```
File          View/Edit       Transfer      Options


        ACTIONMAN  CONFIGURAT    GRAM
        (c) NOKIA Telecommunic     96

            AMAN        R72   TR

                      29-0       ce

                         5

                   VERSION **



Alt+X=Exit  F2=Save  F3=Load  F5=Receive  F6=Send  F7=Verify  Alt+O=Options
```

Terminal
parameters
of
R40, R72, H70, H75 and H85

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1 EXPLANATIONS

1.1 Parameter tables

Parameter	Name	Description	Min	Max	Unit
700		R40 IGN–input action (Input 1)	0	2	

Parameter description

System variable name

*Minimum acceptable value*

Maximum acceptable value

Parameter number in AMAN

Unit

Here comes explanatory text describing more about the parameter and it's use and relation to other parameters. Related parameters are indicated as e.g. *[739]* in *text*. Related system (MX) parameters are indicated as *#69*.

If the parameter number *in table* is also in bold and italic, e.g. *704*, it means that the parameter cannot be changed by the dealer version of AMAN.

If a parameter value is logical, i.e. false or true, '0' or '1', then the unit is not displayed.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x					2	Automatic power–off

Parameter is effective in terminal indicated in a heading

Action with default values

Parameter is effective in SW version indicated in a heading

Parameter's default value

1.2   Bit–type parameters

If the parameter is a 'bit' style parameter, it is shown as follows:

Bit	Description	Default	Action
0	Writing of SCM memory disabled	0	Not disabled
1	Registration abortion when switching off (The mobile will tell to the system to 'un–register)	0	Disabled
2	Selection of mark tones (0 = Actionet tones, 1 = MPT tones)	0	Actionet–tones
3	Disable calls to public telephone network (PSTN)	0	Not disabled
4	Group calls disabled	0	Not disabled
5	15 sec delay when transferring to the pager	0	No delay
6	Executive calls disabled	0	Not disabled
7	Programming of additional group call numbers disabled	0	Not disabled

Bit number

Bit description

Default bit value

Default meaning

In some parameters, the bits must be told to the AMAN software with their combined value. The bits have their weight as follows:

Bit:	Weight:	Example set:	Value:
0	(1)	*1*	(**1**)
1	(2)	*0*	
2	(4)	*0*	
3	(8)	*1*	(**8**)
4	(16)	*0*	
5	(32)	*1*	(**32**)
6	(64)	*1*	(**64**)
7	(128)	*0*	

––––

Decimal value to be entered in to AMAN: **105**

2 NETWORK TYPES

AC–2

- 1 operator (H70 / 85 series can have 6 operators)
- max. 250 channels
- ANN–numbering
- 'old' AC–1 is used basicly in Autonet network in Finland

Traxys

- 6 operators
- max. 1024 channels / operator
- ANN–numbering
- tiny fleets
- called also as DPTT

MPT

- 6 operators
- max. 1024 channels / operator
- MPT–numbering
- called also as Regionet or Chekker

3 LATEST SOFTWARES

Terminal:		AC–2	Traxys	MPT	
R58	Cr	1.35	1.35	1.36	
R40	Cr	13.07	14.07–01	15.07–01	(Dutch/English)
			14.17–01	15.17–01	(Spanish/English)
			14.27–01		(French/English)
R72	Cr	20.12–0	20.12–0	20.12–0	
H70	Ch	01.12–0	01.12–0	01.12–0	
H75	Ch	02.12–0	02.12–0	02.12–0	
H85	Ch	10.01–1	10.01–1	10.01–1	

Note: In 70 and 80–series, the network type is selected by parametering, there is no individual softwares !

4   PARAMETERS

4.1   User interface parameters

This section consist of user interface parameters, i.e. settings which affects to the look, hear and feel of a radio. Such paramaters include e.g. setting of tones, volume levels, time displays, call time counters etc.

Note that most of these parameters can be changed afterwords by the use, via the menu commands. Some parameters, e.g. status texts must be programmed in a same way in a one system, otherwise sending status messages cannot be done in a common, understandable way!

Setting of emergency numbers, 'quick–call' numbers (with F–buttons in H75) must be configured in a way that they are known by the various users also in an emergency situation.

Some of the features programmed under this section require to have the terminal installed in a vehicle, and necessary connection lines to be connected. Check the installation if the features doesn't seem to work!

Parameter	Name	Description	Min	Max	Unit
1		Programming of short dialling numbers			

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-

Parameter	Name	Description	Min	Max	Unit
99		Programming of short dialling numbers			

These parameters can be used to progam the content of short dialling memories. Th enumber length can be 32 characters. In addition of numbers, they can contain modificators 0 ... 9, * and _. Each memory location can have a name up to 16 characters. Note thatthe user can of course change this via the menu commands.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X	X	X	X	X	X		

Following special memory locations will apply:

0	Last selected number	(R40 bus applications)
1	Default number for PTT	(H70/75, R72)
1–9	Quick codes	(R40 bus applications)
15	Who has called	(R40 bus applications)
16	Voice call set–up info	(R40 bus applications)
42	Last dialled funktional number	(R40 bus applications)
43	Power on –call number	(R40 bus applications)
44	Additional group number 1	(R40)
45	Additional group number 2	(R40)
46	Default number for status messages	(R40)
47	Default number for F1 button	(R40)
48	Default number for PTT	(R40)
49	Number of the pager	(R40)
50	Last received group number	(R40)
51	Emergency PTT number	(R40)
93	Additional group number 1	(H70, R72)
94	Additional group number 2	(H70, R72)
95	Status and data call number	(H70/75, R72)
96	Default number for F1 button	(H75)
96	Available when the phone is locked	(H70, R72)
97	Default number for F2 button	(H75)
97	Available when the phone is locked	(H70, R72)
98	Emergency number	(H70/75, R72)
99	Own subscriber number	(H70/75, R72)

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Parameter	Name	Description	Min	Max	Unit
1		Programming of status texts			

-
-
-

Parameter	Name	Description	Min	Max	Unit
30		Programming of status texts			

These parameters can be used to progam the status texts to be shown when receiving status messages. Each status text can contain maximum 16 characters.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X	X	X	X	X			

Parameter	Name	Description	Min	Max	Unit
1		Programming of data texts			

-
-
-

Parameter	Name	Description	Min	Max	Unit
5		Programming of data texts			

These parameters can be used to progam the data texts to be sent. Each data text can contain maximum 100 characters.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X	X	X	X	X			

Parameter	Name	Description	Min	Max	Unit
302		Call duration counter			

This test is used to display the call duration counters. The counter values can be changed by AMAN e.g. when configuring the phone to a new user.

The digits are shown as follows:

0	hours, last call
1	minutes, last call
2	seconds, last call
3	not used
4	hours, total
5	minutes, total
6	seconds, total
7	not used

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X		X	X	X	X		

Parameter	Name	Description	Min	Max	Unit
304		User interface security code	00000	99999	

This parameter is defining the user interface security code. The code is used when it is needed to change the locking code of the phone. The locking code is the a code used to lock the phone (reading and changing the memory content).

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	11111	

Note: This code can be changed only by AMAN!

Parameter	Name	Description	Min	Max	Unit
305		User interface language	0	5	

This parameter is defining the user interface language (language of menu texts).

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	0	English
				x	x	x	x	1	Spanish
		x		x	x	x	x	2	German (Regionet)
				x	x	x	x	3	Dutch
				x	x	x	x	4	Finnish
				x	x	x	x	5	French

Note: The language can be changed only by AMAN!

Parameter	Name	Description	Min	Max	Unit
306		User selection table			

This parameter is defining certain user interface settings as follows:

Item	Description	Default	Action
0	Locking status	0	Unlocked

0	Unlocked
1	Locked

1	Display/keypad backlights	1	Timed

0	Lights off permanently
1	Lights are on 5 seconds after pressing a button

2	Key tone status	49	On

H70, H75, H85:

Car-- & external audio mode key tones volume level				
Hand--portable mode key tones	off	1	2	3
off	0	16	32	48
on	1	17	33	49

For example, select key tones on in handportable mode and highest key tone level in car installation: select 49.

R72:

key tones volume level			
off	1	2	3
0	16	32	48

For example, select the highest key tone level: select 48.

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3	Ringing tone level	50	Medium

H70, H75, H85:

Hand-- portable mode ringing level	Car-- & external audio mode ringing tone level					
	silent	1	2	3	4	5
silent	0	16	32	48	64	80
low	1	17	33	49	65	81
medium	2	18	34	50	66	82
high	5	21	37	53	69	85

For example, select medium ringing tone level in handportable mode and medium in car installation: select 50.

R72:

ringing tone level					
silent	1	2	3	4	5
0	16	32	48	64	80

For example, select medium ringing tone level: select 48.

4	Alert type	0	Type A

0	Type A
1	Type B
2	Type C
3	Type D

5	Mode status		

H70, H75, H85:

speaker mode	audio conn. selection	Power level (only in 4W version)		
		low	medium	high
handset	internal mic	0	16	32
	external mic	2	18	34
speaker	internal mic	1	17	33
	external mic	3	19	35

R72:

TC power level		
low	medium	max
0	16	32

6	Not used	0	

Parameter	Name	Description	Min	Max	Unit
307		'On call' volume level	17	85	

H70, H75, H85:

Hand- - portable volume level	Car- - & external audio volume level				
	1	**2**	**3**	**4**	**5**
1	17	33	49	65	81
2	18	34	50	66	82
3	19	35	51	67	83
4	20	36	52	68	84
5	21	37	53	69	85

R72:

HS- - (handset) volume level	HF (hands free)- -audio volume level				
	1	**2**	**3**	**4**	**5**
1	17	33	49	65	81
2	18	34	50	66	82
3	19	35	51	67	83
4	20	36	52	68	84
5	21	37	53	69	85

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x		x	x	x	x	51	

Note: Avoid putting too high ringing tone level to a new user!

Parameter	Name	Description	Min	Max	Unit
308		Selection of connection box output line			

This parameter defines, how the output line from the connection box is working. Following choices are possible:

0	Car radio muting
1	External alarm
2	External alarm without ignition sense check

Car radio muting is working when the call is either ringing, or the terminal is 'on call', Then the output line is activated, and with e.g. a relay, the car entertainment radio is muted or silenced during a call.

The external alarm is activated when the terminal is ringing, i.e. the call is coming. Immediately after answering the call, the output line is deactivated. If the ignition sense line is connected and the input is in high state, i.e. the car engine is running,the external alarm output is not activated.

The last choice is same as above, except that the ignition sense is not checked. This can be used in in loader machines etc. not driving in a public roads. Check the local restrictions if using a car horn as a external alarm!

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
X	X	X		X	X	X			

Parameter	Name	Description	Min	Max	Unit
309		User interface locking code	0000	9999	

This parameter is used to define the locking code of the phone. The code is used when it is needed to e.g. lock the content of the short dialling memory. The code can be changed by the user by entering the security code *[304]*.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x		x	x	x	x	1234	

Note: Remember the difference between the 'lockings':

- Keypad locking by MENU + * (H70) or MENU + ABC (H75)
- Phone locking with menu commands *[309]*
- Change of locking code with security code *[304]*
- Change of security code *[304]* only by AMAN

Parameter	Name	Description	Min	Max	Unit
310		User interface tone set	0	2	

This parameter is used to define the tone sets for the user interface, e.g. what kind of ringing tone there is.

0	Actionet full tones
1	MPT tones
2	Actionet basic tones

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	2	Basic tones
		x		x	x	x	x	1	(Regionet)

Note: If the user is not familiar with Actionet system, select the basic tones!

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Parameter	Name	Description	Min	Max	Unit
310		R40 Selectable call facilities	0	7	

Bit	Description	Default	Action
0	Not in use	0	
1	Automatic call setup to diversion number	0	
2	PTT activates a call to a number programmed in to a SCM location 48	0	
3	Not in use	0	
4	Not in use	0	
5	Not in use	0	
6	Not in use	0	
7	Not in use	0	

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
	X		X						

Note bit 1:   See also MX parameter **#113** AUTOCONFDIVERSIO.

Parameter	Name	Description	Min	Max	Unit
311		R40 External alarm functions	0	255	

This parameter is used to define the external alarm functions as follows:

0 ... 31	A status call (0 ... 31) will activate an 1 s external alarm
200	An individual call will activate an 1 s external alarm
250	An individual call will activate an external alarm, which stays on until the call is answered

Any other number means that the external alarm is not in use!

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
	X		X						

Parameter	Name	Description	Min	Max	Unit
311		User interface & call handling			

This parameter is used to define the tone sets for the user interface, e.g. what kind of ringing tone there is.

Bit	Description	Default	Action
0	Automatic call setup to diversion number	1	Automatic
1	External audio connector enabled	0	Disabled
2	Default number locked (SCM #1)	0	
3	Short dial memory locked	0	
4	Not in use	0	
5	Audio delay circuit bypassed	1	Bypassed
6	Not in use	0	
7	Not in use	0	

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X		X	X	X	X		

Note bit 0: See also MX parameter *#113* AUTOCONFDIVERSIO. This MX para meter disables the diversion number to be displayed when the third call is made (conference call).

Note bit 5: External audio connector and audio delay bypassing are not used in H85! Audio delay circuit should normally be bypassed in duplex phones.

Parameter	Name	Description	Min	Max	Unit
312		R40 Display settings	0	255	

This parameter defines the data to be displayed in R40 display as follows:

Bit	Description	Default	Action
0	Time and date displayed	1	Displayed
1	Operator / Network info displayed	1	Displayed
2	Display / keypad lights time limit on	1	Timed
3	Time format 12 h	0	24h format
4	Show call duration during conversation	1	Shown
5	Display backlight level high	0	Low
6	Display viewing angle up	0	Down
7	Not in use	0	

Note: The clock needed for time and date is an option in R40!

Note: Bits 5 and 6 are used only with CU42 and CU42M.

Note: The display of operator info will override the test display!

Parameter	Name	Description	Min	Max	Unit
312		Total call time as A or B –subscriber			s
313		Total call time as A –subscriber			s

These parameters are displaying the total call times when the mobile is transmitting and/or receiving a call. The values are read–only values, and cannot be changed.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X		X	X	X	X		

Parameter	Name	Description	Min	Max	Unit
314	**TS**	Security code for dynamic group numbers	0	255	

This parameter defines the security code used when checking the ability to receive an update SST message from the dispatcher, which is used to download or update a dynamic group call number in a terminal. The facility is used when the dispatcher wants to 'send' a new group number, where the terminal is belonging to.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X		X	X	X	X	0	

Note: – If the value is '0', then the security code is not checked at all.
– If the value is '255', then the feature is not in use, i.e. the dynamic group numbers are not in use.
– If the value is between 1 ... 254, then the downloaded message must have the same security code for the mobile to accept the downloaded numbers.

Parameter	Name	Description	Min	Max	Unit
313		R40 Power off timer	0	255	min

After the ignition is switched off, this parameter defines the time duration before R40 is switched off automatically. The parameter can be changed via the menu commands.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
	X		X						

Note: The parameter *[700]* must be set on for this to work!

Parameter	Name	Description	Min	Max	Unit
314		R40 Automatic power–off	0	255	

This parameter defines if the automatic power off feature is in use. The selection can be changed via the menu commands. See also paramater *[700]* !

Bit	Description	Default	Action
0	Automatic power off in use	1	In use

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
	X		X						

4.2 Channels

4.2.1 Common definitions

Parameter	Name	Description	Min	Max	Unit
50		Receiver logical channel 0			
51		Transmitter logical channel 0			

These parameters defines the basis for the logical channels. The terminals frequency band is first divided in to *physical channels* according to the channel spacing. Then the physical channel number corresponding to the *logical channel 0* is entered in to this parameter. If there are different mobiles (different frequency limits) using the same network, it must be told to the terminal, where the logical *(system)* channels are. When the system is instructing the terminals with GTC (go to channel) message, then all terminals are going to the same frequency.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x			Operator dependent
x		x	x						Operator dependent

Parameter	Name	Description	Min	Max	Unit
50		Receiver logical channel 0			MHz
51		Transmitter logical channel 0			MHz

These parameters are as in 70–series, except that the channels are defined as direct frequency. Default ones are 851.0000 and 806.0000 MHz.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x					x		Operator dependent

Parameter	Name	Description	Min	Max	Unit
52		Highest system channel	1	1023	
53		Lowest system channel	1	1023	

Highest and lowest system channels are programmed in to parameters *[52]* and *[53]*. These are the highest and lowest *logical* channels, what the system is able to use.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x		x	x	x	x		Operator dependent
x		x	x						Operator dependent

Note 1:   This will define the channel limits during a comprehensive hunt also!

Note 2:   In H85, these must be specified in 'channels' even if the base frequency is defined as frequency !

Parameter	Name	Description	Min	Max	Unit
100		Programming of normal hunt channels	1	1023	

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Parameter	Name	Description	Min	Max	Unit
149		Programming of normal hunt channels	1	1023	

These parameters are defining the logical channels belonging to a **normal hunt** sequence. Normal hunting is a procedure to look at a specific logical channels in a system. Usually there are certain channels assigned in to a system e.g. 12, 46, 31, 48, which are the most common control channels. This will make the registration faster.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X		X	X	X	X	X	X		

Note: The data is given by two values. First is the logical channel number, and the second is a indication, if the channel is time shared control channel.

Parameter	Name	Description	Min	Max	Unit
200		Programming of exclusive comprehensive hunt channels	1	1023	

-
-
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Parameter	Name	Description	Min	Max	Unit
219		Programming of exclusive comprehensive hunt channels	1	1023	

These parameters are defining the logical channels which are **NOT** belonging to a **comprehensive hunt** sequence. With this feature You can disable some channels, e.g. neighbour company's paging channel, interference channel etc. to be searched during comprehensive hunting sequence.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X		X	X	X	X		
X		X	X						

Parameter	Name	Description	Min	Max	Unit
400		Programming of non–MPT type channels	0	9999	

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-
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Parameter	Name	Description	Min	Max	Unit
499		Programming of non–MPT type channels	0	9999	

These parameters are defining the logical channels which are not following the MPT style channel numbering. If You have a system, where e.g. the higher channels are having different duplex spacing than others, You can define those channels in to these parameters.

| Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X		X		X	X	X	X		

Note: The data is given by three values as follows:

  – receiver *physical* channel number
  – transmitter *physical* channel number
  – what is the corresponding *logical* channel number

The number of a channel is always four digits long.

4.2.2 70–series channels

X MHz is according to radio hardware, see technical specifications

channel step according to channel spacing, see technical specifications

to parameter 53

to parameter 52

324

0 1 2 3 4 .... 323 325

X MHz

RX- -band

0000 0002 0004 0150 0152 0473 0475

0001 0003 0151 0474

to parameter 50, RX 0- -channel

X MHz is according to radio hardware, see technical specifications

channel step according to channel spacing, see technical specifications

to parameter 53

to parameter 52

324

0 1 2 3 4 .... 323 325

X MHz

logical channel numbers

TX- -band

0000 0002 0004 0950 0952 1273 1275

0001 0003 0951 1274

physical channel numbers

to parameter 51, TX 0- -channel

NOKIA

HD 70 S57G :	TX, channels 0000 - - 0640 300.0 MHz - - 308.0 MHz
	RX, channels 0000 - - 0640 336.0 MHz - - 344.0 MHz
HD 70 SA4G :	TX, channels 0000 - - 1840 400.0 MHz - - 423.0 MHz
	RX, channels 0000 - - 1200 415.0 MHz - - 430.0 MHz
HD 70 DBDG :	TX, channels 0000 - - 0400 410.0 MHz - - 415.0 MHz
	RX, channels 0000 - - 0400 420.0 MHz - - 425.0 MHz
HD 70 DCEG :	TX, channels 0000 - - 0400 415.0 MHz - - 420.0 MHz
	RX, channels 0000 - - 0400 425.0 MHz - - 430.0 MHz
HD 70 DGFJ :	TX, channels 0000 - - 0200 458.0 MHz - - 463.0 MHz
	RX, channels 0000 - - 0200 448.0 MHz - - 453.0 MHz

H70/75 default channel table settings in Germany

Parameter	HD70 DBDG	HD70 DCEG	HD70 SA4G	HD70 SH4G4
50	0	- -400	400	400
51	0	- -400	800	0
52	400	800	800	800
53	1	401	1	1
57	4	4	0	0

Parameter	Name	Description	Min	Max	Unit
30		Programming of simplex channel 1	1	1023	

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Parameter	Name	Description	Min	Max	Unit
38		Programming of simplex channels 9	1	1023	

These parameters are defining the simplex channels. In to the parameter is entered the *logical* channel numbers of receiver and transmitter. Note that the receiver and transmitter frequency bands must overlap each other for simplex operation.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x		Operator dependent

X MHz is according to radio hardware, see technical specifications

channel step according to channel spacing, see technical specifications

simplex channel 0

```
       [0]  1   2   3   4                                    RX--band
X MHz
     |  |  |  |  | ..... |  |  |  | ..... |  |  |  |  |  |  |
    0000 0002  0004 [0150] 0152
      0001  0003        0151
```

to parameter 30.., RX - -channel

X MHz is according to radio hardware, see technical specifications

channel step according to channel spacing, see technical specifications

simplex channel 0

```
       [0]  1   2   3   4                          logical channel
                                                   numbers
X MHz                                              TX--band
     |  |  |  |  | ..... |  |  |  | ..... |  |  |  |  |  |  |
    0000 0002  0004 [0950] 0952              physical channel
      0001  0003        0951                 numbers
```

to parameter 30.., TX - -channel
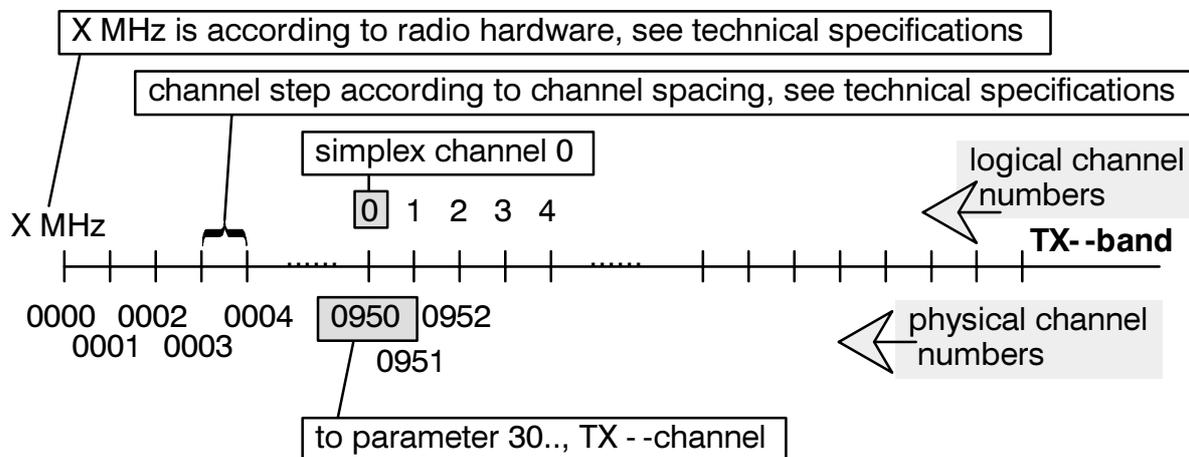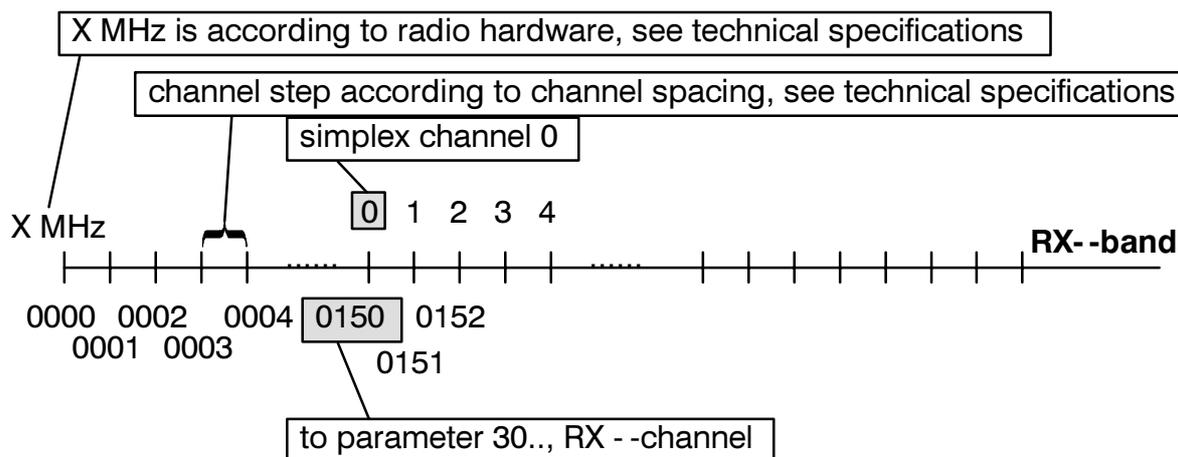
4.2.3   R40 channels, MPT / Traxys

Parameter	Name	Description	Min	Max	Unit
308		R40 channel spacing	1	3	

This parameter defines what is the channel spacing in R40 mobile as follows:

1	12.5 kHz
2	20 kHz
3	25 kHz

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x		x	x					1	12.5 kHz

X MHz is according to radio hardware, see table below

6.25 kHz channel step

to parameter 53

to parameter 52

X MHz

| 0 | 1 | 2 | 323 | 324 | RX- -band |

0000 0002   0004   0150 0152   0796 0798
    0001   0003   0151   0797

to parameter 50, RX 0- -channel

X MHz is according to radio hardware, see table below

6.25 kHz channel step

to parameter 53

to parameter 52

X MHz

| 0 | 1 | 2 | 323 | 324 |

logical channel numbers

TX- -band

0000 0002   0004   0950 0952   1596 1598
    0001   0003   0951   1597

physical channel numbers

to parameter 51, TX 0- -channel

All the system channels which are defined by test *[52]* and *[53]* belongs to the comprehensive hunt. Normal hunt channels must be defined separately by tests *[100...149]*.

Type	frequency X
RC40S***	138 MHz
RC40S33G	220 MHz
RD40S***	400 MHz
RD40S33G	470 MHz

Parameter	Name	Description	Min	Max	Unit
30		Programming of simplex channel 1	1	1023	

- •
- •
- •

Parameter	Name	Description	Min	Max	Unit
34		Programming of simplex channel 5	1	1023	

These parameters are defining the simplex channels. In to the parameter is entered the *physical* channel numbers of receiver and transmitter. Note that the receiver and transmitter frequency bands must overlap each other for simplex operation.

Network			Terminal type					Default	
Traxys	**AC2**	**MPT**	**R40**	**R72**	**H70**	**H75**	**H85**	**Value**	**Action**
x	x	x	x						Operator dependent

Note: In R40 mobile, there are only five simplex channels (parameters 30 ... 34).
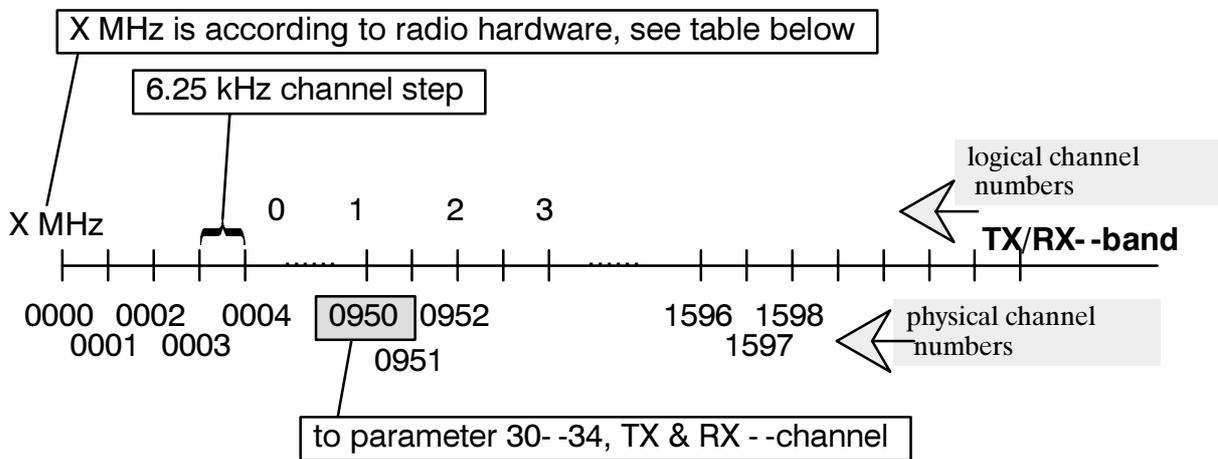
Type	frequency X
RC40S***	138 MHz
RC40S33G	220 MHz
RD40S***	400 MHz
RD40S33G	470 MHz

Parameter	Name	Description	Min	Max	Unit
40		R40 Programming of pager channel	1	1023	

This parameter defines the physical channel used for paging. The programming is similar to the parameters *[30 ... 34]*. To the parameter is programmed only the transmitter value.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
X		X	X						

This feature is used to send a CCIR code (specified in parameter *[980]*) to the pager listening this frequency.

4.2.4   R40 channels, AC–2

Parameter	Name	Description	Min	Max	Unit
1		Programming of R40 AC–2 channels			

-
-
-

Parameter	Name	Description	Min	Max	Unit
250		Programming of R40 AC–2 channels			

In AC–2 software, R40 terminal channels are configured in a totally different way. The channels are programmed in to a channel table, where the software looks it.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
	x		x						

The channels are programmed by giving to a parameter (= logical channel number) following values:

    1.   Receiver physical channel
    2.   Transmitter physical channel
    3.   Control status (see below)
    4.   Repeat count
    5.   Step size

The corresponding frequency to a channel number depends on the zero–channel programmed by the service mode test 18 (See service manual for details). Note that if the zero–channel is changed, the radio must be tuned (adjusted) again!

Following assignment can be done:

    RC40   0000 ... 5760   138 ... 174 MHz
    – Parameter value is stepped in steps of four, i.e. 0000, 0004, 0008

    RD40   0000 ... 11200   400 ... 470 MHz
    – Parameter value is stepped in steps of two, i.e. 0000, 0002, 0004

The channel number is valculated with both 12.5 and 25 kHz cahnnel widths using 6.25 kHz divider. The channel spacing is thus at 6.25 kHz intervals

The control status is given as follows:

0	control channel	(001)
1	not used	
2	CC or TC – comprehensive hunt	(004)
3	Simplex channel	(008)
4	Pager channel	(016)
5	Time shared control channel	(032)
6	not used	
7	not used	

Example 1: The channel step is 12.5 kHz and you want 446.5125 MHz as a receiver channel and 440.0125 MHz as a transmitter channel. The channel should also belong to comprehensive hunt.

Logical channel	001
Transmitter channel	7442
Receiver channel	6402
Control status	004

Example 2:

Only traffic channel	(000)
Normal hunt channel (DCC/NDCC)	(001)
Comprehensive hunt channel	(004)
Time–shared control channel	(032)
	––––
	(037)

Note: These values are normally used:

Dedicated systems	(004)
Time–shared systems	(037)

Note: In AMAN, the channels can be configured as trunking channels, where a *repeat count* is the number of channels to be programmed and *step size* is a channel step.

By entering repeat count 100 and step size 2, the software will program 100 channels with 12.5 kHz channel spacing in to a mobile. The repeat count and step size are not stored anywhere, they are used only in AMAN during the programming.

4.2.5 Tuning of L0, L1 and L2 levels

Parameter	Name	Description	Min	Max	Unit
315		Tuning of L0 level		< L1	dBm
316		Tuning of L1 level	L0 <	< L2	dBm
317		Tuning of L2 level	L1 <		dBm

These received signal levels are used for radio software to make decisions, eg. when to change to a new site, when to change the radio transmitter power etc.

L0 is the minimum signal level where the radio is trying to registrate in to a system. It's value should be in relation to the site's radiated power and also compared to radio sensitivity to maintain the balance between uplink and downlink.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x					−116 −98 −88	
x	x	x		x				−116 −101 −91	
x	x	x			x	x		−115 −101 −91	semiduplex 4W
x	x	x			x	x		−112 −101 −91	duplex/semiduplex
x	x	x					x	−112 −92 −80	

These default values are based on 50 W site transmitter power with 3 dB loss in combiners, so the ERP of the site is 50 W.

Note! All values are network dependent. Check your own system settings first!
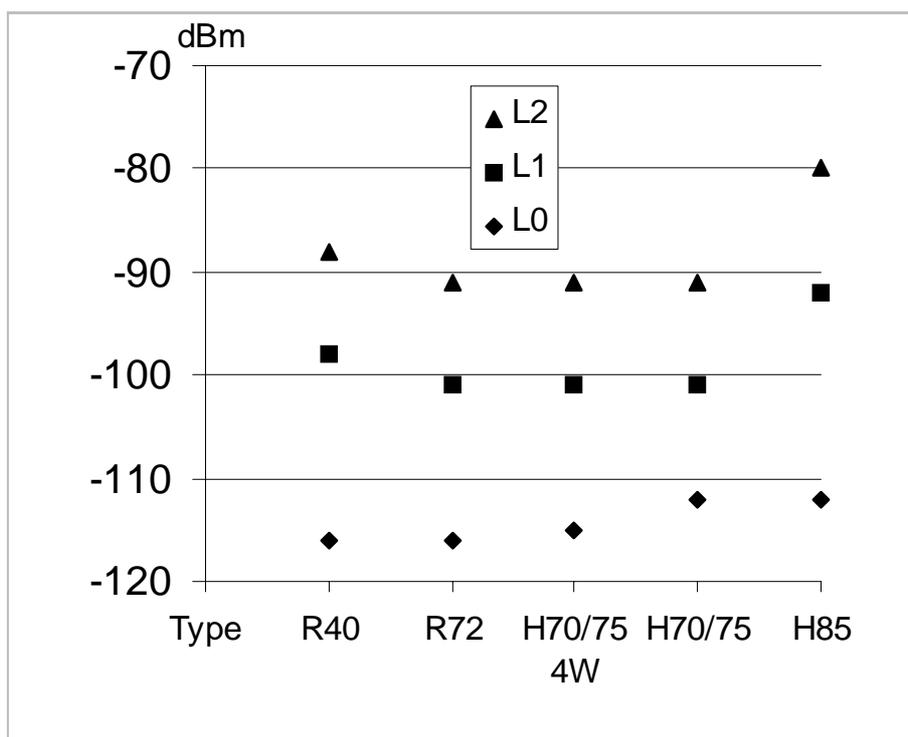
L0, L1 and L2 levels as a graphical view

4.3   Operator selection

Parameter	Name	Description	Min	Max	Unit
1		Operator selection	0	65535	

-
-
-

Parameter	Name	Description	Min	Max	Unit
6		Operator selection	0	65535	

These parameters are used to define the SYS –codes of operators.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	4	Operator dependent

Note: In AC–2 network there is only one operator available, hence in R40 there are definitions for 15 AAD data!

Most of the system parameters depend on the *area* where the mobile operates. These areas are called as *operator areas*. The mobile can work in many different networks, but for the mobile to work in a particular operator network, the operator dependent parameters must be set to the prescribed values for that particular operator.

For example, the same mobile can work in Holland and in Germany, but it will have a different subscriber number for each country. To use the mobile it is necessary to preset the operator dependent parameters.

Up to six different operator parameter selections may be programmed. Hence there are six operating states, it is necessary to program only one operator for use. This one state is generally the main one used so it is called the first operator; the others are called second through sixth operators.

Example 1:   – Parameter *[747]* (operator field length) is 8 bits
                  – SYS –code (15 bit long) is $2A1B_{HEX}$ = 010 101 000 011 011
                  – calculate 8 bits from the beginning and convert it to decimal

                           010 101 00   = 84

Example 2:   – Parameter *[747]* (operator field length) is 3 bits
                  – SYS –code (15 bit long) is 5481_{HEX} = 101 010 010 000 001
                  – calculate 3 bits from the beginning and convert it to decimal

                           101   = 5

Following parameters are depending on the operator area:

050 ... 054	*logical channel definitions*
100 ... 149	*normal hunt channels*
200 ... 219	*exclusive hunt channels*
709 ... 737	*error checking and time monitoring parameters*
743 ... 747	*SYS –code structure*
759	*transmitter time–out*
800	*subscriber number*
810 ... 815	*group call numbers*
820 ... 833	*fleet restrictions, MPT idents*
860	*operator names*
950 ... 957	*AAD –data*

These parameters change according to the different operator areas
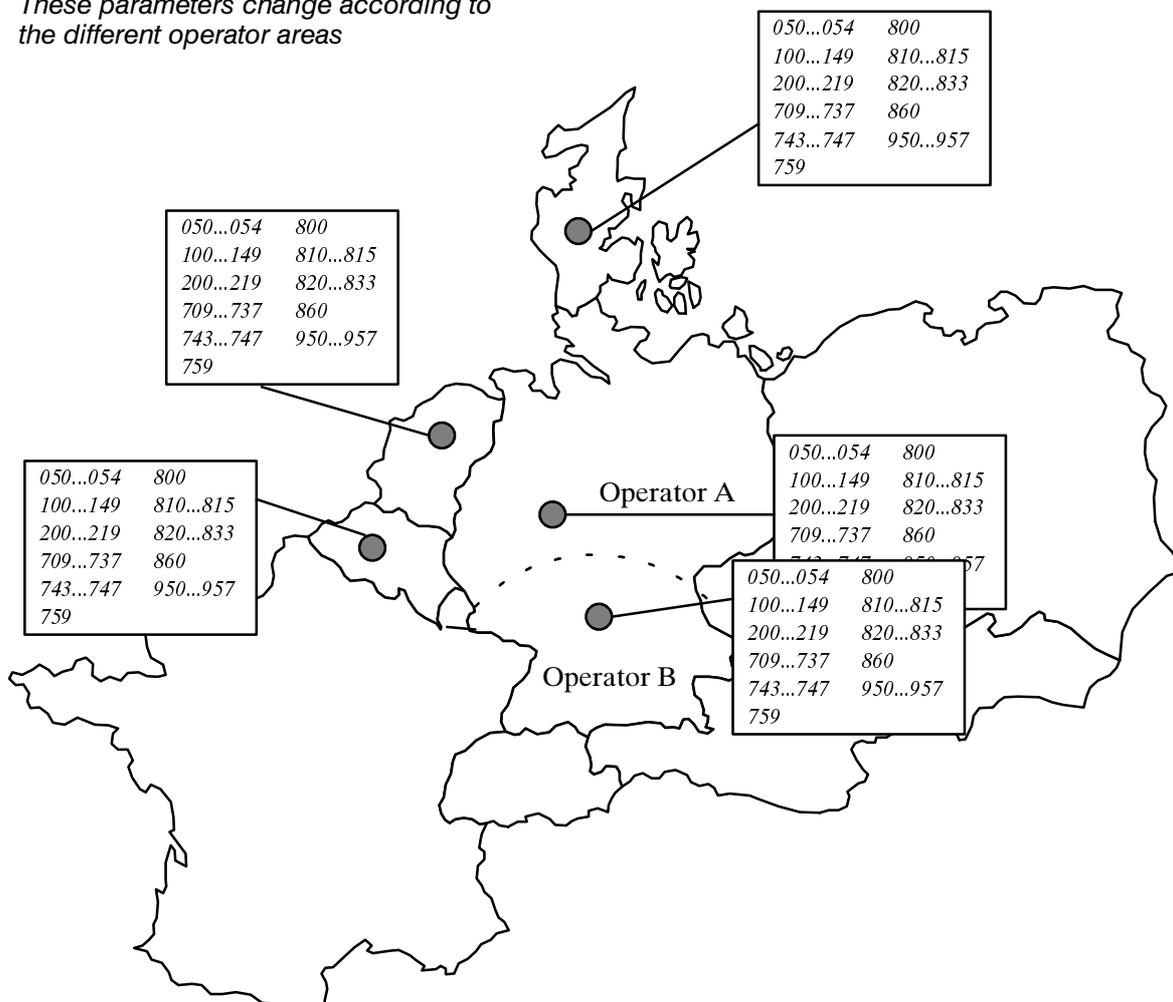
4.4 System parameters

Parameter	Name	Description	Min	Max	Unit
54		Selection of HOME ZONE	0	65535	

This test is used to select the HOME ZONE in a special fall–back mode. The fall–back mode is a mode where the base station is operating after losing the connection to the MX. In that case, the base station can be configured to operate in a fall–back mode, whereas the mobile can use the base station if the home zone is configured both to a base station and mobile. Note the difference between home *zone* and home *site*.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	65535	Not in use

Parameter	Name	Description	Min	Max	Unit
57		RQR info field content	0	255	

This parameter defines the content of an info field in the registration message of a mobile.

Bit	Description	Default	Action
0	PSTN call counter enabled	0	Not enabled
1	Not in use	0	
2	Radio unit type duplex	0	see below
3	Not in use	0	
4	User interface ANN	0	see below
5	Not in use	0	
6	Not in use	0	
7	Not in use	0	

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x		x	x	x	x	x	016	Semiduplex + ANN
x	x		x	x	x	x	x	020	Duplex + ANN
		x	x	x	x	x	x	000	Semiduplex + MPT
		x	x	x	x	x	x	004	Duplex + MPT

Note: ANN = Algorithmic Network Numbering

Note bit 0:   Bit 0 is not in use in R40 terminal!

Note bit 2:   See also MX parameter **#20** DUPLEXSWITCH. Default value for MX parameter is 0, which means that the mobile is allowed to use duplex except in case that the other party is in a same site. This is to save the system resources.

Parameter	Name	Description	Min	Max	Unit
700		R40 Features	0	255	

Bit	Description	Default	Action
0	Not used	0	
1	Automatic power–off in use *	0	Power off
2	Received group call not stored into memory if auto acknowledge is on	0	Stored
3	Steady alert tone	0	Variable tone
4	Automatic roaming in use	0	Not in use
5	Manual roaming when powering on	0	Not in use
6	Not in use	0	
7	Not in use	0	

Note bit 1: When this parameter is set, the R40 mobile radio will power off itself auto matically after the time set by system mode or test *[313]* has elapsed. The mobile radio will remain switched off until the IGN–line is high again, i.e. than car is started again.

This parameter is used to enable the automatic power off–selection in menu! Still, the user must do the automatic power on/off selection and define the power off time! See parameters *[313]* and *[314]* !

Note bit 4: Network selection happens after normal hunt in L0 level. After unsucces– ful network selection the RU continues with comprehensive hunt. Network selection order is defined with parameter *[748].*

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x					2	Automatic power–off

Note 1: Only bit 1 is used in all networks. Other bits are used only in Traxys and MPT networks!

Note 2: Roaming related parameters differ in 70–series, see parameters *[777]* and *[778]*.

Parameter	Name	Description	Min	Max	Unit
701		R40 Features	0	255	

Bit	Description	Default	Action
0	Emergency input in use	0	Not in use
1	Silent emergency call enabled	0	Not in use
2	Silent listening call enabled	0	Not in use
3	External (HF) mic used in emergency/listening calls	0	Handmic used
4	Not in use	0	
5	Not in use	0	
6	Not in use	0	
7	Not in use	0	

Note bit 0: When this bit is set to 1, the R40 mobile radio will activate selected call programmed in to short code memory location 51 . The call can be individual, group, emergency, modem or status call. The type of call is selected by the modifier ,e.g. *9*.

When sending SDM or EDM−calls, the format is *2*B where B is a subscriber number to be called. When sending data messages, the default text is to be programmed in to memory location 1.

Note bit 1: When this bit is set to 1, the R40 mobile radio will activate silent emergency call to dispatcher. First, a status message is sent, and then the dispatcher makes a silent listening call to the RU. The display and tones are freezed, only the TX LED will light to indicate the emergency call.

Remember to enter non−zero value to parameter *[759]*, transmitter timeout! Otherwise the silent emergency call will not work properly!

Note bit 2: The display, tones and LED's are freezed.

Note bit 3: Remember to install the HF microphone if you want to use this feature!

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x					0	

Note!: Only bit 1 is used in all networks. Other bits are used only in Traxys and MPT networks!

NOKIA

Parameter	Name	Description	Min	Max	Unit
702		R40 Telephone disable data	0	255	

This parameter defines restrictions to use the call features as follows:

Bit	Description	Default	Action
0	Writing of SCM memory disabled	0	Not disabled
1	Registration abortion when switching off (The mobile will tell to the system to 'un–register)	0	Disabled
2	Selection of mark tones (0 = Actionet tones, 1 = MPT tones)	0	Actionet–tones
3	Disable calls to public telephone network (PSTN)	0	Not disabled
4	Group calls disabled	0	Not disabled
5	15 sec delay when transferring to the pager	0	No delay
6	Executive calls disabled	0	Not disabled
7	Programming of additional group call numbers disabled	0	Not disabled

Note bit 2: The bit is set usually if the terminal is used in other than Actionet networks.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x					0	

Parameter	Name	Description	Min	Max	Unit
702		Telephone disable data	0	255	

This parameter defines restrictions to use the call features as follows:

Bit	Description	Default	Action
0	Not in use	0	
1	Registration abortion when switching off (The mobile will tell to the system to 'un–register)	0	Disabled
2	Duplex mode as default in PSTN/PABX calls	1	Enabled
3	Disable calls to public telephone network (PSTN)	0	Not disabled
4	Group calls disabled	0	Not disabled
5	Not in use	0	
6	Executive calls disabled	0	Not disabled
7	Programming of additional group call numbers disabled	0	Not disabled

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x		x	x	x	x	4	

Note bit 2: The bit is set usually if the terminal is used in other than Actionet networks.

Parameter	Name	Description	Min	Max	Unit
703		R40 Test properties	0	255	

Bit	Description	Default	Action
0	Special character in use	0	Normal
1	Not in use	0	
2	System login procedure in use	0	Not in use
3	Short code memory writing disabled	0	Not disabled
4	Alpha–mode off during sending data message	0	'Alpha'
5	STF–bit not checked when receiving data message	0	Normal
6	Display of SYS –code and RSSI level (test display)	0	Not displayed
7	Test site change on L2 (TSCC system)	0	Not used

Note bit 0: In AC–2 the bit means 'Long transmitter settling time in traffic channel'

Note bit 2: This feature is used only in some applications! See parameter *[866]*.

Note bit 5: See also MX parameter *#103* CP359SUPPORTED

Note bit 6: Test display is intended for internal use only!

Note: The test display should never left to the customer phone! The operator's name can be displayed with menu commands also.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x					0	

Parameter	Name	Description	Min	Max	Unit
703		70/80 seriesTest properties	0	255	

This parameter defines restrictions to use the call features as follows:

Bit	Description	Default	Action
0	Test display in use	0	Trunking display
1	Not in use	0	
2	Not in use	0	
3	1 second audio opening delay when entering in to the traffic channel	0	No delay
4	2–digit PSTN calls in CIS–countries	0	Not used
5	Not in use	0	
6	Test bit for TSCC (factory test)	0	Not used
7	Test site change on L2 (TSCC system)	0	Not used

Note bit 0: The test display is intended only for internal use! The test display should never left to the customer phone! The test display affects also to the AL or DL adapters, so it should be turned off when using AL72 or DL70/72 adapters!

Note bit 3: The delay is usually used in CIS–countries.

Note bit 6: The parameter is used only in time–shared control channel systems.

Note bit 7: If the RSSI level is over L2, the CC is not normally changed. If you set this bit, the mobile will change to the new CC even if the level is higher than L2. This test is used only in time–shared CC systems.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	0	

R40 TEST DISPLAY:

Idle state, terminal in control channel: *Call state, terminal in traffic channel:*

```
┌─────────────────────────────┐              ┌─────────────────────────────┐
│                             │              │                             │
│                             │              │                             │
│ 2A1B  027  5F  2A2C 011  3A │              │            015  6C          │
│ ━ ━ ━ ━                     │              │ ━ ━ ━ ━                     │
└─────────────────────────────┘              └─────────────────────────────┘
```
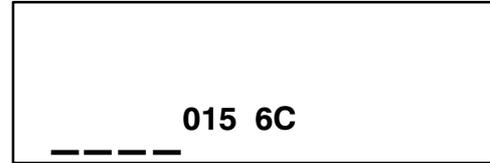
Idle state:	2A1B	SYS–code of the control channel in hexadecimal
	027	channel number of the current control channel in decimal
	5F	field strength of the current control channel in hexadecimal
	2A2C	SYS–code of the best adjacent site in hexadecimal
	011	channel number of the best adjacent site in decimal
	3A	field strength of the best adjacent site in hexadecimal
Call state:	015	channel number of the current traffic channel in decimal
	6C	field strength of the current traffic channel in hexadecimal

70- -SERIES TEST DISPLAY:

```
Physical channel ─────  ┌──────────────────────┐   SYS–code of the
number in decimal       │                      │   current control
                        │  CCC         SSSS ────┤── channel in HEX
Factory test ──────────┤── xxxx        AAA ────┤
display                 │                      │   Field strength
                        └──────────────────────┘   in –dBm
```

80- -SERIES TEST DISPLAY:

```
                                              Last measured adjacent
Current control                               control channel physical
channel physical ──────  ┌────────────────┐   number in decimal
number in decimal        │ CCC  ph  DDD ──┤── 
                         │ AAA  cs  BBB   │
Field strength of ──────┤── AAA            │
current CC in –dBm       │ SSSS     TTTT ─┤── Field strength of last
                         └────────────────┘   adjacent CC in –dBm
SYS–code of the current                       SYS–code of the last
control channel in HEX    Factory test        measured adjacent site
                          display             channel in HEX
```

Note 1:   The test display should never left to the customer phone! The operator's name can be displayed with menu commands also.

Parameter	Name	Description	Min	Max	Unit
704		Channel switching time	0	255	ms

The parameter defines how long is needed to reserve time when commanding the terminal to a new channel before starting e.g. signalling. The constant depends on the radio hardware.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	20	20 ms

NOKIA

Parameter	Name	Description	Min	Max	Unit
705		Time limit of an individual call	0	255	10*s
706		Time limit of a group call	0	255	10*s
707		Time limit of a general call	0	255	10*s
708		Time limit of a emergency call	0	255	10*s

The parameter defines how long the different calls can last, if the system is not limiting the call duration. Better way is to use the system capabilities.

Note: With value '0' there is no limiting in the terminal.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	0	No time limits

Parameter	Name	Description	Min	Max	Unit
709	**FPP**	Number of large fleets in the system	0	10	

The figure defines how many large fleets are assigned in to a system. The maximum number is 10. See also parameter *[729]*. The figure must be indicated by the operator or service provider.

Note: This parameter is used only in systems using ANN–numbering.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X		X	X	X	X	X		

Parameter	Name	Description	Min	Max	Unit
709		Maximum number of MX short dial numbers	0	15	

The figure defines how many short dialling numbers are assigned to the system. The dialling sequence in a terminal is **nn#.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
		x	x	x	x	x	x	15	

Parameter	Name	Description	Min	Max	Unit
710	**NSP**	Dial length when calling to a different fleet	5	8	

The figure defines how many digits must be dialled when calling to a subscriber in a different fleet.

Length:	Prefix:	
5	0	
6	0 ... 9	
7	0 ... 99	
8	0 ... 127	(only Traxys)

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x		x	x	x	x	x	8	Network dependent

Note: See also system parameter **#61** NSP.

Note: Note that in old networks this could be e.g 7.

4.4.1   Error checking

SYS–code checking procedure

[711] Time to wait SYS- -code if it disappears
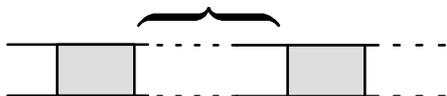
Hunting, found a new SYS- -code

[712] How many same CCSC's
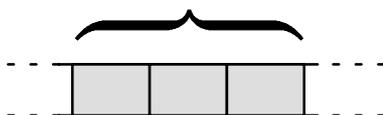
RSSI > L2

Confirm CC

[714] How many CCSC's in a sample

RSSI < L2

sample 1

[716] Max. number of errors

error   error
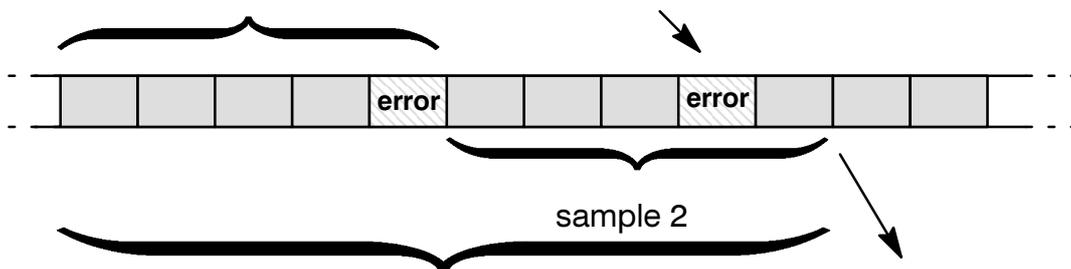
sample 2

Confirm CC and registrate into a system if needed

[718] Number of samples

If this fails, mobile starts to hunt !

714, 716, 718 before confirmation
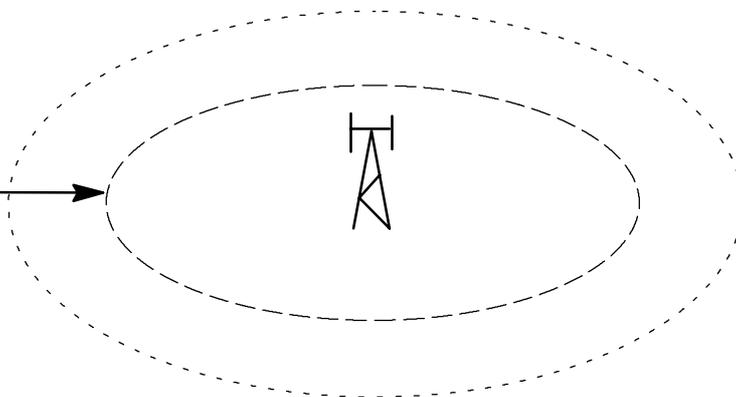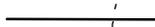
715, 717, 719 after confirmation

Parameter	Name	Description	Min	Max	Unit
711	**TS**	Time limit to wait SYS –code before hunting	0	255	s

The figure defines how long the SYS –code is waited on a control channel, before looking a new control channel in a hunting sequence.

Note: See also MX parameter *#6* MAXBURSTSEQ. This defines what is the maximum time between SYS–code transmissions, and it should be lower than the mobile parameter.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	5	

Parameter	Name	Description	Min	Max	Unit
712	**NV**	The number of same CCSC's before SYS is approved for verification (DCC/NDCC)	0	255	
713	**NV**	The number of same CCSC's before SYS is approved for verification (TSCC)	0	255	

The figure defines how many times there must be same CCSC (Control channel system codeword) on a channel before SYS is approved for verification. There is a different parameter for DCC/NDCC systems and for TSCC systems.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	1	DCC/NDCC systems
x	x	x	x	x	x	x	x	1	TSCC systems

Parameter	Name	Description	Min	Max	Unit
714	NC1	The number of codewords in a sample for error checking before CC confirmation	0	255	

The figure defines how many codewords is included in a sample when making error checking in a control channel.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	40	

Note: Parameter is used only in DCC/NDCC systems!

Parameter	Name	Description	Min	Max	Unit
715	NC2	The number of codewords in a sample for error checking after CC confirmation	0	255	

The figure defines how many codewords is included in a sample when making error checking in a control channel.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	30	

Note: Parameter is used only in DCC/NDCC systems!

NOKIA

Parameter	Name	Description	Min	Max	Unit
716	**NX1**	Maximum number of errors in one sample before CC confirmation	0	255	

The figure defines how many errors (in codewords) can be in one sample when making error checking in a control channel, before the CC is confirmed.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	10	

Note: Parameter is used only in DCC/NDCC systems!

Parameter	Name	Description	Min	Max	Unit
717	**NX2**	Maximum number of errors in one sample after CC confirmation	0	255	

The figure defines how many errors (in codewords) can be in one sample when making error checking in a control channel, after the CC is confirmed.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	15	

Note: Parameter is used only in DCC/NDCC systems!

Parameter	Name	Description	Min	Max	Unit
718	NZ1	Number of samples checked before CC con-firmation	0	255	

The figure defines how many samples are checked when making error checking in a control channel, before the CC is confirmed.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	1	

Note: Parameter is used only in DCC/NDCC systems!

Parameter	Name	Description	Min	Max	Unit
719	NZ2	Number of samples checked after CC con-firmation	0	255	

The figure defines how many samples are checked when making error checking in a control channel, after the CC is confirmed.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x		x	x	x	x	x	1	
		x	x	x	x	x	x	2	

Note: Parameter is used only in DCC/NDCC systems!

Parameter	Name	Description	Min	Max	Unit
720	NC1	The number of codewords in a sample for error checking before CC confirmation	0	255	

The figure defines how many codewords is included in a sample when making error checking in a control channel.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	6	

Note: Parameter is used only in TSCC systems!

Parameter	Name	Description	Min	Max	Unit
721	NC2	The number of codewords in a sample for error checking after CC confirmation	0	255	

The figure defines how many codewords is included in a sample when making error checking in a control channel.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	6	

Note: Parameter is used only in TSCC systems!

Parameter	Name	Description	Min	Max	Unit
722	**NX1**	Maximum number of errors in one sample before CC confirmation	0	255	

The figure defines how many errors (in codewords) can be in one sample when making error checking in a control channel, before the CC is confirmed.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	1	

Note: Parameter is used only in TSCC systems!

Parameter	Name	Description	Min	Max	Unit
723	**NX2**	Maximum number of errors in one sample after CC confirmation	0	255	

The figure defines how many errors (in codewords) can be in one sample when making error checking in a control channel, after the CC is confirmed.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	2	

Note: Parameter is used only in TSCC systems!

Parameter	Name	Description	Min	Max	Unit
724	NZ1	Number of samples checked before CC con-firmation	0	255	

The figure defines how many samples are checked when making error checking in a control channel, before the CC is confirmed.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	1	

Note: Parameter is used only in TSCC systems!

Parameter	Name	Description	Min	Max	Unit
725	NZ2	Number of samples checked after CC con-firmation	0	255	

The figure defines how many samples are checked when making error checking in a control channel, after the CC is confirmed.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x		x	x	x	x	x	1	
		x	x	x	x	x	x	2	

Note: Parameter is used only in TSCC systems!

Parameter	Name	Description	Min	Max	Unit
726		Disable comprehensive hunt	0	1	

The parameter can be used to disable comprehensive hunt for testing purposes.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	0	Not disabled

Parameter	Name	Description	Min	Max	Unit
727		Radio unit control category	0	7	

The parameter is used to define the radio terminals into a different classes by their type (handportable or mobile/vehicle terminal). The SYS –code includes a special LAB – field, which can be configured in the system to transmit information, which type of terminals can register in to the system in that site.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x				4	Mobile
x	x	x			x	x	x	6	Handportable

All Nokia terminals are configured to have handportable terminals in category C and mobile terminals in category A. Other categories are as follows:

LAB–field: Terminals which can register:

000	the use of LAB field is not in use
001	all terminals can register
010	A + B can register
011	C + D can register
100	only A can register
101	only B can register
110	only C can register
111	only D can register

Note that the system must be configured for this to work. If the system is not configured to RUC operation, i.e. LAB–field is 000, then the mobiles can still have the RUC programmed. See also parameter *[743]* (length of LAB–field).

The adjacent site info is sent e.g. in every minute, and it consist only those sites, which have the same registration rights than the current site.

Note: See also multiple control channel option in the system!

Note: The system is as a default sending 001, which means that all the mobiles can register. to the system.

LAB = 001 (all)

LAB = 110 (C)

Town base station coverage area

Hilltop base station coverage area

RUC = C (mobile can register to hilltop BS)

RUC = C (mobile can register to town BS)

RUC = A (mobile can NOT register to town BS)

RUC = A (mobiles can register to hilltop BS)
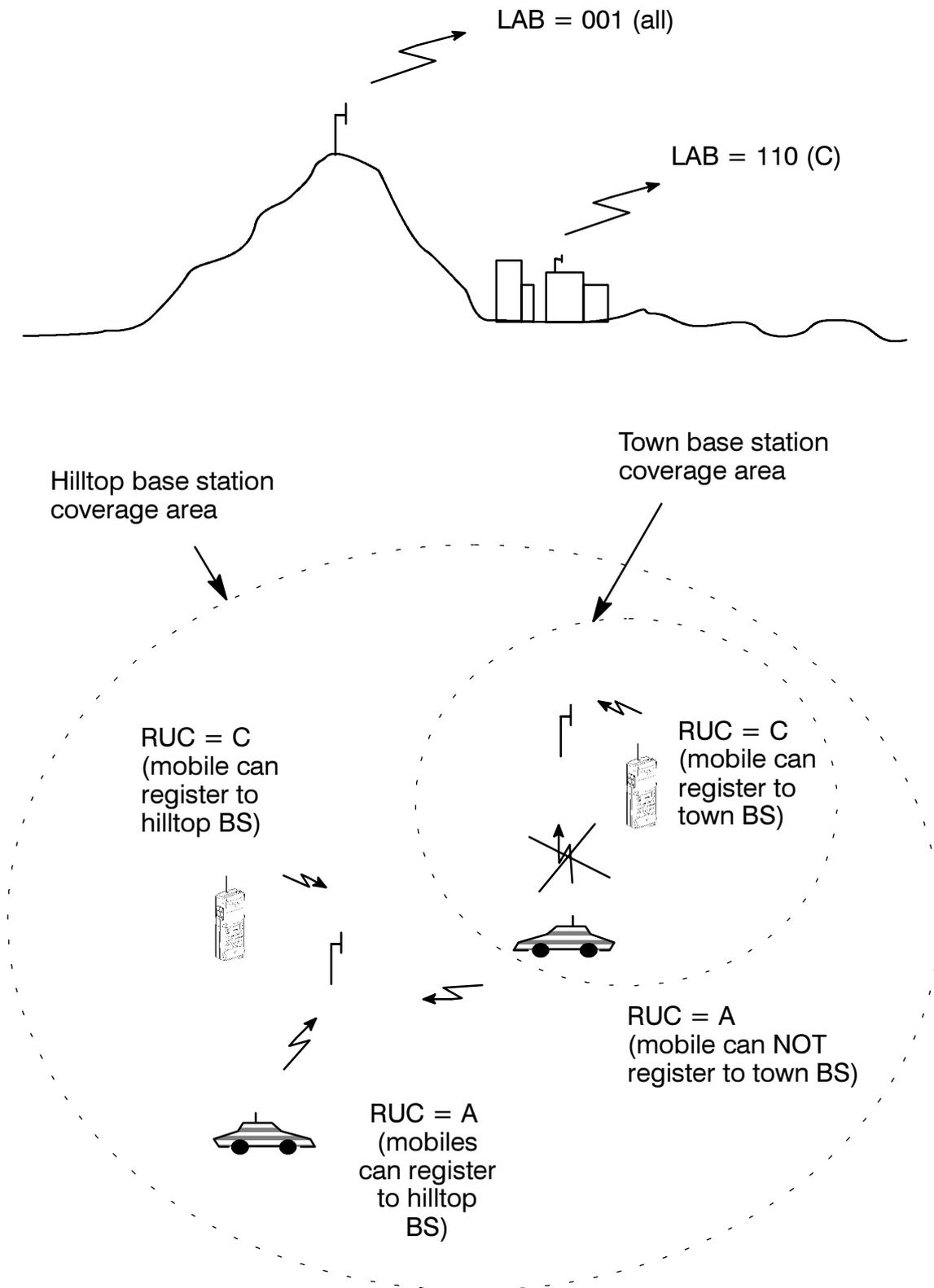
Parameter	Name	Description	Min	Max	Unit
728		Interfleet restrictions	0	1	

The parameter is used to disable group calls to group call numbers which are in another fleets. If the parameter is set to '1', the fleets which are to be called, must be programmed in to parameters *[820 – 827]*.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	0	Not disabled

Parameter	Name	Description	Min	Max	Unit
729	**MEP**	The number of large fleets divided in to tiny fleets	0	*	

The parameter is used to define, how many large fleets are divided to tiny fleets. The maximum number is 10 – [FPP]. If parameter *[709]* (FPP) is e.g. 3, then the maximum value for parameter 729 is 10 – 3 = 7.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x			x	x	x	x	x		Operator dependent
	x	x	x	x	x	x	x	0	Not in use

Note: The parameter value must be informed by the operator or the service provider. MEP = Miniaturization Extent Parameter.

4.4.2   CC Time monitoring

Power- -on

Send random access message
for registration (RQR)

730

Hunting

Receive temporary
acknowledgement

732

Registration confirmed, transmit random
access message for making a call (RQS)

730

Received temporary ack-
nowledgement from MX

733

Control
channel

Call set up, b- -subscriber
ringing and answering

735   Ringing time as
b- -subscriber

B- -subscriber
answers

705

Call

Traffic
channel

734

Carrier is lost

Call is cancelled

Parameter	Name	Description	Min	Max	Unit
730	TC	Time monitoring of random access message transmission	0	255	10*s

The parameter is used to define, how long the random access message is tried to transmit to the system. The terminal tries to transmit the random access message, e.g. when starting to make a call, for ex. 60 seconds. If the control channel is lost, or the system cannot respond, then the SERV –indicator will disappear after this timer has expired.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	6	60 s

Parameter	Name	Description	Min	Max	Unit
731	TD	Time monitoring of secondary registration area	0	255	5*min

The parameter defines how long the mobile will remember the 'old' registration area. If the mobile is e.g. driving along the road between two registration areas, the system will have the same time monitoring. When the terminal is called, the call is transmitted in both registration areas during the time defined.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	2	10 min

When having two registrations, they are named as *prime* (RU) and *primary* (MX) when the area is the current one. The old one is named as *timed* (RU) and *secondary* (MX).

Registration Area 1

BS2

BS1

road

BS3

Registration Area 2

BS4
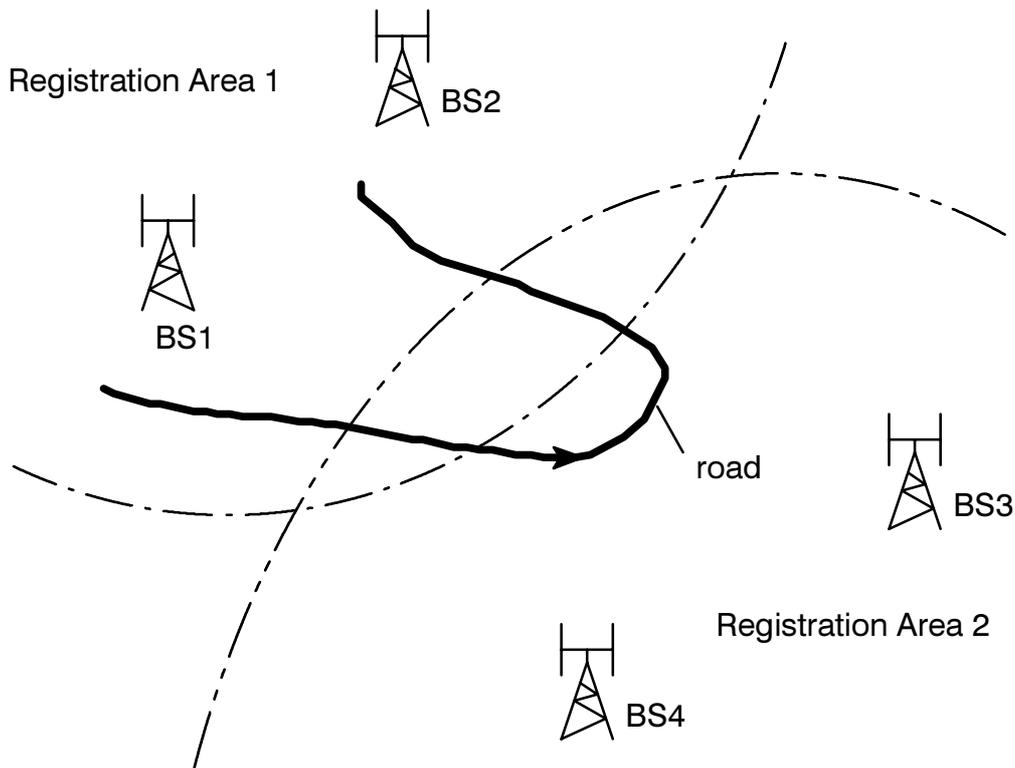
Note: For the secondary registration feature, the registration areas must belong to the same MX!

Note: See also MX parameters **#69** SECSITELIFETIME and **#148** COUNTOFALHRS, which controls the behaviour when registrating to another MX area.

Parameter	Name	Description	Min	Max	Unit
732	**TJ**	Time monitoring of further signalling	0	255	10*s

The parameter defines how long the mobile will wait when transmitting e.g. registration information to the system. When the mobile has sent the registration, it will wait the answer the time defined in this parameter.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x		x	x	x	x	x	2	20 s
		x	x	x	x	x	x	6	60 s

Parameter	Name	Description	Min	Max	Unit
733	**TW**	Time monitoring when transmitting a call	0	255	10*s

The parameter defines how long the mobile will wait when transmitting a call. If the system will not respond within the time, the call will be cancelled.

Note: See also MX parameter ***#129*** AVAILCHKPERIOD.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	6	60 s

Parameter	Name	Description	Min	Max	Unit
734	**TN**	Carrier wave time monitoring	0	255	s

If the carrier wave is disappearing in the traffic channel, e.g. the mobile is driving into a tunnel, this parameter defines how long the mobile is trying to 'hold' before ending the call.

Note: See also MX parameters ***#18*** MAXINACTIVITY and
                  #19 ACTIVITYSUPER.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	7	7 s

Parameter	Name	Description	Min	Max	Unit
735	TA	Ringing time as b−subscriber	0	255	10*s

The parameter defines how long the mobile is 'ringing' when receiving a call.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	6	60 s

Parameter	Name	Description	Min	Max	Unit
736	NT	Waiting time for include –request acknowl-edge	0	255	103* bits

When the terminal is called as an include member, the called mobile will wait in the traffic channel. This parameter defines how long to calling mobile will wait the acknowledgement of an request. After receiving the ACK, called mobile enters into a conversation on a traffic channel. If the acknowledgement is not received, an error tone is sound in calling mobile.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	1	103 bits

Parameter	Name	Description	Min	Max	Unit
737		Disable interfleet calls	0	1	

If the parameter is set to '1', the mobile unit can make calls to specified fleets only. Fleets which the mobile wants to call, must be defined in parameters *[820 – 827]*. If the parameter is set to '0', there are no restrictions to call other fleets.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x		x	x	x	x	x	0	Not limited

Parameter	Name	Description	Min	Max	Unit
738	TGG	Time limit between MST–group data message segments	0	255	s

When receiving data messages, they are often divided in to 'segments'. The parameter defines what is the maximum time between two segments, as considered to be a same data message. See also parameter **[761]**.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x		x	x	x	x	x	10	

Note: In R40 terminal, and in AC–1 software the parameter set to '2' is used to define the automatic mailbox reading after power on.

Parameter	Name	Description	Min	Max	Unit
739		Number of first status message not to be stored in to a buffer	0	31	

If the parameter value is e.g. 29, it means that status messages from 29, 30 and 31 are not stored in to a buffer. They are just momentarily displayed in a screen.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x		x	x					29	

Note: This feature is used only in some applications! 255 means not in use.

Parameter	Name	Description	Min	Max	Unit
740		Short dialling number to be called when powering on the R40	1	51	

This parameter defines the short dialling number memory location to be executed when switching on the R40 terminal.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x		x	x					43	SCM 43

Note: This feature is used only in some applications! 0 means not in use.

4.4.3 Field strength measurements

Parameter	Name	Description	Min	Max	Unit
739		Filtering coefficient for rising field strength measurement on a traffic channel	1	100	%

When making field strength measurements, this parameter defines how much (in percentage) from the difference is taken in to further analysis. If the field strength is rising some amount, with parameter value e.g. 25, it is assumed that the field strength has raised only 25% of the actual rise.

Corresponding parameter for falling signal strength is **[740]**.

The filtering uses the formula: $A (t) = A (t{-}1) + K [B - A (t{-}1)]$

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	25	25 %

Parameter	Name	Description	Min	Max	Unit
740		Filtering coefficient for falling field strength measurement on a traffic channel	1	100	%

Corresponding parameter for raising signal strength is **[739]**.

The filtering uses the formula: $A (t) = A (t{-}1) + K [B - A (t{-}1)]$

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	20	20 %

Parameter	Name	Description	Min	Max	Unit
741		Superiority difference of field strength	0	255	

When making field strength measurements in case that the own control channel field strength is poor, this parameter defines what must be the difference to the new control channel before it is considered to be 'better' CC. See also test *[742]*.

The parameter can be converted to dBm–values by multiplying by 0.8. Note that actual field strength level is shown as dBm values in 70/80–series terminals. In R40, A/D–readings 0 ... 255 roughly corresponds field strength levels –125 ... –30 dBm. E.g. parameter value = 10 corresponds 8 dBm.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	12	9.6 dBm

Note: If the parameter 741 has value '0', then the difference must be L1 – L0 to be able to change to adjacent site.

Parameter	Name	Description	Min	Max	Unit
742		The number of additional measurements when changing control channel	0	255	

When the terminal has found a 'better' control channel, this parameter defines how many additional times the field strength is measured before changing to a new CC. With a value '0' the terminal changes to a new CC immediately after the test *[741]* indicates better field strength.

See also MX parameters *#4* VOTESLOT*, #138* VOTENOWINTERVAL and *#141* ADJB-CASTMETHOD.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	0	Immediate change

Note: If the parameter 742 has value '255', mobile will not change the site at all!

RSSI

□ own CC
▨ 1 adjacent CC
▧ 2 adjacent CC

CC = control channel

1. measurement   2. measurement   3. measurement
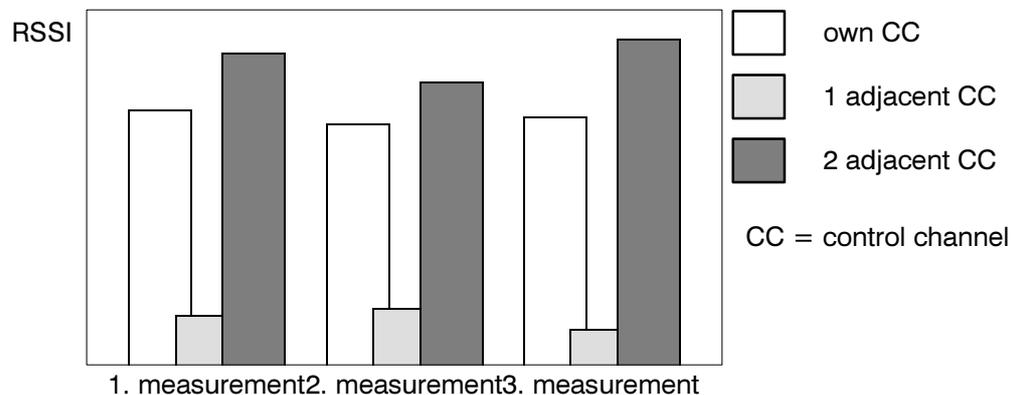
1. Adjacent site info (usually once in a minute)
2. 'VOTE_NOW_ADVICE' message from the system
   (Usually once in every 10 seconds)

MX
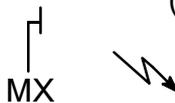
3. Go to a adjacent control channel told by the system (single channel hunt)

RSSI
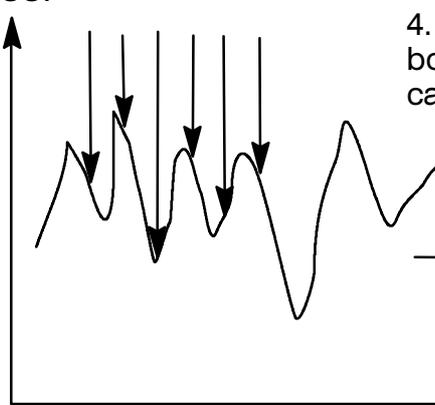
4. Make measurements in both old and new channels, calculate average field strength

1 Slot

RSSI

ΔL

> 741
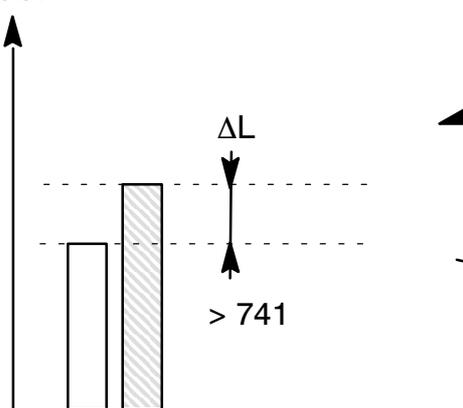
Old New

5. Compare old and new [742] times when VOTE - -message comes

6. Go to a new control channel !

Note: The system must be configured to allow this to work! If You select a test display and see any adjacent channel data, then it is configured in to a system!

4.4.4 SYS–code structure

Parameter	Name	Description	Min	Max	Unit
743		Length of LAB –field in SYS –code	0	15	bits
744		Length of SITE –field in SYS –code	0	15	bits
745		Length of AREA –field in SYS –code (LA)	0	15	bits
746		Length of ZONE –field in SYS –code (LZ)	0	15	bits
747		Length of OPERATOR –field in SYS –code	0	15	bits

These parameters define the length of the different fields in SYS–code.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x		x	x	x	x		Operator dependent
x			x						*See note 2!*

These parameters define the length of the different fields in SYS –code. The total length of SYS –code is 15 bits.
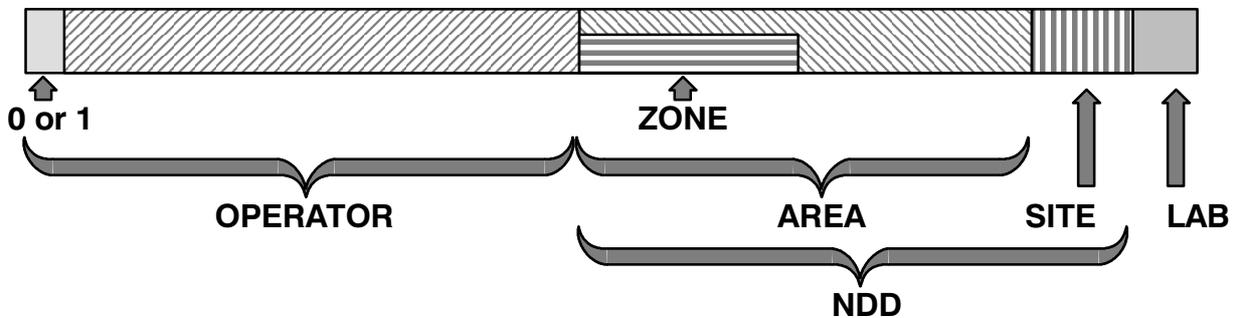
Note 1: The OPERATOR –field includes the first bit of SYS –code. The first bit has following meaning:

        0   OPID (regional network)
        1   NET (national network)

Note 2: In R40 mobile, these parameters define the field lengths when using regional network. For national networks see parameters *[748 – 752]*.

Note 3: See also following MX parameters for national/regional networks:

    #81 NATIONALNETLEN (2)   *#82* REGIONALNETLEN (8)
    #83 NATIONALLZ   (3)   *#84* REGIONALLZ   (2)
    #85 NATIONALLA   (5)   *#86* REGIONALLA   (3)
    #87 NATIONALNDD   (9)   *#88* REGIONALNDD   (4)

These parameters define the length of the different fields in SYS- -code.

NOKIA

1.

the whole operator

Zone 1

Zone 2

Zone 3

2.

Area 31

Area 32

Area 33

3.

Site 325

Site 321

Site 322

Site324

Site323

0 or 1

1. ZONE

SITE

0. OPERATOR

2. AREA

LAB

3. FULL IDENTITY AREA
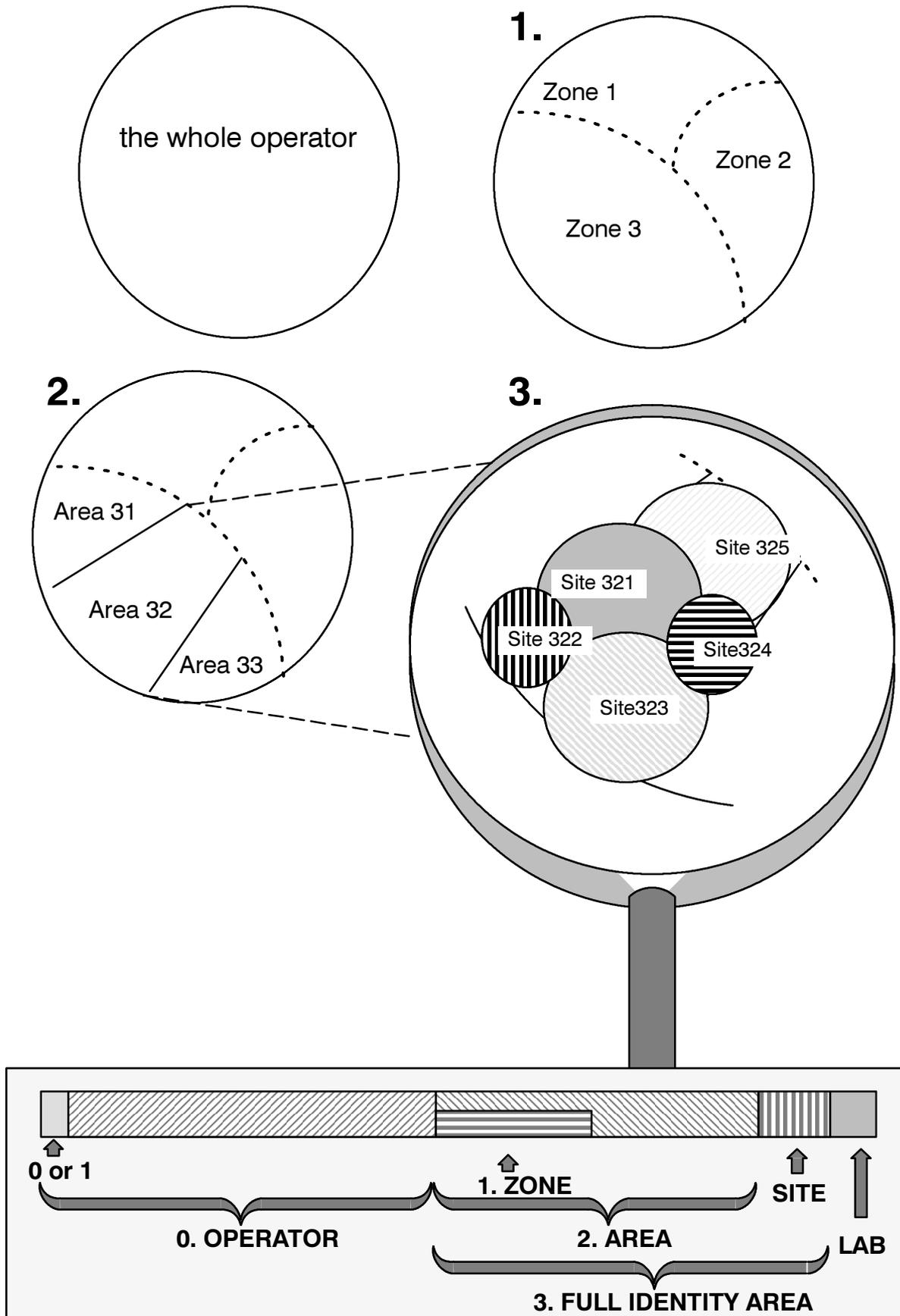
SYS code structure for REGIONAL systems according to MPT specification:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	OPERATOR IDENTITY							NDD				LAB		

AREA (spanning columns 9–11)

ZONE (spanning columns 9–10)

SYS code structure for NATIONAL systems according to MPT specification:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	NET		NDD									LAB		

AREA (spanning columns 4–8)   SITE (spanning columns 9–12)

ZONE (spanning columns 4–6)

Note: The MPT specification does not specify SITE field at all, but the rest of a NDD area can be of course used for that!

Note: When using a terminal as test mobile, area length must be programmed to zero, so that the mobile is not trying to register. See MX parameters *#169* TESTMSPREFIX and *#170* TESTMSIDENT.

This feature is supported by the system, where the periodical availability check is sent to all radio units having the test identities. If the radio path is not good enough, the system will respond with an alarm.

DEFAULT VALUES IN TERMINALS:

743	3
744	4
745	5
746	3
747	3

Parameter	Name	Description	Min	Max	Unit
748		Roaming netlist			

This parameter defines, in which order the networks (operators) are selected when the automatic network selection *[700:2]* is in use.

Network			Terminal type					Default	
Traxys	**AC2**	**MPT**	**R40**	**R72**	**H70**	**H75**	**H85**	**Value**	**Action**
X		X	X						

Note 1:   Roaming feature is available in system release 7.

Note 2:   Networks in automatic roaming are entered with two digits, e.g. 010503 etc. without any spaces in between. Networks are then selected in order of 1, 5 and 3.

Parameter	Name	Description	Min	Max	Unit
748		Length of LAB –field in SYS–code	0	15	bits
749		Length of SITE –field in SYS–code	0	15	bits
750		Length of AREA –field in SYS–code (LA)	0	15	bits
751		Length of ZONE –field in SYS–code (LZ)	0	15	bits
752		Length of OPERATOR –field in SYS–code	0	15	bits

These parameters define the length of the different fields in SYS–code.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
	x		x						*See note 2!*

These parameters define the length of the different fields in SYS–code. The total length os SYS–code is 15 bits.
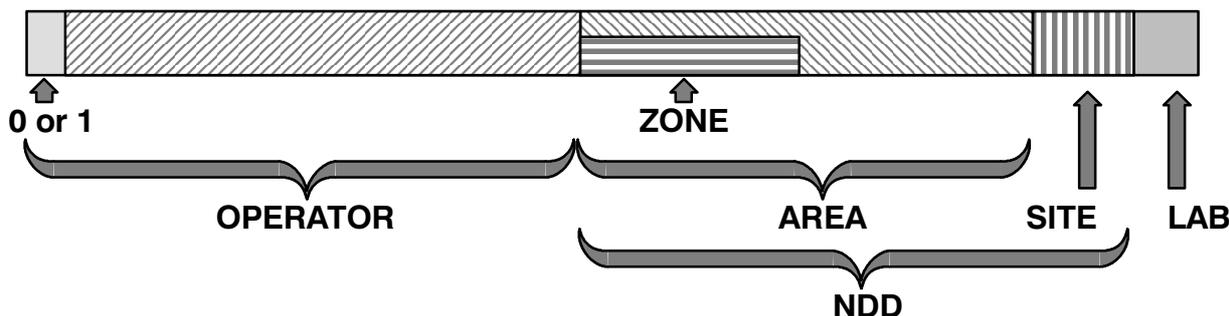
Note 1:   The OPERATOR –field includes the first bit of SYS –code. The first bit has following meaning:

          0   OPID (regional network)
          1   NET (national network)

Note 2:   In R40 mobile, these parameters define the field lengths for national networks when SYS –code starts with '1'. For regional networks, see parameters *[743 – 747]*.

Note 3:   See also following MX parameters for national/regional networks:

    #81 NATIONALNETLEN   (2)   *#82* REGIONALNETLEN   (8)
    #83 NATIONALLZ   (3)   *#84* REGIONALLZ   (2)
    #85 NATIONALLA   (5)   *#86* REGIONALLA   (3)
    #87 NATIONALNDD   (9)   *#88* REGIONALNDD   (4)

Parameter	Name	Description	Min	Max	Unit
753		System level	0	016	

This parameter defines, in which network the terminal is to be used.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
								001	(AC–1)
	x			x	x	x	x	002	
x				x	x	x	x	004	
		x		x	x	x	x	008	(Regionet)
		x		x	x	x	x	016	

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
			x					001	(AC–1)
	x		x					002	
		x	x					003	(Regionet)
		x	x					004	

Note: If You want to change the system level, you must first change to corres–ponding AMAN–software and then change the parameter!

Note: See also MX parameter **#104** PABXSIGN.

Note: Note that in R40 all the software has their own EPROM. In AC–2 software there are AC–1 and AC–2 selectable. In MPT software there are MPT and REGIONET selections available. In TRAXYS software the parameter 753 does not exist.

4.4.5   Power changing parameters

Parameter	Name	Description	Min	Max	Unit
754		Field strength measurement time	0	255	s

This parameter defines how long different control channels are measured in each field strength level in a TSCC system.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x	x	x	x	x	20	

Parameter	Name	Description	Min	Max	Unit
755		Field strength level to accept HOME SITE	0	255	

With this parameter the terminal can be configured to change to a special home site, if the field strength is more than 0.8 * [755] over L0 level. Home site is an area or site, which the terminal prefers than other sites. There can be more privileges, group calls for the subscribers in a home site takes less capacity etc.

The SYS –code of home site must be programmed with parameter *[920]*.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x				35	
x	x	x			x	x		34	4 W versions
x	x	x			x	x		30	1 or 2 W versions
x	x	x					x	42	

Note: If the parameter value is e.g. 30, and the L0 level is –112 dBm, then the level to change to the home site is
$$0.8 * 30 + (-112 \text{ dBm}) = -88 \text{ dBm}$$
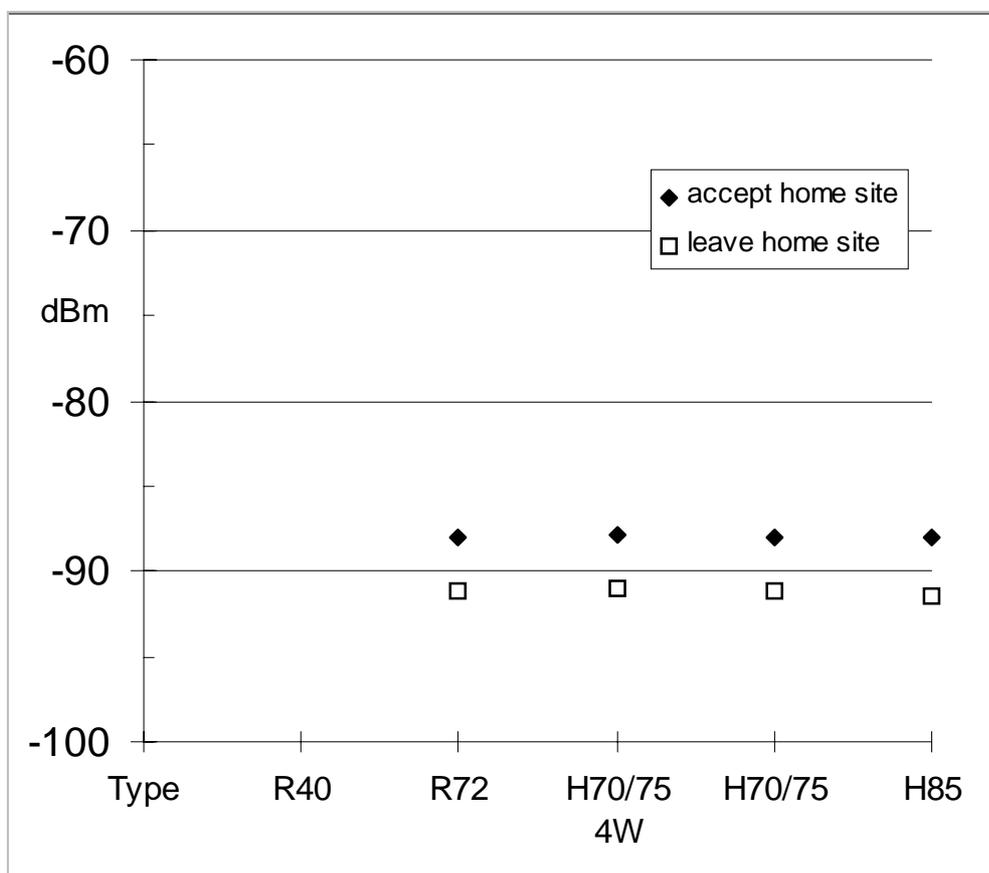
| Parameter	Name	Description	Min	Max	Unit
756		Field strength level to change to normal power on a traffic channel	0	255	

With this parameter the terminal can be configured to change to high (normal) power, if the field strength is more than 0.8 * [756] over L0 level. See parameters *[756], [762]* and *[763].* Note that H85 has a multiplier 0.571 instead !

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x	x						
x	x	x		x				48	L0 + 38 dBm
x	x	x			x	x		39	L0 + 31 dBm (4W)
x	x	x			x	x		35	L0 + 28 dBm
x	x	x					x	49	L0 + 28 dBm

Note: If the parameter value is e.g. 35, and the L0 level is −112 dBm, then the level to change to high power is

70–series: 0.8 * 35 + (−112 dBm) = −84 dBm
H85:   0.571 * 49 + (−112 dBm) = ~ −84 dBm

Power HIGH => test 756   Power LOW => test 757   L0 = - -XdBm   Power MAX => test 762   Power HIGH => test 763   L0 = - -XdBm
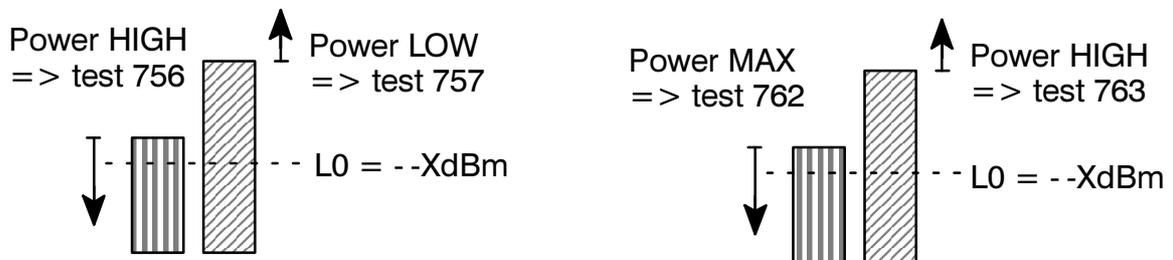
Note: The correct relation is *[756] less than [757]* !

| Parameter	Name	Description	Min	Max	Unit
757		Field strength level to change to low power on a traffic channel	0	255	

With this parameter the terminal can be configured to change to low power, if the field strength is more than 0.8 * [757] over L0 level. See parameters *[756], [762]* and *[763]*. Note that H85 has a multiplier 0.571 instead !

| Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x						
x	x	x		x				64	L0 + 51 dBm
x	x	x			x	x		41	L0 + 33 dBm (4W)
x	x	x			x	x		40	L0 + 32 dBm
x	x	x					x	54	L0 + 31 dBm

Note: If the parameter value is e.g. 38, and the L0 level is –112 dBm, then the level to change to low power is

70–series: 0.8 * 40 + (–112 dBm) = ~ -80 dBm
H85: 0.571 * 54 + (–112 dBm) = ~ -81 dBm

Power levels are as follows:

Terminal type	Terminal power [W]			
	LOW	NORMAL (HIGH)	MAX	MAX PORTABLE
RC40	1		15	
RD40	1		10	
RD40 –5	2.5		25	
RD72S	0.15	1.5	15.0	7.0
RD72D	0.15	1.0	10.0	5.0
RE72S	0.6	2.0	15.0	8.0
RE72D	0.6	2.0	10.0	6.0
H70S	0.2	2.0		
H70D	0.1	1.0		
H70S –4	0.4	1.0	4.0	
H85	0.1	1.0		

Parameter	Name	Description	Min	Max	Unit
759	**TT**	Transmitter 'on' timeout	0	255	10*s

This parameter is used to limit the maximum transmitter 'on' time. If You set this to e.g. 10 seconds, then the transmitter will cease to operate after ten seconds of pressing of PTT switch.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	60	Not limited

The use of this parameter can apply, when it must be sure, that the accidental failure of PTT−logic or external connections are not causing the transmitter to do any harm or reserve the capacities of a system.

Note: In 4W handportable models, this is suggested to be programmed as '6', which means 60 seconds limit. The operation can be restored by releas−ing and pressing again the PTT switch.

Note: See also MX parameter **#179** MAXSPEECHITEM.

Parameter	Name	Description	Min	Max	Unit
760		FFSK carrier detect time in TSCC	0	255	

This parameter is used only in factory tests. The value indicates the time to detect FFSK–signalling.

Network			Terminal type					Default	
Traxys	**AC2**	**MPT**	**R40**	**R72**	**H70**	**H75**	**H85**	**Value**	**Action**
x	x	x	x	x	x	x	x	255	Not in use

Note: If message error rate test **[703 bit 2]** has been selected, this parameter specifies also the periodic 'maint' interval in slots on a traffic channel.

Note: With a value 255 the FFSK carrier check is not in use.

Parameter	Name	Description	Min	Max	Unit
761	**TGI**	Time limit between EDM data message segments	0	255	s

When receiving data messages, they are often divided in to 'segments'. The parameter defines what is the maximum time between two segments, as considered to be a same data message. See also parameter **[738]**.

Network			Terminal type					Default	
Traxys	**AC2**	**MPT**	**R40**	**R72**	**H70**	**H75**	**H85**	**Value**	**Action**
x	x		x	x	x	x	x	2	2 s

Note: See also MX parameter **#73** FASTDATASENDING.

Parameter	Name	Description	Min	Max	Unit
762		Field strength level to change to maximum power on a traffic channel	0	255	

With this parameter the terminal can be configured to change to maximum power, if the field strength is more than 0.8 * [762] over L0 level. See parameters *[763], [756]* and *[757].*

Network			Terminal type					Default	
Traxys	**AC2**	**MPT**	**R40**	**R72**	**H70**	**H75**	**H85**	**Value**	**Action**
x	x	x		x				25	L0 + 20 dBm
x	x	x			x	x		31	L0 + 25 dBm (4W)

Note: If the parameter value is e.g. 27, and the L0 level is –112 dBm, then the level to change to high power is

$$0.8 * 25 + (-115 \text{ dBm}) = {\sim}95 \text{ dBm}$$

Note: The correct relation is ***762 < 763 < 756 < 757 !***

Power MAX
=> test 762

Power HIGH
=> test 763

L0 = - -XdBm
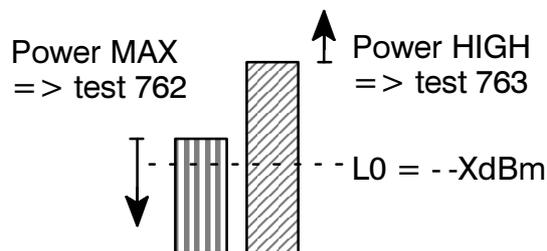
Parameter	Name	Description	Min	Max	Unit
763		Field strength level to change to normal power on a traffic channel	0	255	

With this parameter the terminal can be configured to change to low power, if the field strength is more than 0.8 * [763] over L0 level. See parameters *[762], [756]* and *[757].*

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X		X				35	L0 + 28 dBm
X	X	X			X	X		35	L0 + 28 dBm

Note: If the parameter value is e.g. 35, and the L0 level is –112 dBm, then the level to change to normal power is

$$0.8 * 35 + (–115 \text{ dBm}) = \text{-}87 \text{ dBm}$$

Note: The parameters 762, 763 are used only in 4 W handportables and R72 mobiles, where there are three power levels available!
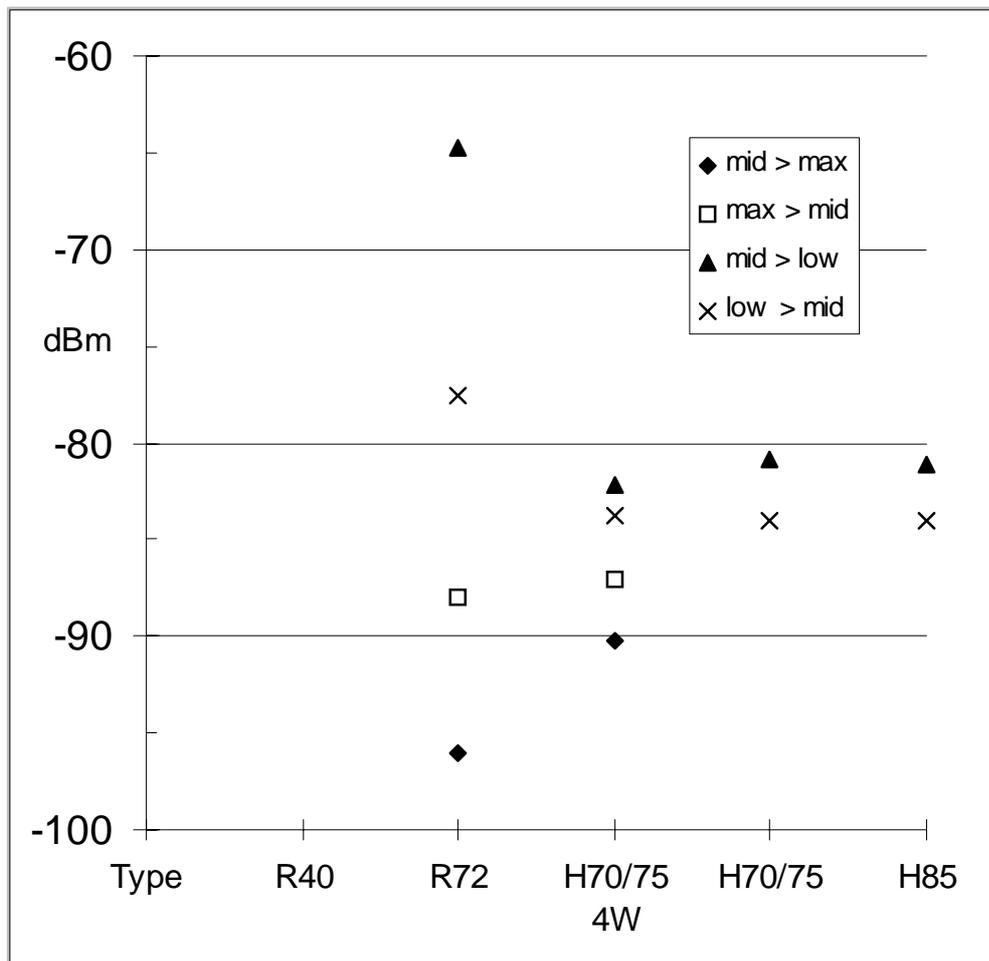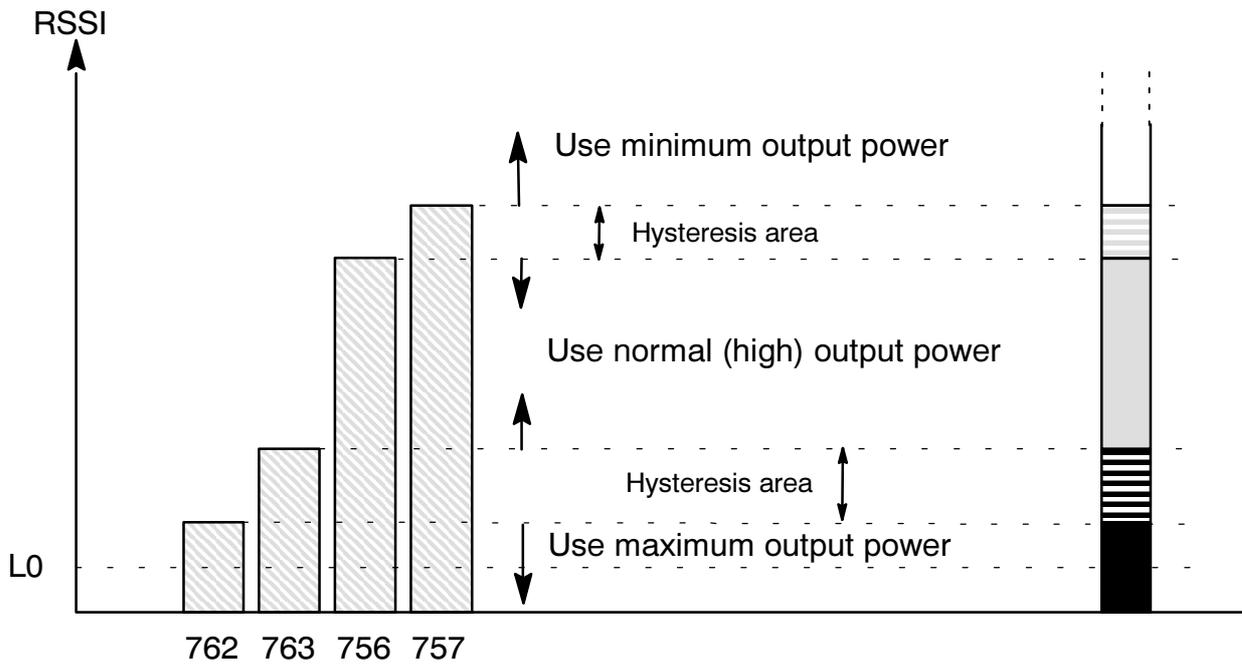
H70, 75, 85 (4W) and all R72 terminals
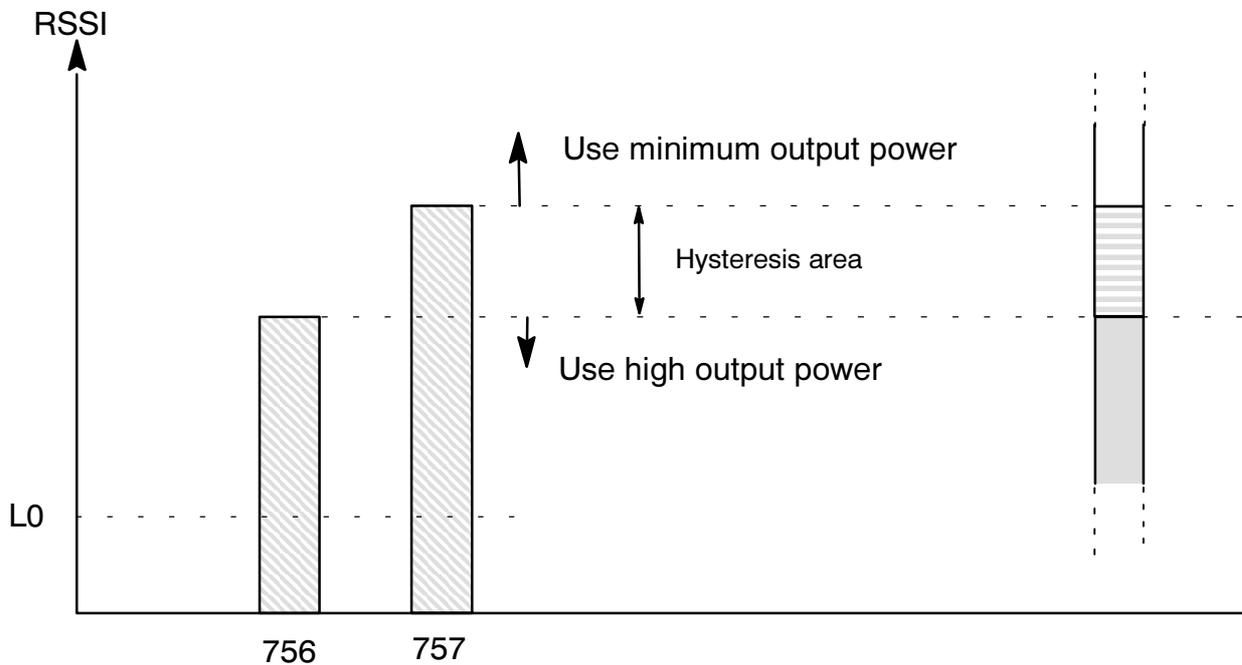
R40 and H70, 75, 85 (1W and 2W) terminals

Parameter	Name	Description	Min	Max	Unit
762	**N1**	Maximum length of a MAP27 LT–packet	0	50	

This parameter defines the maximum length of an information in a LT–packet in a MAP27 –protocol. The length is then calculated as

$$(l) = 16 * (N1 + 1) \text{ [bytes]}$$

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x					7	128 bytes

Parameter	Name	Description	Min	Max	Unit
763	**N2**	Maximum number of resending MAP27 data messages	2	255	

This parameter defines the maximum number of resending of information in a LT–packet in a MAP27 –protocol.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x					10	10 times

Note: This parameter is used only in R40 mobiles!

Parameter	Name	Description	Min	Max	Unit
764	**T3**	Credit report timeout in MAP27	0	15	s

This parameter defines the maximum time to wait an acknowledgement from the system.

Network			Terminal type					Default	
Traxys	**AC2**	**MPT**	**R40**	**R72**	**H70**	**H75**	**H85**	**Value**	**Action**
x	x	x	x					5	5 s

Note: This parameter is used only in R40 mobiles!

Parameter	Name	Description	Min	Max	Unit
765	**N1**	Maximum length of a MAP27 LT–packet	0	50	

This parameter defines the maximum length of an information in a LT–packet in a MAP27 –protocol. The length is then calculated as

$$(l) = 16 * (N1 + 1) \text{ [bytes]}$$

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	7	128 bytes

Parameter	Name	Description	Min	Max	Unit
766	**N3**	Maximum number of activity timeouts count in MAP27	2	255	

This parameter defines the maximum number of activity timeouts when sending information to the system.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	10	10 times

Parameter	Name	Description	Min	Max	Unit
767	**T3**	Activity timer in MAP27	0	15	s

This parameter defines the time when expecting information via MAP27 interface.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x				5	5 s

Note: This is used in R72 with teleadapter AL72 only. If the parameter is set to '0', it disables the teleadapter operation!

Parameter	Name	Description	Min	Max	Unit
765		R40 security code for functional numbers	0	255	

This parameter defines the security code when using functional numbers in R40 mobile.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X		X	X						

Note:　　　　This parameter is used only in R40 mobile!

Parameter	Name	Description	Min	Max	Unit
766		R40 security code for dynamic group numbers	0	255	

This parameter defines the security code when using dynamic group numbers in R40 mobile.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X		X	X						

Note:　　　　This parameter is used only in R40 mobile!

Parameter	Name	Description	Min	Max	Unit
767		R40 default routing of MAP27	0	1	

This parameter defines the routing of MAP27 messages in R40 mobile. The values are according to the MAP27 specification, *'RADIO MANAGEMENTS'* message *'CONTROLSa' field.*

Bit	Description	Default	Action
0	Not in use	0	
1	Not in use	0	
2	Not in use	0	
3	MST message routing to DTE	0	Not routed
4	SST message routing to DTE	0	Not routed
5	Status message routing to DTE	0	Not routed
6	Modem call routing to DTE	0	Not routed
7	Voice call routing to DTE	0	Not routed

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x		x	x					0	MAP not in use

Note: This parameter is used only in R40 mobile!

Note: DTE is the MAP27 –device connected to the data interface.
DTE stands for Data Terminal Equipment.

Parameter	Name	Description	Min	Max	Unit
768		SIL3 –field position in regional networks	3	9	bits

With this parameter it is told to the terminal, where is the least significant (rightmost) bit of SIL3–field in SYS –code. SIL3 –field is used in MAINT and CLEAR messages. See also parameter *[770]*.

Network			Terminal type					Default	
Traxys	**AC2**	**MPT**	**R40**	**R72**	**H70**	**H75**	**H85**	**Value**	**Action**
x	x	x	x	x	x	x	x	4	Operator dependent

Note: See also following MX parameters for national/regional networks:
  #175 SIL3OFFSET0
  #176 SIL3OFFSET1
  #177 STIFLAG

Note: In MX, the SIL3 field is defined as giving the number of bits from the left most bit of a SIL3–field to the beginning of an AREA–field.
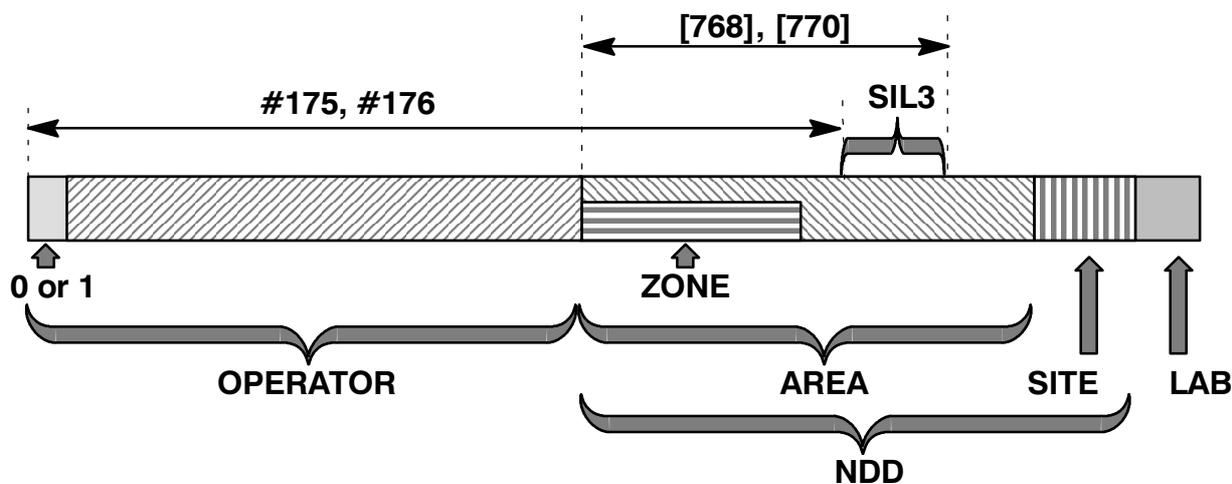
Parameter	Name	Description	Min	Max	Unit
769		Field strength level to leave HOME SITE	0	255	

With this parameter the terminal can be configured to leave a special home site, if the field strength is less than 0.8 * [769] over L0 level and *[741],[742]* conditions are accepted. Home site is an area or site, which the terminal prefers than other sites. There can be e.g. more privileges.

The SYS –code of home site must be programmed with parameter *[920]*.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x				31	
x	x	x			x	x		30	
x	x	x			x	x		26	
x	x	x					x	36	

Note: If the parameter value is e.g. 10, and the L0 level is –112 dBm, then the level to leave the home site is 0.8 * 36 + (–112 dBm) = –91 dBm.

'HOME SITE' *[920]*

Leave the current site and change to 'HOME SITE' if:
– home site level is more than **[755]**

Leave the home site and change to adjacent site if: '
– home site level is less than **[769]**
– adj. site level is more than **[741,742]** defines

'CURRENT SITE'

'ADJACENT SITE'

Leave the current site and change to adjacent site if:
– adj. site level is more than **[741,742]** defines
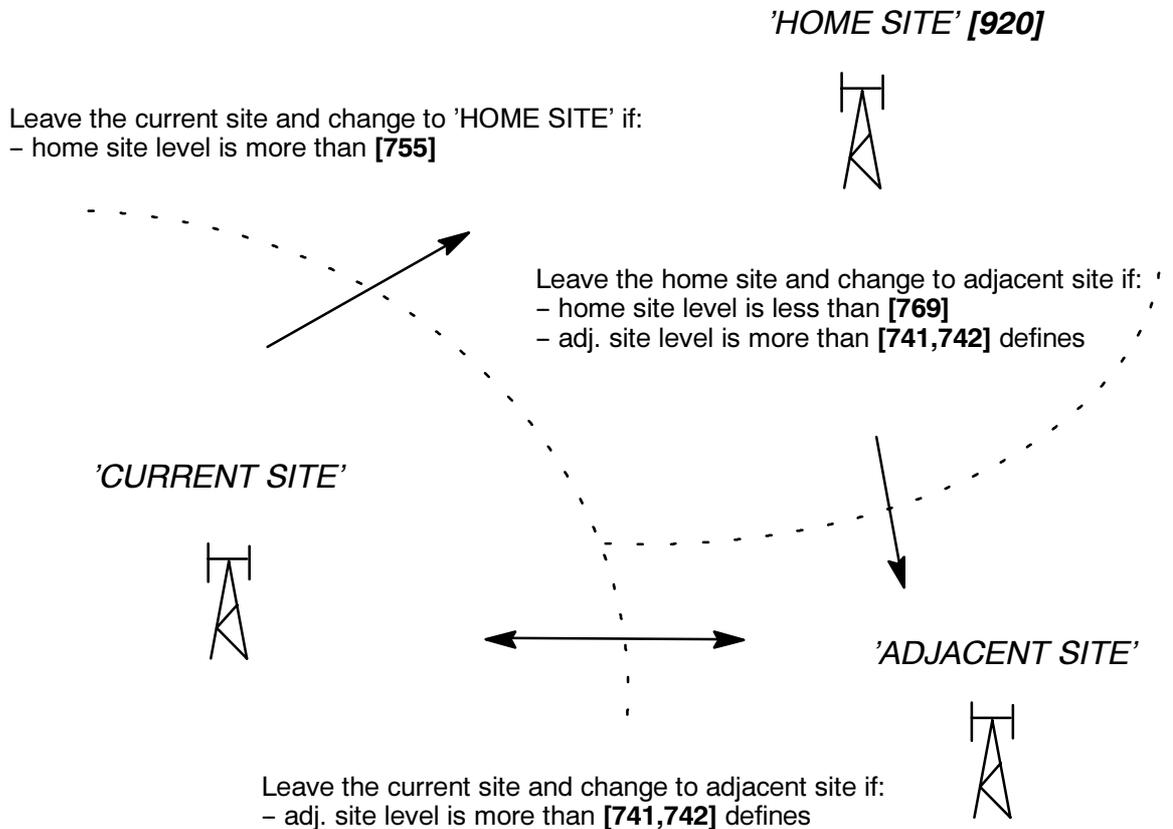
Parameter	Name	Description	Min	Max	Unit
770		SIL3 –field position in national networks	3	9	bits

With this parameter it is told to the terminal, where is the least significant (rightmost) bit of a SIL3 –field. SIL3 –field is used in MAINT and CLEAR messages. See also parameter *[768]*.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	9	Operator dependent

Note: See also following MX parameters for national/regional networks:
#175 SIL3OFFSET0
#176 SIL3OFFSET1
#177 STIFLAG

Note: In MX, the SIL3 field is defined as giving the number of bits from the left most bit of a SIL3–field to the beginning of an AREA–field.
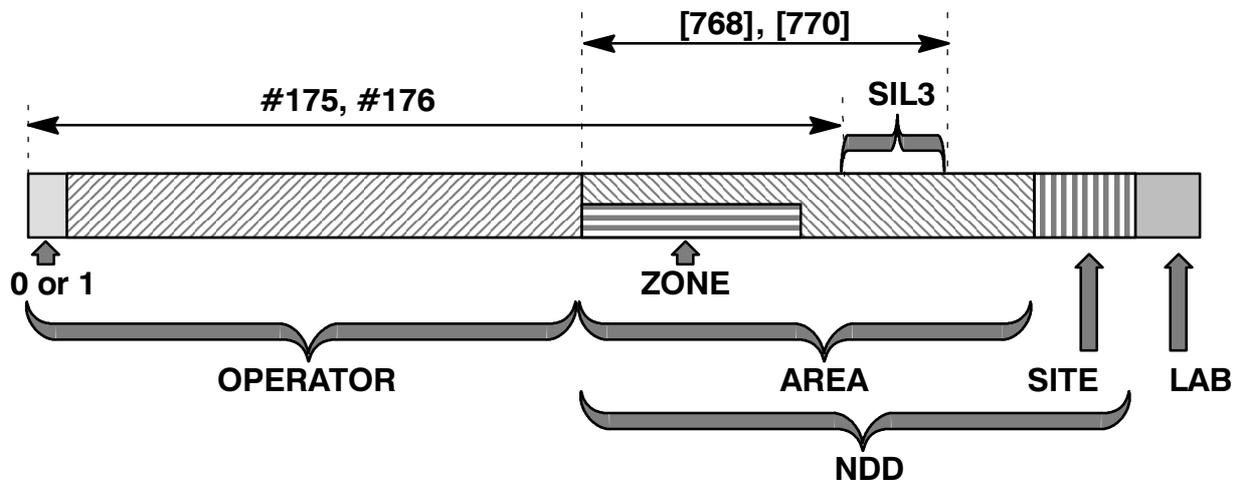
Parameter	Name	Description	Min	Max	Unit
771		Audio routing (MAP27 application)	0	255	

This parameter defines the routing of audio signals in MAP27 application. The values are according to the MAP27 specification, *'RADIO MANAGEMENTS'* message *'CONTROLSc' field.*

Bit	Description	Default	Action
0	Not in use	0	
1	Not in use	0	
2	Alert tone routing to DTE	0	Not routed
3	Audio routing to DTE	0	Not routed
4	Not in use	0	
5	Not in use	0	
6	Not in use	0	
7	Not in use	0	

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x	0	MAP not in use

Note: DTE is the MAP27 –device connected to the data interface.
DTE stands for Data Terminal Equipment.

During modem call audios are always routed to DTE. Voice call (including diversion sending) can be made from RU only if the audios are routed to RU.

When R72 is used with teleadapter unit AL72, only B2 has meaning. Audios are routed according to voice call routing by AL72. DTE corresponds to terminal device or PABX in this case.

Note: The test display (parameter ***703*** bit 7) affects the AL or DL adapters, so it should be turned off when using AL72 or DL70/72 adapters!

Parameter	Name	Description	Min	Max	Unit
772		Message routing (MAP27 application)	0	255	

This parameter defines the routing of data messages in MAP27 application. The values are according to the MAP27 specification, *'RADIO MANAGEMENTS'* message *'CONTROLSa' field.*

Bit	Description	Default	Action
0	Not in use	0	
1	Not in use	0	
2	Not in use	0	
3	MST message routing to DTE	0	Not routed
4	SST message routing to DTE	0	Not routed
5	Status message routing to DTE	0	Not routed
6	Modem call routing to DTE	0	Not routed
7	Voice call routing to DTE	0	Not routed

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x	x		x				0	MAP not in use

Note: DTE is the MAP27 –device connected to the data interface.
DTE stands for Data Terminal Equipment.

When R72 is used with teleadapter AL72, DTE corresponds to terminal device or PABX. Status, MST and SST messages can be routed to DTE. Audios are routed to the same place than voice calls by AL72. Voice call can be made only from device where voice calls are routed.

Note: The test display (parameter ***703*** bit 7) affects the AL or DL adapters, so it should be turned off when using AL72 or DL70/72 adapters!

Parameter	Name	Description	Min	Max	Unit
773		Type of AL72 teleadapter mode	0	1	

This parameter defines the type of a teleadapter. Valid values are

        0 = exchange
        1 = subscriber

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x				0	Exchange

Note: The test display (parameter *703* bit 7) affects the AL or DL adapters, so it should be turned off when using AL72 or DL70/72 adapters!

Parameter	Name	Description	Min	Max	Unit
774		Call handover mode	0	1	

This parameter defines the type of the call handover. With a value 1 a basic mode is selected.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x		0	Disabled

Note: Handover feature is available in system release 7.

Parameter	Name	Description	Min	Max	Unit
775		Call handover level	0		

This parameter defines the level of call handover. It is based on L0 level.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x		0	Handover at level L0

Note: Handover feature is available in system release 7. If the new traffic channel cannot be found within time specified with parameter *[734]*, the call will be cancelled.

Parameter	Name	Description	Min	Max	Unit
776		Call handover request interval	0	255	s

This parameter defines the interval at which call handover request is sent to the system.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x		1	every 1 second

Note: Handover feature is available in system release 7.

Parameter	Name	Description	Min	Max	Unit
777		Roaming mode	0	1	

This parameter defines the mode when using automatic roaming

Bit	Description	Default	Action
0	Automatic roaming enabled	0	Disabled
1	Roaming mode manual when powering on	0	Automatic
2	Not in use	0	
3	Not in use	0	
4	Not in use	0	
5	Not in use	0	
6	Not in use	0	
7	Not in use	0	

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x		0	

Parameter	Name	Description	Min	Max	Unit
778		Roaming netlist			

This parameter defines the networks available in automatic roaming.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x		0	

Note 1: Roaming feature is available in system release 7.

Note 2: Networks in automatic roaming are entered with two digits, e.g. 010503 etc. without any spaces in between. Networks are then selected in order of 1, 5 and 3.

4.4.6   Subscriber numbering

Parameter	Name	Description	Min	Max	Unit
800		Subscriber number			

This parameter defines, what is the subscriber number of the mobile to respond.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X	X	X	X	X	X		

MPT Note: The length is either 6 or 7 digits long. The number is programmed in prefix/ident –style. The ident is always four digits long, but the prefix may be 2–3 digits long.

Traxys note: The length can be 5–8 digits long (see test **[710]**).

Parameter	Name	Description	Min	Max	Unit
810 ...		Own group call number 1			
...815		Own group call number 6			

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X	X	X	X	X	X		

Parameter	Name	Description	Min	Max	Unit
816 ...		Own group call number 7			
...819		Own group call number 10			
850 ...		Own group call number 11			
...859		Own group call number 20			
870 ...		Own group call number 21			
...913		Own group call number 64			

These parameters define, what are the group numbers of the mobile to respond.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X		X	X	X			

MPT Note: The length is either 6 or 7 digits long. The number is programmed in prefix/ident –style. The ident is always four digits long, but the prefix may be 2–3 digits long.

Traxys note: The length can be 5–8 digits long (see test *[710]*).

Parameter	Name	Description	Min	Max	Unit
820		Fleets which can be called with a mobile			
821		Fleets which can be called with a mobile			
822		Fleets which can be called with a mobile			
823		Fleets which can be called with a mobile			
824		Fleets which can be called with a mobile			
825		Fleets which can be called with a mobile			
826		Fleets which can be called with a mobile			
827		Fleets which can be called with a mobile			

This parameter enables the calls to foreign fleets, if the parameter *[737]* is set to '1'. The length of a fleet number is a same as the length of one's own subscriber number.

The fleet numbers are programmed by giving a base ident of a foreign fleet. If a ident bigger than the base ident is given, the program calculates the nearest base ident down.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
x	x		x	x	x	x	x	0	Not in use

Note: If the additional group call numbers are from the foreign fleets, these fleet numbers must be programmed in to these tests! This is to avoid situation, where the user accidentally enters by himself a wrong group number. Then the user is able to 'listen' the wrong group, which is maybe not acceptable.

Parameter	Name	Description	Min	Max	Unit
820		5–dial string table			
821		5–dial string table			
822		5–dial string table			
823		5–dial string table			
824		5–dial string table			
825		5–dial string table			
826		5–dial string table			
827		5–dial string table			
828		5–dial string table			
829		5–dial string table			

This parameter enables the use of shorter dialling of MPT–numbers. By each test can be programmed a number in another fleet. The programming is done by entering following information:

    – routing code   (default 0000 means 'not in use')
    – prefix   (000 ... 127)
    – base ident   (0000 ... 8100)
    – largest number in fleet   (200 ... 899 in large fleets)
                               (020 ... 089 in small fleets)

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
		x	x	x	x	x	x	0	Not in use

Parameter	Name	Description	Min	Max	Unit
830		The base ident of own fleet	0000	8100	
831		The largest number of own fleet	200	899	
832		The base ident of own group	0000	8100	
833		The largest number of own group	900	998	

With parameters 830 and 831 it is programmed the base ident and the largest number of subscribers own fleet. With parameters 832 and 833 it is programmed the base ident and the largest number of subscribers own group.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
		x	x	x	x	x	x		Operator dependent

Note: In small fleets, the largest number in a fleet can be 020 ... 089 and the largest number in a group can be 090 ... 099.

Note: In Regionet network, also 999 is in use.

Parameter	Name	Description	Min	Max	Unit
840		Mobiles security code			

This parameter displays the security code of a mobile. The code is indicating following information:

      – Manufacturers code
            Nokia = 7
      – Model number
            R58 = 1
            R40 = 2
            H70 = 3
            R72 = 4
            H75 = 5
            H85 = 6
      – Serial number
            000000 ... 262143 ($= 2^{18}-1$)

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X	X	X	X	X	X		

Note: See also MX parameters
            #50 SECURITCHECKPSTN and **#157 SECCODEPERF**

Parameter	Name	Description	Min	Max	Unit
851		R40 Short dialling number 1			
852		R40 Short dialling number 2			
853		R40 Short dialling number 3			
854		R40 Short dialling number 4			
855		R40 Short dialling number 5			
856		R40 Short dialling number 6			
857		R40 Short dialling number 7			
858		R40 Short dialling number 8			
859		R40 Short dialling number 9			

These parameters are used to program nine short dialling numbers in to a R40 terminal. The number can be maximum 21 characters and it can contain modificators. Acceptable characters are 0 ... 9, * , # and _ (OK).

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
X	X	X	X						

Parameter	Name	Description	Min	Max	Unit
860		Programming of operator name 1			
861		Programming of operator name 2			
862		Programming of operator name 3			
863		Programming of operator name 4			
864		Programming of operator name 5			
865		Programming of operator name 6			

These parameters are used to program names for the operators. The length of a name can be eight characters long. If the name in 70–series terminals is not more than three characters, it is shown in the display. If the name is not programmed or if the length is more than three, then only the operator number (e.g. 1) is shown.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x		x	x	x	x		
	x		x						One operator
x		x	x						Six operators

Note: In R40 terminal the operator name is shown completely!

Note: In R40 terminal having AC–2 software there is possibility have only one operator!

Parameter	Name	Description	Min	Max	Unit
866		Programming of Login–text	0	24	chrs

This parameter is used to program the login–text used in some applications. See parameter *[703:2]*. Login text can be maximum 24 characters long.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
X		X	X						

Parameter	Name	Description	Min	Max	Unit
900		Programming of password			

These parameters are used to program the password of a terminal. The password is used for locking the phone etc.

Network			Terminal type					Default	
Traxys	**AC2**	**MPT**	**R40**	**R72**	**H70**	**H75**	**H85**	**Value**	**Action**
x	x	x	x					1234	

Parameter	Name	Description	Min	Max	Unit
920		Programming of HOME SITE			

This parameter defines the SYS –code of a home site. See parameters *[755], [769]*.

Network			Terminal type					Default	
Traxys	*AC2*	*MPT*	*R40*	*R72*	*H70*	*H75*	*H85*	*Value*	*Action*
X	X	X	X	X	X	X	X		

NOKIA

Parameter	Name	Description	Min	Max	Unit
950		Programming of AAD data	0000	8191	

-
-
-

957		Programming of AAD data	0000	8191	

This data defines the areas, where the terminal can be used. There can be four different area limits as follows:

0	whole *operator* area
1	only in a *zone*
2	only in a registration *area*
3	in a *full identity area*

The values are given as a pair of data. First part is defining the data type according to the list above. The second part is defining the data, i.e. what is the value of a corresponding field in SYS –code to look. See also parameters *[743 ... 747]*.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x	x	x	x	x	0	Not in use

Note: The same feature can be done also in MX.

Note: The operator code includes the first bit of a SYS –code.

Note: In R40, AC–2 software there is possibility to have 15 definitions for AAD data, since there is only one subscriber number to be programmed! The full identity area can not be programmed in R40 AC–2 version!

Example: ZONE field length is set to four digits and it's value is $0010_b = 2_{dec}$. If the data type is programmed to be 1 and the AAD value to be 2 (0010) then the mobile can operate in areas where the SYS –code is sending 0010 in ZONE –field.

0010

0 or 1		1. ZONE		SITE	LAB
	0. OPERATOR		2. AREA		

3. FULL IDENTITY AREA
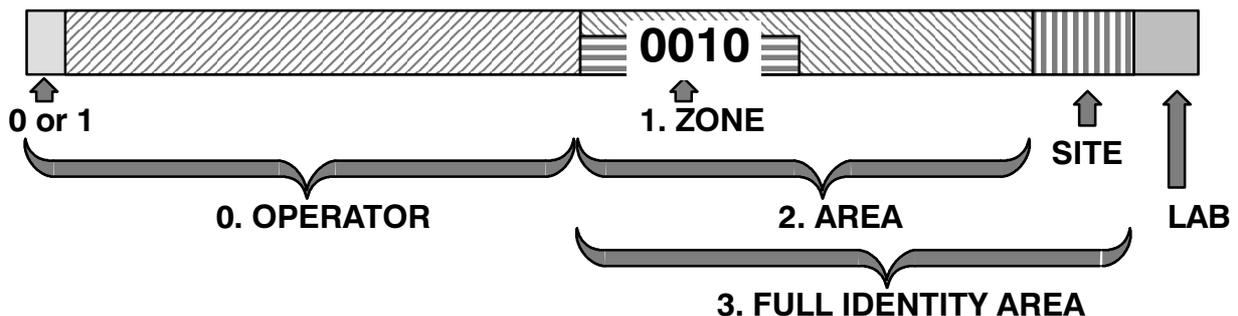
Parameter	Name	Description	Min	Max	Unit
980		R40 Programming of CCIR code			

This parameter defines the CCIR code sent to the pager when the feature is activated.
The length can be 3 ... 6 numbers.

Network			Terminal type					Default	
Traxys	AC2	MPT	R40	R72	H70	H75	H85	Value	Action
x	x	x	x						

Note: The CCIR function is an option in R40 terminal!

5 INFORMATION FROM USER'S MANUAL

5.1 Special call types

*11*N#	Broadcast group call	
*0S*N#	Sending status	
*0*N#	Calll back request	
#0*N#	Cancel call back request	
2 ...	Data call	
7	Enable network roaming	*
#7*	Disable network roaming	*
*8*N#	Priority call	
*9*N#	Executive call	
*31*N	Modem call	
*41*N#	Call diversion	
#41#	Cancel call diversion	
*48#	Automatic call back	
#48#	Cancel automatic call back	
*55*C#	Simplex traffic in channel C	*
#56#	Squelch off in simplex mode	
*56#	Squelch on in simplex mode	
#55#	Return to trunking mode from simplex mode	

Note: * means that the system and mobile must support the function.

5.1.1 R40 error codes

Error 1   **catalogue error**

One of the abbreviated dialling numbers are lost from the memory or some character has been changed

Error 2   **Status text error**

One of the pre–programmed status texts are lost from the memory

Error 3   **Data message error**

One of the pre–programmed data texts are lost from the memory

Error 4   **User settings lost**

System information is lost

Error 5   **Service needed**

Radio adjustment parameters are lost

Error 6   **Service needed**

Own subscriber number is lost

Error 8   **Illegal group number**

Additional group number is invalid

Error 9   **IService needed**

System parameters are lost

Error 10   **Service needed**

Channel table is lost

Error 11   **Service needed**

Default values of radio adjustment parameters are lost

5.1.2 70/80–series error codes

Error 2   **Some radio adjustment parameters are lost**

Error 3   **Audio tuning values are lost**

Error 4   **Some system parameters are lost**

Error 6   **Audio hardware faulty (70–series)**

Error 7   **Undefined parameters**

6 REVISIONS

3.0	New format, combined all products	

3.1	Corrected errors

3.2	Added parameters and explanations

773	*Teleadapter type*	*R72*
739	*Power on number*	*R40*
740	*Status number storing*	*R40*

3.3	Corrected parameters, added AMAN software versions

753	*System level*	*R40*
710	*Dial length*	

3.4	Added explanations

Test display vs. data/teleadapters

3.5	Added parameters and explanations

700:2	*Received group calls*	*R40*
700:3	*Steady alert tone*	*R40*
700:4	*Automatic network sel.*	*R40*
700:5	*Manual network sel.*	*R40*
701:1	*Silent emergency call*	*R40*
701:2	*Listening call*	*R40*
701:3	*Ext.mic used in emerg.c.*	*R40*
739	*Updated for Traxys*	*R40*
740	*Updated for Traxys*	*R40*
748	*Networks in autom.sel.*	*R40*
866	*Login text*	*R40*

3.6	Corrected explanations

Test display vs. tele– and data adapters
Removed status and data texts for H85

739	*Filtering coefficient removed for R40*
740	*Filtering coefficient removed for R40*

4.0	Added and corrected parameters

315–317	*L0,L1,L2 levels*	*H70/75,R72*
774	*Call handover mode*	*H70/75,R72*
816–819		
850–859		
870–913	*Additional group numbers*	*H70/75,R72*
	R40 AC–2 channels, corr. example	
50, 51	*Channel assignments*	*H85*
756,757		
762,763	*Power changing parameters*	

4.1   Added parameters

305   More languages
306   Ringing tones   R72
775   Handover level   x7x
776   Handover interval   x7x
Corrected default values
743...747   Field lengths
756, 757   Low power offset   R72
755, 769   Home site limits   x7x
775, 776   Moved to service level   x7x

4.2   Corrected default values
,756, 757   Low power offsets   H70/75
762, 763   Max power offsets   H70/75
Added graphs for RSSI level related parameters
Added error codes etc.

4.3   Corrections and additions
Added H85 test display
Added explanations for call handover and roaming