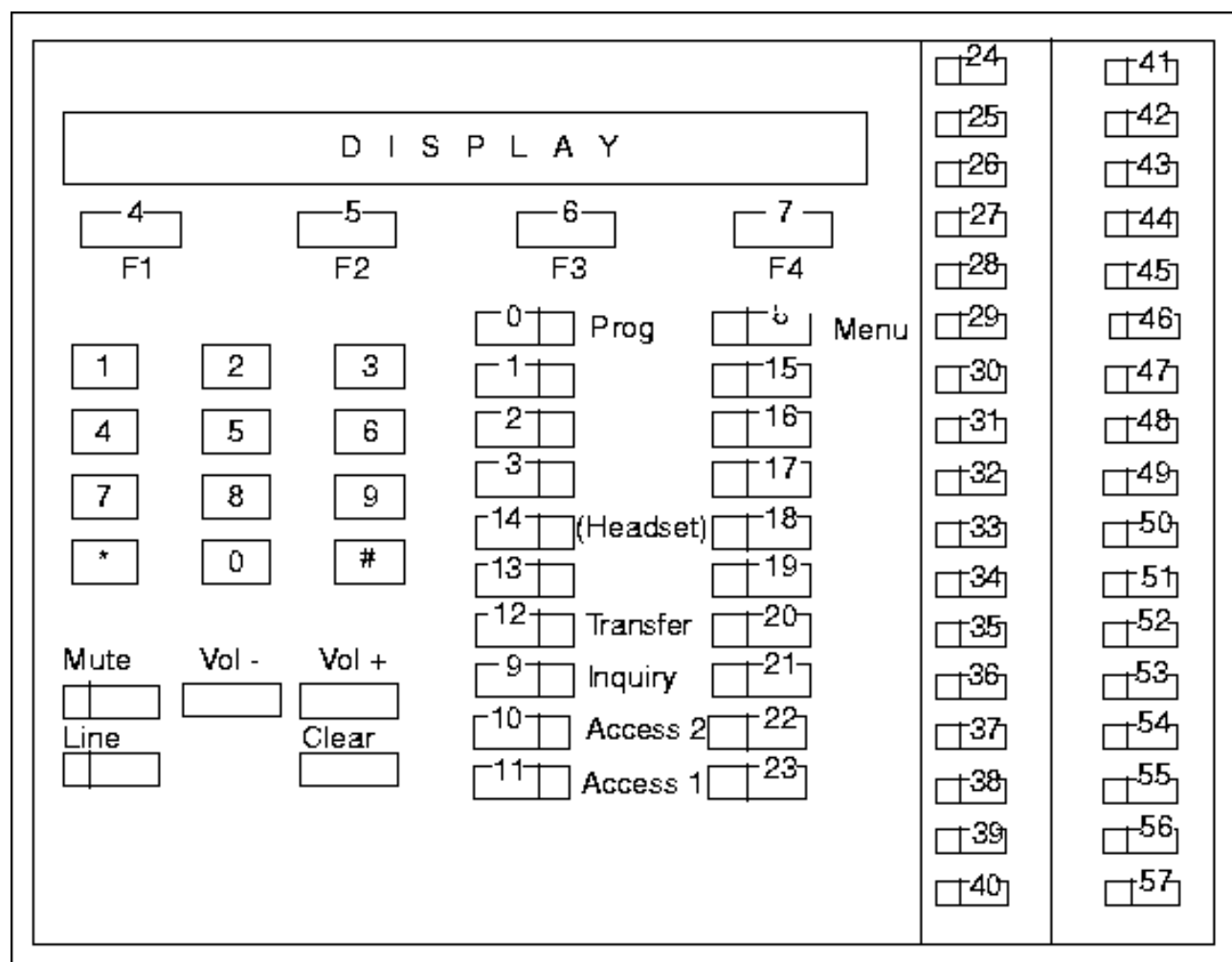


Figure 7: ITYPE=22

Buttons 4 - 7 are soft-keys buttons F1 - F4.

Note that button 14, for DBC 213 equipped with headset function, will act as a fixed key. When the headset function is not used, it should be possible to use the button for other functions.

112.6 KEY PLACINGS FOR DBC 201/DBC 211-DIGITAL KEY SYSTEM TELEPHONE

112.6.1 FORMAT

KEY = D₁D₂

D₁D₂= 1-3, 13, 14 Key placings.

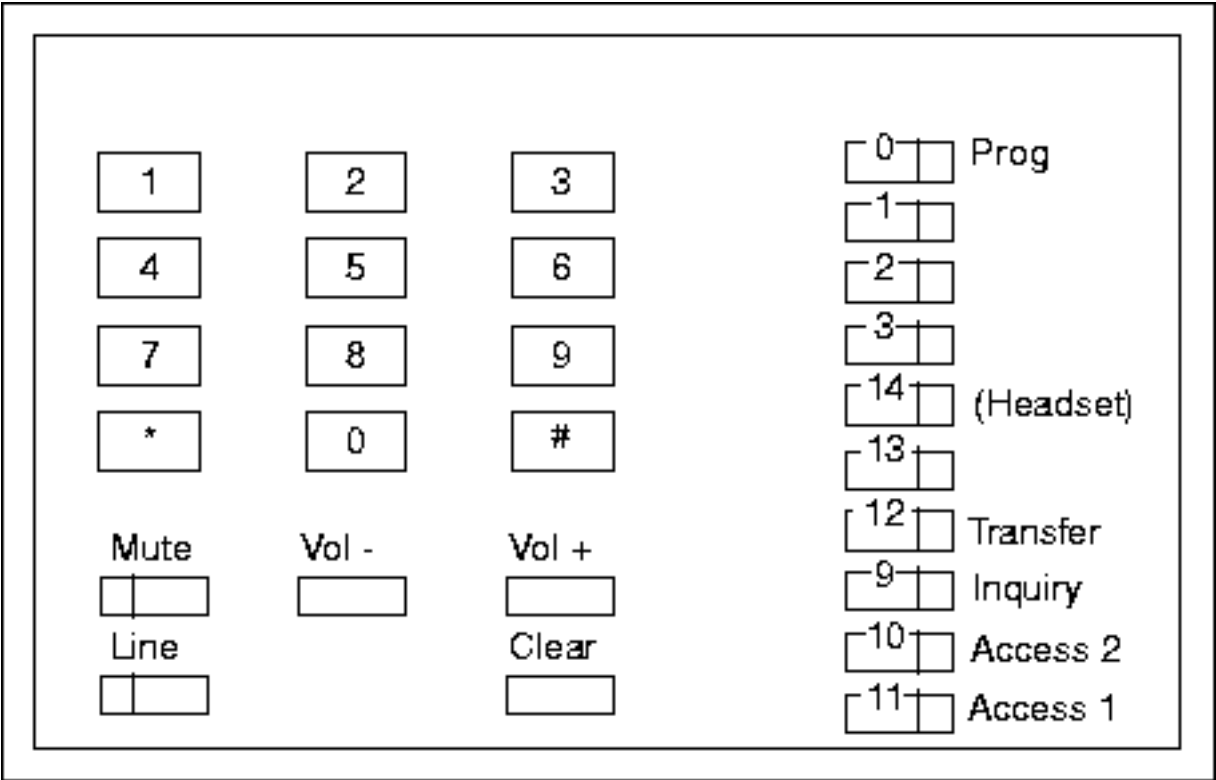


Figure 8: ITYPE=23
 Note that button 14, for DBC 211 equipped with headset function, will act as a fixed key. When the headset function is not used, it should be possible to use the button for other functions.

112.7

KEY PLACINGS FOR DBC 210-DIGITAL KEY SYSTEM
TELEPHONE

112.7.1

FORMAT

KEY = D₁D₂

D₁D₂= 13, 14 Key placings.

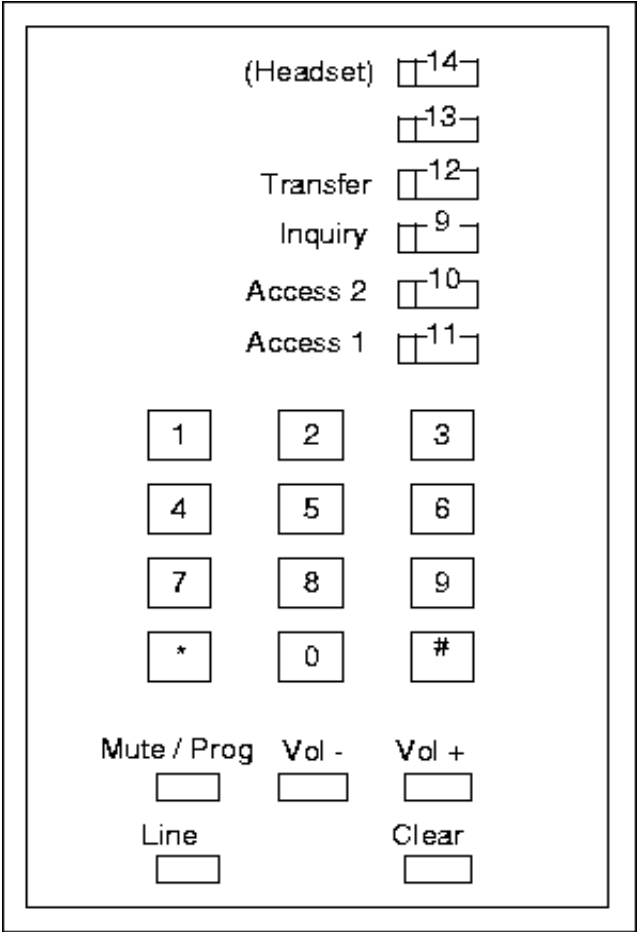


Figure 9: ITYPE=24

Note that the button Mute/Prog, in off-hook mode will act as the Mute Key, and in on-hook mode with no connection will act as the Program Key.

Note that button 14, for DBC 210 equipped with headset function, will act as a fixed key. When the headset function is not used, it should be possible to use the button for other functions.

112.8

KEY PLACINGS FOR DBC 220-DIGITAL KEY SYSTEM TELEPHONE

112.8.1

FORMAT

KEY = D₁D₂
D₁D₂= 1-3, 13, 14 Key placings.

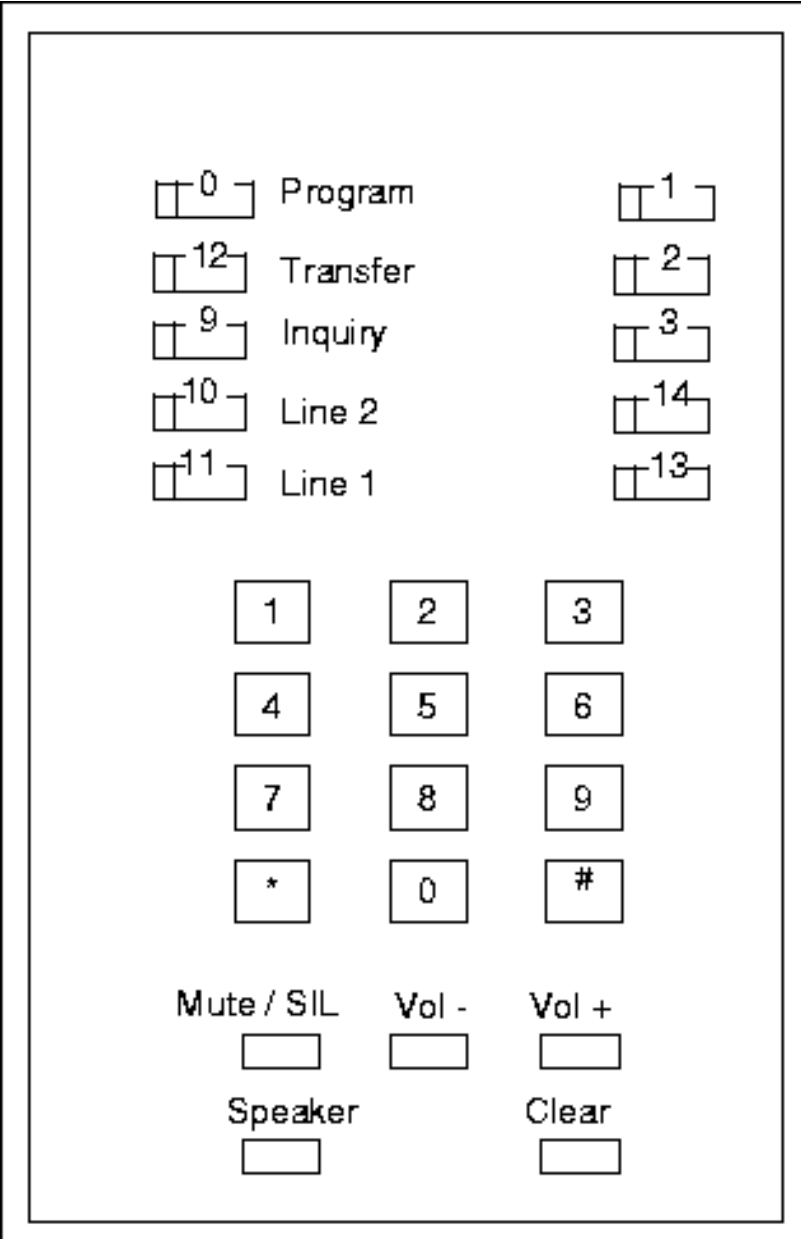


Figure 10: ITYPE=25

112.9

KEY PLACINGS FOR DBC 222-DIGITAL KEY SYSTEM
TELEPHONE

112.9.1

FORMAT

KEY = D₁D₂

D₁D₂= 1-3, 13, 14 Key placings.

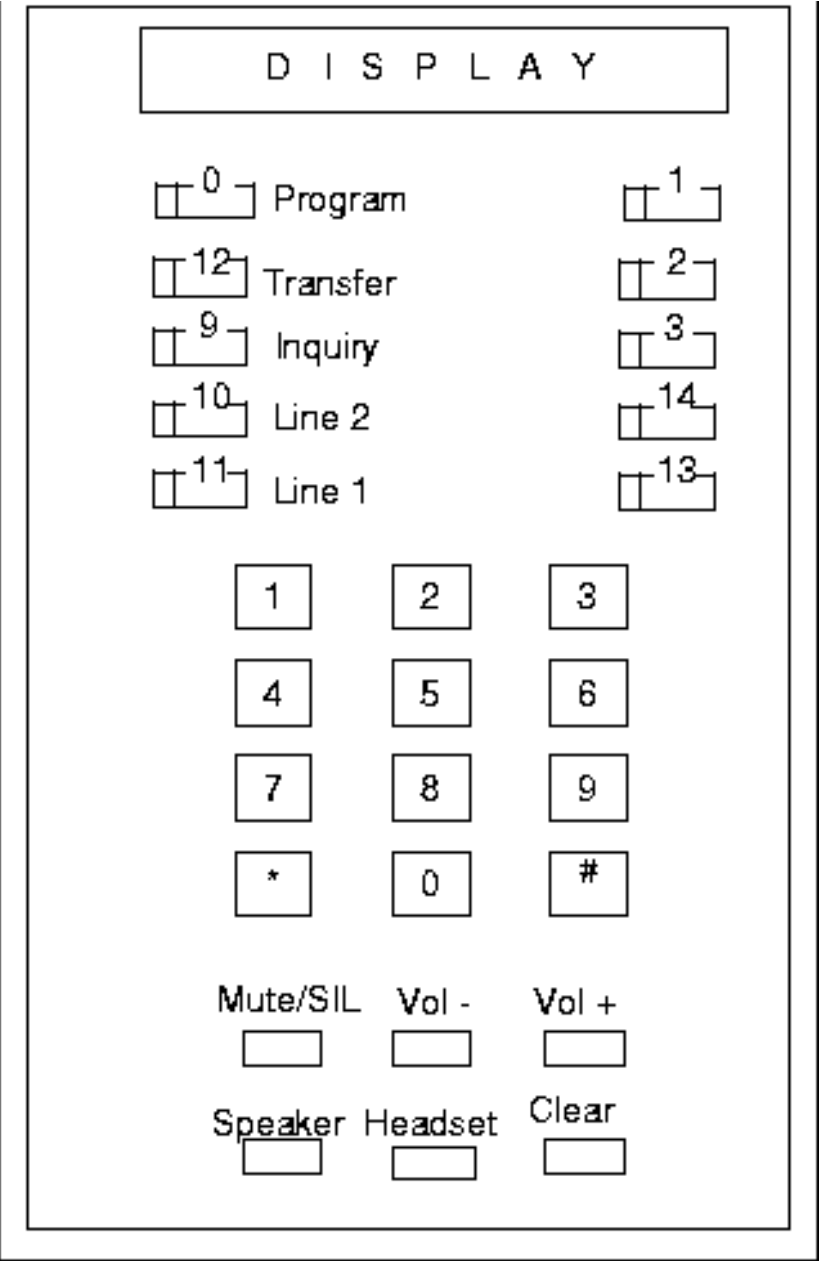


Figure 11: ITYPE=26

112.10

KEY PLACINGS FOR DBC 222 WITH ONE EXTRA KEY
PANEL-DIGITAL KEY SYSTEM TELEPHONE

112.10.1

FORMAT

<div> KEY = D₁D₂ </div> <div> D₁D₂= 1-3, 13, 14, 24-40 Key placings. </div>

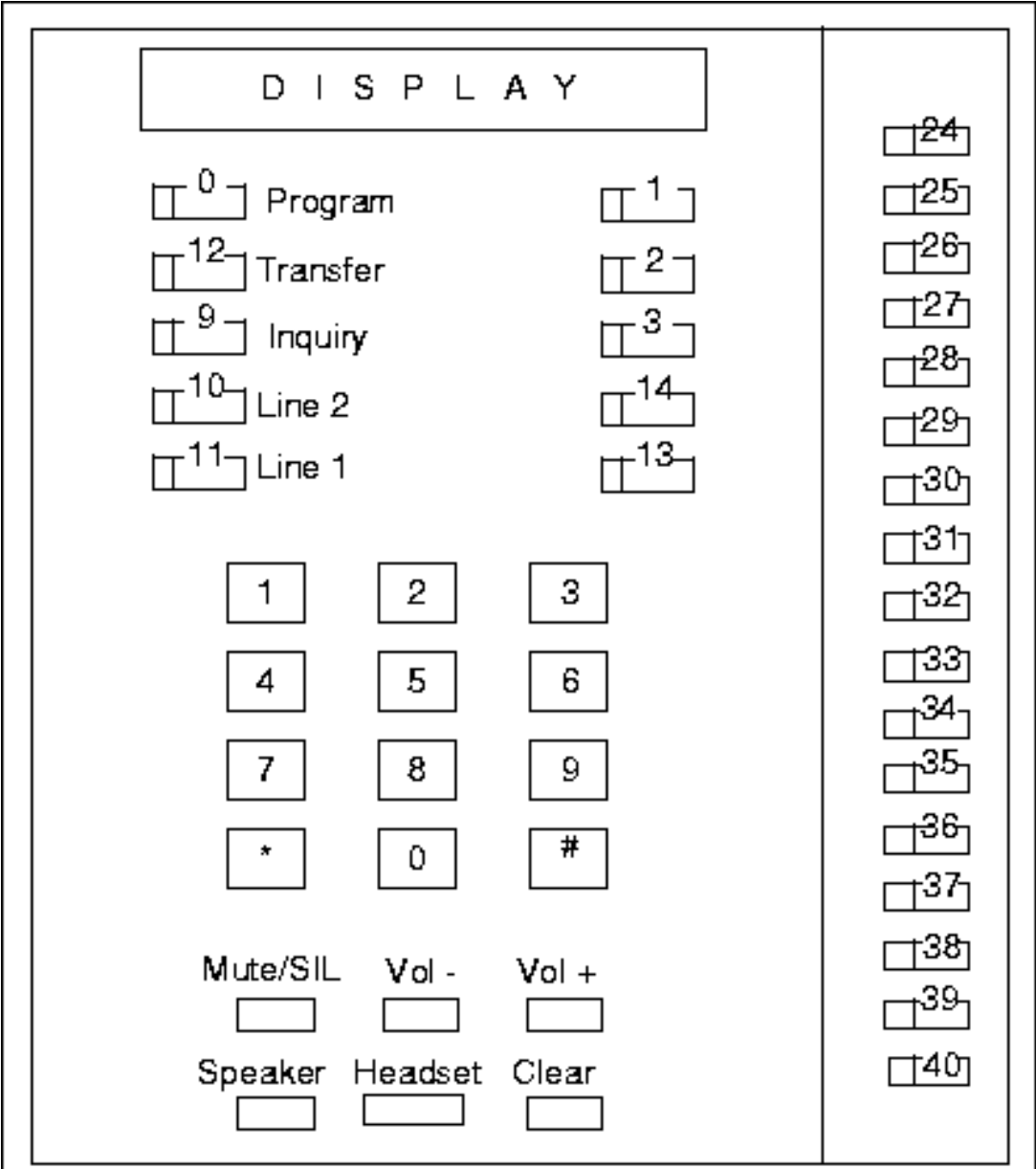


Figure 12: ITYPE=27

112.11

KEY PLACINGS FOR DBC 223-DIGITAL KEY SYSTEM TELEPHONE

112.11.1

FORMAT

KEY = D₁D₂

D₁D₂= 1-3, 13, 14 Key placings.

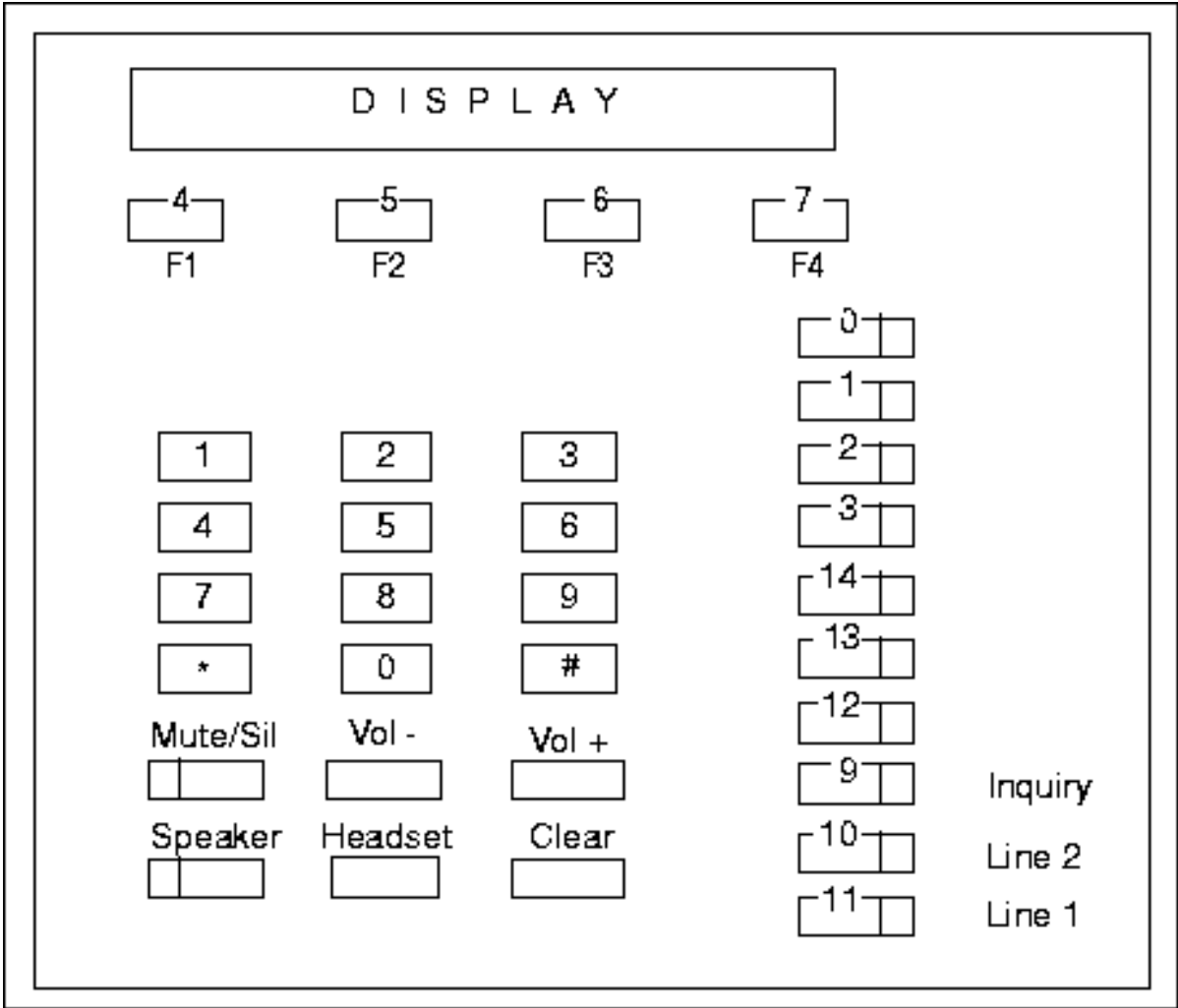


Figure 13: ITYPE=28

112.12

KEY PLACINGS FOR DBC 223 WITH ONE EXTRA KEY PANEL-DIGITAL KEY SYSTEM TELEPHONE

112.12.1

FORMAT

KEY = D₁D₂

D₁D₂= 1-3, 13, 14, 24-40 Key placings.

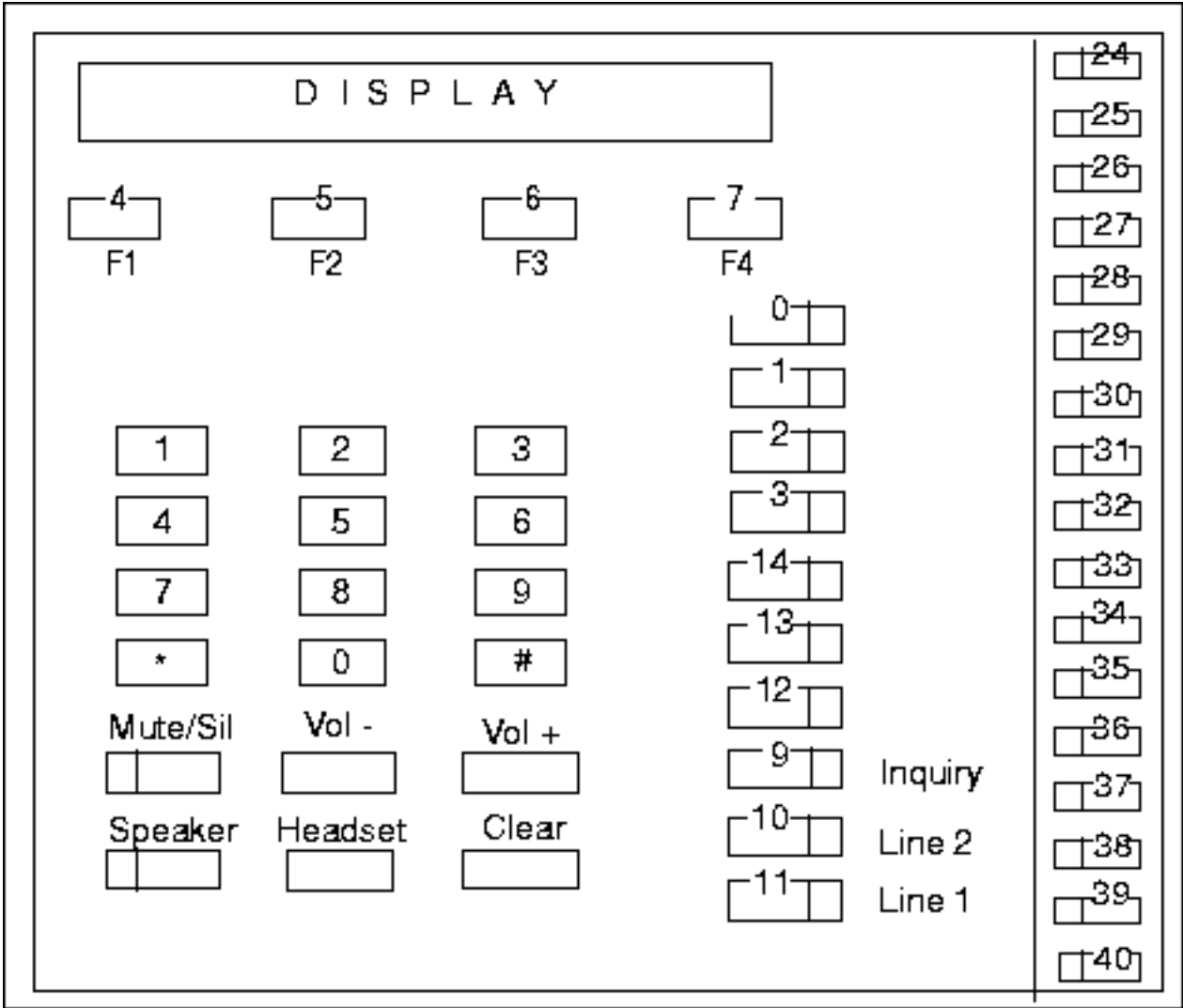


Figure 14: ITYPE=29

112.13 KEY PLACINGS FOR DBC 223 WITH TWO EXTRA KEY PANELS-DIGITAL KEY SYSTEM TELEPHONE

112.13.1 FORMAT

KEY = D₁D₂
 D₁D₂= 1-3, 13, 14, 24-57 Key placings.

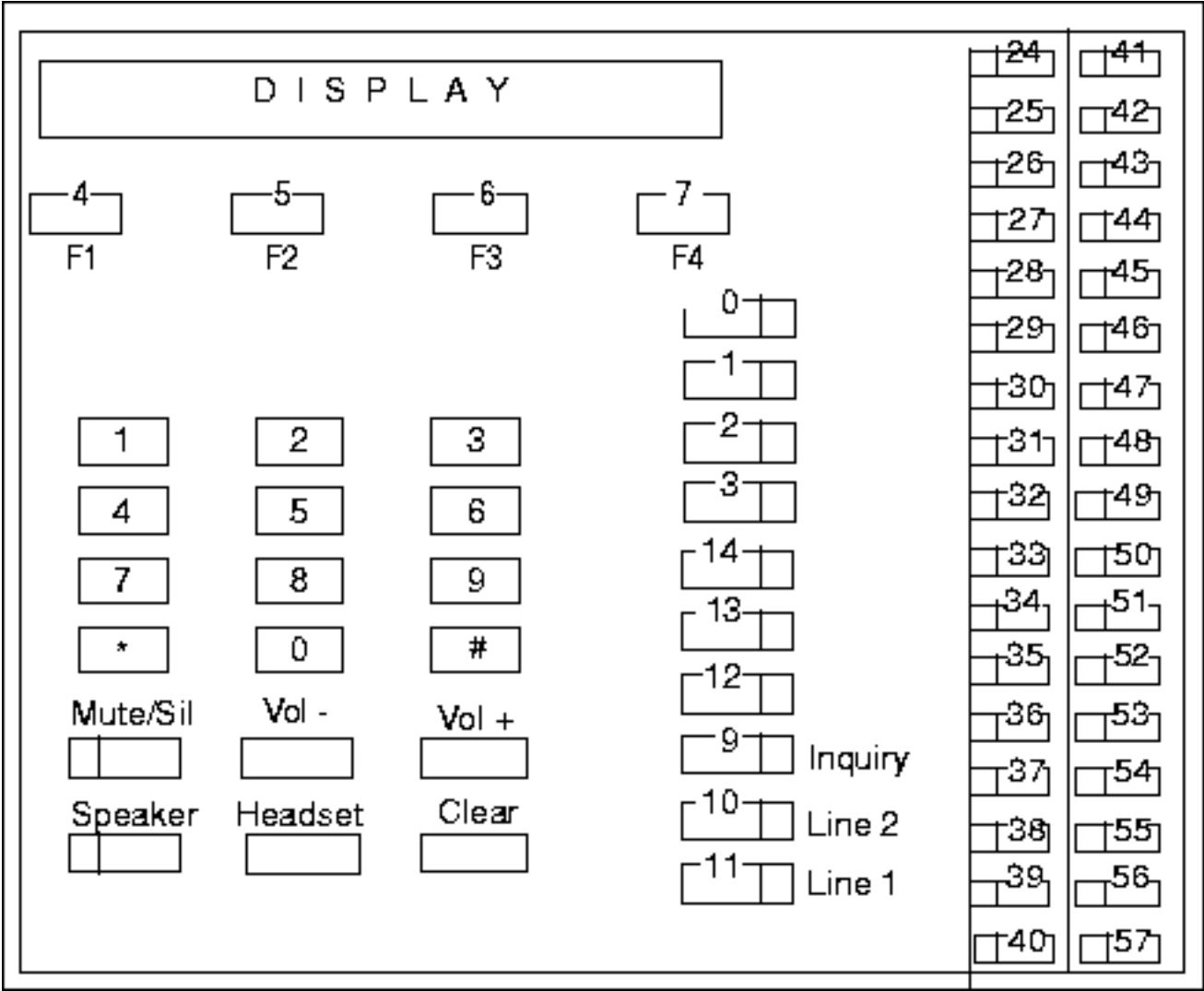


Figure 15: ITYPE=30

112.14 KEY PLACINGS FOR DBC 223 WITH THREE EXTRA KEY PANELS-DIGITAL KEY SYSTEM TELEPHONE

112.14.1 FORMAT

KEY = D₁D₂
D₁D₂= 1-3, 13, 14, 24-74 Key placings.

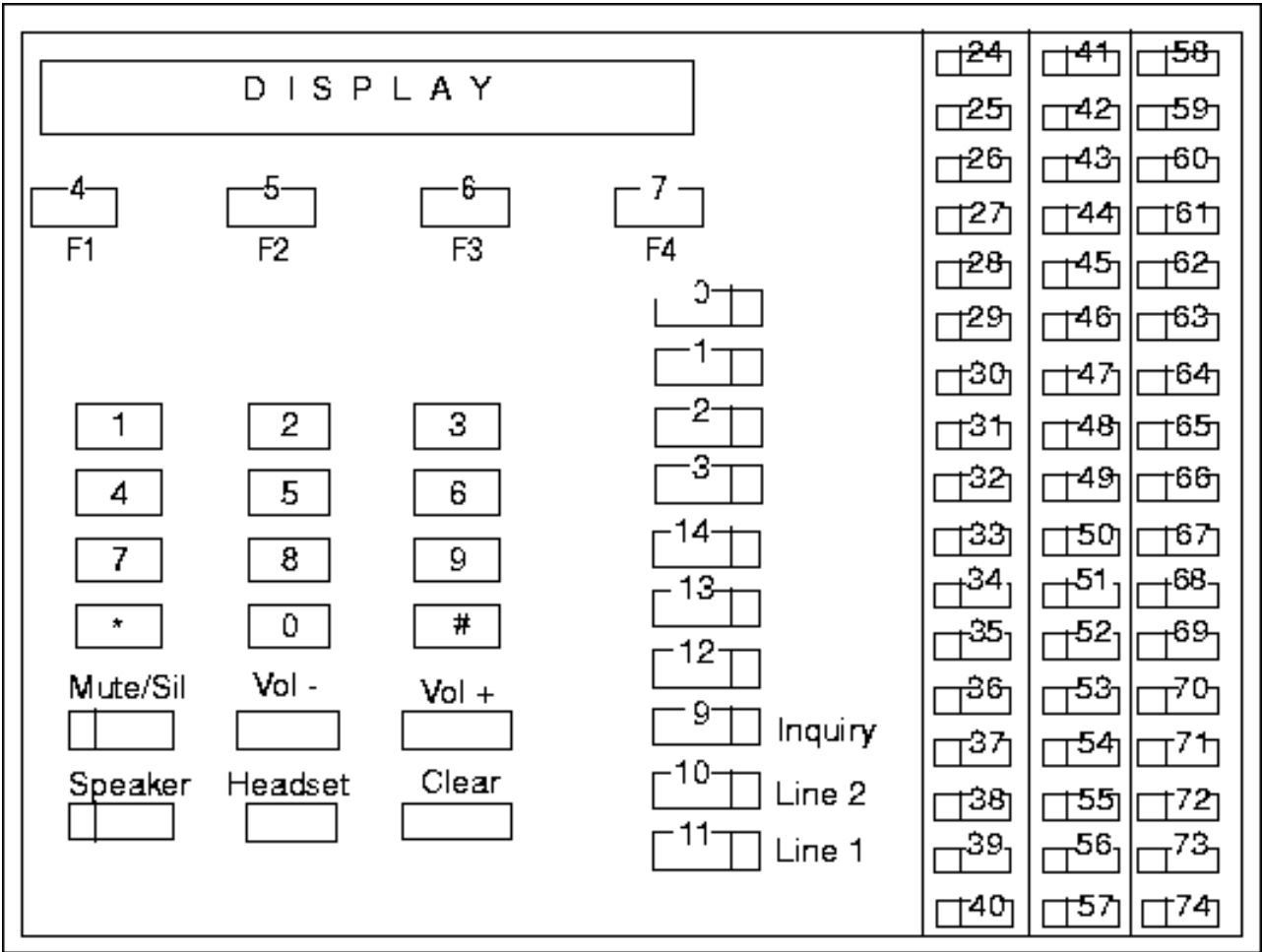


Figure 16: ITYPE=31

112.15 KEY PLACINGS FOR DBC 223 WITH FOUR EXTRA KEY PANELS-DIGITAL KEY SYSTEM TELEPHONE

112.15.1 FORMAT

KEY = D₁D₂

D₁D₂= 1-3, 13, 14, 24-91 Key placings.

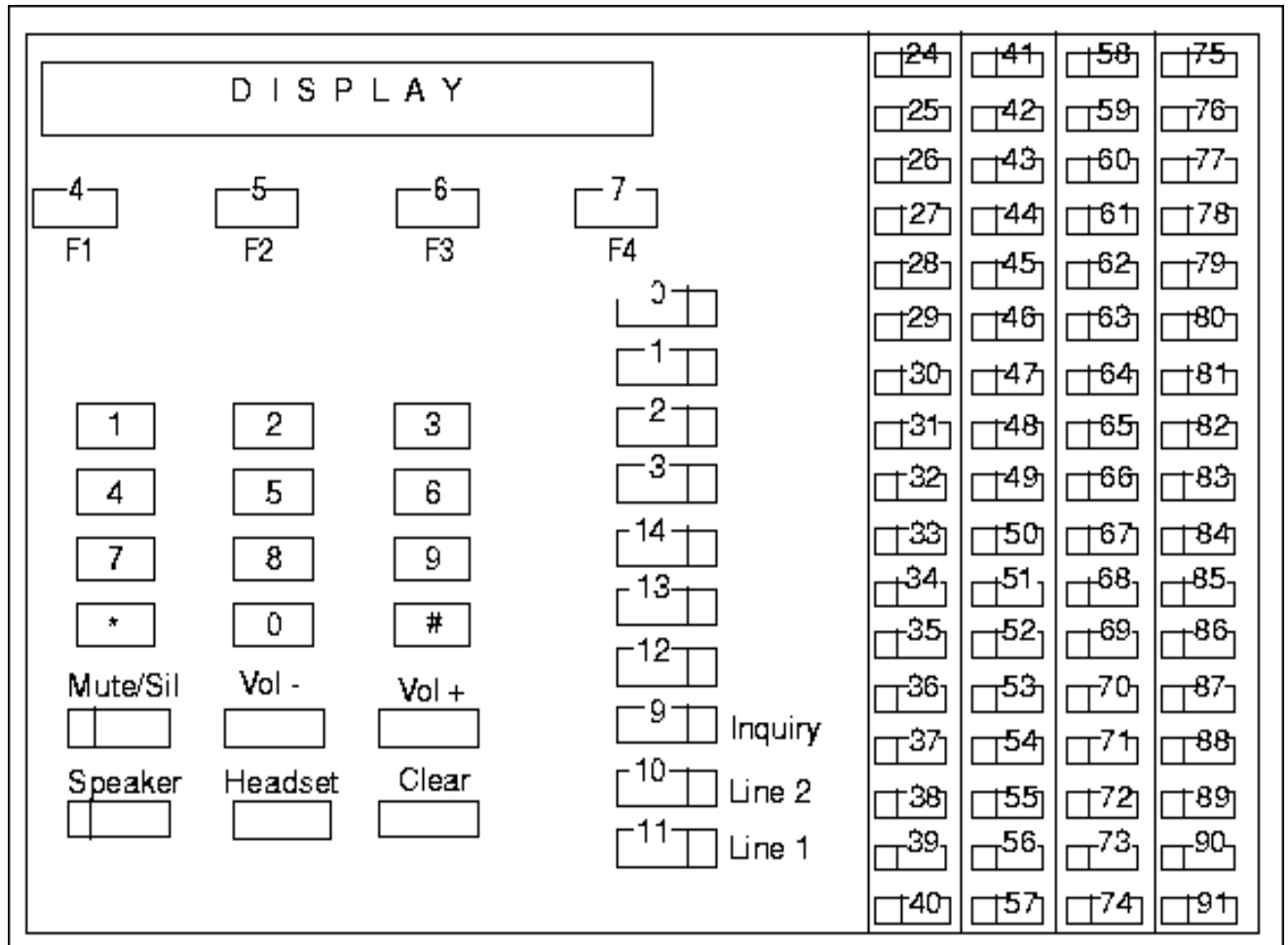


Figure 17: ITYPE=32

112.16 KEY PLACINGS FOR DBC 225-DIGITAL KEY SYSTEM TELEPHONE

112.16.1 FORMAT

KEY = D_1D_2

D_1D_2 = 1-3, 13-23 Key placings.

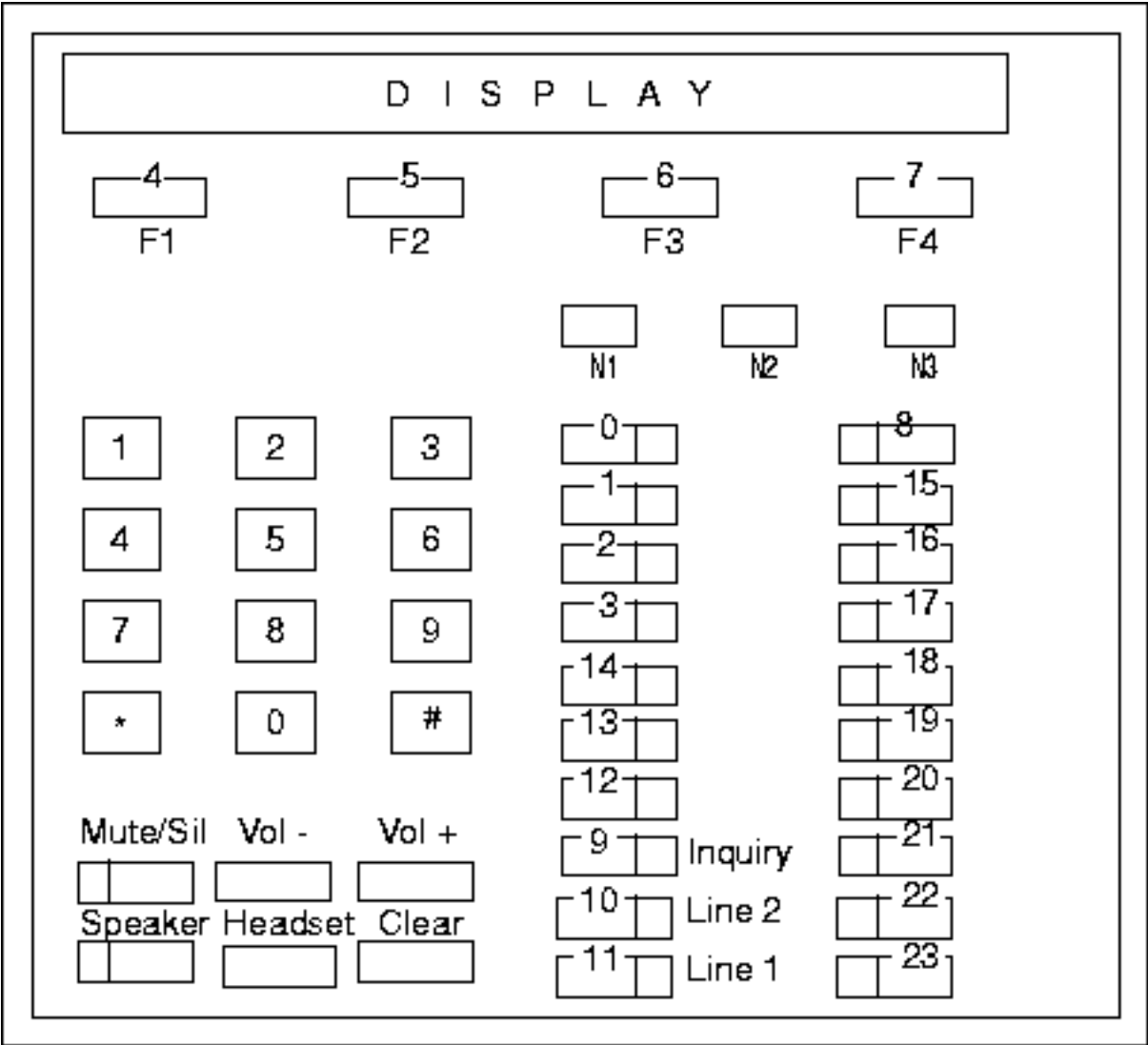


Figure 18: ITYPE=33
Buttons 4 - 7 are soft-key buttons F1 - F4.
Buttons N1 - N3 are navigation buttons.

112.17 KEY PLACINGS FOR DBC 225 WITH ONE EXTRA KEY
PANEL-DIGITAL KEY SYSTEM TELEPHONE

112.17.1 FORMAT

KEY = D₁D₂
D₁D₂= 1-3, 13-40 Key placings.

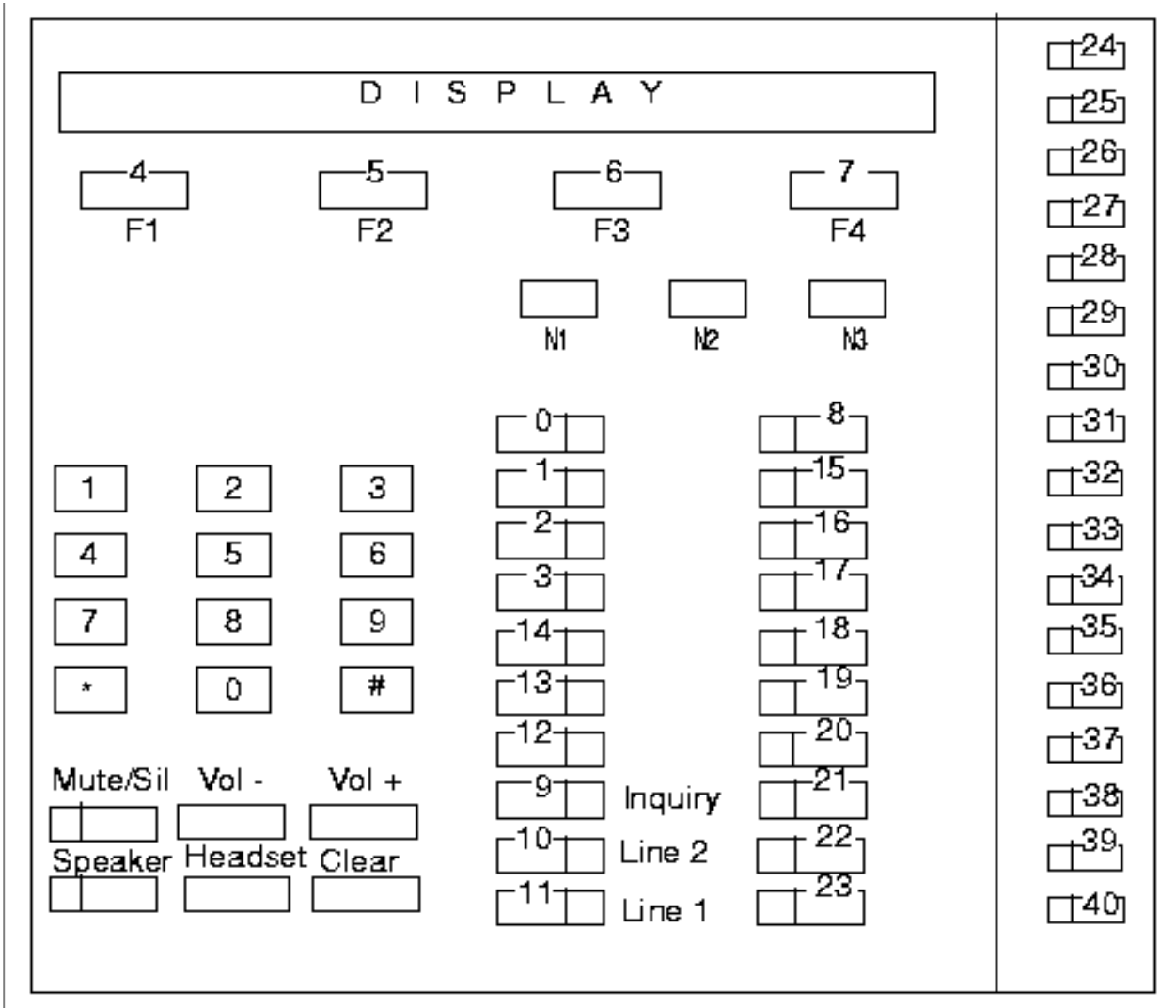


Figure 19: ITYPE=34
Buttons 4 - 7 are soft-key buttons F1 - F4.
Buttons N1 - N3 are navigation buttons.

112.18 KEY PLACINGS FOR DBC 225 WITH TWO EXTRA KEY PANELS-DIGITAL KEY SYSTEM TELEPHONE

112.18.1 FORMAT

KEY = D₁D₂
D₁D₂= 1-3, 13-57 Key placings.

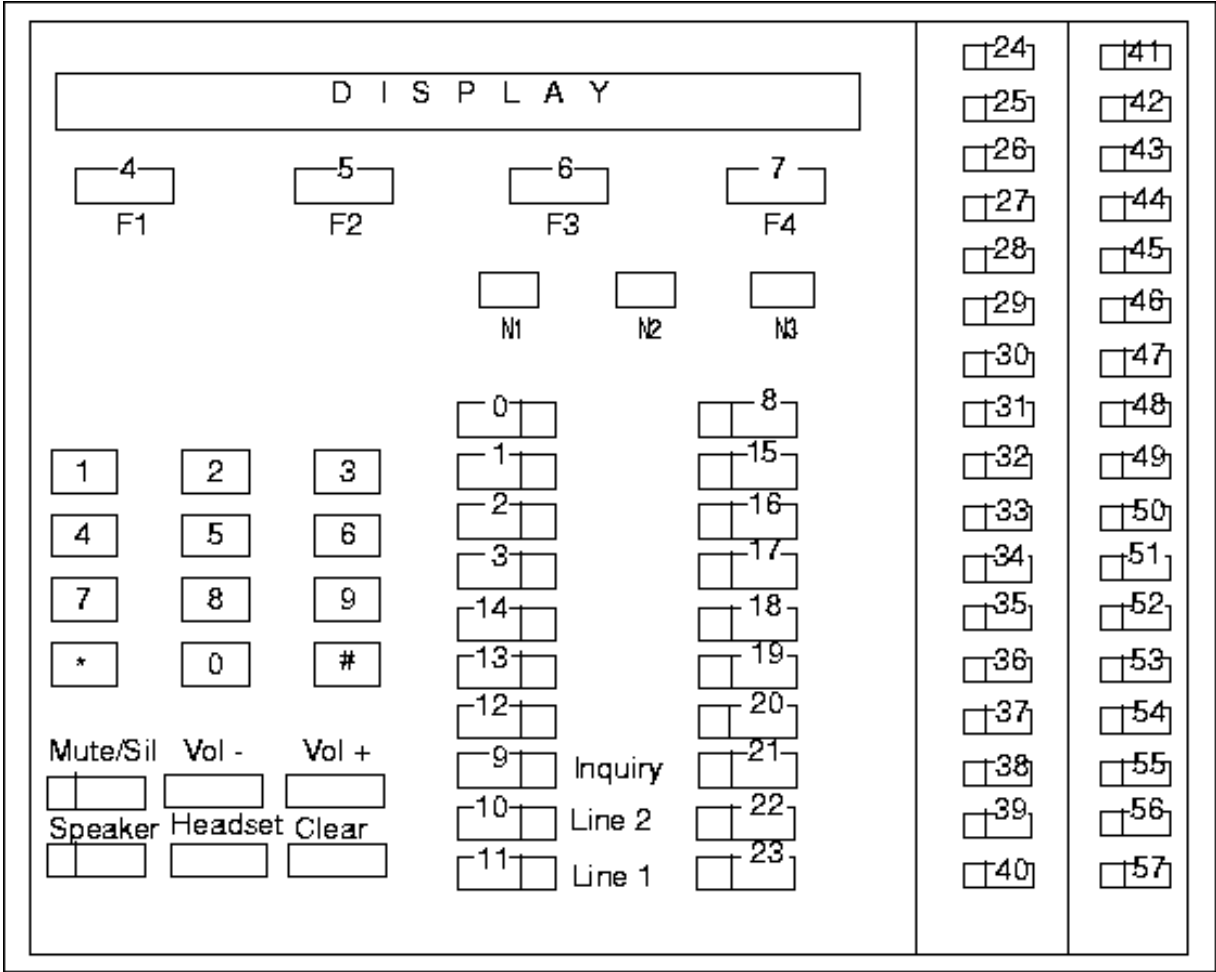


Figure 20: ITYPE=35

Buttons 4 - 7 are soft-key buttons F1 - F4.

Buttons N1 - N3 are navigation buttons.

112.19

KEY PLACINGS FOR DBC 225 WITH THREE EXTRA KEY PANELS-DIGITAL KEY SYSTEM TELEPHONE

112.19.1

FORMAT

KEY = D ₁ D ₂
D ₁ D ₂ = 1-3, 13-74 Key placings.

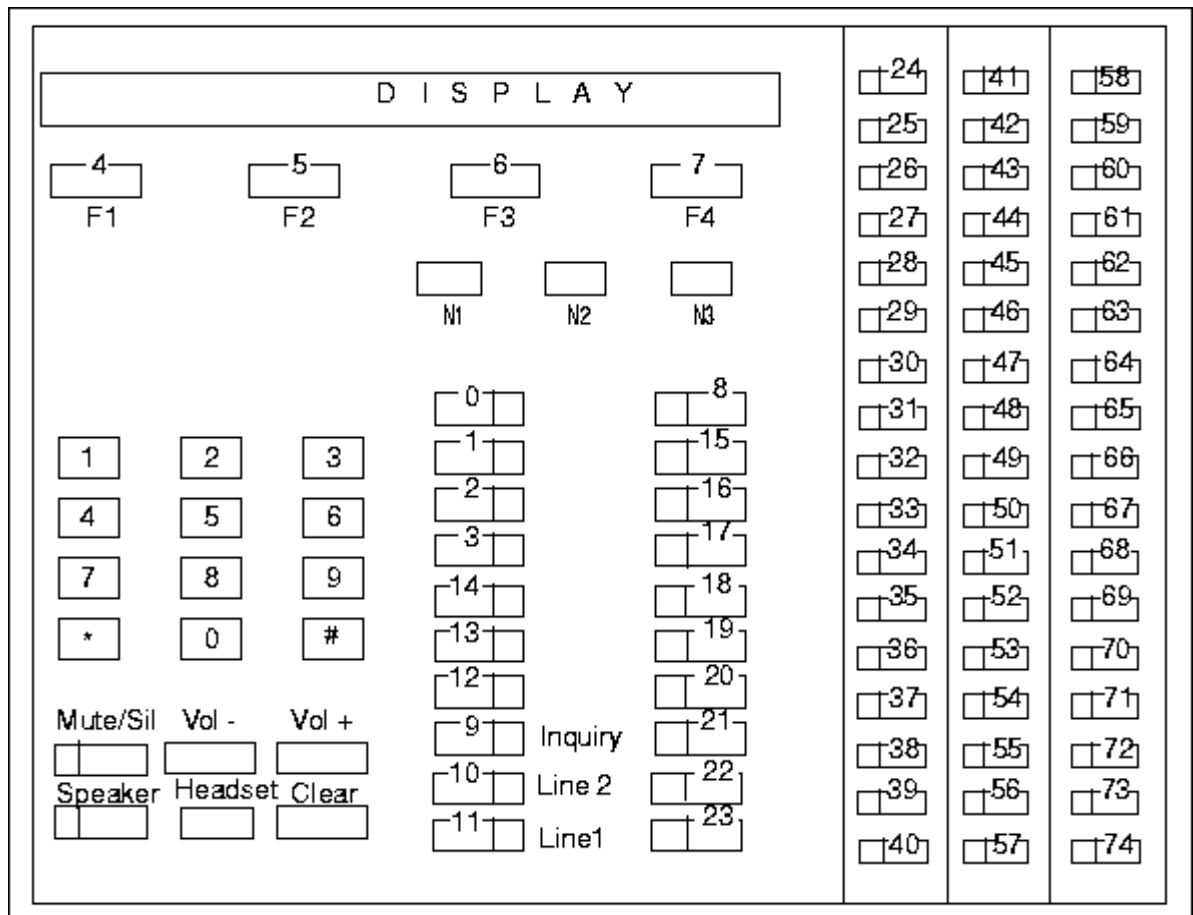


Figure 21: ITYPE=36

Buttons 4 - 7 are soft-key buttons F1 - F4.

Buttons N1 - N3 are navigation buttons.

112.20

KEY PLACINGS FOR DBC 225 WITH FOUR EXTRA KEY PANELS-DIGITAL KEY SYSTEM TELEPHONE

112.20.1

FORMAT

KEY = $D_1 D_2$

$D_1D_2 = 1-3, 13-91$ Key placings.

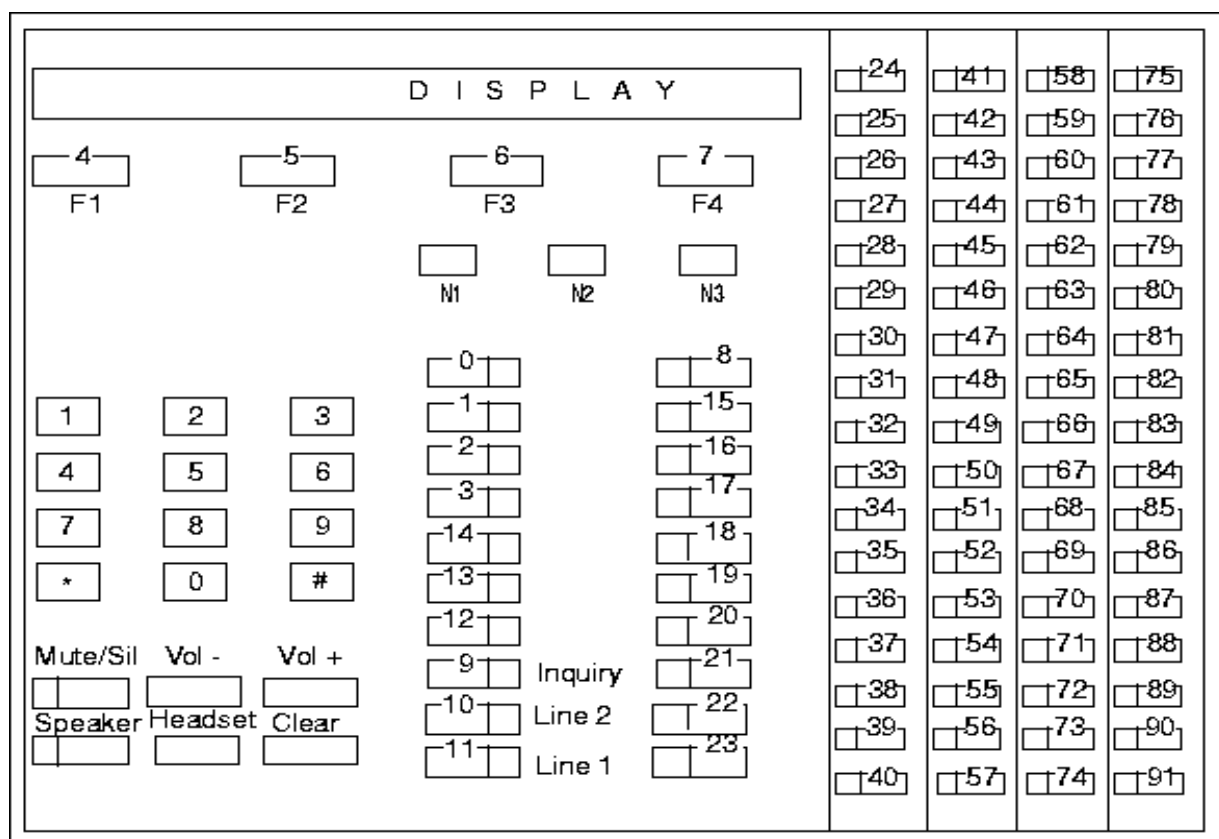


Figure 22: ITYPE=37

Buttons 4 - 7 are soft key buttons F1 - F4.

Buttons N1 - N3 are navigation buttons.

112.20.2

FUNCTION

The parameter states the key placings on Digital key system telephones.

112.20.3

EXAMPLE

The function is placed on key 20.

KEY = 20

113

KFCN

Key Function

113.1

FORMAT

KFCN = D₁D₂D₃

D₁D₂D₃= DTX

Show display text

MWA

Message Waiting Acknowledgement

MWC

Message Waiting Call Connection

113.2

FUNCTION

The parameter states the function of the message waiting button affiliated to a message system.

The following three different functions are available:

- Show display text. When the message waiting button is pressed, a text affiliated to the relevant message system will appear on the display of the telephone.
- Message Waiting Acknowledgement. When the message waiting button is pressed, this is communicated to the relevant message system. In addition, a text is displayed on the display of the telephone in the same manner as in the first function, above.
- Message Waiting Call Connection. When the message waiting button is pressed, a call is made from the extension to a directory number affiliated to the relevant message system.

113.3

EXAMPLE

State the function message waiting call connection.

KFCN = MWC

114 KTYPE

Key Type

114.1 FORMAT

KTYPE = D ₁ D ₂ D ₃		
D ₁ D ₂ D ₃ =	ADN	Additional directory number.
	FCN	Function key.
	MDN	Multiple directory number (Line pickup).
	MSN	Multiple representation with name selection.
	ODN	Own directory number (triple access line).
	PGM	Programming mode.
	SLI	Soft-key information. Which are F1, F2, F3, F4 and Menu key.

114.2 FUNCTION

The parameter states the key type.

114.3 EXAMPLE

The key type should be additional directory number.

KTYPE = ADN

115

LANG

Language Code

115.1

FORMAT

LANG = D ₁		
D ₁ = 0		English
1		French
2		German
3		Spanish
4		Italian
5-9		Modifiable (text strings are initially selected application specific languages, or in English)
F		Exchange language

115.2

FUNCTION

The parameter is used to indicate the language alternative.

Up to 10 different languages can be used.

Values from 5 to 9 are languages that can be modified, and their text strings are initially in selected among all application system dependent languages (available in the system), or in English if not defined.

Value F sets the language to the *exchange language*. The exchange language is an alias for any of the ten existing languages (numbered from 0 to 9).

Currently active languages can be printed with the `language_strings_override` command.

115.3

EXAMPLE

The language alternative for the text strings is to be Spanish.

LANG = 3

116
LEV

Tone burst level

116.1
FORMAT

LEV = D ₁			
D ₁ =	S	Silent (no call tone)	
	L	Muted sound level	
	H	Normal sound level	

116.2
FUNCTION

The parameter states the sound volume of the call tone on the PBX operator consoles. A continuous call tone however always has a normal sound level and cannot be altered.

For the OPI-II, OPI 3203/3213, and OPI 3214, the same tone level is provided if the parameter has value L or H stated, and cannot be changed.

For OMD and NOW the tone burst level can be changed by pressing the volume keys on the IP phone, if the LEV parameter is set to H=High. If the setting is L or S, the pressing of the volume keys will change the volume, but the change will only be for the ongoing call. Next call will reset the volume to the default value.

116.3
EXAMPLE

Calls to the PBX operator console are signaled with a normal sound level.

LEV = H

117

LIM

LIM-number

117.1

FORMAT

$LIM = D_1D_2D_3$ $D_1D_2D_3 = 1-124$ LIM number.

117.2

FUNCTION

The parameter states a specific LIM.

117.3

EXAMPLE

LIM number 3 is referred to.

LIM = 3

118

LINK

Signaling Link Number

118.1

FORMAT

<div> <div>LINK = D₁D₂D₃</div> <div> D₁D₂D₃ = 1-128 Signal link number. </div> </div>
--

118.2

FUNCTION

The parameter states a specific signaling link.

118.3

EXAMPLE

The signaling link number is 2.

LINK = 2

119

LNKSET

Signaling Link Set Number

119.1

FORMAT

$LNKSET = D_1D_2$

$D_1D_2 = 1-16$

Signal link set number.

119.2

FUNCTION

The parameter states a specific signaling link set.

119.3

EXAMPLE

The signaling link set number is 3.

LNKSET = 3

120

LPORT

Local port number

120.1

FORMAT

Table 25 Automatic call distribution

LPORT = D ₁ D ₂ D ₃ D ₄ D ₅
D ₁ D ₂ D ₃ D ₄ D ₅ = 1024 - 65535 Decimal value.

Table 26 Information systems

LPORT = D ₁ D ₂ D ₃ D ₄ D ₅
D ₁ D ₂ D ₃ D ₄ D ₅ = 1-65535 Port number

120.2

FUNCTION

The parameter specifies the local port number.

120.3

EXAMPLE

Local port with number 3500 shall be used.

LPORT = 3500

121

LROUID

Local route identifier

121.1

FORMAT

LROUID = "D ₁ D ₂ ...D ₁₅ "
D ₁ D ₂ ...D ₁₅ = Any combination of a maximum of 15 alphanumeric characters.

121.2

FUNCTION

The parameter states a route identifier used to distribute the incoming H.323 traffic. Incoming calls are distributed to that route whose local route identifier matches the route identifier received in the call.

At the same time, the identifier is used to authenticate if the incoming H.323 traffic comes from a known source.

The allowed characters and their ASCII code are shown in Figure 23

Note: Blanks (ASCII code #20) are not allowed.

121.3

EXAMPLE

The local route identifier of an H.323 route shall be "route25".

LROUID = "route25"

		MSB: Most Significant Byte															
LSB: Least Significant Byte	MSB LSB	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
	00				0		P		p								
	01				1	A	Q	a	q								
	02				2	B	R	b	r								
	03				3	C	S	c	s								
	04				4	D	T	d	t								
	05				5	E	U	e	u								
	06				6	F	V	f	v								
	07				7	G	W	g	w								
	08				8	H	X	h	x								
	09				9	I	Y	i	y								
	0A					J	Z	j	z								
	0B					K		k									
	0C					L		l									
	0D					M		m									
	0E					N		n									
	0F					O		o									

Figure 23: ASCII codes of the allowed characters for LROUID parameter

122

MAX

Maximum number of digits in analyzed number/directory numbers.

122.1

FORMAT

Table 27 Least Cost Routing

MAX = D ₁ D ₂
D ₁ D ₂ = 1 - 20
Maximum number of digits to be expected for the analyzed number.

122.2

FUNCTION

The parameter states the maximum number of digits in an analyzed number (LCR destination).

122.3

EXAMPLE

The maximum number is 10.

MAX = 10

123

MAXTIM

Maximum waiting time

123.1

FORMAT

MAXTIM = D ₁ D ₂ D ₃ D ₄			
D ₁ D ₂ D ₃ D ₄ =	0-3600	Time in seconds.	
	R	Remove time.	

123.2

FUNCTION

The parameter states the ANCD group's maximum waiting time. An ANCD group's MAXTIM is compared with all satellites estimated waiting time, and if the maximum waiting time is reached, the call will be overflowed or rejected. The MAXTIM, if set, is possible to remove with the character R. If the ANCD group is a satellite group, maximum waiting time cannot be assigned. If the parameter is omitted no maximum waiting time will be assigned.

123.3

EXAMPLE 1

Maximum waiting time for an ANCD group shall be 300 seconds.

MAXTIM = 300

123.4

EXAMPLE 2

Remove time.

MAXTIM = R

124

MCOST

Maximum Charging Cost

124.1

FORMAT

MCOST = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ D ₃ D ₄ =	0	No limitation on call duration.
	1-9999	Maximum charging cost (pulses).

124.2

FUNCTION

The parameter states the maximum charging cost associated with an extension. Maximum cost is in terms of pulses and therefore the call duration is limited by the assigned number of pulses.

Note: MCOST value specified will be applicable only on per call basis, that is, for the duration of a single call.

124.3

EXAMPLE

Extension with maximum charging cost 175.

MCOST = 175

125MDN

Multiple Directory Number

125.1FORMAT

MDN = D ₁ D ₂ ...D ₂₀
D ₁ D ₂ ...D ₂₀ = 00 - 99999 99999 99999 99999
Multiple represented Directory Number (line pick up).

125.2FUNCTION

The parameter states a multiple represented directory number. A multiple represented directory number denotes a directory number that is represented in several digital key system telephones.

125.3EXAMPLE 1

A digital system telephone should be assigned the multiple represented directory number 4746.

MDN = 4746

125.4EXAMPLE 2

A digital system telephone should be assigned the multiple represented directory number 5400000000.

MDN = 5400000000

126

MENO

Measurement Number

126.1

FORMAT

MENO = D₁D₂D₃

D₁D₂D₃ = 0-249

Measurement number

126.2

FUNCTION

The parameter states the measurement number assigned to a traffic measurement object.

126.3

EXAMPLE

Measurement number 11 is stated.

MENO = 11

127

MGW

Gateway number

127.1

FORMAT

MGW = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ D ₃ =	1- 124	LIM number
D ₄ =	A-O	Gateway. One of fifteen, set by a letter from A to O. A is default.

127.2

FUNCTION

The parameter states the media gateway including LIM number.

127.3

EXAMPLE

State the media gateway in LIM number = 4, gateway = B.

MGW = 4B

128

MIN

Minimum number of digits in analyzed number

128.1

FORMAT

MIN = D ₁ D ₂
D ₁ D ₂ = 1 - 20
Minimum number of digits to be expected for the analyzed number.

128.2

FUNCTION

The parameter states the minimum number of digits to be expected for the analyzed number.

128.3

EXAMPLE

The minimum length of the analyzed number is three digits.

MIN = 3

129 MODE

Signaling mode

129.1 FORMAT

MODE = D₁		
D ₁ =	0	Standard visual indications only
	1	Standard visual indications plus special audible tone indications for the visually impaired (Blind mode).
	2	Standard visual indications plus special audible tone indications even if the Operator is not visually impaired.

129.2 FUNCTION

The parameter states whether a PBX operator should receive special audible tone indications, in addition to the standard visual indications, to be informed of call progress states, call origin, and function-key states. The feature is intended to facilitate the use of operator consoles for the visually impaired and, if the PBX operator so desires, to receive call progress tones using an Operator Assistant console.

129.3 EXAMPLE

The PBX operator is to receive call progress tones and audible indications of call origins and function-key states through tone bursts.

MODE = 1

130

MONROU

Monitored Route Number

130.1

FORMAT

MONROU = $D_1D_2D_3$

$D_1D_2D_3$ = 1-999

Route numbers monitored by SOM

130.2

FUNCTION

The parameter states the route numbers which can be monitored by the Surveillance Observation and Monitoring (SOM) function.

130.3

EXAMPLE

State 12 and 15 as the route numbers to be monitored by SOM.

MONROU=12&15

131

MSAR

Meet me search area

131.1

FORMAT

MSAR = D₁D₂

D₁D₂ = 0-15
Search area.

131.2

FUNCTION

This parameter specifies a search area (see also parameter SAR) for paging when searching is in accordance with the following principles:

- meeting in exchange (meet me)
- transmitting of digit information to display in paging receiver
- initiation and acknowledgement of alarm towards paging equipment

in other words when speech is not used via a radio. Each extension can be linked to several search areas for meet me. In this case, the search will include all these areas.

131.3

EXAMPLE

The search area for meet me is 13.

MSAR = 13

132

MSG

132.1

MSG - ISDN TRUNK PROTOCOL DATA

ISDN message type

132.1.1

FORMAT

MSG = D ₁ D ₂ ...D ₂₀
D ₁ D ₂ ...D ₂₀ = [Name of ISDN message type] See table below

Table 28 ISDN message types

Name of ISDN message type
ALERTING
CALLPROCEEDING
CONGESTIONCONTROL
CONNECT
CONNECTACK
DEACTIVATE
DEACTIVATEACK
DETACH
DETACHACK
DISCONNECT
FACILITY
FACILITYACK
INFORMATION
NOTIFY
PROGRESS
REACTIVATE
REACTIVATEACK
REACTIVATEREJECT
RELEASE
RELEASECOMPLETE
RESTART
RESTARTACK
SETUP
SETUPACK
STATUS
STATUSENQUIRY
USERINFO

132.1.2 FUNCTION

The parameter states an ISDN message type.

132.1.3 EXAMPLE 1

The ISDN message type is Setup Acknowledge.

MSG = SETUPACK

132.1.4 EXAMPLE 2

The ISDN message type is User Information.

MSG = USERINFO

132.2 MSG - RECORDED VOICE ANNOUNCEMENT

Message Number

132.2.1 FORMAT

MSG = D₁D₂D₃
D₁D₂D₃ = 1 - 250, 256-65635
Message number.

132.2.2 FUNCTION

The parameter states the number of the message.

Note: If the announcement is resulting in a message which is residing on an RTP resource, i.e. MGU, the values 1-250 and 256 to 65535 are allowed. Values 251 - 255 are reserved for internal use.

132.2.3 EXAMPLE

The message is number 101.

MSG = 101

133

MWF

Message Waiting Function

133.1

FORMAT

MWF = D ₁ D ₂ ...D ₇		
D ₁ D ₂ ...D ₇ =	NONE	No extensions
	PARTIAL	Only digital key system telephones
	ALL	All types of extensions

Note: For remote node, MWF is either NONE or ALL.

133.2

FUNCTION

The parameter states what types of extensions are to be notified about MESSAGE WAITING in connection with the interception service (computer) function.

133.3

EXAMPLE 1

No types of extensions are to be notified.

MWF = NONE (As an alternative, the parameter may be omitted.)

133.4

EXAMPLE 2

All types of extensions are to be notified.

MWF = ALL

134 NCA

Network Central Answer position

134.1 NCA - PBX OPERATOR TRAFFIC

Network central answer position

134.1.1 FORMAT

Table 29

NCA = D ₁ D ₂ ...D ₁₀		
D ₁ D ₂ ...10 =	0 - 99999 99999	Exchange number of the central answer position in the network.
	CCOP	States that the external answering position is a customer centralized operator.

134.1.2 FUNCTION

The parameter states the exchange identity number of the central answer position, that is, the central PBX operator exchange, which is used for identification of the rerouting position.

The parameter is also used to indicate if the external answering position is a CCOP.

134.1.3 EXAMPLE 1

State the exchange number of an external PBX operator in exchange 74 as a central operator position in the network.

NCA = 74

134.1.4 EXAMPLE 2

State that the external answering position should be a customer centralized operator.

NCA = CCOP

134.2 NCA - ROUTE DATA

Network Central Answering Position

134.2.1 FORMAT

Table 30

NCA=D ₁ D ₂ D ₃ D ₄ D ₅		
D ₁ D ₂ D ₃ D ₄ D ₅ =	0-99999	Exchange number of the central answering position in the network.

NIG	The central answering position in the network is to be used regardless of its day or night service status.
CCOP	The external answering position is the customer centralized operator.

134.2.2

FUNCTION

The parameter states the exchange number of the exchange where the central answering position is situated, for example, the exchange where a central PBX operator is situated. NCA is used for identification of the rerouting (divertee position).

If NIG is stated in the NCA parameter the calls will be rerouted to the central answering position regardless of its exchange's day or night service status. Only one central answering position is allowed to have this characteristic (that is, NCA=NIG).

If CCOP is stated in the NCA parameter, it indicates that the central answering position is a customer centralized operator.

134.2.3

EXAMPLE 1

State the exchange number of the external PBX operator in exchange 74 as the central answering position in the network.

NCA = 74

134.2.4

EXAMPLE 2

State that central answering position is to be used regardless of its day or night service status.

NCA = NIG

134.2.5

EXAMPLE 3

State that the central answering position is a customer centralized operator.

NCA = CCOP

135 NDBPOS

Dial By Name Character Position

135.1 FORMAT

NDBPOS = D ₁		
D ₁ =	0-3	Position 1 to 4 for key1.
	4-7	Position 1 to 4 for key0.

135.2 FUNCTION

The parameter states the position in the loop for an additional character in the name search method from the user interface for the Dial by Name, for key 1 and for key 0.

The values from 0 to 3 are used to point out a place in the loop of key 1 from the first to the fourth. The values from 4 to 7 are used to point out a place in the loop of key 0 from the first to the fourth.

135.3 EXAMPLE 1

Assign an additional character to use in the Dial by Name search method to position 3 in the loop of key 1.

NDBPOS = 2

135.4 EXAMPLE 2

Assign an additional character to use in the Dial by Name search method to position 2 in the loop of key 0.

NDBPOS = 5

136

NDBVAL

Dial By Name Character Value

136.1

FORMAT

NDBVAL = D ₁ D ₂
D ₁ D ₂ = 0, 30, 31, C0-DF
Dial by Name additional character value in hexadecimal format

136.2

FUNCTION

The parameter states the additional character value that will be used for the Dial by Name search and arrange method. Once the parameter is used, the value of this character will be used in the internal arrange method in the Dial by Name data base, and it will be associated with the position in key 1 or 0 defined with NDBPOS parameter to be searched from the user through the Digital Telephone Set.

The values accepted are from C0 to DF, which are the specific characters used by different languages in upper case. The characters used in the Dial by Name data base internal arrange method are always in upper case, once an additional character from C0 to DF is included, the same character in lower case, located from E0 to FF, will also be converted to the upper case value for the arrange and search method.

The value 0 is used to remove the additional character from the Dial by Name search and arrange method. Once this value is used, the additional character is converted to its default value, 24 Dial by Name Internal Conversion Table on page 205.

The value 30 is used to remove the additional character stored in key 0 from the Dial by Name search and arrange method. The value 31 is used in the same way when the additional character is stored in key 1. Both values, 30 and 31, are the ASCII default values for keys 0 and 1, and must be permitted to allow regeneration through PC Regen.

136.3

EXAMPLE

Include the characters Ñ and ñ in the Dial by Name search and arrange method.

NDBVAL = D1

MSB: Most Significant Byte

LSB: Least Significant Byte

MSB LSB	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	SP	SP	SP	0	SP	P	SP	P	SP	SP	SP	SP	A	SP	A	SP
1	SP	SP	SP	1	A	Q	A	Q	SP	SP	SP	SP	A	N	A	N
2	SP	SP	SP	2	B	R	B	R	SP	SP	SP	SP	A	O	A	O
3	SP	SP	SP	3	C	S	C	S	SP	SP	SP	SP	A	O	A	O
4	SP	SP	SP	4	D	T	D	T	SP	SP	SP	SP	A	O	A	O
5	SP	SP	SP	5	E	U	E	U	SP	SP	SP	SP	A	O	A	O
6	SP	SP	SP	6	F	V	F	V	SP	SP	SP	SP	A	O	A	O
7	SP	SP	SP	7	G	W	G	W	SP	SP	SP	SP	C	SP	C	SP
8	SP	SP	SP	8	H	X	H	X	SP	SP	SP	SP	E	O	E	O
9	SP	SP	SP	9	I	Y	I	Y	SP	SP	SP	SP	E	U	E	U
A	SP	SP	SP	SP	J	Z	J	Z	SP	SP	SP	SP	E	U	E	U
B	SP	SP	SP	SP	K	SP	K	SP	SP	SP	SP	SP	E	U	E	U
C	SP	SP	SP	SP	L	SP	L	SP	SP	SP	SP	SP	I	U	I	U
D	SP	SP	SP	SP	M	SP	M	SP	SP	SP	SP	SP	I	Y	I	Y
E	SP	SP	SP	SP	N	SP	N	SP	SP	SP	SP	SP	I	SP	I	SP
F	SP	SP	SP	SP	O	SP	O	SP	SP	SP	SP	SP	I	S	I	S

Figure 24: Dial by Name Internal Conversion Table

Converted characters used to arrange and search in the Dial by Name feature.

137

NDC

Non-dialled connection number

137.1

FORMAT

<p>$NDC = D_1D_2 \dots D_{26}$</p> <p>$D_1D_2 \dots D_{26} = 1 - 26$ characters with the value range 0-9, A-E. The maximum number of digits including A and B can be 20. The maximum number of PTS positions is 6.</p>
--

137.2

FUNCTION

The parameter states the complete, translated number for an abbreviated number. A represents * and B represents #. In the case when a PTS signal is to be detected, its place in the complete number shall be stated with C, D or E.

- C** Normal PTS. If time out occurs the sending of digits are continued with the same type of register signalling as before time out.
- D** PTS followed by DTMF sending of digits. If time out occurs the sending of digits are continued with DTMF register signalling.
- E** PTS followed by DTMF sending of digits. If time out occurs no more sending of digits and the external line is disconnected.

137.3

EXAMPLE

The non-dialled connection number shall be 0005C11E13D11675. The non-dialled connection number complete translated, shall consist of the route access code 00 and destination code 05 and after destination code a PTS is expected. When a PTS is received or time out expires, next digits shall be 11. After digits 11 a special PTS signal is expected followed by DTMF digit sending, if time out expires the external line is disconnected. If the PTS is received next digits shall be 13. After digits 13 a PTS signal is expected and if time out expires DTMF digit sending is performed. After that next digits shall be 11675.

NDC = 0005C11E13D11675

138

NDIR

Night service

138.1

FORMAT

NDIR = D₁

- | | | |
|------------------|---|---|
| D ₁ = | Y | Local night service position or divertee position. |
| | N | Second choice traffic to another on-duty PBX operator. |
| | D | Local day answering position when the exchange is day switched. |

138.2

FUNCTION

The parameter states separately for each call origin group how incoming external traffic to PBX operators should be handled when all PBX operators who serve the call origin group in question are absent (off duty).

Calls can be diverted to one of these alternatives:

- To the local night service position as specified for the route or the customer
- As second choice traffic to another on duty PBX operator through the common call queue.
- To the local day answer position, specified in the parameter RERNUM, when the exchange is day switched.

138.3

EXAMPLE

An incoming external call is to be routed to a night service position if all PBX operators serving the call origin group are off duty.

NDIR = Y

139

NET

Network Type

139.1

FORMAT

NET = D₁

D ₁ =	0	International network
	1	Spare
	2	National network
	3	Spare

139.2

FUNCTION

The parameter states which type of network the signaling link set is connected to.

139.3

EXAMPLE

The network type is international.

NET = 0

140

NEWPSW

New password for SOM

140.1

FORMAT

NEWPSW = D₁D₂ ...D₁₂

D₁D₂...D₁₂ = New O&M password (for SOM), 6-12 alphanumeric characters.

140.2

FUNCTION

The parameter states the new password.

140.3

EXAMPLE

SECRET is the current password.
NEWPSW = SECRET

141

NEXGNO

Notified exchange number

141.1

FORMAT

NEXGNO = D ₁ D ₂ ...D ₁₀		
D ₁ D ₂ ...D ₁₀ =	0 - 99999 99999	
	Exchange number	

141.2

FUNCTION

The parameter states the exchange numbers, which are to be notified of day or night-status changes in the exchange, where the centralized PBX operator is located. There can be a maximum of 64 different exchanges, which are to be notified. There will be no verification of the existence of the exchanges.

141.3

EXAMPLE

The centralized PBX operator exchange is to notify the exchanges 742 and 764 of any status changes.

NEXGNO = 742&764

142

NIG

Night Number

142.1

FORMAT

NIG = D₁D₂...D₂₀

D₁D₂...D₂₀ = 0 - 99999 99999 99999 99999
Directory number of night service position

142.2

FUNCTION

The parameter states a directory number to which calls, incoming routes, shall be rerouted during night service.

For direct in-dialling lines, routes, or customer-dependent day service positions, the parameter states the directory number to which a call shall be diverted due to, for example, no answer.

The directory number may be:

- extension
- group number (Group hunting number (PBX) or common bell group)
- direct inward system access (DISA)
- common abbreviated number

142.3

EXAMPLE

The night service position shall be directory number 4845.

NIG = 4845

143

NODE

ANCD node number

143.1

FORMAT

<div><div>NODE = D₁D₂D₃</div><div>D₁D₂D₃= 1-255</div><div>ANCD node number.</div></div>

143.2

FUNCTION

The parameter states the ANCD node identity for the system. The ANCD network can be setup within one node or several nodes. This node parameter has only meanings in the ANCD network, do not mix up this ANCD node number with the routing number for the exchange.

143.3

EXAMPLE

The ANCD node number shall be 2.

NODE = 2

144 NODG

Automatic through-connection route.

144.1 FORMAT

NODG = D ₁ D ₂	Pre-digits to use for incoming transit seizure calls:
D ₁ D ₂ = 0 - 9	If one digit
00 - 9 9	If two digits

144.2 FUNCTION

The parameter states the route access code of the outgoing route to which an incoming transit call shall be connected. The stated digits are used as pre-digits, but these pre-digits are independent from, and not used together with, pre-digits stated in parameter PRE (see parameter description for ROUTE DATA).

The prerequisite for this feature is that the incoming route in question is initiated to receive Type of seizure: Transit or Weichenbelegung. This setting enables reception of terminal and transit seizing signals on the route. See parameter VARI in this document.

If a transit seizing signal has been received for an incoming call, the digits stated in parameter NODG shall be used. However, if a terminal seizing signal has been received, the call will be treated as a normal incoming call. This means that the call will be routed according to the subsequent address information (e.g. using any digits stated in parameter PRE as pre-digits).

144.3 EXAMPLE

On transit seizure the incoming call shall be through-connected to the outgoing route that have route access code=4.

NODG = 4

145

NODTYP

Node type

145.1

FORMAT

NODTYP= D ₁		
D ₁ =	1	Terminal communication node (Default value)
	2	Transit node (Reserved)
	3	Transit-terminal node

145.2

FUNCTION

The parameter defines the type of communication node. This SOM parameter is only applicable when CNTRY=1 (Russia).

145.3

EXAMPLE

Set the type of communication node to Transit node.

NODTYP=2

146 NPRES

Translated number presentation restriction

146.1 FORMAT

NPRES = D ₁	
D ₁ =	0 Display the translated abbreviated number.
	1 Do not display the translated abbreviated number.

146.2 FUNCTION

The parameter states the translated number presentation restriction (applicable only for DTS). The presentation restriction has no relevance in the active phase of the call (speech/parked/alerting). Only when the terminating party is busy or engaged the presentation restriction is valid.

The default value of the optional parameter NPRES is zero.

146.3 EXAMPLE

The translated number should not be displayed in case the B-party is busy.

NPRES = 1

147

NTIME

Night time threshold

147.1

FORMAT

NTIME = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ = 00-23	Time in hours.	
D ₃ D ₄ = 00-59	Time in minutes.	
ALL	Indicates that the night day status will be set up for all day and starts from zero hour of the day.	
NONE	Indicates that day or night status depends on the operator presence or absence status.	

147.2

FUNCTION

The parameter states the turning point of night time for the day or night exchange status. When the NTIME parameter is entered as ALL it indicates that the night status will be set for all day, which starts from zero hour of the day. When the NTIME parameter is entered as NONE it removes the night time and day time thresholds in the day of week table.

147.3

EXAMPLE 1

At 7:30 PM turn to night status for the system day or night exchange status.
NTIME = 1930

147.4

EXAMPLE 2

Set the night status for all day, to start from zero hour of the day.
NTIME = ALL

147.5

EXAMPLE 3

Remove the night time and day time thresholds from the day of week table, that is, the day or night status is dependent on the operator presence or absence status.
NTIME = NONE

148

NUM

Common Abbreviated Number for Rerouting to External Party

148.1

FORMAT

NUM = D₁D₂...D₂₀

D₁D₂...D₂₀ =

0 - 99999 99999 99999 99999

Common abbreviated number that contains the external number to the central answering position or to the customer centralized operator

148.2

FUNCTION

The parameter states a common abbreviated number which translation number is the external number to the central answering position or to the customer centralized operator.

148.3

EXAMPLE 1

Set the number to the central answering position in the network as abbreviated number 080.

NUM = 080

148.4

EXAMPLE 2

Set the number to the customer centralized operator as abbreviated number 180.

NUM = 180

149

NUMACK

Number of Digits to Be Acknowledged

149.1

FORMAT

NUMACK = D₁D₂

D₁D₂ = 1-10

Number of digits to be acknowledged

149.2

FUNCTION

The parameter states the number of digits from interworking exchanges or public exchanges that shall be acknowledged during predigit transmission.

149.3

EXAMPLE

The number of digits to be acknowledged is 5.

NUMACK = 5

150

NUMFMT

Number format

150.1

FORMAT

NUMFMT= D ₁		
D ₁ =	0	The object number is represented in own numbering plan. (Default value).
	1	The object number is represented in international number format.

150.2

FUNCTION

The parameter specifies the monitored object number format used in the SOM control orders and events. This parameter is only applicable when CNTRY=1 (Russia).

150.3

EXAMPLE

Set the number format to International for the Russian market.

NUMFMT=1

151

OACC

PBX operator access code

151.1

FORMAT

OACC = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	0 - 99999 99999 99999 99999 Call number to PBX operator.

151.2

FUNCTION

The parameter states the common PBX operator call number for internal calls or direct indialling number to the PBX operators.

151.3

EXAMPLE 1

The common call number to the PBX operators is 09.

OACC = 09

151.4

EXAMPLE 2

The common direct indialling number to the PBX operators is 9000.

OACC = 9000

152 OBJNO

Object Number

152.1 FORMAT

$OBJNO = D_1D_2$ $D_1D_2 = \text{Object number}$

152.2 FUNCTION

The parameter states measurements for cordless extensions in the same LIM.

152.3 EXAMPLE

The object number is 1.

OBJNO = 1

153

OC

Office Code

153.1

FORMAT

OC = D ₁ D ₂ D ₃
D ₁ D ₂ D ₃ = 200 - 999
Office Code

153.2

FUNCTION

The parameter states an office code number.

153.3

EXAMPLE

Office code 258 is referred to.

OC = 258

154

OCPT

Office Code Prefix Table Number

154.1

FORMAT

OCPT = D ₁ D ₂
D ₁ D ₂ = 1 - 15
Office Code Prefix Table

154.2

FUNCTION

The parameter states one out of fifteen different office code prefix tables.

154.3

EXAMPLE

Refer to table 12 among the office code prefix tables.

OCPT = 12

155

OCUST

Outgoing customer number

155.1

FORMAT

OCUST = D ₁ ...D ₅	
D ₁ ...D ₅ =	1-50000 Customer number

155.2

FUNCTION

The parameter states how to affiliate a PBX operator to a customer. Up to 50000 customers can be initiated in a system. The affiliation refers to the PBX operator-customer relation for outgoing calls.

155.3

EXAMPLE

The PBX operator is to be affiliated to customer 14.

OCUST = 14

156 OFFSET

Offset

156.1 FORMAT

OFFSET = D₁D₂D₃
D₁D₂D₃= 0 - 127
Offset.

156.2 FUNCTION

The parameter states an offset to an ISDN protocol related parameter.

156.3 EXAMPLE

The offset is 67.

OFFSET = 67

157

OFLNO

Overflow number

157.1

FORMAT

OFLNO = D₁D₂...D₂₀

D₁D₂...D₂₀ = 0 - 99999 99999 99999 99999

Overflow number to an ANCD group.

157.2

FUNCTION

The parameter states the overflow number to an ANCD group in another node. Complete number to an ANCD group for call overflow. If an ANCD group and a satellite group are located in the same node, this parameter is not used. If the parameter is omitted, the directory number of a satellite group will be used.

157.3

EXAMPLE

The ANCD number is 80000000 and the route access code is 01. The overflow number to the ANCD group shall be 0180000000.

OFLNO = 0180000000

158

OFLNUM

Overflow number

158.1

FORMAT

OFLNUM = D₁D₂...D₂₀

D₁D₂...D₂₀= 0 - 99999 99999 99999 99999
Directory number

158.2

FUNCTION

The parameter states the number to which calls to PBX operators in a call origin group are deflected if the call has been queuing longer than the timer value specified by the parameter TIME. When a call is not answered by the operator and when the operator goes to absent mode, then this call will be deflected to the overflow number.

The directory number can be:

- an extension
- a common or an individual PBX operator number
- a common abbreviated number
- an group hunting group

158.3

EXAMPLE

The overflow number is 4246.

OFLNUM = 4246

159

OPC

159.1

OPC - MESSAGE TRANSFER PART DATA

Originating Point Code

159.1.1

FORMAT

OPC = D₁D₂D₃D₄D₅D₆
D₁D₂D₃D₄D₅D₆ = 000 000-003 FFF for point code size 14 bits.
000 000-FFF FFF for point code size 24 bits.

159.1.2

FUNCTION

The parameter states the own signaling point code related to a signaling link set.

159.1.3

EXAMPLE

The originating point code is H"00001F.

OPC = 00001F

159.2 OPC - PBX OPERATOR TRAFFIC

PBX operator category

159.2.1 FORMAT

OPC = D ₁ D ₂ D ₃ D ₄ D ₅		
D ₁ =	Common queue counter	
0	The counter is used to show the total number of all common calls to the PBX independent of the call origin group.	
1	The counter is used to show the total number of all common calls that the individual PBX operator can answer due to call origin group.	
D ₂ =	Individual calls to an absent marked PBX operator console	
0	Calls are not admitted.	
1	Calls are admitted.	
D ₃ =	Recalls to a manually absent marked PBX operator console	
0	Recalls are not presented.	
1	Recalls are presented	
D ₄ =	Common queue counter display on absent marked PBX operator	
0	Common queue counter is not displayed.	
1	Common queue counter is displayed.	
D ₅ =	Category for operator initiated charging	
0	The charging type in the public exchange is per route.	
1	The charging type in the public exchange is per trunk line.	

159.2.2 FUNCTION

The parameter states whether the PBX operator common queue counter shows the total number of calls that can be answered by the individual PBX operator or the total call queue for the whole PBX, whether individual operator calls will be presented to the PBX operator console when it is absent marked, whether recalls to an individual operator will be presented to the PBX operator console when it is manually absent marked, whether the common queue counter will be displayed on the PBX operator when it is absent marked, and whether the type of charging initiated by the PBX operator is per route or per line. The public exchange does the charging per route or per line.

159.2.3 EXAMPLE

The PBX operator will be shown the total number of calls that can be answered by the individual PBX operator, individual operator calls will not be admitted when the PBX operator console is absent marked, recalls to an individual operator will not be presented to the PBX operator console when it is manually absent marked, the common queue counter will be displayed on the PBX operator console when it is absent marked, and the type of charging initiated by the PBX operator is per line.

OPC = 10011

160

OPE

Individual PBX Operator Directory Number

160.1

FORMAT

OPE = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	00 - 99999 99999 99999 99999 Individual PBX operator directory number.

160.2

FUNCTION

The parameter states the directory number of an individual PBX operator.

160.3

EXAMPLE 1

The OPE is 10001.

OPE = 10001

160.4

EXAMPLE 2

The individual PBX operator directory number is 10000 00001.

OPE = 1000000001

161

OPT

161.1

LEAST COST ROUTING

Option

161.1.1

FORMAT

OPT = D ₁		
D ₁ =	0	Default PNR without IP configuration data
	1	Local storage of IP configuration data
	2	IP configuration data will be fetched from the Routing Server
	3	IP configuration data in the Routing Server. Data routinely checked for faulty IP connections. If the check fails data are marked faulty and an alarm is generated.
	4	IP configuration data will be fetched from the Routing Server by call, feature, or function.
	5	IP configuration data in the Routing Server. Routine Checks are made, but data are not marked faulty if check fails.
	6	IP configuration data in the Routing Server. Routine Checks are not made

161.1.2

FUNCTION

The parameter states the type of IP configuration data for a specific destination.
This parameter is only used in the PNR table for Private Network Routing
Note: The minimum number length must be set when using value 4. See the command description for *number_data_initate*.

161.1.3

EXAMPLE

Initiate Local IP Configuration Data.
OPT = 1

161.2

SPECIAL PURPOSE EXTENSION

Option

161.2.1

FORMAT

OPT = D ₁		
D ₁ =	N	Indicates the function non-dialled connection extension (direct hot-line).
	D	Indicates the function delayed non-dialled connection extension (delayed hot-line).

E	Indicates an emergency extension/alarm extension function.
A	Indicates an automatic answering function (i.e. clear backward signal is missing).
M	Indicates a master extension function.

161.2.2

FUNCTION

The parameter states the function for an extension with extra function.

The parameter values N (direct hot-line) and D (delayed hot-line) cannot be initiated at the same time.

The parameter value M, 'master extension', is only valid for non-generic extensions (ATS, DTS etc.).

161.2.3

EXAMPLE

An alarm extension is requested.

OPT = E

162

OSA

Operator System Access

162.1

FORMAT

OSA = D₁D₂

D₁D₂ = 0 - 99

Operator System Access

162.2

FUNCTION

The parameter states the Operator System Access value to be sent to the network.

162.3

EXAMPLE

To request the local network operator in a chosen network the value sent is 5.

OSA = 5

163

OVFLOW

Overflow category

163.1

FORMAT

OVFLOW = D ₁ D ₂ D ₃		
D ₁ D ₂ D ₃ =	YES	Overflow is permitted.
	NO	Overflow is not permitted.

163.2

FUNCTION

The parameter states if the satellite group shall overflow calls or not. If the parameter is omitted, the satellite group will be initiated for call overflow. If the overflow time shall be initiated, the parameter OVFLOW must be initiated for overflow calls.

163.3

EXAMPLE

The satellite group shall overflow calls.
OVFLOW = YES

164
OWNID

Own exchange number

164.1
FORMAT

OWNID = D ₁ D ₂ ...D ₁₀	
D ₁ D ₂ ...D ₁₀ =	0 - 99999 99999 Exchange number

164.2
FUNCTION

The parameter states the own exchange number, which is used as A-number in day or night-status notification (virtual) calls. It must be set in the exchange where the PBX operator is located. The number must be in the exchange number series, and only one number can be initiated.

164.3
EXAMPLE

The centralized PBX operator exchange should have the own exchange number 719.
OWNID = 719

165

PARITY

Parity Check

165.1

FORMAT

PARITY = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ D ₃ D ₄ =	EVEN	Even parity check
	ODD	Odd parity check
	NONE	No parity check

165.2

FUNCTION

The parameter states the form of parity check to be used between the PBX and information system, that is, even, odd, or none at all. For even or odd parity check, 29 CCHECK on page 46CCHECK should be set to YES.

165.3

EXAMPLE

An even parity check is intended.

PARITY=EVEN

166

PARNUM

166.1

PARNUM=1

Choice of ringing signal cadence for external calls to extension

166.1.1

FORMAT

PARNUM=1, PARVAL = D ₁		
D ₁ =	0	External calls are to have the same ringing signal cadence as internal calls.
	1	External calls, from the public network and from private network that do not support net services, are to have a ringing signal cadence other than the cadence used for internal calls.
	2	External calls from the public network are to have a ringing signal cadence other than the cadence used for internal calls. External calls from a private network that do not support net services, are to have the same ringing signal cadence as internal calls.

166.1.2

FUNCTION

The parameter states which ringing signal cadence is to be used for external calls to an extension.

Calls in a private network that support net services are always considered as internal.

166.1.3

EXAMPLE

The ringing signal for external calls to an extension is to have the same cadence as that used for internal calls.

PARNUM=1,PARVAL=0

166.2

PARNUM=2

Time before recall to PBX operator from a parked party

166.2.1

FORMAT

PARNUM=2, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.2.2

FUNCTION

The parameter states the time before a recall is to be made to a PBX operator from a party parked by the PBX operator.

166.2.3

EXAMPLE

A recall from a parked party is to be initiated after 30 seconds.

PARNUM=2,PARVAL=30

166.3 **PARNUM=4**

Maximum time for call waiting initiated from a direct-in-dialling route

166.3.1 **FORMAT**

PARNUM=4, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.3.2 **FUNCTION**

The parameter states for how long time a direct-in-dialling route (public or private) can have call waiting (call offer) indicated to a busy extension.

Time out will result in rerouting to the PBX operator, provided that the route has been categorized for rerouting on no reply. Otherwise the call will be cleared.

166.3.3 **EXAMPLE**

A direct-in-dialling route categorized for automatically initiated call waiting is to have this state activated for a maximum of 30 seconds.

PARNUM=4,PARVAL=30

166.4 **PARNUM=5**

Maximum time for call waiting initiated from an extension

166.4.1 **FORMAT**

PARNUM=5, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.4.2 **FUNCTION**

The parameter states for how long time an extension can have the call waiting facility activated towards another busy extension.

The calling extension and its waiting call is disconnected on time out.

166.4.3 **EXAMPLE**

An extension which is categorized for call waiting is to have this state activated for a maximum of 30 seconds.

PARNUM=5,PARVAL=30

166.5

PARNUM=6

Maximum ringing time for external call to extension, at direct-in-dialling

166.5.1

FORMAT

PARNUM=6, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 20 seconds.

166.5.2

FUNCTION

The parameter states the maximum time ringing signals is sent to an extension at call from a direct-in-dialling line.

On time out a congestion message is sent to the calling party, and the called party is disconnected.

See also PARNUM =13 (Maximum ringing time on call extending before answer).

The time supervision of ringing (PARNUM 6) shall normally be longer than the time supervision of RINGING TIME ON CALL EXTENDING BEFORE ANSWER (PARNUM 13).

See also PARNUM = 37 (Rerouting on direct-in-dialling call).

The time supervision of ringing (PARNUM 6) shall normally be longer than the time supervision of rerouting (PARNUM 37).

166.5.3

EXAMPLE

The maximum time ringing signals are sent to an extension at call from a direct-in-dialling line is to be 120 seconds.

PARNUM=6,PARVAL=120

166.6 **PARNUM=7**

Maximum ringing time for internal call to a voice extension

166.6.1 **FORMAT**

PARNUM=7, PARVAL = D ₁ D ₂ D ₃ D ₄ D ₅	
D ₁ D ₂ D ₃ D ₄ D ₅ =	0 - 32768 Time in seconds. Recommended minimum value is 10 seconds.

166.6.2 **FUNCTION**

The parameter states the maximum time ringing signals are sent to a voice extension from a voice extension within own exchange.

Both parties are disconnected on time out.

See PARNUM = 41 for supervision time at call to external line.

166.6.3 **EXAMPLE**

The maximum time ringing signals are sent to an extension at internal calls is to be 120 seconds.

PARNUM=7,PARVAL=120

166.7 PARNUM=8

Ringing signal for diversion on no answer

166.7.1 FORMAT

PARNUM=8, PARVAL = D ₁		
D ₁ =	0	Ringing signals shall be sent to the divertee position only.
	1	Ringing signals shall be sent to both the divertee position and to the first called party.

166.7.2 FUNCTION

The parameter states whether ringing signals shall be sent both to divertee position and first called/sought extension, or only to the divertee position, when a call is diverted on no answer.

The parameter is only valid internally, and only when the controlling extension is non-generic. At diversion within the private network, and for generic extensions, value 0 is valid.

The parameter is not valid when the divertee position is a hunt group or an ACD/CTI group.

166.7.3 EXAMPLE

The call is to be signalled both on the first called/sought extension and at the divertee position when a call is diverted on no answer.

PARNUM=8,PARVAL=1

166.8 **PARNUM=9**

Time before a PBX operator is recalled, after a call is extended to a busy extension

166.8.1 **FORMAT**

PARNUM=9, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.8.2 **FUNCTION**

The parameter states the time before a PBX operator is recalled, after a call is extended to a busy extension.

On time out a recall is initiated to the PBX operator who extended the call.

See also PARNUM = 30.

166.8.3 **EXAMPLE**

A PBX operator is to be recalled after 60 seconds if the busy extension does not become free.

PARNUM=9,PARVAL=60

166.9

PARNUM=10

Time before a PBX operator is recalled on no reply, after a call is extended to a free extension

166.9.1

FORMAT

PARNUM=10, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.9.2

FUNCTION

The parameter states the time before a PBX operator is recalled on no reply, after a call is extended by a PBX operator to a free extension.

On time out a recall is initiated to the PBX operator who extended the call.

See also PARNUM = 30.

166.9.3

EXAMPLE

A PBX operator is to be recalled after 30 seconds if the extension does not answer.

PARNUM=10,PARVAL=30

166.10

PARNUM=11

Maximum parking time for call parked by extension

166.10.1

FORMAT

PARNUM=11, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.10.2

FUNCTION

The parameter states the maximum parking time for a call parked by an analog extension.

An extension can park an answered call by pressing the R-button and replacing the handset. The extension can then pick up the call from any other extension by using procedure for this feature.

On time out the extension who parked the call is recalled.

166.10.3

EXAMPLE

The extension is to be recalled from the parked call after 30 seconds.

PARNUM=11,PARVAL=30

166.11

PARNUM=12

Maximum time before answer on a recall due to unauthorized transfer before answer

166.11.1

FORMAT

PARNUM=12, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.11.2

FUNCTION

The parameter states the maximum time a ringing signal is to be generated on a recall due to a prohibited attempt to transfer the call before answer. If the time expires and the calling party is an external line, or if the call is marked as a serial call, then the call may be rerouted/recalled to PBX operator. Otherwise clearing will take place.

Transfer before answer is not permitted if the call is marked for charging and if the categories of the parties do not permit interconnection.

If transfer before answer is not permitted, the called party is disconnected, the parked party and the extension that tried to make the transfer are recalled.

166.11.3

EXAMPLE

A ringing signal is to be generated for a maximum of 30 seconds on a recall due to prohibited transfer before answer.

PARNUM=12,PARVAL=30

166.12

PARNUM=13

Maximum ringing time before rerouting on transfer/call extending before answer

166.12.1

FORMAT

PARNUM=13, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 20 seconds.

166.12.2

FUNCTION

The parameter states the maximum time for ringing the wanted party after Transfer or call Extending before answer.

If the time expires and the call is marked as a serial call, then the PBX operator will be recalled. Otherwise the call may be rerouted, if extended party is an incoming external trunk with appropriate rerouting category. Otherwise the call is released.

See also PARNUM = 6 (Maximum ringing time for external call to extension, direct-in-dialling).

The time supervision of ringing (PARNUM 6) shall normally be longer than the time supervision of RINGING TIME ON CALL EXTENDING BEFORE ANSWER (PARNUM =13).

The time shall be longer than the time set for diversion on no answer.

The time must be longer than the time set in PARNUM = 10.

166.12.3

EXAMPLE

The maximum time for calling the wanted party after extending before answer is to be 40 seconds.

PARNUM=13,PARVAL=40

166.13

PARNUM=14

Time before a call in the common operator queue is indicated by a flashing common queue counter on a PBX operator console

166.13.1

FORMAT

PARNUM=14, PARVAL = D₁D₂D₃

D₁D₂D₃ = 10 - 100
Time in 0.5 second units.

166.13.2

FUNCTION

The parameter states for how long time a call can be in the common operator PBX queue before the common queue counter begins to flash on a PBX operator console.

166.13.3

EXAMPLE

A call to a PBX operator will queue for 30 seconds before the common queue counter on the console will begin to flash.

PARNUM=14,PARVAL=60

166.14 **PARNUM=15**

Time before calls in the individual PBX operator queue will be indicated as delayed

166.14.1 **FORMAT**

PARNUM=15, PARVAL = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	10 - 100 Time in 0.5 second units.

166.14.2 **FUNCTION**

The parameter states for how long time an individual PBX operator call or recall to a PBX operator is allowed to be in the individual PBX operator queue before the call is indicated as delayed by a flashing call indicator on the OPI when eventually a PBX operator becomes available.

166.14.3 **EXAMPLE**

Calls in the individual PBX operator queue are to be indicated as delayed after 30 seconds.

PARNUM=15,PARVAL=60

166.15

PARNUM=16

Time before a PBX operator is marked as absent after automatic call acceptance

166.15.1

FORMAT

PARNUM=16, PARVAL = D₁D₂D₃D₄D₅
 D₁D₂D₃D₄D₅ = 100 - 10000
 Time in 0.2 second units.

166.15.2

FUNCTION

The parameter states for how long time a PBX operator can leave a call unattended after automatic call acceptance, before the PBX operator will be marked as absent.

166.15.3

EXAMPLE

A PBX operator will be marked as absent if the console is not used within 15 minutes after automatic call acceptance.

PARNUM=16,PARVAL=4500

166.16 **PARNUM=17**

Time before a PBX operator is marked as absent automatically when an indicated call is not answered

166.16.1 **FORMAT**

PARNUM=17, PARVAL = D ₁ D ₂ D ₃ D ₄	
D ₁ D ₂ D ₃ D ₄ =	50 - 6000 Time in 0.2 second units.

166.16.2 **FUNCTION**

The parameter states for how long time a call can be left unanswered by the PBX operator, before the PBX operator is marked as absent automatically.

If the call is unanswered after given time, it will at first hand be rerouted to another PBX operator.

166.16.3 **EXAMPLE**

A PBX operator will be marked as absent automatically if a call is not answered within 30 seconds.

PARNUM=17,PARVAL=150

166.17

PARNUM=18

Time before a call to a symbolic PBX operator is indicated by a continuous tone

166.17.1

FORMAT

PARNUM=18, PARVAL = D₁D₂D₃

D₁D₂D₃ = 25 - 255
 Time in 0.2 second units.

166.17.2

FUNCTION

The parameter states for how long time a call can be left unanswered by a symbolic PBX operator before it is indicated by a continuous tone.

166.17.3

EXAMPLE

Calls that are left unanswered by a symbolic PBX operator are to be indicated by a continuous tone after 16 seconds.

PARNUM=18,PARVAL=80

166.18 **PARNUM=19**

Suffix digit for ordering a call back

166.18.1 **FORMAT**

PARNUM=19, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	0 - 9, 15 Suffix digit.

166.18.2 **FUNCTION**

The parameter states the suffix digit to be used to order the call back facility in conjunction with busy extension number, no answer from extension, busy route or call back to own extension number. The value 15 is used when the facility cannot be activated with a suffix digit.

166.18.3 **EXAMPLE**

The suffix digit for ordering the call back facility is to be 5.

PARNUM=19,PARVAL=5

166.19 PARNUM=20

Suffix digit for answering calls by individual call pick-up or the service individual call pick-up shall be deactivated.

166.19.1 FORMAT

PARNUM=20, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	0 - 9, 15 Suffix digit.

166.19.2 FUNCTION

The parameter states the suffix digit to be used when answering calls by individual call pick-up. The value 15 is used when the service individual call pick-up shall be deactivated.

166.19.3 EXAMPLE 1

The suffix digit for answering calls by individual call pick-up is to be 6.
PARNUM=20,PARVAL=6

166.19.4 EXAMPLE 2

The service individual call pick-up shall be deactivated.
PARNUM=20,PARVAL=15

166.20 **PARNUM=21**

Suffix digit for requesting call waiting

166.20.1 **FORMAT**

PARNUM=21, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	0 - 9, 15 Suffix digit.

166.20.2 **FUNCTION**

The parameter states the suffix digit to be used for requesting call waiting (call offer).
The value 15 is used when the facility cannot be activated with a suffix digit.

166.20.3 **EXAMPLE**

The suffix digit for requesting call waiting is to be 4.

PARNUM=21,PARVAL=4

166.21

PARNUM=22

Suffix digit for requesting conference

166.21.1

FORMAT

PARNUM=22, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	0 - 9, 15 Suffix digit.

166.21.2

FUNCTION

The parameter states the suffix digit to be used for requesting/initiating a conference connection. The value 15 is used when the facility cannot be activated with a suffix digit.

166.21.3

EXAMPLE

The suffix digit for requesting a conference connection is to be 3.

PARNUM=22,PARVAL=3

166.22 **PARNUM=23**

Suffix digit for requesting intrusion.

166.22.1 **FORMAT**

PARNUM=23, PARVAL = D ₁ D ₂		
D ₁ D ₂ =	0 - 9, 15	
	Suffix digit.	

166.22.2 **FUNCTION**

The parameter states the suffix digit to be used for requesting/initiating intrusion. The value 15 is used when the facility cannot be activated with a suffix digit.

166.22.3 **EXAMPLE**

The suffix digit for requesting intrusion is to be 8.

PARNUM=23,PARVAL=8

166.23

PARNUM=24

Suffix digit for initiating paging

166.23.1

FORMAT

PARNUM=24, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	0 - 9, 15 Suffix digit.

166.23.2

FUNCTION

The parameter states the suffix digit to be used for initiation of paging of the dialled number. The value 15 is used when the facility cannot be activated with a suffix digit.

166.23.3

EXAMPLE

The suffix digit for initiating paging is to be 7.

PARNUM=24,PARVAL=7

166.24 **PARNUM=25**

Suffix digit for alternation (refer-back) to the original party after inquiry

166.24.1 **FORMAT**

PARNUM=25, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	0 - 9, 15 Suffix digit.

166.24.2 **FUNCTION**

The parameter states the suffix digit to be used for alternation (refer-back) to the original party after an inquiry call. The value 15 is used when the facility cannot be activated with a suffix digit.

The consulted party is parked when returning to the original party.

The same function is activated by pressing the R-button (provided that the telephone is equipped with this facility).

166.24.3 **EXAMPLE**

The suffix digit for returning to the original party after an inquiry call is to be 2.

PARNUM=25,PARVAL=2

166.25

PARNUM=26

Intrusion and call waiting characteristics for incoming external traffic

166.25.1

FORMAT

PARNUM=26, PARVAL = D₁

D ₁ =	0	Intrusion and call waiting are not permitted.
	1	Intrusion and call waiting are permitted.

166.25.2

FUNCTION

The parameter states for incoming external traffic whether or not intrusion and Call waiting (CAW) are permitted.

The parameter is relevant only if the service is initiated to a busy extension which is connected to an incoming call. Then the category check is done with the C-party, e.g. the party that is in speech with the party the CAW is requested.

The route category (SERV) of the external line must allow intrusion and call waiting.

166.25.3

EXAMPLE

Intrusion and call waiting on an external line are not permitted.

PARNUM=26,PARVAL=0

166.26

PARNUM=29

Maximum time to answer a call back recall

166.26.1

FORMAT

PARNUM=29, PARVAL = D₁D₂

D₁D₂ = 5 - 30
Time in seconds. Recommended value is 8 seconds.

166.26.2

FUNCTION

The parameter states the maximum time for the initiating party to answer a call back recall.

At time out the supervision is stopped and the call back mission on A-side and B-side will be released.

Note: If the standard ISO supplementary service Call completion is used, the minimum recall time should be 10 seconds.

166.26.3

EXAMPLE

The recall attempt is to be stopped after 8 seconds.

PARNUM=29,PARVAL=8

166.27

PARNUM=30

Type of tone message to the calling party after the PBX operator has extended a call to a busy extension

166.27.1

FORMAT

PARNUM=30, PARVAL = D₁

D ₁ =	0	No tone message is to be sent to the calling party.
	1	Ringing tone message is to be sent to the calling party.

166.27.2

FUNCTION

The parameter states the type of tone message to be sent to the calling party after the PBX operator has extended a call to a busy extension.

If the extension does not become free within a predetermined time, recall is made to the PBX operator. If the value is set to 0 the time before recall to PBX operator is indicated by the parameter PARNUM = 9 and if it is set to 1 the time before recall to PBX operator is indicated by the parameter PARNUM = 10. The prerequisite for this parameter (PARNUM = 30) to have any effect, is that call waiting/call offer is allowed for called party. If call waiting is not allowed then no ring tone is provided.

166.27.3

EXAMPLE

After a PBX operator has extended a call to a busy extension, the calling party is to receive ringing tone.

PARNUM=30,PARVAL=1

166.28

PARNUM=31

Maximum queuing time to ACD-groups, PBX operator, and Group hunting group number

166.28.1

FORMAT

PARNUM=31, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.28.2

FUNCTION

The parameter states the maximum queuing time to ACD-groups, PBX operator and Group hunting group number. The external or internal calling party receives free information during the queuing time.

On time out the calling party receives a congestion message.

166.28.3

EXAMPLE

The maximum queuing time with free information to ACD-groups, PBX operator and Group hunting group number is to be 30 minutes.

PARNUM=31,PARVAL=1800

166.29

PARNUM=32

Tone message before diversion on no answer

166.29.1

FORMAT

PARNUM=32, PARVAL = D ₁		
D ₁ =	0	No tone message is to be generated.
	1	A tone message is to be generated.

166.29.2

FUNCTION

The parameter states whether the calling party is to receive a tone message (click) before diversion on no answer.

166.29.3

EXAMPLE

The calling party is to receive a tone message (click) before diversion on no answer.

PARNUM=32,PARVAL=1

166.30 **PARNUM=33**

PBX operator call extending by means of loop keys/parking buttons on the console

166.30.1 **FORMAT**

PARNUM=33, PARVAL = D ₁		
D ₁ =	0	The PBX operator is not allowed to extend calls by means of the loop keys/parking buttons.
	1	The PBX operator is allowed to extend calls by means of the loop keys/parking buttons.

166.30.2 **FUNCTION**

The parameter states whether or not the PBX operator is allowed to extend calls by means of the loop keys/parking buttons on the console.

166.30.3 **EXAMPLE**

The PBX operator is allowed to extend calls by means of loop keys/parking buttons.
PARNUM=33,PARVAL=1

166.31

PARNUM=34

Automatic/manual recall of the PBX operator after parking an external call

166.31.1

FORMAT

PARNUM=34, PARVAL = D₁

D ₁ =	0	The PBX operator is not recalled automatically.
	1	The PBX operator is recalled automatically.

166.31.2

FUNCTION

The parameter states whether or not the PBX operator is automatically recalled from an external party parked by the PBX operator.

If the parameter value is 1, the PBX operator will be recalled automatically after a specified time. See parameter PARNUM = 2 for the time.

166.31.3

EXAMPLE

The PBX operator is to be recalled automatically.

PARNUM=34,PARVAL=1

166.32 **PARNUM=35**

Intrusion from an extension on a party who already has a call waiting

166.32.1 **FORMAT**

PARNUM=35, PARVAL = D ₁		
D ₁ =	0	Intrusion from an extension on a party who has another call waiting is not allowed.
	1	Intrusion from an extension on a party who has another call waiting is allowed.

166.32.2 **FUNCTION**

The parameter states whether intrusion from an extension on a party who has another call waiting is allowed or not.
For the parameter to be valid, the parties must have categories that permit intrusion.

166.32.3 **EXAMPLE**

Intrusion from an extension on a party who already has a call waiting, is to be allowed.
PARNUM=35,PARVAL=1

166.33

PARNUM=36

Intrusion from an extension or a PBX operator on a party with an external call

166.33.1

FORMAT

PARNUM=36, PARVAL = D₁

D ₁ =	0	Intrusion from an extension or a PBX operator on a party with external call is not allowed.
	1	Intrusion from an extension or a PBX operator on a party with external call is allowed.

166.33.2

FUNCTION

The parameter states whether intrusion from an extension or a PBX operator on a party busy with an external call is allowed or not.

For the parameter to be valid, the parties must have categories that permit intrusion.

166.33.3

EXAMPLE

Intrusion from an extension or a PBX operator on a party with an external call is allowed.

PARNUM=36,PARVAL=1

166.34

PARNUM=37

Time before a direct-in-dialing call is rerouted on no reply.

166.34.1

FORMAT

PARNUM=37, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 15 seconds.

166.34.2

FUNCTION

The parameter states the time before a direct-in-dialing call is to be rerouted on no reply, provided the route categories indicate that rerouting on no reply is allowed.

See also PARNUM = 6 (Maximum ringing time for external call to extension, direct-in-dialing).

The time supervision of ringing (PARNUM 6) shall normally be longer than the time supervision of rerouting (PARNUM 37).

The time stated has to be longer than the time stated for Diversion on no reply, by parameter **--div-noreply-timefirst** in the command **diversion_system**.

166.34.3

EXAMPLE

A direct-in-dialing call on no reply is to be rerouted after 30 seconds.

PARNUM=37,PARVAL=30

166.35

PARNUM=38

Maximum time during which a PBX operator can keep an extension in reserved state after a conversation is completed

166.35.1

FORMAT

PARNUM=38, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.35.2

FUNCTION

The parameter states the maximum time during which a PBX operator can keep an extension in reserved state after a conversation is completed if the extension replaces the handset first.

Both parties are disconnected on time out.

When the extension is A-party in another exchange within a private network, a PBX operator cannot keep the extension in reserved state after conversation is completed.

166.35.3

EXAMPLE

The maximum time during which a PBX operator can keep an extension in reserved state after a conversation is completed is to be 2 minutes.

PARNUM=38,PARVAL=120

166.36	<div> <div>PARNUM=39</div> <div>Time before a PBX operator is recalled, when a call is extended before answer to a paged extension</div> </div>
166.36.1	<div> <div>FORMAT</div> <div> <div> <div>PARNUM=39, PARVAL = D₁D₂D₃D₄D₅</div> <div> <div>D₁D₂D₃D₄D₅ = 0 - 32768</div> <div>Time in seconds. Recommended minimum value is 10 seconds.</div> </div> </div> </div> </div>
166.36.2	<div> <div>FUNCTION</div> <div>The parameter states the time before a PBX operator is recalled, when a call is extended before answer to a paged extension.</div> </div>
166.36.3	<div> <div>EXAMPLE</div> <div> <div>The PBX operator is to be recalled after 1 minute, when a call is extended before answer to a paged extension.</div> <div>PARNUM=39,PARVAL=60</div> </div> </div>

166.37

PARNUM=40

Maximum time during which a PBX operator can keep an extension in reserved state

166.37.1

FORMAT

PARNUM=40, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.37.2

FUNCTION

The parameter states the maximum time during which a PBX operator can keep an extension in reserved state before the PBX operator orders ringing.

Both parties are disconnected on time out.

166.37.3

EXAMPLE

The maximum time during which a PBX operator can keep an extension in reserved state is to be 2 minutes.

PARNUM=40,PARVAL=120

166.38

PARNUM=41

Maximum supervision time of B-answer when calling from a voice extension or a PBX operator to an external line

166.38.1

FORMAT

PARNUM=41, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.38.2

FUNCTION

The parameter states the maximum supervision time of B-answer at call to an external line from a voice extension or a PBX operator.

Both parties are disconnected on time out.

See PARNUM = 7 for ringing time at internal call.

166.38.3

EXAMPLE

The maximum supervision time to an external line before the B-party answers is to be 3 minutes.

PARNUM=41,PARVAL=180

166.39

PARNUM=42

Time before a PBX operator is recalled on a supervised call

166.39.1

FORMAT

PARNUM=42, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.39.2

FUNCTION

The parameter states the time before a PBX operator is to be recalled on a supervised, extended call to parties that have no or limited clearing capability. The call is supervised even in speech state.

166.39.3

EXAMPLE

The PBX operator is to be recalled after 60 seconds on a supervised, extended call.

PARNUM=42,PARVAL=60

166.40
PARNUM=43

Checking of traffic group category of the answering party on call pick-up

166.40.1
FORMAT

PARNUM=43, PARVAL = D ₁		
D ₁ =	0	No checking of traffic group category of the answering party on call pick-up.
	1	Checking of traffic group category of the answering party on call pick-up.

166.40.2
FUNCTION

The parameter states whether or not the answering party’s traffic group category is to be checked on call pick-up.

166.40.3
EXAMPLE

The answering party’s traffic group category is to be checked on call pick-up.
PARNUM=43,PARVAL=1

166.41

PARNUM=44

Rerouting/recall on no reply on a call to a public or private external line

166.41.1

FORMAT

PARNUM=44, PARVAL = D ₁		
D ₁ =	0	No rerouting/recall on no reply on a call to a public trunk or private external line (default).
	1	Rerouting/recall on no reply on a call to a private external line.
	2	Rerouting/recall on no reply on a call to a public trunk line.
	3	Rerouting/recall on no reply on a call, both to a private or public external line.

166.41.2

FUNCTION

The parameter states whether or not rerouting or recall is to take place on no reply on a call to a private external line, a public trunk line or both types of external line.

For the parameter to be valid (when rerouting), the calling party must have a category (parameter SEL in command ROCAI) indicating rerouting on no reply.

166.41.3

REROUTING TIMER

Trunk type / Signalling diagram	ISDN/H.323
Private external line	no timer
Public / VPN ***	no timer
Public trunk	timer on *

166.41.4

RECALL TIMER

Trunk type / Signalling diagram	ISDN/H.323
Private external line	timer on **
Public / VPN ***	timer on **
Public trunk	timer on *

* Controlled by ASPAC / PARNUM 44.

** Recall timer is always used, independent of ASPAC / PARNUM 44 if call to private destination (when the terminating part is extension, emergency extension or PBX operator), otherwise controlled by ASPAC / PARNUM 44.

*** Public / VPN = a public trunk which is included in a virtual private network.

166.41.5

EXAMPLE

Rerouting/recall is to take place on no reply on a call to a private external line. No rerouting/recall will take place on no reply on a call to a public trunk line.

PARNUM=44,PARVAL=1

166.42
PARNUM=45

Time interval at which message waiting is to be repeated

166.42.1
FORMAT

PARNUM=45, PARVAL = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	30 - 180 Time in 10 second units.

166.42.2
FUNCTION

The parameter states the time interval at which message waiting is to be announced, in the form of a short ringing signal on the receiver’s telephone.

166.42.3
EXAMPLE

Message waiting is to be announced every 15 minutes by means of a short ringing signal on the receiver’s telephone.

PARNUM=45,PARVAL=90

166.43

PARNUM=49

Duration time of sending expensive route warning tone

166.43.1

FORMAT

PARNUM=49, PARVAL = $D_1D_2D_3$

$D_1 =$ 2 - 8

Time in seconds. Recommended minimum value is 4 seconds.

166.43.2

FUNCTION

The parameter states for how long time the expensive route warning tone is sent to the calling party. This parameter applies to extensions and PBX operators. The duration time for sending the tone to incoming external lines is fixed.

166.43.3

EXAMPLE

The duration time of sending an expensive route warning tone is to be 4 seconds.

PARNUM=49,PARVAL=4

166.44 **PARNUM=51**

Time before rerouting on direct-in-dialling call to paging equipment

166.44.1 **FORMAT**

PARNUM=51, PARVAL = D ₁ D ₂ D ₃ D ₄ D ₅	
D ₁ D ₂ D ₃ D ₄ D ₅ =	0 - 32768 Time in seconds.

166.44.2 **FUNCTION**

The parameter states the time before a direct-in-dialling call to paging equipment is to be rerouted when no reply is received, provided that the route's category indicates rerouting on no reply is allowed.

This time supervision will replace the time supervision described in PARNUM=37.

166.44.3 **EXAMPLE**

Rerouting after 1 minute if no reply at paging is received.

PARNUM=51,PARVAL=60

166.45

PARNUM=52

Call tracing on calls possible (call tracing, the SAUDI version)

166.45.1

FORMAT

PARNUM=52, PARVAL = D ₁		
D ₁ =	0	call tracing is NOT possible.
	1	call tracing is possible.

166.45.2

FUNCTION

The parameter states if call tracing via the PBX operator is to be provided (not applicable for command-controlled call tracing). Call tracing is activated by the B-extension calling the PBX operator. The A-extension is prevented from clearing. The PBX operator can then identify the party connected to the B-extension.

166.45.3

EXAMPLE

call tracing is to be provided for internal calls.

PARNUM=52,PARVAL=1

166.46 **PARNUM=53**

States which set of transmission parameters ELU board shall have

166.46.1 **FORMAT**

PARNUM=53, PARVAL = D ₁		
D ₁ =	0	Transmission values for Sweden.
	1-9	Spare.

166.46.2 **FUNCTION**

The parameter states the set of transmission parameters for the ELU board for different markets. The parameter is used for ELU boards with SLIC/SLAC circuits and for which different sets of transmission parameters can be selected for different markets.

166.46.3 **EXAMPLE**

The ELU board shall have a set of transmission parameters for Sweden.
PARNUM=53,PARVAL=0

166.47

PARNUM=54

Type of rotary dial telephones

166.47.1

FORMAT

PARNUM=54, PARVAL = D ₁		
D ₁ =	0	International (1, 2, 3..9, 0).
	1	Oslo, Norway (9, 8, 7..1, 0).
	2	Sweden (0, 1, 2..8,9).

166.47.2

FUNCTION

The parameter states which type of rotary dial telephone is to be used in the exchange, that is, whether the rotary dial is of international, Swedish or Oslo (Norway) type.

166.47.3

EXAMPLE

The telephones used in the exchange shall have the Oslo-type of rotary dial.

PARNUM=54,PARVAL=1

166.48

PARNUM=56

Suffix digit for activation of post dialing

166.48.1

FORMAT

PARNUM=56, PARVAL = D₁D₂

D ₁ D ₂ =	Activation of ETE-DTMF mode
0...9	Suffix digit.
15	Not available by suffix.
16	Hide the digits dialed in ETE-DTMF, if supported by the terminal type. Privacy (presentation restriction) on ETE-DTMF mode.
47	Check for parking status in auto ETE-DTMF mode DTS, DECT and certain* SIP extensions, and treat post dialed digits as function keys if there is an individual parking or DTMF tones if there is common parking.
63	Check for parking status in auto ETE-DTMF mode DTS, DECT and certain* SIP extensions. Hide the digits dialed in ETE-DTMF (if supported by the terminal), and treat post dialed digits as function keys if there is an individual parking or common parking for DTMF tones.
* Only relevant for single line SIP extensions, such as SIP-DECT, SIP based Remote extension, analog phone via SIP Terminal Adapter or terminals/clients which can not handle Mitel's XML or have no dedicated button(s) for suffix services.	

166.48.2

FUNCTION

The parameter states whether suffix digits shall be used for activation of post-dialing or not. It can also be optional if the digits dialed in ETE-DTMF mode should be displayed.

PARVAL is the **sum** of the selected values, except the values of 47 and 63 which are not additive. The lower values (0-9,15) are valid for most extension types and PBX operator. The other values are only relevant for certain DTS, DECT and SIP extensions.

166.48.3

EXAMPLE 1

The suffix digit for activation of post dialing shall be 9 and there will be no privacy for the digits dialed in ETE-DTMF mode.

PARNUM=56,PARVAL=9

166.48.4

EXAMPLE 2

The suffix digit for activation of post dialing shall be 8 and there will be privacy for the digits dialed in ETE-DTMF mode.

PARNUM=56,PARVAL=24

166.48.5

EXAMPLE 3

Check for the parking status for relevant extension types before sending auto-ETE-DTMF tones.

PARNUM=56,PARVAL=47

166.48.6

EXAMPLE 4

Check for the parking status for relevant extension types before sending auto-ETE DTMF tones and hide the dialed digits (if supported by the terminal).

PARNUM=56,PARVAL=63

166.49 **PARNUM=57**

PBX operator forced release of the third party after an intrusion call

166.49.1 **FORMAT**

PARNUM=57, PARVAL = D ₁		
D ₁ =	0	The PBX operator is not allowed to execute disconnection of the third party.
	1	The PBX operator is allowed to execute disconnection of the third party.

166.49.2 **FUNCTION**

The parameter states whether the PBX operator is allowed to execute disconnection of the third party (forced release of third party after an intrusion call).

166.49.3 **EXAMPLE**

The PBX operator shall be allowed to execute forced release of third party.

PARNUM=57,PARVAL=1

166.50

PARNUM=61

Time for an extension to be reserved after going on hook when A-party or B-party release applies

166.50.1

FORMAT

PARNUM=61, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.50.2

FUNCTION

The parameter states the time before a call is cleared down when A-party or B-party release applies in a private network, and the non-controlling party goes on hook. Time monitoring takes place in the controlling party's exchange.

166.50.3

EXAMPLE

The non-controlling party shall be reserved for 90 seconds after going on hook when connected to an external line with A- or B-party release.

PARNUM=61,PARVAL=90

166.51
PARNUM=62

Choice of date format on the telephone display

166.51.1
FORMAT

PARNUM=62, PARVAL = D ₁		
D ₁ =	0	DDMMMCCYY
	1	MMDDCCYY

166.51.2
FUNCTION

The parameter states how the date should be entered from the key pad and displayed on the terminal display.

CC = Century. YY = Year. MMM = Month in text. DD = Day

166.51.3
EXAMPLE

DDMMMCCYY date format shall be displayed on the phone display (example 29Oct 2005).

PARNUM=62,PARVAL=0

166.52

PARNUM=63

Control of microphone mute key/privacy button for PBX operator console

166.52.1

FORMAT

PARNUM=63, PARVAL = D ₁		
D ₁ =	0	Muting/privacy while key is held in depressed position.
	1	Muting/privacy is toggled with each sequential pressing of key (e.g. first pressing of key enables muting/privacy second pressing enables speech).

166.52.2

FUNCTION

The parameter states the manner in which the PBX operator activates muting/privacy via the microphone muting/privacy key on the operator console.

166.52.3

EXAMPLE

The PBX operator shall activate muting/privacy when the key is held depressed.

PARNUM=63,PARVAL=0

166.53

PARNUM=64

Control of day service/night service for the own exchange in network

166.53.1

FORMAT

PARNUM=64, PARVAL = D ₁		
D ₁ =	0	Day/night status of the own exchange is controlled solely by presence of local PBX operator.
	1	Day/night status of the own exchange is controlled by presence of both local PBX operator and centralized PBX operator.

166.53.2

FUNCTION

The parameter states whether the day service or night service status for own exchange shall be controlled by presence of centralized PBX operator and presence of a local PBX operator, or whether presence of the local PBX operator only shall be the controlling factor.

As alternatives to PBX operator presence/absence, the day/night status can be controlled by time or by a manual PBX operator procedure.

166.53.3

EXAMPLE

Day service and night service shall be controlled by the presence of both central and local PBX operator.

PARNUM=64,PARVAL=1

166.54

PARNUM=66

Route optimization availability

166.54.1

FORMAT

PARNUM=66, PARVAL = D_1

D_1 =	0	Route optimization facility is blocked.
	1	Route optimization facility is available.

166.54.2

FUNCTION

The parameter states whether the exchange supports the route optimization facility or not.

166.54.3

EXAMPLE

Route optimization cannot be used due to the configuration of the network.

PARNUM=66,PARVAL=0

166.55 **PARNUM=67**

Category check on transfer of outgoing external calls

166.55.1 **FORMAT**

PARNUM=67, PARVAL = D ₁		
D ₁ =	0	No category check for transfer of outgoing external calls.
	1	Category check for transfer of outgoing external calls shall take place.

166.55.2 **FUNCTION**

The parameter states whether a check of authorization category for transfer of outgoing external call shall be made of transferring and transferee parties.

166.55.3 **EXAMPLE**

A category check for transfer of outgoing external calls shall be made in respect of the categories of the transferring and transferee parties.

PARNUM=67,PARVAL=1

166.56

PARNUM=68

States whether DTS shall be permitted to intrude on an external line

166.56.1

FORMAT

PARNUM=68, PARVAL = D ₁		
D ₁ =	0	DTS is permitted to intrude on external line.
	1	DTS is NOT permitted to intrude on external line.

166.56.2

FUNCTION

The parameter states if a digital system telephone, DTS, will be permitted to intrude on an external line, a function that normally only the PABX operator is allowed to do.

166.56.3

EXAMPLE

DTS will be permitted to intrude on an external line.

PARNUM=68,PARVAL=0

166.57

PARNUM=70

Time before route optimization starts when alternative routing has been executed

166.57.1

FORMAT

PARNUM=70, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 60 seconds.

166.57.2

FUNCTION

The parameter states the time before an attempt to execute Route optimization is allowed. The timer is started in the originating exchange at answer when an alternative route has been chosen for an outgoing call somewhere in a private network.

Note: For the standard service Path replacement PARNUM 71 is used instead of this parameter.

The recommended value is set extra long, because when the traffic load is high it can take long time before an external line in the first hand route becomes idle.

The time should be much longer than the time set in PARNUM = 71.

166.57.3

EXAMPLE

An attempt to seize an optimal route will be requested after 1 minute if the call is still active and no other facility is requested at that time.

PARNUM=70,PARVAL=60

166.58

PARNUM=71

Time before route optimization starts when transfer, extending etc. has been executed

166.58.1

FORMAT

PARNUM=71, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.58.2

FUNCTION

The parameter states the time to wait until Route optimization or Path replacement could be requested when a transfer or an extending has been executed in the network and the call has been answered.

The parameter also states the time before standard service Path replacement is executed due to alternative routing.

166.58.3

EXAMPLE

An attempt to seize an optimal route will be made after 10 seconds if the call is still active and no other facility is requested.

PARNUM=71,PARVAL=10

166.59

PARNUM=72

Time before restart of route optimization when the request was denied

166.59.1

FORMAT

PARNUM=72, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 60 seconds.

166.59.2

FUNCTION

The parameter states the time before a new attempt to execute route optimization can be started. Possible reasons for denial are, for example,

- No external line in the first choice route is available
- Another facility regarding the call is executing
- Congestion

166.59.3

EXAMPLE

Route optimization is requested but when a new external line in the first choice route is to be seized, it is discovered that no available external line exists. A new attempt is to be made in 60 seconds.

PARNUM=72,PARVAL=60

166.60

PARNUM=73

Number of attempts to execute route optimization when the request was denied

166.60.1

FORMAT

PARNUM=73, PARVAL = D_1D_2

D_1D_2 = 0 - 15
Number of attempts. Recommended value is 3.

166.60.2

FUNCTION

The parameter states the limit regarding the number of attempts to restart route optimization that is going to be made for a call.

Time between each attempt is given in PARNUM = 72.

166.60.3

EXAMPLE

The request to execute route optimization is denied for some reason (see PARNUM 72), time measurement is restarted and the number of new attempts is limited to three.

PARNUM=73,PARVAL=3

166.61 **PARNUM=74**

Priority Disconnect function using FRL/TCM

166.61.1 **FORMAT**

PARNUM=74 PARVAL = D ₁		
D ₁ =	0	Normal use of FRL/TCM, default. (Priority Disconnect is not active).
	1	Use FRL/TCM to enable Priority Disconnect at trunk congestion.
	2	Change ring cadence depending on FRL/TCM category at B-party.
	4	Dynamic setting of FRL/TCM by abbreviated numbers.

166.61.2 **FUNCTION**

The parameter states whether the FRL/TCM category should be used for Priority Disconnect at trunk congestion or not.

The parameter can also change B-party alerting (ring cadence) based on FRL/TCM for the call, if the B-party is an analog extension. (For details on cadence change, see the command *ring_cadence*).

The parameter can also enable a dynamic setting of FRL/TCM category per call, if using (common) abbreviated numbers, and the expanded number starts with:

** (H'AA) FRL/TCM category 5 is used.

*# (H'AB) FRL/TCM category 6 is used.

(H'BB) FRL/TCM category 7 is used.

The parameter D₁ value to set is the sum of the values stated in the table above. Thus the value 7 enables all three functions.

166.61.3 **EXAMPLE**

Priority Disconnect should be used (i.e. be active), so lower priority trunk calls would be automatically disconnected at congestion. The B-party ring cadence shall not be changed. Dynamic setting of FRL/TCM shall not be used.

PARNUM=74,PARVAL=1

166.62 **PARNUM=75**

Diversion bypass check or not at by-passing of diversion from extension

166.62.1 **FORMAT**

PARNUM=75 PARVAL = D ₁		
D ₁ =	0	Diversion bypass shall not be checked.
	1	Diversion bypass shall be checked.

166.62.2

FUNCTION

The parameter states whether the diversion bypass at by-passing of diversion from extension shall be checked or not.

166.62.3

EXAMPLE

Intrusion category shall be checked at by-passing of diversion from extension.

PARNUM=75,PARVAL=1

166.63

PARNUM=76

Request for camp-on busy facility for PBX operator calls over public ISDN

166.63.1

FORMAT

PARNUM=76, PARVAL = D₁

D ₁ =	0	Camp-on is not requested.
	1	Camp-on is requested.

166.63.2

FUNCTION

The parameter states request for camp-on busy facility in terminating exchange for PBX operator calls over a public ISDN network.

This will allow a PBX operator to extend calls to a busy party in an ISDN Virtual Private Network (VPN).

166.63.3

EXAMPLE

Camp-on shall be requested at call to busy extension in terminating exchange.

PARNUM=76,PARVAL=1

166.64

PARNUM=77

Traffic category check at diversion and follow-me

166.64.1

FORMAT

PARNUM=77, PARVAL = D₁

D ₁ =	0	No traffic category check to be performed.
	1	Traffic category check to be performed.

166.64.2

FUNCTION

The parameter states if a new traffic category check has to be performed at direct diversion, diversion when busy, follow-me or interception diversion.

166.64.3

EXAMPLE

Traffic category check shall be performed at direct diversion, diversion when busy, follow-me or interception diversion.

PARNUM=77,PARVAL=1

166.65 **PARNUM=78**

Traffic category check at diversion on no answer

166.65.1 **FORMAT**

PARNUM=78, PARVAL = D ₁		
D ₁ =	0	Traffic category check shall not be performed.
	1	Traffic category check shall be performed.

166.65.2 **FUNCTION**

The parameter states if a new traffic category check has to be performed at diversion on no answer.

166.65.3 **EXAMPLE**

Traffic category check at diversion on no answer shall be performed.
PARNUM=78,PARVAL=1

166.66 PARNUM=79

Extension’s permission to dial message diversion service codes

166.66.1 FORMAT

PARNUM=79, PARVAL = D ₁		
D ₁ =	0	Extensions are not permitted to dial message service codes.
	1	Extensions are permitted to dial message service codes.

166.66.2 FUNCTION

The parameter states if extensions are permitted to dial message diversion service codes or not.

166.66.3 EXAMPLE

Extensions are permitted to dial message diversion service codes.
PARNUM=79,PARVAL=1

166.67

PARNUM=80

Maximum number of repeated attempts at selection of a free external line

166.67.1

FORMAT

PARNUM=80, PARVAL = D_1D_2

D_1D_2 = 0 - 10
Number of attempts. Recommended value is 1.

166.67.2

FUNCTION

The parameter states maximum number of repeated attempts at selection of a free external line in a route after that first attempt has failed depending on no seizure acknowledgement, double seizure etc.

166.67.3

EXAMPLE

Maximum number of repeated attempts at selection of a free external line in a route will be 1.

PARNUM=80,PARVAL=1

166.68

PARNUM=81

Confirmation tone after successful ordering of cancellation for call back

166.68.1

FORMAT

PARNUM=81, PARVAL = D₁

D₁= 0 Dial tone (new register).

 1 Verification tone.

166.68.2

FUNCTION

The parameter states type of confirmation (dial tone or verification tone) after successful ordering of cancellation for call back facility.

166.68.3

EXAMPLE

Verification tone shall be sent as confirmation after successful ordering of cancellation for call back facility.

PARNUM=81,PARVAL=1

166.69 **PARNUM=82**

Confirmation tone after successful cancellation of all ordered facilities

166.69.1 **FORMAT**

PARNUM=82, PARVAL = D ₁		
D ₁ =	0	Dial tone (new register).
	1	Verification tone.

166.69.2 **FUNCTION**

The parameter states type of confirmation (dial tone or verification tone) after successful cancellation of all ordered facilities (General cancellation succeeded).

166.69.3 **EXAMPLE**

Verification tone shall be sent as confirmation after successful cancellation of all ordered facilities.

PARNUM=82,PARVAL=1

166.70

PARNUM=83

Confirmation tone after successful programming or cancellation of individual abbreviated number

166.70.1

FORMAT

PARNUM=83, PARVAL = D₁

D ₁ =	0	Dial tone (new register).
	1	Verification tone.

166.70.2

FUNCTION

The parameter states type of confirmation (dial tone or verification tone) after successful programming or cancellation of individual abbreviated number.

166.70.3

EXAMPLE

Verification tone shall be sent as confirmation after successful programming or cancellation of individual abbreviated number.

PARNUM=83,PARVAL=1

166.71 **PARNUM=84**

Confirmation tone after successful ordering or cancellation of temporary night-switching number

166.71.1 **FORMAT**

PARNUM=84, PARVAL = D ₁		
D ₁ =	0	Dial tone (new register).
	1	Verification tone.

166.71.2 **FUNCTION**

The parameter states type of confirmation (dial tone or verification tone) after successful programming or cancellation of temporary night-switching number.

166.71.3 **EXAMPLE**

Verification tone shall be sent as confirmation after successful programming or cancellation of temporary night-switching number.

PARNUM=84,PARVAL=1

166.72

PARNUM=85

Rerouting of incoming call before a complete internal number has been received

166.72.1

FORMAT

PARNUM=85, PARVAL = D₁

D₁= 0 Rerouting is not permitted, no-progress tone.

 1 Rerouting is permitted.

166.72.2

FUNCTION

The parameter states rerouting permission of incoming call before a complete internal number has been received at inter-digit time out.

166.72.3

EXAMPLE

Rerouting of incoming call permitted before a complete internal number has been received.

PARNUM=85,PARVAL=1

166.73 **PARNUM=86**

Type of TCD analysis after extending to external line

166.73.1 **FORMAT**

PARNUM=86, PARVAL = D ₁		
D ₁ =	0	TCD category of the PBX operator shall be used after extending.
	1	TCD category of the extended party shall be used after extending.

166.73.2 **FUNCTION**

The parameter states which party's TCD category has to be used after extending in register state to external line (TCD category of PBX operator or extended party shall be used).

166.73.3 **EXAMPLE**

TCD category of extended party shall be used after extending to external line.

PARNUM=86,PARVAL=1

166.74

PARNUM=87

Off-hook queuing availability (LCR)

166.74.1

FORMAT

PARNUM=87, PARVAL = D₁

D₁= 0 Off-hook queuing is allowed.

 1 Off-hook queuing is not allowed.

166.74.2

FUNCTION

The parameter states if the off-hook queuing facility is available in the system. Off-hook queuing is initiated automatically by the system if the category of the user allows it when a route with a threshold is reached.

166.74.3

EXAMPLE

Off-hook queuing is allowed in the system.

PARNUM=87,PARVAL=0

166.75

PARNUM=88

Choice of notification of message waiting

166.75.1

FORMAT

Extension type	Notification method	0	1	2	3	4	5
ANALOG / CAS / DTS (no mewkey or display)	PLING	X	.	.	X	.	.
	TONE	.	X	X	.	X	X
ANALOG (with mew lamp)	PLING	X	.	.	X	.	.
	TONE	.	X	.	.	X	.
	MEWLAMP	X	X	X	X	X	X
DTS (no mewkey, with display)	PLING	X	.	.	X	.	.
	TONE	.	X	.	.	X	.
	TEXT	X	X	X	.	.	X
DTS (with mewkey) / IP Extension H.323 (generic)	PLING	.	.	.	.	.	.
	TONE	.	X	.	.	X	.
	TEXT	X	X	X	.	.	.
	MEWKEY	X	X	X	X	X	X
IP Extension SIP (generic)	PLING	.	.	.	.	.	.
	TONE	.	X	.	.	X	.
	DISPLAY	X	X	X	X	X	X
	MEWKEY	X	X	X	X	X	X
DTS, for ADN (with display)	TONE	.	X	.	.	X	.
	TEXT	X	X	X	.	.	X
DTS, for ADN (no display)	TONE	.	X	.	.	X	.
Cordless (generic)	TONE	.	X	.	.	X	.
	DISPLAY	X	X	X	X	X	X
RXN (generic)	TONE	.	X	.	.	X	.

PLING	Periodic ring signal.
TONE	Special dial tone.
TEXT	Message waiting text displayed on DTS/IP extension display.
MEWKEY	Flashing message waiting key indicator.
DISPLAY	Message waiting indication on the terminal's display.

166.75.2

FUNCTION

The parameter states what type of indication is used to notify extensions of message waiting. For analogue the choices are a ringing signal in intervals (pling) or special dial tone. For digital telephones (DTS) the choices include the above two options but also text on the display (if applicable) and a flashing message waiting key. If the message waiting is for the ADN in case of DTS, then the choices are special dial tone and text on the display (if applicable). But the notification will occur only when the ADN key is pressed.

Note: For analogue telephones the lamp will always be lit if there is one.

Note: As can be seen from the table, this parameter has no influence on MEWLAMP, MEWKEY indicator or DISPLAY indicator on cordless and SIP terminals. It depends on the terminal model how the indication is shown.

Note: After changing this parameter in an exchange with customer data, command ICUPI must be executed to change message waiting indication on telephone instruments that currently have message waiting indication activated. Message waiting lamp on analog telephone is only supported in MX-ONE Classic.

166.75.3

EXAMPLE

The special dial tone is selected to notify analogue extensions of message waiting, but not for DTS and cordless. Pling is not required for any extension type. Text is selected for DTS instruments without a MEWKEY (but with a display), and just a flashing MEWKEY for DTS instruments with a MEWKEY.

PARNUM=88,PARVAL=5

166.76
PARNUM=89

Duration time when a DTS or IPeX (H.323/SIP) has parked an external line

166.76.1
FORMAT

PARNUM=89, PARVAL = D ₁ D ₂ D ₃ D ₄ D ₅
D ₁ D ₂ D ₃ D ₄ D ₅ = 0 - 32768 Time in seconds. Recommended minimum value is 600 seconds.

166.76.2
FUNCTION

The parameter states the time before an external call without clearing availability, incoming or outgoing, which has been parked by a DTS or IPeX, is disconnected. If the parked external call is not retrieved by the DTS or IPeX before the time controlled by the parameter, the parked call, that is, the external line will be disconnected or rerouted depends on the value of PARNUM = 176.

166.76.3
EXAMPLE

A DTS and an IPeX is not allowed to park an external line without clear availability for longer time than 10 minutes.

PARNUM=89,PARVAL=600

166.77

PARNUM=90

States maximum number of participants in a conference call

166.77.1

FORMAT

PARNUM=90, PARVAL = D ₁	
D ₁ =	3 - 8 Number of participants. Default is 8.

166.77.2

FUNCTION

The parameter states maximum number of participants in a conference call. (Maximum number of participants in an emergency conference is always 8.)

The maximum number of **external** participants (trunks) in a conference call can be changed by the *global_traffic_data* command.

166.77.3

EXAMPLE

Maximum number of participants in a conference call shall be 6.

PARNUM=90,PARVAL=6

166.78 **PARNUM=91**

Time for reserving an external line to be able to do call tracing (MCT)

166.78.1 **FORMAT**

PARNUM=91, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 0 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.78.2 **FUNCTION**

The parameter states the time an incoming external line of type ISDN, can be reserved despite disconnect signal from external party.

Both the route and the internal party must have categories allowing call tracing (MCT) to start the time. During this time the internal party has possibility to do MCT.

166.78.3 **EXAMPLE**

An external line that is reserved for MCT shall be held for 20 seconds.

PARNUM=91,PARVAL=20

166.79

PARNUM=93

ISDN S0 call diversion mode

166.79.1

FORMAT

PARNUM=93, PARVAL = D₁

D ₁ =	0	Diversion of ISDN calls is valid for voice calls only.
	1	Diversion of ISDN calls is valid for data calls only.

166.79.2

FUNCTION

The parameter states if diversion of ISDN calls apply for voice calls or data calls. Only calls to diverted ISDN terminals are affected.

The parameter is applicable for direct diversion/ follow me/ external follow me. This means that all ISDN terminals in an exchange can use these diversion services for data calls only or voice calls only. If no diversion has to be performed, an ordinary call is set up to the ISDN terminal.

Message diversion however applies always for voice calls only, regardless of the parameter's value.

166.79.3

EXAMPLE

When an ISDN terminal has activated a diversion, only data calls are diverted. Voice calls are not diverted.

PARNUM=93,PARVAL=1

166.80

PARNUM=95

States if tone for verification of call tracing shall be sent from own exchange or public exchange

166.80.1

FORMAT

PARNUM=95, PARVAL = D₁

D ₁ =	0	Tone sending exchange is own. Recommended value.
	1	Tone sending exchange is public.

166.80.2

FUNCTION

The parameter states which exchange that shall send verification or no progress tone to an internal part who requested call tracing, MCT. Sending exchange can be either the public exchange or the own exchange.

call tracing can be executed over an ISDN interface.

166.80.3

EXAMPLE

The own exchange shall send the tone since the public exchange does not.

PARNUM=95, PARVAL=0

166.81

PARNUM=97

Mixed Dial Tone

Changing the frequency of the dial tone to a mixed tone, using two interfering frequencies (350 and 440 Hz). The parameter is only applicable for standard market installations (the market for which a system is adapted is defined during installation).

166.81.1

FORMAT

PARNUM=97, PARVAL = D ₁		
D ₁ =	0	No change in frequency (frequency according to the value defined for the standard market application system).
	1	Dial tone using a mix of two interfering tones (350 and 440 Hz).

166.81.2

FUNCTION

The parameter is used for setting the dial tone to a mix two frequencies (350 and 440 Hz).

Note: Only applicable for installations using the standard market application system. The function is supported by all media gateways supporting TMU boards. Restart of TMU boards is required after changing this parameter. For IP extensions, the dial tone can also be changed from the IP phone configuration file.

166.81.3

EXAMPLE

Use mixed dial tone.

PARNUM=97,PARVAL=1

166.82 **PARNUM=99**

Programming an authorization code as an individual abbreviated number

166.82.1 **FORMAT**

PARNUM=99, PARVAL = D ₁		
D ₁ =	0	Programming is not allowed.
	1	Programming is allowed.

166.82.2 **FUNCTION**

The parameter states if it is allowed to program an authorization code as an individual abbreviated number.

166.82.3 **EXAMPLE**

It shall not be possible to program an authorization code as an individual abbreviated number.

PARNUM=99,PARVAL=0

166.83

PARNUM=100

Multi Party Tone Control

166.83.1

FORMAT

PARNUM=100, PARVAL = D ₁		
D ₁ =	0	No tones.
	1	Provide tone for extension initiated conference.
	2	Provide tone for operator initiated conference.
	4	Provide tone for intrusion.
	8	Provide tone for ACD supervisor intrusion.
	16	Provide only initial tone for extension initiated conference.
	32	Provide only initial tone for operated initiated conference.
	64	Provide intrusion tone instead of conference tone, requires also 1 or 2 to be selected.

166.83.2

FUNCTION

The parameter provides the control over conference tone and intrusion tone function to be used. If the parameter choice is to provide tone, both the first tone and the repeated tones are provided. The default value for this PARNUM depends on application system. E.g. default value for standard application system is 7, i.e. tone for conference and intrusion but not for ACD supervisor intrusion. PARVAL is the sum of the selected values.

Note: When a warning tone is removed this will affect all extensions in the system. This means that if the warning tone for intrusion is removed, all PBX operators and extensions with the ability to make intrusion will be able to intrude upon all extensions in the system unnoticed by the extension in question. All extensions in the system should therefore be informed about the risk of being intruded upon.

The removal of warning tone for conference and/or intrusion might be in violation to national legislation.

166.83.3

EXAMPLE

Provide tones only for normal conference and operator conference.

PARNUM=100,PARVAL=3

166.84 **PARNUM=101**

Choice of clock format on the DTS display

166.84.1 **FORMAT**

PARNUM=101, PARVAL = D ₁		
D ₁ =	0	12-hour clock format.
	1	24-hour clock format.

166.84.2 **FUNCTION**

The parameter states if the time of day should be displayed on the DTS display in 12-hour or 24-hour format.

166.84.3 **EXAMPLE**

24-hour clock format will be displayed on the DTS display.

PARNUM=101,PARVAL=1

166.85

PARNUM=102

Manual/automatic ringing with maintained A-party speech from the Operator Assistant

166.85.1

FORMAT

PARNUM=102, PARVAL = D₁

D ₁ =	0	Manual ringing.
	1	Automatic ringing.
	2	Automatic ringing with maintained A-party speech.

166.85.2

FUNCTION

The parameter states if ringing should be started manually or automatically from the Operator Assistant. Valid against all manual ringing cases, for example, analog extensions, digital extensions, personal number with public destination as answering position.

Manual ringing is not applicable for alphanumeric consoles, both U.S. and Standard. It is also not applicable for generic extensions. However, automatic ringing and automatic ringing with maintained A-party speech are applicable for Operator Assistant and all types of operator consoles.

Over a private network ringing is normally started automatically independent of the parameter value.

166.85.3

EXAMPLE

The ringing shall be started automatically.

PARNUM=102,PARVAL=1

166.86
PARNUM=103

Record dialled number or translated LCR number in CIL

166.86.1
FORMAT

PARNUM=103, PARVAL = D ₁		
D ₁ =	0	Record dialled number without prefixing access code (Destination Code) for both LCR and non-LCR calls.
	1	Record translated LCR number prefixing access code for LCR call. Record dialled number without prefixing access code for non-LCR calls (except when Closed Numbering Plan is used).
	2	Record translated LCR number prefixing access code for LCR calls. Record dialled number prefixing access Code for non-LCR calls.
	3	Record translated LCR number without prefixing access code. Record dialled number without prefixing access code for non-LCR calls.

166.86.2
FUNCTION

The parameter states whether CIL will record the dialled number or the LCR translated number for output in the dialled number field of CIL. The parameter also controls if the number in the dialled number field shall be prefixed with Access (Destination) Code or not. The parameter is applicable for both LCR and non-LCR calls.

The parameter thus controls if the “number sent to the public network” or the originally dialled number shall be logged in CIL.

Note: In the new CIL output formats all numbers can be stored i.e., separate fields to store dialled, translated and connected numbers. So this parameter is not relevant for the new CIL format.

166.86.3
EXAMPLE

CIL shall record the dialled number.

PARNUM=103,PARVAL=0

166.87

PARNUM=104

Proceed-to-send signal to be sent or not to user in connection with LCR, ERWT or FRL/TCM features

166.87.1

FORMAT

PARNUM=104, PARVAL = D₁

D ₁ =	0	No PTS-signal is to be sent to the user.
	1	PTS-signal is to be sent to the user.

166.87.2

FUNCTION

The parameter states if a PTS-signal is to be sent to the user, after the route access code has been dialled, when Least Cost Routing (LCR), Expensive Route Warning Tone (ERWT) or Facility Restriction Level/Travelling Class Mark (FRL/TCM) features are activated.

166.87.3

EXAMPLE

PTS-signal will be sent to the user when LCR, ERWT or FRL/TCM features are activated.

PARNUM=104,PARVAL=1

166.88

PARNUM=106

Traveling class mark to be checked in own exchange or not

166.88.1

FORMAT

PARNUM=106, PARVAL = D₁

D ₁ =	0	No check of Travelling Class Mark in own exchange.
	1	Check of Travelling Class Mark in own exchange.

166.88.2

FUNCTION

The parameter states whether a check of the users Traveling Class Mark shall be performed in originating exchange or not.

166.88.3

EXAMPLE

Check of Traveling Class Mark shall be done in own exchange.

PARNUM=106,PARVAL=1

166.89

PARNUM=107

Time supervision for Off-Hook Queuing (LCR)

166.89.1

FORMAT

PARNUM=107, PARVAL = D_1D_2	
D_1D_2 =	2 - 30 Time in seconds. Recommended value is 8 seconds.

166.89.2

FUNCTION

The parameter states the time supervision for Off-Hook Queuing.

Off-Hook Queuing is initiated automatically by the system, if the category of the user allows it, when a route with a threshold is reached.

At time out, the system starts a search for a free route beginning from the first choice route.

166.89.3

EXAMPLE

The time supervision for Off-Hook Queuing is set to 8 seconds.

PARNUM=107,PARVAL=8

166.90 **PARNUM=111**

Queuing to already paged individual

166.90.1 **FORMAT**

PARNUM=111, PARVAL = D ₁		
D ₁ =	0	Queuing to paging is not allowed.
	1	Queuing to paging is allowed.

166.90.2 **FUNCTION**

The parameter states whether the paging to already paged extension is allowed.

166.90.3 **EXAMPLE**

Queuing to paging is allowed.

PARNUM=111,PARVAL=1

166.91

PARNUM=113

Time before an unanswered call is registered by the name and number log

166.91.1

FORMAT

PARNUM=113, PARVAL = D₁D₂

D₁D₂ = 0 - 16
Time in seconds. Recommended value is 3 seconds.

166.91.2

FUNCTION

The parameter states the time before an unanswered call is registered by the name and number log feature. Only valid for digital and SIP extensions.

If the unanswered call is released before the defined time has expired, the call will not be registered by the name and number log.

166.91.3

EXAMPLE

The unanswered call is not registered until it has last more than 3 seconds.

PARNUM=113,PARVAL=3

166.92

PARNUM=114

Recorded voice announcement diversion selection

166.92.1

FORMAT

PARNUM=114, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	Announcement at diversions
0	No announcement shall be sent to A-party at any of the diversions below (default).
1	Announcement shall be sent to A-party when B-party has activated FOLLOW ME to another extension.
2	Announcement shall be sent to A-party when B-party has activated DIRECT DIVERSION to another extension.
4	Announcement shall be sent to A-party when DIVERSION ON BUSY to another extension will take place.
8	Announcement shall be sent to A-party when called extension has activated EXTERNAL FOLLOW ME.

166.92.2

FUNCTION

The parameter states if a recorded announcement shall be sent to A-party at any of the above mentioned diversions. For type of A-party see PARNUM = 116.

PARVAL is the sum of diversion cases where announcement shall be given.

166.92.3

EXAMPLE 1

No recorded announcement shall be given at any of the diversions above.

PARNUM=114,PARVAL=0

166.92.4

EXAMPLE 2

A recorded announcement shall be sent when B-party has activated either FOLLOW ME or EXTERNAL FOLLOW ME.

PARNUM=114,PARVAL=9

166.93

PARNUM=115

Recorded voice announcement paging diversion selection

166.93.1

FORMAT

PARNUM=115, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	Announcement at diversion to paging equipment
0	No announcement will be sent to A-party at any of the diversions given below (default).
1	Announcement will be sent to A-party when called extension has activated FOLLOW ME to paging equipment.
2	Announcement will be sent to A-party when called extension has activated DIRECT DIVERSION to paging equipment.
4	Announcement will be sent to A-party when DIVERSION ON BUSY to paging equipment will take place.
8	Announcement will be sent to A-party when DIVERSION to paging equipment AT NO ANSWER.

166.93.2

FUNCTION

The parameter states if a recorded announcement will be sent to A-party at any of the above mentioned diversions.

PARVAL is the sum of diversion cases where announcement will be given.

166.93.3

EXAMPLE 1

No recorded announcement will be given at any of the diversions above.

PARNUM=115,PARVAL=0

166.93.4

EXAMPLE 2

A recorded announcement will be sent when B-party has activated FOLLOW ME to paging equipment and at DIVERSION AT NO ANSWER to paging equipment.

PARNUM=115,PARVAL=9

166.94

PARNUM=116

Recorded voice announcement calling party selection

166.94.1

FORMAT

PARNUM=116, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	Announcement to A-party at calls to PBX/ACD/Call Origin groups and Individuals.
0	No announcement will be provided.
Continue, queue and repeated queue:	
1	Announcement shall be provided, if A-party is an extension (internal call) or an extension connected over tie-line.
2	Announcement shall be provided, if A-party is a public trunk line.
4	Announcement shall be provided, if A-party is a tie line (which cannot convey the connected party type information).
Follow me/Diversion:	
8	Announcement shall be provided, if A-party is an extension (internal calls).
16	Announcement shall be provided, if A-party is a public trunk line.
32	Announcement shall be provided, if A-party is a tie line.
Welcome announcement:	
64	Announcement shall be provided, if A-party is an extension (internal call) or an extension connected over tie-line.
128	Announcement shall be provided, if A-party is a public trunk line.
256	Announcement shall be provided, if A-party is a tie line (which cannot convey the connected party type information).

166.94.2

FUNCTION

The parameter states what kind of A-party that will get a recorded announcement at any of the above mentioned traffic cases. Type of diversion/follow me is set in PARNUM = 114.

PARVAL is the sum of traffic cases where announcement shall be given.

166.94.3

EXAMPLE 1

No recorded announcement shall be given to any A-party at any traffic case.

PARNUM=116, PARVAL=0

166.94.4

EXAMPLE 2

A recorded announcement shall be provided when A-party is a public trunk line at calls to PBX/ACD/Call Origin groups/Individuals and to any A-party at diversion.

PARNUM=116, PARVAL=186

166.94.5

EXAMPLE 3

A recorded announcement shall be provided when A-party is a public trunk line at diversions, and when A-party is a public trunk line at calls to PBX/ACD/Call Origin groups/Individuals.

PARNUM=116,PARVAL=146

166.95

PARNUM=118

Loop-back avoidance check selection

166.95.1

FORMAT

PARNUM=118, PARVAL = D₁

D ₁ =	0	Loop-back avoidance check is not allowed.
	1	Loop-back avoidance check is allowed.

166.95.2

FUNCTION

The parameter states whether loop-back avoidance check will be done in a transit exchange. The loop-back avoidance check is done for avoiding transit calls on the same route. The default value for this PARNUM is 1.

166.95.3

EXAMPLE

In case of transit exchange, Loop-back avoidance check shall not be done, that is, transit on the same route is allowed. In other words, the call is allowed to enter and exit the system on the same route.

PARNUM=118,PARVAL=0

166.96

PARNUM=120

Automatic answer from DTS when calling party is an external line

166.96.1

FORMAT

PARNUM=120, PARVAL = D₁

D ₁ =	0	Automatic answer from DTS is allowed when calling party is an external line.
	1	Automatic answer from DTS is not allowed when calling party is an external line.

166.96.2

FUNCTION

The parameter states if an automatic answer from a DTS is allowed when the calling party is an external line.

166.96.3

EXAMPLE

If an incoming call is received in a DTS that has automatic answer initiated the calling party will have to pay for a call. This is not wanted. Instead the automatic answer should be neglected and ringing should start on the DTS.

PARNUM=120,PARVAL=1

166.97

PARNUM=123

Handling of ETE-DTMF mode for remote extension

166.97.1

FORMAT

PARNUM=123, PARVAL = D₁

- | | |
|------------------|---|
| D ₁ = | 0 Suffix digit is needed (PARNUM=56).
1 Internal ETE-DTMF (regardless PARNUM=56) (default). Possible to initiate inquiry in DTMF mode.
2 Suffix digit is needed to enable DTMF (PARNUM=56). Not possible to initiate inquiry once DTMF mode is entered.
3 Internal ETE-DTMF (regardless PARNUM=56). Possible to initiate inquiry only when user starts with inquiry procedure. |
|------------------|---|

166.97.2

FUNCTION

The parameter states the handling of the ETE-DTMF mode for remote extension (including SIP based remote extension). When DTMF tone is received from the public terminal associated to RXN, it can be handled as a service request, or the DTMF tone can be retransmitted to the connected party.

166.97.3

EXAMPLE 1

If PARNUM=56 has a value between 0-9, suffix digit is needed to handle ETE-DTMF tones.

PARNUM=123,PARVAL=0

166.97.4

EXAMPLE 2

If PARNUM=56 has the value 15, it is not possible to request service, all the digits are treated as DTMF tones.

PARNUM=123,PARVAL=0

166.97.5

EXAMPLE 3

Regardless the value of PARNUM=56, it is possible to request a service (according to PARNUM=124) or send a DTMF tone to the connected party.

PARNUM=123,PARVAL=1

166.98

PARNUM=124

Inquiry request procedure for remote extension

166.98.1

FORMAT

PARNUM=124, PARVAL = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	0 - BBB Procedure format. Default value is A A = * B = #

166.98.2

FUNCTION

The parameter states the suffix procedure digits for requesting Inquiry from a remote extension (including SIP based remote extension).

166.98.3

EXAMPLE 1

The procedure for requesting an Inquiry from a remote extension is *0#.

PARNUM=124,PARVAL=A0B

166.98.4

EXAMPLE 2

The procedure for requesting an Inquiry from a remote extension is **.

PARNUM=124,PARVAL=AA

166.99

PARNUM=125

Time supervision of a call back mission, initiated when the called party is busy. (A-side)

166.99.1

FORMAT

PARNUM=125, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 60 - 10800

Time in seconds. Recommended minimum value is 3600 seconds.

166.99.2

FUNCTION

The parameter states the time during which an initiated call back mission is active at the A-side when the called party is busy.

At time out, the call back missions on the A-side and the B-side will be released.

The A-/B-side refers to where the A-/B-party is located, in the same PBX or in different PBXes.

The time supervision on the A-side should be shorter than the one on the B-side (PARNUM = 126).

166.99.3

EXAMPLE

Call back at busy has been initiated towards an extension. The call back missions is cancelled after 1 hour.

PARNUM=125,PARVAL=3600

166.100

PARNUM=126

Time supervision of a call back mission, initiated when the called party is busy. (B-side)

166.100.1

FORMAT

PARNUM=126, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 120 - 10860
 Time in seconds. Recommended minimum value is 3660 seconds.

166.100.2

FUNCTION

The parameter states the time during which an initiated call back mission is active at the B-side when the called party is busy.

At time out, the call back mission on the B-side will be released.

The A-/B-side refers to where the A-/B-party is located, in the same PBX or in different PBXes.

The time supervision on the B-side should be longer than the one on the A-side (PARNUM = 125).

166.100.3

EXAMPLE

Call back at busy has been initiated towards an extension. The call back mission is to cancelled after 1 hour and 1 minute.

PARNUM=126,PARVAL=3660

166.101

PARNUM=127

Time supervision of a call back mission, initiated when no answer is received from called party. (A-side)

166.101.1

FORMAT

PARNUM=127, PARVAL = D ₁ D ₂ D ₃ D ₄ D ₅	
D ₁ D ₂ D ₃ D ₄ D ₅ =	60 - 28800 Time in seconds. Recommended minimum value is 7200 seconds.

166.101.2

FUNCTION

The parameter states the time during which an initiated call back mission is active on the A-side when no answer is received from the called party.

At time out, the call back missions on the A-side and the B-side will be released.

The A-/B-side refers to where the A-/B-party is located, in the same PBX or in different PBXes.

The time supervision on the A-side should be shorter than the one in the B-side (PARNUM =128).

166.101.3

EXAMPLE

Call back at no answer has been initiated towards an extension. The call back mission is cancelled after 2 hours.

PARNUM=127,PARVAL=7200

166.102

PARNUM=128

Time supervision of a call back mission, initiated when no answer from called party.
(B-side)

166.102.1

FORMAT

PARNUM=128, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 120 - 28860

Time in seconds. Recommended minimum value is 7260 seconds.

166.102.2

FUNCTION

The parameter states the time during which an initiated call back mission is active on the B-side when no answer is received from the called party.

At time out, the call back mission at the B-side will be released.

The A-/B-side refers to where the A-/B-party is located, in the same PBX or in different PBXes.

The time supervision on the B-side should be longer than the one on the A-side (PARNUM = 127).

166.102.3

EXAMPLE

Call back at no answer has been initiated towards an extension. The call back mission is cancelled after 2 hours and 1 minute.

PARNUM=128,PARVAL=7260

166.103 **PARNUM=130**

Default value used if third party's IPL cannot be fetched

166.103.1 **FORMAT**

PARNUM=130, PARVAL = D ₁	
D ₁ =	0 - 3 This is a default value used if third party's intrusion protection level IPL cannot be fetched.

166.103.2 **FUNCTION**

The parameter states the default value used if third party's exchange in an intrusion situation over network does not support IPL, Intrusion Protection Level.

The parameter is valid for incoming and outgoing external lines in the intruded party's exchange.

166.103.3 **EXAMPLE**

If third party's intrusion protection level cannot be fetched, priority level 3 will be used.

PARNUM=130,PARVAL=3

166.104

PARNUM=132

IDNX Service Selection value for PBX operator consoles

166.104.1

FORMAT

PARNUM=132, PARVAL = D₁

D ₁ =	0	IDNX Service template 0.
	1	IDNX Service template 1.
	2	IDNX Service template 2.
	3	IDNX Service template 3.
	4	IDNX Service template 4.
	5	IDNX Service template 5.
	6	IDNX Service template 6.
	7	IDNX Service template 7.

166.104.2

FUNCTION

The parameter states a suitable IDNX service selection template for PBX operator consoles.

166.104.3

EXAMPLE

Calls made from the PBX operator consoles are to use IDNX service template 7.

PARNUM=132,PARVAL=7

166.105

PARNUM=134

States whether ADN’s LED shall have an indication when an ACD member is unavailable in an ACD group

166.105.1

FORMAT

PARNUM=134, PARVAL = D ₁		
D ₁ =	0	No indication on the LED at unavailable.
	1	The LED of the APN will have a steady indication when an ACD member is unavailable in the ACD group.

166.105.2

FUNCTION

The parameter states whether the ADN’s LED will have an indication when an ACD member is unavailable in an ACD group.

166.105.3

EXAMPLE

All ADNs which are members in an ACD group will have steady indication on their LEDs when they are unavailable.

PARNUM=134,PARVAL=1

166.106

PARNUM=135

States whether CIL shall record, through a condition code, a call tracing

166.106.1

FORMAT

PARNUM=135, PARVAL = D ₁		
D ₁ =	0	Do not record specific condition code in a CIL call record for MCT calls.
	1	Record specific condition code in a CIL call record for MCT calls.

166.106.2

FUNCTION

The parameter states whether a CIL call record will contain the condition code for MCT when the user activates the feature in the event of a call.

If the value is set to zero, MCT is executed without being logged in the exchange but in the public ISDN network.

166.106.3

EXAMPLE

CIL call record will contain condition code for MCT if MCT is ordered by the user.

PARNUM=135,PARVAL=1

166.107 **PARNUM=137**

ACD group member/queue display on DTS

166.107.1 **FORMAT**

PARNUM=137, PARVAL = D ₁		
D ₁ =	0	The ACD agent is not allowed to invoke member/queue display feature.
	1	The ACD agent is allowed to invoke member/queue display feature.

166.107.2 **FUNCTION**

The parameter states if the ACD group queue information will be displayed on the console. Only the digital instrument with a three and four rows display will be able to show the information.

166.107.3 **EXAMPLE**

ACD agents with a digital instrument of three and four rows will be able to invoke updating of present members and queue status on their consoles.
PARNUM=137,PARVAL=1

166.108

PARNUM=138

Time before false B-answer is sent over a non-intelligent private or public trunk to the cooperating exchange to prevent time-out when queuing towards ACD/PBX-group, or ringing a group member (through the group pilot number).

166.108.1

FORMAT

PARNUM=138, PARVAL = D₁D₂D₃

D₁D₂D₃ = 0 - 180
 Time in seconds.

166.108.2

FUNCTION

The parameter states the time in queue or ringing on a group member before the false B-answer will be sent for an non intelligent private or public trunk call to CD/PBX-group, to prevent the cooperating exchange or terminal to time out.

The parameter must have a lower value than PARNUM = 41 in a possible originating exchange.

166.108.3

EXAMPLE

After 120 seconds in queue towards ACD/PBX-group, a false B-answer is sent to the cooperating exchange.

PARNUM=138,PARVAL=120

166.109

PARNUM=139

RVA option for queue

166.109.1

FORMAT

PARNUM=139, PARVAL = D₁

- | | |
|------------------|---|
| D ₁ = | <p>0 No announcement shall be sent to a PBX operator queue. Partial PBX operator queue message is selected. Partial ACD/PBX-group queue message is selected. When no recorded announcements machine is available for an ACD/PBX-group welcome message or a queue announcement message, normal call processing will occur with voice message being bypassed. The ACD/PBX-group music on hold standard message is selected (default).</p> <p>1 Announcements shall be sent if the A-party is in the PBX operator queue.</p> <p>2 Complete voice message shall be provided when an PBX-operator answers the call and A-party is receiving a recorded voice message.</p> <p>4 Complete voice message shall be provided when an ACD/PBX-group individual becomes free and A-party is receiving a recorded queue voice message.</p> <p>8 A busy tone shall be provided when the recorded announcement machine for some reason is not available for the ACD/PBX-group welcome messages.</p> <p>16 A busy tone shall be provided when the recorded announcement machine for some reason is not available for the ACD/PBX-group queue announcement messages.</p> <p>32 ACD/PBX-group music on hold special message will be provided.</p> |
|------------------|---|

166.109.2

FUNCTION

The parameter states the RVA option for queue:

- Enables/disables the PBX operator queue voice message.
- Selects partial or complete voice message for the PBX operator queue.
- Selects partial or complete voice message for an ACD/PBX-group queue.
- Selects busy tone or bypass when no recorded announcement machine is available for the ACD/PBX-group welcome messages.
- Selects busy tone or bypass when no recorded announcement machine is available for the ACD/PBX-group queue announcement messages.
- Selects music on hold standard message or special message.

PARVAL is the sum of traffic cases where selection shall be given.

166.109.3

EXAMPLE 1

The recorded voice announcement queue selection:

- Announcement shall be sent to a PBX operator queue.
- Complete PBX operator message is selected.
- Complete ACD/PBX-group queue announcement message is selected.

- Voice message is bypassed when no recorded announcement machine is available for an ACD/PBX-group welcome or queue announcement message.

PARNUM=139,PARVAL=7

166.109.4

EXAMPLE 2

The recorded voice announcement queue selection:

- No announcement shall be sent to a PBX operator queue.
- Partial PBX operator message is selected.
- Partial ACD/PBX-group queue announcement message is selected.
- Busy tone shall be sent when no recorded announcement machine is available for an ACD/PBX-group welcome announcement message.
- Voice message is bypassed when no recorded announcement machine is available for an ACD/PBX-group queue announcement message.
- The ACD/PBX-group music on hold special message is selected.

PARNUM=139,PARVAL=40

166.109.5

EXAMPLE 3

The recorded voice announcement queue selection:

- No announcement shall be sent to a PBX operator queue.
- Partial PBX operator message is selected.
- Complete ACD/PBX-group queue announcement message is selected.
- Busy tone shall be sent when no recorded announcement machine is available for an ACD/PBX-group welcome message.
- Busy tone shall be sent when no recorded announcement machine is available for an ACD/PBX-group queue announcement message.
- The ACD/PBX-group music on hold special message is selected.

PARNUM=139,PARVAL=60

166.110 **PARNUM=140**

RVA diversion announcement

166.110.1 **FORMAT**

PARNUM=140, PARVAL = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	0 - 250 Voice announcement number, 1 - 250. Default is 0 (no announcement).

166.110.2 **FUNCTION**

The parameter states the voice announcement for calls diverted to an internal party.

166.110.3 **EXAMPLE**

The RVA diversion announcement number is 131.

PARNUM=140,PARVAL=131

166.111

PARNUM=141

RVA paging diversion announcement

166.111.1

FORMAT

PARNUM=141, PARVAL = D₁D₂D₃

D₁D₂D₃ = 0 - 250
Voice announcement number, 1 - 250. Default is 0 (no announcement).

166.111.2

FUNCTION

The parameter states the voice announcement for calls diverted to paging.

166.111.3

EXAMPLE

The RVA paging diversion announcement number is 31.

PARNUM=141,PARVAL=31

166.112

PARNUM=142

RVA announcement for External Follow me and for Diversion on busy/no reply to public destination.

166.112.1

FORMAT

PARNUM=142, PARVAL = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	0 - 250 Voice announcement number, 1 - 250. Default is 0 (no announcement).

166.112.2

FUNCTION

The parameter states the voice announcement for external follow me (ECF), and for diversion on busy and on no reply to public destinations.

166.112.3

EXAMPLE

The RVA for external follow me and for diversion on busy and diversion on no reply announcement number is 44.

PARNUM=142,PARVAL=44

166.113

PARNUM=143

RVA individual PBX operator queue announcement

166.113.1

FORMAT

PARNUM=143, PARVAL = D₁D₂D₃

D₁D₂D₃ = 0 - 250
Voice announcement number, 1 - 250. Default is 0 (no announcement).

166.113.2

FUNCTION

The parameter states the voice announcement for the individual PBX operator queue.

166.113.3

EXAMPLE

The RVA individual PBX operator queue announcement number is 233.

PARNUM=143,PARVAL=233

166.114
PARNUM=145

Start of call information transfer to a voice mail system

166.114.1
FORMAT

PARNUM=145, PARVAL = D ₁		
D ₁ =	0	The exchange shall send call information immediately after ringing the voice mail system. The voice mail system answers the call after the information is received (default).
	1	The exchange shall send call information after the voice mail system has answered.

166.114.2
FUNCTION

The parameter states if information regarding a call to the voice mail system is sent immediately after the exchange rings the voice mail port or after voice mail answers the call. This parameter is only applicable when the voice mail system requires a dedicated GICl channel.

166.114.3
EXAMPLE

Exchange is to send call information immediately after calling the voice mail system. Voice mail will answer the call after this information is received.

PARNUM=145,PARVAL=0

166.115

PARNUM=146

Sending of B-answer signal when rerouting to answer position at call to vacant number

166.115.1

FORMAT

PARNUM=146, PARVAL = D₁

D ₁ =	0	B-answer signal shall be sent.
	1	B-answer signal shall not be sent.

166.115.2

FUNCTION

The parameter states whether B-answer signal shall be sent or not at DID-call to a vacant number and the call is rerouted to a predefined answering position for vacant number.

Value 1 is used when an external A-party shall not be charged at wrong number.

166.115.3

EXAMPLE

B-answer signal shall be sent when a DID-call to a vacant number is rerouted to an answering position for vacant number.

PARNUM=146,PARVAL=0

166.116
PARNUM=147

False B-answer to external line or SIP extension when a call is placed in queue to ACD/PBX-group, or ringing on a member extension (via the group pilot number).

166.116.1
FORMAT

PARNUM=147, PARVAL = D ₁		
D ₁ =	0	False B-answer is not sent.
	1	False B-answer is sent, for both 2 and 3 below.
	2	False B-answer is sent over a non-intelligent private or public trunk after time set in PARNUM 138 is elapsed.
	3	False B-answer is sent over an intelligent private trunk when calling party is an extension/operator or to a SIP extension after time set in PARNUM 148 is elapsed.

166.116.2
FUNCTION

The parameter states whether a false B-answer is sent or not sent over a non-intelligent private or public trunk, or an intelligent private trunk (when the calling party is an extension/operator or a SIP extension) when a call is placed in queue for an ACD/PBX-group, or is ringing a group member through the group pilot number.

Depending on the trunk type, the false B-answer is sent after the time set in either PARNUM = 138 or PARNUM = 148.

False B-answer may sent to calling line to stop ringing supervision at the A-party. Otherwise, the connection gets disconnected after a few minutes.

166.116.3
EXAMPLE

No false B-answer will be sent to external line or SIP extension.

PARNUM=147,PARVAL=0

166.117

PARNUM=148

Time before false B-answer is sent over an intelligent private trunk when calling party is an extension/operator to the cooperating exchange or SIP extension to prevent time out when queuing towards ACD/PBX-group, or ringing on a group member (through the group pilot number).

166.117.1

FORMAT

PARNUM=148, PARVAL = D₁D₂D₃
 D₁D₂D₃ = 0 - 180
 Time in seconds.

166.117.2

FUNCTION

The parameter specifies the time in queue or ringing a group member before the false B-answer is sent for:

- an intelligent private trunk when the calling party is an extension/operator or SIP extension call to ACD/PBX-group

This is to prevent the cooperating exchange or terminal to time out before the specified time.

The parameter must have a lower value than PARNUM = 41 in a possible originating exchange.

166.117.3

EXAMPLE

After 120 seconds in queue towards ACD/PBX-group, a false B-answer is sent to the cooperating exchange.

PARNUM=148,PARVAL=120

166.118 **PARNUM=150**

The cost per charging pulse consists of fractions (in hundredths or thousandths)

166.118.1 **FORMAT**

PARNUM=150, PARVAL = D₁

D₁= 0 Cost per charging pulse consists of no fractions.

1 Cost per charging pulse consists of fractions. (Value/100).

2 Cost per charging pulse consists of fractions. (Value/1000).

166.118.2 **FUNCTION**

The parameter states whether the charging cost per pulse consists of fractions or not.

The charging cost is received from an ISDN network and is displayed at the A-party with an appropriate display.

166.118.3 **EXAMPLE**

The given cost per charging pulse consists of fractions (in hundredths).

PARNUM=150,PARVAL=1

166.119

PARNUM=151

Operator/extension charged or not charged for extending/transferring calls to an external (public, charged) destination.

166.119.1

FORMAT

PARNUM=151, PARVAL = D₁

- | | |
|------------------|---|
| D ₁ = | <p>0 Extending Operator is charged for extended/transferred calls to external destination.
Transferring extension is charged for transferred calls to external destination. (Default)</p> <p>1 Extending Operator is not charged for extended calls to external destination.
Transferring extension is charged for transferred calls to external destination.</p> <p>2 Extending operator is charged for the transferred/extended calls to external destination.
Transferring extension is not charged for transferred calls to external destination. Transferred extension (which was connected to the transferring extension before the transfer) will be charged instead.</p> <p>3 Extending operator is not charged for the extended calls to external destination.
Transferring extension is not charged for the transferred calls to external destination. Transferred extension (which was connected to the transferring extension before the transfer) will be charged instead.</p> |
|------------------|---|

166.119.2

FUNCTION

The parameter states whether the extending/transferring operator/extension will be charged for extending/transferring calls to an external (public) party.

Whenever an extension requests the PBX operator to extend a call to an external party, and the operator extends the call after speech, the operator is charged until the moment the call is extended. After extending the call, the assisted (transferred) extension is (normally/per default) charged for the remaining call.

Equally, whenever an extension is assisting another extension by transferring a call to an external party, and the transfer of the call is done after speech, the transferring extension is charged until the moment the call is transferred. After transfer of the call, the assisted extension is (normally/per default) charged for the remaining call.

By changing the PARNUM value the assisted extension can be made charged for the entire call (i.e. both calls, before and after the extending/transfer).

Default value/setting for the parameter is 0.

166.119.3

EXAMPLE

The operator shall not be charged when extending a call to an external party. An extension which transfers a charged trunk call to another extension shall be charged also for the resulting call after transfer.

PARNUM=151,PARVAL=1

166.120

PARNUM=153

A-number request and A-subscriber charging for calls to PBX operator (MFC-signalling). A-number or trunk-line identity shown on PBX operator console on incoming calls on public CCS trunks

166.120.1

FORMAT

PARNUM=153, PARVAL = D₁

- | | | |
|------------------|---|---|
| D ₁ = | 0 | No A-number information request and the A-party will be charged on call (MFC-signalling). Trunk line identity is shown on the PBX operator console (CCS trunk). |
| | 1 | A-party will not be charged on a call to a PBX operator. |
| | 2 | A-party will not be charged on a call to a data extension. (Not used). |
| | 4 | A-number information request (MFC-signalling). A-number is shown on the PBX operator console (CCS trunk) or on the ICS terminal. |

166.120.2

FUNCTION

The parameter states if the number of the A-party will be requested and displayed on call to a PBX operator for incoming calls on DID-trunk with MFC-signalling. It is also optional if the A-party will be charged on call to a PBX operator. For incoming calls on CCS trunks it is optional whether the A-number or the trunk-line identity shall be shown.

PARVAL is the sum of the selected values.

Default value for the parameter is zero.

166.120.3

EXAMPLE 1

On incoming DID-call to a PBX operator the number of the A-party will be requested. The A-party will not be charged for the call. A-number is shown on the PBX operator console on incoming calls from public CCS trunks.

PARNUM=153,PARVAL=5

166.120.4

EXAMPLE 2 (ICS SPECIFIC)

If the parameter is set to value 4, the A-number will be displayed on the ICS terminal instead of dialled number if the following criteria are fulfilled: No redirection and public number exist.

PARNUM=153,PARVAL=4

If the parameter has the default value zero, the dialled number will be displayed on the ICS terminal in most cases. The exception is when there is no redirection and the private number is a directory number (extension, PBX operator or external number). In this case the A-number is displayed, regardless of what the parameter value is.

166.121

PARNUM=154

Number of Music On Hold outputs per TMU board

166.121.1

FORMAT

PARNUM=154, PARVAL = D₁

D ₁ =	0	No music on hold outputs.
	1	One music on hold outputs.
	2	Two music on hold outputs.

166.121.2

FUNCTION

The parameter states how many music on hold outputs there are on each TMU board. There can be a maximum of 3 music on hold outputs per LIM.

The process to change the number of Music on Hold outputs per TMU board with PARNUM 154 back to a higher value (1 or 2) is as follows:

1. Block traffic on all TMU boards with the command *block -bpos*
2. Wait until all the calls have been ended.
3. Idle mark all TMU board positions with the command *board_config -remove -bpos*
4. Now change the PARNUM 154 value with the command *ASPAC:PARNUM=154,PARVAL= (1or 2);*
5. Do the configuration update with command *board_config -scan -mgw* for all TMU board positions;

See also 166.140 PARNUM=177 on page 379.

166.121.3

EXAMPLE

The number of music on hold outputs are set to one output.

PARNUM=154,PARVAL=1

166.122

PARNUM=155

Selection of DTMF Detection time during speech

166.122.1

FORMAT

PARNUM=155, PARVAL = D₁D₂D₃

D₁D₂D₃ = 40 - 160
Time in milliseconds. DTMF detection time.

166.122.2

FUNCTION

The parameter states the DTMF detection value which is sent to the SPU4 (DTMF32), TMU board or MGU to adapt/correct the digit detection during speech.

Note that the detection time has a default value set per application system. The actual detection time can vary a few ms from the entered value depending on type of HW.

166.122.3

EXAMPLE

The DTMF detection time for the MGU shall be 72 ms.

PARNUM=155,PARVAL=72

166.123

PARNUM=156

Call discrimination check for Deflect/SST cases

166.123.1

FORMAT

PARNUM=156, PARVAL = D₁

D₁= For value see table below

Value	Check TCD for SST	Check TCD for Hotline	TCD to use in case of call from MDN, monitoring a Hotline number
0	no	no	Not applicable
1	yes	no	Not applicable
2	no	yes	TCD of Monitored extension
3	yes	yes	TCD of Monitored extension
4	no	no	Not applicable
5	yes	no	Not applicable
6	no	yes	TCD of Monitoring extension
7	yes	yes	TCD of Monitoring extension

166.123.2

FUNCTION

The parameter controls whether Call Discrimination (TCD) check shall be done for the Deflect and Single Step Transfer and Hotline features. The default is that no TCD check is done.

166.123.3

EXAMPLE 1

If the Deflect or Single Step Transfer features are executed, call discrimination check shall be done. call discrimination check shall be done for Hotline calls.

PARNUM=156,PARVAL=1

166.123.4

EXAMPLE 2

If the Deflect or Single Step Transfer features are executed, call discrimination check shall be done. Call discrimination check shall be done for Hotline calls. In case MDN is used to monitor a Hotline number, then call discrimination check shall use monitored extension category for outgoing call from MDN.

PARNUM=156,PARVAL=3

166.123.5

EXAMPLE 3

If the Deflect or Single Step Transfer features are executed, call discrimination check shall be done. Call discrimination check shall be done for Hotline calls. In case MDN is used to monitor a Hotline number, then call discrimination check shall use category of monitoring extension for outgoing call from MDN.

PARNUM=156,PARVAL=7

166.124 **PARNUM=158**

Music On Hold channel selection for parked parties

166.124.1 **FORMAT**

PARNUM=158, PARVAL = D ₁		
D ₁ =	0	Tone (market dependent) will be provided by exchange to the parked parties. (Default value).
	1	Both Internal and External parked parties will receive music from MoH channel 1.
	2	External parked parties will receive music from MoH channel 1. Internal parked parties and tie lines will receive music from MoH channel 2.

166.124.2 **FUNCTION**

The parameter states whether internal parked parties, tie lines will receive music from the same or different MoH channel. External Parked parties (Public) will receive music from channel 1 or channel 2 depending on the value set for the application system. This parameter number is only valid for the MX-ONE Classic.

166.124.3 **EXAMPLE**

Internal parked parties and tie lines will receive music from MoH channel 2.
PARNUM=158,PARVAL=1

166.125

PARNUM=159

Display of calling party's name/number on supervising extensions with multiple representation and monitoring/supervision services (MDN, MNS keys).

166.125.1

FORMAT

PARNUM=159, PARVAL = D₁

D ₁ =	0	Do not display calling party's name/number on supervising extensions with MDN/MNS.
	1	Display calling party's name/number on supervising extensions with MDN/MNS.

166.125.2

FUNCTION

The parameter states if the name/number of incoming calls to an extension which is multiple represented or supervised on other extensions will be displayed or not displayed on these other supervising extensions.

The default value is set **not** to display the callers identity on the supervising extensions. If calling party has presentation restriction, that is valid also on the supervising extension.

Note: The parameter is supported for supervising extensions that are SIP, H.323 extension or DTS.

166.125.3

EXAMPLE

The calling party's name/number will be displayed on the supervising extensions with MDN/MNS key.

PARNUM=159,PARVAL=1

166.126

PARNUM=161

States the selection for sending of false B-answer to an external line before the RVA is provided

166.126.1

FORMAT

PARNUM=161, PARVAL = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ D ₃ D ₄ =	0	No sending of false B-answer. Selection of part that will receive false B-Answer
	1	Tie line.
	2	Public line.
		Sending of false B-Answer
	4	Send false B-answer before diversion message and before calls towards a mobile extension or fixed remote extension.
	8	Send false B-answer before diversion to a paging message.
	16	Send false B-answer before ACD/PBX-group welcome message.
	32	Send false B-answer before ACD/PBX-group queue message.
	64	Send false B-answer before external follow me message.
	128	Send false B-answer before operator queue message.
	256	Send false B-answer before ACD/PBX-group continuous message.
	512	Send false B-answer before operator welcome message.
	1024	Send false B-answer before operator continuous message.
	2048	Send false B-answer before individual welcome message.
	4096	Send false B-answer before individual continuous message.

166.126.2

FUNCTION

The parameter states whether false B-answer shall be sent to an external line before a recorded voice announcement message is provided. The selection can be applied to tie-line and/or public line, and per type of B-party service.

PARVAL is the sum of the selected values, which are entered as decimal but used a binary numbers. The length can be 1 to 4 digits.

False B-answer is always sent for calls from a manual trunk line when RVA is programmed.

Note: False B-answer before RVA is sent only for calls originating from the public network, and for calls originating from non-intelligent tie-lines, which cannot convey origin type information.

166.126.3

EXAMPLE

The sending of false B-answer before providing ACD/PBX-group/Individual welcome and external follow me message if the calling party is a public line. That makes 64+16+2=82.

PARNUM=161,PARVAL=82

166.127

PARNUM=162

States the selection for starting an external follow me call

166.127.1

FORMAT

PARNUM=162, PARVAL = D₁

D ₁ =	0	Process external follow me call after RVA message is completed.
	1	Process external follow me call while RVA message is playing.

166.127.2

FUNCTION

The parameter states whether the external follow me call should be processed after the Recorded Voice Announcement message is completed or while the message is playing.

166.127.3

EXAMPLE

Process the external follow me call while the calling party is listening to the Recorded Voice Announcement message.

PARNUM=162,PARVAL=1

166.128 **PARNUM=163**

Maximum queue to common PBX operator related to the total number of present PBX operators

166.128.1 **FORMAT**

PARNUM=163, PARVAL = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	0 - 100 Number of calls in queue per present PBX operator.

166.128.2 **FUNCTION**

The parameter states the maximum queue length to a common PBX operator **related to the number of present operators** before the overflow will be activated. If the total number of waiting operator calls in the exchange, is larger then the stated value in PARNUM 163 multiplied with the total number of present operators in the exchange, the call will be overflowed. If the value 0 is stated, the function is not used, that is, it will be possible to queue up to 250 calls.

If both PARNUM=163 and PARNUM=164 are defined, then the function according to PARNUM=163 is executed.

166.128.3 **EXAMPLE**

Reroute calls to centralized operator if the number of calls in the common PBX operator queue exceeds 15 per present PBX operator.

PARNUM=163,PARVAL=15

166.129

PARNUM=164

Maximum queue to common PBX operator

166.129.1

FORMAT

PARNUM=164, PARVAL = D₁D₂D₃

D₁D₂D₃ = 0 - 100
 Number of calls in queue.

166.129.2

FUNCTION

The parameter states the maximum queue length to a common PBX operator. If the total number of waiting calls for any operator which serves the actual call origin group, exceed the stated value in PARNUM 164, the call will be overflowed. This function takes care of the operator's queue situation **per call origin group** and not the total number of waiting operator calls in the exchange. If the value 0 is stated the function is not used, that is, it will be possible to queue up to 250 calls.

If both PARNUM=163 and PARNUM=164 are defined (not equal to 0), then the function according to PARNUM=163 is executed.

166.129.3

EXAMPLE

Reroute calls to centralized operator if the number of calls in the common PBX operator queue for a call origin group exceeds 35.

PARNUM=164,PARVAL=35

166.130

PARNUM=165

Maximum ringing time on an ACD extension

166.130.1

FORMAT

PARNUM=165, PARVAL = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅ = 1 - 32768

Time in seconds. Recommended minimum value is 10 seconds.

166.130.2

FUNCTION

The parameter states the maximum ringing time on an ACD extension. If the ACD agent does not answer during the predefined time, the agent will become unavailable for further selection. The call to the ACD group will continue with an attempt to reach a new ACD agent.

166.130.3

EXAMPLE

The maximum ringing time on an ACD extension is set to 15 seconds. If the ACD agent does not answer within 15 seconds, the agents position (extension) will be marked as unavailable for further selection.

PARNUM=165,PARVAL=15

166.131

PARNUM=167

Interception information on OPI

166.131.1

FORMAT

PARNUM=167, PARVAL = D₁

D ₁ =	0	No interception information on OPI.
	1	Interception information will be displayed on OPI.

166.131.2

FUNCTION

The parameter states that the interception computer shall display the diverted extension's absence information even if the extension and the PBX operator belong to different customers.

166.131.3

EXAMPLE

The interception information function is to be used.

PARNUM=167,PARVAL=1

166.132	PARNUM=169 States queue time before connecting to individual PBX operator queue announcement
166.132.1	FORMAT <div><div>PARNUM=169, PARVAL = D₁D₂D₃ D₁D₂D₃ = 2 - 180 Time in seconds.</div></div>
166.132.2	FUNCTION The parameter states the amount of time a call will remain in the individual PBX operator queue before receiving the recorded announcement queue message.
166.132.3	EXAMPLE The queue time shall be 15 seconds. PARNUM=169,PARVAL=15

166.133

PARNUM=170

Defines the lowest TCD category allowed to perform default routing from the LCR feature

166.133.1

FORMAT

PARNUM=12, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	0 - 15 TCD category.

166.133.2

FUNCTION

The parameter states the TCD category that is the lowest required for a user in order to be routed to the default routing from the LCR feature. The default value for this parameter is the minimum TCD category, that is, TCD category 0.

166.133.3

EXAMPLE

The lowest TCD category allowed to perform default routing from the LCR feature is 10.

PARNUM=170,PARVAL=10

166.134 **PARNUM=171**

ACD call qualification code length

166.134.1 **FORMAT**

PARNUM=171, PARVAL = D ₁	
D ₁ =	2 - 5 Maximum number of digits in a call qualification code.

166.134.2 **FUNCTION**

The parameter states the maximum Call qualification code length that will be accepted for calls to ACD agents. Call qualification code can be entered by an ACD agent while a call is in progress or during clerical time. The Call qualification code is saved for each call and can later be used for classification of the calls.

The Call qualification feature can only be used within Automatic Call Distribution.

166.134.3 **EXAMPLE**

The maximum number of digits in a Call qualification code will be 4.

PARNUM=171,PARVAL=4

166.135

PARNUM=172

States the selection of collect call category for PBX operator

166.135.1

FORMAT

PARNUM=172, PARVAL = D ₁		
D ₁ =	0	Collect call not allowed.
	1	Collect call allowed.

166.135.2

FUNCTION

The parameter states whether a PBX operator can accept collect calls. When the parameter is set to one then the collect calls to the PBX operator are accepted and the PBX operator is charged for the call. When the parameter is set to zero, the collect calls are rejected. The default value for this parameter is zero.

Note: Only the Brazilian public network supports this feature.

166.135.3

EXAMPLE

The PBX operator can accept the incoming collect calls (Brazil).

PARNUM=172,PARVAL=1

166.136
PARNUM=173

Common PBX Operator queue priorities

166.136.1
FORMAT

PARNUM=173, PARVAL = D ₁		
D ₁ =	0	Trunk call has higher priority.
	1	PBX operator call has higher priority.
	2	Queue time has higher priority (longest time in queue).

166.136.2
FUNCION

The parameter states the common PBX operator queue priority. When the parameter is set to zero the trunk calls have higher priority than PBX operator calls, when it is one, the PBX operator calls have higher priority than trunk calls and when it is two, the call is selected by the time that it has been in the queue. This is only relevant when automatic queue selection is used.

166.136.3
EXAMPLE

PBX Operator calls will have higher priority than trunk calls.

PARNUM=173,PARVAL=1

166.137

PARNUM=174

Removal of alarm indication on OPI

166.137.1

FORMAT

PARNUM=174, PARVAL = D₁

D ₁ =	0	Alarm will be indicated on OPI.
	1	Removal of alarm indication on OPI.
	2	Class 2 alarm not displayed on OPI.

166.137.2

FUNCTION

The parameter states whether alarm indication on OPI shall be used or not.

166.137.3

EXAMPLE

The Removal of alarm indication on OPI function is to be used.

PARNUM=174,PARVAL=1

166.138
PARNUM=175

States whether the PBX operator can camp-on a call to a busy extension without call waiting category

166.138.1
FORMAT

PARNUM=175, PARVAL = D ₁		
D ₁ =	0	PBX operator can not camp-on a call to a busy extension without call waiting category.
	1	PBX operator can camp-on a call to a busy extension without call waiting category.
	2-9	PBX operator can camp-on 2 to 9 calls to a busy extension without call waiting category.

166.138.2
FUNCTION

The parameter states if a PBX operator can camp-on a call to a busy extension which does not have call waiting category set for reception of call waiting tone from the PBX operator. When the operator camps-on, after intrusion, this parameter is not checked.

166.138.3
EXAMPLE

The PBX operator shall not be able to camp-on calls to a busy extension with no call waiting category.

PARNUM=175,PARVAL=0

166.139

PARNUM=176

Type of supervision for a parked external call on a DTS and IPeX (H.323/SIP).

166.139.1

FORMAT

PARNUM=176, PARVAL = D₁

- | | | |
|------------------|---|--|
| D ₁ = | 0 | Only external calls with no clear availability parked by DTS or IPeX are supervised.
At time out the call is disconnected. |
| | 1 | All external calls parked by DTS or IPeX are supervised.
At time out the DTS is re-rung. If still no answer is received the call is rerouted to a PABX operator. For IPeX, at time out the call is rerouted to PBX operator, never re-rung. |

166.139.2

FUNCTION

The parameter states the type of supervision an external incoming call has, when parked by the DTS or IPeX. If the parked call is not retrieved by the DTS or IPeX before the time selected in PARNUM = 89 expires, the selected option is executed.

166.139.3

EXAMPLE

If an IPeX parks an external call and does not retrieve the call within the time set in PARNUM 89, the IPeX will be rerouted directly to the PBX operator when time-out occurs.

PARNUM=176,PARVAL=1

166.140

PARNUM=177

Selection of tone instead of external music on hold

166.140.1

FORMAT

PARNUM=177, PARVAL = D₁

D ₁ =	0	External inputs 1 to 3 are used for external music on hold.
	1	Connect tone instead of external music on hold for channel 1.
	2	Connect tone instead of external music on hold for channel 2.
	4	Connect tone instead of external music on hold for channel 3.
	8	Connect verification tone instead of external music on hold for channel 1.
	16	Connect verification tone instead of external music on hold for channel 2.
	32	Connect verification tone instead of external music on hold for channel 3.

166.140.2

FUNCTION

The parameter states if a waiting progress tone is given instead of music on hold from external equipment connected to TMU. The parameter value can be added to get all selections.

This parameter number is only valid for the MX-ONE Classic.

166.140.3

EXAMPLE

Tone message is always given instead of music on hold for channels 1 to 3 from external equipment.

PARNUM=177,PARVAL=7

166.141

PARNUM=178

Retain hunt group member at diversion on no answer

166.141.1

FORMAT

PARNUM=178, PARVAL = D ₁		
D ₁ =	0	PBX members will be excluded from group at diversion on no answer.
	1	PBX members will be retained in group at diversion on no answer.

166.141.2

FUNCTION

The parameter states whether a member of a PBX group will be excluded from its group or not after diversion on no answer has been executed.

166.141.3

EXAMPLE

The members of a PBX group will be retained in the group after diversion on no answer.

PARNUM=178,PARVAL=1

166.142 **PARNUM=179**

Minimum number of digits in individual (regional) authorization code

166.142.1 **FORMAT**

PARNUM=179, PARVAL = D ₁ D ₂ D ₁ D ₂ = 2 - 64 Minimum number of digits in individual authorization code.
--

166.142.2 **FUNCTION**

The parameter states the minimum number of digits required, when an individual authorization code shall be changed by the user, from own telephone, or set/changed by the authorization code commands.

The default minimum is a market parameter, which has the value 2 for most markets.

166.142.3 **EXAMPLE**

The minimum number of digits in individual authorization code shall be 4.

PARNUM=179,PARVAL=4

166.143

PARNUM=180

Type of authorization code used for function keys on DTS

166.143.1

FORMAT

PARNUM=180, PARVAL = D₁

D ₁ =	0	Common (central) authorization code.
	1	Individual (regional) authorization code.

166.143.2

FUNCTION

The parameter states which type of authorization code that shall be used for function keys on a DTS.

166.143.3

EXAMPLE

Individual authorization codes will be used for function keys on a DTS.

PARNUM=180,PARVAL=1

166.144 **PARNUM=182**

Length of delay time in Delayed hot-line

166.144.1 **FORMAT**

PARNUM=182, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	2 - 16 Time in seconds. Recommended minimum value is 4 seconds.

166.144.2 **FUNCTION**

The parameter states the maximum time when an extension, defined as a Delayed hot-line, has to start dialling. On time out the call is automatically set up as a hotline call towards a predefined destination.

166.144.3 **EXAMPLE**

The extension will have 7 seconds to start dialling before a hot-line call is set up.
PARNUM=182,PARVAL=7

166.145

PARNUM=183

Choice of ringing signal cadence for diverted calls to extension

166.145.1

FORMAT

PARNUM=183, PARVAL = D₁

D ₁ =	0	Diverted cadence is allowed.
	1	Diverted cadence is not allowed. Diverted calls use, depending on the type of origin, internal or external ringing cadence.

166.145.2

FUNCTION

The parameter states which ringing signal cadence is used for diverted calls to an extension.

Depending on this parameter, the diverted calls are indicated by:

- diverted ringing cadence
- external/internal ringing cadence (as for no diverted calls)

Internal/external cadence is used when this parameter allows the diverted cadence but this cadence is not supported by the telephone.

166.145.3

EXAMPLE

Diverted calls are allowed to use the diverted ringing cadence.

PARNUM=183,PARVAL=0

166.146
PARNUM=184

DISA with or without authorization code

166.146.1
FORMAT

PARNUM=184, PARVAL = D ₁		
D ₁ =	0	Common (central) authorization code is required on DISA calls.
	1	Individual (regional) authorization code is required on DISA calls.
	2	Individual or common authorization code is required on DISA calls.
	3	Authorization code is not required on DISA calls.

166.146.2
FUNCTION

The parameter states if a DISA number is allowed to be used without an individual or common authorization code.

166.146.3
EXAMPLE

The extension shall be allowed to use DISA without any authorization code.

PARNUM=184,PARVAL=3

166.147

PARNUM=185

Default currency identifier to be used in private ISDN network for Advice Of Charge (AOC)

166.147.1

FORMAT

PARNUM=185, PARVAL = D₁D₂D₃

D₁D₂D₃ = 0 - 999

Numeric code for currency unit ID. For the value, refer to the table below. The value 999 is used for displaying blanks (default).

Alpha code	Numeric code	Currency	Country
AED	784	United Arab Emir. Dirham	United Arab Emirates
ARS	032	Argentine Peso	Argentina
AUD	036	Australian Dollar	Australia, various Pacific islands
BAM	977	Convertible Mark	Bosnia-Herzegovina
BBD	052	Barbados dollar	Barbados
BGN	975	Bulgarian Lev	Bulgaria
BHD	048	Bahraini Dinar	Bahrain
BRL	986	Real	Brazil
BSD	044	Bahamian Dollar	Bahamas
BYR	974	Belarussian Ruble	Belarus
CHF	756	Swiss Franc	Switzerland, Lichtenstein
CLF	990	Unidad de fomento	Chile
CLP	152	Chilean Peso	Chile
CNY	156	Chinese Yuan	China
COP	170	Colombian Peso	Colombia
CRC	188	Costa Rican Colon	Costa Rica
CZK	203	Czech Koruna	Czech Republic
DKK	208	Danish Krone	Denmark, Faroe Islands
DZD	012	Algerian Dinar	Algeria
EGP	818	Egyptian Pound	Egypt
ETB	230	Ethiopian Birr	Ethiopia
EUR	978	Euro	Most European Union countries, plus Andorra, Cyprus, Monaco, Montenegro, San Marino, Vatican City
GBP	826	Pound Sterling	United Kingdom of Great Britain and Northern Ireland, Jersey, Guernsey, Isle of Man
GHS	936	Ghanaian Cedi	Ghana
GTQ	320	Quetzal	Guatemala
HKD	344	Hong Kong Dollar	Hong Kong
HRK	191	Kuna	Croatia
HUF	348	Forint	Hungary

Alpha code	Numeric code	Currency	Country
IDR	360	Rupiah	Indonesia
INR	356	Indian Rupee	India
IQD	368	Iraqi Dinar	Iraq
ISK	352	Iceland Krona	Iceland
IRR	364	Iranian Rial	Iran, Islamic Republic of
JOD	400	Jordanian dinar	Jordan
KES	404	Kenyan Shilling	Kenya
KRW	410	Won	Korea, Republic of
KWD	414	Kuwaiti Dinar	Kuwait
LBP	422	Lebanese Pound	Lebanon
LKR	144	Sri Lanka Rupee	Sri Lanka
LYD	434	Libyan Dinar	Libya
MAD	504	Moroccan Dirham	Morocco
MXN	484	Mexican Peso	Mexico
MXV	979	Mexican Unidad de Inversion (UDI)	Mexico
MYR	458	Malaysian Ringgit	Malaysia
NGN	566	Naira	Nigeria
NOK	578	Norwegian Krone	Norway
NZD	554	New Zealand Dollar	New Zealand, Cook Islands
OMR	512	Omani Rial	Oman
PEN	604	Nuevo Sol	Peru
PHP	608	Philippine Peso	Philippines
PKR	586	Pakistan Rupee	Pakistan
PLN	985	Zloty	Poland
RON	946	Romanian Leu	Romania
RSD	941	Serbian Dinar	Serbia
RUB	643	Russian Ruble	Russian Federation
SAR	682	Saudi Riyal	Saudi Arabia
SEK	752	Swedish Krona	Sweden
SGD	702	Singapore Dollar	Singapore
SVC	222	El Salvador Colon	El Salvador
SYP	760	Syrian Pound	Syrian Arab Republic
THB	764	Baht	Thailand
TND	788	Tunisian Dinar	Tunisia
TOP	776	Pa'anga	Tonga
TRY	949	Turkish Lira	Turkey
TWD	901	New Taiwan Dollar	Taiwan
UAH	980	Hryvnia	Ukraine
USD	840	US Dollar	United States, Micronesia, Virgin Islands, Guam, and others
USN	997	US Dollar (next day)	United States

Alpha code	Numeric code	Currency	Country
US\$	998	US Dollar (same day)	United States
VEF	937	Bolivar Fuerte	Venezuela
VND	704	Vietnamese Dong	Viet nam
XAU	959	Gold	(One troy ounce)
XXX	999	No currency	
ZAR	710	Rand	South Africa
ZMK	894	Kwacha	Zambia
ZWL	932	Zimbabwe Dollar	Zimbabwe

For other currencies that are not specified here, see the International Standard ISO 4217 for relevant codes.

166.147.2

FUNCTION

The parameter states the default currency identifier to be displayed on extensions for the AOC service, if no currency identifier is received from the public network. The parameter is only used in a public gateway exchange, when transferring of AOC information from the public network to the private network.

166.147.3

EXAMPLE

The default currency identifier to be used is SEK.

PARNUM=185,PARVAL=752

166.148 **PARNUM=186**

Updating of Message Diversion database from interception computer

166.148.1 **FORMAT**

PARNUM=186, PARVAL = D ₁		
D ₁ =	0	ICS diversion information from interception computer will be stored in the Message Diversion database.
	1	ICS diversion information from interception computer will not be stored in the Message Diversion database.

166.148.2 **FUNCTION**

The parameter states if activation and cancellation of interception service (ICS) diversion from interception computer is stored in program unit IDP.

It is possible to prevent the storage of message diversion information (sent from interception computer) in the PABX. This is done in case the interception computer does not provide valid information.

Note: Summation of PARVAL is not allowed. If PARNUM 186 is set to 0/1, “Direct diversion” is displayed on the A-party and the call gets direct diverted to ICS answering position.

166.148.3 **EXAMPLE**

Activation and cancellation of ICS diversion will be stored in the Message Diversion database (IDP).

PARNUM=186,PARVAL=0

166.149 PARNUM=187

Selection of codes to be updated at night routine for simplified interception service

166.149.1 FORMAT

PARNUM=187, PARVAL = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ D ₃ D ₄ =	0	No updating of simplified interception service codes.
	1	Update interception service code 0.
	2	Update interception service code 1.
	4	Update interception service code 2.
	8	Update interception service code 3.
	16	Update interception service code 4.
	32	Update interception service code 5.
	64	Update interception service code 6.
	128	Update interception service code 7.
	256	Update interception service code 8.
	512	Update interception service code 9.

166.149.2 FUNCTION

The parameter states the service code to be updated at night routine for simplified interception service. PARVAL is the sum of selected codes to be updated, interception service (ICS) diversion will be cancelled for codes not selected. If parameter value zero is selected the feature is passive.

166.149.3 EXAMPLE 1

No updating of simplified interception diversion.
PARNUM=187,PARVAL=0

166.149.4 EXAMPLE 2

Update code 2 and 4 all other codes will be cancelled.
PARNUM=187,PARVAL=20

166.150 PARNUM=188

Start time for night routine for simplified interception service

166.150.1 FORMAT

PARNUM=188, PARVAL = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ D ₃ D ₄ =	0 - 2359	
	Time in 24 hour format.	

166.150.2 FUNCTION

The parameter states the time when night routine for simplified interception service is started.

166.150.3 EXAMPLE

The time to start night routine for simplified interception service is 15 minutes past midnight (00:15).

PARNUM=188,PARVAL=0015

166.151

PARNUM=189

Type of B-party controlled release

166.151.1

FORMAT

PARNUM=189, PARVAL = D₁

D₁= 0 Normal B controlled release.

 1 A/B controlled release.

166.151.2

FUNCTION

The parameter states which kind of release there will be when a B-party controlled release destination is set to NORMAL. The call is released when the B-party clears the call.

A/B CONTROLLED RELEASE. The call is released when both parties have cleared the call. If the B-party goes onhook first, A-party controlled release will apply.

166.151.3

EXAMPLE

The call should support A/B-party controlled release when B-party controlled release is programmed.

PARNUM=189,PARVAL=1

166.152

PARNUM=190

Message Waiting lamp characteristics

166.152.1

FORMAT

PARNUM=8, PARVAL = D₁

D ₁ =	0	Steady light with voltage level of -90 V.
	1	Flashing light with voltage level of -90 V.
	2	Steady light with voltage level of -120 V.
	3	Flashing light with voltage level of -120 V.

166.152.2

FUNCTION

The parameter states the characteristics of the message waiting lamp of the analog extensions initiated on ELU34 boards. ELU34 boards are only included in MX-ONE Classic.

The parameter is stored on the ELU34 board, so if there are already initiated extensions on ELU34 boards and this parameter is changed, the boards have to be restarted in order to activate the new lamp characteristics.

166.152.3

EXAMPLE

A voltage level of -90 V shall be used to flash the lamp of the analog telephones.

PARNUM=190,PARVAL=1

166.153

PARNUM=192

Direct media configuration for MNS call pick-up

166.153.1

FORMAT

PARNUM=192, PARVAL = D ₁		
D ₁ =	0	No calls to a multiple represented extension are forced to Gateway.
	1	All internal H.323 incoming calls to a multiple represented H.323 extension are forced to Gateway, and all internal H.323 incoming calls picked-up from an H.323 extension remain Gateway.
	2	All external H.323 incoming calls to a multiple represented H.323 extension are forced to Gateway, and all external H.323 incoming calls picked-up from an H.323 extension remain Gateway.
	4	All calls picked-up from an MNS key in an H.323 extension are forced to Gateway once the call is picked-up.

166.153.2

FUNCTION

The parameter states the availability of direct media in traffic cases where the call may end up being picked-up by an MNS key located in an IP extension. The purpose of this limitation is to speed up the establishment of the media once the call pick-up service is requested, by trading off the availability of direct media in some traffic cases.

This parameter controls the direct media in two different ways:

- H.323 incoming calls (internal and/or external) to a multiple represented H.323 extension are forced to Gateway (no direct media), regardless if finally the calls are not picked-up from an MNS key.
- All H.323 incoming calls (internal and external) to a multiple represented extension of any kind are forced to Gateway only when the call is picked-up from an MNS key.

PARVAL is the sum of the selected values. Note that there is some overlapping of the possible values. The meaning of values 1 and 2 is to force internal and external calls to Gateway before and after the MNS call pick-up. The meaning of value 4 is to force all kind of calls to Gateway after the MNS call pick-up, that is, the value 3 has the same effect as 7.

166.153.3

EXAMPLE 1

In a scenario with IP networking with several transit nodes and with some remote branch offices with bandwidth restrictions in their connection to the MD110, all external H.323 incoming calls to a multiple represented extension are forced to Gateway (=2), and all the calls are forced to Gateway when the calls are picked-up by an IPeX (=4).

PARNUM=192,PARVAL=6

166.153.4

EXAMPLE 2

In a scenario where the delay of the establishment of the media shall be minimize, regardless of the loss of direct media, all internal (=1) and external (=2) H.323 incoming calls to a multiple represented extension are forced to Gateway.

PARNUM=192,PARVAL=3

166.154 **PARNUM=194**

Maximum time to postpone the indication that called party has become free (free notification in Callback)

166.154.1 **FORMAT**

PARNUM=194, PARVAL = D ₁ D ₂	
D ₁ D ₂ =	0 - 15 Time in seconds. Recommended minimum value is 8 seconds.

166.154.2 **FUNCTION**

The parameter states the time to postpone the indication to the initiating party that the called party has become free. When the called party has become free it is possible that the called party immediately makes a new call and to prevent false recall to the initiating party a timer is started.

At time out, the indication to the initiating party that the called party has become free commence but still it is possible for the called party to make a new call. This is primarily used for Free Notification in the Callback service.

166.154.3 **EXAMPLE**

Free notification (indication) will start 8 seconds after called party has become free.
PARNUM=194,PARVAL=8

166.155

PARNUM=195

Common PBX operator call queue size

166.155.1

FORMAT

PARNUM=195, PARVAL = D₁D₂D₃

D₁D₂D₃ = 1 - 255

Number of calls allowed in the common operator call queue.

166.155.2

FUNCTION

The parameter states the size of the common call queue for unanswered common PBX operator calls.

The parameter shall only be changed before the system is taken into service. The exchange needs to be restarted by I/O commands after this parameter is updated. There is no guarantee if it is changed while there are calls in the common PBX operator queue.

The default value for this parameter is 99.

See also PARNUM 163 and 164, if overflow from the common operator queue is wanted.

166.155.3

EXAMPLE

The maximum number of calls allowed in the common PBX operator call queue shall be 150.

PARNUM=195,PARVAL=150

166.156 **PARNUM=196**

Control of auto extending to voice mail

166.156.1 **FORMAT**

PARNUM=196, PARVAL = D ₁		
D ₁ =	0	Auto extending to voice mail is permitted.
	1	Auto extending to voice mail is not permitted.

166.156.2 **FUNCTION**

The parameter states if the auto extending from operator to voice mail is permitted or not. Default value for the parameter is zero.

166.156.3 **EXAMPLE**

Auto extending from operator to voice mail is permitted.
PARNUM=196,PARVAL=0

166.157

PARNUM=197

Control of CID number on DTS display

166.157.1

FORMAT

PARNUM=197, PARVAL = D₁

- | | | |
|------------------|---|--|
| D ₁ = | 0 | CID number is not shown on the DTS display. |
| | 1 | CID number is only shown if the DTS is CSTA monitored. |
| | 2 | CID number is always shown on the DTS display. |

166.157.2

FUNCTION

The parameter states if the CID number should be displayed on the DTS display.

166.157.3

EXAMPLE

The CID number is not shown on the DTS display.

PARNUM=197,PARVAL=0

166.158 **PARNUM=198**

Control of HLR backup/HLR Redundancy function

166.158.1 **FORMAT**

PARNUM=198, PARVAL = D ₁		
D ₁ =	0	HLR backup is off (inactive, default).
	1	HLR backup is on (active).

166.158.2 **FUNCTION**

The parameter states if the HLR backup (HLR Redundancy) feature shall be on or off. Default is **off**. Note that if the parameter is set to **off**, the change-back from backup HLR to ordinary HLR is still working, but change-over to backup HLR will not happen.

166.158.3 **EXAMPLE**

The HLR backup feature shall be turned on.

PARNUM=198,PARVAL=1

166.159

PARNUM=200

Control to convey the CID in Dialed Number

166.159.1

FORMAT

PARNUM=200, PARVAL = D₁

D ₁ =	0	Additional digits in Dialed number shall not be used as CID.
	1	Additional digits in Dialed number shall be used as CID.

166.159.2

FUNCTION

The parameter states whether the additional digits received in Dialed number shall be used as CID or not.

Only valid for ISDN Public trunk call to ACD group classified as a CTI group.

The default value for this parnum is 0.

166.159.3

EXAMPLE

Additional digits in Dialed number shall be used as CID.

PARNUM=200,PARVAL=1

166.160 **PARNUM=201**

Choice of selecting answering position during MDD

166.160.1 **FORMAT**

PARNUM=201, PARVAL = D ₁		
D ₁ =	0	Individual answering position of ODN will be used.
	1	Own individual answering position (ADN) will be used.

166.160.2 **FUNCTION**

The parameter controls which answering position will be selected when direct diversion is activated on ODN with MDD characteristics.

Note: Multi Directory Diversion/DND facility enables DTS users to activate/deactivate diversion easily without doing the procedure for each ADN on the instrument.

A class of service, affiliated to the ODN, controls if the DTS has 'Multi Directory Diversion/DND' facility or not.

The default value for this parnum is 0.

166.160.3 **EXAMPLE**

The ADN shall use its own individual divertee position in case of MDD.

PARNUM=201,PARVAL=1

166.161

PARNUM=217

On-hook or suffix digits for transferring calls for Remote Extensions (via TDM trunk), or for Remote Extension over SIP, or for single-line SIP extensions.

166.161.1

FORMAT

PARNUM=217, PARVAL = D ₁		
D ₁ =	0-9	Suffix digits 0 - 9.
	10, 11	Suffix digits *, #.
	15	Using on-hook (No).

166.161.2

FUNCTION

The parameter states if on-hook or suffix digits shall be used for transferring calls for Remote extensions and for SIP extensions.

If suffix digits are used, it is possible to choose between the digits 0-9 and the characters * and #.

The value 15 shall be stated when on-hook is used. This value is default.

Call transfer takes place by either pressing the set key or by pressing the On-hook key.

166.161.3

EXAMPLE

The suffix digit for transferring calls by Remote extensions and (single line) SIP extensions shall be #.

PARNUM=217,PARVAL=11

166.162 **PARNUM=219**

Diversion of recall to common PBX operator queue

166.162.1 **FORMAT**

PARNUM=219, PARVAL = D ₁		
D ₁ =	0	Recalls will be diverted to common PBX operator queue.
	1	Recalls will not be diverted to common PBX operator queue.

166.162.2 **FUNCTION**

The parameter states whether recalls will be diverted to the common PBX operator queue or not. It is applicable for recalls to a not available OPI (that is, the OPI is either manually or automatically absent with the corresponding category for rejecting recalls in this absent state). The parameter is also valid for diverted recalls to a not available OPI.

166.162.3 **EXAMPLE 1**

A recall comes in to an OPI which is not available. The OPI has the category set to reject recalls in the absent state. The recall will be diverted to the common PBX operator queue.

PARNUM=219,PARVAL=0

166.162.4 **EXAMPLE 2**

OPI A has activated follow-me to divert recalls to OPI B. A recall is diverted to OPI B which is not available at that point of time. OPI B has the category set to reject recalls in the absent state. The incoming recall will not be diverted to the common PBX operator queue.

PARNUM=219,PARVAL=1

166.163

PARNUM=222

ODN2 ring signal

166.163.1

FORMAT

PARNUM=222, PARVAL = D₁

D ₁ =	0	One ring signal and then silence (default).
	1	Normal, repeated ring signal.

166.163.2

FUNCTION

The parameter states the ring signal on ODN2 when ODN1 is busy. When set to 1 ODN2 will get the same ring signal as ODN1 gets when it is free.

The DTS must support the service Free-on-second-line or allow Call Waiting for the situation to occur.

166.163.3

EXAMPLE

Provide normal ringing on ODN2, when ODN1 is busy.

PARNUM=222,PARVAL=1

166.164

PARNUM=223

Type of network services

166.164.1

FORMAT

PARNUM=223, PARVAL = D ₁		
D ₁ =	0	The service is achieved using proprietary User-User Service (Call diversion, Transfer, Path replacements).
	1	Standard supplementary service Call forwarding is used for network diversion.
	2	Standard supplementary service Call transfer is used for transfer in the network.
	4	Standard additional network feature Path replacement is used for Route optimization in network.

166.164.2

FUNCTION

The parameter states the type of the network services Diversion, Transfer and Path replacement that is used. The same type of network services must be used in the entire network.

The services that can be set are:

- Call diversion or Call forwarding
- Transfer or Call transfer
- Path replacement (also called ROP)

PARVAL is the sum of the selected values.

Call diversion is used when the network supports proprietary ISDN QSIG protocol and Call forwarding is used when the network supports standardized ISDN ISO QSIG Generic Functional protocol.

The proprietary transfer service is used when the network supports proprietary ISDN QSIG protocol and Call transfer is used when the network supports standardized ISDN ISO QSIG Generic Functional protocol.

The proprietary Route optimization service is used when the network supports proprietary ISDN QSIG protocol and Path replacement is used when the network supports standardized ISDN ISO QSIG Generic Functional protocol.

166.164.3

EXAMPLE 1

The network supports standardized ISDN ISO QSIG Generic Functional protocol and the standard supplementary services Call forwarding (=1), Call transfer (=2) and additional network feature Path replacement (=4) are used.

PARNUM=223,PARVAL=7

166.164.4

EXAMPLE 2

The type of service shall be set to Call diversion (=0), Call transfer (=2) and Path replacement (=0).

PARNUM=223,PARVAL=2

166.165

PARNUM=231

Date format in Interception Service

166.165.1

FORMAT

PARNUM=231, PARVAL = D ₁			
D ₁ =	0	MMDD	
	1	DDMM	

166.165.2

FUNCTION

The parameter states the format of the date information sent to the interception computer. An extension can be message diverted and the user wishes to inform about the estimated time when the diversion will be finished.

PARVAL can have two values (0 or 1) which determine the format of the date sent in an ICS diversion.

Note: When programming the ICS diversion the format of the date of return (if any) typed by the user is determined by PARNUM=62.

166.165.3

EXAMPLE 1

By *23*7*0809# a user diverts to a common or individual extension and wishes to show a reason for the diversion (number 7) and the estimated date when the diversion will be over (0809, DD=08, MM=09).

PARNUM=231,PARVAL=0

Using PARNUM=231 with PARVAL=0 the date of return will be sent to the interception computer as 0908, that is MM=09 and DD=08.

166.165.4

EXAMPLE 2

By *23*7*0809# a user diverts to a common or individual extension and wishes to show a reason for the diversion (number 7) and the estimated date when the diversion will be over (0809, DD=08, MM=09).

PARNUM=231,PARVAL=1

Using PARNUM=231 with PARVAL=1 the date of return will be sent to the interception computer as 0809, that is DD=08 and MM=09.

166.166

PARNUM=232

Remote Tone during ISDN SETUP

166.166.1

FORMAT

PARNUM=232, PARVAL = D₁

D ₁ =	0	Not allowed to connect/receive Remote Tone.
	1	Allowed only to connect Remote Tone.
	2	Allowed only to receive Remote Tone.
	3	Allowed to connect and receive Remote Tone.

166.166.2

FUNCTION

The parameter states whether Remote Tone will be connected/received when SETUP message is received/sent without called number on an incoming/outgoing route.

When the parameter is set to receive Remote Tone, the exchange will be able to send ISDN SETUP message even without called number on an outgoing ISDN route.

When the parameter is set to connect Remote Tone, the exchange will connect a message (tone/announcement) through Music on Hold 2, when ISDN SETUP message is received without called number on an incoming ISDN route. The default value for this PARNUM is zero.

166.166.3

EXAMPLE 1

The exchange is not allowed to connect/receive Remote Tone during ISDN SETUP.

PARNUM=232,PARVAL=0

166.166.4

EXAMPLE 2

The exchange is allowed to connect and receive Remote Tone during ISDN SETUP.

PARNUM=232,PARVAL=3

166.167

PARNUM=234

Control Parking or Deflection of Supervisor Intruded Call

166.167.1

FORMAT

PARNUM=234, PARVAL = D₁

D ₁ =	0	Not allowed to park or deflect the Supervisor Intruded call.
	1	Allowed to park or deflect a call when a supervisor has intruded the call. Supervisor is disconnected from call.

166.167.2

FUNCTION

The parameter states if a Supervisor intruded call (call monitored by the supervisor) can be parked or deflected by the ACD/CTI agent.

By default the value is set to 0.

166.167.3

EXAMPLE

The agent can park or deflect Supervisor intruded calls.

PARNUM=234,PARVAL=1

166.168 **PARNUM=236**

CODECs restriction in transit calls

166.168.1 **FORMAT**

PARNUM=236, PARVAL = D ₁		
D ₁ =	0	No restriction.
	1	Apply restriction.

166.168.2 **FUNCTION**

The parameter states if the CODECs used by IP/RTP-resources for H.323 route traffic should be restricted in transit calls, where subsequent transcoding can impair the speech signal quality. The use of the G.711 CODEC in this kind of calls can be forced. The default value for his PARNUM is 0 (CODECs not restricted).

166.168.3 **EXAMPLE**

The network administrator desires to restrict the use of CODECs in transit calls.
PARNUM=236,PARVAL=1

166.169

PARNUM=239

DTMF receiver connection matrix for remote extensions

166.169.1

FORMAT

PARNUM=239, PARVAL = D₁

D ₁ B0-B3 =	Main device is TDM based
B0 =	0 TMU and SPU shall use parallel connection
	1 TMU and SPU shall use serial connection
B1 =	0 Obsolete
	1 Obsolete
B2 =	0 MGU shall use parallel connection
	1 MGU shall use serial connection
B3 =	0 Reserved for future use
	1 Reserved for future use
D ₁ B4-B7 =	Main device is Packet based (IP)
B4 =	0 TMU and SPU shall use parallel connection
	1 TMU and SPU shall use serial connection
B5 =	0 Obsolete
	1 Obsolete
B6 =	0 MGU shall use parallel connection
	1 MGU shall use serial connection
B7 =	0 Reserved for future use
	1 Reserved for future use

166.169.2

FUNCTION

The parameter decides the connection mode for DTMF devices based on User media type and DTMF provider type. There are two types of connections available:

- Parallel
Advantages of this mode is simplicity, no additional delay. A disadvantage of this mode are no stripping of DTMF content from media stream is possible.
- Serial
Advantages of this mode is that stripping of DTMF content from media stream is possible. A disadvantage of this mode is additional delay.

If the requesting main device is of TDM type, i.e E1 based, the inherent delay is low so using a serial connection to be able to strip DTMF is recommended.

If the requesting main device is Packet based i.e. Media Gateway connection between two MX-ONE Service Nodes. It is recommended to use a parallel connection due Inherent delay.

166.169.3

EXAMPLE 1

TDM based main device using SPU based DTMF shall use serial connection. I.e. B0=1.
B1=Obsolete.

TDM based main device using MGU based DTMF shall use serial connection. I.e.
B2=1.

B3 for TDM is reserved for future use. I.e. B3=0.

IP based main device using SPU based DTMF shall use parallel connection. I.e. B4=0.
B5=Obsolete.

IP based main device using MGU based DTMF shall use parallel connection. I.e. B6=0.
B7 for IP based is reserved for future use. I.e. B7=0.

This gives binary value 0000 0111 which is H'07 in hexadecimal format and 7 in decimal format.

PARNUM=239,PARVAL=7

166.169.4

EXAMPLE 2

TDM based main device using SPU based DTMF shall use serial connection. I.e. B0=1.
B1=Obsolete.

TDM based main device using MGU based DTMF shall use serial connection. I.e.
B2=1.

B3 for TDM are reserved for future use. I.e. B3=0.

IP based main device using SPU based DTMF shall use serial connection. I.e. B4=1.
B5=Obsolete.

IP based main device using MGU based DTMF shall use parallel connection. I.e. B6=0.
B7 for IP based are reserved for future use. I.e. B7=0.

This gives binary value 0001 0111 which is H'17 in hexadecimal format and 23 in decimal format.

PARNUM=239,PARVAL= 23

166.169.5

EXAMPLE 3

Printed PARVAL for PARNUM 239 is 119. I.e. H'77 in hexadecimal format and 0111 0111 in binary format.

B0=1. TDM based main device using SPU based DTMF uses serial connection.
B1=Obsolete.

B2=1. TDM based main device using MGU based DTMF uses serial connection.

B3 = 0. B3 for TDM are reserved for future use.

B4=1. IP based main device using SPU based DTMF shall use serial connection.
B5=Obsolete.

B6=1. IP based main device using MGU based DTMF shall use serial connection.

B7=0. B7 for IP based are reserved for future use.

166.170

PARNUM=249

Diversion after Deflect for extensions.

166.170.1

FORMAT

PARNUM=249, PARVAL = D₁

D ₁ =	0	Allowed. Diversion after Deflect is allowed, and will be executed for all types of parties depending on whether it is requested in the Deflect request from CSTA or from the network. (Default).
	1	Not allowed. Diversion after Deflect is always prevented if the deflect-to party is an extension, but allowed when deflect-to number is a group number.

166.170.2

FUNCTION

The parameter defines if diversion after deflect is allowed at deflect to extension. In other words it prevents or allows Diversion after deflect when deflect-to party is an extension, but has no effect for group numbers. The concerned groups are ACD/CTI group, ANCD group and hunt group.

The default value for this parameter is 0.

166.170.3

EXAMPLE

Prevent Diversion after Deflect for extensions, i.e. allow it only for groups.

PARNUM=249,PARVAL=1

166.171 **PARNUM=251**

Type of activation of Inquiry/Alternation

166.171.1 **FORMAT**

PARNUM=251, PARVAL = D₁

D ₁ =	0	Earth button is used for Inquiry. Digit is used for Alternation.
	1	Earth button, Hookflash/R Button is used for Inquiry. Digit is used for Alternation.
	2	Earth button is used for Inquiry. Earth button is used for Alternation.
	3	Earth button, Hookflash/R Button is used for Inquiry. Earth button, Hookflash/R Button is used for Alternation.

166.171.2 **FUNCTION**

The parameter states the type of activation of Inquiry and Alternation (refer-back) for analog, DECT, and Remote extensions (including SIP based Remote extension).

Note: The DECT and Remote extensions do not have 'earth buttons' or 'R-buttons', but instead can use * (telephony star character). See also AS parameters 56, 123 and 124.

The default value for this parameter is 1.

166.171.3 **EXAMPLE 1**

Use the Earth Button for activation of Inquiry and use a digit for Alternation.

PARNUM=251,PARVAL=0

166.171.4 **EXAMPLE 2**

Use the Earth Button, Hookflash or R-Button for activation of Inquiry and Alternation.

PARNUM=251,PARVAL=3

166.172

PARNUM=252

Recognition time for clear (Onhook)

166.172.1

FORMAT

PARNUM=252, PARVAL = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	1 - 225 Time in 5 millisecond units.

166.172.2

FUNCTION

The parameter states the recognition time for clear (Onhook). This parameter affects analogue extensions.

Each step in PARVAL represents 5 ms.

Note: PARNUM=252 must be set longer than PARNUM=253.

166.172.3

EXAMPLE

The recognition time for clear is set to 900 ms.

PARNUM=252,PARVAL=180

166.173 **PARNUM=253**

Recognition time for Hookflash

166.173.1 **FORMAT**

PARNUM=253, PARVAL = D ₁ D ₂ D ₃	
D ₁ D ₂ D ₃ =	0 - 255 Time in 5 millisecond units.

166.173.2 **FUNCTION**

The parameter states the recognition time for Hookflash. This parameter affects analogue extensions.

Each step in PARVAL represents 5 ms.

Note: PARNUM=253 must be set shorter than PARNUM=252.

166.173.3 **EXAMPLE**

The recognition time for Hookflash is set to 800 ms.

PARNUM=253,PARVAL=160

166.174

PARNUM=254

Change internal/public dial tone to Morse-tone

166.174.1

FORMAT

PARNUM=254, PARVAL = D₁D₂

D₁D₂ = 0 - 15
Internal or External dial tone. See table below.

Table 31 Value of D1D2 in PARNUM=254

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Int/Ext dial tone
Standard/Standard	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Morse-A/Standard	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Morse-D/Standard	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
Morse-S/Standard	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
Standard/Morse-A	X	.	.	.	.	.	.	.	.	.	.	.
Morse-A/Morse-A	X	.	.	.	.	.	.	.	.	.	.
Morse-D/Morse-A	X	.	.	.	.	.	.	.	.	.
Morse-S/Morse-A	X	.	.	.	.	.	.	.	.
Standard/Morse-D	X	.	.	.	.	.	.	.
Morse-A/Morse-D	X	.	.	.	.	.	.
Morse-D/Morse-D	X	.	.	.	.	.
Morse-S/Morse-D	X	.	.	.	.
Standard/Morse-S	X	.	.	.
Morse-A/Morse-S	X	.	.
Morse-D/Morse-S	X	.
Morse-S/Morse-S	X

166.174.2

FUNCTION

The parameter states the internal and/or the public dial tone. When the internal and/or public dial tone is changed and if there are TMU-boards inserted in the system, the boards have to be restarted in order to activate the new tones.

The default value for this parameter is 0.

166.174.3

EXAMPLE

Change the external/public dial tone to Morse-D keeping the internal dial tone as Standard dial tone.

PARNUM=254,PARVAL=8

167

PASSW

Password

167.1

FORMAT

<p>PASSW = "D₁D₂...D₂₀"</p> <p>D₁D₂...D₂₀ =</p>	Any combination of 20 allowed characters as a maximum.
---	--

167.2

FUNCTION

The parameter states a password for a PBX operator as a way to authenticate it in the system (25 ASCII codes of the allowed characters for the PASSW parameter on page 418).

The parameter must be surrounded by quotation marks.

Note: Blanks (ASCII code #20) are not allowed.

167.2.1

EXAMPLE

The password for a PBX operator is to be *qwert67Ui* .

PASSW = "qwert67Ui"

		MSB: Most Significant Byte															
LSB: Least Significant Byte	MSB LSB	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
	00				0	@	P	`	p								
	01			!	1	A	Q	a	q								
	02			"	2	B	R	b	r								
	03			#	3	C	S	c	s								
	04			\$	4	D	T	d	t								
	05			%	5	E	U	e	u								
	06			&	6	F	V	f	v								
	07			'	7	G	W	g	w								
	08			(	8	H	X	h	x								
	09			)	9	I	Y	i	y								
	0A			*	:	J	Z	j	z								
	0B			+	;	K	[	k	{								
	0C			,	<	L	\	l	|								
	0D			-	=	M	]	m	}								
	0E			.	>	N	^	n	~								
	0F			/	?	O	_	o									

Figure 25: ASCII codes of the allowed characters for the PASSW parameter

168 PCAT

Paging category

168.1 FORMAT

PCAT = D ₁ D ₂ D ₃	
D ₁ =	Type of paging receiver *)
0	Meet me.
1	One-way speech.
2	Two-way speech.
3	Optical.
4	Display.
5	One-way speech with display.
6	Two-way speech with display.
D ₂ =	Display transmitting category.
0	No number is to be sent.
1	A number is to be sent.
2	B number is to be sent.
3	A and B numbers are to be sent.
D ₃ =	Priority to sought receiver
0	Low priority.
1	Normal priority.
2	High priority.
3	Alarm priority.

*) Alternatives 1-6 also offer a meet me facility.

168.2 FUNCTION

168.2.1 GENERAL

This parameter specifies the type of paging receiver, the category for automatically transmitting a directory number to a digit display in a paging receiver, and the priority level for queue positions for calls to the paging receiver.

- D₁= 0** Meet me.
A personal radio receiver for meet me generates voice frequency impulses or vibrations when activated.
- 1** One-way speech.
A personal radio receiver for one-way speech and meet me. The speech channel can be opened in connection with paging.

- 2** Two-way speech.
A personal radio receiver for two-way speech and meet me. Two-way speech communications can be set up in connection with paging.
- 3** Optical paging.
Alarm panels are placed throughout the building. Each page-able individual has its own lamp code. No personal receiver.
- 4** Display.
A personal radio receiver which, in addition to the functions for type 0, also has a digit display for 4 + 4 or 5 + 5 digits.
- 5** One-way speech with display.
A personal radio receiver which, in addition to the functions for type 1, also has a digit display for 4 + 4 or 5 + 5 digits.
- 6** Two-way speech with display.
A personal radio receiver which, in addition to the functions for type 2, also has a digit display for 4 + 4 or 5 + 5 digits.

168.2.2

DISPLAY TRANSMISSION CATEGORY

In the case of paging calls initiated with the standard procedure, a directory number can be automatically transmitted to a digit display in the paging receiver.

- D₂= 0** No directory number is to be automatically transmitted.
- 1** A- number, that is, the initiating party's number is to be automatically transmitted.
 - 2** B- number, in other words the dialled number is to be automatically transmitted
 - 3** Both the A- and B- numbers are to be automatically transmitted.

The receiver must be of type 4, 5 or 6 if the transmitting categories 1, 2 and 3 are to be set. Transmitting to a digit display also requires that the search area to which the receiver is to be linked and the external paging equipment are initiated for digit transmission to a display.

168.2.3

PRIORITY TO SOUGHT RECEIVER

The receiver's priority determines how rapidly a call to the receiver proceeds in the queue to the search area when all channels are busy. For repeated calls the priority is decremented by one.

- D₃= 0** Low priority. Can be used as normal priority if repetition is not used.
- 1** Normal priority for receivers. Repeated calls receive lower priority.
 - 2** High priority. Used for receivers that shall have a slightly higher priority than the others.
 - 3** Alarm priority. Used for receivers designated to accept alarm.

The parameter has no significance if a paging queue is not permitted. See parameter *--multiple-paging* in the parameter description for the command *global_traffic_data*.

168.3

EXAMPLE 1

An individual is to be assigned a simple radio receiver which generates voice frequency impulses for meet me paging (type = 0). There is no display. Consequently, the display transmission category selected must be = 0. Calls to the receiver have normal priority.

PCAT = 001

168.4

EXAMPLE 2

A night watchman is assigned a receiver with one-way speech and display. When calls are made with the standard procedure, the A- and B- numbers shall be automatically transmitted to the receiver. Calls to the receiver shall have highest priority.

PCAT = 532

169

PCM

Transmission coding principle

169.1

FORMAT

PCM = D ₁
D ₁ = 0 Mu law
1 A law

169.2

FUNCTION

The parameter states the transmission coding principle for different markets. This parameter is only applicable to and is required for the OPI-II type operator console.

169.3

EXAMPLE

The transmission coding is A law.

PCM = 1

170

PCMID

PCM Link Identity

170.1

FORMAT

PCMID = $D_1D_2D_3$

$D_1D_2D_3 = 0-127$

PCM link identity.

170.2

FUNCTION

The parameter states the PCM link identity of the board where the signaling link is situated. The value is used to form the complete Circuit Identification Code (CIC) of all external lines assigned to the board. The parameter value specifies the most significant seven bits of the CIC. The remaining five bits are determined by the corresponding time slot used for the speech connection of the external lines.

170.3

EXAMPLE

The PCM identity is 12.

PCMID = 12

171

PCSIZE

Point Code Size

171.1

FORMAT

PCSIZE = D₁D₂

D₁D₂ = 14 Standard point code size, 14 bits.

24 Extended point code size, 24 bits.

171.2

FUNCTION

The parameter states the size of the signaling point codes which are sent in every MFC Signaling Unit (MFU) of Common Channel Signaling No. 7 (CCS7). The parameter affects the Originating Point Code (OPC) and the Destination Point Code (DPC).

171.3

EXAMPLE

The point code size is 24 bits.

PCSIZE = 24

172
PERIOD

Periodicity in Printout

172.1
FORMAT

PERIOD = D₁

D₁ = 1

Information given hourly.

2

Information given every even quarter of an hour.

3

Information given in respect of busy hour.

172.2
FUNCTION

The parameter states how information must be supplied in the printout.

172.3
EXAMPLE 1

The measurement result is printed in hourly periods starting every even quarter of an hour, for example, as follows:

09:00-10:00 measurement data 09:15-10:15 " " 09:30-10:30 " " and so on.

PERIOD = 1

172.4

EXAMPLE 2

The measurement result is printed in periods of a quarter of an hour beginning each even quarter, for example, as follows:

09:00-09:15 measurement data 09:15-09:30 " " 09:30-09:45 " " and so on.

PERIOD = 2

172.5

EXAMPLE 3

The measurement result is printed only for the hour when busy hour has occurred, for example, as follows:

09:00-10:00 measurement data.

PERIOD = 3

173

PN

Paging Number

173.1

FORMAT

<div> <div> PN = D₁D₂...D₂₀ </div> <div> D₁D₂...D₂₀ = 0 - 99999 99999 99999 99999 </div> <div> Paging number </div> </div>
--

173.2

FUNCTION

The parameter states the paging number, which can be a Common Paging Number (CPN) or an Extra Paging Number (EPN).

173.3

EXAMPLE 1

Paging number 5005 is stated.

PN = 5005

173.4

EXAMPLE 2

Paging number 12345678 is stated.

PN = 12345678

174

POFMT

Port Number Format

174.1

FORMAT

POFMT = D_1

$D_1 = 2 - 5$

Number of digits in a port number,

174.2

FUNCTION

The parameter states the format (number of digits) of the port number in a particular voice mail system.

The format is determined by the format defined for the voice mail system.

174.3

EXAMPLE

The port number format is to comprise two digits.

POFMT = 2

175 PORT

175.1 PORT - PBX OPERATOR TRAFFIC

TCP port number

175.1.1 FORMAT

PORT = D ₁ D ₂ D ₃ D ₄ D ₅
D ₁ D ₂ D ₃ D ₄ D ₅ = 1024-65535 TCP port number

175.1.2 FUNCTION

The parameter states the TCP port number for the Operator Assistant server.

175.1.3 EXAMPLE

The TCP port number is 7723.

PORT = 7723

175.2 **PORT - VOICE MAIL**

Voice Mail Port

175.2.1 **FORMAT**

PORT = D ₁ D ₂ D ₃ D ₄ D ₅
D ₁ D ₂ D ₃ D ₄ D ₅ = 00-99999
Port number

175.2.2 **FUNCTION**

The parameter states the directory number of a port in the voice mail system, intended for the physical connection between the PBX and the voice mail system, for speech transmission, and key code signaling.

The number of digits in a PORT is determined by the POFMT parameter.

175.2.3 **EXAMPLE**

Port 63 is used for connection to an analog or a CAS extension individual.

PORT = 63

176

PORT1

Local Port Number

176.1

FORMAT

PORT1 = D₁D₂D₃D₄D₅

D₁D₂D₃D₄D₅= 00-65535
Port number

176.2

FUNCTION

The parameter states local port number on which the server will bind. When only PORT1 is used, TCP/IP configuration is single port configuration and MX-ONE uses this port to receive control orders from SCC and to send event and control messages to SCC.

When TCP/IP connection is configured as dual port, MX-ONE uses this port to receive control orders from SCC and to send control messages to SCC.

176.3

EXAMPLE

30001 is the Port number.

PORT1 = 30001

177

PORT2

Local Port Number

177.1

FORMAT

PORT2 = D ₁ D ₂ D ₃ D ₄ D ₅
D ₁ D ₂ D ₃ D ₄ D ₅ = 00-65535
Port number

177.2

FUNCTION

The parameter states local port number on which the server will bind.

When PORT2 is used, TCP/IP configuration is dual port configuration and MX-ONE uses this port to sends event messages to SCC

177.3

EXAMPLE

30002 is the Port number.

PORT2 = 30002

178PRE

178.1PRE - LEAST COST ROUTING

Digits to insert at beginning of number

178.1.1FORMAT

The format for parameter PRE depends on the value of the TAB parameter.

Table 32 TAB = ENT, NLT, FDT

<div> PRE = D₁D₂ ...D₂₀ </div> <div> D₁D₂ ...D₂₀ = 1-20 digits to be inserted at beginning of a number. Digits can be 0 - 9. </div>

Table 33 TAB = DNT1, DNT2, PNR

<div> PRE = D₁D₂ ...D₁₀ </div> <div> D₁D₂ ...D₁₀ = 1-10 digits to be inserted at beginning of a number. Digits can be 0 - 9. </div>

Table 34 TAB = RCT

<div> PRE = D₁D₂D₃D₄D₅ </div> <div> D₁D₂D₃D₄D₅ = 0-99999 Destination code for external traffic. </div>

178.1.2FUNCTION

The parameter states the number of digits to be inserted at the beginning of the analyzed number.

When used in the RCT table for Private Network Routing the value represents an external destination code in the external destination analysis.

178.1.3EXAMPLE

Insert the number 9214 at the beginning of the number.

PRE = 9214

178.2

PRE - ROUTE DATA

Predigits for Direct In-Dialling Traffic

178.2.1

FORMAT

$PRE = D_1D_2...D_{10}$ $D_1D_2...D_{10} = 0-9999999999$ Predigits
--

178.2.2

FUNCTION

The parameter states predigits for direct in-dialling traffic. In some cases of direct in-dialling traffic a public or interworking exchange can only transmit a limited number of digits to the receiving PBX. Then the PBX must add missing digits to the incoming called number in order to compose a useful number. These predigits are stated in PRE.

For example, a subscriber in the public network dials the direct in-dialling number 7424498. The public exchange uses 7424 for its own routing and transmits only the remaining digits, 498, to the PBX. The extension number series in the PBX is 4000-4999. In order to form a complete extension number, 4498, digit 4 is required before the received 498, that is, the predigit is 4.

178.2.3

EXAMPLE

In the system the predigit shall be the digit 4, that is to be placed in front of the received digits from the public exchange (or interworking exchange).

PRE = 4

178.3 PRE - ROUTE DATA

Predigits to a New External Number

178.3.1 FORMAT

PRE = D ₁ D ₂ ...D ₂₀		
D ₁ D ₂ ...D ₂₀ =	One to twenty digits to insert at beginning of the number. Digits can be 0-9.	

178.3.2 FUNCTION

The parameter states the predigits to be used together with the entire or part of the dialled number in order to compose a new number to send.

178.3.3 EXAMPLE

Dialled number 1234 shall be modified into 007191234.

PRE = 00719

179

PRE1

Digits to insert at beginning of number for PNR

179.1

FORMAT

$PRE1 = D_1D_2 \dots D_{16}$

$D_1D_2 \dots D_{16} =$ 1-16 digits to be inserted at beginning of a number. Digits can be 0 - 9.

179.2

FUNCTION

The parameter states the number of digits to be inserted at the beginning of a Private Network Routing access code.

179.3

EXAMPLE

Insert the number 72 at the beginning of the PNR access code.

PRE1 = 72

180 PREDIG

A-number prefix digit

180.1 FORMAT

<p>PREDIG= D₁</p> <p style="text-align: center;">D₁ = 0 - 9 A-number prefix digit.</p>
--

180.2 FUNCTION

The parameter defines the A-number (calling number) prefix digit. This SOM parameter is only applicable when CNTRY=1 (Russia).

180.3 EXAMPLE

Set the A-number prefix digit to be 2.

PREDIG=2

181

PREPRI

Prefix Digits for Private Calling Number

181.1

FORMAT

$PREPRI = D_1D_2 \dots D_{10}$

$D_1D_2 \dots D_{10}$ = One to ten digits to insert at beginning of the number.
Digits can be 0-9.

181.2

FUNCTION

The parameter states the digits (exchange numbers) to prefix to an incoming private calling number (A-number), in order to form a complete private calling number.

In signalling systems where no calling number is received, the parameter can be used to state a complete calling number to use for all calls incoming on the route.

181.3

EXAMPLE

The incoming private calling number 5336 shall be prefixed with the exchange number 864 (in this case a location code (level 1 regional)). That is, the new composed private calling number to send shall be 8645336.

PREPRI = 864

182

PREPUB

Prefix Digits for Public Calling Number

182.1

FORMAT

$PREPUB = D_1D_2 \dots D_{10}$

$D_1D_2 \dots D_{10}$ = One to ten digits to insert at beginning of the number.
Digits can be 0-9.

182.2

FUNCTION

The parameter states the digits (exchange numbers) to prefix to an incoming public calling number (A-number), in order to form a complete public calling number.

In signalling systems where no calling number is received, the parameter can be used to state a complete calling public number to use for all calls incoming on the route.

182.3

EXAMPLE

The incoming public calling number 395336 shall be prefixed with the exchange number 455 (in this case a trunk code). That is the new composed public calling number to send shall be 455395336.

PREPUB = 455

183

PRI

Individual queue/selection priority for the member

183.1

FORMAT

PRI = D ₁ D ₂ D ₃		
D ₁ D ₂ D ₃ = 1-32		Individual queue or selection priority for the member.
GRP		The common queue or selection priority defined for the ACD group.

183.2

FUNCTION

The parameter states individual queue/selection priority per member. The lower value which is assigned the higher priority.

Calls in a queue with high queue priority are presented to an agent position before calls in queues with lower priorities.

Incoming calls to ACD groups with more than one free agent will be distributed to the agent that has the highest selection priority.

The individual queue or selection priority for the member will override the common queue or selection priority defined for the ACD group (stated in parameter QUE). If GRP is given, the common queue or selection priority defined for the ACD group will be used (stated in parameter QUE).

183.3

EXAMPLE 1

The member should have individual queue or selection priority 5.

PRI = 5

183.4

EXAMPLE 2

The common queue or selection priority defined for the ACD group should be used.

PRI = GRP

184 PRIO

184.1 PRIO - MESSAGE TRANSFER PART DATA

Signaling Route Priority

184.1.1 FORMAT

PRIO = D ₁ D ₂
D ₁ D ₂ = 1-14
Signaling route priority

184.1.2 FUNCTION

The parameter states the priority of a signaling route within a signaling route set. The value one is highest priority.

184.1.3 EXAMPLE

The priority of the signaling route is 1.

PRIO = 1

184.2

PRIO - PBX OPERATOR TRAFFIC

Priority for central answer position or customer centralized operator

184.2.1

FORMAT

PRIO = D₁

D₁ = 1-3 Order of priority for the central answer position.
1 is the highest priority.

1-2 Order of priority for the customer centralized operator. 1 is the highest
priority.

184.2.2

FUNCTION

The parameter states the priority of the rerouting (diversion) number to the central answer position or the customer centralized operator in the network in respect of a PBX operator call origin group. A call origin group can have up to three central answer positions and two customer centralized operators.

184.2.3

EXAMPLE 1

The initiated central answer position number should have the highest priority.

PRIO = 1

184.2.4

EXAMPLE 2

The customer centralized operator should have the second priority.

PRIO = 2

184.3
PRIO - ROUTE DATA

Priority for Central Answering Position or Customer Centralized Operator

184.3.1
FORMAT

PRIO=D ₁		
D ₁ =	1-3	Order of priority for central answering position. 1 is highest
	1-2	Order of priority for customer centralized operator. 1 is highest.

184.3.2
FUNCTION

The parameter states the priority of the rerouting (diversion) number to the central answering position in the network in respect of a route or to the customer centralized operator in respect of a customer. A route can have up to three central answering positions. A customer can have up to two customer centralized operators.

184.3.3
EXAMPLE 1

The central answering position shall have the highest priority.

PRIO = 1

184.3.4
EXAMPLE 2

The customer centralized operator shall have the second priority.

PRIO = 2

185 PRITON

Private Type of Number

185.1 FORMAT

PRITON=D ₁		
D ₁ =	5	Unknown private (QSIG)
	6	Local private (QSIG)
	7	Level 1 Regional (QSIG)

185.2 FUNCTION

The parameter states the type of number to set for an incoming private number in a transit or gateway exchange where the received type of number shall be changed to a specific type of number, or where no type of number is received according to the protocol.

185.3 EXAMPLE

The type of number for the incoming private number shall be set to Local private.

PRITON = 6

186

PROT

Type of ISDN protocol

186.1

FORMAT

PROT = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ D ₃ D ₄ =	ETSI	ETSI (ETS 300 102, ETS 300, 403)
	QSIG	QSIG (ECMA 143, IS 11572)
	NAT	National variant of ISDN. AS dependent.
	RES	Reserved.
	IP	QSIG over IP.

186.2

FUNCTION

The parameter is used to state a specific type of ISDN protocol.

186.3

EXAMPLE

The type of ISDN protocol is ETSI.

PROT = ETSI

187

PRVDIG

Service provider digits

187.1

FORMAT

PRVDIG= D ₁ D ₂ D ₃ D ₄ D ₅		
D ₁ D ₂ D ₃ D ₄ D ₅ =	0 - 99999	Service Provider code for external calls.

187.2

FUNCTION

The parameter defines the Service Provider code for external calls. This SOM parameter is only applicable when CNTRY=1 (Russia).

187.3

EXAMPLE

Set the service provider code for external calls to 51.

PRVDIG=51

188

PSW

Password for SOM

188.1

FORMAT

PSW = D₁D₂ ...D₁₂

D₁D₂ ...D₁₂ = O&M password (for SOM), 6-12 alphanumeric characters.

188.2

FUNCTION

The parameter states the current password.

188.3

EXAMPLE

ABCDEF is the current password.

PSW = ABCDEF

189

PTIMER

Passive timer

189.1

FORMAT

PTIMER = D₁D₂D₃

D₁D₂D₃ = 1-120

Passive timer.

189.2

FUNCTION

The parameter specifies the timer value in minutes within which if no control order is received through SCC, events are not sent to SCC.

189.3

EXAMPLE

Passive state time is 10 minutes.

PTIMER = 10

190

PUBTON

Public Type of Number

190.1

FORMAT

PUBTON=D ₁		
D ₁ =	0	Unknown public
	1	International
	2	National
	3	Network specific
	4	Local public

190.2

FUNCTION

The parameter states the type of number to set for an incoming public number in a transit or gateway exchange where the received type of number shall be changed to a specific type of number, or where no type of number is received according to the protocol.

190.3

EXAMPLE

The type of number for the incoming public number shall be set to National.

PUBTON = 2

191

QINF

Queue information indicator

191.1

FORMAT

QINF = D₁

D₁ = Y Include information about queued calls.

N Do not include information about queued calls.

191.2

FUNCTION

The parameter states if information about calls requested for On-hook queuing shall be included in the printout or not.

191.3

EXAMPLE

Information about queued calls shall be included.

QINF = Y

192

QTIME

Queue Announcement Time

192.1

FORMAT

QTIME = D₁D₂D₃

D₁D₂D₃ = 2 - 180

Queue announcement time in seconds.

192.2

FUNCTION

The parameter states the length of time a call is in the ACD group queue, internal group, hunting group queue, or PBX operator call origin group queue before receiving the queue announcement.

Different messages can be assigned to different times to customize the announcement.

The default value is 10 sec.

192.3

EXAMPLE

A call is in the PBX operator queue for 60 seconds before receiving the PBX operator queue announcement.

QTIME = 60

193

QUE

193.1

QUE - AUTOMATIC CALL DISTRIBUTION

Queue handling

193.1.1

FORMAT

QUE = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈ D ₉ D ₁₀ D ₁₁		
D ₁ =	Dynamic queue	
0	Dynamic queue is not used.	
1	Dynamic queue is used.	
D ₂ D ₃ D ₄ =	Minimum queue length	
000	Minimum number of delayed calls which can be queued.	
...		
249		
D ₅ D ₆ D ₇ =	Maximum queue length	
000	Maximum number of delayed calls which can be queued.	
...		
250		
D ₈ D ₉ =	Queue constant	
01-50	Value of constant.	
D ₁₀ D ₁₁ =	Common queue / selection priority	
01-32	Value of common queue / selection priority.	

193.1.2

FUNCTION

The parameter states:

- Dynamic queue. Whether dynamic queue shall be used or not. At dynamic queue, the queue length will vary depending on number of available group members for the ACD group. It can never be less than the minimum queue length or higher than the maximum queue length.
- Minimum queue length. Minimum number of delayed calls which can be queued towards an ACD group (used at dynamic queue).
- Maximum queue length. Maximum number of delayed calls which can be queued towards an ACD group.
- Queue constant. The constant is used at dynamic queue to calculate a current queue length, it will alter depending on number of available group members within the ACD group. The value of the constant divided by 10 states the number of queue spaces the current queue length alters.
- Common queue or selection priority. The ACD group's priority. The lower value that is assigned the higher priority.

Note: The common priority for selection of free members is set by the queue/selection priority value.

193.1.3

EXAMPLE

Dynamic queue is used.

Minimum number of delayed calls which can be queued are 15.

Maximum number of delayed calls which can be queued are 75.

Queue constant is set to 25. When only one group member is available in the ACD group, the current queue length will be 1×2.5 , which gives 2 queue spaces. When there are two group members available in the ACD group, the current queue length will be 2×2.5 , which gives 5 queue spaces.

Common queue or selection priority is set to 25.

QUE = 10150752525

193.2 QUE - COMMON BELL GROUP

Queue Length

193.2.1 FORMAT

QUE = D ₁ D ₂
D ₁ D ₂ = 1-30
Queue length

193.2.2 FUNCTION

The parameter states the maximum number of permitted queuing calls towards a common bell group.

193.2.3 EXAMPLE

Maximum 12 waiting calls may queue towards a common bell group.

QUE = 12

194 QUEUE

Queue Announcement Number

194.1 FORMAT

QUEUE = D₁D₂D₃D₄D₅
 D₁D₂D₃D₄D₅= 1 - 250, 256-65535
 Queue announcement number.

194.2 FUNCTION

The parameter states the number of the queue announcement for the ACD group, Group hunting group, or PBX operator call origin group.

If the announcement is resulting in a message which is residing on an RTP resource, i.e. MGU, the values 1-250 and 256 to 65535 are allowed.

194.3 EXAMPLE

The queue announcement number is 21.

QUEUE = 21

195

RATE

Bit rate in bps

195.1

FORMAT

RATE = D₁D₂D₃D₄

D₁D₂D₃D₄= 110 bits/s

300 bits/s

600 bits/s

1200 bits/s

2400 bits/s

4800 bits/s

9600 bits/s

195.2

FUNCTION

The parameter states data speed in bit/s for the data link connected to the interception computer.

195.3

EXAMPLE

The data speed is 300 bit/s.

RATE = 300

196

RDEST

Remote Destination

196.1

FORMAT

RDEST = D ₁ D ₂ ...D ₁₀	
D ₁ D ₂ ...D ₁₀ =	000 - 99999 99999 Destination to the Routing Server or the Exchange Number in the Cooperating Exchange for PNR

196.2

FUNCTION

The parameter states the external destination code to the Routing Server in the satellites or the own exchange number in the satellite pointed to by the destination in the Routing Server.

This parameter is only used in the PNR table for Private Network Routing.

196.3

EXAMPLE

Initiate a destination code to the Routing Server

RDEST = 99100

197

REP

197.1

REP - AUTOMATIC CALL DISTRIBUTION

Replace value

197.1.1

FORMAT

REP = D ₁		
D ₁ =	0	Do not replace existing DNIS.
	1	Replace existing DNIS.

197.1.2

FUNCTION

The parameter states whether, at diversion or deflection to a DNIS number, the existing DNIS information (number and name) is replaced with the deflect to/divert to DNIS information.

The Default value is 0.

197.1.3

EXAMPLE

Replace existing DNIS information when call is deflected to a DNIS number.

REP = 1

197.2 REP - PAGING

Number of repetitions for a paging job

197.2.1 FORMAT

REP = D₁D₂

D₁D₂= 0-20
Number of repetitions.

197.2.2 FUNCTION

This parameter specifies the maximum number of times a paging call can be repeated in the exchange for a certain search area.

Repetition is carried out for all standard paging tasks when a meet me reply has been selected as standard paging.

When standard paging is directory number transmitting, only external and extended calls will be repeated. Voice paging is never repeated.

Repetition in the exchange can be used if repetition is not executed in the external equipment. The repetition ceases when the paging task is disconnected, for example after a reply.

The time between repetitions is determined by means of parameter *--paging-interval* in the *global_traffic_data* command. If no repetition is to take place in the exchange, the parameter value REP = 0 is set.

197.2.3 EXAMPLE 1

Repeated calls to the paging equipment are to be generated for a paging task to a certain search area. The call shall be sent out a maximum of four times, in other words 3 repetitions shall be possible.

REP = 3

197.2.4 EXAMPLE 2

Repetition of calls shall not be generated to a certain search area.

REP = 0

198

REPQUE

Repeat Queue Announcement Number

198.1

FORMAT

REPQUE = D ₁ D ₂ D ₃ D ₄ D ₅	
D ₁ D ₂ D ₃ D ₄ D ₅ = 0 - 250, 256 - 65535	
Repeat queue announcement number.	0
signifies that no repeat queue announcement is to be provided.	

198.2

FUNCTION

The parameter states the number of the repeat queue announcement for the ACD group, Group hunting group, or PBX operator call origin group.

If the announcement is resulting in a message which is residing on an RTP resource, i.e. MGU, the values 1-250 and 256 to 65535 are allowed

198.3

EXAMPLE

The repeat queue announcement number is 22.

REPQUE = 22

199

RERNUM

Diversion number

199.1

FORMAT

RERNUM = D₁D₂...D₂₀

D₁D₂...D₂₀ = 0 - 99999 99999 99999 99999
Directory number

199.2

FUNCTION

The parameter states the number to which calls to PBX operators in a call origin group are diverted when all PBX operators who handle calls in the call origin group are off duty and if NDIR = Y or NDIR = D.

The directory number can be:

- an extension
- a common or an individual PBX operator number
- an Group hunting group

199.3

EXAMPLE

The diversion number is 4246.

RERNUM = 4246

200

RES

Reset indicator

200.1

FORMAT

RES = D ₁	
D ₁ =	Y Reset counters. N Do not reset counters.

200.2

FUNCTION

The parameter states if counters for traffic measurement for Least Cost Routing shall be reset or not.

200.3

EXAMPLE

Counters shall be reset.

RES = Y

201

ROU

Route Number

201.1

FORMAT

ROU = D ₁ D ₂ D ₃
D ₁ D ₂ D ₃ = 1-999
Route number

201.2

FUNCTION

The parameter states the sequence number for a route.

201.3

EXAMPLE

The sequence number for the route is 4.

ROU = 4

202

ROUDIR

Route Directory Number

202.1

FORMAT

ROUDIR = $D_1D_2D_3D_4D_5$

$D_1D_2D_3D_4D_5 = 0-99\ 999$

Route directory number

202.2

FUNCTION

The parameter states a directory number to use for all incoming calls on an incoming route. Used when the incoming route cannot convey (public or private or both) calling number and the calling number is requested, for example at transit traffic when the subsequent exchange requests calling party number transfer. At outgoing transit or gateway traffic the complete calling number is composed using ROUDIR and the exchange numbers (EXNOPR and EXNOPU). The route directory number shall be included in the numbering plan of the requesting exchange.

202.3

EXAMPLE

The route directory number of an incoming route shall be 4310.

ROUDIR = 4310

203 ROUSET

Signaling Route Set Number

203.1 FORMAT

ROUSET = D ₁ D ₂
D ₁ D ₂ = 1 - 16
Signaling route set number.

203.2 FUNCTION

The parameter states a signaling route set number.

203.3 EXAMPLE

The signaling route set number is 1.

ROUSET = 1

204

RPORT

Remote Server Port Number

204.1

FORMAT

RPORT = D₁D₂D₃D₄D₅
D₁D₂D₃D₄D₅= 1-65535
Remote server port number.

204.2

FUNCTION

The parameter states the remote server port where the information computer connection is to be initiated.

204.3

EXAMPLE

The remote server port is 900.
RPORT = 900

205

RROUID

205.1

IP NETWORKING

Remote route identifier

205.1.1

FORMAT

RROUID = "D₁D₂ ...D₁₅"

D₁D₂ ...D₁₅ = Any combination of a maximum of 15 alphanumeric characters

205.1.2

FUNCTION

The parameter states the remote route identifier to be conveyed in the incoming/outgoing H.323 traffic.

If the remote node is another MX-ONE or an ASB 501 04, this identifier is used to distribute the incoming H.323 traffic. The identifier is compared with the local route identifiers defined for H.323 routes at that far end until a match is found. Then, the call is distributed to that H.323 route.

If the remote node is not an MX-ONE nor an ASB 501 04, this identifier is ignored.

This identifier is also used at the remote end to authenticate if the incoming traffic comes from a known source.

The allowed characters and their ASCII code are shown in Figure 26.

Note: Blanks (ASCII code #20) are not allowed.

Note: The parameter must be surrounded with quotation marks.

205.1.3

EXAMPLE

The remote route identifier of an H.323 route shall be "remote5".

RROUID = "remote5"

		MSB: Most Significant Byte															
MSB LSB		00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
	00				0		P		p								
LSB: Least Significant Byte	01				1	A	Q	a	q								
	02				2	B	R	b	r								
	03				3	C	S	c	s								
	04				4	D	T	d	t								
	05				5	E	U	e	u								
	06				6	F	V	f	v								
	07				7	G	W	g	w								
	08				8	H	X	h	x								
	09				9	I	Y	i	y								
	0A					J	Z	j	z								
	0B					K		k									
	0C					L		l									
	0D					M		m									
	0E					N		n									
	0F					O		o									

Figure 26: ASCII codes of the allowed characters for RROUID parameter

205.2 LEAST COST ROUTING

Remote Route Identity for PNR Destination

205.2.1 FORMAT

RROUID = D₁D₂ ...D₁₅

D₁D₂ ...D₁₅ = Any combination of 15 Alphanumeric Characters

205.2.2 FUNCTION

The parameter states an identifier to discriminate at the remote end the incoming traffic and identify a specific route. It is also used as a password. The allowed characters and their ASCII code are shown in figure 1. This parameter is only used in the PNR table for Private Network Routing.

The same RROUID are used for both IP1 and IP2.

Note: Blanks (ASCII code #20) are not allowed.

Note: The parameter must be surrounded with quotation marks.

205.2.3 EXAMPLE

The remote route identifier associated to an external destination of an H.323 route shall be "remote5".

RROUID = "remote5"

206

RTIME

Repeat Queue Announcement Time

206.1

FORMAT

$RTIME = D_1D_2D_3$

$D_1D_2D_3 = 20 - 300$

Repeat queue announcement time in seconds.

206.2

FUNCTION

The parameter states the length of time between the repeat queue announcements for the ACD group, Group hunting group, or PBX operator call origin group.

Different messages can be assigned to different times to customize the announcement.

The default value is 30 sec.

206.3

EXAMPLE

The length of time between call origin group repeat queue announcements is 60 seconds.

RTIME = 60

207

SAR

207.1

PAGING

Search area

207.1.1

FORMAT

SAR = D ₁ D ₂
<div> D₁D₂= 0-15 Search area. </div>

207.1.2

FUNCTION

This parameter specifies the search area for paging. A search area is the geographical area which is covered by the radio transmitter of a certain paging unit or the area which is equipped with lamp panels for an optical paging system.

An exchange can be provided with 1-16 search areas. When several search areas are initiated in the same exchange, they can be geographically separated, but they can also coincide. If necessary, two search areas can be initiated to the same external equipment, for example one for speech paging and one for paging without speech. Different paging units should always be initiated as separate search areas.

1 to 16 channels, which connect the exchange with the external paging equipment, form part of a search area. All channels within a search area are equal and have the same characteristics.

207.1.3

EXAMPLE

A new paging unit is to be taken into use. It is entered in the exchange under search area number 7.

SAR = 7

207.2 TRAFFIC MEASUREMENT

Search Area Number

207.2.1 FORMAT

SAR = D ₁ D ₂		
D ₁ D ₂ =	0-15	
	Search area.	

207.2.2 FUNCTION

This parameter states the search area for paging. A search area is the geographical area which is covered by the radio transmitter of a certain paging unit, or the area which is equipped with indicator panels for an optical paging system.

1 to 16 channels, which connect the exchange with the external paging equipment, form part of a search area. All channels within a search area are equal and have the same characteristics.

207.2.3 EXAMPLE

A search area with number 12 must be stated.

SAR = 12

208 SAT

Satellite group number

208.1 FORMAT

SAT = D ₁ D ₂ ...D ₂₀
D ₁ D ₂ ...D ₂₀ = 00 - 99999 99999 99999 99999 Directory number of a satellite group.

208.2 FUNCTION

The parameter states the directory number of a satellite group.

208.3 EXAMPLE 1

The directory number of the satellite group shall be 80200.

SAT = 80200

208.4 EXAMPLE 2

The directory number of the satellite group shall be 8020000000.

SAT = 8020000000

209

SCD

Search code

209.1

FORMAT

SCD = D ₁ D ₂ D ₃ D ₄	
D ₁ D ₂ D ₃ D ₄ =	0-9999 Search area.

209.2

FUNCTION

The search code is used for identifying a sought party in connection with paging. In the case of radio paging, the search code is transmitted via radio and activates the paging receiver which has this particular search code programmed.

In the case of optical paging, the search code can consist of a special combination of digits which is transmitted to all search panels and which the sought individual recognizes.

209.3

EXAMPLE

The search code for a paging receiver is 798.

SCD = 798

210 SDAY

210.1 SDAY - ROUTE DATA

Day Number

210.1.1 FORMAT

SDAY = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	0 - 99999 99999 99999 99999 Directory number for day service position.

210.1.2 FUNCTION

The parameter states a directory number to which incoming calls on a route with incomplete number or no number shall be terminated. The exchange shall be in day switched mode.

210.1.3 EXAMPLE

The day service position for a particular route shall be a directory number 5196.

SDAY = 5196

210.2 SDAY - PBX OPERATOR TRAFFIC

Present operator diversion number for DID calls

210.2.1 FORMAT

SDAY = D₁D₂...D₂₀

D₁D₂...D₂₀=

0 - 99999 99999 99999 99999

Operator diversion number

210.2.2 FUNCTION

The parameter states the number to which calls to PBX operators are diverted when the call is going through a DID trunk and with operator common DID number when at least one operator is present in the exchange.

210.2.3 EXAMPLE

The present service position for the DID calls is the directory number 4246.

SDAY = 4246

211 SDM

Simplified diversion message number

211.1 FORMAT

SDM = D ₁
D ₁ = 0-9
Simplified diversion message number

211.2 FUNCTION

The parameter states the simplified diversion message number.

211.3 EXAMPLE

The simplified diversion message number is 1.

SDM = 1

212

SEL

212.1

SEL - AUTOMATIC CALL DISTRIBUTION

Selection category

212.1.1

FORMAT

SEL = D ₁		
D ₁ =	Type of searching	
	0	Sequential searching
	1	Searching according to free members. The individual who has been free the longest time is to be selected first.

212.1.2

FUNCTION

The parameter states:

- Member Selection Order. Whether searching for a free member in the group should be undertaken in the order in which the group members were initiated into the ACD group or according to the group member who has been free for the longest time.

212.1.3

EXAMPLE

The group member which has been free the longest time should be selected.

SEL = 1

212.2 SEL - AUTOMATIC NETWORK CALL DISTRIBUTION

Selection category

212.2.1 FORMAT

SEL = D ₁		
D ₁ =	0	Initiation order.
	1	Rotating order.
	2	Most free agents.
	3	Load sharing.

212.2.2 FUNCTION

The parameter states which type of search order for selection of a satellite group with free members. Type of selection:

- Initiation order. Searching for a satellite group with free members in the ANCD group shall be performed in the order in which the satellite groups were initiated into the ANCD group.
- Rotating order. Satellite group with free members will be selected in rotating order.
- Most free agents. The satellite group which has the most free agents is always selected.
- Load sharing. The selection of a satellite group with free members is based on percentage load sharing, that is, every satellite group within the ANCD group, will have corresponding distribution of calls as there are available agents in respective satellite group.

212.2.3 EXAMPLE

The satellite group which has the most free agents shall be selected.

SEL = 2

212.3

SEL - ROUTE DATA

Route Selection Category

212.3.1

FORMAT

SEL = D₁D₂D₃D₄D₅D₆D₇D₈D₉D₁₀D₁₁D₁₂D₁₃D₁₄D₁₅D₁₆

Direct Indialling Characteristics

- D₁ = 0 No rerouting (I.e. no DID-traffic) or no rerouting at DID-traffic,
- 1 Rerouting on congestion including vacant number and night switched exchange.
 - 2 Rerouting on busy or not available.
 - 4 Rerouting on no answer.

Incoming traffic

- D₂ = 0 Barred for incoming traffic.
- 1 Open for incoming traffic.

Line Selection During Outgoing Traffic

- D₃ = 0 Barred for outgoing traffic.
- 1 Even seizure in LIM or originator gateway when possible. When no free external line in own LIM even seizure among LIMs with external line.
 - 2 Sequential selection, first free external line in LIM or originator gateway when possible. When no free external line in own LIM next higher LIM (rotating to LIM 1) with external line.
 - 3 Sequential selection in route.
(First free external line in route. Selection always starts with the same line).
 - 4 ITU-T method 2 selection.
FIFO method for the lines which own exchange controls and LIFO for method for the others (see under section function for more information).

Route Characteristics, Outgoing Traffic

- D₄ = 0 Normal route. (Has alternative route choices).
- 1 Terminal route. (Has no alternative route choices).
 - 2 Obsolete.
 - 3 Obsolete.

Alternative Route Selection Characteristics, Incoming Traffic

- D₅ = 0 Alternative route selection is permitted.
- 1 Alternative route selection is not permitted.
 - 2 Alternative route selection is permitted when the route is out of order (the line is faulty or blocked).

Customer Affiliation

This field is obsolete, the use of parameter CUST is preferred. For backward compatibility it is still usable for values 1-250. If parameter CUST is present, this field is ignored.

- D₆D₇D₈ = 000 Not used. Must be set to 000.

	Virtual calls
	This parameter controls if the route supports virtual calls. Valid for ISDN and H.323 routes, where for example the Callback service uses virtual calls.
D ₉ = 0	Yes
1	No
	Malicious call tracing
D ₁₀ = 0	No
1	Yes (see under section function for more information)
	Facilities Restriction Level (FRL) Category
D ₁₁ = 0-7	FRL category for an incoming route.
	This parameter setting is only relevant for transit traffic cases. The FRL category stated in this parameter is used as default FRL value for the incoming route when calling party's TCM is not received from the network (see parameter ADC). This value is then affiliated to the calling party as TCM. The FRL category defines selective restriction of the use of the private network as well as of overflow to the public network. Each calling party is assigned an FRL category which can be sent through the own exchange and through the network as calling party's Travelling Class Mark (TCM). At outgoing traffic the TCM is compared with the chosen outgoing route's FRL in order to check whether the seizure attempt shall be accepted or rejected.
	Call service Information Category for Incoming Route *)
D ₁₂ = 0	Normal extension
1	Class A
2	Class B
3	Class C
4	Class D
5	Data extension
6	PBX operator
7	Class E
	*) If the signalling system permits and the Call service information category is received on the incoming route, this received category overrides any CSI category set for the route.
	Information for Receiving of Travelling Class Mark (TCM)
D ₁₃ = 0	No TCM is received on the incoming external line.
1	TCM is received on the incoming external line.
	Toll Exchange Category (AON) for incoming Route **)
D ₁₄ D ₁₅ = 01	Toll exchange category is not used or Extension authorized to make outgoing calls toward automatic zone, trunk and international network.
02	Hospitality extension authorized for outgoing calls as category 01.
03	Extension authorized for local calls only.
04	Extension with priority authorized to make outgoing calls toward automatic zone, trunk and international network as well as chargeable services.

05	Extension without priority, free of charge authorized to make the same call as category 04.
06	Trunk coin box or post office switch board authorized to make the same calls as category 01.
07	Extension without priority authorized to make the same call as category 04.
08	Extension connected to data set and authorized to make the same calls as category 01.
09	Coin box.
11	Dispatcher (used for private networks).
**) If the extension in originating exchange lacks possibility to send information about toll exchange category (AON) the toll exchange category (AON) must be defined for the incoming route.	
Route to Telident Machine (for Emergency Calls)	
$D_{16} = 0$	Normal route. Not set up for Telident machine
1	Special route to Telident machine

212.3.2

FUNCTION

The parameter states the following routing characteristics for a route:

- What action is to be taken when a direct in-dialling call (over a direct in-dialling route) encounters congestion, busy or no answer.

Note: D_1 = The sum of the direct in-dialling characteristics for the route.

- Traffic direction, that is, whether the route is open for incoming and/or outgoing traffic. Also, when outgoing traffic is permitted, how to select a free line.

Note: For D_3 only one of the characteristics may be selected. The ITU-T method 2 line selection is only supported by CCSS7 routes (see also parameter CNTRL). For ITU-T method 2 line selection the first choice is to select a line from the group of lines that are controlled by the own exchange, out of that group the line that has been released for the longest time is chosen. First the own LIM is searched, then if no free line is found the other LIMs are searched. However, if all lines controlled by the own exchange are busy, a line will be chosen from the group of lines controlled by the cooperating exchange. Out of that group the line that has been released for the shortest time will be chosen.

- Whether the route is a normal route or terminal route. A terminal route is a route providing the only possible way of reaching a destination, that is, it is not possible to reach this destination via any alternative route. A normal route has alternative route choices.
- Whether or not alternative route selection is permitted at outgoing calls.
- Customer number for calls incoming on the route.
- If the route permits virtual calls.

Note: Virtual calls are always allowed when an ISDN or H.323 route is initiated as a tie line.

- If call tracing can be executed.

Note: D_{10} = Shall only be set when the route is an **ISDN** or **CCSS7** route intended for Public Network - PBX applications, where the call terminates in the PBX, and the PBX has direct access to the public network. The feature is also supported

in gateway situations, where part of the connection goes via a tie line. MCT can be utilized for tracing of calls between two PBXes, but then it is just a local registration in the terminating PBX.

- Default Facilities Restriction Level category.

Note: Used for all kinds of routes. The defined default value will be ignored when the route is used for outgoing traffic.

- Default Call Service Information (CSI) category.
- Information for receiving TCM on the incoming external line.
- Toll exchange category (AON) for incoming route.

Note: When toll exchange category (AON) is not used in the system the value $D_{14}D_{15} = 01$ shall be set.

212.3.3

EXAMPLE

Direct indialling characteristics	Rerouting on congestion, busy, and no answer
Incoming traffic	Open for incoming traffic
Line selection during outgoing traffic	Barred for outgoing traffic
Route characteristics, outgoing traffic	Normal route
Alternative route selection characteristics, incoming traffic	Alternative route selection permitted
Customer affiliation	No customer
Virtual calls	No
Call tracing	No
Facilities Restriction Level (FRL) category	FRL category for the outgoing route shall be 5
Call service information category for incoming route	Normal extension
Information for receiving of Travelling class mark (TCM)	No TCM will be received on incoming external line
Toll exchange category (AON) for incoming route	Not used
Route to Telident machine (for emergency calls)	Normal route. Not set up to Telident machine.

SEL = 7100000010500010

213

SERV

213.1

SERV - ROUTE DATA

Route Service Category

213.1.1

FORMAT

SERV = D₁D₂D₃D₄D₅D₆D₇D₈D₉D₁₀**Call Waiting Characteristics**

- D₁ = 0 No call waiting characteristics
- 1 Permitted to initiate transmission of call waiting tone on a direct-in-dialing call to busy party.
 - 2 Reception of call waiting tone permitted and intrusion permitted.

Automatic Call Back Characteristics

- D₂ = 0 Automatic call back not allowed
- 1 Automatic call back permitted

Type of Route

- D₃ = 0 Trunk lines = public direct in-dialing lines
- 1 Tie lines

Call Metering Characteristics

- D₄ = 0 Non-metered route
- 1 Standard metering tariff route
 - 2 Business tariff 1 route *)
 - 3 Business tariff 2 route *)
 - 4 Minimum tariff route
 - 5 Additional tariff 1 route *)
 - 6 Additional tariff 1 route *)
 - 7 Additional tariff 1 route *)
- *) Only possible if the TL-program supports metering.

Paging Over Speech Channel

- D₅ = 0 NOT permitted
- 1 Permitted

Least Cost Routing Class of Service (LCR COS)

The LCR COS is affiliated to an incoming route in order to selectively restrict the use of available route choices for outgoing traffic.

- D₆ = 0 Search for a free route choice is done until the route choice with threshold level 1 is encountered. No queuing is allowed.
- 1 Search for a free route choice is done until the route choice with threshold level 1 is encountered. After that, the call is put into queue to the ordinary route choice for 8 *) seconds.
If the ordinary route choice does not become free within this time, a new search starts again from the ordinary route choice. When the route choice with threshold level 1 is encountered (that is, no free route is available), the call will fail.

- 2 Search for a free route choice is done until the route choice with threshold level 2 is encountered. After that, the call is put into queue to the ordinary route choice for 8* seconds.
If the ordinary route choice does not become free within this time, a new search starts again from the ordinary route choice and continues up to the last route choice.
- 3 No restrictions level.
Search is done for all available route choices.
Queuing is not used.
- *) Application System parameter PARNUM = 107. Recommended is 8 seconds.

Mobile Extension without R1 number

D₇ = 0 ME without R1 number is not allowed. Default.

- 1 ME without R1 number is allowed.

Presentation of Calling or Connected Number (DPNSS, ISDN, CCSS7, H.323 Networks)

D₈ = 0 Controlled by the extension
(or the feature is not used in the system)

- 1 Unconditionally restricted

Request Calling Number (A-number) from the PSTN (see under Function).

D₉ = 0 No, always barred / Not supported

- 1 Yes, allowed and supported. (But presentation is controlled by the called party's presentation category)

Number Conversion, Bearer Capability Substitution, and High Level Compatibility Substitution

D₁₀ = 0 Not supported feature

- 1 Number conversion shall be made
- 2 Bearer capability substitution shall be made
- 3 Number conversion and Bearer capability substitution shall be made
- 4 High Level Compatibility substitution shall be made.
- 5 Number conversion and High Level Compatibility substitution shall be made.
- 6 Bearer capability substitution and High Level Compatibility substitution shall be made.
- 7 Number conversion, bearer capability substitution, and High Level Compatibility substitution shall be made.

213.1.2

FUNCTION

The parameter states the following service characteristics for a route:

- Whether call waiting tone may be initiated to a busy party, at a direct indialling call to busy party,
- Whether call waiting tone may be received and intrusion is allowed on the lines in the route,
- Whether call back may be initiated to lines in the route,
- Type of route,

- Whether the route is a call metering route,
- Whether paging over a speech channel is permitted,
- LCR Class of Service for incoming route, affiliated to incoming calls in order to restrict the use of outgoing routes (transit traffic case).
- Presentation of number. This category can restrict presentation of all extension numbers (analogue, digital, PBX operator and data) over a DPNSS, ISDN, CCSS7, or H.323 network. If, however, the category is set to controlled by the extension the value set on the particular extension (analogue, digital, PBX operator or data) is used.

Note: That presentation of number can be controlled by the extension. See parameter description for concerned type of extension. (For PBX operators this feature is set to default/ not restricted.)

Note: This category only affects the presentation of the calling or connected number in the calls originated or terminated in the PBX, that is, the presentation indicator of the numbers in transit or gateway calls is not affected.

- Request A-number from the PSTN. This category states if the route **supports** the feature request A-number from the PSTN. This depends on the type of signalling system in some public trunks (AT&T ISDN / DID Switzerland).

Note: Even if this category is set to Yes it is the presentation category for the called party that controls the sending of calling number request. See parameter description for concerned type of extension. (For PBX operators the presentation category is set to default/not restricted).

Note: In a *gateway exchange* (that is, incoming from PSTN - outgoing to the private network) the outgoing tie line route (ISDN or DPNSS) is treated as called party in the setting of D₉.

- Whether number conversion, bearer service, high level compatibility substitution shall be made or not.

213.1.3

EXAMPLE

Call waiting characteristics	Permitted to initiate transmission... + Reception of call waiting... (1+2)
Automatic call back characteristics	Automatic call back not allowed
Type of route	Trunk lines = direct indialling etc.
Call metering characteristics	Non-metered route
Paging over speech channel	Permitted
Least Cost Routing Class of service ...	Search for a free route is done up to threshold level 2
Mobile Extension without R1 number	Not allowed (default).
Presentation of calling/connected number	Controlled by the extension (or the feature is not used...)
Request calling number from the ...	No, always barred
Number Conversation, Bearer Capability substitution and High Level Compatibility substitution	Number conversion shall be made

SERV = 3000020001

214 SGRP

Service group number

214.1 FORMAT

SGRP = D ₁ D ₂ ...D ₂₀	
D ₁ D ₂ ...D ₂₀ =	0 - 99999 99999 99999 999999 Directory number of ACD or ANCD group.

214.2 FUNCTION

The parameter states the directory number of an ACD or ANCD group. It is used to specify a service group when using DNIS.

214.3 EXAMPLE

The directory number of the service group is 6000.

SGRP = 6000

215

SID

Information System Identity

215.1

FORMAT

SID = D ₁ D ₂ D ₁ D ₂ = 0-99 Identity

215.2

FUNCTION

The parameter states the identity of the message system. This identity must match the identity that the relevant message system sends to the PBX. For more information about the interworking description, refer to *INTERCEPTION SERVICE, IS*.

215.3

EXAMPLE

Information system identity 0 is intended.

SID = 0

216

SIG

Route Signalling Category

216.1

FORMAT

SIG = D₁D₂D₃D₄D₅D₆D₇D₈D₉D₁₀D₁₁D₁₂**Dial tone characteristics after external line seizure**

- D₁ = 0 Monitoring path to the co-operating exchange is not established and dial tone from own exchange is not sent to the A-party.
- 1 The A-party has monitoring path throughout the digit transmission.
 - 2 Direct establishment of monitoring path to the co-operating exchange. A-party hears dial tone from the co-operating exchange. Disconnection after first digit.
 - 3 Immediate transmission of dial tone from own exchange to the A-party. This is done regardless of if PTS is received or not from the co-operating exchange. Disconnection after first digit.
 - 4 Establishment of monitoring path to the co-operating exchange after reception of dial tone from the co-operating exchange. The A-party hears dial tone from the co-operating exchange. Disconnection after first digit.
 - 5 Dial tone is sent from the own exchange to the A-party at reception of PTS from the co-operating exchange. Disconnection after first digit
- These characteristics are assigned to the outgoing route to inform the own PBX if monitoring path *) to the co-operating exchange is to be established or if dial tone is to be generated in own exchange and sent to the A-party **).

*) Monitoring path is established as one-way through connection so that A-party can hear the dial tone from the co-operating exchange

**) A-party can be an incoming route, an extension or a PBX operator.

Clearing and answer signal characteristics

- D₂ = 0 Clearing signal from the line is not received for incoming calls.
- 1 Clearing signal from the line is received for incoming calls.
- D₃ = 0 Clearing signal from the line is not received for outgoing calls.
- 1 Clearing signal from the line is received for outgoing calls.
- D₄ = 0 Answer signal (B-answer) from the line is not received for outgoing traffic.
Note: This value is not allowed for CCS (e.g. ISDN), except for the special case (free-of-charge calls). For details see parameter ADC D₁₈.
- 1 Answer signal (B-answer) from the line is received for outgoing traffic.
- D₅ = 1 Reserved

PBX operator supervision of extended calls

- D₆ = 0 Extending of a call is not allowed when none of the parties can send clearing signal.

- 1 Extending of a call is allowed and PBX operator supervision takes place, when none of the parties can send clearing signal.

To allow extending of a call when none of the parties can send clearing signal, it is required that a PBX operator is supervising the call.

This means that the PBX operator will get periodic recalls to verify that the call is still going on.

The recalls will not stop until PBX operator clears the call.

If any of the parties can send a clearing signal D_6 is of no consequence.

Ringing tone transmission characteristics for outgoing call.

$D_7 = 0$ A-party receives ringing tone from co-operating exchange.

- 1 Use only when co-operating exchange cannot send ringing tone. Ringing tone is generated in the own exchange and sent to the A-party.

Switch-through-connection

By end-of-selection means that addressing of B-party is finished and any continued number-dialling will be ignored.

$D_8 = 0$ Switch-through-connection takes place after the minimum number of digits that forms a complete external number has been sent.

End-of-selection take place on:

- Reception of an end-of-selection signal from the co-operating exchange.
- time-controlled generation of end-of-selection
- on analysis, i.e. maximum number of digits in an external number has been sent.
- reception of the B-party's answer signal

- 1 Switch-through-connection and end-of-selection takes place depending on the signalling system either:

- directly after seizure of an outgoing line
- after reception of a seizure acknowledgment signal
- after reception of a PTS signal

This is desirable where the exchange is to function as transit exchange. this functionality requires that both incoming and outgoing lines have this value. i.e. $D_8=1$.

- 2 Switch-through-connection and end-of-selection takes place on:

- reception of an end-of-selection signal from the co-operating exchange
- on analysis, i.e. maximum number of digits in an external number has been sent.
- reception of the B-party's answer signal

Alternative routing characteristics for a transit exchange.

Depending on the network configuration and the signalling system user, rerouting in the network is to be done in different ways.

$D_9 = 0$ Alternative routing is controlled by the first transit exchange in the connection path, which has alternative routes to the destination

- 1 Alternative routing is controlled by the originating exchange even if this exchange does not have any alternative routes to the destination

Digit transmission characteristics for the transit exchange

The digit transmission characteristics is a supplementary characteristic, which is applicable only if the trough-connection characteristics of A-party and B-party together state that switch-through-connection and end-of-selection are to take place directly after line seizure.

$D_{10} = 0$ Switch-through-connection and end-of-selection takes place depending on the signalling system, either:

- directly after seizure of an outgoing line
- after reception of a seizure acknowledgement signal
- after reception of a PTS signal

1 Switch-through-connection and end-of-selection takes place when predigits (control signals) according to the route choice table have been sent and an acknowledgement signal (PTS) has been received.

Type of Signal Diagram

$D_{11} = 0$ Decadic/DTMF

1 DPNSS (Digital Private Network Signalling System)

Note: D8 must be set to zero (0)

2 DASS (Digital Access Signalling System)

3 ISDN (Integrated Services Digital Network)

Note: D8 must be set to zero (0)

4 -

5 MFC

6 Decadic

(Including sending of A-number and toll exchange category (AON), or transfer of B-controlled release signal SL lines inn transit exchange).

7 MFPI/MFPII

(Including sending of A-number and toll exchange category (AON), or transfer of B-controlled release signal SL lines inn transit exchange).

8 CCSS7 - TUP

(Common Channel Signalling System No. 7 - Telephony User Part)

9 H.323 (IP networking)

Note: D8 must be set to zero (0)

A SIP (SIP trunk)

Note: D8 must be set to zero (0)

Net Service Facilities

$D_{12} = 0$ No net service facilities

1 The route has category for net service facilities

(Only relevant with DPNSS, ISDN and H.323)

The following through-connection states are obtained with SIG D_8

		B-party		
		Route; SIG $D_8 = 0$ extension, PBX operator	Route; SIG $D_8 = 1$	Route; SIG $D_8 = 2$
A-party	Route; SIG $D_8 = 0$ extension, PBX operator	as in a)	as in c)	as in c)
	Route; SIG $D_8 = 1$	as in c)	as in b)	as in c)
	Route; SIG $D_8 = 2$	as in c)	as in c)	as in c)

- a) Switch through-connection take place after the minimum number of digits that form a complete external number have been sent.

End-of-selection take place on:

- reception of an end-of-selection signal from the co-operating exchange
 - time-controlled generation of end-of-selection
 - analysis, that is, maximum number of digits in an external number has been sent
 - reception of the B-party's answer signal.
- b) Switch-through-connection and end-of-selection take place directly after line seizure.
- c) Switch-through-connection and end-of-selection take place on:
- reception of an end-of-selection signal from the co-operating exchange
 - analysis, that is, maximum number of digits in an external number has been sent. For numbers with maximum number length = 99, switch-through-connection will take place at the stated minimum length, whereas end-of-selection will not take place until 30 seconds after the last digit was sent.
 - reception of the B-party's answer signal.

216.2

FUNCTION

The parameter is used to state the signalling characteristics between a route in the exchange and a public exchange or interworking exchange. The following signalling characteristics can be stated for a route:

- When the monitoring path is to be connected to the A-party as the A-party is dialling to the public exchange or interworking exchange.
- Whether dial tone is to be sent from the own exchange to the A-party and in such case when it is to be disconnected.
- Whether clearing and answer signals are used, and in such case on which occasions.

Note: ISDN and H.323 always have answer and clearing signals.

- Whether an extended call requires PBX operator supervision. Utilized when neither of the parties can send clearing signal. PBX operator supervision means that the PBX operator will get periodic recalls. The PBX operator checks if the call is in progress and extends the call again. If the call is finished the PBX operator releases the parties.
- Whether ringing tone is obtained from the co-operating exchange or needs to be generated in own exchange. If ringing tone is obtained from the co-operating exchange, the exchange will at the latest be switch-through-connected on end-of-selection and speech state is established. There are exchanges however that do not send ringing tone but B-party answer signal. When this type of exchange is called it shall be possible to send ringing tone to A-party on end-of-selection.
- When switch-through-connection is to take place, that is, when speech path is to be established between the A-party and the external line.
- Which connection principle that is to be used, that is, whether a transit exchange is permitted to control switching (initiate alternative routing, see D₅ in the parameter SERV) to the external destination or whether this is to be controlled by the originating PBX.

- Whether the B-exchange number shall be translated to control signals. These are then sent before through-connection takes place.
- Note:** Testing against this category takes place only if the through-connection characteristics state through-connection directly after line seizure (see above).
- Which type of signal diagram to be used for the register signaling.
 - Whether, net service facilities can be used towards interworking exchange.
- Note:** For more information on how the SIG parameter is used please refer to the operational directions for *ADMINISTRATION OF ROUTES*.

216.3

EXAMPLE

Dial tone characteristics after external ...	Dial tone is sent from own exchange to A-party...
Clearing and answer signal characteristics	Clearing...not received for incoming calls
	Clearing...not received for outgoing calls
	Answer...received for outgoing traffic (B-answer)
PBX operator supervision of extended ...	Extending of a call is allowed...
Ringing tone transmission characteristics for outgoing traffic	Co-operating exchange cannot send ringing tone
Switch-through-connection	Switch...takes place after the minimum number...
Alternative routing characteristics for a transit exchange	Alternative...controlled by the first transit exchange...
Digit transmission characteristics for a transit exchange	Switch...takes place directly after seizure of an outgoing line
Type of signal diagram	ISDN
Net service facilities	No net service facilities
SIG = 500111100030	

217

SIGROU

Signaling Route Number

217.1

FORMAT

SIGROU = $D_1D_2D_3$

$D_1D_2D_3 = 1-128$

Signaling route number.

217.2

FUNCTION

The parameter states a signaling route number.

217.3

EXAMPLE

The signaling route number is 2.

SIGROU = 2

218

SLC

Signaling Link Code

218.1

FORMAT

$SLC = D_1D_2$ $D_1D_2 = 0-15$ Signaling link code.

218.2

FUNCTION

The parameter states the code of a signaling link connecting two points in a CCS7 network. The SLC is sent in MFUs to indicate the signaling link, connecting the destination and origination points, to which the message is related.

218.3

EXAMPLE

The signaling link code is 5.

SLC = 5

219

SNIG

219.1

SNIG - PBX OPERATOR TRAFFIC

Absent operator diversion number for DID calls

219.1.1

FORMAT

$SNIG = D_1D_2...D_{20}$ $D_1D_2...D_{20} = 0 - 99999\ 99999\ 99999\ 99999$ Operator diversion number

219.1.2

FUNCTION

The parameter states the number to which calls to PBX operators are diverted when the call is going through a DID trunk and with operator common DID number when no operators are present in the exchange.

219.1.3

EXAMPLE

The absent service position for the DID calls is the directory number is 4246.

SNIG = 4246

219.2 SNIG - ROUTE DATA

Night Number

219.2.1 FORMAT

SNIG =D₁D₂...D₂₀

D₁...D₂₀ = 0 - 99999 99999 99999 99999
Directory number for night service position.

219.2.2 FUNCTION

The parameter states a directory number to which incoming calls on a route with incomplete number or no number shall be terminated. The exchange shall be in night switched mode.

219.2.3 EXAMPLE

The night service position for a particular route shall be a directory number 5196.

SDAY = 5196

220

SORT

Sorting method

220.1

FORMAT

SORT = D ₁		
D ₁ =	0	Numerical order.
	1	Initiated order.

220.2

FUNCTION

The parameter states the sort order.

220.3

EXAMPLE

The PBX operators numbers are to be printed in order of initiation.

SORT = 1

221
SRT

Start Position for Digit Transmission

221.1
FORMAT

<div> SRT =D₁D₂ </div> <div> D₁D₂ = 1-20 <div>Start position</div> </div>

221.2
FUNCTION

The parameter states the start position in the external number that are to be sent to an interworking exchange or public exchange, that is, on which digit to start sending. If the parameter is omitted the entire external number will be transmitted.

221.3
EXAMPLE

The first digit in the selected external number 007131234 that shall be transmitted to an interworking exchange or public exchange is the third digit, in this case 7.

SRT = 3

222

SSAR

Speech search area

222.1

FORMAT

SSAR = D_1D_2

D_1D_2 = 0-15 Search area.

222.2

FUNCTION

This parameter specifies a search area (see also parameter SAR) for speech paging, that is, paging in which it shall be possible to set up speech communications via a radio to a paging receiver.

A search area for speech can be linked to an extension which has a receiver equipped with a speech facility. Speech via a radio can be one-way or two-way. Each search area which is used for speech paging shall be linked to external paging equipment which is provided with a speech facility.

222.3

EXAMPLE

It shall be possible to page an extension which has a paging receiver with a speech facility via a radio and set up speech communications with the receiver. The search area for speech has number 0.

SSAR = 0

223 STRING

223.1 STRING - AUTOMATIC NETWORK CALL DISTRIBUTION

Information string

223.1.1 FORMAT

STRING ="D₁D₂ ...D₂₀"

D₁D₂ ...D₂₀= Up to 20 ASCII characters.

223.1.2 FUNCTION

The parameter states the contents of text strings, which are the name of the satellite groups, to be presented on the computer screen. To remove the string, type STRING="".

223.1.3 EXAMPLE

Set the contents of the information string to domestic.

STRING = "DOMESTIC"

223.2

STRING - PBX OPERATOR TRAFFIC

Text string

223.2.1

FORMAT

```
STRING ="D1D2D3"
```

D₁= A - Z

D₂D₃= Any two alphanumerical combinations.

For simplified diversion messages:

```
STRING ="D1D2D3D4D5D6D7"
```

D₁D₂D₃D₄D₅D₆D₇= Combination of maximum 7 characters.

223.2.2

FUNCTION

The parameter states a text string parameter and is used to change the default name for a route or the contents of a simplified diversion message which is displayed on the PBX operator console. Quotation marks must be used. This text string is only applicable to the alphanumeric, OPI 3203/3213 and OPI 3214 console.

223.2.3

EXAMPLE 1

For route number 3, display TIE on the console.

STRING = "TIE", ROU = 3;

223.2.4

EXAMPLE 2

For simplified diversion message 1, display OUT-VAC on the console.

STRING = "OUT-VAC", SDM = 1;

224

SVAL

Supervision Value

224.1

FORMAT

$SVAL = D_1D_2D_3D_4$

$D_1D_2D_3D_4 = 1-1000$
per thousandth

224.2

FUNCTION

The parameter states the congestion monitoring value per thousandth. The ratio between number of calls and number of congestions is monitored relative to this value. For example, if the number of calls is 100 and of these 10 result in congestion, 100 o/oo of the calls will be blocked. If the congestion monitoring value is set at 100 o/oo, an alarm is issued to the alarm log.

1000 o/oo is set as initial value. A recommended congestion monitoring value is difficult to define because of the different types of congestion monitoring objects (different types of routes) and the criteria of different markets as regards congestion monitoring.

224.3

EXAMPLE

The congestion SVL is set at 100 o/oo.

SVAL = 100

225

TAB

Table name

225.1

FORMAT

TAB = D ₁ D ₂ D ₃ D ₄	
D ₁ D ₂ D ₃ D ₄ = ENT	External Number Table
NLT	Number Length Table
DNT1	Exceptions Table
DNT2	Number Table
FDT	Fictitious Destination Table
PNR	Private Network Routing Destination Table
RCT	Facious Route Choice Table

225.2

FUNCTION

The parameter states what type of analysis table that is referred to.
The tables PNR and RCT are only used for Private Network Routing.

225.3

EXAMPLE

The type of table is Number Table.
TAB = DNT2

226

TARIFF

Charging Tariff Model

226.1

FORMAT

TARIFF = D ₁ D ₁ = 1-7 Charging tariff model.

226.2

FUNCTION

The parameter states a list of telephony charging rates.

226.3

EXAMPLE

The TARIFF will be 5.

TARIFF=5

227

TBL

Total blocking time before new paging

227.1

FORMAT

$TBL = D_1$

$D_1 = 0-9$

Blocking time in seconds.

227.2

FUNCTION

The parameter indicates the time a paging channel is to be kept in blocking state after clearing and before it is idle-marked.

227.3

EXAMPLE 1

The paging channel is not to be blocked after clearing. Instead it is to be idle-marked directly to enable it to receive a new call.

TBL = 0

227.4

EXAMPLE 2

The paging channel is used for voice paging. The channel should be kept in blocking state for a period of 7 seconds after clearing in order to permit sending of calls over other channels to the same paging equipment before new voice paging operations can be initiated.

TBL = 7

228
TEFMT

External Terminal Number Format

228.1
FORMAT

TEFMT = D₁D₂

D₁D₂ = 2 - 20

Number of digits in the external number.

228.2
FUNCTION

The parameter states the number of digits in the external format for a terminal number in the interface between the Private Automatic Branch Exchange (PABX) and the interception computer.

The external format is determined by the format defined for the interception computer. The relationship to parameter TIFMT is illustrated by the following expression:

(TEFMT ≥ TIFMT)

228.3
EXAMPLE 1

State 2 digits as external terminal format.

TEFMT = 2

228.4
EXAMPLE 2

State 8 digits as external terminal format.

TEFMT=8

229

TERAC

Terminating Area Code for Route

229.1

FORMAT

TERAC = D₁D₂D₃D₄D₅D₆

D₁D₂D₃D₄D₅D₆ = 0-999 999

Terminating area code number

229.2

FUNCTION

The parameter states the area code (trunk code) for the exchange where the route terminates. It is used for deleting own area code number at outgoing traffic. No default value is set if the parameter is omitted.

229.3

EXAMPLE

The route terminates in an exchange in area code 714.

TERAC = 714

230

TERM

Terminal Number

230.1

FORMAT

<div> <div> TERM = D₁D₂...D₂₀ </div> <div> D₁D₂...D₂₀ = 00 - 99999 99999 99999 99999 </div> <div> Terminal Number </div> </div>

230.2

FUNCTION

The parameter states the terminal number identity in respect of an answering position for an interception diversion or a message printout position.

The number of digits in TERM is determined by parameter TIFMT.

230.3

EXAMPLE 1

The terminal number must be 06.

TERM = 06

230.4

EXAMPLE 2

The terminal number must be 0600000.

TERM=0600000

231

THO

Total holding time for paging channel

231.1

FORMAT

THO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆		
D ₁ D ₂ D ₃ =	005-300	Maximum holding time in seconds for meet me and display paging.
D ₄ D ₅ D ₆ =	005-300	Maximum holding time in seconds for voice paging.

231.2

FUNCTION

The parameter indicates the maximum permissible holding time for the paging channel on calls to paging equipment. The parameter contains two values: the first for meet me and display paging, the second for voice paging by radio. If the time is exceeded, the channel will be disconnected by so-called forced release. If the search area uses repetitive call sending to the paging equipment, the holding time should be shorter than the repetition interval.

231.3

EXAMPLE

The holding time for the paging channel is to be maximum 20 seconds for meet me and display paging, and maximum 100 seconds for voice paging.

THO = 020100

232

TIFMT

Internal Terminal Number Format

232.1

FORMAT

TIFMT = D₁D₂

D₁D₂ = 2 - 20

Number of digits in the internal terminal number

232.2

FUNCTION

The parameter states the internal terminal number format in the PABX, that is, the quantity of digits in the terminal number that are used in the extension procedure for ordering the interception computer facility.

The format is determined by the quantity of digits required to define all terminals in the PABX. TIFMT ensures the independence of the external format (see TEFMT) determined by the interception computer. Consequently, it is not necessary to state all digits of the terminal number in the external format when using the procedures and key.

The terminal number indicated according to the internal format can then be converted (in the PABX) to the external format by right justification and zero filling to the left.

The relationship to parameter TEFMT is illustrated by the following expression:

$(TIFMT \leq TEFMT)$

232.3

EXAMPLE

State 2 digits as internal terminal format.

TIFMT = 2

233

TIM1, TIM2, TIM3

Start time for first, second and third time interval

233.1

FORMAT

TIM1/TIM2/TIM3 = D₁D₂-D₃D₄

D₁D₂= 00-23 Hour for start time

D₃D₄= 00-59 Minute for start time

233.2

FUNCTION

The parameter defines the start time for the first time interval.

233.3

EXAMPLE

The start time is 8 am.

TIM1 = 08-00

234 TIME

Queue time threshold

234.1 FORMAT

<p>TIME = D₁D₂D₃</p> <p>D₁D₂D₃= 10-240</p> <p>Maximum time in queue, 5-120 seconds. Every step is a half second.</p>
--

234.2 FUNCTION

The parameter states the maximum time a call to a call origin group is allowed to queue when all the operators serving the call origin group are busy. If this time out is reached, the call will be rerouted to the position specified in the OFLNUM parameter.

234.3 EXAMPLE

The maximum queuing time should be 40 seconds.

TIME = 80

235

TIMEE

Time End

235.1

FORMAT

TIMEE = D ₁ D ₂ -D ₃ D ₄
D ₁ D ₂ = 00-24 Hour
D ₃ D ₄ = 00, 15, 30,45
Even quarter of an hour.

235.2

FUNCTION

The parameter states the stop time of a traffic measurement within a 24-hour period.

235.3

EXAMPLE

The stop time must be stated as 16:45 (4:45 p.m.) hours.

TIMEE = 16-45

236

TIMEI

Time Initiate

236.1

FORMAT

TIMEI = D ₁ D ₂ -D ₃ D ₄
D ₁ D ₂ = 00-24 Hour
D ₃ D ₄ = 00, 15, 30,45
Even quarter of an hour.

236.2

FUNCTION

The parameter states the start time of a traffic measurement in a 24-hour period.

236.3

EXAMPLE

The start time must be stated as 6.00 (6:00 a.m.) hours.

TIMEI = 06-00

237

TIMER

Timer Information

237.1

FORMAT

TIMER = D₁

D ₁ =	0	Manual (default).
	1	Automatic.

237.2

FUNCTION

The parameter states the type of timer information that is used for system telephones. The timer shows the elapsed time from the last call until a new call has been answered. There are two ways to activate the timer:

- Manual (default mode).
The timer is activated by pressing the soft-key **Timer**.
- Automatic.
The timer automatically starts on entering into speech state without any user interaction.

237.3

EXAMPLE

The type of timer is Automatic.

TIMER = 1

238

TLG

Trunk line group number

238.1

FORMAT

$TLG = D_1$ $D_1 = 0-7$ Trunk line group number.
--

238.2

FUNCTION

The parameter states the serial number of a given trunk line group.

238.3

EXAMPLE

The serial number of the current trunk line group is 2.

TLG = 2

239

TLS

Transport Layer Security. Options for encryption.

239.1

FORMAT

TLS = D₁

- | | | |
|------------------|---|---------------------------------------|
| D ₁ = | 0 | TCP (normal). |
| | 1 | TLS supported (with fallback to TCP). |
| | 2 | TLS required. |

239.2

FUNCTION

The parameter states the type of session/connection (TCP, TLS or both) supported for a call of an IP route (H.323).

239.3

EXAMPLE

The IP route allows TCP, TLS and both for the calls. (TLS encryption is not required, but supported).

TLS = 1

240

TNS

Transit Network Selection

240.1

FORMAT

TNS = D₁D₂D₃D₄

D₁D₂D₃D₄ = 000 - 9999

Network Equal Access Code

240.2

FUNCTION

The parameter states the equal access code for the transit network.

240.3

EXAMPLE

The transit network selected has equal an access code 288.

TNS = 288

241

TOLL

Toll restriction indicator

241.1

FORMAT

TOLL = D ₁ D ₂ ...D ₁₅		
D ₁ =	0	Call denied for user with TCD category 14
	1	Call allowed for user with TCD category 14
D ₂ =	0	Call denied for user with TCD category 13
	1	Call allowed for user with TCD category 13
	.	.
	.	.
D ₁₅ =	0	Call denied for user with TCD category 0
	1	Call allowed for user with TCD category 0

241.2

FUNCTION

The parameter states which Trunk Call Discrimination category values between 0 and 14 for the users that will deny or allow the completion of the call. TCD category 15 is by default allowed to complete the call.

241.3

EXAMPLE

Let users with TCD category 0,2,3,4, and 8 be allowed to complete the call.

TOLL = 000000100011101

242

TRA

Complete translated number

242.1

FORMAT

$$TRA = D_1D_2 \dots D_{26}$$

$$D_1D_2 \dots D_{26} =$$

1 to 26 characters, each with the value range 0-9, A - E.

The maximum number of digits can be 20 digits including A and B.

The maximum number of PTS-positions are 6.

242.2

FUNCTION

The parameter states the complete, translated number for an abbreviated number. A represents * and B represents #. In the case when a PTS signal is to be detected, its place in the complete number shall be stated with C, D, or E.

- C** Normal PTS. If time-out occurs the sending of digits is continued with the same type of register signalling as before time-out
- D** PTS followed by DTMF sending of digits. If time-out occurs the sending of digits is continued with DTMF register signalling.
- E** PTS followed by DTMF sending of digits. If time-out occurs no more digits will be sent and the trunk line is disconnected.

242.3

EXAMPLE 1

A common abbreviated number's complete, translated number shall consist of the route access code for external traffic 00 and the digits 0047 followed by a normal PTS signal and the digits 70814501.

TRA = 000047C70814501

242.4

EXAMPLE 2

A common abbreviated number's complete translated number shall consist of the following:

- Route access code 00.
- Destination code 05.
- Normal PTS is expected.
- Digits 11.
- A PTS followed by DTMF sending of digits is expected, if time-out the trunk line shall be disconnected.
- The above PTS shall be followed by the digits 13.
- A PTS followed by DTMF sending of digits is after that expected, if time-out DTMF sending of digits shall be performed.
- The above PTS shall be followed by the digits 11675.

TRA = 0005C11E13D11675

243

TRAF

243.1
TRAF - PBX OPERATOR TRAFFIC

Traffic category

243.1.1
FORMAT

TRAF = D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ =	Traffic category	
00	Open for specific numbers according to TCD data in the number analysis.	
.		
.		
14	Fully open	
15		
D ₃ D ₄ =	Traffic switching class	
00	States which traffic group the PBX operator belongs to, that is, to which A and B parties the PBX operator may be connected.	
.		
.		
.		
14	Fully open (May be connected to all A and B parties)	
15		

243.1.2
FUNCTION

The parameter states the PBX operator’s category. The category states which numbers the PBX operator is open for and which traffic group the PBX operator belongs to. The traffic group states which A and B parties the PBX operator may be connected to.

243.1.3
EXAMPLE

The PBX operator is fully open for external and internal traffic and belongs to traffic group 12.

TRAF = 1512

243.2 TRAF - ROUTE DATA

Traffic Category

243.2.1 FORMAT

TRAF = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ =	Abbreviated number traffic cases	
	00	Abbreviated number traffic class for common abbreviated number.
	01	States the category of common abbreviated numbers that the extension is permitted to use.
	02	
	03	
D ₃ D ₄ =	TCD category NIGHT for incoming external lines	
	00	Open for specific numbers according to TCD-data in the number analysis.
	.	
	.	
	14	
	15	Fully open.
D ₅ D ₆ =	TCD category DAY for incoming external lines	
	00	Open for specific numbers according to TCD-data in the number analysis.
	.	
	.	
	14	
	15	Fully open.
D ₇ D ₈ =	Traffic connection class	
	00	States the traffic group the lines in the route belong to, i.e. with which A- or B-parties the line may be interconnected.
	.	
	.	
	14	Fully open.
	15	

243.2.2 FUNCTION

The parameter states the traffic categories for a route. This embraces:

If the route comprises tie lines the TCD categories state which external numbers may be used for outgoing traffic from the tie lines.

If the route comprises incoming direct in-dialling lines the TCD categories state which internal numbers the line may be connected to.

A traffic connection class that states which A-parties and B-parties may be interconnected with the lines in the route.

If utilization of a common abbreviated number for selection of an outgoing route from an incoming route is to be permitted, then the route will be given a category that allows use of the abbreviated number class in which the external numbers are included.

243.2.3 EXAMPLE

Abbreviated dialling traffic class	01
TCD categories, NIGHT. For incoming external lines	06
TCD categories, DAY. For incoming external lines	12
Traffic connection class	03

TRAF = 01061203

244
TRC

244.1
LEAST COST ROUTING

Number of leading digits to delete

244.1.1
FORMAT

The format for parameter TRC depends on the value of the parameter TAB.

Table 35 TAB = DNT1, DNT2, ENT, NLT

TRC = D ₁ D ₂	
D ₁ D ₂ =	0 -16 Number of digits to delete at the beginning of the dialled number. (16 is the maximum value allowed for TRC. It must, however, not be greater than the number of digits given in the corresponding ENTRY parameter.)

Table 36 TAB = PNR

TRC = D ₁ D ₂	
D ₁ D ₂ =	0-10 Number of digits to delete at the beginning of the dialled number.

244.1.2
FUNCTION

The parameter states the number of digits to delete at the beginning of the dialled number.

Note: The value range in Private Network Routing is 0-10.

244.1.3
EXAMPLE

Delete the first three digits at the beginning of the number.

TRC = 3

244.2 ROUTE DATA

Truncated Digits in Dialed Number

244.2.1 FORMAT

TRC = D ₁ D ₂
D ₁ D ₂ = 0-20
Number of digits to be truncated

244.2.2 FUNCTION

The parameter states the number of digits in the dialled number that is to be truncated. If parameter TRC is omitted then no removal of digits will take place.

244.2.3 EXAMPLE

The first digit (9) is to be removed in the dialled number 91234.

TRC = 1

245

TRC1

Number of leading digits to delete for PNR

245.1

FORMAT

TRC1 = D ₁ D ₂
D ₁ D ₂ = 0 -10
Number of digits to delete at the beginning of the dialled number. (10 is the maximum value allowed for TRC1. It must, however, not be greater than the number of digits given in the corresponding ENTRY parameter.)

245.2

FUNCTION

The parameter states the number of digits to delete at the beginning of the dialled Private Network Routing access code.

This parameter is only used in the PNR table for Private Network Routing.

245.3

EXAMPLE

Delete the first three digits at the beginning of the number.

TRC1 = 3

246

TRM

246.1

EXTENSIONS

Transmission Category

246.1.1

FORMAT

TRM = D₁
D₁= 0-3
Row or column indication in the transmission matrix.

246.1.2

FUNCTION

The parameter states the transmission characteristic in the Line Interface Module (LIM) switch, that is, amplification or attenuation. This is achieved with the aid of a transmission matrix. For a voice signal from the party it states the row in the matrix and for a voice signal to the party it states the column.

From the identified element in the matrix an indication concerning amplification or attenuation between the A-party and the B-party is obtained. The values of the matrix elements are market dependent.

For more information consult description of relevant application system.

If the parameter is omitted, a preferred value per market is used.

Note: Valid for cordless extension

The recommended value of parameter TRM is 0.

Note: Valid for PBX Operator traffic:

If the TRM parameter is omitted it is assumed that the value is 0.

246.1.3

EXAMPLE

The extension shall use the transmission characteristics stated in row and column 1.

TRM = 1

246.2

ROUTE DATA

Transmission Category

246.2.1

FORMAT

TRM = D₁
D₁ = 4*)-23
Row or column indication on the transmission matrix.

246.2.2

FUNCTION

The parameter states transmission characteristics in the switch, namely amplification or attenuation. This is achieved with the aid of a transmission matrix. For speech signals from the external line parameter TRM states the row in the transmission matrix and for speech signals to the external line it states the column.

From the identified element in the matrix an indication about amplification or attenuation between the A-party and the B-party is obtained. The values in the matrix elements are market dependent.

For more information, consult the Market Characteristics documentation of the relevant application system.

^{*)} It is allowed to use TRM = 3 on some markets. The values 0-3 are normally used for extensions though.

246.2.3

EXAMPLE

The external line shall use the transmission characteristics stated in the row and in the column 6.

TRM = 6

247

TRU

Trunk number

247.1

FORMAT

TRU = D ₁ D ₂ D ₃ -D ₄ D ₅ D ₆ D ₇		
D ₁ D ₂ D ₃ = 1-124	LIM number	
D ₄ D ₅ D ₆ D ₇ = 1-1920	Sequence number.	

247.2

FUNCTION

The parameter states the line number for an external line, that is, in which LIM the external line is placed and the sequence number of the line in the route in the stated LIM. The sequence number states the search order in the LIM on selection of a free external line.

247.3

EXAMPLE

An external line is placed in LIM 1 and has sequence number 3 among the route lines in LIM 1.

TRU = 1-3

248 TYPE

248.1 TYPE - ANALOG EXTENSION

Type of Signaling Diagram

248.1.1 FORMAT

TYPE = D ₁ D ₂ D ₃		
D ₁ D ₂ D ₃ =	EL6	Line circuit for analog extension.
	EL7	Line circuit for CAS (channel associated signalling) extensions.

248.1.2 FUNCTION

The parameter states the EL that administers the stated hardware position.

248.1.3 EXAMPLE

The extension is to be connected to an extension board administered by EL6.

TYPE = EL6

248.2 TYPE - GENERAL

Type of signalling diagram

248.2.1 FORMAT

TYPE =D ₁ D ₂ D ₃ D ₄		
D ₁ D ₂ D ₃ D ₄ =	AA1-ZZ99	Specifies the type of function block, for the given equipment position

248.2.2 FUNCTION

The parameter specifies what function block that will be used, for a given equipment position, see table.

248.2.3 EXAMPLE

The analog extension line, handled by the function block EL6 using equipment positions equipped with ELU34.

TYPE = EL6

248.2.4

TABLE FOR VALUES OF TYPE

248.2.4.1

Virtual boards

The first table specifies parameter values (= function blocks) that handle the applicable virtual boards.

Table 37

Value	Virtual Board	Function
AD, multiparty		
AD	MPU	Multiparty
EL, extension lines		
EL6	ELU29	Extension lines, analog
TL, signalling, external lines		
SL60	ISDN-E1	Digital, ISDN 30B+D
SL63	ISDN-T1	Digital, ISDN 23B+D

248.2.4.2

Physical boards

The second table specifies the parameter values (= function blocks) that handle the applicable device boards in MX-ONE Classic.

Table 38

Value	Device Board	Function
AD, tone and multiparty (auxiliary device)		
AD	TMU/3, TMU/12, TMU/13	Tone and multiparty
AD	SPU4	DTMF tone handling
AL, alarm		
ALDP	ALU2/11	External alarms
CTL, cordless telephone line		
CTL	ELU31/3, ELU31/4	DECT
EL, ITL, KL, i.e. analog, CAS, ISDN and DTS extension line		
EL6	ELU34	Extension lines, analog
EL7	TLU20, TLU45, TLU76/13, TLU77/3	Extension lines, CAS
ITL	ELU26/12	ISDN, Standard ETSI
KL1	ELU33	Extension lines, digital, 2B+D
MF, multi frequency signalling		
MF3	MFU, MGU2/MGU2-X	MFC/MFE signalling (MFE only with MFU)
OL, PBX operator line		
OL	ELU33	PBX operator lines, digital
PG, paging		
PG1	TLU80/11	Paging, ESPA, E&M
PG3	TLU75, TLU82, TLU83	Paging, loop
RA, recorded voice announcement		
RTP, real time protocol		

Value	Device Board	Function
RTPCON	MGU, MGU2/MGU2-X	
TL, signalling, external lines		
SL60	TLU76/1 TLU79	Digital, ISDN 30B+D, 2B+D
SL63	TLU77/1	Digital, ISDN 23B+D
TL1	TLU82, TLU83	Analog PSTN, ground or loop start
TL4	TLU75	Analog exchange line PSTN, Sweden
TL11	TLU75, TLU83	Analog exchange line, PSTN
TL12	TLU81	Analog DID, PSTN
TL19	TLU80/11	Analog tie line, discontinuous, E&M signalling
TL22	TLU80/11	Analog tie line, continuous E&M signalling, DID
TL25	TLU75 TLU83	Analog exchange line, LB signalling or Analog exchange line, PSTN
TL26	TLU75 TLU83	Analog exchange line, including DID
TL30	TLU20 TLU76/3 TLU76/13	Digital PSTN. CAS, MFC trunk
TL35	TLU35 TLU75 TLU83	Analog tie line, balanced battery Analog exchange line, PSTN
TL37	TLU20 TLU76/3 TLU76/13	Digital tie line, CAS
TL38	TLU20 TLU76/3 TLU76/13	Digital, PSTN, CAS
TL45	TLU45 TLU77/3	Digital tie line, PSTN, DID
TL49	TLU80	Analog line signalling, 2600 Hz
TL50	TLU76/2 TLU76/12 TLU77/2 TLU77/12	Digital tie line, DPNSS, and Digital Access Signalling System (DASS) Digital Private Network Signalling System (T1)
TL51	TLU20 TLU76/3 TLU76/13	Digital line signalling
TL65	MGU, MGU2/MGU2-X	IP networking, H.323
TL66	MGU, MGU2/MGU2-X	IP networking, SIP
TL72	TLU35 TLU83	Analog exchange line, PSTN (DID)
TL81	TLU76/4 TLU76/14	SS7 trunk
TL95	TLU20 TLU76/3 TLU76/13	Digital exchange line, PSTN
TL99	TLU76 TLU76/11	Surveillance Observation and Monitoring trunk

248.3 TYPE - ISDN TRUNK PROTOCOL DATA

Block type

248.3.1 FORMAT

TYPE = D ₁ D ₂ D ₃ D ₄
--

D ₁ D ₂ D ₃ D ₄ = SL60 ISDN E1

248.3.2 FUNCTION

The parameter is used to state a specific type block that handles the ISDN signaling protocol. The only supported value is SL60.

248.3.3 EXAMPLE

The type of ISDN block is SL60, which handles ISDN E1 trunk signaling.

TYPE = SL60

248.4

TYPE - PBX OPERATOR TRAFFIC

Operator console type

248.4.1

FORMAT

TYPE = D ₁		
D ₁ =	0	Alphanumeric USA
	1	Symbolic
	2	Alphanumeric standard
	3	OPI 3203 and 3213
	4	Not used. (Operator workstation/OWS, obsolete)
	5	OPI-II
	6	OPI 3214
	7	Operator Assistant or Operator Workstation (IP operators)

248.4.2

FUNCTION

The parameter states the type of operator console.

248.4.3

EXAMPLE

The operator console type is Operator Assistant or IP-OWS.

TYPE = 7

249

TXC

Transmit Control

249.1

FORMAT

TXC = D ₁ D ₂ D ₃			
D ₁ D ₂ D ₃ =	YES	Transmit Control	
	NO	No Transmit Control	

249.2

FUNCTION

The parameter states whether the transmit control (XON/XOFF) is to be applied between the PBX and information system.

249.3

EXAMPLE

The signal interface between the information system and the PBX shall be subjected to transmit control.

TXC=YES

250

TZONE

Time Zone

250.1

FORMAT

TZONE = D ₁
D ₁ = 1-9
Fictitious Destination Table

250.2

FUNCTION

The parameter indicates which of the subtables in the fictitious destination table that is referred to.

250.3

EXAMPLE

Indicate subtable 2.

TZONE = 2

251 UNIT

Program unit name

251.1 FORMAT

UNIT = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈ D ₉ D ₁₀ D ₁₁ D ₁₂ D ₁₃ D ₁₄ D ₁₅ D ₁₆ D ₁₇ D ₁₈ D ₁₉ D ₂₀	
D ₁ ... D ₂₀ =	Name of the program unit. See table.

251.2 FUNCTION

The parameter states the name of a program unit.

Note: The unit name was earlier limited to 6 and later 12 characters, and thus many old programs have names of maximum 6 or 12 characters.

251.3 EXAMPLE

Program unit OHH is to be processed.

UNIT = OHH

251.4 TABLE

The table is divided in two parts, one for ACS (telephony functions) program units and one for SES (operating system related) program units.

251.4.1 ACS PROGRAM UNITS

Explanation of the comments given under REMARKS.

Important

Programs which must be provided in each LIM with the relevant hardware. These programs are also called regional.

Common

Programs which are to be located in a single server (LIM) or in two servers (LIMs) for duplicated function in the system. Example of functions: command handler programs, or indication of the LIM in which a particular resource (e.g. DECT, Paging, GICI interface, SOM trunk, SS7 trunk, Path Replacement) is located.

251.4.2

UNIT NAME	FUNCTION	REMARKS
ACHH	Handler for ACD. The program handles initiation, removal, alteration, and printout of ACD Groups and DNIS numbers. Command group is: - automatic call distribution (AC)	Common
ACP	Stores common abbreviated numbers	Important
ADEP	Supports SLP60 with decoding of supplementary services according to ECMA/ETSI Generic Functional protocol (ASN.1)	Important
ADP	Handles auxiliary devices, that is, tone senders/receivers, keycode senders/receivers, and multi party individuals. MPP, TRP, and TSP order individuals from ADP for connection of auxiliary devices during traffic execution. Only used in MGC LIMs.	Important
AHH	Command program for analysis and execution of commands for: - abbreviated dialling data (AD)	Common
AIP	Stores individual abbreviated numbers for extensions and PBX operators	Important
AIPN	Stores non-dialled connection (hot-line) numbers for extensions and the last number redial for extensions and PBX operators.	Important
ANHH	The program handles initiation, removal, alteration, and printout of Networked ACD Groups. The command group is: - networked automatic call distribution (NC)	Common
AOR	Regional unit for administration of account codes	Important
ASH	Command program for analysis and execution of commands for: - application system parameters (AS)	Common
AUR	Regional unit for administration of common authorization codes	Important
CAID	Program for call identity generation, used in the CSTA3 and Call Information Logging functions. Call identity is a 24 digit number that represents a call, and includes system identity, server (LIM) identity, time stamp, call reference/pointer, and a counter.	Important
CGP	Stores charging (metering) information for extensions, PBX operators, and trunk lines	Important
CHH	Command program for analysis and execution of commands for charging/metering data.	Common
CLP	Program for call information logging. The program handles data for call logging and charging, like phone numbers and call duration, but also IP Quality of Service data and "condition codes" indicating specific services, like Diversion, Transfer or DECT Mobility logging.	Important
CMP	Monitor program which handles, for example, the following functions: - Basic call - Transfer - Inquiry/refer back - Call waiting - Initiation of callback - Paging - Rerouting - Diversion - Individual repeated distribution	Important

UNIT NAME	FUNCTION	REMARKS
	<ul style="list-style-type: none"> - Deflect/single step transfer - PBX operator traffic - Initiation of recall - Extending - Operator becomes available - Serial call - Identification of second party - Interception service computer display handling - Call monitoring - Conference (start and end of a conference call) - Call to busy emergency extension - Intrusion and forced release - Route optimization - Customer identity features - Call information logging - Malicious call tracing - Analysis of individual free notification (in queuing and group cases) 	
ConfigServer	A server for configuration of Mitel/Aastra SIP terminals.	Important
CSTServer	<p>A server for CSTA phase 3 which implements the CSTA protocol, protocol conversions, and handles all CSTA events and service requests on system level, but also in each LIM(server). Stores data about all CSTA monitored devices.</p> <p>It also handles the IP ports (connections to the CSTA clients) and filtering of events. The program can be configured by command to be duplicated in several or all LIMs, if performance requires that.</p>	Important
CTLMP	Contains a list of all initiated ELU31 (CFP) boards in the system. It also contains data about cordless telephones used in the access rights procedure.	Common
CTLP	Line program for reception and sending of signals to/from cordless extensions. CTLP communicates with the ELU31 board (CFP) using the GDI interface.	Important
DAAP	Distribution program for the ACD agent feature	Important
DABP	Distribution program for the ACD backup group feature	Important
DACP	Distribution program for the networked ACD signaling	Important
DAGP	Distribution program for the ACD/CTI group feature	Important
DANP	Distribution program for the networked ACD feature (ANCD)	Important
DATP	Data base for the DNIS feature	Important
DBP	Stores group members and other information relating to common bell groups.	Important
DED	Data base that contains all the numbers initiated in the system, besides the LIM number in which they reside.	Important
DER	<p>Program that distributes calls and other traffic events to the extension for which they are intended. The functions of this program unit are:</p> <ul style="list-style-type: none"> - Stores directory number and categories for extensions - Interface to command programs for initiating, removal, change and printout of extension's data and call diversion numbers 	Important

UNIT NAME	FUNCTION	REMARKS
	<ul style="list-style-type: none"> - Interface towards the monitors and the extension line blocks - Administration of calls to and from extensions, call diversion, ACD traffic functions, do not disturb, message waiting, manual message waiting and authorization codes - Contains data for recorded announcements of a given type (voice welcome messages, messages for diverted call and for calls to Hunt group/Ring group or ACD group). - Implementation of the HLR for generic extensions. 	
DGP	Stores information about internal group hunting numbers (PBX) and their group members.	Important
DIR	Stores information about information systems, voice mail and interception computer positions, and distributes signals to and from various programs (to IL).	Important
DOD	Handles the common queue functions for PBX operators and administers PBX operator groups.	Important
DOR	Stores categories, directory numbers and individual queues for PBX operators. Contains voice welcome message and other voice messages for PBX operator.	Important
DPM	Handles queue functions for paging. Stores paging area data and channel data for paging operations.	Common
DPR	Stores directory numbers and categories for paging extensions.	Important
DTR	<p>Selects an external line for outgoing external calls. Stores status of the external line. Performs traffic measurement on external lines and routes. Handles call waiting missions on external lines and routes. The program has also routines for entering, removing, correcting and printing out:</p> <ul style="list-style-type: none"> - route category data - direct call numbers for route and external lines - direct call numbers for customer group - traffic measurement data 	Important
EAP1	<p>Performs continued number analysis (after NAP's analysis) with respect to number for external destination, external number length and positions for expected external dial tones (PTS). Selects an outgoing route according to the keyed external destination number in outgoing traffic. The program has also routines for entering, removing, correcting and printing out:</p> <ul style="list-style-type: none"> - external number length data - route selection data 	Important
EHH	<p>Command program for analysis and execution of commands for:</p> <ul style="list-style-type: none"> - extension data (EX, analog and CAS extension) - special purpose extension categories (SP) 	Common
ELDP	A database for application system data. It contains all market dependent parameters, tone messages and text strings, for extension lines.	Important
ELP6	Line program for reception and sending of signals from/to analog extension: (standard). Display handling via DTMF or FSK protocols is also supported, if the phone does.	Important

UNIT NAME	FUNCTION	REMARKS
ELP7	<p>Line program which provides a digital connection to external equipment and offers them, through PCM lines, the functionality of analog extensions. It supports 1.5 and 2 Mb/s digital transmissions. Each 2 Mb/s interface handles 30 extensions and each 1.5 Mb/s interface up to 24. Both, 2 Mb and 1.5 Mb, can be handled simultaneously. Also called CAS extension.</p> <ul style="list-style-type: none"> - administers call setup and disconnection. - provides call progress messages. - handles interwork with hardware, auxiliary device and other program units. - administers synchronization control. 	Important
FTP	Line program for interconnection of predefined analog extensions and trunk lines in case of power failure and processor fault ("failure transfer").	Important
GHH	<p>Command program for analysis and execution of commands for:</p> <ul style="list-style-type: none"> - common bell group (CB) - call pick-up group (GP) - common night service position (NS) - group do not disturb (GD) 	Common
GPP	Stores group members and other types of group information for call pick-up groups.	Important
IDP	Stores interception data for extensions when using the facility simplified interception services.	Important
IHAH	<p>Command program for analysis and execution of commands for:</p> <ul style="list-style-type: none"> - Interception service (IS) - Voice Mail systems (VM) 	Common
IHH	<p>Command program for analysis and execution of commands for:</p> <ul style="list-style-type: none"> - Information computer (IC) 	Common
ILCP	Line program which passes messages between ILNP and the I/O port.	Important
ILNP	Formats messages to and from the information systems through the I/O port.	Important
IMP	The program is used as a unified interface (and signal converter) for traffic API between monitor programs and generic extension line programs.	Important
IPLD	<p>Stores all the function key information of all keys that are associated to an H.323/IP terminal that has logged on.</p> <p>It makes up the URL of any terminal with IPLP, so that both are informed, and they are also informed of any change in the system or terminal.</p>	Important
IPLP	<p>Line program unit which receives and sends signals from/to IP terminals. Both the MGU and IPLP will provide H.323 protocol signaling packet-based multimedia communication systems. This program unit performs the following functions:</p> <ul style="list-style-type: none"> - H.225.0 (RAS and Q.931) call signaling - H.245.0 control signalling 	Important
ISUS	Interface program for the SUS (Support Subsystem), used for CSTA3, that is, for the interface between the CSTServer and the rest of ACS. All CSTA phase 3 events and call control service requests pass ISUS.	Important

UNIT NAME	FUNCTION	REMARKS
ITBP	<p>The program supports the interface between TCS and the function block ITLB which is the interface towards the ISDN function extension line, 2B+D Basic rate. The function block ITB supports the Bellcore protocol. The program unit deals with the following functions:</p> <ul style="list-style-type: none"> - call control by means of analyzing and transferring signals between ITLB and TCS. - transfer of transparent data between ISDN users. - connection of auxiliary devices for sending tone messages. - time supervision functions. 	Important
ITHH	<p>Command program for analysis and execution of commands for:</p> <ul style="list-style-type: none"> - ISDN terminals (IT). 	Common
ITLBP	<p>The program supports the interface between the function block ITB and the hardware unit ELU26/12. It deals with the Bellcore layer 3 protocol of ISDN Basic Access Interface (ISDN S₀). The program deals with the following:</p> <ul style="list-style-type: none"> - layer 3 protocol call control process. - conversion of ISDN messages (layer 3) into signals to the function block ITB. - conversion of signals received from ITB into ISDN messages. - packing ISDN messages. - unpacking ISDN messages and syntax analysis of ISDN messages. - ISDN message syntax error handling. - data link failure/reset (Abort). - status request handling. - three-party services (hold, retrieve, transfer), not initiated from IXN. - conference, not initiated from IXN. - Static Semi-Permanent Connection (SSPC). 	Important
ITLP	<p>Line program unit which performs the ETSI layer 3 protocol in the Network Side of the ISDN S₀ reference point for a Basic Access Interface (2B+D). This program unit performs the following functions:</p> <ul style="list-style-type: none"> - Layer 3 basic call control procedures. - Layer 3 supplementary services control procedures. - Interface with IT function block. - Interface with layer 2. 	Important
ITP	<p>The program supports the interface between TCS and the function block ITL which is the interface towards the ISDN extension line, 2B+D Basic rate. The program unit deals with the following functions:</p> <ul style="list-style-type: none"> - call control by means of analyzing and transferring signals between ITL and TCS. - transfer of transparent data between ISDN users. - connection of auxiliary devices for sending tone messages. - time supervision functions. - operation and maintenance. 	Important
IWSP	<p>Supports IPLP on encoding/decoding supplementary services according to a WAP-based proprietary protocol. Assembles user interface information for WAP-based proprietary H.323 extensions. Primarily for display and key information.</p>	Important

UNIT NAME	FUNCTION	REMARKS
KHH	Command program for analysis and execution of commands for: - digital system telephones (KS)	Common
KLP1D	Decodes the pressing of keys during traffic handling, for system telephones. Decodes the pressing of keys in programming mode and controls indicators and ringing signals for system telephones. The program also contains operation and maintenance functions.	Important
KLP1M	Administers a specific line pick-up number (MDN) which has multiple representation by the own (ODN) or additional (ADN) directory number for some other telephone.	Important
KLP1O	Administers the own (ODN) and additional (ADN) directory numbers for system telephones.	Important
KLP1T	Line program for system telephones. Receives signals from the hardware and contains operation and maintenance functions. Stores and administers the name, number, date and time about the unanswered calls for the feature Name and Number Log. Contains linkings to TCS monitors.	Important
LocationService	Controls creation of HLRs and also registration of generic extensions (i.e. creation of ULRs) in order to distribute/spread the load between LIMs/servers.	Important
LRH	Command program for analysis and execution of commands for: - least cost routing (LC) - private network routing (PNR)	Common
LRP1	Data base unit containing External Number Table for entries to be analyzed in Least Cost Routing.	Important
LRP2	Data base unit containing Number Length Table for entries to be analyzed in Least Cost Routing.	Important
LRP3	Data base unit containing Destination Table 1, the Exceptions Table for destinations to be analyzed in Least Cost Routing.	Important
LRP4	Data base unit containing Time of Day Table, performing time of day analysis for Least Cost Routing.	Important
LRP5	Data base unit containing Office Code Prefix Table for North American Market for Least Cost Routing.	Important
LRP6	Data base unit containing Destination Table 2, the Number Table for destinations to be analyzed in Least Cost Routing.	Important
MAH	Routes data for public exchange numbers per LIM (RO).	Common
MFP	Program for handling code senders and code receivers for MFC signalling. (Replaces MFP3).	Important
MMP	Monitor program which controls the set-up, supervision, and clearing of conference, intrusion, and emergency extension call.	Important
MPP	Program which handles equipment for multi-party functions, that is, PBX operator traffic, conference, and intrusion.	Important
MSLP	MSLP is the line program controlling the interface to the external SMS Service Centres (SMS-SC). CTL (DECT extension line) communicates with MSL for SMS calls from the Portable Part. MSL uses the Generic Extension API towards TCS for SMS calls to PP. MSL communicates with SMS-SC via SES.	Important
MTHH	Command program for analysis and execution of commands for: - message transfer (signaling system no.7), for China	Common
MTM	SS7, Message Transfer, China	Common

UNIT NAME	FUNCTION	REMARKS
	Main program unit for function message transfer part. The program handles automatic un-inhibition of signaling links and signaling point restart.	
MTR	SS7, Message Transfer, China Regional program unit for function message transfer part. Handles the interface towards the physical link (TLU76/4) and routes message to/from the user parts (TLP81). Handles the following MTP level 3 functions: <ul style="list-style-type: none"> - signaling route management - signaling message handling - signaling link testing - diversion of signaling traffic (changeover/ change back) - signaling point restart - management inhibition 	Important
MWP	Stores and administers message waiting assignments for extensions.	Important
NAP	The program: <ul style="list-style-type: none"> - has routines for entering, removing, correcting and printing out number analysis data (the interface to the command program) - performs number analysis with respect to number type and TCD checking - performs number analysis with respect to to external number length and positions for expected external PTS tones. - generates an analysis tree for number analysis data 	Important
NDBP	Data base that contains user names besides the directory or external number to which they are associated.	Important
NUD	Program for storing of number conversion data in the system database.	Important
OHH	Command program for analysis and execution of commands for: <ul style="list-style-type: none"> - PBX operator traffic (OP, integrated OPIs) 	Common
OLP1D	Line program for PBX operator"s console. Receives display orders from other PBX operator line programs and shows them on the OPI-display.	Important
OLP1T	Line program for PBX operator"s console. Performs operator status analysis and display orders. Handles the interface to the command program and the pressing of keys on the OPI. Updates OPI's status.	Important
PEP	Program that implements the Repeated Individual Diversion feature, also known as Personal Number or Call List. This program handles: <ul style="list-style-type: none"> - the storing of all the related data for a Personal Number. - controls the calls to a Personal Number and proceed to distribute them to each answering position following certain rules. 	Important
PGHH	Command program for analysis and execution of commands for: <ul style="list-style-type: none"> - paging (PA). 	Common
PGP1	Line program which receives and sends signals from and to paging equipment of the E&M signaling type.	Important
PGP3	Line program which receives and sends signals from/to paging equipment of the loop signaling type.	Important
PMLP	Line unit program used as an interface between the generic extension command handlers and the IMP monitor program in order to initiate the execution of a procedure originated from an I/O command.	Important

UNIT NAME	FUNCTION	REMARKS
PNR	Data base unit containing Private Network Access Codes. A fictitious route choice table is selected from PNR and used for route selection in the external analysis.	Important
PRLP	<p>Program that implements the Parallel Ringing feature. The main functions are:</p> <ul style="list-style-type: none"> - the storing of all the data related to the parallel ringing list and forked terminals. - control of the calls to an extension that has parallel ringing list and forked terminals initiated, and distributes the call to the extensions part of the lists. 	Important
QMP	<p>Monitor program for Callback missions. The main functions are:</p> <ul style="list-style-type: none"> - time supervision - queue supervision - registration, cancellation, free notification, and call set up handling 	Important
RELP	Line program which provides the interface to/from a remote extension (using TDM trunks).	Important
RHH	<p>Command program for analysis and execution of commands for:</p> <ul style="list-style-type: none"> - recorded voice announcements, including vocal guidance and Music on hold/wait (RA) 	Common
RMP	<p>Monitor program which handles routing of new calls (including digit reception and request for number analysis), procedure dialling and parts of services.</p> <p>RMP handles calls to:</p> <ul style="list-style-type: none"> - voice extensions and extension groups - PBX operators - trunk lines <p>RMP handles procedure dialing, that is, ordering and cancellation of facilities, including answer to paging calls.</p> <p>RMP handles (parts of) the following services:</p> <ul style="list-style-type: none"> - rerouting - callback - least cost routing - alternative routing - call diversion - call extending - parking - supervision and intrusion on busy trunk - night service diversion - deflection / single step transfer - personal number <p>RMP also handles:</p> <ul style="list-style-type: none"> - call information logging (seizure, in register states) - reception of backward signaling from network - time supervision 	Important
ROM	Database containing information about ongoing route optimization.	Common

UNIT NAME	FUNCTION	REMARKS
ROR	Regional program for route optimization.	Important
SCP	Switch control program, which controls the set-up, reservation and release of switching/media paths as ordered by a call monitor or multi-party monitor programs.	Important
SIPLP	<p>Line program for receiving and sending signals for SIP extension and SIP trunk. Used for session-oriented connections between two or more endpoints in the IP network. The program unit performs the following functions:</p> <ul style="list-style-type: none"> - handle SIP user's registration/de-registration - handle user's location, name to IP address translation - feature negotiation - media negotiation, e.g. media or encryption - call management (add, drop, transfer SIP participants) 	Important
SLP60	<p>This program unit deals with the following functions:</p> <ul style="list-style-type: none"> - Operation and Maintenance functions - Layer 3 protocol call control process - Conversion of ISDN messages into signals to the program unit TLP60 - Conversion of signals received from TLP60 into ISDN messages - Packing of ISDN messages - Unpacking of ISDN messages and syntax analysis of ISDN messages - ISDN protocol time supervision - ISDN protocol error handling - Sending or receiving signals to or from the TLU line interfaces - Establishment and disconnection of semipermanent connections - Flow control of USER INFO messages - Status request handling - Restart of B-channels - Supervision of data link - Supplementary services handling, that is, services using the UUI information element and the USER INFO messages. - Standardized supplementary services handling, that is, services using the Facility information element, that is, using ASN.1. (This includes handling of both ETSI and ECMA Generic Functional Protocols (GFP). - Sending of service information to ADEP for encoding. - Sending of the Facility information element received in any ISDN message, to ADEP for ASN.1-decoding. - Receiving ASN.1-decoded information from ADEP and transfer the information to TLP60. - Receiving ASN.1-encoded information from ADEP and send the information in a Facility information element in an ISDN message. - Receive service signals from TLP60 and pack the information (using ASN.1) and transfer it in the Facility message over the link. - General ASN.1 error handling, that is, when errors have been detected by ADEP. - Error handling for ETSI-GFP (see above). 	Important

UNIT NAME	FUNCTION	REMARKS
	<ul style="list-style-type: none"> - Error handling for ECMA-GFP (see above). - Error handling for the standardized supplementary services (using ASN.1). 	
SLP63	<p>The program implements the protocol specified for ISDN Primary Rate Interface 23B+D. It converts the information received in the ISDN messages into signals and sends it to the function block TL60. The SLP63 also creates and sends ISDN messages based on information received from TL60.</p> <p>For the US market the layer 3 protocol is designed to interface to the following switches:</p> <ul style="list-style-type: none"> - ATT 4ESS - ATT 5ESS - National ISDN 1 and 2 - Northern Telecom DMS100 - Northern Telecom DMS250 - MD 110 US ISDN Tie-line (Primary rate) 	Important
SOMLP	Generate SIP call with metadata through the configured SIP proxy.	Important
SSH	<p>Command program for analysis and execution of commands for:</p> <ul style="list-style-type: none"> - static semipermanent connection (SE). 	Common
SSM	Monitor program responsible for establishing, removal and maintaining Static Semi-Permanent Connections (SSPC). It needs to exist in LIMs where SSPC function is required.	Important
TCP	Tapping Control Program, used for the SOM features.	Important
TDBP	Data base that stores announcement numbers for Vocal Guidance in different traffic cases per customer number.	Common
THH	<p>Command program for analysis and execution of commands for:</p> <ul style="list-style-type: none"> - route data (RO) - ISDN trunk protocol data (IR) 	Common
TLP1	Line program which receives and sends signals on the trunk to the public exchange, both-way traffic.	Important
TLP4	Line program which receives and sends signals on the analog trunk to the public exchange, both-way traffic. Sweden.	Important
TLP11	Line program which receives and sends signals on the trunk to the public exchange (both-way traffic, standard).	Important
TLP12	Line program which receives and sends signals on the trunk to the public exchange (incoming direct-in-dialing, decadic, DTMF, MFC, standard).	Important
TLP19	Line program which receives and sends signals on trunks to other PBXes (discontinuous E&M signaling, standard).	Important
TLP22	Line program which receives and sends signals on trunks to other PBXes (continuous E&M signaling, standard).	Important
TLP25	Line program which receives and sends signals on the trunk to the public exchange (direct in-dialing traffic, both-way traffic, Italy, LB line, standard).	Important
TLP26	Line program which receives and sends signals on the trunk to the public exchange (direct in-dialing traffic, both-way traffic, The Netherlands).	Important
TLP30	Line program which receives and sends signals on the trunk to the public exchange via 30/32-channel PCM (both way traffic, standard).	Important

UNIT NAME	FUNCTION	REMARKS
TLP35	Line program which receives and sends signals on the trunk to the public exchange (direct-in-dialing traffic, both-way traffic, West Germany and Belgium). (Center-point signaling, standard).	Important
TLP37	Line program which receives and sends signals on tie lines to other PBXes (both-way traffic including MFC, 30/32 channel PCM, standard).	Important
TLP38	Line program which receives and sends signals on the trunk to the public exchange (both-way traffic including MFE, 30/32-channel PCM, Ibercom, Spain).	Important
TLP45	Line program which receives and sends signals on the trunk to the public exchange as well as to other PBXes (both-way and direct in-dialing traffic on 24-channel PCM, including loop start, ground start and E&M signaling, USA).	Important
TLP49	Line program which receives and sends signals on the tie line to other PBXes (both-way traffic, discontinuous 1VF signalling (in-band), signal frequency 2600 Hz, 4-wire IF, tie line, China).	Important
TLP50	Line program which performs Common Channel Signaling according to the 2 Mb (1.5 Mb) interface for the Digital Private Signaling System (DPNSS) and the Digital Access Signaling System (DASS). TLP50 may act as a tie line using DPNSS or as an exchange line towards a public exchange using DASS.	Important
TLP51	Line program which receives and sends signals on the trunk to the public exchange (both-way traffic, 30/32-channels PCM, China).	Important
TLP60	TLP60 is the interface between TCS and the blocks for common channel signaling. SL (Signaling Link) <ul style="list-style-type: none"> - Receiving signals from TCS - Receiving signals from SLXX - ISDN signaling, both public and private protocols 	Important
TLP65	Line program unit which is used in the IP Networking feature. TLP65 handle the H.323 protocol signaling to provide packet-based multimedia communications between H.323-compliant systems. This program unit performs the following functions: <ul style="list-style-type: none"> - H.225.0 (RAS and Q.931) call signaling - H.245 call control signaling - TCS signals handling - Supplementary services 	Important
(TL66)	See SIPLP. <ul style="list-style-type: none"> - SIP trunk/networking functions. Both public and private protocols. 	Important
TLP72	Line program which receives and sends signals to the public exchange and to other PBXes (both-way traffic, 2-wire IF, decadic, DTMF, MFC, Switzerland).	Important
TLP81	SS7 trunk, China	Important
	Line program which handles trunks to the public exchange via 30/32-channel PCM. The signaling is performed using the Telephone User Part Signaling over Common Channel Signaling System No.7. TLP81 is the interface between TCS and the block for common channel signaling - MT.	
TLP95	Line program which receives and sends signals on the trunk to the public exchange via 30/32-channel PCM (one-way traffic including MFP, send and receive A-packet, display A-number and send digit information).	Important

UNIT NAME	FUNCTION	REMARKS
TLP99	Line program (trunk) which is used for the SOM features, i.e. Surveillance, Observation and Monitoring.	Important
TMHH	Command program for analysis and execution of commands for: - traffic measurement (TM)	Common
TMM1	Collects measurement data from the regional traffic measurement programs	Common
TMM2	Receives measurement data from TMM1 for short-term storage. Acts as an interface to the backup unit function.	Common
TMR	Collects measurement data from the measurement object programs	Important
TRP	Program for reception of dial tones and key-code tones. Only used in MGC LIMs.	Important
TSP	Program for sending of key-code tones and tone messages. Only used in MGC LIMs.	Important
ZODBM	Surveillance, Observation and Monitoring (SOM) database main program.	Common
ZODBR	SOM database regional program.	Important
ZODTP	SOM monitoring trunk data program.	Important
ZOHC	SOM command handler controller program.	Common
ZOHH	SOM command handler program.	Common
ZOIDEF	SOM interface line decoder and encoder program.	Important
ZOILP	SOM interface line input/output program	Important
ZOMM	SOM observation monitor main program	Common
ZOMR	SOM observation monitor regional program	Important
ZOTCP	SOM trunk line controller program	Important

251.4.3

SES PROGRAM UNITS

Explanation of the comments given under REMARKS.

Table 39

Important	Programs which must be provided in each LIM. These programs are also called regional.
Common	Programs which are to be located in a single LIM or in two LIMs for duplicated function in the system. Example of function: indication of the LIM in which a particular directory number is used.

UNIT NAME	FUNCTION	REMARKS
AASNMP	SNMP alarm handler. (Newer MIBs, Aastra/Mitel)	Important
AL	Alarm log. The program runs in every LIM and holds a log of alarms reported from that LIM. Other program units send alarms to AL when they detect illegal conditions.	Important
ALDP	Alarm device program. Runs in some or all LIMs. It is an interface for the alarm boards.	Important
ALSNMP	SNMP alarm handler. (Legacy MIBs)	Important
AMP	Application message proxy. Used in communication between the MX-ONE Service Node and applications like operation and maintenance commands.	Important

UNIT NAME	FUNCTION	REMARKS
AUXMSP	AUXMSP Handles auxiliary device resources towards Media Gateways (only Media Server). Handles streamed announcements for voice messages (RVA/MoH), and for streaming on idle extension. Supports the SIP-based MSCML protocol.	Important
AUXP	Handles auxiliary device resources towards Media Gateways (MGU/MGU2/MGU2-X/MS at the moment). Also contains voice message (RVA) data for certain types of messages.	Important
CFCOPY	Common function copy. It will update passive common functions after a data backup.	Important
CIOR	Command input output regional program. Responsible for MML style command handling.	Common
DAREC	Data recording. The program is run in all LIMs. It receives Call Information Logging data and VoIP QoS data from CLP. It formats and outputs this data. Several (up to 10) outputs with different formats can be active simultaneously. The output can be PostgreSQL, TCP/IP, V.24, and files.	Important
DCP	DCP is responsible for device supervision, service routines, and to execute orders (like blocking and unblocking). Routine checks are started at regular intervals and handles regular fault tracing in the LIM.	Important
IGWP	Handles inter-LIM media connections via public ISDN (VoIP media fall-back to public ISDN).	Important
INTSTA	This program monitors inter-server (LIM) communication ability.	Important
IPROMP	IPROMP handles inter-LIM signaling, broadcast signaling, signaling to common functions, and to hardware.	Important
LISH	A license server which handles the system sales objects. It reads the encrypted license file and counts the license usage. The license usage is stored in reload data but the license file is reread at each data reload.	Common
LLSP	LLSP is responsible for the regional part of start, restart, and data backup.	Important
LOGGER	The program stores signal copies for tracing and the diagnostic history log.	Important
LSP	Handles connection and disconnection of the LIM switch.	Important
MGIP	Media Gateway Interface program. Handles message routing for messages between MX-ONE Service Node and Media Gateways.	Important
PERFMON	A load regulation program.	Important
PERFMON_SLAVE	A load regulation program.	Important
RTPCON	The program handles media resources in the real time protocol	Important
SBYALR	The program performs server cluster supervision and generates alarms for malfunctioning standby server, when server redundancy is used.	Important
STATUS	Monitors the system status.	Important
SUDAEM	Super daemon for message handling. The program runs in every LIM. It starts assisting programs that handle messages.	Important
SYSSAM	The program is responsible for start and restart and supervision of system functions, like setting up a broadcast ring.	Important
SYSSUP	The program unit SYSSUP performs system supervision, for example system database and NTP server supervision. It will raise alarms if it detects that a supervised object is not operational, and possibly restart the object.	Important
TRASER	The program is responsible for inter-LIM signaling and for synchronization.	Important

251.4.4 ADDITIONAL LINE INTERFACE SW

251.4.4.1 *Introduction*

This description lists all optional line interfaces, that can be loaded as additional SW at the start of the MX-ONE Service Node. The programs are included in the SW package, but are not loaded as default. They have to be manually loaded if wanted for a specific application system.

251.4.4.2 *Line interfaces*

Function block	Program units	Printed board assemblies	Function (and comments)
ITL, IT,ITH	ITLP ITP ITHH ELU26/2	HW	EXTENSION ISDN-LINE (EURO ETSI)
ITLB, ITB, ITH	ITLBP ITBP ITHH ELU26/2	HW	EXTENSION ISDN-LINE (USA BELL CORE), NORTH AMERICA
PG1	PGP1 PGHH DPM, DPR TLU80	HW	PAGING, ESPA, E&M
PG3	PGP3 PGHH DPM, DPR TLU11 TLU75 TLU83	HW HW HW	PAGING, LOOP
TL1	TLP1 TLU82 TLU83	HW HW	ANALOG EXCHANGE LINE, GROUND START, Analog (E&M or other signaling)
TL4	TLP4 TLU75	HW	ANALOG EXCHANGE LINE, PSTN, Sweden

Function block	Program units	Printed board assemblies	Function (and comments)
TL11			ANALOG EXCHANGE LINE, PSTN, MFC (or MFE), Analog (E&M or other signaling)
	TLP11		
	TLU11	HW	
	TLU75	HW	
	TLU83	HW	
TL12			ANALOG DID, PSTN, Analog (E&M or other signaling), MFC (or MFE)
	TLP12		
	TLU81	HW	MFU required
TL19			ANALOG TIE LINE, DISCONTINUOUS, E&M-SIGNALLING, Analog (E&M or other signaling), MFC (or MFE)
	TLP19		
	TLU80	HW	MFU required
TL22			ANALOG TIE LINE CONTINUOUS E&M SIGNALLING, Analog (E&M or other signaling), MFC (or MFE)
	TLP22		
	TLU80	HW	MFU required
TL25			ANALOG EXCHANGE LINE, LB-LINE SIGNALLING OR ANALOG EXCHANGE LINE, PSTN, Analog (E&M or other signaling), MFC (or MFE)
	TLP25		
	TLU75	HW	MFU required
	TLU83	HW	MFU required
TL26			ANALOG EXCHANGE LINE, INCL DID, THE NETHERLANDS, Analog (E&M or other signaling), MFC (or MFE)
	TLP26		
	TLU75	HW	MFU required
	TLU83	HW	MFU required
TL35			ANALOG TIE LINE, BALANCED BATTERY OR ANALOG EXCHANGE LINE, PSTN, Analog (E&M or other signaling), MFC (or MFE)
	TLP35		
	TLU35	HW	MFU required
	TLU75	HW	MFU required
	TLU83	HW	MFU required
TL37			DIGITAL TIE LINE, CAS, MFC (or MFE)
	TLP37		
	TLU20	HW	MFU required
	TLU76/3	HW	MFU required
	TLU76/13	HW	MFU required
TL38			DIGITAL PSTN, CAS, SPAIN, MFC (or MFE)
	TLP38		

Function block	Program units	Printed board assemblies	Function (and comments)
	TLU20	HW	MFU required
	TLU76/3	HW	MFU required
	TLU76/13	HW	MFU required
TL45			DIGITAL TIE TRUNK, NORTH AMERICA
	TLP45		
	TLU45	HW	
	TLU77/3	HW	
TL49			ANALOG LINE SIGNALLING, 2600 Hz, CHINA, MFC (or MFE)
	TLP49		
	TLU80	HW	MFU required
TL50			DIGITAL TIE LINE, DPNSS/DASS
	TLP50		
	TLU50	HW	
	TLU63/2	HW	
	TLU76/2	HW	
	TLU76/12	HW	
	TLU77/2	HW	
	TLU77/12	HW	
TL51			DIGITAL LINE SIGNALLING, CAS, CHINA, MFC (or MFE)
	TLP51		
	MGU2	HW	MFU required
	TLU20	HW	MFU required
	TLU76/3	HW	MFU required
	TLU76/13	HW	MFU required
TL60			DIGITAL TIE-LINE OR PUBLIC TRUNK LINE, ISDN 30B+D or 23B+D
	TLP60		
	SLP60 (30B+D)		
	SLP63 (23B+D)		
	TLU20		
	TLU76/3		
	TLU76/13		
	TLU76/1	HW	
	TLU76/11	HW	
	TLU77/1	HW	
	TLU77/11	HW	
	MGU	HW	
	MGU2	HW	
TL65			H.323 tie-line
	TLP65		
	MGU2/MGU2-X	HW	

Function block	Program units	Printed board assemblies	Function (and comments)
	MGU	HW	
TL66	SIPL MediaServer MGU2/MGU2-X MGU	HW HW HW	SIP trunk or SIP tie-line
TL72	TLP72 TLU35 TLU83	 HW HW	ANALOG EXCHANGE LINE, PSTN (DID), SWITZERLAND, Analog (E&M or other signaling), MFC (or MFE) MFU required MFU required
TL81	TLP81 MTM, MTR TLU76/4 TLU76/14	 HW HW	SIGNALLING SYSTEM No. 7, CCSS7, CHINA
TL95	TLP95 MGU2/MGU2-X TLU20 TLU76/3 TLU76/13	 HW HW HW HW	DIGITAL EXCHANGE LINE, CAS, EXPORT, MFC (or MFE) MFU required MFU required MFU required MFU required
TL99	TLP99 TLU76/11	 HW	DIGITAL TRUNK FOR SURVEILLANCE OBSERVATION AND MONITORING (SOM)

252

USER

User Name and Number

252.1

FORMAT

<p>USER = D₁D₂D₃D₄D₅D₆D₇</p> <p>D₁D₂D₃D₄D₅D₆D₇= GENERIC User name</p>

252.2

FUNCTION

The parameter states the user name to be associated with an application.

The application does not require a signal interface so the user name is initiated as generic.

252.3

EXAMPLE

An application not requiring signal interface is initiated.

USER = GENERIC

253

UPDFCN

Updating Function

253.1

FORMAT

UPDFCN = D ₁ D ₂ D ₃			
D ₁ D ₂ D ₃ =		YES	Updating possible
		NO	No updating possible

253.2

FUNCTION

The parameter states whether the information system can supply updating information to the PBX (message information) or not.

253.3

EXAMPLE

Updating from the relevant information system can be executed.

UPDFCN = YES

254

UPDTIM

Updating Start Time

254.1

FORMAT

UPDTIM = D₁D₂-D₃D₄

D₁D₂= 00-23 hours

D₃D₄= 00-59 minutes

254.2

FUNCTION

The parameter states the start time in hours and minutes for the automatic 24-hour updating of the PBX message information (message information = message waiting and message diversion information).

The parameter, by default, is set at 01:30.

254.3

EXAMPLE

The updating start time is specified for 02:30 hours.

UPDTIM = 02-30

255

VAC

Vacant Number

255.1

FORMAT

VAC = D₁D₂...D₂₀

D₁...D₂₀ = 00 - 99999 99999 99999 99999

Directory number of answering position for vacant number.

255.2

FUNCTION

The parameter states the directory number to which direct in-dialling traffic shall be rerouted at calls to vacant numbers.

The directory number can be an:

- extension,
- Group hunting group (PBX) or common bell group.

255.3

EXAMPLE

The answering position for vacant number shall be the directory number 4488.

VAC = 4488

256

VAR

256.1

VAR - PAGING - PG1

Signalling diagram variation for serial interface (PG1)

256.1.1

FORMAT

VAR = D₁D₂ ...D₁₀

D₁D₂ ...D₁₀= Signalling diagram variation for signalling to paging equipment with E&M interface.

256.1.2

FUNCTION

The function of the parameter is described under the following headings:

- 1 General
- 2 Detailed description of the parameters (D₁ - D₁₀)
 - 2.1 Polarities (D₁)
 - 2.1a E-wire
 - 2.1b M-wire
 - 2.1c B-wire
 - 2.2 Signals from the paging equipment to the PBX (D₂, D₃, D₄)
 - 2.2a Proceed to send signal (PTS signal) (D₂)
 - 2.2b End-of-selection (EOS) signal (D₂)
 - 2.2c Absence indication (D₃)
 - 2.2d Paging-in-progress signal (D₃)
 - 2.2e Signal for start talking (D₄)
 - 2.2f Signal for paging ended (D₄)
 - 2.3 Digit transmission to paging equipment from PBX (D₅)
 - 2.4 Format for digit message to the paging equipment (D₆, D₇)
 - 2.4a Use of conversion tables for mode digit (D₆)
 - 2.4b Paging code and system mode digit (D₆)
 - 2.4c Digit message to paging receiver display (D₆)
 - 2.4d Number of digits in pager display (D₇)
 - 2.4e Filling in short numbers (D₇)
 - 2.4f End character (EON end of number) (D₇)
 - 2.4g Dual-line pager display (D₇)
 - 2.5 Power failure and faulty paging equipment (D₈)
 - 2.6 TLU80 Configuration (D₉ - D₁₀)
 - 2.6.1 Polarity on signal wires (D₉)

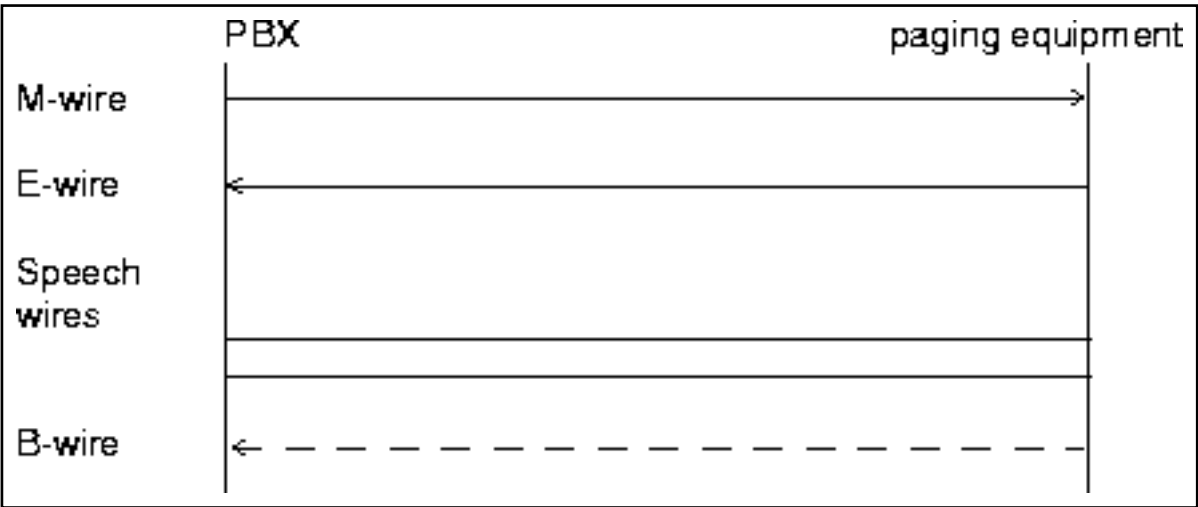
- 2.6.2
Line transmission (D₁₀)
- 3
Survey

256.1.3
GENERAL

The parameter is used to control functions in detail in the interface between the PBX and peripheral paging equipment.

When the value of the parameter is set, consideration should be given to which signals and functions the paging equipment can handle and also to which functions the customer installation in question requires.

The hardware interface provided by PG1 is designed for E&M signalling.



Apart from the E&M wires there are two or four wires (selectable in the hardware) for the transmission of speech and DTMF signals to the paging equipment and for the transmission of acknowledgement tones in the other direction respectively. Optionally, B-wire information can also be detected in the PBX.

256.1.4
DETAILED DESCRIPTION OF THE PARAMETERS (D1 - D10)

The parameter comprises 10 digits D₁ ...D₁₀

The digits are grouped:

- D₁
Polarity of E, M, and B wires
- D₂D₃D₄
Signals from paging equipment to PBX
- D₅D₆D₇D₈
Digit transmission to paging equipment from PBX.
- D₈
Power failure
- D₉D₁₀
TLU80 configuration

256.1.4.1
POLARITIES (D1)

a)Polarity for E-wire (D₁)

- 0
Detection of an open contact on the E-wire is interpreted as idle position, closed as active position

- 4 The detection of a closed contact on the E-wire is interpreted as idle position, open contact as active position

If the E-wire is not in use value 0 (zero) is to be used. E-wire not in use means that no acknowledgement signals are received from the paging equipment. The E-wire is in this case not to be connected.

b)Polarity for M-wire (D_1)

- 0 M-wire contact open in idle and closed in active position. Pulsing occurs through breaks in contact
- 2 M-wire contact closed in idle and open in active position. Pulsing occurs through contact closure.

c)Polarity for B-wire (D_1)

- 0 The detection of an open contact on the B-wire is interpreted as idle position, closed contact as active position.
- 1 The detection of a closed contact on the B-wire is interpreted as idle position, open contact as active position.

If the B-wire is not in use, the value 0 (zero) is to be used. The B-wire is not to be connected in this case. (See further point 2.2c).

D_1 = the sum of the digit codes for those characteristics that have been selected for points a), b) and c).

256.1.4.2

SIGNALS FROM THE PAGING EQUIPMENT TO THE PBX (D_2 , D_3 , D_4)

a)Proceed to send signal (PTS signal) (D_2)

- 0 Time out in PBX is used as PTS signal. This alternative should be used when no PTS signal is received from the paging equipment.
- 2 Detection of transition from idle to active position on the E-wire is used as PTS signal.
- 4 Detection of dial tone (for example, 425 Hz) on speech wires from the paging equipment is used as PTS signal.
- 6 Detection of short pulse on the E-wire is used as PTS signal.

b)End-of-selection (EOS) signal (D_2)

- 0 No EOS signal provided.
- 1 Detection of transition from idle state to active state on the E-wire is used as EOS signal.

E-wire to active state ($D_2 = 3$) must not be used both as PTS signal and EOS signal. If the EOS signal exists and voice paging is started the EOS signal will be used to set up the speech channel. If the EOS signal is lacking, the speech channel will be switched in for voice paging immediately after the last digit has been transmitted.

c)Absence indication (D_3)

Absence indication means that the paging receiver is located in the loading compartment of the paging equipment.

- 0 No absence information received from the paging equipment.
- 2 Absence indicated by changing the B-wire state from idle to active.
- 4 The absence of a short pulse on the E-wire before the clearing signal on the E-wire indicates absence (according to ESPA recommendation). In this case a short pulse on the E-wire indicates paging in progress.

- 6 Detection of a short pulse on the E-wire after end of selection indicates absence.

d)Paging-in-progress signal (D_3)

- 0 No paging-in-progress signal is provided.
1 Detection of a short pulse on the E-wire after end-of-selection is used as paging-in-progress signal.

The signal selected for paging-in-progress must not be that used for absence indication.

e)Signal for start talking (D_4)

- 0 Signal for start talking is lacking.
2 Detection of short pulse on the E-wire after paging-in-progress signal is used as start talking signal.

The signal for start talking can be used only if the paging equipment has voice paging and the signal paging-in-progress is used.

f)Signal for paging ended (D_4)

- 0 The signal for paging ended is lacking.
1 Detection of the change from active state to idle state on the E-wire is used as paging ended signal.

D_2 = The sum of the digit codes for those characteristics that have been selected for points a) and b).

D_3 = The sum of the digit codes for those characteristics that have been selected for points c) and d).

D_4 = The sum of the digit codes for those characteristics that have been selected for points e) and f).

256.1.4.3

DIGIT TRANSMISSION TO THE PAGING EQUIPMENT FROM PBX (D_5)

- 0 Pulsing via M-wire, 10 Hz
1 Pulsing via M-wire, 20 Hz
2 DTMF signalling with maximum 10 digits/second via speech wires.

256.1.4.4

FORMAT FOR DIGIT MESSAGE TO THE PAGING EQUIPMENT (D_6 , D_7)

Digit message to the paging equipment is transmitted in serial form with decadic pulsing or DTMF signalling in accordance with the format below or parts thereof.

Paging code and mode digit (if any)	Digit message to paging receiver display	End character
Part 1	Part 2	Part 3

Part 1 is mandatory whereas the others are optional.

a)Use of conversion tables for mode digit (D_6)

If the paging equipment is incapable of dealing with standard mode digit (see point b) conversion tables for mode digit can be used: The tables (two) are completed via APS-parameters, set per market

- 0 Standard mode digit is used
- 8 Conversion tables are used

The PGP1-program decides which of the two tables is to be used on the basis of the type of paging initiated. The tables are used as follows:

Table 1: Is used when standard paging is meet-me or directory number transmission and the page's paging category (PCAT) does not permit A or B-number transmission ($D_2 = 0$)

Table 2: Is used for all other cases.

A standard mode digit can be converted into two different mode digits with the help of these tables. The tables are used to facilitate adaptation of the most common paging equipment on the market, that cannot use standard mode digits, to the PBX.

256.1.4.5

EXAMPLE 1

Standard paging in the PBX is meet-me. Some extensions have the paging category, that also permits A-number transmission. Special procedures for display and voice paging can also be used. The paging equipment uses the following mode digits:

- 0 Group paging with speech
- 1 Individual paging with speech
- 2 Meet-me (without digit transmission)
- 3 Individual paging with display
- 5 Group paging with display

The conversion tables are to be compiled in accordance with the following:

Standard mode digit	Conversion table 1	Conversion table 2
0	2	3
1	2	3
2	x	3
3	x	1
4	2	5
5	2	5
6	x	5
7	x	0
8	x	x
9	x	x

- x No significance in this case

b) Paging code and system mode digit (D_6)

The paging code is used to affiliate a paging receiver to a directory number in the PBX and is necessary so that the paging equipment will be able to send a call to a specific paging receiver.

- 0 Only the paging code is transmitted, that is, no mode digit.
- 2 Paging code and mode digit are sent. The paging code is sent before the mode digit.

- 4 Paging code and mode digit are sent. The paging code is sent after the mode digit.

The mode digit is determined by the PBX on the basis of the dialled procedure, call origin and B-category. The mode digit is transmitted from the PBX to the paging equipment.

Significance of the mode digit:

- (0) External or extended call initiated by standard paging procedure to individual paging receiver.
- (1) Internal call initiated by standard paging procedure to individual paging receiver.
- (2) Call initiated by special procedure for display paging to individual paging receiver (= sending of selectable digit message to paging receiver display).
- (3) Call initiated by special procedure for voice paging to individual paging receiver.
- (4) External or extended call initiated by standard paging procedure to group of paging receivers.
- (5) Internal call initiated by standard paging procedure to group of paging receivers.
- (6) Call initiated by special procedure for display paging to group of paging receivers.
- (7) Call initiated by special procedure for voice paging to group of paging receivers.
- (8) Call initiated by special procedure for alarm.
- (9) Call initiated by special procedure for alarm acknowledgement.

c) Digit messages to paging receiver display (D₆)

The sending of digit message to the paging receiver display is an optional function. It requires that the paging equipment can be initiated for digit sending to display, and that the persons who are to receive digit messages have display receivers.

The contents of the digit message is decided by procedure and the paging receiver sending category.

For standard paging procedure and special procedure for voice paging the contents of the digit message are decided entirely by the paging receiver's sending category and may contain:

A-number B-number A- and B-number.

For external calls A-number may not exist, and are then omitted. For extended calls A number is omitted.

For special procedure for transfer to display the contents of the digit message are selectable and is decided by the A-party in the procedure.

For special procedure for initiating alarm the digit message contains an alarm group code for the initiating extension plus a short selectable message.

For special procedure for acknowledgement of alarm the digit message contains A-number plus a short selectable message.

Use of digit message to the paging receiver display (D₆)

- 0 Part 2 is not sent (see point 2.4)
- 1 Part 2 display message is sent. (See point 2.4)

d) Number of digits in pager to display (D₇)

- 0 4 digits
- 4 5 digits
- 8 6 digits

C 10 digits

If digit message to display is not used set alternative 0 under point c) and point d).

e) Filling in short numbers (D_7)

- 0 Short numbers not filled in.
- 2 Short number filled in with zeroes (0).
- 1 Short numbers filled in with *. Can only be used for DTMF signalling (see point 2.3).

A- and B-numbers are filled with initial zeros to 4 or 5 digits respectively if the number is shorter. Shortening takes place for 5-digit numbers in the case where the number of digits is chosen = 4 (hundred thousand figure left out). Selectable digit message is not filled out. In cases where the maximal length is set at 8, 9 or 10 digits that are given in selectable digit messages, the two first digits are excluded.

f) Part 3: End character (EON end of number) (D_8)

See also point 2.5 for remaining function on D_8

- 0 End character is not sent. Digit transmission is stopped for example by means of time out in the paging equipment or when a predetermined number of digits has been received.
- 4 End character (#) is sent. This can of course only be used for DTMF signalling (see point 2.3).

g) Part 3: Dual-line pager display (D_8)

See also point 2.5 for remaining function on D_8

- 0 Dual display
- 8 No dual display

States if the pager display is capable of alternating the display between two lines of information, either automatic or by pushing a button. If only an A-number, or a message is to be transferred to the pager, the length of the A-number may be up to the double of the length of the display.

256.1.4.6

POWER FAILURE AND FAULTY PAGING EQUIPMENT (D_8)

- 0 Power failure is not detected.
- 1 E-wire open more than 6 minutes in free state (prerequisite: E-wire closed in idle; see point 2.1c)
- 2 Disturbance marking and blocking if no PTS signal
- 3 Both of the above methods of detecting power failure are used (prerequisites: E-wire closed in idle and PTS signal)

D_8 = sum of the characteristics selected for points 2.4f, 2.4g and 2.5.

Missing PTS signal

When the PTS signal is not received a disturbance counter will be incremented five steps and when the PTS signal is received the counter will be decremented one step.

The maximum value of the disturbance counter is 25.

When the value of the disturbance counter exceeds 4 the individual will receive a disturbance marking. When the value of the disturbance counter is less than 5 the disturbance marking will be erased. A disturbance-marked individual will be used as last choice in the paging sector.

When the disturbance counter reaches 25 the channel will be blocked. After blocking has been undertaken a test seizure will be carried out at the blocked individual.

If the PTS signal arrives the channel will be deblocked, the disturbance marking erased and the disturbance counter reset. If the test seizure fails a further test seizure will be under taken every sixth minute (APS) until the PTS signal comes from the paging equipment.

256.1.5

TLU80 CONFIGURATION D9 - D10

256.1.5.1

Polarity on signal wires (D9)

	M-lead			A-lead	
	Earth/0v	Battery/-48v	External	Earth/0v	External
0 *)	X			X	
1	X				X
2		X		X	
3		X			X
4			X	X	
5			X		X

*) Default strapping on TLU23.

256.1.5.2

Line transmission (D10)

- 0 No programmable board (Not allowed for TLU80)
- 1 Short line
- 2 Long line
- 3 4-Wire
- 4 Used for special purposes

256.1.6

SURVEY

256.1.6.1

START OF CALL TO PAGING EQUIPMENT

D ₁ =	Polarity on E-wire
0	Not used/open contact=idle
4	Closed contact=idle
	Polarity on M-wire
0	Open contact=idle
2	Closed contact=idle
	Polarity on E-wire
0	Not used/open contact=idle
1	Closed contact=idle

D ₂ =	Proceed-to-send signal
0	Time out in PBX
2	E-wire idle position --> active position
4	425 Hz dial tone on speech wire
6	Short pulse on E-wire
	End-of-selection signal
0	Not Provided
1	E-wire idle position --> active position
D ₃ =	Absence indication
0	Not provided
2	B-wire idle position --> active position
4	No pulse on E-wire before clearing
6	Short pulse on E-wire
	Paging-in-progress signal
0	Not Provided
1	Short pulse on E-wire
D ₄ =	Start-to-Talk signal
0	Not provided
2	Short pulse on E-wire
	Paging ended signal
0	Not Provided
1	E-wire active --> idle
D ₅ =	Type of digit transmission to paging equipment
0	Pulsing over M-wire, 10 Hz
1	Pulsing over M-wire, 20 Hz
2	DTMF signalling
D ₆ =	Use of conversion tables for mode digit
0	Standard mode digit is used
8	Conversion tables are used
	Sending of paging code and systemmode digit
0	Paging only
2	Paging code before system mode digit
4	Paging code after system mode digit
	Sending of digit message to paging receiver display
0	Not sent
1	Is sent
D ₇ =	Number of digits in pager display
0	4 digits
4	5 digits
8	6 digits
c	10 digits
	Filling in short numbers

	0	Short numbers not filled in	
	1	Filling in with zeroes	
	2	Filling in with *	
D ₈ =		Sending of end character (EON)	
	0	Not sent	
	4	Sends	
		Dual-line pager display	
	0	Dual display	
	8	No dual display	
		Power failure and paging equipment	
	0	Power failure not detected	
	1	E-wire open more than 6 minutes in free state	
	2	Disturbance marking and blocking on missing PTS signal	
	3	Both of above methods of detecting power failure	
D ₉ =		Current Feed	
		M-lead ref.	A-lead ref.
	0	Earth/0V	Earth/0V
	1	Earth/0V	External
	2	Battery/-48V	Earth/0V
	3	Battery/-48V	External
	4	External	Earth/0V
	5	External	External
D ₁₀ =		Line transmission	
	0	No programmable board (Not allowed for TLU80)	
	1	Short line	
	2	Long line	
	3	4-wire	
	4	Used for special purpose	

256.1.7

EXAMPLE 1

Example of signal diagram of type ESPA.

Polarity on E-wire	Closed contact=idle
Polarity on M-wire	Open contact=idle
Polarity on E-wire	Not used
Proceed-to-send signal	425 Hz dial tone on speech wire
End-of-selection signal	E-wire idle position --> active position
Absence indication	No pulse on E-wire before clearing
Paging-in-progress signal	Short pulse on E-wire
Start-to-Talk signal	Short pulse on E-wire
Paging ended signal	E-wire active --> idle
Type of digit transmission to paging equipment	DTMF signalling

Use of conversion tables for mode digit	Standard mode digit is used
Sending of paging code and systemmode digit	Paging code before system mode digit
Sending of digit message to paging receiver display	Is sent
Number of digits in pager display	5 digits
Filling in short numbers	Filling in with zeroes
Sending of end character (EON)	Sents
Dual-line pager display	No dual display
Power failure and paging equipment	E-wire open more than 6 minutes in free state
Current Feed	Earth/0V reference M-lead and A-lead
Line transmission	Short line

VAR = 4553235F01

256.1.8

EXAMPLE 2

Example of signal diagram of type EC266 without display paging.

Polarity on E-wire	Open contact=idle
Polarity on M-wire	Open contact=idle
Polarity on E-wire	Not used
Proceed-to-send signal	E-wire active
End-of-selection signal	No EOS signal provided
Absence indication	Change on B-wire
Paging-in-progress signal	No paging-in-process signal provided
Start-to-Talk signal	No Start-to-Talk signal provided
Paging ended signal	No Paging ended signal provided
Type of digit transmission to paging equipment	Pulsing 10 Hz
Use of conversion tables for mode digit	Standard mode digit is used
Sending of paging code and systemmode digit	Paging code before system mode digit
Sending of digit message to paging receiver display	Not sent
Number of digits in pager display	No display message
Filling in short numbers	Short numbers not filled in.
Sending of end character (EON)	EON is not sent
Power failure and paging equipment	Disturbance marking and blocking on missing PTS tone
Current Feed	Earth/0V reference M-lead and A-lead
Line transmission	Long line

VAR = 0220020202

256.1.9

EXAMPLE 3

Example of the simplest possible interface with only the M-wire connected. In this case no acknowledgement of completed paging operations from the paging equipment is received.

Polarity on E-wire	Open contact=idle
Polarity on M-wire	Open contact=idle
Polarity on E-wire	Not used
Proceed-to-send signal	Time out in PBX
End-of-selection signal	Not provided
Absence indication	Not provided
Paging-in-progress signal	Not provided
Start-to-Talk signal	Not provided
Paging ended signal	Not provided
Type of digit transmission to paging equipment	Pulsing 10 Hz
Use of conversion tables for mode digit	Standard mode digit is used
Sending of paging code and systemmode digit	Paging code only
Sending of digit message to paging receiver display	Not sent
Number of digits in pager display	No display message
Filling in short numbers	Short numbers are not filled in.
Sending of end character (EON)	EON is not sent
Power failure and paging equipment	Power failure is not detected
Current Feed	Earth/0V reference M-lead and A-lead
Line transmission	No programmable board

VAR = 0000000000

256.2 VAR - PAGING - PG3

Signalling diagram variation for loop signalling (PG3)

256.2.1 FORMAT

VAR = D₁D₂ ...D₁₀

D₁D₂ ...D₁₀= Signalling diagram variant for signalling to paging equipment

256.2.2 FUNCTION

The function of the parameter is described under the following headings:

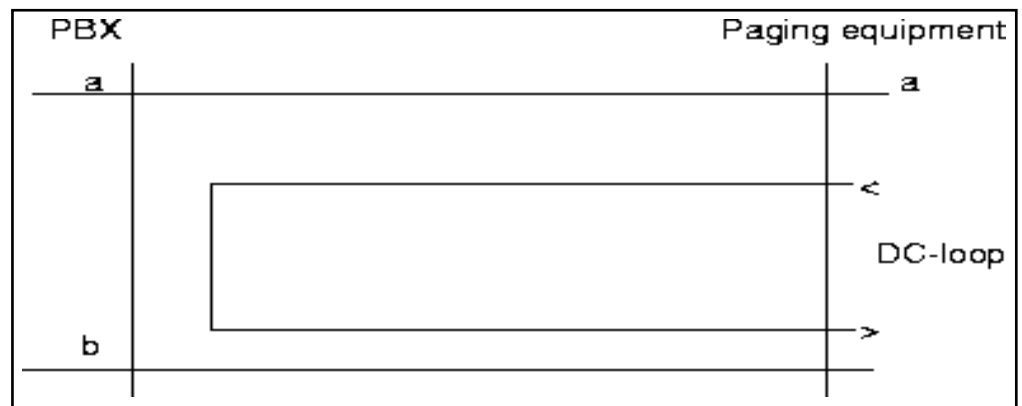
- 1 General
- 2 Detailed description of the parameters (D₁ - D₁₀)
 - 2.1 Reserve (D₁, D₂)
 - 2.2 Type of board in case of subscriber line signalling (D₂, D₃, D₄)
 - 2.3 Type of line signalling and signals from (D₄) paging equipment
 - 2.3a Type of line signalling
 - 2.3b Proceed-to-send signal
 - 2.3c Paging-in-progress signal
 - 2.4 Type of digit transmission and transmission of end character (D₅)
 - 2.5 Use of conversion tables for mode digit (D₆)
 - 2.6 Search code (D₇)
 - 2.7 Extended display message (D₇)
 - 2.8 Display message (D₈)
 - 2.8a Transmission of display message
 - 2.8b Length of pager display
 - 2.8c Padding of display message
 - 2.9 Spare code (D₉ - D₁₀)
- 3 Survey

256.2.3 GENERAL

The parameter is used in order to steer in detail functions in the interface between PBX and peripheral paging equipment.

When the value of the parameter is set, consideration should be given to which signals and functions the paging equipment can handle, and also to which functions the customer installation in question requires.

The interface provided by PG3 is controlled via a high/low-ohmic loop, short circuit or via voltage measurement on the speech wires.



The paging equipment sends tone codes in the other direction. The PBX detects the tones as line signals.

256.2.4

DETAILED DESCRIPTION OF THE PARAMETERS (D1 - D10)

The parameter comprises ten digits $D_1 \dots D_{10}$. The digits are divided into groups with regard to function:

$D_1 D_2$	Reserve
D_3	Type of board
D_4	Type of line signalling and signals from the paging equipment to the PBX
D_5	Type of digit transmission and transmission of end character
D_6	Use of conversion tables for mode digit
D_7	Search code
D_8	Display message
D_9	Spare
D_{10}	Spare

256.2.4.1 *RESERVE (D1, D2)*

The digit code is not used. D_1D_2 is set to 00.

256.2.4.2 *TYPE OF BOARD IN CASE OF SUBSCRIBER LINE SIGNALLING (D3)*

Because of different activation methods it must be stated here which kind of board is to be used.

- 0 TLU7, 8, 9, 11, 35, 44, 75 or 83 is used
- 1 BTU1 for UK (United Kingdom) market (ROF ...)
- 2 BTU2 for US (United States) market (ROFU ...)

The list contains a complete list of cards, even cards not available for installation today.

This digit (D_3) can have value 1 or 2 only if the subscriber line signalling is to be used. See next chapter.

256.2.4.3 *TYPE OF LINE SIGNALLING AND SIGNALS FROM THE PAGING EQUIPMENT (D4)*

Parameter D_4 is the sum of the digit codes that are selected for points a), b) and c).

a) Type of line signalling.

Subscriber signalling or tie line signalling can occur. Both signalling types use a DC-loop that controls the paging equipment. The loop can be low/high-ohmic, short-circuited or open. For tie line signalling the paging equipment is also controlled with voltage feed on a and b-wires. Subscriber signalling uses hardware BTU1, TLU7, 8, 9, 11, 44, 75 or 83 and tie line signalling TLU35. (Not all cards are available for installation today).

See also previous chapter.

- 0 subscriber signalling
- 1 tie line signalling

b) Proceed-to-send (PTS)-signal

The PTS-signal can be omitted or received with 425 Hz tone from the paging equipment. If the signalling is not used it is determined via time measurement.

- 0 PTS-signal not used.
- 2 PTS-signal is 425 Hz tone.

c) Paging-in-progress signal

The paging-in-progress signal can be omitted or received with 425 Hz from paging equipment. If the signal is not used it is determined via time measurement.

- 0 paging-in-progress signal not used.
- 4 paging-in-progress signal not used.

256.2.5 *TYPE OF DIGIT TRANSMISSION AND TRANSMISSION OF END CHARACTER (D5)*

Digit transmission is in serial form with pulsing (10 Hz or 20 Hz) or with DTMF-signalling.

- 0 Pulsing 10 Hz.

- 1 PulsinPHz
- 2 DTMF-signalling without end character.
- 3 DTMF-signalling with end character

256.2.6

USE OF CONVERSION TABLES FOR MODE DIGIT (D6)

The mode digit is determined by the PBX on the basis of dialled procedure, call origin and B-category.

Significance of standard mode digit:

- 0 External or extended call initiated with standard paging procedure to individual paging receiver
- 1 Internal call initiated with standard paging procedure to individual paging-receiver
- 2 Call initiated with special procedure for display paging to individual paging receiver. (= transmission of optional digit message to paging receiver display)
- 3 Call initiated with special procedure for voice paging to individual paging receiver
- 4 External or extended call initiated with standard paging procedure to group of paging receivers
- 5 Internal call initiated with standard paging procedure to group of paging receivers
- 6 Call initiated with special procedure for display paging to group of paging receivers
- 7 Call initiated with special procedure for voice paging to group of paging receivers
- 8 Call initiated with special procedure for alarm
- 9 Call initiated with special procedure for alarm acknowledgement

If the paging equipment is incapable of dealing with the standard mode digit, conversion tables for mode digit can be used. The tables are completed via APS-parameters, set per market.

- 0 Standard mode digit used
- 1 Conversion table 1 used.
- 2 Conversion table 2 used.
- 3 Conversion table 3 used.

256.2.7

SEARCH CODE (D7)

The search code is used to affiliate a paging receiver to a directory number in the PBX, and is necessary for the paging equipment to be able to transmit a call to a specific paging receiver.

Transmission of search code:

- 0 Search code only used.
- 1 Search code transmitted before mode digit.
- 2 Search code transmitted after mode digit.

256.2.8

EXTENDED DISPLAY MESSAGE (D7)

Extended display message gives the possibility to display more than 4 or 5 digits A-numbers if the pager has larger display capability (6 or 10 digits) and if the pager has possibility to alternate the display between two lines it can show a longer number on two lines.

Extended display message:

- 0 Normal display 4 or 5 digits and Dual display
- 4 Long display 6 or 10 digits
- 8 No dual display capability

256.2.9

DISPLAY MESSAGE (D8)

The transmission of a display message to the paging receiver is an optional function. It requires that the paging equipment can be initiated for digit transmission to the display and also that those persons who are to be recipients of the display message are equipped with a display receiver.

D_8 is the sum of the digit codes selected for points a) and b).

a)Transmission of display message

- 0 display message not transmitted.
- 1 display message is transmitted.

b)Length of pager display

- 0 4 digits
- 1 5 digits

c)Length of pager display

- 0 padded with zeroes (0) on A and B-number transmission
- 2 padded with character * on A and B-number transmission
- 8 is packed without padding on A and B-number transmission

Note: Padding (if any) is to be added first to the A-number and B-number. For example if 0 padding is used extension number 234 shall be displayed as 0234 or 00234.

256.2.10

SPARE CODE (D9 - D10)

This digit code is not used. $D_9 - D_{10}$ is set to 0.

D ₁ D ₂ = 00	Reserve
D ₃ =	Type of board
0	TLU7, 8, 9, 11, 35,44 or 75 is used
1	BTU1 for UK is used
2	BTU1 for US is used
D ₄ =	Line signalling
0	Subscriber signalling
1	Tie line signalling
	PTS-signal
0	Signal not used
2	Dial tone 425 Hz
	Paging-in-progress signal
0	Signal not used
4	Dial tone 425 Hz
D ₅ =	Type of digit transmission and transmission of end character
0	Pulsing 10 Hz
1	Pulsing 20 Hz
2	DTMF signalling without end character
3	DTMF signalling with end character
D ₆ =	Use of conversion tables for mode digit
0	Standard mode digit is used
1	Conversion Table 1 is used
2	Conversion Table 2 is used
3	Conversion Table 3 is used
D ₇ =	Transmission of search code and mode digit
0	Search code only transmitted
1	Search code sent before mode digit
2	Search code sent after mode digit
	Extended display message
0	Normal display (4 or 5 digits) and dual display capability
4	Extended display (6 or 10 digits)
8	No dual display
D ₈ =	Transmission of display message
0	Display message is not transmitted
1	Display message is transmitted
	Length of pager display
0	4 digits
4	5 digits
	Padding of display message
0	Packed with character 0

2	Packed with character *
8	Packed without padding
D ₉ =	Spare
D ₁₀ =	Spare

256.2.12

EXAMPLE

Example of signal diagram for ESPA-type interface:

Reserve

Type of board:

TLU8 is used

Line signalling:

subscriber signalling

PTS-signal:

dial tone 425 Hz

Paging-in-progress signal:

not used

Type of digit transmission and transmission of end character: DTMF-signalling with end character

Use of conversion table for mode digit:

standard mode digit is used

Search code:

search code transmitted before mode digit

Extended display message normal display 4 or 5 digits and dual display

Transmission of display message:

is sent

Length of display message:

2x4 digits, padded with 0

Spare

Spare

VAR = 0002301100

257

VARC

257.1

VARC - TL1

Signal Diagram Variations Common for Incoming and Outgoing Traffic

257.1.1

FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ = 000	Reserved.
D ₄ = 0 - 5	See Table 40 Values of D ₄ *, (VARC) on page 580.
D ₅ = 0 - 3	See Table 41 Values of D ₅ (VARC) on page 581.
D ₆ = 0 - 3	See Table 42 Values of D ₆ (VARC) on page 581.
D ₇ = 0 - 2	See Table 43 Values of D ₇ , (VARC) on page 581.
D ₈ = 0 - D	See Table 44 Values of D ₈ (VARC) on page 582.

Table 40 Values of D₄*, (VARC)

	0	1	3	5
CLI Support
No	X	.	.	.
Yes	.	X	X	X
DTMF Standard**	.	X	.	.
FSK Standard**
ETSI	.	.	X	.
BELLCORE	.	.	.	X

VARC D₄ is used to support Calling Line Identity (CLI) in TLU83 board. When the value of VARC D₄ is 0, CLI is not supported.

*) Values other than 0, 1, 3 or 5 are not allowed for VARC D₄.

**) DTMF and FSK Standards are valid only if CLI support is set to yes.

By default, CLI is not supported.

Table 41 Values of D5 (VARC)

	0	1	2	3
Line test
No line test	X	.	.	.
Automatic line test Time between tests APS-VAR:TIMELINETEST1	.	X	.	.
Automatic line test Time between tests APS-VAR:TIMELINETEST2	.	.	X	.
Automatic line test Time between tests APS-VAR:TIMELINETEST3	.	.	.	X

Note: Valid only for traffic to a public exchange where the public exchange sends a dial tone (see table 7, VARO).

Table 42 Values of D6 (VARC)

	0	1	2	3
Programming of line length
No programmable boards are used	X	.	.	.
Boards programmed for short line length	.	X	.	.
Boards programmed for long line length	.	.	X	.
Spare (can be used for special purposes)	.	.	.	X

For D₆, the following boards are programmable:

- TLU83
- TLU82
- TLU75

Table 43 Values of D7, (VARC)

	0	1	2
Type of release when loop start (when type of release is selectable on the hardware, for example, TLU74)	.	.	.
Disconnect clear	X	.	.
Guarded clear	.	X	.
Unguarded clear	.	.	X

Table 44 Values of D8 (VARC)

	0	1	2	3	4	5	8	9	A	B	C	D
Public exchange type (US market)	.	.	.	.	.	.	.	.	.	.	.	.
Step by step	X	X	X	X	X	X	.	.	.	.	.	.
Common control	.	.	.	.	.	.	X	X	X	X	X	X
Market	.	.	.	.	.	.	.	.	.	.	.	.
Other markets	X	X	.	.	.	.	X	X	.	.	.	.
US market	.	.	X	X	.	.	.	.	X	X	.	.
UK market	.	.	.	.	X	X	.	.	.	.	X	X
Public exchange seizure type	.	.	.	.	.	.	.	.	.	.	.	.
Loop start	X	.	X	.	X	.	X	.	X	.	X	.
Ground start	.	X	.	X	.	X	.	X	.	X	.	X

257.1.2

FUNCTION

The parameter is used to state signal diagram variations common for incoming and outgoing traffic.

The parameter VARC is mandatory.

257.1.3

EXAMPLE 1

CLI Support

Line test

Programming of line length

Type of release when loop start ...

Public exchange type (US market)

Market

Public exchange seizure type

Supported with ETSI

Automatic line test

TIMELINETEST1

No programmable boards are used

-

Step by step

US market

Ground start

VARC = 00031003

257.1.4

EXAMPLE 2

CLI Support	Supported with ETSI
Line test	Automatic line test TIMELINETEST3
Programming of line length	Boards programmed for long line length
Type of release when loop start ...	Guarded clear
Public exchange type (US market)	-
Market	Other markets
Public exchange seizure type	Loop start
VARC = 00033210	

257.2

VARC - TL4

Signal Diagram Variations Common for Incoming and Outgoing Traffic

257.2.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃D₄D₅ = 00000 Reserved.D₆ = 0 - 3 See Table 45 Values of D6 (VARC) on page 584.D₇ = 0 - 1 See Table 46 Values of D7 (VARC) on page 584.D₈ = 0 - 6 See Table 47 Values of D8 (VARC) on page 584.**Table 45 Values of D6 (VARC)**

	0	1	2	3
Programming of line length
No programmable boards are used	X	.	.	.
Boards programmed for short line	.	X	.	.
Boards programmed for long line	.	.	X	.
Spare (can be used for special	.	.	.	X

Table 46 Values of D7 (VARC)

	0	1
B-answer	.	.
B-answer included	X	.
B-answer not included	.	X

Table 47 Values of D8 (VARC)

	1	2	5	6
Proceed to send	.	.	.	.
Tone not available	X	X	.	.
Tone available	.	.	X	X
Line voltage used by interworking exchange	.	.	.	.
36 V, 48 V	X	.	X	.
24 V	.	X	.	X

257.2.2

FUNCTION

The parameter is used to state signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.2.3

EXAMPLE

Programming line length

No programmable boards are used

B-answer	B-answer included
Proceed to send	Tone not available.
Line voltage used by interworking exchange	36 V, 48 V

VARC =00000001

257.3

VARC - TL11

Signal Diagram Variations Common for Incoming and Outgoing Traffic

257.3.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂D₃ = 000 Reserved.

D₄ = 0 - 5 See Table 48 Values of D₄* (VARC) on page 586.

D₅ = 0 - F See Table 49 Values of D₅ (VARC) on page 587.

D₆ = 0 - 3 See Table 50 Values of D₆ (VARC) on page 587.

D₇ = 0 - 3 See Table 51 Values of D₇ (VARC) on page 587.

D₈ = 0 - 6 See Table 52 Values of D₈ (VARC) on page 588.

Table 48 Values of D₄* (VARC)

	0	1	3	5
CLI Support
No	X	.	.	.
Yes	.	X	X	X
DTMF Standard**	.	X	.	.
FSK Standard**
ETSI	.	.	X	.
BELLCORE	.	.	.	X

VARC D₄ is used to support Calling Line Identity (CLI) in TLU83 board. When the value of VARC D₄ is 0, CLI is not supported.

*) Values other than 0, 1, 3 or 5 are not allowed for VARC D₄.

**) DTMF and FSK Standard are valid only if CLI support is set to yes.

By default, CLI is not supported.

Table 49 Values of D5 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Delay time before free mark and release of the trunk
Use the time in APS-VAR: TIMEBFREEMARKMED	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1 sec	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2 sec	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
3 sec	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
4 sec	X	.	.	.	.	.	.	.	.	.	.	.
5 sec	X	.	.	.	.	.	.	.	.	.	.
6 sec	X	.	.	.	.	.	.	.	.	.
7 sec	X	.	.	.	.	.	.	.	.
8 sec	X	.	.	.	.	.	.	.
9 sec	X	.	.	.	.	.	.
10 sec	X	.	.	.	.	.
11 sec	X	.	.	.	.
12 sec	X	.	.	.
13 sec	X	.	.
14 sec	X	.
15 sec	X

When the value 0 is chosen, the PL2 value (TIMEBFREEMARKMED) for the market (AS) is valid. The stated PL2 value must be divided by 2 to get the seconds.

For example, if the stated PL2 value is 10, then the delay time will be 5 seconds.

Table 50 Values of D6 (VARC)

	0	1	2	3
Line test
No line test	X	.	.	.
Automatic line test Time between tests APS-VAR: TIMELINETEST1	.	X	.	.
Automatic line test Time between tests APS-VAR:TIMELINETEST2	.	.	X	.
Automatic line test Time between tests APS-VAR:TIMELINETEST3	.	.	.	X

Note: Valid only for traffic to a public exchange where PTS is included in the signal diagram.

219 Values of D7 (VARO) on page 713

Table 51 Values of D7 (VARC)

	0	1	2	3
Programming of line length	.	.	.	.
No programmable boards is used	X	.	.	.
Boards programmed for short line length	.	X	.	.
Boards programmed for long line length	.	.	X	.

Spare (can be used for special purposes)	X
--	---	---	---	---	---

For D₇, the following TLU-boards are programmable:

- TLU83
- TLU82
- TLU75

Table 52 Values of D8 (VARC)

	0	1	2	4	5	6
Type of MFC-code	.	.	.	.	.	.
CCITT	X	X	X	.	.	.
LME	.	.	.	X	X	X
Line voltage used by interworking exchange	.	.	.	.	.	.
24 V	X	.	.	X	.	.
36 V	.	X	.	.	X	.
48 V	.	.	X	.	.	X

257.3.2

FUNCTION

The parameter is used to state signal diagram variations common for incoming and outgoing traffic.
Parameter VARC is mandatory.

257.3.3 EXAMPLE 1

CLI Support	Support with ETSI
Delay time before free mark and release ...	No line test
Line test	Boards programmed for short line length
Programming of line length	No programmable board
Type of MFC-code	CCITT
Line voltage used by interworking exchange	36V

VARC = 00030101

257.3.4 EXAMPLE 2

CLI Support	Support with ETSI
Delay time before free mark and ...	No line test
Line test	Boards programmed for long line length
Programming of line length	No programmable board
Type of MFC-code	LME
Line voltage used by interworking exchange	24V

VARC = 00030204

257.4

VARC - TL19

Signal diagram variations common for incoming and outgoing traffic

257.4.1

FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ = 0 - 4	See Table 53 Values of D1 (VARC) on page 590.
D ₂ = 0 - F	See Table 54 Values of D2 (VARC) on page 591.
D ₃ = 0 - E	See Table 55 Values of D3 (VARC) on page 591.
D ₄ = 0 - 5	See Table 56 Values of D4 (VARC) on page 591.
D ₅ = 0 - F	See Table 57 Values of D5 (VARC) on page 592.
D ₆ = 0 - F	See Table 58 Values of D6 (VARC) on page 593.
D ₇ = 0 - F	See Table 59 Values of D7 (VARC) on page 594.
D ₈ = 1	Type of external line. Standard continuous E&M signalling

Table 53 Values of D1 (VARC)

	0	1	2	3	4
Programmable board settings
No Programmable board	X	.	.	.	.
Short line length	.	X	.	.	.
Long line length	.	.	X	.	.
4-wires	.	.	.	X	.
Spare DSLAC *)	X

*) Used for special purpose

Table 54 Values of D2 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Intrusion handling permitted (MFC facility)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Length of the signal pulses *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Standard *)	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
National	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Clear down from line to be acknowledged	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No *)	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Check on double seizure	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No *)	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*) Recommended value.

*1) Selects different configurations of market parameters.

Table 55 Values of D3 (VARC)

	0	1	2	4	5	6	8	9	A	C	D	E
Indication of line blocked individuals in alarm log	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	.	.	.	.	.	.
Yes *)	.	.	.	.	.	.	X	X	X	X	X	X
Terminal route congestion	.	.	.	.	.	.	.	.	.	.	.	.
No *)	X	X	X	.	.	.	X	X	X	.	.	.
Yes	.	.	.	X	X	X	.	.	.	X	X	X
Temporary blocking of outgoing calls	.	.	.	.	.	.	.	.	.	.	.	.
None	X	.	.	X	.	.	X	.	.	X	.	.
Short *)	.	X	.	.	X	.	.	X	.	.	X	.
Long	.	.	X	.	.	X	.	.	X	.	.	X

*) Recommended value.

Table 56 Values of D4 (VARC)

	0	1	2	3	4	5
M-lead signalling reference	.	.	.	.	.	.
Earth/0 v	X	X	.	.	.	.
Battery/-48 v	.	.	X	X	.	.
External	.	.	.	.	X	X
A-lead signalling reference	.	.	.	.	.	.
Earth/0 v	X	.	X	.	X	.

External	.	X	.	X	.	X
----------	---	---	---	---	---	---

Note: Compare with the values in table 5.

Table 57 Values of D5 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
State of blocking transmitter in state idle (A-wire)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Closed	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Open	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
State of blocking receiver in state idle (B-wire)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Closed	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Open	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
State of E-wire in state idle	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Closed	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Open	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
State of M-wire in state idle	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Closed	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Open	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Note: Closed/Open = state of contact (Open is recommended value). Compare with the values in table 4.

Table 58 Values of D6 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Clear-forward (when own extension releases first on outgoing call) Acknowledgement from interworking exchange to be supervised	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Clearing signal to be sent	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Clear-back (when own extension releases first on incoming call) releases first on incoming call) acknowledgement from interworking exchange to be supervised	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Clearing signal to be sent	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 59 Values of D7 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Test of faulty line (Repetitive)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes *)	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Type of MFC-code	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CCITT *)	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
LME	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Release guard (An extra clear down signal is supplied for incoming traffic.)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No release guard *)	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Release guard	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Filter	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No *)	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*) Recommended value.

257.4.2

FUNCTION

The parameter specifies the common signalling diagram variations for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.4.3

EXAMPLE

Programmable board settings	Short line length
Intrusion handling (MFC facility)	No
Length of the signal pulses	Standard
Clear down from line to be ...	Yes
Indication of line blocked individuals ...	Yes
Terminal route congestion	No
Temporary blocking of outgoing calls	Short
M-lead signalling reference	Earth/0v
A-lead signalling reference	Earth/0v
State of blocking transmitter in ...	Open
State of blocking receiver in state ...	Open
State of E-wire in state idle	Open
State of M-wire in state idle	Open
Clear-forward (When own extension ...	Yes
Clearing signal to be sent	Yes
Clear-back (When own extension ...	Yes
Clearing signal to be sent	Yes
Test of faulty line (Repetitive)	Yes
Type of MFC-code	CCIT
Release guard (An extra clear ...	No
Filter	No
Type of external line	Standard continuous E&M signalling

VARC=1390FF81

257.5

VARC - TL22

Signal diagram variations common for incoming and outgoing traffic

257.5.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈

D₁ = 0 - 5 See Table 60 Values of D1 (VARC) on page 596.

D₂ = 0 - 4 See Table 61 Values of D2 (VARC) on page 596.

D₃ = 0 - 2 See Table 62 Values of D3 (VARC) on page 597.

D₄ = 0 - F See Table 63 Values of D4 (VARC) on page 597.

D₅ = 0, 1 See Table 64 Values of D5 (VARC) on page 597.

D₆ = 0 - 2 See Table 65 Values of D6 (VARC) on page 597.

D₇ = 0 - 4 See Table 66 Values of D7 (VARC) on page 597.

D₈ = 0 - 2 See Table 67 Values of D8 (VARC) on page 598.

Table 60 Values of D1 (VARC)

	0	1	2	3	4	5
A-Lead and M-Lead signalling reference	.	.	.	.	.	.
Earth / 0v A-Lead	X	.	X	.	X	.
External A-Lead	.	X	.	X	.	X
Earth / 0v M-Lead	X	X	.	.	.	.
Battery / -48V M-Lead	.	.	X	X	.	.
External M-Lead	.	.	.	.	X	X

Table 61 Values of D2 (VARC)

	0	1	2	3	4
Programmable board settings
No programmable board	X	.	.	.	.
Short line	.	X	.	.	.
Long line	.	.	X	.	.
4 wire	.	.	.	X	.
*)SPARE DSLAC	X

Table 62 Values of D3 (VARC)

	0	1	2
Time for blocking of outgoing call (access)	.	.	.
No blocking	X	.	.
Short blocking time (APS-parameter = TIMEFREETLDELAYSHORT)	.	X	.
Long blocking time (APS-parameter = TIMEFREETLDELAYLONG)	.	.	X

Table 63 Values of D4 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
State of blocking sender in state idle (A-wire)																
Closed	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Open *1)	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
State of blocking receiver in state idle (B-wire)																
Closed	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Open *1)	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
State of E-wire in state idle																
Closed	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Open	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
State of M-wire in state idle																
Closed	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Open	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*1) For most applications in the US - market, open state is required.

Note: Closed/Open = State for contact (Open is recommended).

Table 64 Values of D5 (VARC)

	0	1
Line test	.	.
Line test is not to be made towards a faulty line (always A-format)	X	.
Line test is to be made towards a faulty line (D-format, disconnection has failed) *)	.	X

*) Recommended value.

Table 65 Values of D6 (VARC)

	0	1	2
Type of MFC code	.	.	.
CCITT	X	.	.
ESB/UK National Grid	.	X	.
CEPT L1	.	.	X

Table 66 Values of D7 (VARC)

	0	1	2	3	4
Type of line signalling

A-FORMAT (Non-active register state)	X	.	.	.	.
D-FORMAT (Active register state)	.	X	.	.	.
CEPT L1	.	.	X	.	.
E/M-signalling, general	.	.	.	X	.
SSAC15	.	.	.	.	X

Table 67 Values of D8 (VARC)

	0	1	2
Traffic direction	.	.	.
Incoming traffic	X	.	.
Outgoing traffic	.	X	.
Bothway traffic	.	.	X

257.5.2

FUNCTION

The parameter states the signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.5.3

EXAMPLE

A-Lead and M-Lead signalling ...	External M-lead Earth/0V A-lead
Programmable board settings	4 wire
Time for blocking of outgoing call ...	No blocking
State of blocking sender ... (A-wire)	Open
State of blocking receiver ... (B-wire)	Open
State of E-wire in state idle	Open
State of M-wire in state idle	Open
Line test	Line test is to be made ...
Type of MFC code	CCITT
Type of line signalling	E/M -signalling, general
Traffic direction	Bothway traffic

VARC = 430F1032

257.6

VARC - TL25

Signal diagram variations common for incoming and outgoing traffic

257.6.1

FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ = 000000	Reserved.
D ₇ = 0 - 3	See Table 68 Values of D7 (VARC) on page 600.
D ₈ = 0 - 3	See Table 69 Values of D8 (VARC) on page 600.

Table 68 Values of D7 (VARC)

	0	1	2	3
Programming of line length
No programmable boards are used.	X	.	.	.
Boards programmed for short line length.	.	X	.	.
Boards programmed for long line length.	.	.	X	.
Reserved (can be used for special purpose).	.	.	.	X

For D₇, the following TLU-boards are programmable:

- TLU83
- TLU82
- TLU75

Table 69 Values of D8 (VARC)

	0	1	2	3
Line test
No line test	X	.	.	.
Automatic line test Time between tests APS-VAR: TIMELINETEST1	.	X	.	.
Automatic line test. Time between tests APS-VAR: TIMELINETEST2	.	.	X	.
Automatic line test. Time between tests APS-VAR: TIMELINETEST3	.	.	.	X

Note: Valid only for traffic to a public exchange where PTS is included in the signal-diagram (see table 8, VARO).

257.6.2

FUNCTION

The parameter indicates the signal diagram variations that are common for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.6.3

EXAMPLE 1

Programming line length
Line Test

No programmable boards are used.
Automatic line test.
Time between tests APS-VAR: TIMELINETEST2

VARC = 00000002

257.6.4

EXAMPLE 2

Programming line length
Line Test

Boards programmed for long line length.
No line test

VARC = 00000020

257.7

VARC - TL26

Signal diagram variations common for incoming and outgoing traffic

257.7.1

FORMAT

VARC = $D_1D_2D_3D_4D_5D_6D_7D_8$

$D_1D_2D_3D_4D_5 = 00000$ Reserved.

$D_6 = 0 - 3$ See Table 70 Values of D6 (VARC) on page 602.

$D_7 = 0 - 4$ See Table 71 Values of D7 (VARC) on page 602.

$D_8 = 0 - 2$ See Table 72 Values of D8 (VARC) on page 602.

Table 70 Values of D6 (VARC)

	0	1	2	3
Programming of line length
No programmable boards are used	X	.	.	.
Boards programmed for short line length	.	X	.	.
Boards programmed for long line length	.	.	X	.
Reserve (can be used for special purpose)	.	.	.	X

For D_6 , the following TLU-boards are programmable:

- TLU83
- TLU82
- TLU75

Table 71 Values of D7 (VARC)

	0	1	2	4
MFC-signal A5 included in signal diagram	.	.	.	.
No	X	X	X	.
Yes	.	.	.	X
Type of MFC	.	.	.	.
MFC - CCITT	X	.	.	X
MFC - LME	.	X	.	.
MFC - CCITT (simplified)	.	.	X	.

Table 72 Values of D8 (VARC)

	0	1	2
Type of external line	.	.	.
Bothway traffic	X	.	.
Incoming traffic	.	X	.
Outgoing traffic	.	.	X

257.7.2

FUNCTION

The parameter states the signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.7.3

EXAMPLE 1

Programming of line length	No programmable boards are used
MFC-signal A5 included in signal diagram	No
Type of MFC	MFC - CCITT
Type of external line	Bothway traffic

VARC = 00000000

257.7.4

EXAMPLE 2

Programming of line length	Boards programmed for long line length
MFC-signal A5 included in ...	No
Type of MFC	MFC - CCITT
Type of external line	Bothway traffic

VARC = 00000200

257.8 VARC - TL30

Signal Diagram Variations Common for Incoming and Outgoing Traffic

257.8.1 FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ = 0000	Reserved.
D ₅ = 0 - 5	See Table 73 Values of D5 (VARC) on page 604.
D ₆ = 0 - F	See Table 74 Values of D6 (VARC) on page 605.
D ₇ = 0 - F	See Table 75 Values of D7 (VARC) on page 605.
D ₈ = 0 - F	See Table 76 Values of D8 (VARC) on page 605.

Table 73 Values of D5 (VARC)

	0	1	2	3	4	5
Type of MFC signaling
CCITT R2 code	X	.	.	.	.	.
Ericsson (LME) code	.	X	.	.	.	.
CCITT R2 code, India	.	.	X	.	.	.
CCITT R2 code, Czech	.	.	.	X	.	.
CCITT R2 code, Hungary	X	.
CCITT R2 code, Thailand	X

Table 74 Values of D6 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
A-number length *1)
No A-number	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1 digit	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2 digits	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
3 digits	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
4 digits	X	.	.	.	.	.	.	.	.	.	.	.
5 digits	X	.	.	.	.	.	.	.	.	.	.
6 digits	X	.	.	.	.	.	.	.	.	.
7 digits	X	.	.	.	.	.	.	.	.
8 digits	X	.	.	.	.	.	.	.
9 digits	X	.	.	.	.	.	.
10 digits	X	.	.	.	.	.
11 digits	X	.	.	.	.
12 digits	X	.	.	.
13 digits	X	.	.
14 digits	X	.
15 digits	X

*1) Used for MFC CCITT R2 code, India (MFC A-4 to request A-Number).

Table 75 Values of D7 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Handling of slip faults *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Disturbance mark board	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Block board	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Type of external line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Other type of external line	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Public line, Italy	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Semipermanent connections	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Intrusion in net	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*2) SLIP must be handled the same way by all 30 individuals on the board.

Table 76 Values of D8 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Type of signalling diagram	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CCITT - R2 Standard (ITU-T Q.422)	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

[illegible]

257.8.2

FUNCTION

The parameter is used to state signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

Note: For bothway traffic the digital signal diagram for incoming and outgoing traffic must be identical.

If MFC is used for incoming traffic, then decadic, tone code or MFC signaling can be used for outgoing traffic providing the route is bothway.

If MFC is used, then PTS as tone cannot be used.

If A-number request shall be used for incoming traffic, and MFC signaling shall be used, the incoming route shall be categorized to allow A-number request from the public network and the called party shall be categorized to allow request of A-number from the PSTN.

The A-number request is not applicable when TL30 is initiated as a tie line!

257.8.3

EXAMPLE

Type of MFC signalling	CCITT R2code
A-number length	No length specified
Handling of slip faults	Disturbance mark board
Type of external line	Other type ...
Semipermanent connections	No
Intrusion in net	No
Type of signalling diagram	Standard (AXE)

VARC = 00000002

257.9
VARC - TL35

Signal diagram variations common for incoming and outgoing traffic

257.9.1
FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ = 0000	Reserved.
D ₅ = 0 - 3	See Table 77 Values of D5 (VARC) on page 607.
D ₆ = 0 - 3	See Table 78 Values of D6 (VARC) on page 607.
D ₇ = 0 - 9	See Table 79 Values of D7 (VARC) on page 608.
D ₈ = 0 - 4	See Table 80 Values of D8 (VARC) on page 608.

Table 77 Values of D5 (VARC)

	0	1	2	3
Programming of Tie Line and type of TLU
No Tie Line. No TLU35X	X	.	.	.
Tie Line. No TLU35X	.	X	.	.
No Tie Line. TLU35X	.	.	X	.
Tie Line TLU35X	.	.	.	X

Note: TLU35X: TLU37 with Rev. R4A, R4B or R4C.

Table 78 Values of D6 (VARC)

	0	1	2	3
Programming of line length
No programmable boards are used	X	.	.	.
Boards programmed for short line length	.	X	.	.
Boards programmed for long line length	.	.	X	.
Reserve (can be used for special purpose)	.	.	.	X

For D₆, the following TLU-boards are programmable:

- TLU83
- TLU82
- TLU75

Table 79 Values of D7 (VARC)

	0	1	8	9
Test of faulty line	.	.	.	.
No	X	X	.	.
Yes	.	.	X	X
Type of MFC-signalling	.	.	.	.
CCITT	X	.	X	.
LME	.	X	.	X

Table 80 Values of D8 (VARC)

	0	1	2	3	4
Type of external line
DID, Germany	X	.	.	.	.
Exchange line	.	X	.	.	.
DID, Belgium	.	.	X	.	.
DC-loop	.	.	.	X	.
Balanced battery (Cailho-signalling)	X

Note: TLU75/1 does only support Exchange Line Signalling.

257.9.2

FUNCTION

The parameter states the signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.9.3

EXAMPLE 1

Programming of Tie Line ...	No Tie Line. No TLU35X
Programming of line length	Boards programmed for long line length
Test of faulty line	No
Type of MFC-signalling	CCITT
Type of external line	Exchange line

VARC = 00000201

257.9.4

EXAMPLE 2

Programming of Tie Line and ...	No Tie Line. No TLU35X
Programming of line length	No programmable boards are used
Test of faulty line	No
Type of MFC-signalling	CCITT
Type of external line	Exchange line

VARC = 00000001

257.10
VARC - TL37

Signal diagram variations common to incoming and outgoing traffic

257.10.1
FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ =	000000	Reserved.
D ₇ = 0 - 7	See Table 81 Values of D 7 (VARC) on page 609.	
D ₈ = 0 - F	See Table 82 Values of D 8 (VARC) on page 610.	

Table 81 Values of D7 (VARC)

	0	1	2	3	4	5	6	7
Handling of slip fault	.	.	.	.	.	.	.	.
Disturbance mark board	X	X	X	X	.	.	.	.
Block board	.	.	.	.	X	X	X	X
Type of post digit dialling	.	.	.	.	.	.	.	.
Tone code (standard)	X	X	.	.	X	X	.	.
Impulsing	.	.	X	X	.	.	X	X
Clearing	.	.	.	.	.	.	.	.
Directly	X	.	X	.	X	.	X	.
After tone message	.	X	.	X	.	X	.	X

Note: Slip fault must be handled in the same way by all 30 individuals on the board.

Table 82 Values of D8 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Type of MFC signalling
CCITT R2	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
CEPT	X	X	X	X	.	.	.	.	.	.	.	.
ESB/UK National Grid	X	X	X	X	.	.	.	.
CCITT R1	X	X	X	X
Type of line signalling
A-format	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
D-format	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
A-format inverted	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
A-format 2 wire DC Loop	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

257.10.2

FUNCTION

The parameter states the signal diagram variations that is common to both incoming and outgoing traffic.

Parameter VARC is mandatory.

257.10.3

EXAMPLE

Handling of slip fault
Type of post digit dialling
Clearing
Type of MFC signalling
Type of line signalling

Disturbance mark board
Tone code
Directly
-
D-format

VARC = 00000001

257.11

VARC - TL38

Signal diagram variations common for incoming and outgoing traffic

257.11.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂D₃ = 000 Reserved.

D₄ = 0 - 1 See Table 83 Values of D4 (VARC) on page 611.

D₅ = 0 - 1 See Table 84 Values of D5 (VARC) on page 611.

D₆ = 0 - 1 See Table 85 Values of D6 (VARC) on page 611.

D₇ = 0 - A See Table 86 Values of D7 (VARC) on page 612.

D₈ = 0 - 1 See Table 87 Values of D8 (VARC) on page 612.

Table 83 Values of D4 (VARC)

	0	1
Handling of slip fault		
Disturbance mark board	X	.
Block board	.	X

Note: Slip fault must be handled in the same way by all individuals on the board.
Recommended value is 0

Table 84 Values of D5 (VARC)

	0	1
Type of external line		
Public	X	.
Tie line	.	X

Table 85 Values of D6 (VARC)

	0	1
Traffic direction		
Incoming traffic	X	.
Outgoing traffic	.	X

Table 86 Values of D7 (VARC)

	Value
Length of A-number to be sent or received in calls terminating in the private network	
For public line (default)	0
For tie line	3-A

Note: A-number is sent at outgoing traffic and received at incoming traffic for tie line, see D5 and D6 in VARC.

Table 87 Values of D8 (VARC)

	0	1
Type of MFE register signalling		
MFE 2/5 code	X	.
MFE 2/6 code	.	X

257.11.2

FUNCTION

The parameter states the signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.11.3

EXAMPLE 1

Handling of slip fault

Type of external line

Traffic direction

Length of A-number to be sent or ...

Type of MFE register signalling

Disturbance mark board

Public line

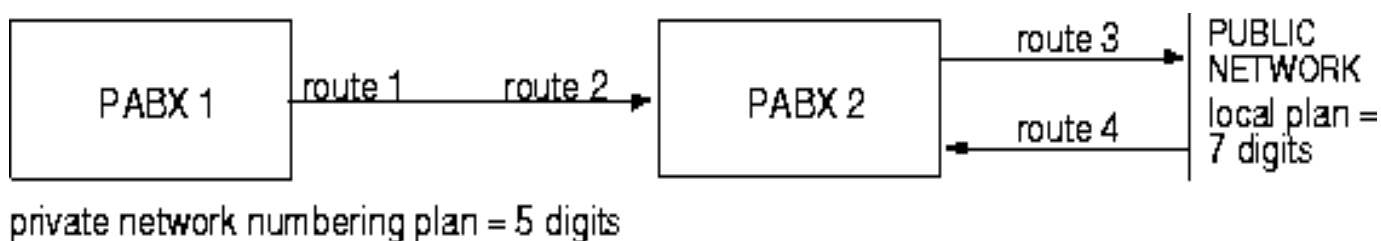
Outgoing traffic

0 (default)

2/6

VARC = 00000100

257.11.4

EXAMPLE 2**ROUTE 1**

- outgoing tie-line external line with 2/6 MFE register signalling
- length of A-number sent in calls terminating in the private network is 5
- length of A-number sent in calls terminating in the public network is 7
- alternative routing due to external congestion is not permitted

VARC = 00001151 VARO = 00000007

ROUTE 2

- incoming tie-line with 2/6 MFE register signalling
- length of A-number received in calls terminating in the private network is 5
- length of A-number received in calls terminating in the public network is 7
- reanswer is allowed
- B10 signal is allowed

VARC = 00001051 VARI = 00001701

ROUTE 3

- outgoing public external line with 2/6 MFE register signalling
- alternative routing due to external congestion is not permitted
- length of local public plan is 7

VARC = 00000101 VARO = 00000007

ROUTE 4

- incoming public external line with 2/6 MFE register signalling
- reanswer is allowed
- B10 signal is not allowed
- Do not request public A-number.

VARC = 00000001 VARI = 00000001

257.12

VARC - TL45

Signal diagram variations common for incoming and outgoing traffic

257.12.1

FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ =	0000000	Reserved.
	D ₈ = 0 - 7	See Table 88 Values of D 8 (VARC) on page 614.

Table 88 Values of D8 (VARC)

	0	1	2	3	4	5	6	7
Central Office, CO type	.	.	.	.	.	.	.	.
Common control central office, CC	X	X	X	X	.	.	.	.
Step by step, SBS	.	.	.	.	X	X	X	X
Trunk type	.	.	.	.	.	.	.	.
Loop CO	X	.	.	.	X	.	.	.
DID	.	X	.	.	.	X	.	.
Ground CO	.	.	X	.	.	.	X	.
Tie line	.	.	.	X	.	.	.	X

257.12.2

FUNCTION

The parameter states the signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

Note: The DMI mode configuration should be in CCS signalling.

The 24th channel is reserved for signalling if any assigned channel on the same board is in CCS signalling.

The board configuration (ZERO, FRM and DMI) can only be assigned the same value for the different trunks of the same board.

The CO trunk can only support dial tone as proceed-to-send.

The DID trunk can only support wink start as proceed-to-send.

The B-answer is never received from the CO trunk.

257.12.3

EXAMPLE

Blocking on excessive slip
Trunk type

Common channel ...
Ground CO

VARC = 00000002

257.13

VARC - TL49

Signal diagram variations common for incoming and outgoing traffic

257.13.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂ = 00 Reserved.

D₃ = 0 - 5 See Table 89 Values of D 3 (VARC) on page 615.

D₄ = 0 - 2 See Table 90 Values of D 4 (VARC) on page 615.

D₅ = 0 - 6 See Table 91 Values of D 5 (VARC) on page 616.

D₆ = 1, 2 See Table 92 Values of D 6 (VARC) on page 616.

D₇ = 0 - A See Table 93 Values of D 7 (VARC) on page 616.

D₈ = 0 - E See Table 94 Values of D 8 (VARC) on page 617.

Table 89 Values of D3 (VARC)

	0	1	2	3	4	5
M-lead signalling reference	.	.	.	.	.	.
Earth/0 V	X	X	.	.	.	.
Battery/-48 V	.	.	X	X	.	.
External	.	.	.	.	X	X
A-lead signalling reference	.	.	.	.	.	.
Earth/0 V	X	.	X	.	X	.
External	.	X	.	X	.	X

Table 90 Values of D4 (VARC)

	0	1	2
Programmable board setting	.	.	.
No programmable board	X	.	.
4-wires	.	X	.
Spare DSLAC *)	.	.	X

*) Used for special purpose

Table 91 Values of D5 (VARC)

	0	1	2	3	4	5	6
Fetch category *)
After 1 digit	X	.	.	.	.	.	.
After 2 digits	.	X	.	.	.	.	.
After 3 digits	.	.	X	.	.	.	.
After 4 digits	.	.	.	X	.	.	.
After 5 digits	X	.	.
After 6 digits	X	.
After 7 digits	X

*) Used when Local-toll or Toll-toll is set in VARC D7.

Table 92 Values of D6 (VARC)

	1	2
Blocking of outgoing calls	.	.
Short blocking	X	.
Long blocking	.	X

Table 93 Values of D7 (VARC)

	0	1	2	4	5	6	8	9	A
Type of route	.	.	.	.	.	.	.	.	.
Local-local 1) *)	X	X	X	.	.	.	.	.	.
Local-toll 2) **)	.	.	.	X	X	X	.	.	.
Toll-toll 3) **)	.	.	.	.	.	.	X	X	X
Type of disconnection	.	.	.	.	.	.	.	.	.
First party release	X	.	.	X	.	.	X	.	.
A-party release	.	X	.	.	X	.	.	X	.
B-party release	.	.	X	.	.	X	.	.	X

- 1) Local-Local, calls that originate and terminate in local exchanges in the network.
- 2) Local-Toll, calls that originate in a local exchange and terminate in an exchange that provides long distance call in the network.
- 3) Toll-Toll, calls between two long distance exchanges in the network.

Table 94 Values of D8 (VARC)

	0	1	2	4	5	6	8	9	A	C	D	E
Traffic direction	.	.	.	.	.	.	.	.	.	.	.	.
Incoming traffic only	X	.	.	X	.	.	X	.	.	X	.	.
Outgoing traffic only	.	X	.	.	X	.	.	X	.	.	X	.
Bothway traffic	.	.	X	.	.	X	.	.	X	.	.	X
Line test	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	.	.	.	X	X	X	.	.	.
Yes	.	.	.	X	X	X	.	.	.	X	X	X
Type of MFC-signalling	.	.	.	.	.	.	.	.	.	.	.	.
MFC-CESEC	X	X	X	X	X	X	.	.	.	.	.	.
Reserve	.	.	.	.	.	.	X	X	X	X	X	X

257.13.2**FUNCTION**

The parameter states the signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.13.3**EXAMPLE**

M-lead signalling reference	Earth/0 V
A-lead signalling reference	Earth/0 V
Programmable board setting	4-wire
Fetch category	After 3 digits
Blocking of outgoing calls	Short blocking
Type of route	Toll-toll
Type of disconnection	A-party release
Traffic direction	Bothway traffic
Line test	Yes
Type of MFC-signalling	MFC-CESEC

VARC = 00012196

257.14

VARC - TL50

Signal Diagram Variations Common for Incoming and Outgoing Traffic

257.14.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃D₄ = 0000 Reserved.D₅ = 0 - 1 See Table 95 Values of D5 (VARC) on page 618.D₆ = 0 - 7 See Table 96 Values of D6 (VARC) on page 618.D₇ = 0 - F See Table 97 Values of D7 (VARC) on page 619.D₈ = 0 - F See Table 98 Values of D8 (VARC) on page 619.**Table 95 Values of D5 (VARC)**

	0	1
Trunk Identity		
Long *)	X	.
Short **)	.	X

*) Nine-digit trunk identity (ROU-LIM-TRU XXX-XXX-XXX). This value shall only be used when cooperating exchange is ASB 501 04 R7.

**) Six-digit trunk identity (ROU-LIM-TRU XX-XX-XX). This value shall only be used when cooperating exchange is ASB 501 04 R6 or earlier.

Table 96 Values of D6 (VARC)

	0	1	2	3	4	5	6	7
Cooperating exchange supports net services								
Yes	X	X	X	X	.	.	.	.
No *1)	.	.	.	.	X	X	X	X
Handling of the bearer capability check for calls terminating on modemless data extensions .	...	...	...	...	...	...	...	...
(Calls where originating PABX indicate ASB501 04 R2 or R4 will always be checked)	.	.	.	.	.	.	.	.
Full check *2)	X	X	.	.	X	X	.	.
No check *3)	.	.	X	X	.	.	X	X
Handling of the interface when slip exceeds the threshold value *4)	...	...	...	...	...	...	...	...
Disturbance marking of board *5)	X	.	X	.	X	.	X	.
Blocking of board	.	X	.	X	.	X	.	X

*1) This value shall be used when the cooperating exchange is ASB 501 01 R3, ASB 501 01 R4 or ASB 501 04 R1 or no netservices supported.

*2) Calls with incompatible Bearer Capability will be rejected according to DPNSS standard.

- *3) This value shall be used only if modemless data call can be expected from ASB 501 01 R3, ASB 501 01 R4 or ASB 501 04 R1.
- *4) Slip fault must be handled in the same way for all individuals on the board.
- *5) For market type USA the board will not become disturbance marked.

Table 97 Values of D7 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Type of PTS																
No PTS	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
Dial tone	.	.	.	.	X	X	X	X	.	.	.	.	.	.	.	.
Morse code *)	.	.	.	.	.	.	.	.	X	X	X	X	.	.	.	.
Recorded announcement **)	.	.	.	.	.	.	.	.	.	.	.	.	X	X	X	X
Satellite link																
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Periodic end signalling ***)																
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

- *) Primarily intended for various railway companies. The equipment containing the recorded announcement to send as PTS is connected to the analogue input 2 of the tone sender equipment. The recorded announcement is stored in the music on hold equipment.
- ***) Primarily intended for various railway companies. The equipment containing the recorded announcement to send as PTS is connected to the analogue input 3 of the tone sender equipment. The recorded announcement is stored in the music on hold equipment.
- ***) Periodic end signalling is a function only for the swedish application system. When this function is required the parameter value must be set to YES for all DPNSS routes in the network.

Table 98 Values of D8 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Type of connection																
To PABX	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
To public exchange	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Type of signalling scheme																
DPNSS *)	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
DASS **)	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Incoming priority at double seizure. (Each end of the link has to be assigned complementary to the other, i.e. both ends cannot have the same value)																
Even channels	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Odd channels	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X

257.15

VARC - TL51

Signal diagram variations common for incoming and outgoing traffic

257.15.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂D₃D₄ = 0000 Reserved.

D₅ = 0 - 6 See Table 99 Values of D5 (VARC) on page 621.

D₆ = 0 - 7 See Table 100 Values of D 6 (VARC) on page 621.

D₇ = 0 - E See Table 101 Values of D7 (VARC) on page 621.

D₈ = 0 - D See Table 102 Values of D8 (VARC) on page 622.

Table 99 Values of D5 (VARC)

	0	1	2	3	4	5	6
Number of digits to receive before fetching the category
1 digit	X	.	.	.	.	.	.
2 digits	.	X	.	.	.	.	.
3 digits	.	.	X	.	.	.	.
4 digits	.	.	.	X	.	.	.
5 digits	X	.	.
6 digits	X	.
7 digits	X

Table 100 Values of D 6 (VARC)

	0	1	2	3	4	5	6	7
Block board on detected slip	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Receive release guard before answer	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X
Type of signal converter	.	.	.	.	.	.	.	.
Ericsson	X	.	X	.	X	.	X	.
Chinese	.	X	.	X	.	X	.	X

Note: The values of BLOCK BOARD ON DETECTED SLIP must be the same for the whole device board.

Table 101 Values of D7 (VARC)

	0	1	2	4	5	6	8	9	A	C	D	E
Type of route	.	.	.	.	.	.	.	.	.	.	.	.
Local - Local	X	X	X	.	.	.	.	.	.	.	.	.
Local - Toll	.	.	.	X	X	X	.	.	.	.	.	.

Toll - Toll	.	.	.	.	.	.	.	X	X	X	.	.	.
PSTN	.	.	.	.	.	.	.	.	.	.	X	X	X
Type of disconnection	.	.	.	.	.	.	.	.	.	.	.	.	.
First party release	X	.	.	X	.	.	X	.	.	X	.	.	.
A-party release	.	X	.	.	X	.	.	X	.	.	X	.	.
B-party release	.	.	X	.	.	X	.	.	X	.	.	X	.

Local-Local	Calls that will originate and terminate in local exchanges in the network
Local-Toll	Calls that will originate from a local exchange and terminate in an exchange that provides long distance call in the network.
Toll-Toll	Calls between two long distance exchanges in the network.
PSTN	Public switched telephone network.

Table 102 Values of D8 (VARC)

	0	1	2	3	4	5	8	9	A	B	C	D
Type of MFC
CESEC-code	X	X	X	X	X	X	.	.	.	.	.	.
PSTN-code	X	X	X	X	X	X
Type of digital diagram
PSTN	X	.	.	.	.	.	X	.	.	.	.	.
SPC	.	X	.	.	.	.	.	X	.	.	.	.
XB (cross bar)	.	.	X	.	.	.	.	.	X	.	.	.
SXS (step by step)	.	.	.	X	.	.	.	.	.	X	.	.
SSB (spec. serv. board)	X	.	.	.	.	.	X	.
TMB (toll manual board)	X	.	.	.	.	.	X

257.15.2

FUNCTION

The parameter indicates the signalling diagram variations applicable for both incoming and outgoing traffic.

257.15.3

EXAMPLE

Number of digits to receive before ...	3
Block board on detected slip	Yes
Receive release guard before answer	Yes
Type of signal converter	Chinese
Type of route	Local-Toll
Type of disconnection	First party
Type of MFC	CESEC code
Type of digital diagram	XB (cross bar)

VARC = 00002742

257.16

VARC - TL60

Signal Diagram Variations Common for Incoming and Outgoing Traffic.

VARC D1 is controlling where the location-id (ELIN) data is inserted when an outgoing call is placed on a ISDN route where ADC D26 is set to 1. The location-id (ELIN) is provided if the call originates from a SIP phone dialling an emergency number. See *Operational Directions "Emergency Calls, SOS Calls"*.

257.16.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈

D₁ = 0 - 8 See Table 103 Value of D1 in VARC on page 623.
See Table 104 VARC D1 on page 623.
See Table 105 VARC D1 on page 624.

D₂ = 0 - 1 See Table 106 Value of D2 in VARC on page 624.

D₃ = 0 - 4 See Table 107 Value of D3 in VARC on page 624.

D₄ = 0 - C See Table 108 Value of D4 in VARC on page 625.

D₅ = 0 Reserved.

D₆ = 0 - F See Table 109 Value of D6 in VARC on page 625.

D₇ = 0 - 7 See Table 110 Value of D7 in VARC on page 626.

D₈ = 0 - F See Table 111 Value of D8 in VARC on page 626.

Table 103 Value of D1 in VARC

New VARC D1

0	A-number and name not changed.
1	A-number substituted with location-id, name not changed.
2	A-number substituted with exchange-number + location-id, name not changed.
3	A-number and name not changed.
4	A-number not changed, name substituted with location-id.
5	A-number substituted with location-id, name substituted with location-id.
6	A-number substituted with exchange-number + location-id, name substituted with location-id.
7	A-number and name not changed.
8	SIP provided location-id (ELIN) to forward over ISDN.

Table 104 VARC D1

No substitution	0
Substitute original number with location-id	1
Substitute original number with area-code + location-id	2
No substitution	3
Substitute original name with location-id	4
Substitute original number AND NAME with location-id	5

Substitute original number with area-code + location-id and name with location-id 6

Table 105 VARC D1

Substitution when emergency calls	0	1	2	3	4	5	6
No	X	.	.	.	.	.	.
A-umber with location-id	.	X	.	.	.	.	.
A-number with area-code + location-id	.	.	X	.	.	.	.
No	.	.	.	X	.	.	.
A-with location-id	X	.	.
A-number and a-name with location-id	X	.
A-number with area-code + location-id and a-name with location-id	X

Table 106 Value of D2 in VARC

	0	1
Permit forward switching		
No (default)		X
Yes		X

By permitting forward switching on a route, incoming calls are, if deflected, routed through the server on where the called extension resides, independently of which server the calls are deflected to (forward switching). This means that the normal procedure of returning calls to the sending server and then re-routing the call to the server on which the deflect-to answering position resides is overridden.

Table 107 Value of D3 in VARC

	0	1	2	4
Support of In-band Tones
Default	X	.	.	.
No	.	X	.	.
Yes	.	.	X	.
MCT request as DTMF tones	.	.	.	X

The default value of D3, Support of In-band Tones, means that in-band tones will not be supported for all trunks, except ETSI trunks.

If an ETSI trunk is used, and if false B-answer is to be enabled, explicitly set D3 to No. For all other trunks, if false B-answer is to be enabled, D3 can be set to either Default or No.

Table 108 Value of D4 in VARC

	0	1	2	3	4	5	6	7	8	9	A	B	C
Voice compression characteristics (obsolete function)	.	.	.	.	.	.	.	.	.	.	.	.	.
No compression	X	.	.	.	.	.	.	.	X	.	.	.	.
Reserve	.	X	.	.	.	.	.	.	.	X	.	.	.
Reserve	.	.	X	.	.	.	.	.	.	.	X	.	.
Voice Compression (4->1) (G.728 LD-CELP)	.	.	.	X	.	.	.	.	.	.	.	X	.
Reserve	.	.	.	.	X	.	.	.	.	.	.	.	X
Market	.	.	.	.	.	.	.	.	.	.	.	.	.
Non-Czech	X	X	X	X	X	.	.	.	.	.	.	.	.
Czech	.	.	.	.	.	.	.	.	X	X	X	X	X

Table 109 Value of D6 in VARC

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Send ringing tone to cooperating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X
Overlap receiving	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
External line without signaling *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Reanswer service is allowed (incoming traffic) *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X

*1) An external line without signaling is used in combination with semipermanent connections. If the external line is used for semipermanent connection, no signaling is allowed to be sent out over the interface.

*2) The re-answer feature means that the B-party can resume the call. This feature is only possible when the route is programmed for calling party release.

Table 110 Value of D7 in VARC

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Full ISDN functionality	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X
Limitation of octets in UUI Element *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Send busy or congestion tone to cooperating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Handling of ISDN Numbering Plan Identifier (NPI) Unknown	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Default *2)	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Conversion to Private unknown	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X

***1)** If limitation of octets exists, then transport of UUI sent from S0 terminals will not be supported, nor will the following ISDN trunk network services be supported: Calling/Connected Name ID, Account code, Authority's CIL code, Transit counter (Loop avoidance), Priority routing, Diversion, and Rerouting.

***2)** Controls handling of ISDN NPI Unknown when converting to and from the proprietary ASP 113 Type Of Number.
For an incoming call, when ASP 113 receives NPI unknown, this parameter controls whether the NPI is converted to "unknown public" (default) or to "unknown private".
For an outgoing call, if the internal/originating number is "unknown private", this parameter controls whether the sent NPI shall be "private" (default) or "unknown".
Refer to Numbering Operational Directions for more information on handling of the Type Of Number in ASP 113.

Table 111 Value of D8 in VARC

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Type of signaling system	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ISDN	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Reserve	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X
Connected interface for route individuals																
30B+D/23B+D ¹⁾	X	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2B+D ²⁾	.	.	X	X	.	.	.	.	.	.	.	.	.	.	.	.
Voice Compression (obsolete)	.	.	.	.	X	X	.	.	.	.	.	.	.	.	.	.
Dynamically connected interface	.	.	.	.	.	.	X	X	.	.	.	.	.	.	.	.
Reserve	.	.	.	.	.	.	.	.	X	X	.	.	.	.	.	.
QSIG-23B+D ³⁾	X	X	.	.	.	.
Reserve	.	.	.	.	.	.	.	.	.	.	.	.	X	X	X	X

- 1) For 23B+D this value is to be used when TYPE is SL63.
- 2) For 2B+D this value is to be used when TYPE is SL60 (ISDN-E), that is, when services are allowed for the 2B+D interface.
- 3) For 23B+D this value is to be used when TYPE is SL60, that is, when Q-SIG services are allowed for the 23B+D interface.

257.16.2

FUNCTION

The parameter states what is common for all connected SL units.

257.16.3

EXAMPLE

Support of In-band Tones	YES
Voice compression characteristics	NO
Market	Non Czech
Second ringing tone to cooperating exchange	NO
Overlap receiving	NO
External line without signalling	NO
Reanswer service is allowed	NO
Full ISDN functionality	YES
Limitation of octets in UI-Element	NO
Send busy/congestion tone to cooperating exchange	NO
Type of signalling system	ISDN
Handling of ISDN NPI Unknown	Default

VARC=00200010

257.17

VARC - TL65

Signal diagram variations common for incoming and outgoing traffic

257.17.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂ = 00 Reserved

D₃ = 0 - 2 See Table 112 Value of D4 VARC on page 628.

D₄ = 0 - 3 See Table 113 Value of D4 VARC on page 628.

D₅ = 0 - 1 See Table 114 Value of D5 VARC on page 629.

D₆ = 0 - 1 See Table 115 Value of D6 VARC on page 629.

D₇ = 0 - 1 See Table 116 Value of D7 VARC on page 629.

D₈ = 0 - 1 See Table 117 Value of D8 VARC on page 629.

Table 112 Value of D4 VARC

	0	1	3
Fax Detection			
Enabled for G.711 only	X		
Enabled for any codec		X	
Disabled for any codec			X

Enabled fax detection will request opening RTP media resource with AutoSwitch-PassThrough active. At modem or fax tone detection on the TDM side the RTP resource board will automatically switch to Pass Through mode using a predefined configuration which will set the RTP channel to G.711 codec and fixed jitter buffer, to be able to relay modem and fax data.

Note: If fax detections is enabled for any codec the remote system shall also support switch to Pass Through. This is required for the case when call is established with low bandwidth codec and at fax detection switch to G.711 is done in the gateway. the reason being no codec renegotiation (in signaling) will take place both end points should be using the same codec after the fax detection (swith to pass through).

Table 113 Value of D4 VARC

	0	1	2	3
Send status inquiry message				
Yes	X		X	
No		X		X
Permit forward switching				
No	X	X		
Yes			X	X

The StatusInquiry message is used for monitoring the status of a route during a call. By disabling sending of this message, no status verification of the route is performed during calls. This can be used, for example, in a branch office solution where the route is used for call signalling between the server and the branch office, while call media, after the call is set up, is routed to PSTN through a local gateway at the branch office.

If sending of the StatusInquiry message is enabled in this scenario, interruptions on the route will cause the branch office calls to be disconnected. If disabled, current calls will not be effected by the disconnection, provided that no call signalling is performed during the call.

By permitting forward switching on a route, incoming calls are, if deflected, routed through the server on where the called extension resides, independently of which server the calls are deflected to (forward switching). This means that the normal procedure of returning calls to the sending server and then re-routing the call to the server on which the deflect-to answering position resides is overridden.

Table 114 Value of D5 VARC

	0	1
Send QoS data		
No	X	.
Yes	.	X

Note: If D₅ is set to 1, the QoS data is sent over IP trunk.

Table 115 Value of D6 VARC

	0	1
Send ringing tone to cooperating exchange		
No	X	.
Yes	.	X

Table 116 Value of D7 VARC

	0	1
Send Busy/Congestion tone to cooperating exchange		
No	X	.
Yes	.	X

Table 117 Value of D8 VARC

	0	1
Non Gateway Calls (NGW) support		
No	X	.
Yes	.	X

257.17.2

FUNCTION

The parameter is used to state the signal diagram variations common for incoming and outgoing traffic.

257.17.3

EXAMPLE

Send ringing tone to cooperating exchange	No
Send Busy/Congestion tone to cooperating exchange	No
Non Gateway Calls (NGW) support	Yes

VARC = 00000001

257.18

VARC - TL66

Signal diagram variations common for incoming and outgoing traffic

257.18.1

FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ =	00	Reserved
D ₃ =	0	Best effort SRTP crypto is used. (Default)
	1	SAVP crypto is enforced.
D ₄ =	0	Default
	1	May use replaces to update remote end.
	2	May use early replaces to update remote end.
D ₅ =	0	Use any gateway to minimize IP hops. Use session timer.
	1	Use forced gateway. Use session timer.
	2	Use any gateway. Do not use session timer.
	3	Use forced gateway. Do not use session timer.
	4	Do not use SIP-URI parameter user=phone.
	8	Enforce data media pass through, modem and fax. This will disable T.38 negotiation. For a call where MGU/IPLP has detected fax or media on either the PCM or IP networks side MGU will indicate this to the MX-ONE Service Node. If G.711 is not the present codec, the MX-ONE Service Node attempts to change to G.711 on the SIP route. Then the MX-ONE Service Node orders MGU/IPLP to set up an RTP stream with G.711 and internally disable jitter buffer and echo cancellation in order to allow smooth data media transition
D ₆ =	0	Normal route.
	1	Service route.
	8	Do not display name received from external party.
D ₇ =	0-F	SDP restrictions. See Table 118 Values of D7 (VARC) on page 630.
D ₈ =	0	Default.
	1	Not Used.
	2	Request End to End DTMF signalling from other side. Used to transport DTMF from original user to SIP-info elements to connect to SIP device.
	4	Use inband DTMF instead of INFO when RFC2833 is not used.

Table 118 Values of D7 (VARC)

SDP data	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
No restrictions	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No Comfort Noise (CN)	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No T.38 fax	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
No CN and no T.38 fax.	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
No RFC2833 capabilities offered. "telephone-event" is not offered in SDP. *)	X	.	.	.	.	.	.	.	.	.	.	.

SDP data	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
No CN and no RFC2833 capabilities are offered.	X	.	.	.	.	.	.	.	.	.	.
No T.38 fax and no RFC2833 capabilities are offered in SDP.	X	.	.	.	.	.	.	.	.	.
No CN, no T.38 fax, and no RFC2833 capabilities are offered in SDP. *)	X	.	.	.	.	.	.	.	.
Suppress CLEARMODE (RFC 4040) in SDP.	X	.	.	.	.	.	.	.
No CN and no Clearmode offered.	X	.	.	.	.	.	.
No T.38 fax and no Clearmode are offered.	X	.	.	.	.	.
No CN, no T.38 fax, and no Clearmode are offered in SDP. *)	X	.	.	.	.
No 2833 capabilities, and no Clearmode are offered in SDP.	X	.	.	.
No CN, no RFC2833 capabilities, and no Clearmode are offered in SDP.	X	.	.
No T.38 fax, no RFC 2833 capabilities, and no Clearmode are offered in the SDP.	X	.
No CN, no T.38 fax, no RFC 2833 capabilities, and no Clearmode are offered in SDP.	X

*) Must be disabled if inband DTMF of INFO should be used.

257.18.2

FUNCTION

The parameter is used to state what is common in the signal diagram for incoming and outgoing traffic.

In order to have a common behavior between old gateways (MG) and new gateways (MGU) the functions can be suppressed by using VARC.

RFC 2833, which is used by MX-ONE for Fax and DTMF, will be used if the gateway or end-points know the protocol. If they do not SIP INFO will be used as fall-back. To configure the DTMF method, see the operational directions for ROUTE DATA, in the execution chapter "Initiate the Route". As mentioned there the command RODAI is used to set the VARC parameter.

257.19
VARC - TL72

Signal diagram variations common for incoming and outgoing traffic

257.19.1
FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ = 000000	Reserved
D ₇ = 0 - D	See Table 119 Values of D7 (VARC) on page 633.
D ₈ = 0 - F	See Table 120 Values of D8 (VARC) on page 633

Table 119 Values of D7 (VARC)

	0	1	2	8	9	A
Test of faulty line	.	.	.	.	.	.
No	X	X	X	.	.	.
Yes	.	.	.	X	X	X
Type of MFC-signalling	.	.	.	.	.	.
CCITT	X	.	.	X	.	.
LME	.	X	.	.	X	.
SWISS	.	.	X	.	.	X

Table 120 Values of D8 (VARC)

	0	1	2	3	4	5
Type of external line
DID, Germany	X	.	.	.	.	.
External line	.	X	.	.	.	.
DC-loop	.	.	X	.	.	.
DID, Belgium	.	.	.	X	.	.
Balanced Battery	X	.
DID, Switzerland	X

257.19.2
FUNCTION

The parameter states the signal diagram variations common for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.19.3
EXAMPLE

Test of faulty line	No
Type of MFC-signalling	Swiss type
Type of external line	DID, Switzerland

VARC = 00000025

257.20

VARC - TL81

Signal diagram variations common for incoming and outgoing traffic

257.20.1

FORMAT

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ = 000	Reserved.
D ₄ = 0 - 1	See Table 121 Values of D4 (VARC) on page 634.
D ₅ = 0 - 1	See Table 122 Values of D5 (VARC) on page 634.
D ₆ = 0 - 2	See Table 123 Values of D6 (VARC) on page 634.
D ₇ = 0 - 7	See Table 124 Values of D7 (VARC) on page 635.
D ₈ = 0 - 1	See Table 125 Values of D8 (VARC) on page 635.

Table 121 Values of D4 (VARC)

	0	1
TUP yellow or blue book CCITT		
Blue book CCITT	X	.
Yellow book CCITT	.	X

Table 122 Values of D5 (VARC)

	0	1
Sending of ring tone in register state		
No ring tone is sent	X	.
Ring tone is sent to cooperating exchange	.	X

Table 123 Values of D6 (VARC)

	0	1	2
Market			
Standard	X	.	.
China	.	X	.
Pakistan	.	.	X

Table 124 Values of D7 (VARC)

	0	1	2	3	4	5	6	7
Blocking group number								
The trunk line is not measured by this function	X	.	.	.	.	.	.	.
Group number 1	.	X	.	.	.	.	.	.
Group number 2	.	.	X	.	.	.	.	.
Group number 3	.	.	.	X	.	.	.	.
Group number 4	.	.	.	.	X	.	.	.
Group number 5	.	.	.	.	.	X	.	.
Group number 6	.	.	.	.	.	.	X	.
Group number 7	.	.	.	.	.	.	.	X

Table 125 Values of D8 (VARC)

	0	1
Sending of blocking messages		
Send blocking message to cooperating exchange (recommended value)	X	.
Do not send blocking message	.	X

257.20.2

FUNCTION

The parameter is used to state what is common in the signal diagram for incoming and outgoing traffic.

- TUP yellow or blue book CCITT states the standard which is used for sending/receiving messages (MFUs) to the cooperating exchange.
- Sending of ring tone can be selected to provide a ring tone towards the cooperating exchange in register state.
- The market parameter differs between the various markets. Functions and messages which are valid only for certain markets are determined by this parameter.
- The blocking group number is used to form groups of trunk lines. All lines with the same number are belonging to the same group. If the number of manual blocked lines within a group exceeds a certain value, an alarm is generated. The alarm is cleared if the number of blocked lines falls below this limit.

The value of the limit is defined by a market dependent parameter.

The value 0 is used to state that the trunk lines in this route are not measured in case of blocking/unblocking.

- D₈, sending of blocking messages, states whether it is possible to prevent sending of blocking messages to the cooperating exchange or not. This may be used if the trunk line has only outgoing traffic.

The parameter is mandatory.

257.20.3

EXAMPLE

TUP yellow or blue book CCITT
Sending of ring tone in register state

Blue book CCITT
Send ring tone

Market
Blocking group number
Sending of blocking messages

China
Group number 5
Send blocking message

VARC = 00001150

257.21

VARC - TL95

Signal diagram variations common for incoming and outgoing traffic

257.21.1

FORMAT

VARC = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂D₃D₄D₅D₆ = 000 Reserved

D₇ = 0 - 3 See Table 126 Values of D 7 (VARC) on page 637.

D₈ = 0 - F See Table 127 Values of D8 (VARC) on page 637

Table 126 Values of D 7 (VARC)

	0	1	2	3
Number of scannings to approve a change in the bit pattern	..	..	..	..
Two scannings	X	X	.	.
One scanning (TLU76/3)	.	.	X	X
Handling of slip detection	.	.	.	.
Disturbance mark the board	X	.	X	.
Block the board	.	X	.	X

Table 127 Values of D8 (VARC)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Type of MFP signalling
MFPII	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
MFPI	X	X	X	X	X	X	X	X
Type of digital diagram
SL, ZSL, SL+ZSL, outgoing	X	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.
SL, ZSL, SL+ZSL, incoming	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.	.
SLM, incoming	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.
SLM, outgoing	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.
Reserve	X	.	.	.	.	.	.	.	X	.	.	.
Reserve	X	.	.	.	.	.	.	.	X	.	.
Reserve	X	.	.	.	.	.	.	.	X	.
Reserve	X	.	.	.	.	.	.	.	X

257.21.2

FUNCTION

The parameter is used to state what is common in the signal diagram for incoming and outgoing traffic.

Parameter VARC is mandatory.

257.21.3

EXAMPLE

Number of scannings ...

One scanning

Handling of slip detection

Type of MFP signalling

Type of digital diagram

Block the board

MFPII

SLM, incoming

VARC = 00000032

257.22 **VARC - TL99**

Signal diagram variations common for incoming and outgoing traffic

257.22.1 **FORMAT**

VARC = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈ =	00000000	Reserved

257.22.2 **FUNCTION**

The parameter is not used for TL99, and should be given with all positions set to zero.

257.22.3 **EXAMPLE**

Recommended value given for VARC.
VARC = 00000000

258

VARI

258.1

VARI - SL60

Signal diagram variations for incoming traffic

Note: Both VARI and VARO must be assigned values when being initiated, even if SL60 is used in one-way direction.

The reason is that no VARC exists for SL60 (used in TL60) and some data used for both incoming and outgoing traffic are set in VARO.

When services set with D₄ in VARI (General Protocol Updates or DSS1 Network Side supported), the whole interface must have the same configuration, that is, the interface cannot be divided into several routes.

An interface cannot be divided into one Public and one Tie line route.

258.1.1

FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ =	0-7	See Table 128, Value of D1 (VARI).
D ₂ =	0-F	See Table 129, Value of D2 (VARI).
D ₃ =	0-F	See Table 130, Value of D3 (VARI).
D ₄ =	0-F	See Table 131, Value of D4 (VARI).
D ₅ =	0-3	See Table 132, Value of D5 (VARI)
D ₆ =	0	(Reserved)
D ₇ =	0	Normal operation
	1-F	Reserved (for test)
D ₈ =	0-F	See Table 133, Value of D8 (VARI)

Table 128 Value of D1 (VARI)

	0	1	2	3	4	5	6	7
Type of channel numbering (in Channel Number I.E.) *1)	.	.	.	.	.	.	.	.
1-15 and 17-31 (ITU-T and ETSI)	X	X	X	X	.	.	.	.
1-30 (ISO QSIG & Australia)	.	.	.	.	X	X	X	X
Code UII in Generic Functional Protocol (GFP)	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X
Support of Generic Functional Protocol (GFP) *2)	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X

*1) This is only applicable for the primary rate interface.

*2) The Generic Functional Protocol support must be chosen when new ISDN supplementary services are to be used. With new means all supplementary services that use the ASN.1-syntax in their specifications, produced by ETSI and ISO.

Table 129 Value of D2 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Support of UUS service 1
No	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
Yes, no request procedure	X	X	X	X	.	.	.	.	.	.	.	.
Yes, request in Facility IE	X	X	X	X	.	.	.	.
Reserve	X	X	X	X
Support of UUS service 2
No	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Yes, no request procedure	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
Yes, request in Facility IE	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Yes, request in Keypad IE	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

Table 130 Value of D3 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Support of UUS service 3
No	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
Yes, no request procedure	X	X	X	X	.	.	.	.	.	.	.	.
Yes, request in Facility IE	X	X	X	X	.	.	.	.
Yes, request in Keypad IE	X	X	X	X

Table 131 Value of D4 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Selection of QSIG protocol *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Reserved	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
ISO-QSIG	.	.	.	.	X	X	X	X	.	.	.	.	.	.	.	.
Reserved	.	.	.	.	.	.	.	.	X	X	X	X	.	.	.	.

- Table 132 Value of D5 (VARI)**

	0	1	2	3
Diversion after deflection *1)				
Yes	X	.	X	.
No	.	X	.	X
Bypass IRD *2)				
Yes	X	X	.	.
No	.	.	X	X

- *1)** Only valid for incoming call deflect requests from ISDN private trunks.
If a call deflect request does not contain "replace the dialed number/name with deflected-to number/name" and "diversion after deflection" information, then the value set in the route configuration will be used to control both the features.
If a call deflect request only contains "replace the dialed number/name with deflected-to number/name" information, then this will be used to control both "replace the dialed number/name with deflected-to number/name" and "diversion after deflection", that is, the value set in D₅ will be discarded.
- *2)** Only valid for incoming call deflect requests from ISDN private trunks.
If a call deflect request does not contain Bypass IRD information, then the value set in the route configuration will be used to control the "Bypass of IRD" feature.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Direct connection to MSC *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X
Copy received Redirecting Number into CID (Customer Identity) field *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Automatic Operator *3)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X

Turn off Incoming Divleg2 Information	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X	X	X

- *1) Only valid for the Mobile extension feature and at direct connection towards a Mobile Switching Centre (MSC).
- *2) Only valid for Computer Supported Telephony Applications (CSTA).
- *3) Only valid for Automatic Operator feature.

258.1.2

FUNCTION

The parameter is used to state signal diagram variations for **both** incoming and outgoing traffic. For each example, see also the corresponding examples for the VARO-parameter.

258.1.3

EXAMPLE 1

ISO QSIG tie line configuration with full support of User-to-User services but no support of GFP.

Type of channel numbering	1-30
Code UUI in Generic Functional Protocol	No
Support of Generic Functional Protocol	Yes
Support of UUS service 1 (To send UUI IE in the setup phase and the clearing phase of all calls)	Yes, no request procedure
Support of UUS service 2 (To send USERINFO message in the alerting phase of a call).	Yes, no request procedure
Support of UUS service 3. (To send USERINFO message in the active phase of a call).	Yes, no request procedure
Selection of QSIG protocol	ISO-QSIG
General Protocol Updates	No
DSS1 Network Side supported	No
Direct connection to MSC	No
Copy received Redirecting Number ...	No
Automatic Operator	No
Turn off Incoming Divleg2 Information	No

VARI = 45440000

258.1.4

EXAMPLE 2

ISO QSIG tie line configuration with full support of User-to-User and GFP services. UUI is tunnelled in FACILITY (GFP).

Type of channel numbering	1-30
Code UUI in Generic Functional Protocol	No
Support of Generic Functional Protocol	No
Support of UUS service 1 (To send UUI IE in the setup phase and the clearing phase of all calls)	Yes, no request procedure
Support of UUS service 2 (To send USERINFO message in the alerting phase of a call).	Yes, no request procedure
Support of UUS service 3. (To send USERINFO message in the active phase of a call).	Yes, no request procedure
Selection of QSIG protocol	ISO-QSIG
General Protocol Updates	No
DSS1 Network Side supported	No
Direct connection to MSC	No
Copy received Redirecting Number ...	No
Automatic Operator	No
Turn off Incoming Divleg2 Information	No

VARI = 75440000

258.1.5

EXAMPLE 3

DSS1 Network Side with GF supported.

Type of channel numbering	1-15, 17-31
Code UUI in Generic Functional Protocol	No
Support of Generic Functional Protocol	Yes
Support of UUS service 1 (To send UUI IE in the setup phase and the clearing phase of all calls)	No
Support of UUS service 2 (To send USERINFO message in the alerting phase of a call).	No
Support of UUS service 3. (To send USERINFO message in the active phase of a call).	No
Selection of QSIG protocol	N/A
General Protocol Updates	No
DSS1 Network Side supported	Yes
Direct connection to MSC	No
Copy received Redirecting Number ...	No
Automatic Operator	No
Turn off Incoming Divleg2 Information	No

VARI = 10010000

258.1.6

EXAMPLE 4

DSS1 user side (public trunk line) with GF supported. Automatic Operator feature supported.

Type of channel numbering	1-15, 17-31
Code UUI in Generic Functional Protocol	No
Support of Generic Functional Protocol	Yes
Support of UUS service 1 (To send UUI IE in the setup phase and the clearing phase of all calls)	No
Support of UUS service 2 (To send USERINFO message in the alerting phase of a call).	No
Support of UUS service 3. (To send USERINFO message in the active phase of a call).	No
Selection of QSIG protocol	N/A
General Protocol Updates	Yes
DSS1 Network Side supported	No
Direct connection to MSC	No
Copy received Redirecting Number ...	No
Automatic Operator	Yes
Turn off Incoming Divleg2 Information	No

VARI = 10020004

258.2 VARI - SL63

Signal diagram variations for incoming traffic

Note: Both VARI and VARO must be assigned values when initiated, even if the SL63 is used in one way direction. This is due to the reason that VARC is only used in TL60 and data used for both incoming and outgoing access are set in VARI and VARO.

All individuals on the same virtual board can only be assigned the same INDDAT value.

258.2.1 FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ =	0000000	Reserved.
D ₈ =	Type of trunk	
	0	Tie line
	1	AT&T 4ESS
	2	National ISDN
	3	AT&T 5ESS or Siemens custom ISDN
	4	Northern Telecom DMS-100
	4	Northern Telecom DMS-250

AT&T American Telephone and Telegraph

ESS Electronic Switching System

DMS Digital Multiplex Switch

The type of trunk should be the same for the whole interface.

258.2.2 FUNCTION

The parameter states signal diagram variations for incoming traffic as well as outgoing traffic.

258.2.3 EXAMPLE

The external line is interfaced with AT&T 4ESS.

VARI = 00000001

258.3 VARI - TL1

Signal Diagram Variations for Incoming Traffic

258.3.1 FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈
--

$D_1D_2D_3 = 000$	Reserved.
$D_4 = 0 - A$	See Table 134 Values of D4 (VARI) on page 648.
$D_5D_6 = 00$	Reserved
$D_7 = 0 - 7$	See Table 135 Values of D7 (VARI) on page 649.
$D_8 = 0 - 7$	See Table 136 Values of D8 (VARI) on page 649.

Table 134 Values of D4 (VARI)

	0	1	2	3	4	5	6	7	8	9	A
Expected delay for CLI data (Incoming calls)
CLI not available or not applicable (default)	X	.	.	.	.	.	.	.	.	.	.
1 sec	.	X	.	.	.	.	.	.	.	.	.
2 sec	.	.	X	.	.	.	.	.	.	.	.
3 sec	.	.	.	X	.	.	.	.	.	.	.
4 sec	X	.	.	.	.	.	.
5 sec	X	.	.	.	.	.
6 sec	X	.	.	.	.
7 sec	X	.	.	.
8 sec	X	.	.
9 sec	X	.
10 sec	X

Note: The recommended value for the D4 bit is 2 sec and above.

Table 135 Values of D7 (VARI)

	0	1	2	3	4	5	6	7
Ringtype	.	.	.	.	.	.	.	.
Normal	X	X	X	X	.	.	.	.
No standard	.	.	.	.	X	X	X	X
Line supervision between ringing cycles	.	.	.	.	.	.	.	.
Normal	X	X	.	.	X	X	.	.
No supervision between ringings	.	.	X	X	.	.	X	X
Line polarity	.	.	.	.	.	.	.	.
Normal	X	.	X	.	X	.	X	.
Reversed	.	X	.	X	.	X	.	X

Note: The line characteristics of TLU74 are set at activation.

Table 136 Values of D8 (VARI)

	0	1	2	3	4	5	6	7
Ground on TIP, US market only	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
The public exchange clears	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X
The public exchange ringing signal frequency is	.	.	.	.	.	.	.	.
25 Hz	X	.	X	.	X	.	X	.
16 Hz	.	X	.	X	.	X	.	X

For other markets than the US market, GROUND ON TIP is set to 0.

TIP is the name of one of the incoming wires. The other one is called RING, equivalent to A- and B-wires.

258.3.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.

VARI may be omitted for outgoing traffic only.

258.3.3

EXAMPLE

Expected delay for CLI data (Incoming calls)	CLI not applicable
Ringtype	Normal
Line supervision between ringing cycles	Normal
Line polarity	Reserved
Ground on TIP, US market only	Yes
The public exchange clears	Yes
The public exchange ringing signal frequency is	25 Hz

VARI = 00000016

258.4 VARI - TL4

Signal Diagram Variations for Incoming Traffic

258.4.1 FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ =	0000000	Reserved.
	D ₈ = 1 - 6	See Table 137 Values of D8 (VARI) on page 650.

Table 137 Values of D8 (VARI)

	0	1	2	4	5	6
Ringing signal of AXE type (5 s pause, 1 s signal)	.	.	.	.	.	.
No	X	X	X	X	.	.
Yes	.	.	.	.	X	X
Power feed from the public exchange in idle state	.	.	.	.	.	.
Yes	X	X	.	.	X	X
No	.	.	X	X	.	.
Periodic end signaling	.	.	.	.	.	.
Yes	X	.	X	.	X	.
No	.	X	.	X	.	X

258.4.2 FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.4.3 EXAMPLE

Ringing signal of AXE type ...	No
Power feed from the public exchange in idle state	Yes
Periodic end signaling	Yes

VARI =00000001

258.5 VARI - TL11

Signal Diagram Variations for Incoming Traffic

258.5.1 FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ =	000	Reserved.

$D_4 = 0 - A$	See Table 138 Values of D_4 (VARI) on page 651.
$D_5 = 0 - 1$	See Table 139 Values of D_5 (VARI) on page 651.
$D_6 = 0 - F$	See Table 140 Values of D_6 (VARI) on page 652.
$D_7 = 0 - 8$	See Table 141 Values of D_7 (VARI) on page 653.
$D_8 = 0 - E$	See Table 142 Values of D_8 (VARI) on page 653.

Table 138 Values of D_4 (VARI)

	0	1	2	3	4	5	6	7	8	9	A
Expected delay for CLI data (Incoming calls)
CLI not available or not applicable (default)	X	.	.	.	.	.	.	.	.	.	.
1 sec	.	X	.	.	.	.	.	.	.	.	.
2 sec	.	.	X	.	.	.	.	.	.	.	.
3 sec	.	.	.	X	.	.	.	.	.	.	.
4 sec	X	.	.	.	.	.	.
5 sec	X	.	.	.	.	.
6 sec	X	.	.	.	.
7 sec	X	.	.	.
8 sec	X	.	.
9 sec	X	.
10 sec	X

Note: The recommended value for the D_4 bit is 2 sec and above.

Table 139 Values of D_5 (VARI)

	0	1
Old Brazil DID signaling	.	.
No	X	.
Yes	.	X

Table 140 Values of D6 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Busy tone from the PBX is generated at call to busy PBX group. (whether a B-answer is sent or not)	.....														
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Type of digit transmission when DID route	.....														
MFC	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
DTMF	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Detection level for the key code receiver	.....														
Normal level	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Low level (extra sensitive)	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Current feed from public exchange in idle state	.....														
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 141 Values of D7 (VARI)

	0	1	2	3	4	5	6	7	8
Ignore line status	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.
Yes	.	.	.	.	.	.	.	.	X
Simplified MFC signaling (group I and A-signaling)	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X
Yes	.	.	.	.	X	X	X	X	.
MFC signal CCITT-A5 included in signal diagram	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X
Yes	.	.	X	X	.	.	X	X	.
Send EOS to interworking exchange	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X
Yes	.	X	.	X	.	X	.	X	.

Table 142 Values of D8 (VARI)

	0	1	2	4	5	6	8	9	A	C	D	E
Type of route	.	.	.	.	.	.	.	.	.	.	.	.
DID route	X	X	X	X	X	X	.	.	.	.	.	.
Manual route	.	.	.	.	.	.	X	X	X	X	X	X
Ring signal frequency	.	.	.	.	.	.	.	.	.	.	.	.
25 Hz	X	X	X	.	.	.	X	X	X	.	.	.
50 Hz	.	.	.	X	X	X	.	.	.	X	X	X
Line polarity (States whether alteration in line polarity takes place and if so when)	..	..	..	..	..	..	..	..	..	..	..	..
No change in polarity	X	.	.	X	.	.	X	.	.	X	.	.
Change in polarity on disconnection	.	X	.	.	X	.	.	X	.	.	X	.
Change in polarity on answer	.	.	X	.	.	X	.	.	X	.	.	X

258.5.2

FUNCTION

The parameter is used to state signal diagram variations for incoming traffic

258.5.3

EXAMPLE

Expected delay for CLI data (Incoming calls)	CLI not applicable
Old Brazil DID signaling	No
Busy tone from the PBX is generated at ...	No
Type of digit transmission when DID route	MFC
Detection level for the key code receiver	Normal level
Current feed from public exchange in ...	Yes
Ignore line status	No
Simplified MFC signaling (group I and ...	No

MFC signal CCITT-A5 included in ...	No
Send EOS to interworking exchange	No
Type of route	Manual route
Ring signal frequency	50 Hz
Line polarity (States whether alteration ...	Change in polarity on disconnection

VARI = 0000010D

258.6

VARI - TL12

Signal diagram variations for incoming traffic

258.6.1

FORMAT

VARI = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃D₄ = 000 Reserved.D₅ = 0 - 7 See Table 143 Values of D5 (VARI) on page 655.D₆ = 0 - 5 See Table 144 Values of D6 (VARI) on page 655.D₇ = 0 - F See Table 145 Values of D7 (VARI) on page 655.D₈ = 0 - 6 See Table 146 Values of D8 (VARI) on page 656.

Table 143 Values of D5 (VARI)

	0	1	2	3	4	5	6	7
PTS as polarity change	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Programmed line length	.	.	.	.	.	.	.	.
No programmable board	X	.	.	.	X	.	.	.
Short line length	.	X	.	.	.	X	.	.
Long line length	.	.	X	.	.	.	X	.
Spare option	.	.	.	X	.	.	.	X

Table 144 Values of D6 (VARI)

	0	1	2	3	4	5
US signalling system towards the public exchange
Step by step with decadic pulsing	X	.	.	.	.	.
Common control, delay dial as PTS and decadic pulsing	.	X	.	.	.	.
Common control, wink as PTS and decadic pulsing	.	.	X	.	.	.
Step by step with DTMF	.	.	.	X	.	.
Common control, delay dial as PTS and DTMF	X	.
Common control, wink as PTS and DTMF	X

Note: For other markets than the US-market, D₆ is set to 0.

Table 145 Values of D7 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Market	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Other market	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
US-market	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Disconnection of current feed on disconnection (Release guard)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.

Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Category request can be made (Only MFC CCITT)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X
A-Number request	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X

Table 146 Values of D8 (VARI)

	0	1	2	3	5	6
Type of digit reception
Decadic pulsing	X	.	.	.	.	.
MFC, CCITT	.	X	.	.	.	.
None (Manual line)	.	.	X	.	.	.
DTMF	.	.	.	X	.	.
MFC, LME	X	.
MFC, Simplified (CCITT only)	X

258.6.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.

258.6.3

EXAMPLE 1

PTS as polarity change	No
Programmed line length	Long line length
US signalling system towards the public exchange	
Market	Other market
Disconnection of current feed ...	No
Category request ...	Yes
A-Number request	No
Type of digit reception	MFC, CCITT

VARI = 00002011

258.6.4

EXAMPLE 2

PTS as polarity change	No
Programmed line length	Short line length
US signalling system towards the public exchange	
Market	US-market
Disconnection of current feed ...	No
Category request ...	No
A-Number request	No
Type of digit reception	DTMF

VARI = 00001343

258.7

VARI - TL19

Signal diagram variations for incoming traffic

258.7.1

FORMAT

VARI = D₁D₂D₃D₄D₅D₆D₇D₈D₁ = 0 - 7 See Table 147 Values of D1 (VARI) on page 658.D₂D₃ = 00 .D₄ = 0 - 7 See Table 148 Values of D4 (VARI) on page 658.D₅ = 0 - F See Table 149 Values of D5 (VARI) on page 658.D₆ = 0D₇ = 0 - 9 See Table 150 Values of D7 (VARI) on page 659.D₈ = 0 - F See Table 151 Values of D8 (VARI) on page 659.

Table 147 Values of D1 (VARI)

	0	1	2	3	4	5	6	7
How repetition of PTS-signal/tone shall take place o detection of outgoing external line (SIG:D1=5 has been set on the interworking outgoing external line)
Tone	X	.	.	.	X	.	.	.
Pulse	.	X	.	.	.	X	.	.
Tone and pulse	.	.	X	.	.	.	X	.
No repetition occurs	.	.	.	X	.	.	.	X

Table 148 Values of D4 (VARI)

	0	1	2	3	4	5	6	7
Exchange can handle EOS busy 1)	.	.	.	.	.	.	.	.
Yes	X	X	X	X	.	.	.	.
No	.	.	.	.	X	X	X	X
Type of digit handling	.	.	.	.	.	.	.	.
International (digit 1=1 pulse)	X	X	.	.	X	X	.	.
National (digit 0=1 pulse)	.	.	X	X	.	.	X	X
Analysis of first digit received 1)	.	.	.	.	.	.	.	.
No (Recommended value)	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X

Table 149 Values of D5 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Type of line information sent on busy/congestion	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Relevant tone message	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Clearing pulse	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X

Can A-category (MFC) be requested	. . . . .
No (Recommended value)	X X X X X X X X
Yes	. . . . X X X X X X X X
Type of register signalling	. . . . .
Decadic pulsing	X . . . X . . . X . . . X . . .
Tone code or decadic pulsing	. X . . . X . . . X . . . X . . .
MFC code	. . X . . . X . . . X . . . X . .
Manual line	. . . X . . . X . . . X . . . X

Table 150 Values of D7 (VARI)

	0	1	8	9
Detection level for tone code receiver	. . . .		
Low	X X . .			
Normal (Recommended value)	. . X X			
Send B-answer	. . . .		
No	X . X .			
Yes	. X . X			

Table 151 Values of D8 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Send EOS	. . . . .														
No	X X X X X X X X	. . . . .													
Yes	. . . . .								X X X X X X X X							
Send seizure acknowledgement (SZA)	. . . . .														
No	X X X X	X X X X														
Yes	. . . . X X X X	. . . . X X X X														
PTS shall be sent as	. . . . .														
No PTS	X . . . X . . .	X . . . X . . .														
Tone	. X . . . X . .	. X . . . X . .														
Pulse (Line signal)	. . X . . . X .	. . X . . . X .														
Tone and pulse	. . . X . . . X	. . . X . . . X														

258.7.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.7.3

EXAMPLE

How repetition of PTS-signal/tone ...	Tone
Exchange can handle EOS busy	Yes
Type of digit handling	International (digit 1=1 pulse)

Analysis of first digit received	No
Type of line information sent on busy ..	Relevant tone message
Can A-category (MFC) be requested	No
Type of register signalling	Decadic pulsing
Satellite link	No
Detection level for tone code receiver	Normal
Send B-answer	Yes
Send EOS	Yes
Send seizure acknowledgement (SZA)	Yes
PTS shall be sent as	Pulse (line signal)

VARI = 0000009E

258.8

VARI - TL22

Signal diagram variations for incoming traffic

258.8.1

FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ = 000	Reserved.
D ₄ = 0 - 7	See Table 152 Values of D4 (VARI) on page 661.
D ₅ = 0 - 2	See Table 153 Values of D5 (VARI) on page 661.
D ₆ = 0 - 2	See Table 154 Values of D6 (VARI) on page 661.
D ₇ = 0 - 7	See Table 155 Values of D7 (VARI) on page 662.
D ₈ = 0, 1	See Table 156 Values of D8 (VARI) on page 662.

Table 152 Values of D4 (VARI)

	0	1	2	3	4	5	6	7
Complete MFC	.	.	.	.	.	.	.	.
Yes *1)	X	X	X	X	.	.	.	.
No *2)	.	.	.	.	X	X	X	X
Type of register signalling	.	.	.	.	.	.	.	.
Decadic pulsing	X	.	.	.	X	.	.	.
Tone code or decadic pulsing	.	X	.	.	.	X	.	.
MFC code	.	.	X	.	.	.	X	.
Manual line	.	.	.	X	.	.	.	X

- *1) Recommended value.
- *2) Only group I and A-signalling

Table 153 Values of D5 (VARI)

	0	1	2
B-answer shall be sent as	.	.	.
No B-answer	X	.	.
Pulse	.	X	.
By active M-wire (continuously)	.	.	X

Table 154 Values of D6 (VARI)

	0	1	2
EOS shall be sent as	.	.	.
No EOS	X	.	.
Pulse	.	X	.
By active M-wire (continuously)	.	.	X

Table 155 Values of D7 (VARI)

	0	1	2	3	4	5	6	7
Send PTS as tone	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Send PTS as signal on the M-wire	.	.	.	.	.	.	.	.
No	X	.	.	.	X	.	.	.
Yes. M-wire is set passive	.	X	.	.	.	X	.	.
A-FORMAT = DELAY DIAL *1)	.	.	.	.	.	.	.	.
Yes, as a pulse	.	.	X	.	.	.	X	.
Yes. M-wire is set active	.	.	.	X	.	.	.	X

*1) Requires that VARI D₈ = 1.

Table 156 Values of D8 (VARI)

	0	1
Send seizure acknowledgement (SZA)	.	.
No	X	.
Yes M-wire is set active (A-format = DELAY DIAL.) *1)	.	X

*1) Complete DELAY DIAL requires that also PTS-data = M-wire passive.

258.8.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.8.3

EXAMPLE

Complete MFC	Not affected
Type of register signalling	Decadic pulsing
B-answer shall be sent as	By active M-wire
EOS shall be sent as	No EOS
Send PTS as tone	Yes
Send PTS as signal on the M-wire	No
Send seizure acknowledgement (SZA)	No

VARI = 00002040

258.9
VARI - TL25

Signal diagram variations for incoming traffic

258.9.1
FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ = 0000	Reserved
D ₅ = 0 - 7	See Table 157 Values of D5 (VARI) on page 663.
D ₆ = 0 - F	See Table 158 Values of D6 (VARI) on page 663
D ₇ = 0 - 2	See Table 159 Values of D7 (VARI) on page 663.
D ₈ = 0 - D	See Table 160 Values of D8 (VARI) on page 664.

Table 157 Values of D5 (VARI)

	0	1	2	3	4	5	6	7
MFC signal CCITT-A5 included in signal diagram	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Simplified MFC signalling (only group I and A)	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X
Type of MFC signalling	.	.	.	.	.	.	.	.
MFC CCITT	X	.	X	.	X	.	X	.
MFC LME	.	X	.	X	.	X	.	X

Table 158 Values of D6 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Duration of the ringing signal	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Short signal	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Long signal	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Send clear forward signal from LB-line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Send busy tone on clearing the external LB-line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
PTS, only at direct indialling	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No PTS	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Tone	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 159 Values of D7 (VARI)

	0	1	2

Type of register signalling	.	.	.
None (manual line)	X	.	.
Decadic pulsing	.	X	.
MFC	.	.	X

Table 160 Values of D8 (VARI)

	0	1	2	3	4	5	8	9	A	B	C	D
Detection of incoming ringing signal in speech state, only LB-line
Clearing	X	X	X	X	X	X	.	.	.	.	.	.
Clearing + new call	X	X	X	X	X	X
Type of incoming external line
Not incoming line	X	.	.	.	.	.	X	.	.	.	.	.
DID	.	X	.	.	.	.	.	X	.	.	.	.
PSTN	.	.	X	.	.	.	.	.	X	.	.	.
CB	.	.	.	X	.	.	.	.	.	X	.	.
LB	X	.	.	.	.	.	X	.
DID Belgium	X	.	.	:	.	.	X

Note: If TLU75/1 is used, VARI D8 must be set to either 0, 1, 2, 8, 9 or A.

258.9.2

FUNCTION

The parameter states the signalling diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.9.3

EXAMPLE

MFC signal CCITT-A5 included in signal diagram	No
Simplified MFC signalling (only group I and A)	No
Type of MFC signalling	MFC CCIT
Duration of the ringing signal	Short signal
Send clear forward signal from LB-line	No
Send busy tone on clearing the external LB-line	No
PTS, only at direct indialling	No PTS
Type of register signalling	None
Detection of incoming ringing signal in speech state, only LB-line	Clearing
Type of incoming external line	PSTN

VARI = 00000002

258.10

VARI - TL26

Signal diagram variations for incoming traffic

258.10.1

FORMAT

VARI = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃D₄ = 0000 ReservedD₅ = 0, 1 See Table 161 Values of D5 (VARI) on page 666.D₆ = 0 - 5 See Table 162 Values of D6 (VARI) on page 666D₇ = 0 - 3 See Table 163 Values of D7 (VARI) on page 666.D₈ = 0 - 8 See Table 164 Values of D8 (VARI) on page 666.**Table 161 Values of D5 (VARI)**

	0	1
Call trace	.	.
No	X	.
Yes	.	X

Table 162 Values of D6 (VARI)

	0	1	4	5
Detection level of KR Keycode receiver (DTMF)	.	.	.	.
Low level (extra sensible)	X	X	.	.
Normal level	.	.	X	X
'Number received' is available	.	.	.	.
No	X	.	X	.
Yes	.	X	.	X

Table 163 Values of D7 (VARI)

	0	1	2	3
Type of register signalling
Decadic pulsing	X	.	.	.
Decadic pulsing or DTMF	.	X	.	.
MFC	.	.	X	.
No digit reception (manual line)	.	.	.	X

Table 164 Values of D8 (VARI)

	0	1	2	3	4	5	6	7	8
Type of external line
ALS70 DID	X	.	.	.	.	.	.	.	.
ALS70 Manual line	.	X	.	.	.	.	.	.	.
ALS70 Manual line with ring current	.	.	X	.	.	.	.	.	.
Conventional PSTN DID, direct	.	.	.	X	.	.	.	.	.

Conventional PSTN DID, indirect	.	.	.	.	X	.	.	.	.
Conventional PSTN DID, indirect MFC						X			
Line repeater, manual line	.	.	.	.	.	.	X	.	.
Line repeater, manual line with ring current	.	.	.	.	.	.	.	X	.
Subscriber line signalling	.	.	.	.	.	.	.	.	X

Note: TLU75/1 does only support subscriber line signalling.

258.10.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

258.10.3

EXAMPLE

Call trace	No
Detection level of KR Keycode ...	Normal level
'Number received' is available	Yes
Type of register signalling	Decadic pulsing or DTMF
Type of external line	ALS70 DID

VARI = 00000510

258.11

VARI - TL30

Signal Diagram Variations for Incoming Traffic

258.11.1

FORMAT

VARI = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂D₃D₄ = 0000 Reserved

D₅ = 0 - 6 See Table 165 Values of D5 (VARI) on page 668.

D₆ = 0 - 7 See Table 166 Values of D6 (VARI) on page 668

D₇ = 0 - F See Table 167 Values of D7 (VARI) on page 669.

D₈ = 0 - F See Table 168 Values of D8 (VARI) on page 669.

Table 165 Values of D5 (VARI)

	0	1	2	3	4	5	6	7
MFC backward signal to request A-number
No A-number request	X	.	.	.	.	.	.	.
A-4 (India)	.	X	.	.	.	.	.	.
A-5 (CCITT R2)	.	.	X	.	.	.	.	.
A-6 (LME)	.	.	.	X	.	.	.	.
A-9 (Finland)	X	.	.	.
A-6 (Indonesia)	X	.	.
A-5 (Hungary) *3)	X	.
A-9 (Venezuela)	X

*3) This enables fetching of A-Number immediately after the reception of first B-Number digit. This option should be used only when the type of MFC signaling is set to Hungary.

Table 166 Values of D6 (VARI)

	0	1	2	3	4	5	6	7
Type of Busy *4)	.	.	.	.	.	.	.	.
Tone when busy	X	X	X	X	.	.	.	.
Release when busy	.	.	.	.	X	X	X	X
Category request A-5 after first received digit	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X
Receive MFC-signal for complete B-Number	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X

*4) Only valid when Colisee User or Colisee Network is used as signalling scheme.

Table 167 Values of D7 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Type of route	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Direct indialling (DID) route	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
PBX operator served route	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Simplified MFC signaling (CCITT Group I and Group A only)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
MFC signal for A-category request (CCITT/A5, LME/A6) is included in MFC signal diagram	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Send end of selection to cooperating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 168 Values of D8 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Dial tone to cooperating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
PTS as line signal to cooperating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of digit reception from co-operating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Decadic pulsing	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Tone code (DTMF)	.	X	.	.	.	X	.	.	X	.	.	.	X	.	.	.
MFC code	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Reserve	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

258.11.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.

VARI may be omitted for outgoing traffic only.

Note: For bothway traffic the digital signal diagram for incoming and outgoing traffic must be identical.

If MFC is used for incoming traffic, then decadic, tone code or MFC signaling can be used for outgoing traffic providing the route is bothway.

If MFC is used, then PTS as tone cannot be used.

If A-number request shall be used for incoming traffic, and MFC signaling shall be used, the incoming route shall be categorized to allow A-number request from the public network and the called party shall be categorized to allow request of A-number from the PSTN.

The A-number request is not applicable when TL30 is initiated as a tie line!

258.11.3

EXAMPLE

MFC backward signal to request A-number	No
Type of Busy	Tone
Category request A-5 after first received digit	No
Receive MFC signal ...	No
Type of route	DID
Simplified MFC ...	No
MFC signal for A-category ...	Yes
Send end of selection ...	Yes
Dial tone to cooperating ...	No
PTS as line signal ...	Yes
Type of digit reception	MFC code

VARI = 00000036

258.12
VARI - TL35

Signal diagram variations for incoming traffic

258.12.1
FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ =	000000	Reserved.
D ₇ = 0 - D		See Table 169 Values of D7 (VARI) on page 671.
D ₈ = 0 - F		See Table 170 Values of D8 (VARI) on page 672.

Table 169 Values of D7 (VARI)

	0	1	4	5	8	9	C	D
Simplified MFC	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Key code receiver level	.	.	.	.	.	.	.	.
Normal	X	X	.	.	X	X	.	.
Amplified	.	.	X	X	.	.	X	X
Send PTS as	.	.	.	.	.	.	.	.
No PTS	X	.	X	.	X	.	X	.
Dial tone	.	X	.	X	.	X	.	X

Table 170 Values of D8 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Send answer signal to cooperating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
MFC-signal CCITT-A5 included in signal diagram	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of register signalling	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
None	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Decadic pulsing	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
Key code	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
MFC	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

258.12.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.12.3

EXAMPLE

Simplified MFC	-
Key code receiver level	Normal
Send PTS as	No PTS
Send answer signal to ...	Yes
MFC-signal CCITT-A5 ...	-
Type of register signalling	Key code

VARI = 0000000A

258.13
VARI - TL37

Signal diagram variations for incoming traffic

258.13.1
FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ D ₅ = 00000	Reserved.
D ₆ = 0 - F	See Table 171 Values of D 6 (VARI) on page 673
D ₇ = 0 - C	See Table 172 Values of D 7 (VARI) on page 673.
D ₈ = 0 - F	See Table 173 Values of D 8 (VARI) on page 673.

Table 171 Values of D6 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Include MFC signal CCITT R2 A-5 in the MFC signalling diagram	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Send PTS for AS/28 as	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No PTS	X	X	.	.	.	.	.	.	X	X	.	.	.	.	.	.
Tone	.	.	X	X	.	.	.	.	.	.	X	X	.	.	.	.
Morse code	.	.	.	.	X	X	.	.	.	.	.	.	X	X	.	.
Recorded announcement	.	.	.	.	.	.	X	X	.	.	.	.	.	.	X	X
Shall end of selection be sent	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 172 Values of D7 (VARI)

	0	1	2	3	4	8	9	A	B	C
Simplified MFC signalling (CCITT R2 group I and group A only)	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	.	.	.	.	.
Yes	.	.	.	.	.	X	X	X	X	X
Send PTS as	.	.	.	.	.	.	.	.	.	.
No PTS	X	.	.	.	.	X	.	.	.	.
Line signal	.	X	.	.	.	.	X	.	.	.
Tone	.	.	X	.	.	.	.	X	.	.
Line signal and tone	.	.	.	X	.	.	.	.	X	.
Wink start	.	.	.	.	X	.	.	.	.	X

Table 173 Values of D8 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Is seizure acknowledgement signal in the form of seizure acknowledge (D-format) or delay dial (A-format) to be sent	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X	X	X	X
Send B-answer (A-format has always answer signal)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X	X	X	X
Type of digit reception	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
None (Manual line)	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	.	.	.
Decadic pulsing	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	.	.
Tone code	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	.
MFC	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	X

258.13.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic. VARI may be omitted for outgoing traffic only.

258.13.3

EXAMPLE

Include MFC signal CCITT R2 A-5 ...	No
Send PTS for AS/28 as	No PTS
Shall end of selection be sent	Yes
Simplified MFC signalling ...	No
Send PTS as	Line signal
Is seizure acknowledgement signal ...	No
Send B-answer (A-format has always ...	Yes
Type of digit reception	Tone code
VARI = 00000116	

258.14

VARI - TL38

Signal diagram variations for incoming traffic

258.14.1

FORMAT

VARI = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃ = 000 Reserved.D₄ = 0 - 1 See Table 174 Values of D4 (VARI) on page 676.D₅ = 0 - 1 See Table 175 Values of D5 (VARI) on page 676.D₆ = 6 - 7 See Table 176 Values of D6 (VARI) on page 676D₇ = 0 - 1 See Table 177 Values of D7 (VARI) on page 677.D₈ = 0 - 1 See Table 178 Values of D8 (VARI) on page 677.**Table 174 Values of D4 (VARI)**

	0	1
Request public A-number		
No	X	.
Yes	.	X

Note: Only relevant for public external lines.**Table 175 Values of D5 (VARI)**

	0	1
B10 signal		
Not allowed	X	.
Allowed	.	X

Table 176 Values of D6 (VARI)

	Value
Length of A-number to be received in calls terminating in the public network	
For public line (default)	0
For tie line	6-7

Note: Only relevant for tie line, see D5 in VARI.

Table 177 Values of D7 (VARI)

	0	1
Seizure acknowledge signal must be sent immediately		
No	X	.
Yes	.	X

Note: Recommended value is 0, seizure acknowledge is sent after MRMS connection.

Table 178 Values of D8 (VARI)

	0	1
Reanswer		
No	X	.
Yes	.	X

258.14.2 FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.14.3 EXAMPLE 1

Request public A-number	Not applicable
B10 signal	No
Length of A-number to be received ...	7
Seizure acknowledge signal ...	Sent after MRMS connection
Reanswer	Yes

VARI = 00000701

258.14.4 EXAMPLE 2

See VARC, EXAMPLE 2

258.15

VARI - TL45

Signal diagram variations for incoming traffic

258.15.1

FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ =	0000000	Reserved.
	D ₈ = 0 - 6	See Table 179 Values of D 8 (VARI) on page 678.

Table 179 Values of D8 (VARI)

	0	1	2	4	5	6
Digit type	.	.	.	.	.	.
Dial pulse, DP	X	X	X	.	.	.
DTMF	.	.	.	X	X	X
Proceed to send, PTS	.	.	.	.	.	.
Dial tone	X	.	.	X	.	.
Wink+Dial tone	.	X	.	.	X	.
Wink	.	.	X	.	.	X

258.15.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.

VARI may be omitted for outgoing traffic only.

Note: The DMI mode configuration should be in CCS signalling.

The 24th channel is reserved for signalling if any assigned channel on the same board is in CCS signalling.

The board configuration (ZERO, FRM and DMI) can only be assigned the same value for the different trunks of the same board.

The CO trunk can only support dial tone as proceed-to-send.

The DID trunk can only support wink start as proceed-to-send.

The B-answer is never received from the CO trunk.

258.15.3

EXAMPLE

Digit type	DTMF
Proceed to send, PTS	Wink+Dial tone
VARI = 00000005	

258.16

VARI - TL49

Signal diagram variations for incoming traffic

258.16.1

FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ = 000	Reserved
D ₄ = 0 - 7	See Table 180 Values of D 4 (VARI) on page 679.
D ₅ = 0, 1	See Table 181 Values of D 5 (VARI) on page 679.
D ₆ = 0, 1	See Table 182 Values of D 6 (VARI) on page 679
D ₇ = 0 - 2	See Table 183 Values of D 7 (VARI) on page 679.
D ₈ = 0 - F	See Table 184 Values of D 8 (VARI) on page 680.

Table 180 Values of D4 (VARI)

	0	1	2	3	4	5	6	7
Number of digits in local exchange (Local-local, MFC route only)
3 digits	X	.	.	.	.	.	.	.
4 digits	.	X	.	.	.	.	.	.
5 digits	.	.	X	.	.	.	.	.
6 digits	.	.	.	X	.	.	.	.
7 digits	X	.	.	.
8 digits	X	.	.
9 digits	X	.
10 digits	X

Table 181 Values of D5 (VARI)

	0	1
Incoming traffic from PABX (Type of PABX)		
SPC-controlled or toll-exchange	X	.
Cross bar exchange 1)	.	X

1) Cross bar exchange is selected when original exchange cannot handle A-controlled release.

Table 182 Values of D6 (VARI)

	0	1
Send EOS	.	.
No EOS	X	.
Yes	.	X

Table 183 Values of D7 (VARI)

	0	1	2
--	---	---	---

Send PTS as	.	.	.
No PTS	X	.	.
Pulse	.	X	.
Tone	.	.	X

Table 184 Values of D8 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Send B-answer to interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Send seizure acknowledgement to interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of digit reception from interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Decadic pulsing	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Tone or decadic pulsing	.	X	.	.	.	X	.	.	X	.	.	.	.	X	.	.
MFC code	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Manual line	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

258.16.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.16.3

EXAMPLE

Number of digits in local exchange ...	7 digits
Incoming traffic from PABX ...	Toll exchange
Send EOS	No EOS
Send PTS as	No PTS
Send B-answer to interworking exchange	Yes
Send seizure acknowledgement to ...	No
Type of digit reception from ...	MFC code

VARI = 0004000A

258.17 **VARI - TL50**

Signal Diagram Variations for Incoming Traffic

258.17.1 **FORMAT**

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈ =	00000000	Reserved.

258.17.2 **FUNCTION**

The parameter indicates the signal diagram variations for incoming traffic. For TL50 a default value of VARI = 00000000 must be used if the route is initiated as incoming or bothway route.

VARI shall be omitted if the route is initiated for outgoing traffic only.

258.17.3 **EXAMPLE**

The route is initiated for bothway traffic. A default value must be used for the VARI parameter.

VARI = 00000000

258.18

VARI - TL51

Signal diagram variations common for incoming and outgoing traffic

258.18.1

FORMAT

VARI = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂D₃D₄ = 0000 Reserved.

D₅ = 0 - 3 See Table 185 Values of D5 (VARI) on page 682.

D₆ = 0 - F See Table 186 Values of D6 (VARI) on page 682

D₇ = 0 - 3 See Table 187 Values of D7 (VARI) on page 682.

D₈ = 0 - F See Table 188 Values of D8 (VARI) on page 683.

Table 185 Values of D5 (VARI)

	0	1	2	3
Number of digits to be truncated in incoming number
0 Digits	X	.	.	.
1 Digit	.	X	.	.
2 Digits	.	.	X	.
3 Digits	.	.	.	X

Table 186 Values of D6 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Number of digits in local exchange. (Local-local, MFC route only)																
3 Digits	X	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.
4 Digits	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.	.
5 Digits	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.
6 Digits	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.
7 Digits	.	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.
8 Digit	.	.	.	.	.	X	.	.	.	.	.	.	.	X	.	.
9 Digits	.	.	.	.	.	.	X	.	.	.	.	.	.	.	X	.
10 Digits	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.	X
A - Number request from PSTN, MFC route only																
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X

Table 187 Values of D7 (VARI)

	0	1	2	3
Send EOS	.	.	.	.
No	X	X	.	.

Yes	.	.	X	X
Type of route	.	.	.	.
Direct indialling route	X	.	X	.
PABX Operator	.	X	.	X

Table 188 Values of D8 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Send dial tone to interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Send seizure acknowledgement to interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of digit reception from interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
None (manual line)	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Decadic	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
Tone decode	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
MFC-code	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

258.18.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.18.3

EXAMPLE

Number of digits to be truncated ...	0
Number of digits in local exchange ...	7
A-Number request from PSTN ...	No
Send EOS	No
Type of route	Direct indialling
Send dial tone to interworking exchange	No
Send seizure acknowledgement to ...	Yes
Type of digit reception from interworking ...	MFC code

VARI = 00000407

258.19
VARI - TL65

Signaling diagram for incoming traffic

258.19.1
FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ = 0000	Reserved
D ₅ = 0 - 3	See Table 189 Value of D5 VARI on page 685.
D ₆ = 0 - 1	See Table 190 Value of D6 (VARI) on page 686.
D ₇ = 0 - 1	See Table 191 Value of D7 (VARI) on page 686.
D ₈ = 0 - 1	See Table 192 Value of D8 (VARI) on page 686.

Table 189 Value of D5 VARI

	0	1	2	3
Diversion after deflection *1)				
Yes	X	.	X	.
No	.	X	.	X
Bypass IRD *2)				
Yes	X	X	.	.
No	.	.	X	X

- *1)

Only valid for incoming call deflect requests from H.323 private trunks.
If call deflect request does not contain "replace the dialed number/name with deflected-to number/name" and "diversion after deflection" information, then the value set in the route configuration will be used to control both the features.
If call deflect request contains only "replace the dialed number/name with deflected-to number/name" information, then this will used to control both "replace the dialed number/name with deflected-to number/name" and "diversion after deflection", that is, the value set in D5 will be discarded.
- *2)

Only valid for incoming call deflect requests from H.323 private trunks.
If a call deflect request does not contain Bypass IRD information, then the value set in the route configuration will be used to control the "Bypass of IRD" feature.

Table 190 Value of D6 (VARI)

	0	1
Emergency route		
No	X	.
Yes	.	X

Table 191 Value of D7 (VARI)

	0	1
Support of Generic Functional Protocol (GFP)		
No	X	.
Yes	.	X

Table 192 Value of D8 (VARI)

	0	1
Overlap receiving		
No	X	.
Yes	.	X

258.19.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.

258.19.3

EXAMPLE

Overlap receiving is not permitted and no support of Generic Functional Protocol (GFP).

Support for Generic Functional Protocol (GFP)	No
Overlap receiving	No

VARI = 00000000

258.20 VARI - TL66

Signal diagram variations for incoming traffic

258.20.1 FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ = 000000	Reserved.
D ₇ = 0	Default.
1	Use history information from network (RFC4244).
2	Use diversion information from network (RFC5806).
4	Use Referred-by information from network (RFC3892).
D ₈ = 0	Rva uses early media. Default.
1	Rva uses 200 OK/answer.
2	Do not send 181 'call is being forwarded'.

258.20.2 FUNCTION

The parameter indicates the signal diagram variations for incoming traffic. VARI may be omitted for outgoing traffic only.

258.21

VARI - TL72

Signal diagram variations for incoming traffic

258.21.1

FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ = 000000	Reserved
D ₇ = 0 - D	See Table 193 Values of D7 (VARI) on page 688.
D ₈ = 0 - F	See Table 194 Values of D8 (VARI) on page 688

Table 193 Values of D7 (VARI)

	0	1	4	5	8	9	C	D
Simplified MFC	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Keycode receiver level	.	.	.	.	.	.	.	.
Normal	X	X	.	.	X	X	.	.
Amplified	.	.	X	X	.	.	X	X
Send PTS as	.	.	.	.	.	.	.	.
No PTS	X	.	X	.	X	.	X	.
Dial tone	.	X	.	X	.	X	.	X

Table 194 Values of D8 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Send answer signal to cooperative exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Category request available (CCITT A-5)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of register signalling	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
None	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Decadic pulsing	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
Key code	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
MFC	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

258.21.2

FUNCTION

The parameter indicates the signal diagram variations for incoming traffic.

VARI may be omitted for outgoing traffic only.

258.21.3
EXAMPLE 1

Simplified MFC	No
Keycode receiver level	Normal
Send PTS as	No PTS
Send answer signal ...	Yes
Category request available	No
Type of register signalling	Decadic pulsing

VARI = 00000009

258.21.4
EXAMPLE 2

Simplified MFC	No
Keycode receiver level	Normal
Send PTS as	No PTS
Send answer signal ...	Yes
Category request available	Yes
Type of register signalling	MLC

VARI = 0000000F

258.22
VARI - TL81

Signal diagram variations for incoming traffic

258.22.1
FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ =	000000	Reserved.
D ₇ = 0 - 1	See Table 195 Values of D7 (VARI) on page 689.	
D ₈ = 0 - 1	See Table 196 Values of D8 (VARI) on page 689.	

Table 195 Values of D7 (VARI)

	0	1
Call tracing		
No	X	.
Yes	.	X

Table 196 Values of D8 (VARI)

	0	1
GRQ message handling		
Send GRQ message at all incoming calls where A-number is not obtained at initial message.	X	.

Send GRQ message at MCT calls only.	.	X
-------------------------------------	---	---

258.22.2

FUNCTION

The parameter is used to state the signal diagram for incoming traffic.

- D₇ shall only be set if malicious call tracing can be executed. Call tracing on outgoing routes are always supported when CCSS7 trunks are used.
- Parameter GRQ message handling states in what traffic case a General Request (GRQ) message will be sent.

258.22.3

EXAMPLE

call tracing	Yes. See also D ₁₀ in parameter description for RO.
GRQ message handling	Send GRQ message at all incoming ...

VARI = 00000010

258.23 VARI - TL95

Signal diagram variations for incoming traffic

258.23.1 FORMAT

VARI = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ = 0000	Reserved
D ₅ = 0 - F	See Table 197 Values of D5 (VARI) on page 691
D ₆ = 0 - F	See Table 198 Values of D6 (VARI) on page 692.
D ₇ = 0 - F	See Table 199 Values of D7 (VARI) on page 692.
D ₈ = 0 - F	See Table 200 Values of D 8 (VARI) on page 693

Table 197 Values of D5 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
AON Link-By-Link at outgoing long distance transit	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Fill-in digit for AON-number	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
0	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Number of digits in AON-package	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
12 digits	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
13 digits	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
11 digits	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Reserve	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

Table 198 Values of D6 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Send MFPII B4 at outgoing long distance transit	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Send second dial tone at outgoing long distance transit	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of backward MFPII signal at transit	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
B8	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
B9	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
B10	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Reserve	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

Table 199 Values of D7 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Intrusion category request at SLM lines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Type of connection	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SL, SL+ZSL	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
SLM	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of first MFPII signal group B	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
B-2	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
B-1	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
B-3	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Reserve	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

Table 200 Values of D 8 (VARI)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Ignore first digit = 8 as long distance	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
PTS as tone to interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of digit reception from interworking exchange	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Decadic	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
MFPII	.	X	.	.	.	X	.	.	X	.	.	.	X	.	.	.
Reserve	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Reserve	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

258.23.2**FUNCTION**

The parameter is used to state the signal diagram variations for incoming traffic.
VARI may be omitted for outgoing traffic only.

258.23.3**EXAMPLE**

AON Link-By-Link at outgoing long distance transit	No
Fill-In digit for AON-number	2
Number of digits In AON-package	12 digits
Send MFPII B4 at outgoing long distance transit	No
Send second dial tone at outgoing long distance transit	No
Type of backward MFPII signal at transit	B8
Intrusion category request at SLM lines	No
Type of connection	SL, SL+ZSL
Type of first MFPII signal group B	B-2
Ignore first digit=8 as long distance	No
PTS as tone to Interworking exchange	Yes
Type of digital reception ...	Decadic

VARI = 00000004

259

VARO

259.1

VARO - SL60

Signal diagram variations for outgoing traffic

Note: Both VARI and VARO must be assigned values when being initiated, even if SL60 is used in one-way direction.

The reason is that no VARC exists for SL60 (used in TL60) and some data used for both incoming and outgoing traffic are set in VARO.

When services set with D₄ in VARI (General Protocol Updates or DSS1 Network Side supported), the whole interface must have the same configuration, that is, the interface cannot be divided into several routes.

An interface cannot be divided into one Public and one Tie line route.

259.1.1

FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ = 0 - F	See Table 201	Value of D1 (VARO) on page 695
D ₂ = 0 - F	See Table 202	Value of D2 (VARO) on page 696
D ₃ = 0 - F	See Table 203	Value of D3 (VARO) on page 697
D ₄ = 0 - F	See Table 204	Value of D4 (VARO) on page 698
D ₅ D ₆ = 00 - 40	See Table 205	Value of D5 and D6 (VARO) on page 698
D ₇ = 0 - F	See Table 206	Value of D7 (VARO) on page 699
D ₈ = 0 - 1	See Table 207	Value of D8 (VARO) on page 700

Table 201 Value of D1 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
TLU79 test mode	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes *1)	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Support of UI-frames *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of protocol	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ETSI/ISO *3)	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
IPNS *4)	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
National ISDN *5)	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Reserve	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

*1) This mode should not be used in the normal case, it is only used for layer 1 testing.

*2) UI-frames are information sent across the layer 2 entities, the UI-frames are not acknowledged on layer 2. Even if transmission and format errors are detected, no error mechanism is defined.

Support of UI-frames is only valid for Basic Rate (2B+D)

*3) The ETSI protocol is used when connected to a public exchange at the T-reference point. The ISO protocol is used when connected to a private exchange at the Q-reference point.

*4) The IPNS (ISDN PBX Networking Specification) protocol is used when connected to a private exchange at the Q-reference point.

*5) A national ISDN protocol is used when connected to a public exchange at the T-reference point. For the following application systems a national variant of ISDN exists: Sweden, Australia, Norway, Finland, Austria, The Netherlands, Italy, Spain, Belgium, Ireland, Singapore, New Zealand, USA, Switzerland, Portugal, France, Great Britain, Germany, and Denmark.

Table 202 Value of D2 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Blocking of board at SLIP alarm *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No (Disturbance mark)	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Connected number IE in the CON-NECT message	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
UUI IE in ALERTING message (Permitted to send User-User Information Element in the ALERTING message)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Semipermanent connection *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*1) The data are stored per interface. If the interface is divided into more than one route these data must be the same for the whole interface.

*2) Not used in MX-ONE Service Node, Default value = No

Table 203 Value of D3 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Fix connection between B-CHANNEL and external line *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Priority for layer 1 *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yes (NETWORK, master)	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
No (TERMINAL, slave, default)	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Priority for layer 2 *3) (Priority at call collision)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No (TERMINAL, default)	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes (NETWORK)	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Priority for layer 3 *4) (Priority at call collision)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No (USER, default)	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes (NETWORK)	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

- *1) If the interface is divided into more than one route it is possible to have only one route with non fix connection between the external line and the B-channel. The other routes must have fixed connections.
Fix connection is used to disable B-channel negotiation within the interface i.e. Fix connection equals to YES means that B-channel negotiation is not allowed and Fix connection equals to NO means that B-channel negotiation is allowed.
- *2) TLU76: Priority for layer 1 is used to set the free signalling bits in time slot 0 (TS0).
TLU79: Will be activated as either NETWORK or TERMINAL regarding the physical layer, that is layer 1.
- *3) Priority for layer 2 states the type of data link termination and the data are stored per interface. If the interface is divided into more than one route this value must be the same for the whole interface, that is, priority for layer 2 is used to set up the data link layer with one side as NETWORK and the other side as TERMINAL, also called USER side.
- *4) Priority for Layer 3 is used to state which side that has priority at call collision.

Table 204 Value of D4 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Connected number IE/Connected Subaddress IE Identifier is 7C/7D with codeset 5 *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	.	.	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	.	.
Map ETSI DivLeg2 data into Redirecting IE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Connected system is GSM-R	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Type of external line *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tie line	X	.	X	.	X	.	.	.	X	.	X	.	X	.	.	.
Public external line	.	X	.	X	.	X	.	.	.	X	.	X	.	X	.	.

*1) This is only applicable for the Application System Spain.

*2) If the interface is divided into more than one route this value must be the same for the whole interface.

Type of TEI and value

Table 205 Value of D5 and D6 (VARO)

Non-automatic TEI value (0-63) *1)																
	D ₆															
D ₅	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Automatic TEI value (64-127) *2)																
D ₅ = 4																
D ₆ = 0																

This parameter is used to allow a user equipment to obtain a TEI value that the data link layer (layer 2) entities, within the user equipment, will use in subsequent communications over the data link connections.

- *1) Non-automatic TEI values are selected by the user, and their allocation is the responsibility of the user. When Non-Automatic TEI is used the default TEI-value to use is 0.
- *2) Automatic TEI values are selected by the NETWORK (Master), see D₃ for VARO, and their allocation is the responsibility of the network. This is done by the hardware, This is only applicable for Basic Rate (2B+D).

Note: When Primary Rate (30B+D) is used only Non-automatic TEI is supported.

Table 206 Value of D7 (VARO)

		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Request call metering or Advice Of Charge (AOC) at call setup		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No		X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
Yes, (National IE + Facility IE)	(IBERCOM, Spain)	.	.	.	.	X	X	X	X	.	.	.	.	.	.	.	.
Yes, (National IE)	(National ISDN)	.	.	.	.	.	.	.	.	X	X	X	X	.	.	.	.
Yes, (Facility IE)	(ISO/ETSI)	.	.	.	.	.	.	.	.	.	.	.	.	X	X	X	X
Type of charging		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Continuous charging during the call	*1) (AOC-D ISO/ETSI)	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Charge at end of call *2)	(AOC-E ISO/ETSI)	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
AOC-D and AOC-E	(only ISO/ETSI)	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Reserve		.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

*1) This facility provides charging information throughout the call and at the end of the call.

*2) This facility provides charging information in the first clearing message sent from the network at the end of a call.

Note: If no charging is used any value will do.

Table 207 Value of D8 (VARO)

	0	1	2	3
Send Restricted Calling Number over DSS1 *1)	.	.	.	.
Yes	.	X	.	X
No	X	.	X	.
Can Calling party IE be sent without number?	.	.	.	.
Yes	.	.	X	X
No	X	X	.	.

*1) This facility specifies whether the presentation restricted calling party number shall be conveyed to the user when ASB 501 04 acts as the network side of DSS1 Network.

259.1.2

FUNCTION

The parameter is used to state signal diagram variations for both outgoing and incoming traffic. For each example, see also the corresponding example(s) for the VARI-parameter.

It is recommended to always keep layer 1 in an active state so that there will not be any problems with the synchronization.

259.1.3

EXAMPLE 1

ISO QSIG tie line. The trunks are disturbance marked at SLIP faults. Connected Number IE is sent in CONNECT message. This node has priority at call collision. No call metering or AOC is requested. Connected number IE/connected Subaddress IE identifier may not be 7C/7D. Calling party IE is to be sent, even if number presentation is restricted (through NPRES parameter for generic extension and non generic extension).

TLU79 test mode	No
Support of UI-frames	No
Type of protocol	ESTSI/ISO
Blocking of board at SLIP alarm	No
Connected number IE in the ...	Yes
UUJ IE in ALERTING message ...	Yes
Semipermanent connection	No
Fix connection between B-CHANNEL ...	No
Priority for layer 1	Yes (Network, Master)
Priority for layer 2	Yes (Network)
Priority for layer 3	Yes (Network)
Connected number IE/Connected ...	No
Map Divleg2 info into Redirecting no IE	No
Connected System is GSM-R	No
Type of TEI and value	Non-Automatic TEI-value
Request call metering or Advice Of ...	No
Type of charging	N/A
Can Calling party IE be sent ...	Yes

VARO = 06300001

259.1.4

EXAMPLE 2

ISO QSIG tie line. The trunks are blocked at SLIP faults. Connected Number IE is sent in CONNECT message. The remote end has priority at call collision. No call metering or AOC is requested. Connected number IE/connected Subaddress IE identifier may not be 7C/7D. Calling party IE is to be sent, even if number presentation is restricted (through NPRES parameter for generic extension and non generic extension).

TLU79 test mode	No
Support of UI-frames	No
Type of protocol	ESTSI/ISO
Blocking of board at SLIP alarm	Yes
Connected number IE in the ...	Yes
UU1 IE in ALERTING message ...	Yes
Semipermanent connection	No
Fix connection between B-CHANNEL ...	No
Priority for layer 1	No (Terminal, Slave)
Priority for layer 2	No (Terminal)
Priority for layer 3	No (User)
Connected number IE/Connected ...	No
Map Divleg2 info into Redirecting no IE	No
Connected System is GSM-R	No
Type of external line	Tie line
Type of TEI and value	Non-Automatic TEI-value
Request call metering or Advice Of ...	No
Type of charging	Charge at end of call
Can Calling party IE be sent ...	Yes

VARO = 06400011

259.1.5

EXAMPLE 3

DSS1 network side. The trunks are disturbance marked at SLIP faults. Connected Number IE may not be sent in CONNECT message. UUI may not be sent in ALERTING message. AOC is requested in Facility IE. Charging information is provided from the network at the end of each call. Connected number IE/connected Subaddress IE identifier may not be 7C/7D. Calling party IE is to be sent, even if number presentation is restricted (through NPRES parameter for generic extension and non generic extension).

TLU79 test mode	No
Support of UI-frames	No
Type of protocol	ESTSI/ISO
Blocking of board at SLIP alarm	No
Connected number IE in the ...	No
UUI IE in ALERTING message ...	No
Semipermanent connection	No
Fix connection between B-CHANNEL ...	No
Priority for layer 1	No (Network, Master)
Priority for layer 2	No (Network)
Priority for layer 3	No (Network)
Connected number IE/Connected ...	No
Map Divleg2 info into Redirecting no IE	No
Connected System is GSM-R	No
Type of external line	Public external line
Type of TEI and value	Non-Automatic TEI-value
Request call metering or Advice Of ...	Yes (Facility IE)
Type of charging	Charge at end of call
Can Calling party IE be sent ...	Yes

VARO = 003100D1

259.1.6

EXAMPLE 4

DSS1 user side (public trunk line). The trunks are disturbance marked at SLIP faults. Connected Number IE may not be sent in CONNECT message. UUI may not be sent in ALERTING message. AOC is requested in Facility IE. Charging information is provided from the network at the end of each call. Connected number IE/connected Subaddress IE identifier may not be 7C/7D. Calling party IE is to be sent, even if number presentation is restricted (through NPRES parameter for generic extension and non generic extension).

TLU79 test mode	No
Support of UI-frames	No
Type of protocol	ESTSI/ISO
Blocking of board at SLIP alarm	No
Connected number IE in the ...	No
UUI IE in ALERTING message ...	No
Semipermanent connection	No
Fix connection between B-CHANNEL ...	No
Priority for layer 1	Yes (Network, Master)
Priority for layer 2	No (Terminal)
Priority for layer 3	No (User)
Connected number IE/Connected ...	No
Is the D-channel able to handle ...	No
Type of external line	Public external line
Type of TEI and value	Non-Automatic TEI-value
Request call metering or Advice Of ...	Yes (Facility IE)
Type of charging	Charge at end of call
Can Calling party IE be sent ...	Yes

VARO = 000100D1

259.2VARO - SL63

Signal diagram variations for outgoing traffic

Note: Both VARI and VARO must be assigned values when initiated, even if the SL63 is used in one way direction. This is due to the reason that VARC is only used in TL60 and data used for both incoming and outgoing access are set in VARI and VARO.

All individuals on the same virtual board can only be assigned the same INDDAT value.

259.2.1FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ D ₅ = 00000	Reserved.
D ₆ = 0-F	See Table 208 Value of D6 in VARO (outgoing traffic) on page 705
D ₇ = 0-F	See Table 209 Value of D7 in VARO (outgoing traffic) on page 706
D ₈ = 0-7	See Table 210 Value of D8 in VARO (outgoing traffic) on page 706

Table 208 Value of D6 in VARO (outgoing traffic)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Send Calling Party Name In Display *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*1) Valid only when type of trunk is DMS-100 or DMS-250

Table 209 Value of D7 in VARO (outgoing traffic)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Restart the whole interface by one channel at a time	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Fix connection between B-channel and trunk line *1)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Priority at call Collision *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No (incoming call has priority)	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes (outgoing call has priority)	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Layer 2 acting role *2)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
NT2 - acting as user side	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
NT1 - acting as network side	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*1) If the interface is divided into more than one route it is only possible to have one route with non-fix connection between the trunk line and the B-channel. The other routes must be fixed connections.

*2) The parameters are stored per interface. If the interface is divided into more than one route it is necessary that this value is the same for the whole interface.

Table 210 Value of D8 in VARO (outgoing traffic)

	0	1	2	3	4	5	6	7
User info service 3	.	.	.	.	.	.	.	.
(Permitted to send User Info Message in active state)	.	.	.	.	.	.	.	.
No	X	X	-	X	.	.	.	.
Yes	.	.	.	.	-	X	-	X
User info service 2	.	.	.	.	.	.	.	.
(Permitted to send User info Message before active state)	.	.	.	.	.	.	.	.
No	X	X	.	.	-	X	.	.
Yes	.	.	-	X	.	.	-	X
User info service 1	.	.	.	.	.	.	.	.
(Permitted to send User-User Information Element)	.	.	.	.	.	.	.	.
No	X	.	-	.	-	.	-	.
Yes	.	X	.	X	.	X	.	X

- This parameter value is irrelevant.

259.2.2

FUNCTION

The parameter states signal diagram variations for outgoing traffic as well as incoming traffic.

259.2.3	EXAMPLE	
	Restart the whole interface by one channel at a time	No
	Fix connection between B-channel and trunk line	
	Priority at call collision	Yes
	Layer 2 acting as network side	NT1
	User info service 3	Yes
	User info service 2	Yes
	User info service 1	Yes
	VARO = 00000077	

259.3 VARO - TL1

Signal Diagram Variations for Outgoing Traffic

259.3.1 FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ = 0000000	Reserved.
D ₈ = 0 - F	See Table 211 Values of D8 (VARO) on page 708.

Table 211 Values of D8 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
The public exchange sends a dial tone	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
The public exchange clears	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
The public exchange sends a B-answer	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Sending of digits to the public exchange	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
DP (Decadic pulses)	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
TC (Tone code, DTMF)	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

259.3.2 FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.3.3 EXAMPLE

The public exchange sends a dial tone	Yes
The public exchange clears	No
The public exchange sends a B-answer	No
Sending of digits to the public exchange	Decadic
VARO = 00000008	

259.4

VARO - TL4

Signal Diagram Variations for Outgoing Traffic

259.4.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃D₄D₅ = 00000 Reserved.D₆ = 0 - 3 See Table 212 Values of D6 (VARO) on page 709.D₇ = 0 - 1 See Table 213 Values of D7 (VARO) on page 709.D₈ = 1 - 4 See Table 214 Values of D8 (VARO) on page 709.

Table 212 Values of D6 (VARO)

	0	1	2	3
Type of call metering on the TLU75 board
No pulse detection	X	.	.	.
50 Hz call metering is used	.	X	.	.
12 kHz call metering is used	.	.	X	.
16 kHz call metering is used	.	.	.	X

Table 213 Values of D7 (VARO)

	0	1
Type of exchange	.	.
A204, AXE	X	.
AGF	.	X

Table 214 Values of D8 (VARO)

	0	1	2	3
Digit transmission	.	.	.	.
DTMF	X	X	.	.
Decadic pulsing	.	.	X	X
Periodic end signaling	.	.	.	.
Yes	X	.	X	.
No	.	X	.	X

259.4.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.

VARO may be omitted for incoming traffic only.

259.4.3

EXAMPLE

Type of call metering on the TLU75 board

No pulse detection

Type of exchange	AXE
Digital transmission	Decadic pulsing
Periodic end signaling	Yes

VARC =00000003

259.5VARO - TL11

Signal Diagram Variations for Outgoing Traffic

259.5.1FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ = 00	Reserved.
D ₃ = 0 - 3	See Table 215 Values of D3 (VARO) on page 711.
D ₄ = 0 - F	See Table 216 Values of D4 (VARO) on page 712.
D ₅ = 0 - F	See Table 217 Values of D5 (VARO) on page 712.
D ₆ = 0 - C	See Table 218 Values of D6 (VARO) on page 713.
D ₇ = 0 - F	See Table 219 Values of D7 (VARO) on page 713.
D ₈ = 0 - A	See Table 220 Values of D8 (VARO) on page 714.

Table 215 Values of D3 (VARO)

	0	1	2	3
Type of call metering (Only valid if pulse detection is done on the TLU-board)
No pulse detection is done on the TLU-board	X	.	.	.
50 Hz call metering is used	.	X	.	.
12 kHz call metering is used	.	.	X	.
16 kHz call metering is used	.	.	.	X

Table 216 Values of D4 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Detection of second dial tone	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No delay	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Delay 2.5 seconds	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Allow sending of hash-mark (#) as a digit to cooperating exchange	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of CDU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
CDU1	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
CDU2/CDU7	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Delayed disconnection from public exchange	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 217 Values of D5 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Wait with line detection until PTS is received	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Decadic digit pulsing frequency	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
10 Hz	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
16 Hz	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Alternative routing permitted	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Wait with call to interworking exchange until minimum number length has been reached (used only for MFC, outgoing traffic)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 218 Values of D6 (VARO)

	0	1	2	3	4	5	6	7	8	C
Ignore line status	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.
Yes	.	.	.	.	.	.	.	.	X	X
Australian application	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	.
Yes	.	.	.	.	X	X	X	X	.	X
Blocking polarity reversal (external line polarity reversal from interworking exchange)	..	..	..	..	..	..	..	..	..	..
No	X	X	.	.	X	X	.	.	X	X
Yes	.	.	X	X	.	.	X	X	.	.
Receive EOS	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	X
Yes	.	X	.	X	.	X	.	X	.	.

Table 219 Values of D7 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Receive clearing signal from interworking exchange (polarity reversal)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Receive B-answer from interworking exchange (polarity reversal)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of PTS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No PTS-signal	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Dial tone	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
Polarity reversal	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Polarity reversal and dial tone	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

Table 220 Values of D8 (VARO)

	0	1	2	4	5	6	8	9	A
Type of rotary dial telephone	.	.	.	.	.	.	.	.	.
Swedish	X	X	X	.	.	.	.	.	.
International	.	.	.	X	X	X	.	.	.
Oslo	.	.	.	.	.	.	X	X	X
Type of register signalling	.	.	.	.	.	.	.	.	.
Decadic pulsing	X	.	.	X	.	.	X	.	.
DTMF	.	X	.	.	X	.	.	X	.
MFC	.	.	X	.	.	X	.	.	X

259.5.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.5.3

EXAMPLE

Type of call metering ...	No pulse detection is done on the TLU...
Detection of second dial tone	No delay
Allow sending of hash mark (#)	No
Type Of CDU	CDU1
Delayed disconnection ...	No
Wait line detection	No
Decadic digit pulsing frequency	10 Hz
Alternative routing permitted	No
Wait with call...	No
Ignore line status	No
Australian application	No
Blocking polarity reseval ...	No
Receive EOS	No
Receive clearing signal from ...	Yes
Receive B-answer	Yes
Type of PTS	Dial tone
Type of rotary dial telephone	Swedish
Type of resister signalling	DTMF

VARO = 000000D1

259.6VARO - TL19

Signal diagram variations for outgoing traffic

259.6.1FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ = 000	Reserved.
D ₄ = 0, 1	See Table 221 Values of D4 (VARO) on page 715.
D ₅ = 0 - C	See Table 222 Values of D5 (VARO) on page 715.
D ₆ = 0 - F	See Table 223 Values of D6 (VARO) on page 715.
D ₇ = 0 - F	See Table 224 Values of D7 (VARO) on page 716.
D ₈ = 0 - F	See Table 225 Values of D8 (VARO) on page 716.

Table 221 Values of D4 (VARO)

	0	1
Type of digit handling	.	.
International (digit 1 = 1 pulse)	X	.
National (digit 0 = 1 pulse)	.	X

Table 222 Values of D5 (VARO)

	0	4	8	C
Type of register signalling
Decadic pulsing	X	.	.	.
Tone code (DTMF)	.	X	.	.
MFC code	.	.	X	.
Manual line	.	.	.	X

Table 223 Values of D6 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Predigit sending pausebefore digit transmission
No predigit sending pause *1)	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1 x TIME15	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2 x TIME15	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
3 x TIME15	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
4 x TIME15	X	.	.	.	.	.	.	.	.	.	.	.
5 x TIME15	X	.	.	.	.	.	.	.	.	.	.
6 x TIME15	X	.	.	.	.	.	.	.	.	.
7 x TIME15	X	.	.	.	.	.	.	.	.
8 x TIME15	X	.	.	.	.	.	.	.
9 x TIME15	X	.	.	.	.	.	.
10 x TIME15	X	.	.	.	.	.

[illegible]

259.6.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.6.3

EXAMPLE

Type of digit handling	International
Type of register signalling	Decadic pulsing
Predigit sending pause before digit ...	No predigit sending pulse
EOS shall be received	Yes
Length of inter digital pause *1)	TIMEINTDIGPAUS 0
Send level for tone code sender	Normal
Detection level for tone code receiver	Normal
Receive seizure acknowledgement	Yes
PTS (First PTS) shall be received as	Pulse

VARO = 00000086

259.7

VARO - TL22

Signal diagram variations for outgoing traffic

259.7.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈D₁ = 0 - F See Table 226 Values of D1 (VARO) on page 718.D₂ = 2 - 9 See Table 227 Values of D2 (VARO) on page 719.D₃ = 0 - F See Table 228 Values of D3 (VARO) on page 719.D₄ = 0 - 3 See Table 229 Values of D4 (VARO) on page 719.D₅ = 0, 1 See Table 230 Values of D5 (VARO) on page 720.D₆ = 0, 1 See Table 231 Values of D6 (VARO) on page 720.D₇ = 0 - 5 See Table 232 Values of D7 (VARO) on page 720.D₈ = 0, 1 See Table 233 Values of D8 (VARO) on page 720.

Table 226 Values of D1 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Detection of A13 MFC CEPT L1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
As A1	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
As A4	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Alternative routing	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Not permitted	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Permitted	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Length of inter digit pause	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TIMEINTDIGPAUS0	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
TIMEINTDIGPAUS1	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
TIMEINTDIGPAUS2	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
TIMEINTDIGPAUS3	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

Table 227 Values of D2 (VARO)

	2	3	4	5	6	7	8	9
The permitted number of received A8-signals before net congestion. CEPT L1								
1	X	X	.	.	.	.	.	.
2	.	.	X	X	.	.	.	.
3	.	.	.	.	X	X	.	.
4	.	.	.	.	.	.	X	X
Check of double seizure								
No	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X

Table 228 Values of D3 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Predigit sending pause before digit transmission																
No predigit sending pause *1)	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2 x TIME15	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3 x TIME15	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
4 x TIME15	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
5 x TIME15	X	.	.	.	.	.	.	.	.	.	.	.
6 x TIME15	X	.	.	.	.	.	.	.	.	.	.
7 x TIME15	X	.	.	.	.	.	.	.	.	.
8 x TIME15	X	.	.	.	.	.	.	.	.
9 x TIME15	X	.	.	.	.	.	.	.
10 x TIME15	X	.	.	.	.	.	.
11 x TIME15	X	.	.	.	.	.
12 x TIME15	X	.	.	.	.
13 x TIME15	X	.	.	.
14 x TIME15	X	.	.
15 x TIME15	X	.
16 x TIME15	X

*1) The value No predigit sending pause is used on routes where PTS expected.

Note: The value of TIME15 is specified in an APS-parameter with a resolution of 5 ms.

Table 229 Values of D4 (VARO)

	0	1	2	3
Type of register signalling				
Decadic pulsing	X	.	.	.
Tone code	.	X	.	.
MFC code	.	.	X	.
Manual line	.	.	.	X

Table 230 Values of D5 (VARO)

	0	1
Receive B-answer	.	.
No	X	.
Yes	.	X

Table 231 Values of D6 (VARO)

	0	1
Receive EOS	.	.
No	X	.
Yes	.	X

Table 232 Values of D7 (VARO)

	0	1	2	3	4	5
PTS shall be received as
No PTS	X	.	.	.	.	.
Tone	.	X	.	.	.	.
Pulse on the E-wire or the E-wire is set to active	.	.	X	.	.	.
Pulse on the E-wire or the E-wire is set to active AND Tone	.	.	.	X	.	.
The E-wire is set no active (A-format = DELAY DIAL)	X	.
Short time supervised (< 1 s) PTS.(The E-wire is set active. D-FORMAT only.)	X

Table 233 Values of D8 (VARO)

	0	1
Receive seizure acknowledgement (SZA)	.	.
No	X	.
Yes	.	X

259.7.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.7.3

EXAMPLE

Detection of A13 MFC CEPT L1	As A1
Alternative routing	Not permitted
Length of inter digit pause	TIMEINTDIGPAUS0
The permitted number of received ...	2
Check of double seizure	No
Predigit sending pause before digit transmission	3 x TIME15
Type of register signalling	Decadic pulsing
Receive B-answer	Yes

Receive EOS	No
PTS shall be received as	Tone
Receive seizure acknowledgement (SZA)	No

VARO = 04201010

259.8

VARO - TL25

Signal diagram variations for outgoing traffic

259.8.1

FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ = 000	Reserved.
D ₄ = 0 - 3	See Table 234 Values of D4 (VARO) on page 722.
D ₅ = 0 - F	See Table 235 Values of D5 (VARO) on page 723.
D ₆ = 0 - F	See Table 236 Values of D6 (VARO) on page 723.
D ₇ = 0 - 7	See Table 237 Values of D7 (VARO) on page 723.
D ₈ = 0 - C	See Table 238 Values of D8 (VARO) on page 724.

Table 234 Values of D4 (VARO)

	0	1	2	3
Type of call metering (only valid if pulse detection is done on the TLU-board)
No pulse detection is done on the TLU-board.	X	.	.	.
50 Hz call metering is used	.	X	.	.
12 Hz call metering is used	.	.	X	.
16 Hz call metering is used	.	.	.	X

Table 235 Values of D5 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Pre digit pause (only PSTN-traffic)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0 x TIMPREDIGIT *)	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
1 x TIMPREDIGIT *)	.	.	.	.	X	X	X	X	.	.	.	.	.	.	.	.
2 x TIMPREDIGIT *)	.	.	.	.	.	.	.	.	X	X	X	X	.	.	.	.
3 x TIMPREDIGIT *)	.	.	.	.	.	.	.	.	.	.	.	.	X	X	X	X
PABX number before extension number	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Receive dial tone	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*) The value of TIMPREDIGIT is specified in an APS-parameter.

Table 236 Values of D6 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Detection of incoming ringing signal in speech-state, LB-line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Clearing	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Clearing + new call	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Duration of the ringing signal, LB-line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Short signal	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Long signal	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Send clear forward from LB-line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Send busy tone on clearing the external LB-line	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 237 Values of D7 (VARO)

	0	1	2	3	4	5	6	7
Detection of current feed from public exchange (only PSTN-traffic)	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Type of register signalling	.	.	.	.	.	.	.	.
None	X	.	.	.	X	.	.	.
Decadic pulsing	.	X	.	.	.	X	.	.
MFC	.	.	X	.	.	.	X	.

DTMF	.	.	.	X	.	.	.	X
------	---	---	---	---	---	---	---	---

Table 238 Values of D8 (VARO)

	0	2	3	4	8	A	B	C
Type of MFC-signalling	.	.	.	.	.	.	.	.
MFC CCITT	X	X	X	X	.	.	.	.
MFC LME	.	.	.	.	X	X	X	X
Type of outgoing external line	.	.	.	.	.	.	.	.
Not outgoing line	X	.	.	.	X	.	.	.
PSTN	.	X	.	.	.	X	.	.
CB	.	.	X	.	.	.	X	.
LB	.	.	.	X	.	.	.	X

Note: If TLU75/ 1 is used, VARO D8 must be set to either 2 or A.

259.8.2

FUNCTION

The parameter states the signalling diagram variations common for outgoing traffic. VARO may be omitted for incoming traffic only.

259.8.3

EXAMPLE

Type of call metering (only valid if pulse ...	12 kHz
Pre digit pause (only PSTN-traffic)	0 x TIMPREDIGIT
PABX number before extension number	No
Receive dial tone	Yes
Clearing	No
Duration of the ringing signal, LB-line	Short signal
Send clear forward from LB-line	No
Send busy tone on clearing the external LB-line	No
Detection of current feed from public exchange (only PSTN-traffic)	Yes
Type of register signalling	Decadic pulsing
Type of MFC-signalling	MFC CCIT
Type of outgoing external line	PSTN

VARO = 00021052

259.9

VARO - TL26

Signal diagram variations for outgoing traffic

259.9.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈

D ₁ D ₂ = 00	Reserved.
D ₃ = 0 - 3	See Table 239 Values of D3 (VARO) on page 726.
D ₄ = 0, 1	See Table 240 Values of D4 (VARO) on page 726.
D ₅ = 0 - 6	See Table 241 Values of D5 (VARO) on page 727.
D ₆ = 0 - 5	See Table 242 Values of D6 (VARO) on page 727.
D ₇ = 0, 1	See Table 243 Values of D7 (VARO) on page 727.
D ₈ = 0, 1	See Table 244 Values of D8 (VARO) on page 727.

Table 239 Values of D3 (VARO)

	0	1	2	3
Type of call metering (only valid if pulse detection is done on the TLU-board)
No pulse detection is done on the TLU-board	X	.	.	.
50 Hz call metering is used	.	X	.	.
12 kHz call metering is used	.	.	X	.
16 kHz call metering is used	.	.	.	X

Table 240 Values of D4 (VARO)

	0	1
Receive external PTS (150 Hz) *)	.	.
No	X	.
Yes	.	X

*) 150 Hz PTS is detected using external equipment. When the external equipment detects a PTS it sends an "external PTS" to the external line board (TLU).

Table 241 Values of D5 (VARO)

	0	1	2	4	5	6
Mobile phone	.	.	.	.	.	.
No	X	X	X	.	.	.
Yes	.	.	.	X	X	X
Post digit selection	.	.	.	.	.	.
DTMF	X	.	.	X	.	.
Decadic pulsing *)	.	X	.	.	X	.
Not allowed	.	.	X	.	.	X

*) Decadic pulsing is only allowed when digital telephone sets and operators are available in the exchange.

Table 242 Values of D6 (VARO)

	0	1	4	5
Transmitting level of KS -Keycode sender (DTMF)	.	.	.	.
Normal level	X	X	.	.
Attenuation or amplifying	.	.	X	X
Detection level of TR -Tone receiver	.	.	.	.
Normal level	X	.	X	.
Attenuation or amplifying	.	X	.	X

Table 243 Values of D7 (VARO)

	0	1
Type of register signalling	.	.
Decadic pulsing	X	.
DTMF	.	X

Table 244 Values of D8 (VARO)

	0	1
Type of trunk	.	.
ALS70	X	.
Subscriber line signalling	.	X

Note: TLU75/1 does only support Subscriber Line Signalling.

259.9.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.9.3

EXAMPLE 1

Type of call metering (only ...

No pulse detection

Receive external PTS (150 Hz) *)	Yes
Mobile phone	No
Post digit selection	DTMF
Transmitting level of KS ...	Normal level
Detection level of TR -Tone ...	Normal level
Type of register signalling	DTMF
Type of trunk	ALS70

VARO = 00010010

259.9.4

EXAMPLE 2

Type of call metering (only ...	12 kHz call metering is used
Receive external PTS (150 Hz) *)	No
Mobile phone	No
Post digit selection	DTMF
Transmitting level of KS ...	Normal level
Detection level of TR -Tone ...	Normal level
Type of register signalling	DTMF
Type of trunk	Subscriber signalling

VARO = 00200011

259.10

VARO - TL30

Signal Diagram Variations for Outgoing Traffic

259.10.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃ = 000 Rreserved.D₄ = 0 - 1 See Table 245 Values of D4 (VARO) on page 729.D₅ = 0 - F See Table 246 Values of D5 (VARO) on page 729.D₆ = 0 - F See Table 247 Values of D6 (VARO) on page 730D₇ = 0 - F See Table 248 Values of D7 (VARO) on page 730.D₈ = 0 - F See Table 249 Values of D8 (VARO) on page 730.

Table 245 Values of D4 (VARO)

	0	1
Detection of second dial tone	.	.
No delay	X	.
Delay 2.5 seconds	.	X

Table 246 Values of D5 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
A-number zero filling *5)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Send Bearer Capability 64 kbit/s as category, if applicable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Send MFC signal for complete B-Number	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Time supervision of seizure acknowledgement *6)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Long (standard)	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Short	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

*5) When the A-number length is shorter than specified in VARC D₆, the remaining digits will be set to zero (0) to fill up to full length. When the originating exchange has sent the complete A-number, and the public exchange continues to request A-number using backward MFC A-4, MFC I-10 will be sent as response, until backward MFC A-3 is received from the public exchange (valid for CCITT R2 India).

*6) The duration of the different timings can be set up as market depending parameters.

Table 247 Values of D6 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Add one metering pulse on a call	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Alternative routing permitted	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Wait with call to cooperating exchange until minimum number length has been received (Only at MFC outgoing traffic)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Check on double seizure	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 248 Values of D7 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Delay transmission of first digit after dial tone or seizure acknowledgement	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Clearing signal expected from co-operating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Delayed disconnection from cooperating exchange due to renewed answer	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Receive B-answer from cooperating exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 249 Values of D8 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Start digit transmission when receiving dial tone	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X

Start digit transmission when receiving seizure acknowledgement	. . . . .
No	X X X X X X X X
Yes	. . . . X X X X X X X X
Type of digit transmission to co-operating exchange	. . . . .
Decadic pulsing	X . . . X . . . X . . . X . . .
Tone code (DTMF)	. X . . . X . . . X . . . X . . .
MFC code	. . X . . . X . . . X . . . X . . .
Reserve	. . . X . . . X . . . X . . . X

259.10.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic. VARO may be omitted for incoming traffic only.

Note: For both way traffic the digital signal diagram for incoming and outgoing traffic must be identical.

If MFC is used for incoming traffic, then decadic, tone code or MFC signaling can be used for outgoing traffic providing the route is bothway.

If MFC is used, then PTS as tone cannot be used.

If A-number request shall be used for incoming traffic, and MFC signaling shall be used, the incoming route shall be categorized to allow A-number request from the public network and the called party shall be categorized to allow request of A-number from the PSTN.

The A-number request is not applicable when TL30 is initiated as a tie line!

259.10.3

EXAMPLE

Detection of second dial tone	No delay
A-number zero filling	No
Send Bearer Capability	No
Send MFC signal ...	No
Time supervision	Long (standard)
Add one metering pulse ...	No
Alternative routing permitted	No
Wait with call to cooperating ..	No
Check double seizure	Yes
Delay transmission of first digit ...	No
Clearing signal ...	Yes
Delayed disconnection ...	No
Receive B-answer	Yes
Start digit transmission when receiving dial tone	Yes
Start digit transmission when receiving seizure acknowledgement	No
Type of digital transmission	Tone code (DTMF)

VARO = 00000159

259.11

VARO - TL35

Signal diagram variations for outgoing traffic

259.11.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃ = 000 Reserved.D₄ = 0 - 3 See Table 250 Values of D4 (VARO) on page 732.D₅ = 0 - 9 See Table 251 Values of D5 (VARO) on page 732.D₆ = 0 - 3 See Table 252 Values of D6 (VARO) on page 732.D₇ = 0 - D See Table 253 Values of D7 (VARO) on page 733.D₈ = 0 - 3 See Table 254 Values of D8 (VARO) on page 733.

Table 250 Values of D4 (VARO)

	0	1	2	3
Type of call metering (Only valid if pulse detection is used on the TLU-board)
No pulse detection is done on the TLU-board	X	.	.	.
50 Hz call metering is used	.	X	.	.
12 kHz call metering is used	.	.	X	.
16 kHz call metering is used	.	.	.	X

Table 251 Values of D5 (VARO)

	0	1	2	3	4	5	6	7	8	9
Time supervision when seizing the external line (Only for Balanced Battery)
0 ms (default)	X	.	.	.	.	.	.	.	.	.
500 ms	.	X	.	.	.	.	.	.	.	.
1000 ms	.	.	X	.	.	.	.	.	.	.
1500 ms	.	.	.	X	.	.	.	.	.	.
2000 ms	X	.	.	.	.	.
2500 ms	X	.	.	.	.
3000 ms	X	.	.	.
3500 ms	X	.	.
4000 ms	X	.
4500 ms	X

Table 252 Values of D6 (VARO)

	0	1	2	3
Permitted to select alternative route	.	.	.	.
No	X	X	.	.
Yes	.	.	X	X
Key code sender level	.	.	.	.

Normal	X	.	X	.
Amplified	.	X	.	X

Table 253 Values of D7 (VARO)

	0	1	4	5	8	9	C	D
Interdigit pause time	.	.	.	.	.	.	.	.
Interdigit pause time 0	X	X	.	.	.	.	.	.
Interdigit pause time 1	.	.	X	X	.	.	.	.
Interdigit pause time 2	.	.	.	.	X	X	.	.
Interdigit pause time 3	.	.	.	.	.	.	X	X
PTS as tone	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X

Table 254 Values of D8 (VARO)

	0	1	2	3
Type of register signalling
None	X	.	.	.
Decadic pulsing	.	X	.	.
Key code	.	.	X	.
MFC	.	.	.	X

259.11.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.11.3

EXAMPLE

Type of call metering ...	12 kHz
Time supervision when ...	-
Permitted to select alternative ...	Yes
Key code sender level	Normal
Interdigit pause time	Interdigit pause time 3
PTS as tone	No
Type of register signalling	Decadic pulsing

VARO = 000202C1

259.12VARO - TL37

Signal diagram variations for outgoing traffic

259.12.1FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ = 00	Reserved.
D ₃ = 0 - 1	See Table 255 Values of D 3 (VARO) on page 735.
D ₄ = 0 - F	See Table 256 Values of D 4 (VARO) on page 735.
D ₅ = 0 - 7	See Table 257 Values of D 5 (VARO) on page 736.
D ₆ = 0 - F	See Table 258 Values of D 6 (VARO) on page 736.
D ₇ = 0 - F	See Table 259 Values of D 7 (VARO) on page 736.
D ₈ = 0 - F	See Table 260 Values of D 8 (VARO) on page 737.

Table 255 Values of D3 (VARO)

	0	1
Send CCITT R1 ST-signal	.	.
Directly after the last digit has been sent	X	.
At timeout (time between digits is used)	.	X

Table 256 Values of D4 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Time before the digit sending can start after a seizure (presending pause). Time multiplication factor.
0 sec	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.2 sec	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.4 sec	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
0.6 sec	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
0.8 sec	X	.	.	.	.	.	.	.	.	.	.	.
1.0 sec	X	.	.	.	.	.	.	.	.	.	.
1.2 sec	X	.	.	.	.	.	.	.	.	.
1.4 sec	X	.	.	.	.	.	.	.	.
1.6 sec	X	.	.	.	.	.	.	.
1.8 sec	X	.	.	.	.	.	.
2.0 sec	X	.	.	.	.	.
2.2 sec	X	.	.	.	.
2.4 sec	X	.	.	.
2.6 sec	X	.	.
2.8 sec	X	.
3.0 sec	X

Table 257 Values of D5 (VARO)

	0	1	2	3	4	5	6	7
Receive EOS	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Time supervision of PTS (D-format). The time is indicated by market parameter	.	.	.	.	.	.	.	.
Long	X	X	.	.	X	X	.	.
Short	.	.	X	X	.	.	X	X
Is alternative routing allowed at congestion	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X

Table 258 Values of D6 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Is seizure acknowledgement signal to be received in the form of seizure acknowledge (D-format) or delay dial (A-format)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Receive PTS as	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Time before digit sending (see D4)	X	X	.	.	.	.	.	.	X	X	.	.	.	.	.	.
Line signal	.	.	X	X	.	.	.	.	.	.	X	X	.	.	.	.
Tone	.	.	.	.	X	X	.	.	.	.	.	.	X	X	.	.
Wink start	.	.	.	.	.	.	X	X	.	.	.	.	.	.	X	X
Is double seizure to be accepted within a pre-set time after an outgoing call has been made	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 259 Values of D7 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Number of permitted alternative routings in net (CEPT)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
1	.	.	.	.	X	X	X	X	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	X	X	X	X	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.	X	X	X	X
Interdigit pause time when decadic pulsing	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
280 ms	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
430 ms	.	X	.	.	.	X	.	.	X	.	.	.	.	X	.	.
600 ms	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.

800 ms	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X
--------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 260 Values of D8 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Is a false B-answer to be generated on completion of digit sending	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
B-answer included in the signalling diagram (A-format always includes answer signal)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of digit sending	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
None (Manual line)	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Decadic pulsing	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
Tone code	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
MFC	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

259.12.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.12.3

EXAMPLE

Send CCITT R1 ST-signal	Directly after the last ...
Time before the digit sending can ...	0 seconds
Receive EOS	Yes
Time supervision of PTS (D-format).	Long
Is alternative routing allowed at congestion	Yes
Is seizure acknowledgement signal...	No
Receive PTS as	Line signal
Is double seizure to be accepted ...	Yes
Number of permitted alternative ...	0
Interdigit pause time when decadic pulsing	280 ms
Is a false B-answer to be generated ...	Yes
B-answer included in the signalling ...	Yes
Type of digit sending	Decadic pulsing

VARO = 0000530D

259.13

VARO - TL38

Signal diagram variations for outgoing traffic

259.13.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂ = 00 Reserved.D₃ = 0 - 1 See Table 315 Values of D3 (VARO) on page 964.D₄ = 0 - 1 See Table 316 Values of D4 (VARO) on page 964.D₅D₆ = 00 Reserved.D₇ = 0 - 1 See Table 317 Values of D7 (VARO) on page 964.D₈ = 6 - 7 See Table 318 Values of D8 (VARO) on page 965.**Table 261 Values of D3 (VARO)**

	0	1
Reception of release guard signal is mandatory to release the external line		
No	X	.
Yes	.	X

Note: Recommended value is 0.**Table 262 Values of D4 (VARO)**

	0	1
Reception of seizure acknowledge signal is mandatory to send clear forward signal		
No	X	.
Yes	.	X

Note: Recommended value is 0.**Table 263 Values of D7 (VARO)**

	0	1
Alternative routing due to external congestion		
Not permitted	X	.
Permitted	.	X

Table 264 Values of D8 (VARO)

	Value
Length of A-number to be sent in calls terminating in the public network	
For public line (Local public plan length)	6-7
For tie line	6-7

Note: See D5 in VARC.

259.13.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.13.3

EXAMPLE 1

Reception of release guard ...	Not mandatory
Reception of seizure acknowledge ...	Not mandatory
Alternative routing due to external ...	Permitted due to external congestion
Length of A-number to be sent in ...	Local public number plan is 7 digit

VARO = 00000018

259.13.4

EXAMPLE 2

See VARC, EXAMPLE 2

259.14

VARO - TL45

Signal diagram variations for outgoing traffic

259.14.1

FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ =	0000000	Reserved.
	D ₈ = 0 - 7	See Table 265 Values of D 8 (VARO) on page 740.

Table 265 Values of D 8 (VARO)

	0	1	2	3	4	5	6	7
B-answer	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Digit type	.	.	.	.	.	.	.	.
Dial pulse, DP	X	X	.	.	X	X	.	.
DTMF	.	.	X	X	.	.	X	X
Proceed to send, PTS	.	.	.	.	.	.	.	.
Dial tone	X	.	X	.	X	.	X	.
Wink	.	X	.	X	.	X	.	X

259.14.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.

VARO may be omitted for incoming traffic only.

Note: The DMI mode configuration should be in CCS signalling.

The 24th channel is reserved for signalling if any assigned channel on the same board is in CCS signalling.

The board configuration (ZERO, FRM and DMI) can only be assigned the same value for the different trunks of the same board.

The CO trunk can only support dial tone as proceed-to-send.

The DID trunk can only support wink start as proceed-to-send.

The B-answer is never received from the CO trunk.

259.14.3

EXAMPLE

B-answer	No
Digit type	DTMF
Proceed to send, PTS	Dial tone

VARI = 00000002

259.15VARO - TL49

Signal diagram variations for outgoing traffic

259.15.1FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ = 00	Reserved.
D ₃ = 0 - 7	See Table 266 Values of D 3 (VARO) on page 741.
D ₄ = 0 - F	See Table 267 Values of D 4 (VARO) on page 741.
D ₅ = 0, 1	See Table 268 Values of D 5 (VARO) on page 742.
D ₆ = 0 - 3	See Table 269 Values of D 6 (VARO) on page 742.
D ₇ = 0 - 3	See Table 270 Values of D 7 (VARO) on page 742.
D ₈ = 0 - F	See Table 271 Values of D 8 (VARO) on page 742.

Table 266 Values of D 3 (VARO)

	0	1	2	3	4	5	6	7
Alternative routing permitted	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X
Interdigit pause	.	.	.	.	.	.	.	.
270 ms	X	.	.	.	X	.	.	.
425 ms	.	X	.	.	.	X	.	.
600 ms	.	.	X	.	.	.	X	.
800 ms	.	.	.	X	.	.	.	X

Table 267 Values of D 4 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Predigit pause
Time04 X 0	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Time04 X 1	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Time04 X 2	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
Time04 X 3	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
Time04 X 4	X	.	.	.	.	.	.	.	.	.	.	.
Time04 X 5	X	.	.	.	.	.	.	.	.	.	.
Time04 X 6	X	.	.	.	.	.	.	.	.	.
Time04 X 7	X	.	.	.	.	.	.	.	.
Time04 X 8	X	.	.	.	.	.	.	.
Time04 X 9	X	.	.	.	.	.	.
Time04 X 10	X	.	.	.	.	.
Time04 X 11	X	.	.	.	.
Time04 X 12	X	.	.	.
Time04 X 13	X	.	.

[illegible]

Note: Time04 is an APS-parameter.

Table 268 Values of D 5 (VARO)

	0	1
Receive EOS	.	.
No	X	.
Yes	.	X

Table 269 Values of D 6 (VARO)

	0	1	2	3
Receive PTS as
No PTS	X	.	.	.
Pulse	.	X	.	.
Tone	.	.	X	.
Tone or pulse	.	.	.	X

Table 270 Values of D7 (VARO)

	0	1	2	3
Wait with call to interworking exchange until minimum number length has been received (Only at MFC outgoing traffic)	.	.	.	.
No	X	X	.	.
Yes	.	.	X	X
Check on double seizure at bothway traffic	.	.	.	.
No	X	.	X	.
Yes	.	X	.	X

Table 271 Values of D 8 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Receive B-answer from interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Receive seizure acknowledgement from interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of digit transmission to interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Decadic pulsing	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Tone or decadic pulsing	.	X	.	.	.	X	.	.	X	.	.	.	X	.	.	.
MFC code	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
Manual line	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

259.15.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.15.3

EXAMPLE

Alternative routing permitted	Yes
Interdigit pause	425 ms
Predigit pause	Time 04 x 2
Receive EOS	No
Receive PTS as	No PTS
Wait with call to interworking exchange ...	Yes
Check on double seizure at bothway traffic	Yes
Receive B-answer from interworking ...	Yes
Receive seizure acknowledgement ...	No
Type of digit transmission to ...	MFC code

VARO = 0052003A

259.16

VARO - TL50

Signal Diagram Variations for Outgoing Traffic

259.16.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃D₄D₅D₆D₇D₈ = 00000000 Reserved.

259.16.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic. For TL50 a default value of VARO = 00000000 must be used if the route is initiated as outgoing or bothway route.

VARO shall be omitted if the route is initiated for incoming traffic only.

259.16.3

EXAMPLE

The route is initiated for bothway traffic. A default value must be used for the VARO parameter.

VARO = 00000000

259.17

VARO - TL51

Signal diagram variations for outgoing traffic

259.17.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃D₄ = 0000 Reserved.D₅ = 0 - F See Table 272 Values of D5 (VARO) on page 745.D₆ = 0 - F See Table 273 Values of D 6 (VARO) on page 745D₇ = 0 - F See Table 274 Values of D7 (VARO) on page 746.D₈ = 0 - F See Table 275 Values of D8 (VARO) on page 747.

Table 272 Values of D5 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Receive EOS
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	X	X	X	X	X	X	X	X
Presending pause time when using decadic impulsing
0 sec	X	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.
0.2 sec	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.	.
0.4 sec	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.
0.6 sec	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.
0.8 sec	X	.	.	.	.	.	.	.	X	.	.	.
1.0 sec	X	.	.	.	.	.	.	.	X	.	.
1.2 sec	X	.	.	.	.	.	.	.	X	.
1.4 sec	X	.	.	.	.	.	.	.	X

Table 273 Values of D 6 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Interdigit pause time when using decadic impulsing	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
300 ms	X	X	X	X	.	.	.	.	.	.	.	.	.	.	.	.
400 ms	.	.	.	.	X	X	X	X	.	.	.	.	.	.	.	.
500 ms	.	.	.	.	.	.	.	.	X	X	X	X	.	.	.	.
600 ms	.	.	.	.	.	.	.	.	.	.	.	.	X	X	X	X
Alternative routing permitted	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Wait with call to interworking exchange until minimum number length has been received (only at MFC outgoing traffic)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 274 Values of D7 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Double seizure check at bothway traffic	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Delay transmission of first digit after dial tone or seizure acknowledgement																
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Interworking exchange sends clearing signal	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	.	.	X	X	.	.	X	X	.	.	X	X	.	.
Yes	.	.	X	X	.	.	X	X	.	.	X	X	.	.	X	X
Interworking exchange sends B-answer	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 275 Values of D8 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Receive dial tone from interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Receive seizure acknowledgement from interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
No	X	X	X	X	.	.	.	.	X	X	X	X	.	.	.	.
Yes	.	.	.	.	X	X	X	X	.	.	.	.	X	X	X	X
Type of digit sending to interworking exchange	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
None (manual line)	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.
Decadic pulsing	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.	.
Tone code	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X	.
MFC-code	.	.	.	X	.	.	.	X	.	.	.	X	.	.	.	X

259.17.2

FUNCTION

The parameter states the signal diagram variations for outgoing traffic.

259.17.3

EXAMPLE

Receive EOS	Yes
Presending pause time when using decadic ...	0
Interdigit pause time when using decadic ...	300 ms
Alternative routing permitted	No
Wait with call to interworking exchange until ...	No
Double seizure check at bothway traffic	Yes
Delay transmission of first digit after dial tone ...	No
Interworking exchange sends clearing signal	Yes
Interworking exchange sends B-answer	Yes
Receive dial tone from interworking exchange	No
Receive seizure acknowledgement from ...	Yes
Type of digit sending to interworking exchange	MFC code

VARO = 000080B7

259.18

VARO - TL65

Signaling diagram for outgoing traffic

259.18.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈

D₁D₂D₃D₄ = 0000 Reserved

D₅ = 0 - 1 See Table 276 Value of D5 (VARO) on page 748.

D₆ = 0 - 4 See Table 277 Value of D6 (VARO) on page 748.

D₇ = 0 - 3 See Table 278 Value of D7 (VARO) on page 748.

D₈ = 0 - 1 See Table 279 Value of D8 (VARO) on page 748.

Table 276 Value of D5 (VARO)

	0	1
Support of End to End DTMF signaling for outgoing calls from SIP extensions		
No	X	.
Yes	.	X

Note: If D₅ is set to 0, the key * pressed from a SIP extension in speech, is considered as an inquiry.

If D₅ is set to 1, the key * pressed from a SIP extension in speech, is considered as a DTMF digit.

Table 277 Value of D6 (VARO)

	0	1	2	3	4
T303 timer length					
time in seconds	4	1	2	3	4

Note: 0 is the default value.

Table 278 Value of D7 (VARO)

	0	1	2	3
Request Advice Of Charge (AOC) at call setup and Type of Charging				
No AOC request	X	.	.	.
Continuous charging during the call (AOC-D ISO/ETSI)	.	X	.	.
Charging at end of call (AOC-E ISO/ETSI)	.	.	X	.
Both AOC-D and AOC-E (ISO/ETSI)	.	.	.	X

Note: In the case of H.323 public trunks, AOC request must be set to NO.

Table 279 Value of D8 (VARO)

	0	1
Type of external line		
Tie line	X	.
Public external line	.	X

259.18.2
FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.

259.18.3
EXAMPLE

The type of route is continuous charging during the call tie line and is requested. T303 timer is 2 seconds.

Support of End to End DTMF signaling for outgoing calls from SIP extensions	No
T303 timer length	2 seconds
Keycode sender level	Normal
Request Advice Of Charge (AOC) at call setup and Type of Charging	No AOC request
Type of external line	Tie line

VARO= 00000200

259.19

VARO - TL66

Signal diagram variations for outgoing traffic

259.19.1

FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ = 0000	Reserved.
D ₅ = 0	SIP network congestion handling and SIP extension History-Info & SIP extension Diversion related to P-Asserted-Identity (PAI). Default
1	Treat 404, 485 and 604 as network congestion.
2	Do not send history information.
4	Do not send diversion information.
D ₆ = 0	Supervision of answer to INVITE. 1 second waiting time for answer to INVITE before call is rejected or alternatively routed.
1-9	Number of seconds for answer to INVITE before call is rejected or alternatively routed.
D ₇ = 0	Normal route. Default.
1	Request End To End DTMF signalling from other side. Used to transform DTMF from original user to SIP-info elements to connected SIP device.
2	Use contact field to update called (answering) information at seizure.
4	Treat session progress (183) as ringing (180).
D ₈ = 0	4 seconds delay before sending INVITE. Default.
1-9	Number of seconds before sending INVITE. Used for setting time supervision between digits received before sending INVITE to remote side, when unknown number length is used. If number length is known for this destination (<i>number_data_initiate --maxlength</i>) sending of INVITE is done directly when last digit is dialled.

259.19.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.

VARO may be omitted for incoming traffic only.

259.20VARO - TL72

Signal diagram variations for outgoing traffic

259.20.1FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈	
D ₁ D ₂ D ₃ D ₄ = 0000	Reserved
D ₅ = 0 - 9	See Table 280 Values of D7 (VARO) on page 751
D ₆ = 0 - 3	See Table 281 Values of D6 (VARO) on page 752.
D ₇ = 0 - D	See Table 282 Values of D7 (VARO) on page 752.
D ₈ = 0 - 3	See Table 283 Values of D 8 (VARO) on page 752

Table 280 Values of D7 (VARO)

	0	1	2	3	4	5	6	7	8	9
Time supervision when seizing the external line
(Only for Balanced Battery)
0 ms (default)	X	.	.	.	.	.	.	.	.	.
500 ms	.	X	.	.	.	.	.	.	.	.
1000 ms	.	.	X	.	.	.	.	.	.	.
1500 ms	.	.	.	X	.	.	.	.	.	.
2000 ms	X	.	.	.	.	.
2500 ms	X	.	.	.	.
3000 ms	X	.	.	.
3500 ms	X	.	.
4000 ms	X	.
4500 ms	X

Table 281 Values of D6 (VARO)

	0	1	2	3
Permitted to select alternative route	.	.	.	.
No	X	X	.	.
Yes	.	.	X	X
Keycode sender level	.	.	.	.
Normal	X	.	X	.
Amplified	.	X	.	X

Table 282 Values of D7 (VARO)

	0	1	4	5	8	9	C	D
Interdigital pause time	.	.	.	.	.	.	.	.
Interdigit pause time 0	X	X	.	.	.	.	.	.
Interdigit pause time 1	.	.	X	X	.	.	.	.
Interdigit pause time 2	.	.	.	.	X	X	.	.
Interdigit pause time 3	.	.	.	.	.	.	X	X
PTS as tone	.	.	.	.	.	.	.	.
No	X	.	X	.	X	.	X	.
Yes	.	X	.	X	.	X	.	X

Table 283 Values of D 8 (VARO)

	0	1	2	3
Type of register signalling
None	X	.	.	.
Decadic pulsing	.	X	.	.
Keycode	.	.	X	.
MFC	.	.	.	X

259.20.2

FUNCTION

The parameter indicates the signal diagram variations for outgoing traffic.
VARO may be omitted for incoming traffic only.

259.20.3

EXAMPLE

Time supervision when seizing the external line	0	
Permitted to select alternative route	Yes	
Keycode sender level		Normal
Interdigital pause time		Interdigit pause time 3
PTS as tone		No
Type of register signalling	Decadic pulsing	

VARO = 000002C1

259.21VARO - TL81

Signal diagram variations for outgoing traffic

259.21.1FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ =	000000	Reserved.
D ₇ = 0 - 1	See Table 315 Values of D3 (VARO) on page 964.	
D ₈ = 0 - 3	See Table 285 Values of D8 (VARO) on page 753.	

Table 284 Values of D7 (VARO)

	0	1
Continuity Check Call		
Not allowed	X	.
Allowed	.	X

Table 285 Values of D8 (VARO)

	0	1	2	3
Sending of ST (end of pulsing) signal				
ST is not sent.	X	.	.	.
ST is included in the called line identity (A-party number) field.	.	X	.	.
ST is included in the calling line identity (B-party number) field.	.	.	X	.
ST is included in both fields.	.	.	.	X

259.21.2FUNCTION

The parameter is used to state signal diagram variations for outgoing traffic.

- A Continuity check call will be initiated for each call if so defined in VARO, that is, D₇ is set to allowed.
- On outgoing messages with digit information it is possible to send the ST (end of pulsing) signal as LAST DIGIT of the appropriate identity fields. In the calling line identity field (A-party number) the ST signal is applied always if enabled by the parameter. In the called line identity field (B-party number) the ST signal is applied if the maximum number of external digits has been detected by the number analysis function and the parameter permits sending.

259.21.3EXAMPLE

Continuity Check Call	Not allowed
Sending of ST (end of pulsing) signal	ST is included in the called line identity (A-party number) field.
VARO = 00000001	

259.22

VARO - TL95

Signal diagram variations for outgoing traffic

259.22.1

FORMAT

VARO = D₁D₂D₃D₄D₅D₆D₇D₈D₁D₂D₃ = 000 ReservedD₄ = 0 - 3 See Table 286 Values of D44 (VARO) on page 754D₅ = 0 - 7 See Table 287 Values of D5 (VARO) on page 754.D₆ = 0 - F See Table 288 Values of D6 (VARO) on page 754.D₇ = 0 - F See Table 289 Values of D77 (VARO) on page 755.D₈ = 0 - 5 See Table 290 Values of D 8 (VARO) on page 755

Table 286 Values of D44 (VARO)

	0	1	2	3
MFP Link-By-Link at outgoing long distance transit	.	.	.	.
No	X	X	.	.
Yes	.	.	X	X
AON Link-By-Link at outgoing long distance transit	.	.	.	.
No	X	.	X	.
Yes	.	X	.	X

Table 287 Values of D5 (VARO)

	0	1	2	3	4	5	6	7
MFPII to MFPI type	.	.	.	.	.	.	.	.
B2 received once	X	X	X	X	.	.	.	.
B2 received twice	.	.	.	.	X	X	X	X
Fill-in digit in A-number (MFPI or AON)	.	.	.	.	.	.	.	.
0	X	X	.	.	X	X	.	.
2	.	.	X	X	.	.	X	X
Number of digits in AON- package	.	.	.	.	.	.	.	.
12 digits	X	.	X	.	X	.	X	.
13 digits	.	X	.	X	.	X	.	X

Table 288 Values of D6 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
MFPI number packaging	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
A-cat., A-No., B-No.	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
B-No., A-cat., A-No.	.	.	.	.	.	.	.	.	X	X	X	X	X	X	X	X
Type of A-number transmission	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Non MFPI	X	X	.	.	.	.	.	.	X	X	.	.	.	.	.	.
MFPI	.	.	X	X	.	.	.	.	.	.	X	X	.	.	.	.

MFPII to MFPI	.	.	.	.	X	X	.	.	.	.	.	.	X	X	.	.
Reserve	.	.	.	.	.	.	X	X	.	.	.	.	.	.	X	X
Type of connection	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SL, SLM, SL+ZSL	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.
ZSL	.	X	.	X	.	X	.	X	.	X	.	X	.	X	.	X

Table 289 Values of D77 (VARO)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Sending of AON package
No	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Yes	X	X	X	X	X	X	X	X
Delay of sending AON package
0 ms	X	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.
30 ms	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.	.
35 ms	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.	.
40 ms	.	.	.	X	.	.	.	.	.	.	.	X	.	.	.	.
45 ms	X	.	.	.	.	.	.	.	X	.	.	.
Reserve	X	.	.	.	.	.	.	.	X	.	.
Reserve	X	.	.	.	.	.	.	.	X	.
Reserve	X	.	.	.	.	.	.	.	X

Table 290 Values of D 8 (VARO)

	0	1	2	3	4	5
MFPII register signalling characteristics after B-4 is received meaning change from MFPII to decadic	.	.	.	.	.	.
At long distance call, AON-request after first digit (8). Default value.	X	X	.	.	.	.
At long distance call, AON-request after complete B-number, second dial tone after first digit (8).	.	.	X	X	.	.
Allow local call to change register signalling from MFPII to decadic.	.	.	.	.	X	X
Type of digit transmission to interworking exchange	.	.	.	.	.	.
Decadic	X	.	X	.	X	.
MFPII	.	X	.	X	.	X

259.22.2

FUNCTION

The parameter is used to state the signal diagram variations for outgoing traffic. VARO may be omitted for incoming traffic only.

259.22.3

EXAMPLE

Table 291

MFP Link-By-Link at outgoing long ...	No
AON Link-By-Link at outgoing long distance ...	No
MFPII to MFPI type	B2 received once
Fill-In digit in A-number (MFPI or AON)	0

Number of digits in AON-package	12 digits
MFPI number packaging	A-cat., A-No., B-No.
Type of A-number transmission	Non MFPI
Type of connection	AL, SLM, SL+ZSL
Sending of AON package	No
Delay of sending AON package	0 ms
MFPI register signalling characteristics after B-4 is received meaning change from MFPII to decadic.	at long distance call, AON-request after first digit (8). Default value
Type of digit transmission to Interworking ...	Decadic

VARO = 00000000

259.23 VARO - TL99

Signal diagram variations common for outgoing traffic

259.23.1 FORMAT

VARO = D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈		
D ₁ D ₂ D ₃ D ₄ D ₅ D ₆ D ₇ D ₈ = 00000000	Reserved	

259.23.2 FUNCTION

The parameter is not used for TL99, and should be given with all positions set to zero.

259.23.3 EXAMPLE

Recommended value given for VARO.

VARO = 00000000

260

VMF

Voice Mail Functionality

260.1

FORMAT

WMF = D ₁ D ₂ D ₃ D ₄ D ₅		
D ₁ D ₂ D ₃ D ₄ D ₅ =	STD	Standard
	EXTND	Extended
	EXTN2	Extended level 2
	EXTN3	Extended level 3

260.2

FUNCTION

The parameter states the function of a voice mail system, whether the standard, extended, extended level 2, or extended level 3 functionality is used. This parameter selects the signaling interface and functionality for the voice mail system.

260.3

EXAMPLE

The extended function is used.

VMF = EXTND

261

VOCGU

Vocal Guidance Announcement Number

261.1

FORMAT

VOCGU = D₁D₂D₃D₄D₅
 D₁D₂D₃D₄D₅ = 0 - 250, 256 - 65535
 Vocal guidance announcement number.
 Default (no announcement) = 0.

261.2

FUNCTION

The parameter states the VOCGU which will be associated with a vocal guidance traffic case and, optionally, for a customer group number.

If the announcement is resulting in a message which is residing on an RTP resource, i.e. MGU, the values 1-250 and 256 to 65535 are allowed.

261.3

EXAMPLE

The Vocal Guidance Announcement Number is 10.

VOCGU = 10

262

VOCT

Vocal Guidance Traffic Number

262.1

FORMAT

VOCT = D_1D_2

D_1D_2 =	01	Vacant number
	02	Line lockout
	03	Blocked
	04	Busy
	05	Time-out
	06	Service successful (activation/deactivation)
	07	Service failure (activation/programming)
	08	Diversion active
	09	DND active
	10	Message waiting/MMW active
	11	Locking of extension successful
	12	Unlock of extension successful
	13	Extension is locked
	14	Category barring
	15	Not available terminator
	16	Request for R2 pin code
	17	Maximum charging cost reached
	18	Denylisted
	19	Reserved
	20	Reserved

262.2

FUNCTION

The parameter states the vocal guidance traffic case which will be assigned with a vocal guidance announcement number.

262.3

EXAMPLE

The vocal guidance traffic number is 15.

VOCT = 15

263 WELCOM

Welcome Announcement Number

263.1 FORMAT

WELCOM = D ₁ D ₂ D ₃ D ₄ D ₅
D ₁ D ₂ D ₃ D ₄ D ₅ = 0 - 250, 256-65535
Welcome announcement number.
0 signifies that no welcome announcement is to be provided.

263.2 FUNCTION

The parameter states the number of the welcome announcement for the ACD group, internal group, hunting group, PBX operator call origin group, or for the extension individuals.

If the announcement is resulting in a message which is residing on an RTP resource, i.e. MGU, the values 1-250 and 256 to 65535 are allowed.

263.3 EXAMPLE

The welcome announcement number is number 20.

WELCOM = 20

264

WDAY

Day of the week

264.1

FORMAT

WDAY = D ₁ D ₂ D ₃		
	D ₁ D ₂ D ₃ = MON	Monday
	TUE	Tuesday
	WED	Wednesday
	THU	Thursday
	FRI	Friday
	SAT	Saturday
	SUN	Sunday

264.2

FUNCTION

The parameter states the day of the week.

264.3

EXAMPLE

The day of the week is Monday.

WDAY = MON