

# OsmoBSC VTY Reference

---

Copyright © 2012-2014

This work is copyright by sysmocom - s.f.m.c. GmbH. All rights reserved.

---

**COLLABORATORS**

	<i>TITLE :</i> OsmoBSC VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		October 20, 2018	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
v1	13th August 2012	Initial	hf
v2	5th March 2014	Update to match osmo-bsc version 0.13.0-305	hf

# Contents

<b>1</b>	<b>VTY reference</b>	<b>1</b>
1.1	Common Commands	1
1.1.1	end	2
1.1.2	exit	2
1.1.3	help	2
1.1.4	list	2
1.1.5	show running-config	3
1.1.6	write	3
1.1.7	write file	3
1.1.8	write memory	3
1.1.9	write terminal	4
1.2	view	4
1.2.1	assignment any	4
1.2.2	echo .MESSAGE	4
1.2.3	enable	5
1.2.4	handover any	5
1.2.5	logging color (01)	5
1.2.6	logging disable	6
1.2.7	logging enable	6
1.2.8	logging filter all (01)	6
1.2.9	logging filter imsi IMSI	7
1.2.10	logging level (allrlllclmmlrllrslnlnmpaglmeaslmsclmgcplholhodeclreflnatctrlf...	7
1.2.11	logging print category (01)	10
1.2.12	logging print category-hex (01)	10
1.2.13	logging print extended-timestamp (01)	11
1.2.14	logging print file (01 basename)	11
1.2.15	logging print level (01)	12
1.2.16	logging set log mask MASK	12
1.2.17	logging set-log-mask MASK	13
1.2.18	logging timestamp (01)	13

1.2.19	show access-list NAME	13
1.2.20	show alarms	14
1.2.21	show asciidoc counters	14
1.2.22	show bts [<0-255>]	14
1.2.23	show conns	15
1.2.24	show cs7 (sualm3ualipa) [<0-65534>]	15
1.2.25	show cs7 instance <0-15> as (activelalllm3ualsua)	15
1.2.26	show cs7 instance <0-15> asp	16
1.2.27	show cs7 instance <0-15> users	17
1.2.28	show e1_driver	17
1.2.29	show e1_line [line_nr] [stats]	17
1.2.30	show e1_timeslot [line_nr] [ts_nr]	18
1.2.31	show fsm NAME	18
1.2.32	show fsm all	18
1.2.33	show fsm-instances NAME	19
1.2.34	show fsm-instances all	19
1.2.35	show history	19
1.2.36	show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]	20
1.2.37	show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]	20
1.2.38	show logging vty	21
1.2.39	show mscs	21
1.2.40	show network	21
1.2.41	show online-help	22
1.2.42	show paging [<0-255>]	22
1.2.43	show paging-group <0-255> IMSI	22
1.2.44	show position	23
1.2.45	show statistics	23
1.2.46	show stats	23
1.2.47	show stats level (globalpeerlsubscriber)	24
1.2.48	show subscriber all	24
1.2.49	show talloc-context (applicationall) (fullbrieflDEPTH)	24
1.2.50	show talloc-context (applicationall) (fullbrieflDEPTH) filter REGEXP	25
1.2.51	show talloc-context (applicationall) (fullbrieflDEPTH) tree ADDRESS	26
1.2.52	show timeslot [<0-255>] [<0-255>] [<0-7>]	26
1.2.53	show trx [<0-255>] [<0-255>]	27
1.2.54	show version	27
1.2.55	terminal length <0-512>	27
1.2.56	terminal no length	28
1.2.57	who	28

1.3	enable	28
1.3.1	assignment any	28
1.3.2	bts <0-255> om2000 class (trxcrltslftflisconldplcfltxlrx) <0-255> <0-255> <0-255>	29
1.3.3	bts <0-255> om2000 class <0-255> <0-255> <0-255> <0-255>	30
1.3.4	bts <0-255> oml class (site-manager bts radio-carrier baseband-transceiver chann...	30
1.3.5	bts <0-255> oml class <0-255> instance <0-255> <0-255> <0-255>	32
1.3.6	bts <0-255> resend-system-information	32
1.3.7	bts <0-255> smscb-command <1-4> HEXSTRING	33
1.3.8	bts <0-255> trx <0-255> timeslot <0-7> pdch (activate deactivate)	33
1.3.9	bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> (activate deactivate) (hrl...	34
1.3.10	bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> assignment	35
1.3.11	bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> handover <0-255>	35
1.3.12	bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> mdcx A.B.C.D <0-65535>	36
1.3.13	configure terminal	37
1.3.14	copy running-config startup-config	37
1.3.15	ctrl-interface generate-trap TRAP VALUE	37
1.3.16	disable	38
1.3.17	drop bts connection <0-65535> (oml rs l)	38
1.3.18	echo .MESSAGE	38
1.3.19	generate-location-state-trap <0-255>	39
1.3.20	handover any	39
1.3.21	logging color (0 1)	39
1.3.22	logging disable	40
1.3.23	logging enable	40
1.3.24	logging filter all (0 1)	40
1.3.25	logging filter imsi IMSI	41
1.3.26	logging level (all rl lcl mml rr rs ln npl pag meas msc mngc pl hoh odec ref nat ctrl f...	41
1.3.27	logging print category (0 1)	44
1.3.28	logging print category-hex (0 1)	44
1.3.29	logging print extended-timestamp (0 1)	45
1.3.30	logging print file (0 1 basename)	45
1.3.31	logging print level (0 1)	46
1.3.32	logging set log mask MASK	46
1.3.33	logging set-log-mask MASK	47
1.3.34	logging timestamp (0 1)	47
1.3.35	restart-bts <0-65535>	47
1.3.36	show access-list NAME	48
1.3.37	show alarms	48
1.3.38	show asciidoc counters	48

1.3.39	show bts [<0-255>]	49
1.3.40	show conns	49
1.3.41	show cs7 (sualm3ualipa) [<0-65534>]	49
1.3.42	show cs7 instance <0-15> as (activelalllm3ualsua)	50
1.3.43	show cs7 instance <0-15> asp	50
1.3.44	show cs7 instance <0-15> users	51
1.3.45	show e1_driver	51
1.3.46	show e1_line [line_nr] [stats]	51
1.3.47	show e1_timeslot [line_nr] [ts_nr]	52
1.3.48	show fsm NAME	52
1.3.49	show fsm all	52
1.3.50	show fsm-instances NAME	53
1.3.51	show fsm-instances all	53
1.3.52	show history	53
1.3.53	show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]	54
1.3.54	show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]	54
1.3.55	show logging vty	55
1.3.56	show mscs	55
1.3.57	show network	55
1.3.58	show online-help	56
1.3.59	show paging [<0-255>]	56
1.3.60	show paging-group <0-255> IMSI	56
1.3.61	show position	57
1.3.62	show startup-config	57
1.3.63	show statistics	57
1.3.64	show stats	57
1.3.65	show stats level (globalpeerlsubscriber)	58
1.3.66	show subscriber all	58
1.3.67	show talloc-context (applicationall) (fullbriefDEPTH)	58
1.3.68	show talloc-context (applicationall) (fullbriefDEPTH) filter REGEXP	59
1.3.69	show talloc-context (applicationall) (fullbriefDEPTH) tree ADDRESS	60
1.3.70	show timeslot [<0-255>] [<0-255>] [<0-7>]	60
1.3.71	show trx [<0-255>] [<0-255>]	61
1.3.72	show version	61
1.3.73	terminal length <0-512>	61
1.3.74	terminal monitor	62
1.3.75	terminal no length	62
1.3.76	terminal no monitor	62
1.3.77	who	63

1.4	config	63
1.4.1	banner motd default	63
1.4.2	banner motd file [FILE]	63
1.4.3	bsc	64
1.4.4	cs7 instance <0-15>	64
1.4.5	ctrl	64
1.4.6	e1_input	64
1.4.7	enable password (8l) WORD	65
1.4.8	enable password LINE	65
1.4.9	hostname WORD	65
1.4.10	line vty	66
1.4.11	log alarms <2-32700>	66
1.4.12	log file .FILENAME	66
1.4.13	log gsmmap [HOSTNAME]	67
1.4.14	log stderr	67
1.4.15	log syslog (authpriv cron daemon ftp lpr mail news user uucp)	67
1.4.16	log syslog local <0-7>	68
1.4.17	msc [<0-1000>]	68
1.4.18	network	69
1.4.19	no banner motd	69
1.4.20	no enable password	69
1.4.21	no hostname [HOSTNAME]	70
1.4.22	no log alarms	70
1.4.23	no log file .FILENAME	70
1.4.24	no log stderr	71
1.4.25	no log syslog	71
1.4.26	no service advanced-vty	71
1.4.27	no service terminal-length [<0-512>]	72
1.4.28	no stats reporter log	72
1.4.29	no stats reporter statsd	72
1.4.30	password (8l) WORD	73
1.4.31	password LINE	73
1.4.32	service advanced-vty	73
1.4.33	service terminal-length <0-512>	74
1.4.34	show history	74
1.4.35	stats interval <1-65535>	74
1.4.36	stats reporter log	75
1.4.37	stats reporter statsd	75
1.5	config-log	75



1.5.1	logging color (01)	75
1.5.2	logging filter all (01)	76
1.5.3	logging filter imsi IMSI	76
1.5.4	logging level (all rl l c l m ml rr rs ln ml pag meas msc m gc pl h ode c ref nat ctr lf...	77
1.5.5	logging print category (01)	79
1.5.6	logging print category-hex (01)	80
1.5.7	logging print extended-timestamp (01)	80
1.5.8	logging print file (01 basename)	81
1.5.9	logging print level (01)	81
1.5.10	logging timestamp (01)	82
1.6	config-stats	82
1.6.1	disable	82
1.6.2	enable	82
1.6.3	level (global peer subscriber)	83
1.6.4	local-ip ADDR	83
1.6.5	mtu <100-65535>	83
1.6.6	no local-ip	84
1.6.7	no mtu	84
1.6.8	no prefix	84
1.6.9	prefix PREFIX	84
1.6.10	remote-ip ADDR	85
1.6.11	remote-port <1-65535>	85
1.7	config-line	85
1.7.1	bind A.B.C.D	85
1.7.2	login	86
1.7.3	no login	86
1.8	config-e1_input	86
1.8.1	e1_line <0-255> driver (mis dn mis dn lap d dah dil ipal unix socket)	86
1.8.2	e1_line <0-255> keepalive	87
1.8.3	e1_line <0-255> keepalive <1-300> <1-20> <1-300>	87
1.8.4	e1_line <0-255> name .LINE	88
1.8.5	e1_line <0-255> port <0-255>	88
1.8.6	e1_line <0-255> socket .SOCKET	88
1.8.7	ipa bind A.B.C.D	89
1.8.8	no e1_line <0-255> keepalive	89
1.9	config-ctrl	90
1.9.1	bind A.B.C.D	90
1.10	config-cs7	90
1.10.1	as NAME (su alm 3 ual ipa)	90

1.10.2	asp NAME <0-65535> <0-65535> (sualm3ualipa)	90
1.10.3	description .TEXT	91
1.10.4	network-indicator (international   national   reserved   spare)	91
1.10.5	no as NAME	92
1.10.6	no asp NAME	92
1.10.7	no sccp-address NAME	92
1.10.8	point-code POINT_CODE	93
1.10.9	point-code delimiter (defaultldash)	93
1.10.10	point-code format <1-24> [<1-23>] [<1-22>]	93
1.10.11	point-code format default	94
1.10.12	sccp-address NAME	94
1.10.13	show cs7 instance <0-15> sccp-addressbook	94
1.10.14	xua rkm routing-key-allocation (static-only dynamic-permitted)	95
1.11	config-cs7-as	95
1.11.1	asp NAME	95
1.11.2	description .TEXT	95
1.11.3	no asp NAME	96
1.11.4	point-code override dpc PC	96
1.11.5	qos-class <0-255>	96
1.11.6	recovery-timeout <1-2000>	97
1.11.7	routing-key RCONTEXT DPC	97
1.11.8	routing-key RCONTEXT DPC si (aal2 bicclb-isuplh248 isuplsat-isuplsccpltup)	97
1.11.9	routing-key RCONTEXT DPC si (aal2 bicclb-isuplh248 isuplsat-isuplsccpltup) ssn S...	98
1.11.10	routing-key RCONTEXT DPC ssn SSN	99
1.11.11	traffic-mode (broadcast   loadshare   roundrobin   override)	99
1.12	config-cs7-asp	100
1.12.1	block	100
1.12.2	description .TEXT	100
1.12.3	local-ip A.B.C.D	100
1.12.4	qos-class <0-255>	101
1.12.5	remote-ip A.B.C.D	101
1.12.6	shutdown	101
1.13	config-cs7-sccpaddr	101
1.13.1	global-title	101
1.13.2	no global-title	102
1.13.3	no point-code	102
1.13.4	no subsystem-number	102
1.13.5	point-code POINT_CODE	102
1.13.6	routing-indicator (GTIPC IP)	103

1.13.7	subsystem-number <0-4294967295>	103
1.14	config-cs7-sccpaddr-gt	103
1.14.1	digits DIGITS	103
1.14.2	global-title-indicator <0-15>	104
1.14.3	nature-of-address-indicator <0-127>	104
1.14.4	numbering-plan-indicator <0-15>	104
1.14.5	translation-type <0-255>	104
1.15	config-net	105
1.15.1	bts <0-255>	105
1.15.2	dtx-used (0 1)	105
1.15.3	dyn_ts_allow_tch_f (0 1)	105
1.15.4	encryption a5 <0-3> [<0-3>] [<0-3>] [<0-3>]	106
1.15.5	handover (0 1 default)	106
1.15.6	handover algorithm (1 2 default)	107
1.15.7	handover maximum distance (<0-9999> default)	107
1.15.8	handover power budget hysteresis (<0-999> default)	108
1.15.9	handover power budget interval (<1-99> default)	108
1.15.10	handover window rxlev averaging (<1-10> default)	109
1.15.11	handover window rxlev neighbor averaging (<1-10> default)	109
1.15.12	handover window rxqual averaging (<1-10> default)	110
1.15.13	handover1 maximum distance (<0-9999> default)	110
1.15.14	handover1 power budget hysteresis (<0-999> default)	111
1.15.15	handover1 power budget interval (<1-99> default)	111
1.15.16	handover1 window rxlev averaging (<1-10> default)	112
1.15.17	handover1 window rxlev neighbor averaging (<1-10> default)	112
1.15.18	handover1 window rxqual averaging (<1-10> default)	113
1.15.19	handover2 afs-bias rxlev (<0-20> default)	113
1.15.20	handover2 afs-bias rxqual (<0-7> default)	114
1.15.21	handover2 assignment (0 1 default)	114
1.15.22	handover2 congestion-check (disabled <1-999> now)	115
1.15.23	handover2 max-handovers (<1-9999> default)	115
1.15.24	handover2 maximum distance (<0-9999> default)	115
1.15.25	handover2 min rxlev (<-110--50> default)	116
1.15.26	handover2 min rxqual (<0-7> default)	116
1.15.27	handover2 min-free-slots tch/f (<0-9999> default)	117
1.15.28	handover2 min-free-slots tch/h (<0-9999> default)	117
1.15.29	handover2 penalty-time failed-assignment (<0-99999> default)	118
1.15.30	handover2 penalty-time failed-ho (<0-99999> default)	118
1.15.31	handover2 penalty-time max-distance (<0-99999> default)	119

1.15.32 handover2 power budget hysteresis (<0-999> default)	119
1.15.33 handover2 power budget interval (<1-99> default)	120
1.15.34 handover2 retries (<0-9> default)	120
1.15.35 handover2 tdma-measurement (fullsubset default)	121
1.15.36 handover2 window rxlev averaging (<1-10> default)	121
1.15.37 handover2 window rxlev neighbor averaging (<1-10> default)	122
1.15.38 handover2 window rxqual averaging (<1-10> default)	122
1.15.39 mobile network code <0-999>	123
1.15.40 neci (01)	123
1.15.41 network country code <1-999>	123
1.15.42 no periodic location update	124
1.15.43 no timezone	124
1.15.44 paging any use tch (01)	124
1.15.45 periodic location update <6-1530>	125
1.15.46 timer t3101 (default<1-65535>)	125
1.15.47 timer t3103 (default<1-65535>)	126
1.15.48 timer t3105 (default<1-65535>)	126
1.15.49 timer t3107 (default<1-65535>)	126
1.15.50 timer t3109 (default<1-65535>)	127
1.15.51 timer t3111 (default<1-65535>)	127
1.15.52 timer t3113 (default<1-65535>)	128
1.15.53 timer t3115 (default<1-65535>)	128
1.15.54 timer t3117 (default<1-65535>)	128
1.15.55 timer t3119 (default<1-65535>)	129
1.15.56 timer t3122 (default<1-65535>)	129
1.15.57 timer t3141 (default<1-65535>)	130
1.15.58 timezone <-19-19> (015 30 45)	130
1.15.59 timezone <-19-19> (015 30 45) <0-2>	131
1.16 config-net-bts	131
1.16.1 abis-lower-transport (single-timeslotsuper-channel)	131
1.16.2 access-control-class-ramping	132
1.16.3 access-control-class-ramping-step-interval (<30-600> dynamic)	132
1.16.4 access-control-class-ramping-step-size (<1-10>)	132
1.16.5 amr tch-f hysteresis (ms bts) <0-15>	133
1.16.6 amr tch-f hysteresis (ms bts) <0-15> <0-15>	133
1.16.7 amr tch-f hysteresis (ms bts) <0-15> <0-15> <0-15>	134
1.16.8 amr tch-f modes (01 2 3 4 5 6 7)	134
1.16.9 amr tch-f modes (01 2 3 4 5 6 7) (01 2 3 4 5 6 7)	135
1.16.10 amr tch-f modes (01 2 3 4 5 6 7) (01 2 3 4 5 6 7) (01 2 3 4 5 6 7)	136

1.16.11 amr tch-f modes (0112 3 4 5 6 7) (0112 3 4 5 6 7) (0112 3 4 5 6 7) (0112 3 4...	138
1.16.12 amr tch-f start-mode (auto1 2 3 4)	140
1.16.13 amr tch-f threshold (mslbits) <0-63>	140
1.16.14 amr tch-f threshold (mslbits) <0-63> <0-63>	141
1.16.15 amr tch-f threshold (mslbits) <0-63> <0-63> <0-63>	141
1.16.16 amr tch-h hysteresis (mslbits) <0-15>	142
1.16.17 amr tch-h hysteresis (mslbits) <0-15> <0-15>	142
1.16.18 amr tch-h hysteresis (mslbits) <0-15> <0-15> <0-15>	143
1.16.19 amr tch-h modes (0 1 2 3 4 5)	143
1.16.20 amr tch-h modes (0 1 2 3 4 5) (0 1 2 3 4 5)	144
1.16.21 amr tch-h modes (0 1 2 3 4 5) (0 1 2 3 4 5) (0 1 2 3 4 5)	145
1.16.22 amr tch-h modes (0 1 2 3 4 5) (0 1 2 3 4 5) (0 1 2 3 4 5) (0 1 2 3 4 5)	146
1.16.23 amr tch-h start-mode (auto1 2 3 4)	148
1.16.24 amr tch-h threshold (mslbits) <0-63>	148
1.16.25 amr tch-h threshold (mslbits) <0-63> <0-63>	149
1.16.26 amr tch-h threshold (mslbits) <0-63> <0-63> <0-63>	150
1.16.27 band BAND	150
1.16.28 base_station_id_code <0-63>	151
1.16.29 cell bar qualify (0 1)	151
1.16.30 cell barred (0 1)	151
1.16.31 cell reselection hysteresis <0-14>	152
1.16.32 cell reselection offset <0-126>	152
1.16.33 cell_identity <0-65535>	152
1.16.34 channel allocator (ascending descending)	153
1.16.35 channel-description attach (0 1)	153
1.16.36 channel-description bs-ag-blks-res <0-7>	153
1.16.37 channel-description bs-pa-mfrms <2-9>	154
1.16.38 codec-support fr	154
1.16.39 codec-support fr (hrlefrlavr)	154
1.16.40 codec-support fr (hrlefrlavr) (hrlefrlavr)	155
1.16.41 codec-support fr (hrlefrlavr) (hrlefrlavr) (hrlefrlavr)	155
1.16.42 codec-support fr (hrlefrlavr) (hrlefrlavr) (hrlefrlavr) (hrlefrlavr)	156
1.16.43 con-connection-group <1-31>	157
1.16.44 del-connection-group <1-31>	157
1.16.45 depends-on-bts <0-255>	157
1.16.46 depeends-on-bts <0-255>	158
1.16.47 description .TEXT	158
1.16.48 dtx downlink	158
1.16.49 dtx uplink [force]	159

1.16.50 early-classmark-sending (allowed forbidden) . . . . .	159
1.16.51 early-classmark-sending-3g (allowed forbidden) . . . . .	159
1.16.52 force-combined-si . . . . .	160
1.16.53 gprs 11bit_rach_support_for_egprs (0 1) . . . . .	160
1.16.54 gprs cell bvci <2-65535> . . . . .	160
1.16.55 gprs cell timer (blocking-timer blocking-retries unblocking-retries reset-timer ... . . . .	161
1.16.56 gprs control-ack-type-rach . . . . .	162
1.16.57 gprs mode (none gprs egprs) . . . . .	162
1.16.58 gprs network-control-order (nc0 nc1 nc2) . . . . .	162
1.16.59 gprs ns timer (tns-block tns-block-retries tns-reset tns-reset-retries tns-testl... . . . .	163
1.16.60 gprs nsei <0-65535> . . . . .	164
1.16.61 gprs nsvc <0-1> local udp port <0-65535> . . . . .	164
1.16.62 gprs nsvc <0-1> nsvci <0-65535> . . . . .	165
1.16.63 gprs nsvc <0-1> remote ip A.B.C.D . . . . .	165
1.16.64 gprs nsvc <0-1> remote udp port <0-65535> . . . . .	166
1.16.65 gprs routing area <0-255> . . . . .	166
1.16.66 handover (0 1 default) . . . . .	167
1.16.67 handover algorithm (1 2 default) . . . . .	167
1.16.68 handover maximum distance (<0-9999> default) . . . . .	168
1.16.69 handover power budget hysteresis (<0-999> default) . . . . .	168
1.16.70 handover power budget interval (<1-99> default) . . . . .	169
1.16.71 handover window rxlev averaging (<1-10> default) . . . . .	169
1.16.72 handover window rxlev neighbor averaging (<1-10> default) . . . . .	170
1.16.73 handover window rxqual averaging (<1-10> default) . . . . .	170
1.16.74 handover1 maximum distance (<0-9999> default) . . . . .	171
1.16.75 handover1 power budget hysteresis (<0-999> default) . . . . .	171
1.16.76 handover1 power budget interval (<1-99> default) . . . . .	172
1.16.77 handover1 window rxlev averaging (<1-10> default) . . . . .	172
1.16.78 handover1 window rxlev neighbor averaging (<1-10> default) . . . . .	173
1.16.79 handover1 window rxqual averaging (<1-10> default) . . . . .	173
1.16.80 handover2 afs-bias rxlev (<0-20> default) . . . . .	174
1.16.81 handover2 afs-bias rxqual (<0-7> default) . . . . .	174
1.16.82 handover2 assignment (0 1 default) . . . . .	175
1.16.83 handover2 max-handovers (<1-9999> default) . . . . .	175
1.16.84 handover2 maximum distance (<0-9999> default) . . . . .	175
1.16.85 handover2 min rxlev (<-110--50> default) . . . . .	176
1.16.86 handover2 min rxqual (<0-7> default) . . . . .	176
1.16.87 handover2 min-free-slots tch/f (<0-9999> default) . . . . .	177
1.16.88 handover2 min-free-slots tch/h (<0-9999> default) . . . . .	177

1.16.89	handover2 penalty-time failed-assignment (<0-99999> default)	178
1.16.90	handover2 penalty-time failed-ho (<0-99999> default)	178
1.16.91	handover2 penalty-time max-distance (<0-99999> default)	179
1.16.92	handover2 power budget hysteresis (<0-999> default)	179
1.16.93	handover2 power budget interval (<1-99> default)	180
1.16.94	handover2 retries (<0-9> default)	180
1.16.95	handover2 tdma-measurement (full subset default)	181
1.16.96	handover2 window rxlev averaging (<1-10> default)	181
1.16.97	handover2 window rxlev neighbor averaging (<1-10> default)	182
1.16.98	handover2 window rxqual averaging (<1-10> default)	182
1.16.99	ip.access rsl-ip A.B.C.D	183
1.16.100	ip.access unit_id <0-65534> <0-255>	183
1.16.101	is-connection-list (add del) <0-2047> <0-2047> <0-255>	183
1.16.102	location_area_code <0-65535>	184
1.16.103	ms max power <0-40>	184
1.16.104	neighbor-list (add del) arfcn <0-1023>	185
1.16.105	neighbor-list mode (automatic manual manual-si5)	185
1.16.106	no access-control-class-ramping	186
1.16.107	no description	186
1.16.108	no dtx downlink	186
1.16.109	no dtx uplink	187
1.16.110	no force-combined-si	187
1.16.111	no gprs control-ack-type-rach	187
1.16.112	no rf-lock-exclude	188
1.16.113	nokia_site bts-reset-timer <15-100>	188
1.16.114	nokia_site no-local-rel-conf (0 1)	188
1.16.115	nokia_site skip-reset (0 1)	189
1.16.116	ml e1 line E1_LINE timeslot <1-31> sub-slot (0 1 2 3 full)	189
1.16.117	ml e1 tei <0-63>	190
1.16.118	ml ip.access stream_id <0-255> line E1_LINE	190
1.16.119	paging free <-1-1024>	191
1.16.120	pcu-socket PATH	191
1.16.121	penalty time <20-620>	191
1.16.122	penalty time reserved	192
1.16.123	rach access-control-class (0 1 2 3 4 5 6 7 8 9 11 12 13 14 15) (barred allowed)	192
1.16.124	rach emergency call allowed (0 1)	193
1.16.125	rach max transmission (1 2 4 7)	194
1.16.126	rach nm busy threshold <0-255>	194
1.16.127	rach nm load average <0-65535>	195

1.16.128	each tx integer <0-15>	195
1.16.129	radio-link-timeout <4-64>	195
1.16.130	radio-link-timeout infinite	196
1.16.131	rf-lock-exclude	196
1.16.132	rxlev access min <0-63>	196
1.16.133	i2quater neighbor-list add earfcn <0-65535> thresh-hi <0-31> thresh-lo <0-32> p...	197
1.16.134	i2quater neighbor-list add uarfcn <0-16383> <0-511> <0-1>	198
1.16.135	i2quater neighbor-list del earfcn <0-65535>	198
1.16.136	i2quater neighbor-list del uarfcn <0-16383> <0-511>	199
1.16.137	i5 neighbor-list (add del) arfcn <0-1023>	199
1.16.138	system-information (1 2 3 4 5 6 7 8 9 10 13 16 17 18 19 20 2bis 2ter 2quater 5bi...	200
1.16.139	system-information (1 2 3 4 5 6 7 8 9 10 13 16 17 18 19 20 2bis 2ter 2quater 5bi...	201
1.16.140	temporary offset <0-60>	203
1.16.141	temporary offset infinite	203
1.16.142	training_sequence_code <0-7>	203
1.16.143	tx <0-255>	204
1.16.144	type (unknown bs11 nanobts lrbs2000 nokia_sitel systemobts)	204
1.17	config-net-bts-trx	204
1.17.1	arfcn <0-1023>	204
1.17.2	description .TEXT	205
1.17.3	max_power_red <0-100>	205
1.17.4	no description	205
1.17.5	nominal power <0-100>	206
1.17.6	rf_locked (0 1)	206
1.17.7	rsl e1 line E1_LINE timeslot <1-31> sub-slot (0 1 2 3 full)	206
1.17.8	rsl e1 tei <0-63>	207
1.17.9	timeslot <0-7>	208
1.18	config-net-bts-trx-ts	208
1.18.1	e1 line E1_LINE timeslot <1-31> sub-slot (0 1 2 3 full)	208
1.18.2	hopping arfcn add <0-1023>	209
1.18.3	hopping arfcn del <0-1023>	209
1.18.4	hopping enabled (0 1)	209
1.18.5	hopping maio <0-63>	210
1.18.6	hopping sequence-number <0-63>	210
1.18.7	phys_chan_config (none ccch ccch+sdcch4 tch/fltch/hlsdcch8 pdch tch/f_pdch unkno...	211
1.18.8	phys_chan_config PCHAN	212
1.18.9	training_sequence_code <0-7>	212
1.19	oml	212
1.19.1	change-adm-state (locked unlocked shutdown null)	212



1.19.2	opstart	213
1.20	config-msc	213
1.20.1	access-list-name NAME	213
1.20.2	allow-emergency (allow deny)	213
1.20.3	amr-config 10_2k (allowed forbidden)	214
1.20.4	amr-config 12_2k (allowed forbidden)	214
1.20.5	amr-config 4_75k (allowed forbidden)	214
1.20.6	amr-config 5_15k (allowed forbidden)	215
1.20.7	amr-config 5_90k (allowed forbidden)	215
1.20.8	amr-config 6_70k (allowed forbidden)	216
1.20.9	amr-config 7_40k (allowed forbidden)	216
1.20.10	amr-config 7_95k (allowed forbidden)	216
1.20.11	bsc-addr NAME	217
1.20.12	bsc-grace-text .TEXT	217
1.20.13	bsc-msc-lost-text .TEXT	217
1.20.14	bsc-welcome-text .TEXT	218
1.20.15	codec-list .LIST	218
1.20.16	core-cell-identity <0-65535>	218
1.20.17	core-location-area-code <0-65535>	218
1.20.18	core-mobile-country-code <1-999>	219
1.20.19	core-mobile-network-code <1-999>	219
1.20.20	dest A.B.C.D <1-65000> <0-255>	219
1.20.21	ip.access rtp-base <1-65000>	220
1.20.22	local-prefix REGEXP	220
1.20.23	mgcp-gw bts-base <0-65534>	220
1.20.24	mgcp-gw endpoint-range <1-65534> <1-65534>	221
1.20.25	mgcp-gw local-ip A.B.C.D	221
1.20.26	mgcp-gw local-port <0-65535>	221
1.20.27	mgcp-gw remote-ip A.B.C.D	222
1.20.28	mgcp-gw remote-port <0-65535>	222
1.20.29	mgw bts-base <0-65534>	222
1.20.30	mgw endpoint-range <1-65534> <1-65534>	223
1.20.31	mgw local-ip A.B.C.D	223
1.20.32	mgw local-port <0-65535>	223
1.20.33	mgw remote-ip A.B.C.D	224
1.20.34	mgw remote-port <0-65535>	224
1.20.35	msc-addr NAME	224
1.20.36	no access-list-name	225
1.20.37	no bsc-grace-text	225

1.20.38 no bsc-msc-lost-text	225
1.20.39 no bsc-welcome-text	225
1.20.40 no dest A.B.C.D <1-65000> <0-255>	226
1.20.41 no timeout-ping	226
1.20.42 no timeout-ping advanced	226
1.20.43 timeout-ping <1-2147483647>	227
1.20.44 timeout-ping advanced	227
1.20.45 timeout-pong <1-2147483647>	227
1.20.46 type (normallocal)	228
1.21 om2k	228
1.21.1 capabilities-request	228
1.21.2 configuration-request	228
1.21.3 connect-command	228
1.21.4 disable-request	229
1.21.5 disconnect-command	229
1.21.6 enable-request	229
1.21.7 operational-info <0-1>	229
1.21.8 reset-command	230
1.21.9 start-request	230
1.21.10 status-request	230
1.21.11 test-request	230
1.22 om2k-con-group	231
1.22.1 con-path (addlde) <0-2047> <0-255> concentrated <1-16>	231
1.22.2 con-path (addlde) <0-2047> <0-255> deconcentrated <0-63>	231
1.23 config-bsc	232
1.23.1 access-list NAME imsi-allow [REGEXP]	232
1.23.2 access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)	232
1.23.3 access-list-name NAME	233
1.23.4 bsc-auto-rf-off <1-65000>	233
1.23.5 bsc-rf-socket PATH	233
1.23.6 mid-call-text .TEXT	233
1.23.7 mid-call-timeout NR	234
1.23.8 missing-msc-text .TEXT	234
1.23.9 no access-list NAME	234
1.23.10 no access-list-name	235
1.23.11 no bsc-auto-rf-off	235
1.23.12 no missing-msc-text	235

# List of Tables

1.1	VTY Parameter Patterns . . . . .	1
1.2	VTY port numbers . . . . .	1

# Chapter 1

## VTY reference

The Virtual Tele Type (VTY) has the concept of nodes and commands. This chapter lists all nodes and the commands that are available within the node. Each command can consist out of several words followed by a variable number of parameters. There are common patterns for the parameters, these include IPv4 addresses, number ranges, a word, a line of text and choice. The following will explain the commonly used patterns.

Pattern	Example	Explanation
A.B.C.D	127.0.0.1	A IPv4 address
TEXT	example01	A single string without any spaces, tabs
.TEXT	Some information	A line of text
(OptionA OptionB OptionC)	OptionA	A choice between a list of available options
<0-10>	5	A number from a range

Table 1.1: VTY Parameter Patterns

The application is configured through the VTY. For configuring a system one needs to enter the **enable** node and then enter the **configure terminal** command. Then the configuration can be made according to the available commands. After the system has been configured one can use the **write** command to write the new configuration to the configuration file. The new file will be used after the application has been restarted.

The following table lists the TCP port numbers of the VTY for the various Osmocom GSM related programs as used on sismoocom products:

Port Number	Software
4240	osmo-pcu
4241	osmo-bts
4242	osmo-nitb, osmo-bsc
4243	osmo-bsc_mgcp
4244	osmo-bsc_nat
4245	osmo-sgsn
4246	osmo-gbproxy

Table 1.2: VTY port numbers

### 1.1 Common Commands

These commands are available on all VTY nodes. They are listed here only once, to unclutter the VTY reference.

### 1.1.1 end

#### Command

```
end
```

#### Parameters

end

End current mode and change to enable mode.

### 1.1.2 exit

#### Command

```
exit
```

#### Parameters

exit

Exit current mode and down to previous mode

### 1.1.3 help

#### Command

```
help
```

#### Parameters

help

Description of the interactive help system

### 1.1.4 list

#### Command

```
list
```

#### Parameters

list

Print command list

---

### 1.1.5 show running-config

#### Command

```
show running-config
```

#### Parameters

##### show

Show running system information

##### running-config

running configuration

### 1.1.6 write

#### Command

```
write
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

### 1.1.7 write file

#### Command

```
write file
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### file

Write to configuration file

### 1.1.8 write memory

#### Command

```
write memory
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### memory

Write configuration to the file (same as write file)

---

### 1.1.9 write terminal

#### Command

```
write terminal
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### terminal

Write to terminal

## 1.2 view

The view node is the default node when connecting to the VTY interface. This node does not require any additional permission and allows to introspect the application.

### 1.2.1 assignment any

#### Command

```
assignment any
```

#### Parameters

##### assignment

Manually trigger assignment (for debugging)

##### any

Pick any actively used TCH/F or TCH/H lchan and re-assign within the same BTS. This will fail if no lchans of the same type are available besides the used one.

### 1.2.2 echo .MESSAGE

#### Command

```
echo .MESSAGE
```

#### Parameters

##### echo

Echo a message back to the vty

##### .MESSAGE

The message to echo

---

### 1.2.3 enable

#### Command

```
enable
```

#### Parameters

##### enable

Turn on privileged mode command

### 1.2.4 handover any

#### Command

```
handover any
```

#### Parameters

##### handover

Manually trigger handover (for debugging)

##### any

Pick any actively used TCH/F or TCH/H lchan and handover to any other BTS. This is likely to fail if not all BTS are guaranteed to be reachable by the MS.

### 1.2.5 logging color (0|1)

#### Command

```
logging color (0|1)
```

#### Parameters

##### logging

Configure logging

##### color

Configure color-printing for log messages

##### 0

Don't use color for printing messages

##### 1

Use color for printing messages

---



## 1.2.6 logging disable

### Command

```
logging disable
```

### Parameters

#### logging

Configure logging

#### disable

Disables logging to this vty

## 1.2.7 logging enable

This command is required to make logging commands available on the telnet VTY.

### Command

```
logging enable
```

### Parameters

#### logging

Configure logging

#### enable

Enables logging to this vty

## 1.2.8 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

### Command

```
logging filter all (0|1)
```

### Parameters

#### logging

Configure logging

#### filter

Filter log messages

#### all

Do you want to log all messages?

#### 0

Only print messages matched by other filters

#### 1

Bypass filter and print all messages

### 1.2.9 logging filter imsi IMSI

#### Command

```
logging filter imsi IMSI
```

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### imsi

Filter log messages by IMSI

##### IMSI

IMSI to be used as filter

### 1.2.10 logging level (all|rll|cc|mm|rr|rsl|nm|pag|meas|msc|mgcp|ho|hodec|ref|nat|ctrl|f...

#### Command

```
logging level (all|rll|cc|mm|rr|rsl|nm|pag|meas|msc|mgcp|ho|hodec|ref|nat|ctrl|filter| ←
pcu|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscdp| ←
lsua|lm3ua|lmgcp|ljibuf) (everything|debug|info|notice|error|fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### all

Global setting for all subsystems

##### rll

A-bis Radio Link Layer (RLL)

##### cc

Layer3 Call Control (CC)

##### mm

Layer3 Mobility Management (MM)

##### rr

Layer3 Radio Resource (RR)

##### rsl

A-bis Radio Signalling Link (RSL)

---

nm  
A-bis Network Management / O&M (NM/OML)

pag  
Paging Subsystem

meas  
Radio Measurement Processing

msc  
Mobile Switching Center

mgcp  
Media Gateway Control Protocol

ho  
Hand-Over Process

hodec  
Hand-Over Decision

ref  
Reference Counting

nat  
GSM 08.08 NAT/Multiplexer

ctrl  
Control interface

filter  
BSC/NAT IMSI based filtering

pcu  
PCU Interface

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

lmib  
A-bis Input Driver for B-Channels (voice)

lsms  
Layer3 Short Message Service (SMS)

---

---

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lscpp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

everything  
Don't use. It doesn't log anything

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

---

### 1.2.11 logging print category (0|1)

#### Command

```
logging print category (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

### 1.2.12 logging print category-hex (0|1)

#### Command

```
logging print category-hex (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category-hex

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem nr in hex ('<000b>')

### 1.2.13 logging print extended-timestamp (0|1)

#### Command

```
logging print extended-timestamp (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

### 1.2.14 logging print file (0|1|basename)

#### Command

```
logging print file (0|1|basename)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

##### basename

Prefix each log message with the source file's basename (strip leading paths) and line

### 1.2.15 logging print level (0|1)

#### Command

```
logging print level (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.2.16 logging set log mask MASK

#### Command

```
logging set log mask MASK
```

#### Parameters

##### logging

Configure logging

##### set

Decide which categories to output.

##### log

Log commands

##### mask

Mask commands

##### MASK

'set log mask' is deprecated, please refer to the docs of 'set-log-mask' instead

## 1.2.17 logging set-log-mask MASK

### Command

```
logging set-log-mask MASK
```

### Parameters

#### logging

Configure logging

#### set-log-mask

Set the logmask of this logging target

### MASK

List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL\_DEBUG=1 LOGL\_INFO=3 LOGL\_NOTICE=5 LOGL\_ERROR=7 LOGL\_FATAL=8

## 1.2.18 logging timestamp (0|1)

### Command

```
logging timestamp (0|1)
```

### Parameters

#### logging

Configure logging

#### timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

## 1.2.19 show access-list NAME

### Command

```
show access-list NAME
```

### Parameters

#### show

Show running system information

#### access-list

IMSI access list

### NAME

Name of the access list



### 1.2.20 show alarms

#### Command

```
show alarms
```

#### Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.2.21 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.2.22 show bts [<0-255>]

#### Command

```
show bts [<0-255>]
```

#### Parameters

show

Show running system information

bts

Display information about a BTS

[<0-255>]

BTS number

---

### 1.2.23 show conns

#### Command

```
show conns
```

#### Parameters

##### show

Show running system information

##### conns

Display currently active subscriber connections

### 1.2.24 show cs7 (sua|m3ua|ipa) [<0-65534>]

#### Command

```
show cs7 (sua|m3ua|ipa) [<0-65534>]
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### sua

SCCP User Adaptation

##### m3ua

MTP3 User Adaptation

##### ipa

IPA Multiplex (SCCP Lite)

##### [<0-65534>]

Port Number

### 1.2.25 show cs7 instance <0-15> as (active|all|m3ua|sua)

#### Command

```
show cs7 instance <0-15> as (active|all|m3ua|sua)
```

#### Parameters

##### show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

active

Display all active ASs

all

Display all ASs (default)

m3ua

Display all m3ua ASs

sua

Display all SUA ASs

### 1.2.26 show cs7 instance <0-15> asp

Command

```
show cs7 instance <0-15> asp
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

### 1.2.27 show cs7 instance <0-15> users

#### Command

```
show cs7 instance <0-15> users
```

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

users

User Table

### 1.2.28 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.2.29 show e1\_line [line\_nr] [stats]

#### Command

```
show e1_line [line_nr] [stats]
```

#### Parameters

show

Show running system information

e1\_line

Display information about a E1 line

[line\_nr]

E1 Line Number

[stats]

Include statistics

---

### 1.2.30 show e1\_timeslot [line\_nr] [ts\_nr]

#### Command

```
show e1_timeslot [line_nr] [ts_nr]
```

#### Parameters

show

Show running system information

e1\_timeslot

Display information about a E1 timeslot

[line\_nr]

E1 Line Number

[ts\_nr]

E1 Timeslot Number

### 1.2.31 show fsm NAME

#### Command

```
show fsm NAME
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

### 1.2.32 show fsm all

#### Command

```
show fsm all
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

---

### 1.2.33 show fsm-instances NAME

#### Command

```
show fsm-instances NAME
```

#### Parameters

##### show

Show running system information

##### fsm-instances

Show information about finite state machine instances

##### NAME

Display a list of all FSM instances of the named finite state machine

### 1.2.34 show fsm-instances all

#### Command

```
show fsm-instances all
```

#### Parameters

##### show

Show running system information

##### fsm-instances

Show information about finite state machine instances

##### all

Display a list of all FSM instances of all finite state machine

### 1.2.35 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.2.36 show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]

#### Command

```
show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]
```

#### Parameters

show

Show running system information

lchan

Display information about a logical channel

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

### 1.2.37 show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]

#### Command

```
show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]
```

#### Parameters

show

Show running system information

lchan

Display information about a logical channel

summary

Short summary

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

### 1.2.38 show logging vty

#### Command

```
show logging vty
```

#### Parameters

##### show

Show running system information

##### logging

Show current logging configuration

##### vtty

Show current logging configuration for this vty

### 1.2.39 show mscs

#### Command

```
show mscs
```

#### Parameters

##### show

Show running system information

##### mscs

MSC Connections and State

### 1.2.40 show network

#### Command

```
show network
```

#### Parameters

##### show

Show running system information

##### network

Display information about a GSM NETWORK



### 1.2.41 show online-help

#### Command

```
show online-help
```

#### Parameters

show

Show running system information

online-help

Online help

### 1.2.42 show paging [<0-255>]

#### Command

```
show paging [<0-255>]
```

#### Parameters

show

Show running system information

paging

Display information about paging requests of a BTS

[<0-255>]

BTS Number

### 1.2.43 show paging-group <0-255> IMSI

#### Command

```
show paging-group <0-255> IMSI
```

#### Parameters

show

Show running system information

paging-group

Display the paging group

<0-255>

BTS Number

IMSI

IMSI

### 1.2.44 show position

#### Command

```
show position
```

#### Parameters

show

Show running system information

position

Position information of the BTS

### 1.2.45 show statistics

#### Command

```
show statistics
```

#### Parameters

show

Show running system information

statistics

Statistics about the BSC

### 1.2.46 show stats

#### Command

```
show stats
```

#### Parameters

show

Show running system information

stats

Show statistical values

### 1.2.47 show stats level (global|peer|subscriber)

#### Command

```
show stats level (global|peer|subscriber)
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### level

Set the maximum group level

##### global

Show global groups only

##### peer

Show global and network peer related groups

##### subscriber

Show global, peer, and subscriber groups

### 1.2.48 show subscriber all

#### Command

```
show subscriber all
```

#### Parameters

##### show

Show running system information

##### subscriber

Display information about subscribers

##### all

All Subscribers

### 1.2.49 show talloc-context (application|all) (full|brief|DEPTH)

#### Command

```
show talloc-context (application|all) (full|brief|DEPTH)
```

#### Parameters

---

show  
    Show running system information

talloc-context  
    Show talloc memory hierarchy

application  
    Application's context

all  
    All contexts, if NULL-context tracking is enabled

full  
    Display a full talloc memory hierarchy

brief  
    Display a brief talloc memory hierarchy

DEPTH  
    Specify required maximal depth value

### 1.2.50 show talloc-context (application|all) (full|brief|DEPTH) filter REGEXP

#### Command

```
show talloc-context (application|all) (full|brief|DEPTH) filter REGEXP
```

#### Parameters

show  
    Show running system information

talloc-context  
    Show talloc memory hierarchy

application  
    Application's context

all  
    All contexts, if NULL-context tracking is enabled

full  
    Display a full talloc memory hierarchy

brief  
    Display a brief talloc memory hierarchy

DEPTH  
    Specify required maximal depth value

filter  
    Filter chunks using regular expression

REGEXP  
    Regular expression

### 1.2.51 show talloc-context (application|all) (full|brief|DEPTH) tree ADDRESS

#### Command

```
show talloc-context (application|all) (full|brief|DEPTH) tree ADDRESS
```

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### all

All contexts, if NULL-context tracking is enabled

##### full

Display a full talloc memory hierarchy

##### brief

Display a brief talloc memory hierarchy

##### DEPTH

Specify required maximal depth value

##### tree

Display only a specific memory chunk

##### ADDRESS

Chunk address (e.g. 0xdeadbeef)

### 1.2.52 show timeslot [<0-255>] [<0-255>] [<0-7>]

#### Command

```
show timeslot [<0-255>] [<0-255>] [<0-7>]
```

#### Parameters

##### show

Show running system information

##### timeslot

Display information about a TS

##### [<0-255>]

BTS Number

##### [<0-255>]

TRX Number

##### [<0-7>]

Timeslot Number

### 1.2.53 show trx [<0-255>] [<0-255>]

#### Command

```
show trx [<0-255>] [<0-255>]
```

#### Parameters

show

Show running system information

trx

Display information about a TRX

[<0-255>]

BTS Number

[<0-255>]

TRX Number

### 1.2.54 show version

#### Command

```
show version
```

#### Parameters

show

Show running system information

version

Displays program version

### 1.2.55 terminal length <0-512>

#### Command

```
terminal length <0-512>
```

#### Parameters

terminal

Set terminal line parameters

length

Set number of lines on a screen

<0-512>

Number of lines on screen (0 for no pausing)

---

### 1.2.56 terminal no length

#### Command

```
terminal no length
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### length

Set number of lines on a screen

### 1.2.57 who

#### Command

```
who
```

#### Parameters

##### who

Display who is on vty

## 1.3 enable

The enable node is a privileged node, allowing to make changes to the configuration and to access further commands like 'configure'. All commands seen on the view node are also available here.

### 1.3.1 assignment any

#### Command

```
assignment any
```

#### Parameters

##### assignment

Manually trigger assignment (for debugging)

##### any

Pick any actively used TCH/F or TCH/H lchan and re-assign within the same BTS. This will fail if no lchans of the same type are available besides the used one.

---

### 1.3.2 **bts <0-255> om2000 class (trxc|ts|tf|is|con|dp|cf|tx|rx) <0-255> <0-255> <0-255>**

#### Command

```
bts <0-255> om2000 class (trxc|ts|tf|is|con|dp|cf|tx|rx) <0-255> <0-255> <0-255>
```

#### Parameters

bts

BTS related commands

<0-255>

BTS Number

om2000

Manipulate the OM2000 managed objects

class

Object Class

trxc

TRX Controller

ts

Timeslot

tf

Timing Function

is

Interface Switch

con

Abis Concentrator

dp

Digital Path

cf

Central Function

tx

Transmitter

rx

Receiver

<0-255>

BTS Number

<0-255>

Associated SO Instance

<0-255>

Instance Number

---



### 1.3.3 **bts <0-255> om2000 class <0-255> <0-255> <0-255> <0-255>**

#### Command

```
bts <0-255> om2000 class <0-255> <0-255> <0-255> <0-255>
```

#### Parameters

bts

BTS related commands

<0-255>

BTS Number

om2000

Manipulate the OML managed objects

class

Object Class

<0-255>

Object Class

<0-255>

BTS Number

<0-255>

Associated SO Instance

<0-255>

Instance Number

### 1.3.4 **bts <0-255> oml class (site-manager|bts|radio-carrier|baseband-transceiver|chann...**

#### Command

```
bts <0-255> oml class (site-manager|bts|radio-carrier|baseband-transceiver|channel|adjc ↔
|handover|power-contorl|btse|rack|test|envabtse|bport|gprs-nse|gprs-cell|gprs-nsvc| ↔
siemenshw) instance <0-255> <0-255> <0-255>
```

#### Parameters

bts

BTS related commands

<0-255>

BTS Number

oml

Manipulate the OML managed objects

class

Object Class

---

site-manager  
Site Manager Object

bts  
BTS Object

radio-carrier  
Radio Carrier Object

baseband-transceiver  
Baseband Transceiver Object

channel  
Channel (Timeslot) Object

adjc  
Adjacent Object (Siemens)

handover  
Handover Object (Siemens)

power-contorl  
Power Control Object (Siemens)

btse  
BTSE Object (Siemens)

rack  
Rack Object (Siemens)

test  
Test Object (Siemens)

envabtse  
ENVABTSE Object (Siemens)

bport  
BPORT Object (Siemens)

gprs-nse  
GPRS NSE Object (ip.access/osmo-bts)

gprs-cell  
GPRS Cell Object (ip.acecss/osmo-bts)

gprs-nsvc  
GPRS NSVC Object (ip.acecss/osmo-bts)

siemenshw  
SIEMENSHW Object (Siemens)

instance  
Object Instance

<0-255>  
BTS Number

---

<0-255>

TRX Number

<0-255>

TS Number

### 1.3.5 **bts <0-255> oml class <0-255> instance <0-255> <0-255> <0-255>**

Command

```
bts <0-255> oml class <0-255> instance <0-255> <0-255> <0-255>
```

Parameters

bts

BTS related commands

<0-255>

BTS Number

oml

Manipulate the OML managed objects

class

Object Class

<0-255>

Object Class

instance

Object Instance

<0-255>

BTS Number

<0-255>

TRX Number

<0-255>

TS Number

### 1.3.6 **bts <0-255> resend-system-information**

Command

```
bts <0-255> resend-system-information
```

Parameters

bts

BTS Specific Commands

<0-255>

BTS Number

resend-system-information

Re-generate + re-send BCCH SYSTEM INFORMATION

### 1.3.7 bts <0-255> smscb-command <1-4> HEXSTRING

#### Command

```
bts <0-255> smscb-command <1-4> HEXSTRING
```

#### Parameters

bts

BTS related commands

<0-255>

BTS Number

smscb-command

SMS Cell Broadcast

<1-4>

Last Valid Block

HEXSTRING

Hex Encoded SMS CB message (up to 88 octets)

### 1.3.8 bts <0-255> trx <0-255> timeslot <0-7> pdch (activate|deactivate)

#### Command

```
bts <0-255> trx <0-255> timeslot <0-7> pdch (activate|deactivate)
```

#### Parameters

bts

BTS for manual command

<0-255>

BTS Number

trx

TRX for manual command

<0-255>

TRX Number

timeslot

Timeslot for manual command

<0-7>

Timeslot Number

pdch

Packet Data Channel

activate

Activate Dynamic PDCH/TCH (-> PDCH mode)

deactivate

Deactivate Dynamic PDCH/TCH (-> TCH mode)

### 1.3.9 **bts** <0-255> **trx** <0-255> **timeslot** <0-7> **sub-slot** <0-7> **(activate|deactivate)** (hr|fr|EFR|↔

#### Command

```
bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> (activate|deactivate) (hr|fr|EFR|↔
amr) [<0-7>]
```

#### Parameters

**bts**

BTS for manual command

<0-255>

BTS Number

**trx**

TRX for manual command

<0-255>

TRX Number

**timeslot**

Timeslot for manual command

<0-7>

Timeslot Number

**sub-slot**

Sub-slot for manual command

<0-7>

Sub-slot Number

**activate**

Manual Channel Activation (e.g. for BER test)

**deactivate**

Manual Channel Deactivation (e.g. for BER test)

**hr**

Half-Rate v1

**fr**

Full-Rate

**EFR**

Enhanced Full Rate

**amr**

Adaptive Multi-Rate

[<0-7>]

AMR Mode

### 1.3.10 **bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> assignment**

#### Command

```
bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> assignment
```

#### Parameters

bts

BTS for manual command

<0-255>

BTS Number

trx

TRX for manual command

<0-255>

TRX Number

timeslot

Timeslot for manual command

<0-7>

Timeslot Number

sub-slot

Sub-slot for manual command

<0-7>

Sub-slot Number

assignment

Manually trigger assignment (for debugging)

### 1.3.11 **bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> handover <0-255>**

#### Command

```
bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> handover <0-255>
```

#### Parameters

bts

BTS for manual command

<0-255>

BTS Number

trx

TRX for manual command

<0-255>

TRX Number

timeslot

Timeslot for manual command

<0-7>

Timeslot Number

sub-slot

Sub-slot for manual command

<0-7>

Sub-slot Number

handover

Manually trigger handover (for debugging)

<0-255>

New BTS Number

### 1.3.12 **bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> mdcx A.B.C.D <0-65535>**

Command

```
bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> mdcx A.B.C.D <0-65535>
```

Parameters

bts

BTS for manual command

<0-255>

BTS Number

trx

TRX for manual command

<0-255>

TRX Number

timeslot

Timeslot for manual command

<0-7>

Timeslot Number

sub-slot

Sub-slot for manual command

<0-7>

Sub-slot Number

mdcx

Modify RTP Connection

A.B.C.D

MGW IP Address

<0-65535>

MGW UDP Port

### 1.3.13 configure terminal

#### Command

```
configure terminal
```

#### Parameters

##### configure

Configuration from vty interface

##### terminal

Configuration terminal

### 1.3.14 copy running-config startup-config

#### Command

```
copy running-config startup-config
```

#### Parameters

##### copy

Copy configuration

##### running-config

Copy running config to...

##### startup-config

Copy running config to startup config (same as write file)

### 1.3.15 ctrl-interface generate-trap TRAP VALUE

#### Command

```
ctrl-interface generate-trap TRAP VALUE
```

#### Parameters

##### ctrl-interface

Commands related to the CTRL Interface

##### generate-trap

Generate a TRAP for test purpose

##### TRAP

Identity/Name of the TRAP variable

##### VALUE

Value of the TRAP variable

---



### 1.3.16 disable

#### Command

```
disable
```

#### Parameters

##### disable

Turn off privileged mode command

### 1.3.17 drop bts connection <0-65535> (oml|rsl)

#### Command

```
drop bts connection <0-65535> (oml|rsl)
```

#### Parameters

##### drop

Debug/Simulation command to drop Abis/IP BTS

##### bts

Debug/Simulation command to drop Abis/IP BTS

##### connection

Debug/Simulation command to drop Abis/IP BTS

##### <0-65535>

BTS NR

##### oml

Drop OML Connection

##### rsl

Drop RSL Connection

### 1.3.18 echo .MESSAGE

#### Command

```
echo .MESSAGE
```

#### Parameters

##### echo

Echo a message back to the vty

##### .MESSAGE

The message to echo

---

### 1.3.19 generate-location-state-trap <0-255>

#### Command

```
generate-location-state-trap <0-255>
```

#### Parameters

generate-location-state-trap

Generate location state report

<0-255>

BTS to report

### 1.3.20 handover any

#### Command

```
handover any
```

#### Parameters

handover

Manually trigger handover (for debugging)

any

Pick any actively used TCH/F or TCH/H lchan and handover to any other BTS. This is likely to fail if not all BTS are guaranteed to be reachable by the MS.

### 1.3.21 logging color (0|1)

#### Command

```
logging color (0|1)
```

#### Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

---

### 1.3.22 logging disable

#### Command

```
logging disable
```

#### Parameters

##### logging

Configure logging

##### disable

Disables logging to this vty

### 1.3.23 logging enable

This command is required to make logging commands available on the telnet VTY.

#### Command

```
logging enable
```

#### Parameters

##### logging

Configure logging

##### enable

Enables logging to this vty

### 1.3.24 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

#### Command

```
logging filter all (0|1)
```

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### all

Do you want to log all messages?

##### 0

Only print messages matched by other filters

##### 1

Bypass filter and print all messages

### 1.3.25 logging filter imsi IMSI

#### Command

```
logging filter imsi IMSI
```

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### imsi

Filter log messages by IMSI

##### IMSI

IMSI to be used as filter

### 1.3.26 logging level (all|rll|cc|mm|rr|rsl|nm|pag|meas|msc|mgcp|ho|hodec|ref|nat|ctrl|f...

#### Command

```
logging level (all|rll|cc|mm|rr|rsl|nm|pag|meas|msc|mgcp|ho|hodec|ref|nat|ctrl|filter| ←  
pcu|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp| ←  
lsua|lm3ua|lmgcp|ljibuf) (everything|debug|info|notice|error|fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### all

Global setting for all subsystems

##### rll

A-bis Radio Link Layer (RLL)

##### cc

Layer3 Call Control (CC)

##### mm

Layer3 Mobility Management (MM)

##### rr

Layer3 Radio Resource (RR)

##### rsl

A-bis Radio Signalling Link (RSL)

---

nm  
A-bis Network Management / O&M (NM/OML)

pag  
Paging Subsystem

meas  
Radio Measurement Processing

msc  
Mobile Switching Center

mgcp  
Media Gateway Control Protocol

ho  
Hand-Over Process

hodec  
Hand-Over Decision

ref  
Reference Counting

nat  
GSM 08.08 NAT/Multiplexer

ctrl  
Control interface

filter  
BSC/NAT IMSI based filtering

pcu  
PCU Interface

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

lmib  
A-bis Input Driver for B-Channels (voice)

lsms  
Layer3 Short Message Service (SMS)

---

---

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lscpp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

everything  
Don't use. It doesn't log anything

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

---

### 1.3.27 logging print category (0|1)

#### Command

```
logging print category (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

### 1.3.28 logging print category-hex (0|1)

#### Command

```
logging print category-hex (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category-hex

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem nr in hex ('<000b>')

### 1.3.29 logging print extended-timestamp (0|1)

#### Command

```
logging print extended-timestamp (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

### 1.3.30 logging print file (0|1|basename)

#### Command

```
logging print file (0|1|basename)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

##### basename

Prefix each log message with the source file's basename (strip leading paths) and line



### 1.3.31 logging print level (0|1)

#### Command

```
logging print level (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.3.32 logging set log mask MASK

#### Command

```
logging set log mask MASK
```

#### Parameters

##### logging

Configure logging

##### set

Decide which categories to output.

##### log

Log commands

##### mask

Mask commands

##### MASK

'set log mask' is deprecated, please refer to the docs of 'set-log-mask' instead

### 1.3.33 logging set-log-mask MASK

#### Command

```
logging set-log-mask MASK
```

#### Parameters

##### logging

Configure logging

##### set-log-mask

Set the logmask of this logging target

##### MASK

List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL\_DEBUG=1 LOGL\_INFO=3 LOGL\_NOTICE=5 LOGL\_ERROR=7 LOGL\_FATAL=8

### 1.3.34 logging timestamp (0|1)

#### Command

```
logging timestamp (0|1)
```

#### Parameters

##### logging

Configure logging

##### timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

### 1.3.35 restart-bts <0-65535>

#### Command

```
restart-bts <0-65535>
```

#### Parameters

##### restart-bts

Restart ip.access nanoBTS through OML

<0-65535>

BTS Number

### 1.3.36 show access-list NAME

#### Command

```
show access-list NAME
```

#### Parameters

show

Show running system information

access-list

IMSI access list

NAME

Name of the access list

### 1.3.37 show alarms

#### Command

```
show alarms
```

#### Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.3.38 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

---

### 1.3.39 show bts [<0-255>]

#### Command

```
show bts [<0-255>]
```

#### Parameters

show

Show running system information

bts

Display information about a BTS

[<0-255>]

BTS number

### 1.3.40 show conns

#### Command

```
show conns
```

#### Parameters

show

Show running system information

conns

Display currently active subscriber connections

### 1.3.41 show cs7 (sua|m3ua|ipa) [<0-65534>]

#### Command

```
show cs7 (sua|m3ua|ipa) [<0-65534>]
```

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

[<0-65534>]

Port Number

### 1.3.42 show cs7 instance <0-15> as (active|all|m3ua|sua)

#### Command

```
show cs7 instance <0-15> as (active|all|m3ua|sua)
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### as

Application Server (AS)

##### active

Display all active ASs

##### all

Display all ASs (default)

##### m3ua

Display all m3ua ASs

##### sua

Display all SUA ASs

### 1.3.43 show cs7 instance <0-15> asp

#### Command

```
show cs7 instance <0-15> asp
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### asp

Application Server Process (ASP)

### 1.3.44 show cs7 instance <0-15> users

#### Command

```
show cs7 instance <0-15> users
```

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

users

User Table

### 1.3.45 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.3.46 show e1\_line [line\_nr] [stats]

#### Command

```
show e1_line [line_nr] [stats]
```

#### Parameters

show

Show running system information

e1\_line

Display information about a E1 line

[line\_nr]

E1 Line Number

[stats]

Include statistics

### 1.3.47 show e1\_timeslot [line\_nr] [ts\_nr]

#### Command

```
show e1_timeslot [line_nr] [ts_nr]
```

#### Parameters

show

Show running system information

e1\_timeslot

Display information about a E1 timeslot

[line\_nr]

E1 Line Number

[ts\_nr]

E1 Timeslot Number

### 1.3.48 show fsm NAME

#### Command

```
show fsm NAME
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

### 1.3.49 show fsm all

#### Command

```
show fsm all
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

---

### 1.3.50 show fsm-instances NAME

#### Command

```
show fsm-instances NAME
```

#### Parameters

##### show

Show running system information

##### fsm-instances

Show information about finite state machine instances

##### NAME

Display a list of all FSM instances of the named finite state machine

### 1.3.51 show fsm-instances all

#### Command

```
show fsm-instances all
```

#### Parameters

##### show

Show running system information

##### fsm-instances

Show information about finite state machine instances

##### all

Display a list of all FSM instances of all finite state machine

### 1.3.52 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history



### 1.3.53 show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]

#### Command

```
show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]
```

#### Parameters

show

Show running system information

lchan

Display information about a logical channel

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

### 1.3.54 show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]

#### Command

```
show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]
```

#### Parameters

show

Show running system information

lchan

Display information about a logical channel

summary

Short summary

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

### 1.3.55 show logging vty

#### Command

```
show logging vty
```

#### Parameters

##### show

Show running system information

##### logging

Show current logging configuration

##### vtty

Show current logging configuration for this vty

### 1.3.56 show mscs

#### Command

```
show mscs
```

#### Parameters

##### show

Show running system information

##### mscs

MSC Connections and State

### 1.3.57 show network

#### Command

```
show network
```

#### Parameters

##### show

Show running system information

##### network

Display information about a GSM NETWORK

---

### 1.3.58 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.3.59 show paging [<0-255>]

#### Command

```
show paging [<0-255>]
```

#### Parameters

##### show

Show running system information

##### paging

Display information about paging requests of a BTS

##### [<0-255>]

BTS Number

### 1.3.60 show paging-group <0-255> IMSI

#### Command

```
show paging-group <0-255> IMSI
```

#### Parameters

##### show

Show running system information

##### paging-group

Display the paging group

##### <0-255>

BTS Number

##### IMSI

IMSI

### 1.3.61 show position

#### Command

```
show position
```

#### Parameters

show

Show running system information

position

Position information of the BTS

### 1.3.62 show startup-config

#### Command

```
show startup-config
```

#### Parameters

show

Show running system information

startup-config

Contentes of startup configuration

### 1.3.63 show statistics

#### Command

```
show statistics
```

#### Parameters

show

Show running system information

statistics

Statistics about the BSC

### 1.3.64 show stats

#### Command

```
show stats
```

#### Parameters

show

Show running system information

stats

Show statistical values

### 1.3.65 show stats level (global|peer|subscriber)

#### Command

```
show stats level (global|peer|subscriber)
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### level

Set the maximum group level

##### global

Show global groups only

##### peer

Show global and network peer related groups

##### subscriber

Show global, peer, and subscriber groups

### 1.3.66 show subscriber all

#### Command

```
show subscriber all
```

#### Parameters

##### show

Show running system information

##### subscriber

Display information about subscribers

##### all

All Subscribers

### 1.3.67 show talloc-context (application|all) (full|brief|DEPTH)

#### Command

```
show talloc-context (application|all) (full|brief|DEPTH)
```

#### Parameters

---

show  
    Show running system information

talloc-context  
    Show talloc memory hierarchy

application  
    Application's context

all  
    All contexts, if NULL-context tracking is enabled

full  
    Display a full talloc memory hierarchy

brief  
    Display a brief talloc memory hierarchy

DEPTH  
    Specify required maximal depth value

### 1.3.68 show talloc-context (application|all) (full|brief|DEPTH) filter REGEXP

#### Command

```
show talloc-context (application|all) (full|brief|DEPTH) filter REGEXP
```

#### Parameters

show  
    Show running system information

talloc-context  
    Show talloc memory hierarchy

application  
    Application's context

all  
    All contexts, if NULL-context tracking is enabled

full  
    Display a full talloc memory hierarchy

brief  
    Display a brief talloc memory hierarchy

DEPTH  
    Specify required maximal depth value

filter  
    Filter chunks using regular expression

REGEXP  
    Regular expression

### 1.3.69 show talloc-context (application|all) (full|brief|DEPTH) tree ADDRESS

#### Command

```
show talloc-context (application|all) (full|brief|DEPTH) tree ADDRESS
```

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### all

All contexts, if NULL-context tracking is enabled

##### full

Display a full talloc memory hierarchy

##### brief

Display a brief talloc memory hierarchy

##### DEPTH

Specify required maximal depth value

##### tree

Display only a specific memory chunk

##### ADDRESS

Chunk address (e.g. 0xdeadbeef)

### 1.3.70 show timeslot [<0-255>] [<0-255>] [<0-7>]

#### Command

```
show timeslot [<0-255>] [<0-255>] [<0-7>]
```

#### Parameters

##### show

Show running system information

##### timeslot

Display information about a TS

##### [<0-255>]

BTS Number

##### [<0-255>]

TRX Number

##### [<0-7>]

Timeslot Number

### 1.3.71 show trx [<0-255>] [<0-255>]

#### Command

```
show trx [<0-255>] [<0-255>]
```

#### Parameters

show

Show running system information

trx

Display information about a TRX

[<0-255>]

BTS Number

[<0-255>]

TRX Number

### 1.3.72 show version

#### Command

```
show version
```

#### Parameters

show

Show running system information

version

Displays program version

### 1.3.73 terminal length <0-512>

#### Command

```
terminal length <0-512>
```

#### Parameters

terminal

Set terminal line parameters

length

Set number of lines on a screen

<0-512>

Number of lines on screen (0 for no pausing)

---



### 1.3.74 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### monitor

Copy debug output to the current terminal line

### 1.3.75 terminal no length

#### Command

```
terminal no length
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### length

Set number of lines on a screen

### 1.3.76 terminal no monitor

#### Command

```
terminal no monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### monitor

Copy debug output to the current terminal line

---

### 1.3.77 who

#### Command

```
who
```

#### Parameters

who

Display who is on vty

## 1.4 config

The config node is the root for all configuration commands, which are identical to the config file format. Changes made on the telnet VTY can be made persistent with the 'write file' command.

### 1.4.1 banner motd default

#### Command

```
banner motd default
```

#### Parameters

banner

Set banner string

motd

Strings for motd

default

Default string

### 1.4.2 banner motd file [FILE]

#### Command

```
banner motd file [FILE]
```

#### Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

---

### 1.4.3 bsc

Command

```
bsc
```

Parameters

bsc

Configure BSC

### 1.4.4 cs7 instance <0-15>

Command

```
cs7 instance <0-15>
```

Parameters

cs7

ITU-T Signaling System 7

instance

Configure a SS7 Instance

<0-15>

An instance of the SS7 stack

### 1.4.5 ctrl

Command

```
ctrl
```

Parameters

ctrl

Configure the Control Interface

### 1.4.6 e1\_input

Command

```
e1_input
```

Parameters

e1\_input

Configure E1/T1/J1 TDM input

---

### 1.4.7 enable password (8|) WORD

#### Command

```
enable password (8|) WORD
```

#### Parameters

##### enable

Modify enable password parameters

##### password

Assign the privileged level password

##### 8

Specifies a HIDDEN password will follow

##### dummy string

##### WORD

The HIDDEN 'enable' password string

### 1.4.8 enable password LINE

#### Command

```
enable password LINE
```

#### Parameters

##### enable

Modify enable password parameters

##### password

Assign the privileged level password

##### LINE

The UNENCRYPTED (cleartext) 'enable' password

### 1.4.9 hostname WORD

#### Command

```
hostname WORD
```

#### Parameters

##### hostname

Set system's network name

##### WORD

This system's network name

---

### 1.4.10 line vty

#### Command

```
line vty
```

#### Parameters

line

Configure a terminal line

vtty

Virtual terminal

### 1.4.11 log alarms <2-32700>

#### Command

```
log alarms <2-32700>
```

#### Parameters

log

Configure logging sub-system

alarms

Logging alarms to osmo\_strrb

<2-32700>

Maximum number of messages to log

### 1.4.12 log file .FILENAME

#### Command

```
log file .FILENAME
```

#### Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

### 1.4.13 log gsmtap [HOSTNAME]

#### Command

```
log gsmtap [HOSTNAME]
```

#### Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

Host name to send the GSMTAP logging to (UDP port 4729)

### 1.4.14 log stderr

#### Command

```
log stderr
```

#### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.15 log syslog (authpriv|cron|daemon|ftp|lpr|mail|news|user|uucp)

#### Command

```
log syslog (authpriv|cron|daemon|ftp|lpr|mail|news|user|uucp)
```

#### Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

---

daemon

General system daemon facility

ftp

Ftp daemon facility

lpr

Line printer facility

mail

Mail facility

news

News facility

user

Generic facility

uucp

UUCP facility

#### 1.4.16 log syslog local <0-7>

Command

```
log syslog local <0-7>
```

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

local

Syslog LOCAL facility

<0-7>

Local facility number

#### 1.4.17 msc [<0-1000>]

Command

```
msc [<0-1000>]
```

Parameters

msc

Configure MSC details

[<0-1000>]

MSC connection to configure

### 1.4.18 network

#### Command

```
network
```

#### Parameters

network

Configure the GSM network

### 1.4.19 no banner motd

#### Command

```
no banner motd
```

#### Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

### 1.4.20 no enable password

#### Command

```
no enable password
```

#### Parameters

no

Negate a command or set its defaults

enable

Modify enable password parameters

password

Assign the privileged level password

---



### 1.4.21 no hostname [HOSTNAME]

#### Command

```
no hostname [HOSTNAME]
```

#### Parameters

no

Negate a command or set its defaults

hostname

Reset system's network name

[HOSTNAME]

Host name of this router

### 1.4.22 no log alarms

#### Command

```
no log alarms
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

alarms

Logging alarms to osmo\_strb

### 1.4.23 no log file .FILENAME

#### Command

```
no log file .FILENAME
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

---

### 1.4.24 no log stderr

#### Command

```
no log stderr
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.25 no log syslog

#### Command

```
no log syslog
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

syslog

Logging via syslog

### 1.4.26 no service advanced-vty

#### Command

```
no service advanced-vty
```

#### Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

---

### 1.4.27 no service terminal-length [<0-512>]

#### Command

```
no service terminal-length [<0-512>]
```

#### Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

[<0-512>]

Number of lines of VTY (0 means no line control)

### 1.4.28 no stats reporter log

#### Command

```
no stats reporter log
```

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.29 no stats reporter statsd

#### Command

```
no stats reporter statsd
```

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

### 1.4.30 password (8|) WORD

Command

```
password (8|) WORD
```

Parameters

password

Assign the terminal connection password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN line password string

### 1.4.31 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

### 1.4.32 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

### 1.4.33 service terminal-length <0-512>

#### Command

```
service terminal-length <0-512>
```

#### Parameters

##### service

Set up miscellaneous service

##### terminal-length

System wide terminal length configuration

##### <0-512>

Number of lines of VTY (0 means no line control)

### 1.4.34 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.4.35 stats interval <1-65535>

#### Command

```
stats interval <1-65535>
```

#### Parameters

##### stats

Configure stats sub-system

##### interval

Set the reporting interval

##### <1-65535>

Interval in seconds

---

### 1.4.36 stats reporter log

#### Command

```
stats reporter log
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.37 stats reporter statsd

#### Command

```
stats reporter statsd
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

## 1.5 config-log

The log node is commonly available in all Osmocom programs and allows configuring logging to stderr and/or log files, including logging category and level filtering as well as output formatting options. Note that the 'logging enable' command is required to make logging commands available on the telnet VTY.

### 1.5.1 logging color (0|1)

#### Command

```
logging color (0|1)
```

#### Parameters

## logging

Configure logging

## color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

### 1.5.2 logging filter all (0|1)

Disable/enable general log output on a given target. Typically, 'logging filter all 1' allows to see the usual log output on a given target. Setting to '0' can be useful when logging to the telnet VTY console: mute all log output to allow typing VTY commands on the telnet prompt without interference from log output; 'logging filter all 1' then re-enables logging in the same log output configuration as before. Some applications provide more specific filters, e.g. to log a given IMSI only. To employ such filters, set 'logging filter all 0' to disable general logging, and then enable a more specific filter instead.

#### Command

```
logging filter all (0|1)
```

#### Parameters

## logging

Configure logging

## filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

### 1.5.3 logging filter imsi IMSI

#### Command

```
logging filter imsi IMSI
```

#### Parameters

## logging

Configure logging

**filter**

Filter log messages

**imsi**

Filter log messages by IMSI

**IMSI**

IMSI to be used as filter

**1.5.4 logging level (all|rll|cc|mm|rr|rsl|nm|pag|meas|msc|mgcp|ho|hodec|ref|nat|ctrl|f...****Command**

```
logging level (all|rll|cc|mm|rr|rsl|nm|pag|meas|msc|mgcp|ho|hodec|ref|nat|ctrl|filter| ←
pcu|lglobal|llapd|linp|lmux|lmi|lmib|lsm|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp| ←
lsua|lm3ua|lmgcp|ljibuf) (everything|debug|info|notice|error|fatal)
```

**Parameters****logging**

Configure logging

**level**

Set the log level for a specified category

**all**

Global setting for all subsystems

**rll**

A-bis Radio Link Layer (RLL)

**cc**

Layer3 Call Control (CC)

**mm**

Layer3 Mobility Management (MM)

**rr**

Layer3 Radio Resource (RR)

**rsl**

A-bis Radio Signalling Link (RSL)

**nm**

A-bis Network Management / O&amp;M (NM/OML)

**pag**

Paging Subsystem

**meas**

Radio Measurement Processing

**msc**

Mobile Switching Center



---

mgcp  
Media Gateway Control Protocol

ho  
Hand-Over Process

hodec  
Hand-Over Decision

ref  
Reference Counting

nat  
GSM 08.08 NAT/Multiplexer

ctrl  
Control interface

filter  
BSC/NAT IMSI based filtering

pcu  
PCU Interface

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

lmib  
A-bis Input Driver for B-Channels (voice)

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

---

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

everything  
Don't use. It doesn't log anything

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

### 1.5.5 logging print category (0|1)

Command

```
logging print category (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

### 1.5.6 logging print category-hex (0|1)

Command

```
logging print category-hex (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem nr in hex ('<000b>')

### 1.5.7 logging print extended-timestamp (0|1)

Command

```
logging print extended-timestamp (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

### 1.5.8 logging print file (0|1|basename)

#### Command

```
logging print file (0|1|basename)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### file

Configure log message

##### 0

Don't prefix each log message

##### 1

Prefix each log message with the source file and line

##### basename

Prefix each log message with the source file's basename (strip leading paths) and line

### 1.5.9 logging print level (0|1)

#### Command

```
logging print level (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### level

Configure log message

##### 0

Don't prefix each log message

##### 1

Prefix each log message with the log level name

## 1.5.10 logging timestamp (0|1)

### Command

```
logging timestamp (0|1)
```

### Parameters

#### logging

Configure logging

#### timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

## 1.6 config-stats

### 1.6.1 disable

#### Command

```
disable
```

#### Parameters

##### disable

Disable the reporter

### 1.6.2 enable

#### Command

```
enable
```

#### Parameters

##### enable

Enable the reporter

---

### 1.6.3 level (global|peer|subscriber)

#### Command

```
level (global|peer|subscriber)
```

#### Parameters

##### level

Set the maximum group level

##### global

Report global groups only

##### peer

Report global and network peer related groups

##### subscriber

Report global, peer, and subscriber groups

### 1.6.4 local-ip ADDR

#### Command

```
local-ip ADDR
```

#### Parameters

##### local-ip

Set the IP address to which we bind locally

##### ADDR

IP Address

### 1.6.5 mtu <100-65535>

#### Command

```
mtu <100-65535>
```

#### Parameters

##### mtu

Set the maximum packet size

##### <100-65535>

Size in byte

---

### 1.6.6 no local-ip

#### Command

```
no local-ip
```

#### Parameters

no

Negate a command or set its defaults

local-ip

Set the IP address to which we bind locally

### 1.6.7 no mtu

#### Command

```
no mtu
```

#### Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

### 1.6.8 no prefix

#### Command

```
no prefix
```

#### Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

### 1.6.9 prefix PREFIX

#### Command

```
prefix PREFIX
```

#### Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

## 1.6.10 remote-ip ADDR

### Command

```
remote-ip ADDR
```

### Parameters

#### remote-ip

Set the remote IP address to which we connect

#### ADDR

IP Address

## 1.6.11 remote-port <1-65535>

### Command

```
remote-port <1-65535>
```

### Parameters

#### remote-port

Set the remote port to which we connect

#### <1-65535>

Remote port number

## 1.7 config-line

### 1.7.1 bind A.B.C.D

### Command

```
bind A.B.C.D
```

### Parameters

#### bind

Accept VTY telnet connections on local interface

#### A.B.C.D

Local interface IP address (default: 127.0.0.1)

---



## 1.7.2 login

### Command

```
login
```

### Parameters

login

Enable password checking

## 1.7.3 no login

### Command

```
no login
```

### Parameters

no

Negate a command or set its defaults

login

Enable password checking

## 1.8 config-e1\_input

### 1.8.1 e1\_line <0-255> driver (misdn|misdn\_lapd|dahdi|ipa|unixsocket)

### Command

```
e1_line <0-255> driver (misdn|misdn_lapd|dahdi|ipa|unixsocket)
```

### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

driver

Set driver for this line

misdn

mISDN supported E1 Card (kernel LAPD)

misdn\_lapd

mISDN supported E1 Card (userspace LAPD)

---

dahdi

DAHDI supported E1/T1/J1 Card

ipa

IPA TCP/IP input

unixsocket

HSL TCP/IP input

### 1.8.2 e1\_line <0-255> keepalive

Command

```
e1_line <0-255> keepalive
```

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

### 1.8.3 e1\_line <0-255> keepalive <1-300> <1-20> <1-300>

Command

```
e1_line <0-255> keepalive <1-300> <1-20> <1-300>
```

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

<1-300>

Idle interval in seconds before probes are sent

<1-20>

Number of probes to sent

<1-300>

Delay between probe packets in seconds

---

### 1.8.4 e1\_line <0-255> name .LINE

#### Command

```
e1_line <0-255> name .LINE
```

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

name

Set name for this line

.LINE

Human readable name

### 1.8.5 e1\_line <0-255> port <0-255>

#### Command

```
e1_line <0-255> port <0-255>
```

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

port

Set physical port/span/card number

<0-255>

E1/T1 Port/Span/Card number

### 1.8.6 e1\_line <0-255> socket .SOCKET

#### Command

```
e1_line <0-255> socket .SOCKET
```

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

socket

Set socket path for unixsocket

.SOCKET

socket path

### 1.8.7 ipa bind A.B.C.D

Command

```
ipa bind A.B.C.D
```

Parameters

ipa

ipa driver config

bind

Set ipa local bind address

A.B.C.D

Listen on this IP address (default 0.0.0.0)

### 1.8.8 no e1\_line <0-255> keepalive

Command

```
no e1_line <0-255> keepalive
```

Parameters

no

Negate a command or set its defaults

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

## 1.9 config-ctrl

### 1.9.1 bind A.B.C.D

Command

```
bind A.B.C.D
```

Parameters

bind

Set bind address to listen for Control connections

A.B.C.D

Local IP address (default 127.0.0.1)

## 1.10 config-cs7

### 1.10.1 as NAME (sua|m3ua|ipa)

Command

```
as NAME (sua|m3ua|ipa)
```

Parameters

as

Configure an Application Server

NAME

Name of the Application Server

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

### 1.10.2 asp NAME <0-65535> <0-65535> (sua|m3ua|ipa)

Command

```
asp NAME <0-65535> <0-65535> (sua|m3ua|ipa)
```

Parameters

---

asp  
    Configure Application Server Process

NAME  
    Name of ASP

<0-65535>  
    Remote SCTP port number

<0-65535>  
    Local SCTP port number

sua  
    SCCP User Adaptation

m3ua  
    MTP3 User Adaptation

ipa  
    IPA Multiplex (SCCP Lite)

### 1.10.3 description .TEXT

Command

```
description .TEXT
```

Parameters

description  
    Save human-readable description of the object

.TEXT  
    Text until the end of the line

### 1.10.4 network-indicator (international | national | reserved | spare)

Command

```
network-indicator (international | national | reserved | spare)
```

Parameters

network-indicator  
    Configure the Network Indicator

international  
    International Network

national  
    National Network

reserved  
    Reserved Network

spare  
    Spare Network

### 1.10.5 no as NAME

#### Command

```
no as NAME
```

#### Parameters

no

Negate a command or set its defaults

as

Disable Application Server

NAME

Name of AS

### 1.10.6 no asp NAME

#### Command

```
no asp NAME
```

#### Parameters

no

Negate a command or set its defaults

asp

Disable Application Server Process

NAME

Name of ASP

### 1.10.7 no sccp-address NAME

#### Command

```
no sccp-address NAME
```

#### Parameters

no

Negate a command or set its defaults

sccp-address

Delete an SCCP addressbook entry

NAME

Name of the SCCP Address

### 1.10.8 point-code POINT\_CODE

#### Command

```
point-code POINT_CODE
```

#### Parameters

point-code

Configure the local Point Code

POINT\_CODE

Point Code

### 1.10.9 point-code delimiter (default|dash)

#### Command

```
point-code delimiter (default|dash)
```

#### Parameters

point-code

Point Code

delimiter

Configure Point Code Delimiter

default

Use dot as delimiter

dash

User dash as delimiter

### 1.10.10 point-code format <1-24> [<1-23>] [<1-22>]

#### Command

```
point-code format <1-24> [<1-23>] [<1-22>]
```

#### Parameters

point-code

Point Code

format

Configure Point Code Format

<1-24>

Length of first PC component

[<1-23>]

Length of second PC component

[<1-22>]

Length of third PC component

---



### 1.10.11 point-code format default

#### Command

```
point-code format default
```

#### Parameters

##### point-code

Point Code

##### format

Configure Point Code Format

##### default

Default Point Code Format (3.8.3)

### 1.10.12 sccp-address NAME

#### Command

```
sccp-address NAME
```

#### Parameters

##### sccp-address

Create/Modify an SCCP addressbook entry

##### NAME

Name of the SCCP Address

### 1.10.13 show cs7 instance <0-15> sccp-addressbook

#### Command

```
show cs7 instance <0-15> sccp-addressbook
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp-addressbook

List all SCCP addressbook entries

### 1.10.14 xua rkm routing-key-allocation (static-only|dynamic-permitted)

#### Command

```
xua rkm routing-key-allocation (static-only|dynamic-permitted)
```

#### Parameters

xua

SIGTRAN xxxUA related

rkm

Routing Key Management

routing-key-allocation

Routing Key Management Allocation Policy

static-only

Only static (pre-configured) Routing Keys permitted

dynamic-permitted

Dynamically allocate Routing Keys for what ASPs request

## 1.11 config-cs7-as

### 1.11.1 asp NAME

#### Command

```
asp NAME
```

#### Parameters

asp

Specify that a given ASP is part of this AS

NAME

Name of ASP to be added to AS

### 1.11.2 description .TEXT

#### Command

```
description .TEXT
```

#### Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

---

### 1.11.3 no asp NAME

#### Command

```
no asp NAME
```

#### Parameters

no

Negate a command or set its defaults

asp

Specify ASP to be removed from this AS

NAME

Name of ASP to be removed

### 1.11.4 point-code override dpc PC

#### Command

```
point-code override dpc PC
```

#### Parameters

point-code

Point Code Specific Features

override

Override (force) a point-code to hard-coded value

dpc

Override Source Point Code

PC

Override Destination Point Code

### 1.11.5 qos-class <0-255>

#### Command

```
qos-class <0-255>
```

#### Parameters

qos-class

Specify QoS Class of AS

<0-255>

QoS Class of AS

### 1.11.6 recovery-timeout <1-2000>

#### Command

```
recovery-timeout <1-2000>
```

#### Parameters

##### recovery-timeout

Specifies the recovery timeout value in milliseconds

##### <1-2000>

Recovery Timeout in Milliseconds

### 1.11.7 routing-key RCONTEXT DPC

#### Command

```
routing-key RCONTEXT DPC
```

#### Parameters

##### routing-key

Define a routing key

##### RCONTEXT

Routing context number

##### DPC

Destination Point Code

### 1.11.8 routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup)

#### Command

```
routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup)
```

#### Parameters

##### routing-key

Define a routing key

##### RCONTEXT

Routing context number

##### DPC

Destination Point Code

##### si

Match on Service Indicator

---

aal2  
ATM Adaption Layer 2

bicc  
Bearer Independent Call Control

b-isup  
Broadband ISDN User Part

h248  
H.248

isup  
ISDN User Part

sat-isup  
Sattelite ISDN User Part

sccp  
Signalling Connection Control Part

tup  
Telephony User Part

### 1.11.9 routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup) ssn S...

#### Command

```
routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup) ssn SSN
```

#### Parameters

##### routing-key

Define a routing key

##### RCONTEXT

Routing context number

##### DPC

Destination Point Code

##### si

Match on Service Indicator

##### aal2

ATM Adaption Layer 2

##### bicc

Bearer Independent Call Control

##### b-isup

Broadband ISDN User Part

##### h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

### 1.11.10 routing-key RCONTEXT DPC ssn SSN

Command

```
routing-key RCONTEXT DPC ssn SSN
```

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

### 1.11.11 traffic-mode (broadcast | loadshare | roundrobin | override)

Command

```
traffic-mode (broadcast | loadshare | roundrobin | override)
```

Parameters

traffic-mode

Specifies traffic mode of operation of the ASP within the AS

broadcast

Broadcast to all ASP within AS

loadshare

Share Load among all ASP within AS

roundrobin

Round-Robin between all ASP within AS

override

Override

## 1.12 config-cs7-asp

### 1.12.1 block

Command

```
block
```

Parameters

block

Allows a SCTP Association with ASP, but doesn't let it become active

### 1.12.2 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.12.3 local-ip A.B.C.D

Command

```
local-ip A.B.C.D
```

Parameters

local-ip

Specify Local IP Address from which to contact ASP

A.B.C.D

Local IP Address from which to contact of ASP

---

### 1.12.4 qos-class <0-255>

#### Command

```
qos-class <0-255>
```

#### Parameters

##### qos-class

Specify QoS Class of ASP

##### <0-255>

QoS Class of ASP

### 1.12.5 remote-ip A.B.C.D

#### Command

```
remote-ip A.B.C.D
```

#### Parameters

##### remote-ip

Specify Remote IP Address of ASP

##### A.B.C.D

Remote IP Address of ASP

### 1.12.6 shutdown

#### Command

```
shutdown
```

#### Parameters

##### shutdown

Terminates SCTP association; New associations will be rejected

## 1.13 config-cs7-sccpaddr

### 1.13.1 global-title

#### Command

```
global-title
```

#### Parameters

##### global-title

Add/Modify Global Title



### 1.13.2 no global-title

#### Command

```
no global-title
```

#### Parameters

no

Negate a command or set its defaults

global-title

Remove Global Title

### 1.13.3 no point-code

#### Command

```
no point-code
```

#### Parameters

no

Negate a command or set its defaults

point-code

Remove point-code Number

### 1.13.4 no subsystem-number

#### Command

```
no subsystem-number
```

#### Parameters

no

Negate a command or set its defaults

subsystem-number

Remove Subsystem Number

### 1.13.5 point-code POINT\_CODE

#### Command

```
point-code POINT_CODE
```

#### Parameters

point-code

Add point-code Number

POINT\_CODE

PC

---

### 1.13.6 routing-indicator (GT|PC|IP)

#### Command

```
routing-indicator (GT|PC|IP)
```

#### Parameters

routing-indicator

Add Routing Indicator

GT

by global-title

PC

by point-code

IP

by ip-address

### 1.13.7 subsystem-number <0-4294967295>

#### Command

```
subsystem-number <0-4294967295>
```

#### Parameters

subsystem-number

Add Subsystem Number

<0-4294967295>

SSN

## 1.14 config-cs7-sccpaddr-gt

### 1.14.1 digits DIGITS

#### Command

```
digits DIGITS
```

#### Parameters

digits

Set Global Title Digits

DIGITS

Number digits

### 1.14.2 global-title-indicator <0-15>

#### Command

```
global-title-indicator <0-15>
```

#### Parameters

global-title-indicator

Set Global Title Indicator

<0-15>

GTI

### 1.14.3 nature-of-address-indicator <0-127>

#### Command

```
nature-of-address-indicator <0-127>
```

#### Parameters

nature-of-address-indicator

Set Global Title Nature of Address Indicator

<0-127>

NAI

### 1.14.4 numbering-plan-indicator <0-15>

#### Command

```
numbering-plan-indicator <0-15>
```

#### Parameters

numbering-plan-indicator

Set Global Title Numbering Plan Indicator

<0-15>

NPI

### 1.14.5 translation-type <0-255>

#### Command

```
translation-type <0-255>
```

#### Parameters

translation-type

Set Global Title Translation Type

<0-255>

TT

## 1.15 config-net

### 1.15.1 bts <0-255>

#### Command

```
bts <0-255>
```

#### Parameters

bts

Select a BTS to configure

<0-255>

BTS Number

### 1.15.2 dtx-used (0|1)

#### Command

```
dtx-used (0|1)
```

#### Parameters

dtx-used

.HIDDEN

0

Obsolete

1

Obsolete

### 1.15.3 dyn\_ts\_allow\_tch\_f (0|1)

#### Command

```
dyn_ts_allow_tch_f (0|1)
```

#### Parameters

dyn\_ts\_allow\_tch\_f

Allow or disallow allocating TCH/F on TCH\_F\_TCH\_H\_PDCH timeslots

0

Disallow TCH/F on TCH\_F\_TCH\_H\_PDCH (default)

1

Allow TCH/F on TCH\_F\_TCH\_H\_PDCH

---

### 1.15.4 encryption a5 <0-3> [<0-3>] [<0-3>] [<0-3>]

#### Command

```
encryption a5 <0-3> [<0-3>] [<0-3>] [<0-3>]
```

#### Parameters

##### encryption

Encryption options

##### a5

GSM A5 Air Interface Encryption

##### <0-3>

A5/n Algorithm Number

##### [<0-3>]

A5/n Algorithm Number

##### [<0-3>]

A5/n Algorithm Number

##### [<0-3>]

A5/n Algorithm Number

### 1.15.5 handover (0|1|default)

#### Command

```
handover (0|1|default)
```

#### Parameters

##### handover

Handover general config

##### 0

Disable in-call handover

##### 1

Enable in-call handover

##### default

Enable/disable handover: Use default (0), remove explicit setting on this node

### 1.15.6 handover algorithm (1|2|default)

#### Command

```
handover algorithm (1|2|default)
```

#### Parameters

##### handover

Handover general config

##### algorithm

Choose algorithm for handover decision

##### 1

Algorithm 1: trigger handover based on comparing current cell and neighbor RxLev and RxQual, only.

##### 2

Algorithm 2: trigger handover on RxLev/RxQual, and also to balance the load across several cells. Consider available codecs. Prevent repeated handover by penalty timers.

##### default

Use default (1), remove explicit setting on this node

### 1.15.7 handover maximum distance (<0-9999>|default)

#### Command

```
handover maximum distance (<0-9999>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### maximum

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### distance

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### <0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### default

Use default (9999), remove explicit setting on this node

### 1.15.8 handover power budget hysteresis (<0-999>|default)

#### Command

```
handover power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dBm stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dBm

##### default

Use default (3), remove explicit setting on this node

### 1.15.9 handover power budget interval (<1-99>|default)

#### Command

```
handover power budget interval (<1-99>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### interval

How often to check for a better cell (SACCH frames)

##### <1-99>

Check for stronger neighbor every N number of SACCH frames

##### default

Use default (6), remove explicit setting on this node

### 1.15.10 handover window rxlev averaging (<1-10>|default)

#### Command

```
handover window rxlev averaging (<1-10>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### averaging

How many RxLev measurements are used for averaging

##### <1-10>

RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.15.11 handover window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements are used for averaging

##### averaging

How many Neighbor RxLev measurements are used for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node



### 1.15.12 handover window rxqual averaging (<1-10>|default)

#### Command

```
handover window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements are used for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node

### 1.15.13 handover1 maximum distance (<0-9999>|default)

#### Command

```
handover1 maximum distance (<0-9999>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### maximum

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### distance

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### <0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### default

Use default (9999), remove explicit setting on this node

### 1.15.14 handover1 power budget hysteresis (<0-999>|default)

#### Command

```
handover1 power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dBm stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dBm

##### default

Use default (3), remove explicit setting on this node

### 1.15.15 handover1 power budget interval (<1-99>|default)

#### Command

```
handover1 power budget interval (<1-99>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### interval

How often to check for a better cell (SACCH frames)

##### <1-99>

Check for stronger neighbor every N number of SACCH frames

##### default

Use default (6), remove explicit setting on this node

### 1.15.16 handover1 window rxlev averaging (<1-10>|default)

#### Command

```
handover1 window rxlev averaging (<1-10>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### averaging

How many RxLev measurements are used for averaging

##### <1-10>

RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.15.17 handover1 window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover1 window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements are used for averaging

##### averaging

How many Neighbor RxLev measurements are used for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.15.18 handover1 window rxqual averaging (<1-10>|default)

#### Command

```
handover1 window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements are used for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node

### 1.15.19 handover2 afs-bias rxlev (<0-20>|default)

#### Command

```
handover2 afs-bias rxlev (<0-20>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### afs-bias

Configure bias to prefer AFS (AMR on TCH/F) over other codecs (HO algo 2 only)

##### rxlev

RxLev improvement bias for AFS over other codecs

##### <0-20>

Virtual RxLev improvement (dBm)

##### default

Use default (0), remove explicit setting on this node

### 1.15.20 handover2 afs-bias rxqual (<0-7>|default)

#### Command

```
handover2 afs-bias rxqual (<0-7>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### afs-bias

Configure bias to prefer AFS (AMR on TCH/F) over other codecs (HO algo 2 only)

##### rxqual

RxQual improvement bias for AFS over other codecs

##### <0-7>

Virtual RxQual improvement (dBm)

##### default

Use default (0), remove explicit setting on this node

### 1.15.21 handover2 assignment (0|1|default)

#### Command

```
handover2 assignment (0|1|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### assignment

Enable or disable in-call channel re-assignment (HO algo 2 only)

##### 0

Disable in-call assignment

##### 1

Enable in-call assignment

##### default

Use default (0), remove explicit setting on this node

### 1.15.22 handover2 congestion-check (disabled|<1-999>|now)

#### Command

```
handover2 congestion-check (disabled|<1-999>|now)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### congestion-check

Configure congestion check interval (HO algo 2 only)

##### disabled

Disable congestion checking, do not handover based on cell overload

##### <1-999>

Congestion check interval in seconds (default 10)

##### now

Manually trigger a congestion check to run right now

### 1.15.23 handover2 max-handovers (<1-9999>|default)

#### Command

```
handover2 max-handovers (<1-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### max-handovers

Maximum number of concurrent handovers allowed per cell (HO algo 2 only)

##### <1-9999>

Number

##### default

Use default (9999), remove explicit setting on this node

### 1.15.24 handover2 maximum distance (<0-9999>|default)

#### Command

```
handover2 maximum distance (<0-9999>|default)
```

#### Parameters

---

**handover2**

Handover options for handover decision algorithm 2

**maximum**

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

**distance**

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

<0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

**default**

Use default (9999), remove explicit setting on this node

**1.15.25 handover2 min rxlev (<-110--50>|default)****Command**

```
handover2 min rxlev (<-110--50>|default)
```

**Parameters****handover2**

Handover options for handover decision algorithm 2

**min**

Minimum Level/Quality thresholds before triggering HO (HO algo 2 only)

**rxlev**

How weak may RxLev of an MS become before triggering HO

<-110--50>

minimum RxLev (dBm)

**default**

Use default (-100), remove explicit setting on this node

**1.15.26 handover2 min rxqual (<0-7>|default)****Command**

```
handover2 min rxqual (<0-7>|default)
```

**Parameters****handover2**

Handover options for handover decision algorithm 2

**min**

Minimum Level/Quality thresholds before triggering HO (HO algo 2 only)

rxqual

How bad may RxQual of an MS become before triggering HO

<0-7>

minimum RxQual (dBm)

default

Use default (5), remove explicit setting on this node

### 1.15.27 handover2 min-free-slots tch/f (<0-9999>|default)

Command

```
handover2 min-free-slots tch/f (<0-9999>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

min-free-slots

Minimum free TCH timeslots before cell is considered congested (HO algo 2 only)

tch/f

Minimum free TCH/F timeslots before cell is considered congested

<0-9999>

Number of TCH/F slots

default

Use default (0), remove explicit setting on this node

### 1.15.28 handover2 min-free-slots tch/h (<0-9999>|default)

Command

```
handover2 min-free-slots tch/h (<0-9999>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

min-free-slots

Minimum free TCH timeslots before cell is considered congested (HO algo 2 only)

tch/h

Minimum free TCH/H timeslots before cell is considered congested

<0-9999>

Number of TCH/H slots

default

Use default (0), remove explicit setting on this node



### 1.15.29 handover2 penalty-time failed-assignment (<0-99999>|default)

#### Command

```
handover2 penalty-time failed-assignment (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers (HO algo 2 only)

##### failed-assignment

Time to suspend handovers after assignment failure in this cell

##### <0-99999>

Seconds

##### default

Use default (60), remove explicit setting on this node

### 1.15.30 handover2 penalty-time failed-ho (<0-99999>|default)

#### Command

```
handover2 penalty-time failed-ho (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers (HO algo 2 only)

##### failed-ho

Time to suspend handovers after handover failure to this cell

##### <0-99999>

Seconds

##### default

Use default (60), remove explicit setting on this node

### 1.15.31 handover2 penalty-time max-distance (<0-99999>|default)

#### Command

```
handover2 penalty-time max-distance (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers (HO algo 2 only)

##### max-distance

Time to suspend handovers after leaving this cell due to exceeding max distance

##### <0-99999>

Seconds

##### default

Use default (300), remove explicit setting on this node

### 1.15.32 handover2 power budget hysteresis (<0-999>|default)

#### Command

```
handover2 power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dBm stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dBm

##### default

Use default (3), remove explicit setting on this node

### 1.15.33 handover2 power budget interval (<1-99>|default)

#### Command

```
handover2 power budget interval (<1-99>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### interval

How often to check for a better cell (SACCH frames)

##### <1-99>

Check for stronger neighbor every N number of SACCH frames

##### default

Use default (6), remove explicit setting on this node

### 1.15.34 handover2 retries (<0-9>|default)

#### Command

```
handover2 retries (<0-9>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### retries

Immediately retry on handover/assignment failure (HO algo 2 only)

##### <0-9>

Number of retries

##### default

Use default (0), remove explicit setting on this node

### 1.15.35 handover2 tdma-measurement (full|subset|default)

#### Command

```
handover2 tdma-measurement (full|subset|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### tdma-measurement

Define measurement set of TDMA frames (HO algo 2 only)

##### full

Full set of 102/104 TDMA frames

##### subset

Sub set of 4 TDMA frames (SACCH)

##### default

Use default (subset), remove explicit setting on this node

### 1.15.36 handover2 window rxlev averaging (<1-10>|default)

#### Command

```
handover2 window rxlev averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### averaging

How many RxLev measurements are used for averaging

##### <1-10>

RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.15.37 handover2 window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover2 window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements are used for averaging

##### averaging

How many Neighbor RxLev measurements are used for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.15.38 handover2 window rxqual averaging (<1-10>|default)

#### Command

```
handover2 window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements are used for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node

### 1.15.39 mobile network code <0-999>

#### Command

```
mobile network code <0-999>
```

#### Parameters

##### mobile

Set the GSM mobile network code

##### network

Network Commands

##### code

Code commands

##### <0-999>

Mobile Network Code to use

### 1.15.40 neci (0|1)

#### Command

```
neci (0|1)
```

#### Parameters

##### neci

New Establish Cause Indication

##### 0

Don't set the NECI bit

##### 1

Set the NECI bit

### 1.15.41 network country code <1-999>

#### Command

```
network country code <1-999>
```

#### Parameters

##### network

Set the GSM network country code

##### country

Country commands

##### code

Code commands

##### <1-999>

Network Country Code to use

### 1.15.42 no periodic location update

#### Command

```
no periodic location update
```

#### Parameters

no

Negate a command or set its defaults

periodic

Periodic Location Updating Interval

location

Periodic Location Updating Interval

update

Periodic Location Updating Interval

### 1.15.43 no timezone

#### Command

```
no timezone
```

#### Parameters

no

Negate a command or set its defaults

timezone

Disable network timezone override, use system tz

### 1.15.44 paging any use tch (0|1)

#### Command

```
paging any use tch (0|1)
```

#### Parameters

paging

Assign a TCH when receiving a Paging Any request

any

Any Channel

use

Use

---

tch

TCH

0

Do not use TCH for Paging Request Any

1

Do use TCH for Paging Request Any

### 1.15.45 periodic location update <6-1530>

Command

```
periodic location update <6-1530>
```

Parameters

periodic

Periodic Location Updating Interval

location

Periodic Location Updating Interval

update

Periodic Location Updating Interval

<6-1530>

Periodic Location Updating Interval in Minutes

### 1.15.46 timer t3101 (default|<1-65535>)

Command

```
timer t3101 (default|<1-65535>)
```

Parameters

timer

Configure GSM Timers

t3101

Set the timeout value for IMMEDIATE ASSIGNMENT (default: 3 seconds)

default

Set to default timer value (3 seconds)

<1-65535>

Timer Value in seconds



### 1.15.47 timer t3103 (default|<1-65535>)

#### Command

```
timer t3103 (default|<1-65535>)
```

#### Parameters

##### timer

Configure GSM Timers

##### t3103

Set the timeout value for HANDOVER (default: 5 seconds)

##### default

Set to default timer value (5 seconds)

##### <1-65535>

Timer Value in seconds

### 1.15.48 timer t3105 (default|<1-65535>)

#### Command

```
timer t3105 (default|<1-65535>)
```

#### Parameters

##### timer

Configure GSM Timers

##### t3105

Set the timer for repetition of PHYSICAL INFORMATION (default: 100 seconds)

##### default

Set to default timer value (100 seconds)

##### <1-65535>

Timer Value in seconds

### 1.15.49 timer t3107 (default|<1-65535>)

#### Command

```
timer t3107 (default|<1-65535>)
```

#### Parameters

##### timer

Configure GSM Timers

t3107

Currently not used (default: 5 seconds)

default

Set to default timer value (5 seconds)

<1-65535>

Timer Value in seconds

### 1.15.50 timer t3109 (default|<1-65535>)

Command

```
timer t3109 (default|<1-65535>)
```

Parameters

timer

Configure GSM Timers

t3109

Set the RSL SACCH deactivation timeout (default: 5 seconds)

default

Set to default timer value (5 seconds)

<1-65535>

Timer Value in seconds

### 1.15.51 timer t3111 (default|<1-65535>)

Command

```
timer t3111 (default|<1-65535>)
```

Parameters

timer

Configure GSM Timers

t3111

Set the RSL timeout to wait before releasing the RF Channel (default: 2 seconds)

default

Set to default timer value (2 seconds)

<1-65535>

Timer Value in seconds

### 1.15.52 timer t3113 (default|<1-65535>)

#### Command

```
timer t3113 (default|<1-65535>)
```

#### Parameters

##### timer

Configure GSM Timers

##### t3113

Set the time to try paging a subscriber (default: 10 seconds)

##### default

Set to default timer value (10 seconds)

##### <1-65535>

Timer Value in seconds

### 1.15.53 timer t3115 (default|<1-65535>)

#### Command

```
timer t3115 (default|<1-65535>)
```

#### Parameters

##### timer

Configure GSM Timers

##### t3115

Currently not used (default: 10 seconds)

##### default

Set to default timer value (10 seconds)

##### <1-65535>

Timer Value in seconds

### 1.15.54 timer t3117 (default|<1-65535>)

#### Command

```
timer t3117 (default|<1-65535>)
```

#### Parameters

##### timer

Configure GSM Timers

t3117

Currently not used (default: 10 seconds)

default

Set to default timer value (10 seconds)

<1-65535>

Timer Value in seconds

### 1.15.55 timer t3119 (default|<1-65535>)

Command

```
timer t3119 (default|<1-65535>)
```

Parameters

timer

Configure GSM Timers

t3119

Currently not used (default: 10 seconds)

default

Set to default timer value (10 seconds)

<1-65535>

Timer Value in seconds

### 1.15.56 timer t3122 (default|<1-65535>)

Command

```
timer t3122 (default|<1-65535>)
```

Parameters

timer

Configure GSM Timers

t3122

Default waiting time (seconds) after IMM ASS REJECT (default: 10 seconds)

default

Set to default timer value (10 seconds)

<1-65535>

Timer Value in seconds

### 1.15.57 timer t3141 (default|<1-65535>)

#### Command

```
timer t3141 (default|<1-65535>)
```

#### Parameters

##### timer

Configure GSM Timers

##### t3141

Currently not used (default: 10 seconds)

##### default

Set to default timer value (10 seconds)

##### <1-65535>

Timer Value in seconds

### 1.15.58 timezone <-19-19> (0|15|30|45)

#### Command

```
timezone <-19-19> (0|15|30|45)
```

#### Parameters

##### timezone

Set the Timezone Offset of the network

##### <-19-19>

Timezone offset (hours)

##### 0

Timezone offset (00 minutes)

##### 15

Timezone offset (15 minutes)

##### 30

Timezone offset (30 minutes)

##### 45

Timezone offset (45 minutes)

## 1.15.59 `timezone <-19-19> (0|15|30|45) <0-2>`

### Command

```
timezone <-19-19> (0|15|30|45) <0-2>
```

### Parameters

#### `timezone`

Set the Timezone Offset of the network

#### `<-19-19>`

Timezone offset (hours)

#### `0`

Timezone offset (00 minutes)

#### `15`

Timezone offset (15 minutes)

#### `30`

Timezone offset (30 minutes)

#### `45`

Timezone offset (45 minutes)

#### `<0-2>`

DST offset (hours)

## 1.16 `config-net-bts`

### 1.16.1 `abis-lower-transport (single-timeslot|super-channel)`

### Command

```
abis-lower-transport (single-timeslot|super-channel)
```

### Parameters

#### `abis-lower-transport`

Configure thee Abis Lower Transport

#### `single-timeslot`

Single Timeslot (classic Abis)

#### `super-channel`

SuperChannel (Packet Abis)

## 1.16.2 access-control-class-ramping

### Command

```
access-control-class-ramping
```

### Parameters

access-control-class-ramping

Enable Access Control Class ramping

## 1.16.3 access-control-class-ramping-step-interval (<30-600>|dynamic)

### Command

```
access-control-class-ramping-step-interval (<30-600>|dynamic)
```

### Parameters

access-control-class-ramping-step-interval

Configure Access Control Class ramping step interval

<30-600>

Set a fixed step interval (in seconds)

dynamic

Use dynamic step interval based on BTS channel load

## 1.16.4 access-control-class-ramping-step-size (<1-10>)

### Command

```
access-control-class-ramping-step-size (<1-10>)
```

### Parameters

access-control-class-ramping-step-size

Configure Access Control Class ramping step size

<1-10>

Set the number of Access Control Classes to enable per ramping step

---

### 1.16.5 amr tch-f hysteresis (ms|bts) <0-15>

#### Command

```
amr tch-f hysteresis (ms|bts) <0-15>
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

### 1.16.6 amr tch-f hysteresis (ms|bts) <0-15> <0-15>

#### Command

```
amr tch-f hysteresis (ms|bts) <0-15> <0-15>
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2



### 1.16.7 amr tch-f hysteresis (ms|bts) <0-15> <0-15> <0-15>

#### Command

```
amr tch-f hysteresis (ms|bts) <0-15> <0-15> <0-15>
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2

### 1.16.8 amr tch-f modes (0|1|2|3|4|5|6|7)

#### Command

```
amr tch-f modes (0|1|2|3|4|5|6|7)
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

modes

Codec modes to use with AMR codec

0

4,75k

1

5,15k

2	5,90k
3	6,70k
4	7,40k
5	7,95k
6	10,2k
7	12,2k

### 1.16.9 amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)

#### Command

```
amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

modes

Codec modes to use with AMR codec

0	4,75k
1	5,15k
2	5,90k
3	6,70k
4	7,40k
5	7,95k
6	10,2k

7  
12,2k  
0  
4,75k  
1  
5,15k  
2  
5,90k  
3  
6,70k  
4  
7,40k  
5  
7,95k  
6  
10,2k  
7  
12,2k

### 1.16.10 amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)

#### Command

```
amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

modes

Codec modes to use with AMR codec

0  
4,75k  
1  
5,15k  
2  
5,90k  
3  
6,70k

---

4  
7,40k

5  
7,95k

6  
10,2k

7  
12,2k

0  
4,75k

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

6  
10,2k

7  
12,2k

0  
4,75k

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

6  
10,2k

7  
12,2k

---

### 1.16.11 amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4...

#### Command

```
amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

modes

Codec modes to use with AMR codec

0

4,75k

1

5,15k

2

5,90k

3

6,70k

4

7,40k

5

7,95k

6

10,2k

7

12,2k

0

4,75k

1

5,15k

2

5,90k

3

6,70k

4

7,40k

---

5  
7,95k

6  
10,2k

7  
12,2k

0  
4,75k

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

6  
10,2k

7  
12,2k

0  
4,75k

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

6  
10,2k

7  
12,2k

---

### 1.16.12 amr tch-f start-mode (auto|1|2|3|4)

#### Command

```
amr tch-f start-mode (auto|1|2|3|4)
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

start-mode

Initial codec to use with AMR

auto

Automatically

1

First codec

2

Second codec

3

Third codec

4

Fourth codec

### 1.16.13 amr tch-f threshold (ms|bts) <0-63>

#### Command

```
amr tch-f threshold (ms|bts) <0-63>
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2

---

### 1.16.14 amr tch-f threshold (ms|bts) <0-63> <0-63>

#### Command

```
amr tch-f threshold (ms|bts) <0-63> <0-63>
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2

<0-63>

Threshold between codec 1 and 2

### 1.16.15 amr tch-f threshold (ms|bts) <0-63> <0-63> <0-63>

#### Command

```
amr tch-f threshold (ms|bts) <0-63> <0-63> <0-63>
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2



<0-63>

Threshold between codec 1 and 2

<0-63>

Threshold between codec 1 and 2

### 1.16.16 amr tch-h hysteresis (ms|bts) <0-15>

Command

```
amr tch-h hysteresis (ms|bts) <0-15>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

### 1.16.17 amr tch-h hysteresis (ms|bts) <0-15> <0-15>

Command

```
amr tch-h hysteresis (ms|bts) <0-15> <0-15>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2

### 1.16.18 amr tch-h hysteresis (ms|bts) <0-15> <0-15> <0-15>

Command

```
amr tch-h hysteresis (ms|bts) <0-15> <0-15> <0-15>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2

### 1.16.19 amr tch-h modes (0|1|2|3|4|5)

Command

```
amr tch-h modes (0|1|2|3|4|5)
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

modes

Codec modes to use with AMR codec

0

4,75k

1

5,15k

2

5,90k

3

6,70k

4

7,40k

5

7,95k

### 1.16.20 amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5)

Command

```
amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5)
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

modes

Codec modes to use with AMR codec

0

4,75k

1

5,15k

2

5,90k

3

6,70k

4

7,40k

5	7,95k
0	4,75k
1	5,15k
2	5,90k
3	6,70k
4	7,40k
5	7,95k

### 1.16.21 amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5)

#### Command

```
amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5)
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

modes

Codec modes to use with AMR codec

0	4,75k
1	5,15k
2	5,90k
3	6,70k
4	7,40k
5	7,95k

0  
4,75k

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

0  
4,75k

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

### 1.16.22 amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5)

#### Command

```
amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5)
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

modes

Codec modes to use with AMR codec

0

4,75k

---

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

0  
4,75k

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

0  
4,75k

1  
5,15k

2  
5,90k

3  
6,70k

4  
7,40k

5  
7,95k

0  
4,75k

1  
5,15k

- 2  
5,90k
- 3  
6,70k
- 4  
7,40k
- 5  
7,95k

### 1.16.23 amr tch-h start-mode (auto|1|2|3|4)

#### Command

```
amr tch-h start-mode (auto|1|2|3|4)
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

start-mode

Initial codec to use with AMR

auto

Automatically

1

First codec

2

Second codec

3

Third codec

4

Fourth codec

### 1.16.24 amr tch-h threshold (ms|bts) <0-63>

#### Command

```
amr tch-h threshold (ms|bts) <0-63>
```

#### Parameters

---

amr

Adaptive Multi Rate settings

tch-h

Half Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2

### 1.16.25 amr tch-h threshold (ms|bts) <0-63> <0-63>

Command

```
amr tch-h threshold (ms|bts) <0-63> <0-63>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2

<0-63>

Threshold between codec 1 and 2



### 1.16.26 amr tch-h threshold (ms|bts) <0-63> <0-63> <0-63>

#### Command

```
amr tch-h threshold (ms|bts) <0-63> <0-63> <0-63>
```

#### Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2

<0-63>

Threshold between codec 1 and 2

<0-63>

Threshold between codec 1 and 2

### 1.16.27 band BAND

#### Command

```
band BAND
```

#### Parameters

band

Set the frequency band of this BTS

BAND

Frequency band

### 1.16.28 base\_station\_id\_code <0-63>

#### Command

```
base_station_id_code <0-63>
```

#### Parameters

base\_station\_id\_code

Set the Base Station Identity Code (BSIC) of this BTS

<0-63>

BSIC of this BTS

### 1.16.29 cell\_bar\_qualify (0|1)

#### Command

```
cell_bar_qualify (0|1)
```

#### Parameters

cell

Cell Parameters

bar

Cell Bar Qualify

qualify

Cell Bar Qualify

0

Set CBQ to 0

1

Set CBQ to 1

### 1.16.30 cell\_barred (0|1)

#### Command

```
cell_barred (0|1)
```

#### Parameters

cell

Should this cell be barred from access?

barred

Should this cell be barred from access?

0

Cell should NOT be barred

1

Cell should be barred

---

### 1.16.31 cell reselection hysteresis <0-14>

#### Command

```
cell reselection hysteresis <0-14>
```

#### Parameters

cell

Cell Parameters

reselection

Cell re-selection parameters

hysteresis

Cell Re-Selection Hysteresis in dB

<0-14>

Cell Re-Selection Hysteresis in dB

### 1.16.32 cell reselection offset <0-126>

#### Command

```
cell reselection offset <0-126>
```

#### Parameters

cell

Cell Parameters

reselection

Cell Re-Selection Parameters

offset

Cell Re-Selection Offset (CRO) in dB

<0-126>

Cell Re-Selection Offset (CRO) in dB

### 1.16.33 cell\_identity <0-65535>

#### Command

```
cell_identity <0-65535>
```

#### Parameters

cell\_identity

Set the Cell identity of this BTS

<0-65535>

Cell Identity

---

### 1.16.34 channel allocator (ascending|descending)

#### Command

```
channel allocator (ascending|descending)
```

#### Parameters

##### channel

Channel Allocator

##### allocator

Channel Allocator

##### ascending

Allocate Timeslots and Transceivers in ascending order

##### descending

Allocate Timeslots and Transceivers in descending order

### 1.16.35 channel-description attach (0|1)

#### Command

```
channel-description attach (0|1)
```

#### Parameters

##### channel-description

Channel Description

##### attach

Set if attachment is required

##### 0

Attachment is NOT required

##### 1

Attachment is required (standard)

### 1.16.36 channel-description bs-ag-blks-res <0-7>

#### Command

```
channel-description bs-ag-blks-res <0-7>
```

#### Parameters

##### channel-description

Channel Description

##### bs-ag-blks-res

Set number of blocks reserved for access grant

##### <0-7>

Number of blocks reserved for access grant

---

### 1.16.37 channel-description bs-pa-mfrms <2-9>

#### Command

```
channel-description bs-pa-mfrms <2-9>
```

#### Parameters

channel-description

Channel Description

bs-pa-mfrms

Set number of multiframe periods for paging groups

<2-9>

Number of multiframe periods for paging groups

### 1.16.38 codec-support fr

#### Command

```
codec-support fr
```

#### Parameters

codec-support

Codec Support settings

fr

Fullrate

### 1.16.39 codec-support fr (hr|efr|amr)

#### Command

```
codec-support fr (hr|efr|amr)
```

#### Parameters

codec-support

Codec Support settings

fr

Fullrate

hr

Half Rate

efr

Enhanced Full Rate

amr

Adaptive Multirate

### 1.16.40 codec-support fr (hr|efr|amr) (hr|efr|amr)

#### Command

```
codec-support fr (hr|efr|amr) (hr|efr|amr)
```

#### Parameters

codec-support

Codec Support settings

fr

Fullrate

hr

Half Rate

efr

Enhanced Full Rate

amr

Adaptive Multirate

hr

Half Rate

efr

Enhanced Full Rate

amr

Adaptive Multirate

### 1.16.41 codec-support fr (hr|efr|amr) (hr|efr|amr) (hr|efr|amr)

#### Command

```
codec-support fr (hr|efr|amr) (hr|efr|amr) (hr|efr|amr)
```

#### Parameters

codec-support

Codec Support settings

fr

Fullrate

hr

Half Rate

efr

Enhanced Full Rate

amr

Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

### 1.16.42 codec-support fr (hr|efr|amr) (hr|efr|amr) (hr|efr|amr) (hr|efr|amr)

Command

```
codec-support fr (hr|efr|amr) (hr|efr|amr) (hr|efr|amr) (hr|efr|amr)
```

Parameters

codec-support  
Codec Support settings

fr  
Fullrate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

### 1.16.43 con-connection-group <1-31>

#### Command

```
con-connection-group <1-31>
```

#### Parameters

con-connection-group  
Configure a CON (Concentrator) Connection Group

<1-31>  
CON Connection Group Number

### 1.16.44 del-connection-group <1-31>

#### Command

```
del-connection-group <1-31>
```

#### Parameters

del-connection-group  
Delete a CON (Concentrator) Connection Group

<1-31>  
CON Connection Group Number

### 1.16.45 depends-on-bts <0-255>

#### Command

```
depends-on-bts <0-255>
```

#### Parameters

depends-on-bts  
This BTS can only be started if another one is up

<0-255>  
BTS Number



### 1.16.46 **depeneds-on-bts <0-255>**

#### Command

```
depeneds-on-bts <0-255>
```

#### Parameters

##### depeneds-on-bts

Negate a command or set its defaults

##### <0-255>

This BTS can only be started if another one is up

### 1.16.47 **description .TEXT**

#### Command

```
description .TEXT
```

#### Parameters

##### description

Save human-readable description of the object

##### .TEXT

Text until the end of the line

### 1.16.48 **dtx downlink**

#### Command

```
dtx downlink
```

#### Parameters

##### dtx

Configure discontinuous transmission

##### downlink

Enable Downlink DTX for this BTS

---

### 1.16.49 dtx uplink [force]

#### Command

```
dtx uplink [force]
```

#### Parameters

dtx

Configure discontinuous transmission

uplink

Enable Uplink DTX for this BTS

[force]

MS 'shall' use DTXu instead of 'may' use (might not be supported by older phones).

### 1.16.50 early-classmark-sending (allowed|forbidden)

#### Command

```
early-classmark-sending (allowed|forbidden)
```

#### Parameters

early-classmark-sending

Early Classmark Sending

allowed

Early Classmark Sending is allowed

forbidden

Early Classmark Sending is forbidden

### 1.16.51 early-classmark-sending-3g (allowed|forbidden)

#### Command

```
early-classmark-sending-3g (allowed|forbidden)
```

#### Parameters

early-classmark-sending-3g

3G Early Classmark Sending

allowed

3G Early Classmark Sending is allowed

forbidden

3G Early Classmark Sending is forbidden

### 1.16.52 force-combined-si

#### Command

```
force-combined-si
```

#### Parameters

force-combined-si

Force the generation of a single SI (no ter/bis)

### 1.16.53 gprs 11bit\_rach\_support\_for\_egprs (0|1)

#### Command

```
gprs 11bit_rach_support_for_egprs (0|1)
```

#### Parameters

gprs

GPRS Packet Network

11bit\_rach\_support\_for\_egprs

11 bit RACH options

0

Disable 11 bit RACH for EGPRS

1

Enable 11 bit RACH for EGPRS

### 1.16.54 gprs cell bvci <2-65535>

#### Command

```
gprs cell bvci <2-65535>
```

#### Parameters

gprs

GPRS Packet Network

cell

GPRS Cell Settings

bvci

GPRS BSSGP VC Identifier

<2-65535>

GPRS BSSGP VC Identifier

---

## 1.16.55 gprs cell timer (blocking-timer|blocking-retries|unblocking-retries|reset-timer|...

### Command

```
gprs cell timer (blocking-timer|blocking-retries|unblocking-retries|reset-timer|reset- ↵  
retries|suspend-timer|suspend-retries|resume-timer|resume-retries|capability-update ↵  
-timer|capability-update-retries) <0-255>
```

### Parameters

#### gprs

GPRS Packet Network

#### cell

Cell / BSSGP

#### timer

Cell/BSSGP Timer

#### blocking-timer

Tbvc-block timeout

#### blocking-retries

Tbvc-block retries

#### unblocking-retries

Tbvc-unblock retries

#### reset-timer

Tbvcc-reset timeout

#### reset-retries

Tbvc-reset retries

#### suspend-timer

Tbvc-suspend timeout

#### suspend-retries

Tbvc-suspend retries

#### resume-timer

Tbvc-resume timeout

#### resume-retries

Tbvc-resume retries

#### capability-update-timer

Tbvc-capa-update timeout

#### capability-update-retries

Tbvc-capa-update retries

#### <0-255>

Timer Value

### 1.16.56 gprs control-ack-type-rach

#### Command

```
gprs control-ack-type-rach
```

#### Parameters

gprs

GPRS Packet Network

control-ack-type-rach

Set GPRS Control Ack Type for PACKET CONTROL ACKNOWLEDGMENT message to four access bursts format instead of default RLC/MAC control block

### 1.16.57 gprs mode (none|gprs|egprs)

#### Command

```
gprs mode (none|gprs|egprs)
```

#### Parameters

gprs

GPRS Packet Network

mode

GPRS Mode for this BTS

none

GPRS Disabled on this BTS

gprs

GPRS Enabled on this BTS

egprs

EGPRS (EDGE) Enabled on this BTS

### 1.16.58 gprs network-control-order (nc0|nc1|nc2)

#### Command

```
gprs network-control-order (nc0|nc1|nc2)
```

#### Parameters

gprs

GPRS Packet Network

network-control-order

GPRS Network Control Order

nc0

MS controlled cell re-selection, no measurement reporting

nc1

MS controlled cell re-selection, MS sends measurement reports

nc2

Network controlled cell re-selection, MS sends measurement reports

### 1.16.59 gprs ns timer (tns-block|tns-block-retries|tns-reset|tns-reset-retries|tns-test|...

Command

```
gprs ns timer (tns-block|tns-block-retries|tns-reset|tns-reset-retries|tns-test|tns- ↵  
alive|tns-alive-retries) <0-255>
```

Parameters

gprs

GPRS Packet Network

ns

Network Service

timer

Network Service Timer

tns-block

(un)blocking Timer (Tns-block) timeout

tns-block-retries

(un)blocking Timer (Tns-block) number of retries

tns-reset

Reset Timer (Tns-reset) timeout

tns-reset-retries

Reset Timer (Tns-reset) number of retries

tns-test

Test Timer (Tns-test) timeout

tns-alive

Alive Timer (Tns-alive) timeout

tns-alive-retries

Alive Timer (Tns-alive) number of retries

<0-255>

Timer Value

### 1.16.60 gprs nsei <0-65535>

#### Command

```
gprs nsei <0-65535>
```

#### Parameters

gprs

GPRS Packet Network

nsei

GPRS NS Entity Identifier

<0-65535>

GPRS NS Entity Identifier

### 1.16.61 gprs nsvc <0-1> local udp port <0-65535>

#### Command

```
gprs nsvc <0-1> local udp port <0-65535>
```

#### Parameters

gprs

GPRS Packet Network

nsvc

Network Service Virtual Connection (NS-VC)

<0-1>

NSVC Logical Number

local

GPRS NS Local UDP Port

udp

GPRS NS Local UDP Port

port

GPRS NS Local UDP Port

<0-65535>

GPRS NS Local UDP Port Number

### 1.16.62 gprs nsvc <0-1> nsvci <0-65535>

#### Command

```
gprs nsvc <0-1> nsvci <0-65535>
```

#### Parameters

gprs

GPRS Packet Network

nsvc

Network Service Virtual Connection (NS-VC)

<0-1>

NSVC Logical Number

nsvci

NS Virtual Connection Identifier

<0-65535>

GPRS NS VC Identifier

### 1.16.63 gprs nsvc <0-1> remote ip A.B.C.D

#### Command

```
gprs nsvc <0-1> remote ip A.B.C.D
```

#### Parameters

gprs

GPRS Packet Network

nsvc

Network Service Virtual Connection (NS-VC)

<0-1>

NSVC Logical Number

remote

GPRS NS Remote IP Address

ip

GPRS NS Remote IP Address

A.B.C.D

GPRS NS Remote IP Address



### 1.16.64 gprs nsvc <0-1> remote udp port <0-65535>

#### Command

```
gprs nsvc <0-1> remote udp port <0-65535>
```

#### Parameters

gprs

GPRS Packet Network

nsvc

Network Service Virtual Connection (NS-VC)

<0-1>

NSVC Logical Number

remote

GPRS NS Remote UDP Port

udp

GPRS NS Remote UDP Port

port

GPRS NS Remote UDP Port

<0-65535>

GPRS NS Remote UDP Port Number

### 1.16.65 gprs routing area <0-255>

#### Command

```
gprs routing area <0-255>
```

#### Parameters

gprs

GPRS Packet Network

routing

GPRS Routing Area Code

area

GPRS Routing Area Code

<0-255>

GPRS Routing Area Code

### 1.16.66 handover (0|1|default)

#### Command

```
handover (0|1|default)
```

#### Parameters

##### handover

Handover general config

0

Disable in-call handover

1

Enable in-call handover

default

Enable/disable handover: Use default (0), remove explicit setting on this node

### 1.16.67 handover algorithm (1|2|default)

#### Command

```
handover algorithm (1|2|default)
```

#### Parameters

##### handover

Handover general config

##### algorithm

Choose algorithm for handover decision

1

Algorithm 1: trigger handover based on comparing current cell and neighbor RxLev and RxQual, only.

2

Algorithm 2: trigger handover on RxLev/RxQual, and also to balance the load across several cells. Consider available codecs. Prevent repeated handover by penalty timers.

default

Use default (1), remove explicit setting on this node

---

### 1.16.68 handover maximum distance (<0-9999>|default)

#### Command

```
handover maximum distance (<0-9999>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### maximum

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### distance

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### <0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### default

Use default (9999), remove explicit setting on this node

### 1.16.69 handover power budget hysteresis (<0-999>|default)

#### Command

```
handover power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dBm stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dBm

##### default

Use default (3), remove explicit setting on this node

### 1.16.70 handover power budget interval (<1-99>|default)

#### Command

```
handover power budget interval (<1-99>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### interval

How often to check for a better cell (SACCH frames)

##### <1-99>

Check for stronger neighbor every N number of SACCH frames

##### default

Use default (6), remove explicit setting on this node

### 1.16.71 handover window rxlev averaging (<1-10>|default)

#### Command

```
handover window rxlev averaging (<1-10>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### averaging

How many RxLev measurements are used for averaging

##### <1-10>

RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.16.72 handover window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements are used for averaging

##### averaging

How many Neighbor RxLev measurements are used for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.16.73 handover window rxqual averaging (<1-10>|default)

#### Command

```
handover window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover

Legacy alias for 'handover1': Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements are used for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node

### 1.16.74 handover1 maximum distance (<0-9999>|default)

#### Command

```
handover1 maximum distance (<0-9999>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### maximum

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### distance

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### <0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### default

Use default (9999), remove explicit setting on this node

### 1.16.75 handover1 power budget hysteresis (<0-999>|default)

#### Command

```
handover1 power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dBm stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dBm

##### default

Use default (3), remove explicit setting on this node

### 1.16.76 handover1 power budget interval (<1-99>|default)

#### Command

```
handover1 power budget interval (<1-99>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### interval

How often to check for a better cell (SACCH frames)

##### <1-99>

Check for stronger neighbor every N number of SACCH frames

##### default

Use default (6), remove explicit setting on this node

### 1.16.77 handover1 window rxlev averaging (<1-10>|default)

#### Command

```
handover1 window rxlev averaging (<1-10>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### averaging

How many RxLev measurements are used for averaging

##### <1-10>

RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.16.78 handover1 window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover1 window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements are used for averaging

##### averaging

How many Neighbor RxLev measurements are used for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.16.79 handover1 window rxqual averaging (<1-10>|default)

#### Command

```
handover1 window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements are used for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node



### 1.16.80 handover2 afs-bias rxlev (<0-20>|default)

#### Command

```
handover2 afs-bias rxlev (<0-20>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### afs-bias

Configure bias to prefer AFS (AMR on TCH/F) over other codecs (HO algo 2 only)

##### rxlev

RxLev improvement bias for AFS over other codecs

##### <0-20>

Virtual RxLev improvement (dBm)

##### default

Use default (0), remove explicit setting on this node

### 1.16.81 handover2 afs-bias rxqual (<0-7>|default)

#### Command

```
handover2 afs-bias rxqual (<0-7>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### afs-bias

Configure bias to prefer AFS (AMR on TCH/F) over other codecs (HO algo 2 only)

##### rxqual

RxQual improvement bias for AFS over other codecs

##### <0-7>

Virtual RxQual improvement (dBm)

##### default

Use default (0), remove explicit setting on this node

### 1.16.82 handover2 assignment (0|1|default)

#### Command

```
handover2 assignment (0|1|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### assignment

Enable or disable in-call channel re-assignment (HO algo 2 only)

0

Disable in-call assignment

1

Enable in-call assignment

##### default

Use default (0), remove explicit setting on this node

### 1.16.83 handover2 max-handovers (<1-9999>|default)

#### Command

```
handover2 max-handovers (<1-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### max-handovers

Maximum number of concurrent handovers allowed per cell (HO algo 2 only)

<1-9999>

Number

##### default

Use default (9999), remove explicit setting on this node

### 1.16.84 handover2 maximum distance (<0-9999>|default)

#### Command

```
handover2 maximum distance (<0-9999>|default)
```

#### Parameters

---

**handover2**

Handover options for handover decision algorithm 2

**maximum**

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

**distance**

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

<0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

**default**

Use default (9999), remove explicit setting on this node

**1.16.85 handover2 min rxlev (<-110--50>|default)****Command**

```
handover2 min rxlev (<-110--50>|default)
```

**Parameters****handover2**

Handover options for handover decision algorithm 2

**min**

Minimum Level/Quality thresholds before triggering HO (HO algo 2 only)

**rxlev**

How weak may RxLev of an MS become before triggering HO

<-110--50>

minimum RxLev (dBm)

**default**

Use default (-100), remove explicit setting on this node

**1.16.86 handover2 min rxqual (<0-7>|default)****Command**

```
handover2 min rxqual (<0-7>|default)
```

**Parameters****handover2**

Handover options for handover decision algorithm 2

**min**

Minimum Level/Quality thresholds before triggering HO (HO algo 2 only)

rxqual

How bad may RxQual of an MS become before triggering HO

<0-7>

minimum RxQual (dBm)

default

Use default (5), remove explicit setting on this node

### 1.16.87 handover2 min-free-slots tch/f (<0-9999>|default)

Command

```
handover2 min-free-slots tch/f (<0-9999>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

min-free-slots

Minimum free TCH timeslots before cell is considered congested (HO algo 2 only)

tch/f

Minimum free TCH/F timeslots before cell is considered congested

<0-9999>

Number of TCH/F slots

default

Use default (0), remove explicit setting on this node

### 1.16.88 handover2 min-free-slots tch/h (<0-9999>|default)

Command

```
handover2 min-free-slots tch/h (<0-9999>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

min-free-slots

Minimum free TCH timeslots before cell is considered congested (HO algo 2 only)

tch/h

Minimum free TCH/H timeslots before cell is considered congested

<0-9999>

Number of TCH/H slots

default

Use default (0), remove explicit setting on this node

### 1.16.89 handover2 penalty-time failed-assignment (<0-99999>|default)

#### Command

```
handover2 penalty-time failed-assignment (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers (HO algo 2 only)

##### failed-assignment

Time to suspend handovers after assignment failure in this cell

##### <0-99999>

Seconds

##### default

Use default (60), remove explicit setting on this node

### 1.16.90 handover2 penalty-time failed-ho (<0-99999>|default)

#### Command

```
handover2 penalty-time failed-ho (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers (HO algo 2 only)

##### failed-ho

Time to suspend handovers after handover failure to this cell

##### <0-99999>

Seconds

##### default

Use default (60), remove explicit setting on this node

### 1.16.91 handover2 penalty-time max-distance (<0-99999>|default)

#### Command

```
handover2 penalty-time max-distance (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers (HO algo 2 only)

##### max-distance

Time to suspend handovers after leaving this cell due to exceeding max distance

##### <0-99999>

Seconds

##### default

Use default (300), remove explicit setting on this node

### 1.16.92 handover2 power budget hysteresis (<0-999>|default)

#### Command

```
handover2 power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dBm stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dBm

##### default

Use default (3), remove explicit setting on this node

### 1.16.93 handover2 power budget interval (<1-99>|default)

#### Command

```
handover2 power budget interval (<1-99>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### interval

How often to check for a better cell (SACCH frames)

##### <1-99>

Check for stronger neighbor every N number of SACCH frames

##### default

Use default (6), remove explicit setting on this node

### 1.16.94 handover2 retries (<0-9>|default)

#### Command

```
handover2 retries (<0-9>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### retries

Immediately retry on handover/assignment failure (HO algo 2 only)

##### <0-9>

Number of retries

##### default

Use default (0), remove explicit setting on this node

### 1.16.95 handover2 tdma-measurement (full|subset|default)

#### Command

```
handover2 tdma-measurement (full|subset|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### tdma-measurement

Define measurement set of TDMA frames (HO algo 2 only)

##### full

Full set of 102/104 TDMA frames

##### subset

Sub set of 4 TDMA frames (SACCH)

##### default

Use default (subset), remove explicit setting on this node

### 1.16.96 handover2 window rxlev averaging (<1-10>|default)

#### Command

```
handover2 window rxlev averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### averaging

How many RxLev measurements are used for averaging

##### <1-10>

RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node



### 1.16.97 handover2 window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover2 window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements are used for averaging

##### averaging

How many Neighbor RxLev measurements are used for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.16.98 handover2 window rxqual averaging (<1-10>|default)

#### Command

```
handover2 window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements are used for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node

### 1.16.99 ip.access rsl-ip A.B.C.D

#### Command

```
ip.access rsl-ip A.B.C.D
```

#### Parameters

##### ip.access

Abis/IP specific options

##### rsl-ip

Set the IPA RSL IP Address of the BSC

##### A.B.C.D

Destination IP address for RSL connection

### 1.16.100 ip.access unit\_id <0-65534> <0-255>

#### Command

```
ip.access unit_id <0-65534> <0-255>
```

#### Parameters

##### ip.access

Abis/IP specific options

##### unit\_id

Set the IPA BTS Unit ID

##### <0-65534>

Unit ID (Site)

##### <0-255>

Unit ID (BTS)

### 1.16.101 is-connection-list (add|del) <0-2047> <0-2047> <0-255>

#### Command

```
is-connection-list (add|del) <0-2047> <0-2047> <0-255>
```

#### Parameters

##### is-connection-list

Interface Switch Connection List

##### add

Add to IS list

del

Delete from IS list

<0-2047>

ICP1

<0-2047>

ICP2

<0-255>

Contiguity Index

### 1.16.102 location\_area\_code <0-65535>

Command

```
location_area_code <0-65535>
```

Parameters

location\_area\_code

Set the Location Area Code (LAC) of this BTS

<0-65535>

LAC

### 1.16.103 ms max power <0-40>

Command

```
ms max power <0-40>
```

Parameters

ms

MS Options

max

Maximum transmit power of the MS

power

Maximum transmit power of the MS

<0-40>

Maximum transmit power of the MS in dBm

---

### 1.16.104 neighbor-list (add|del) arfcn <0-1023>

#### Command

```
neighbor-list (add|del) arfcn <0-1023>
```

#### Parameters

neighbor-list

Neighbor List

add

Add to manual neighbor list

del

Delete from manual neighbor list

arfcn

ARFCN of neighbor

<0-1023>

ARFCN of neighbor

### 1.16.105 neighbor-list mode (automatic|manual|manual-si5)

#### Command

```
neighbor-list mode (automatic|manual|manual-si5)
```

#### Parameters

neighbor-list

Neighbor List

mode

Mode of Neighbor List generation

automatic

Automatically from all BTS in this OpenBSC

manual

Manual

manual-si5

Manual with different lists for SI2 and SI5

### 1.16.106 no access-control-class-ramping

#### Command

```
no access-control-class-ramping
```

#### Parameters

no

Negate a command or set its defaults

access-control-class-ramping

Disable Access Control Class ramping

### 1.16.107 no description

#### Command

```
no description
```

#### Parameters

no

Negate a command or set its defaults

description

Remove description of the object

### 1.16.108 no dtx downlink

#### Command

```
no dtx downlink
```

#### Parameters

no

Negate a command or set its defaults

dtx

Configure discontinuous transmission

downlink

Disable Downlink DTX for this BTS

---

### 1.16.109 no dtx uplink

#### Command

```
no dtx uplink
```

#### Parameters

no

Negate a command or set its defaults

dtx

Configure discontinuous transmission

uplink

Disable Uplink DTX for this BTS

### 1.16.110 no force-combined-si

#### Command

```
no force-combined-si
```

#### Parameters

no

Negate a command or set its defaults

force-combined-si

Force the generation of a single SI (no ter/bis)

### 1.16.111 no gprs control-ack-type-rach

#### Command

```
no gprs control-ack-type-rach
```

#### Parameters

no

Negate a command or set its defaults

gprs

GPRS Packet Network

control-ack-type-rach

Set GPRS Control Ack Type for PACKET CONTROL ACKNOWLEDGMENT message to four access bursts format instead of default RLC/MAC control block

---

### 1.16.112 no rf-lock-exclude

#### Command

```
no rf-lock-exclude
```

#### Parameters

no

Negate a command or set its defaults

rf-lock-exclude

Exclude this BTS from the global RF Lock

### 1.16.113 nokia\_site bts-reset-timer <15-100>

#### Command

```
nokia_site bts-reset-timer <15-100>
```

#### Parameters

nokia\_site

Nokia \*Site related commands

bts-reset-timer

The amount of time (in sec.) between BTS\_RESET is sent,

<15-100>

and the BTS is being bootstrapped.

### 1.16.114 nokia\_site no-local-rel-conf (0|1)

#### Command

```
nokia_site no-local-rel-conf (0|1)
```

#### Parameters

nokia\_site

Nokia \*Site related commands

no-local-rel-conf

Do not wait for RELease CONFirm message when releasing channel locally

0

Wait for RELease CONFirm

1

Do not wait for RELease CONFirm

---

### 1.16.115 nokia\_site skip-reset (0|1)

#### Command

```
nokia_site skip-reset (0|1)
```

#### Parameters

nokia\_site

Nokia \*Site related commands

skip-reset

Skip the reset step during bootstrap process of this BTS

0

Do NOT skip the reset

1

Skip the reset

### 1.16.116 oml e1 line E1\_LINE timeslot <1-31> sub-slot (0|1|2|3|full)

#### Command

```
oml e1 line E1_LINE timeslot <1-31> sub-slot (0|1|2|3|full)
```

#### Parameters

oml

Organization & Maintenance Link

e1

OML E1/T1 Configuration

line

E1/T1 line number to be used for OML

E1\_LINE

E1/T1 line number to be used for OML

timeslot

E1/T1 timeslot to be used for OML

<1-31>

E1/T1 timeslot to be used for OML

sub-slot

E1/T1 sub-slot to be used for OML

0

Use E1/T1 sub-slot 0

1

Use E1/T1 sub-slot 1



- 2  
Use E1/T1 sub-slot 2
- 3  
Use E1/T1 sub-slot 3
- full  
Use full E1 slot 3

### 1.16.117 oml e1 tei <0-63>

#### Command

```
oml e1 tei <0-63>
```

#### Parameters

- oml  
Organization & Maintenance Link
- e1  
OML E1/T1 Configuration
- tei  
Set the TEI to be used for OML
- <0-63>  
TEI Number

### 1.16.118 oml ip.access stream\_id <0-255> line E1\_LINE

#### Command

```
oml ip.access stream_id <0-255> line E1_LINE
```

#### Parameters

- oml  
Organization & Maintenance Link
- ip.access  
A-bis/IP Specific Options
- stream\_id  
Set the ip.access Stream ID of the OML link of this BTS
- <0-255>  
Stream Identifier
- line  
Virtual E1 Line Number
- E1\_LINE  
Virtual E1 Line Number

### 1.16.119 paging free <-1-1024>

#### Command

```
paging free <-1-1024>
```

#### Parameters

##### paging

Paging options

##### free

Only page when having a certain amount of free slots

##### <-1-1024>

amount of required free paging slots. -1 to disable

### 1.16.120 pcu-socket PATH

#### Command

```
pcu-socket PATH
```

#### Parameters

##### pcu-socket

PCU Socket Path for using OsmoPCU co-located with BSC (legacy BTS)

##### PATH

Path in the file system for the unix-domain PCU socket

### 1.16.121 penalty time <20-620>

#### Command

```
penalty time <20-620>
```

#### Parameters

##### penalty

Cell selection penalty time

##### time

Cell selection penalty time

##### <20-620>

Cell selection penalty time in seconds (by 20s increments)

---

### 1.16.122 penalty time reserved

#### Command

```
penalty time reserved
```

#### Parameters

##### penalty

Cell selection penalty time

##### time

Cell selection penalty time

##### reserved

Set cell selection penalty time to reserved value 31, (indicate that CELL\_RESELECT\_OFFSET is subtracted from C2 and TEMPORARY\_OFFSET is ignored)

### 1.16.123 rach access-control-class (0|1|2|3|4|5|6|7|8|9|11|12|13|14|15) (barred|allowed)

#### Command

```
rach access-control-class (0|1|2|3|4|5|6|7|8|9|11|12|13|14|15) (barred|allowed)
```

#### Parameters

##### rach

Random Access Control Channel

##### access-control-class

Set access control class

##### 0

Access control class 0

##### 1

Access control class 1

##### 2

Access control class 2

##### 3

Access control class 3

##### 4

Access control class 4

##### 5

Access control class 5

##### 6

Access control class 6

- 7  
Access control class 7
- 8  
Access control class 8
- 9  
Access control class 9
- 11  
Access control class 11 for PLMN use
- 12  
Access control class 12 for security services
- 13  
Access control class 13 for public utilities (e.g. water/gas suppliers)
- 14  
Access control class 14 for emergency services
- 15  
Access control class 15 for PLMN staff
- barred  
barred to use access control class
- allowed  
allowed to use access control class

### 1.16.124 rach emergency call allowed (0|1)

#### Command

```
rach emergency call allowed (0|1)
```

#### Parameters

##### rach

Random Access Control Channel

##### emergency

Should this cell allow emergency calls?

##### call

Should this cell allow emergency calls?

##### allowed

Should this cell allow emergency calls?

##### 0

Do NOT allow emergency calls

##### 1

Allow emergency calls

### 1.16.125 rach max transmission (1|2|4|7)

#### Command

```
rach max transmission (1|2|4|7)
```

#### Parameters

rach

Random Access Control Channel

max

Set the maximum number of RACH burst transmissions

transmission

Set the maximum number of RACH burst transmissions

1

Maximum number of 1 RACH burst transmissions

2

Maximum number of 2 RACH burst transmissions

4

Maximum number of 4 RACH burst transmissions

7

Maximum number of 7 RACH burst transmissions

### 1.16.126 rach nm busy threshold <0-255>

#### Command

```
rach nm busy threshold <0-255>
```

#### Parameters

rach

Random Access Control Channel

nm

Network Management

busy

Set the NM Busy Threshold

threshold

Set the NM Busy Threshold

<0-255>

NM Busy Threshold in dB

### 1.16.127 rach nm load average <0-65535>

#### Command

```
rach nm load average <0-65535>
```

#### Parameters

rach

Random Access Control Channel

nm

Network Management

load

Set the NM Loadaverage Slots value

average

Set the NM Loadaverage Slots value

<0-65535>

NM Loadaverage Slots value

### 1.16.128 rach tx integer <0-15>

#### Command

```
rach tx integer <0-15>
```

#### Parameters

rach

Random Access Control Channel

tx

Set the raw tx integer value in RACH Control parameters IE

integer

Set the raw tx integer value in RACH Control parameters IE

<0-15>

Raw tx integer value in RACH Control parameters IE

### 1.16.129 radio-link-timeout <4-64>

#### Command

```
radio-link-timeout <4-64>
```

#### Parameters

radio-link-timeout

Radio link timeout criterion (BTS side)

<4-64>

Radio link timeout value (lost SACCH block)

### 1.16.130 radio-link-timeout infinite

#### Command

```
radio-link-timeout infinite
```

#### Parameters

##### radio-link-timeout

Radio link timeout criterion (BTS side)

##### infinite

Infinite Radio link timeout value (use only for BTS RF testing)

### 1.16.131 rf-lock-exclude

#### Command

```
rf-lock-exclude
```

#### Parameters

##### rf-lock-exclude

Exclude this BTS from the global RF Lock

### 1.16.132 rxlev access min <0-63>

#### Command

```
rxlev access min <0-63>
```

#### Parameters

##### rxlev

Minimum RxLev needed for cell access

##### access

Minimum RxLev needed for cell access

##### min

Minimum RxLev needed for cell access

##### <0-63>

Minimum RxLev needed for cell access (better than -110dBm)

---

### 1.16.133 si2quarter neighbor-list add earfcn <0-65535> thresh-hi <0-31> thresh-lo <0-32> p...

#### Command

```
si2quarter neighbor-list add earfcn <0-65535> thresh-hi <0-31> thresh-lo <0-32> prio ←  
<0-8> qrxlv <0-32> meas <0-8>
```

#### Parameters

##### si2quarter

SI2quarter Neighbor List

##### neighbor-list

SI2quarter Neighbor List

##### add

Add to manual SI2quarter neighbor list

##### earfcn

EARFCN of neighbor

<0-65535>

EARFCN of neighbor

##### thresh-hi

threshold high bits

<0-31>

threshold high bits

##### thresh-lo

threshold low bits

<0-32>

threshold low bits (32 means NA)

##### prio

priority

<0-8>

priority (8 means NA)

##### qrxlv

QRXLEVMIN

<0-32>

QRXLEVMIN (32 means NA)

##### meas

measurement bandwidth

<0-8>

measurement bandwidth (8 means NA)



**1.16.134 si2quater neighbor-list add uarfcn <0-16383> <0-511> <0-1>**

## Command

```
si2quater neighbor-list add uarfcn <0-16383> <0-511> <0-1>
```

## Parameters

## si2quater

SI2quater Neighbor List

## neighbor-list

SI2quater Neighbor List

## add

Add to manual SI2quater neighbor list

## uarfcn

UARFCN of neighbor

## &lt;0-16383&gt;

UARFCN of neighbor

## &lt;0-511&gt;

scrambling code

## &lt;0-1&gt;

diversity bit

**1.16.135 si2quater neighbor-list del earfcn <0-65535>**

## Command

```
si2quater neighbor-list del earfcn <0-65535>
```

## Parameters

## si2quater

SI2quater Neighbor List

## neighbor-list

SI2quater Neighbor List

## del

Delete from SI2quater manual neighbor list

## earfcn

EARFCN of neighbor

## &lt;0-65535&gt;

EARFCN

**1.16.136 si2quater neighbor-list del uarfcn <0-16383> <0-511>**

## Command

```
si2quater neighbor-list del uarfcn <0-16383> <0-511>
```

## Parameters

## si2quater

SI2quater Neighbor List

## neighbor-list

SI2quater Neighbor List

## del

Delete from SI2quater manual neighbor list

## uarfcn

UARFCN of neighbor

## &lt;0-16383&gt;

UARFCN

## &lt;0-511&gt;

scrambling code

**1.16.137 si5 neighbor-list (add|del) arfcn <0-1023>**

## Command

```
si5 neighbor-list (add|del) arfcn <0-1023>
```

## Parameters

## si5

SI5 Neighbor List

## neighbor-list

SI5 Neighbor List

## add

Add to manual SI5 neighbor list

## del

Delete from SI5 manual neighbor list

## arfcn

ARFCN of neighbor

## &lt;0-1023&gt;

ARFCN of neighbor

### 1.16.138 system-information (1|2|3|4|5|6|7|8|9|10|13|16|17|18|19|20|2bis|2ter|2quater|5bi...

#### Command

```
system-information (1|2|3|4|5|6|7|8|9|10|13|16|17|18|19|20|2bis|2ter|2quater|5bis|5ter) ←  
mode (static|computed)
```

#### Parameters

##### system-information

System Information Messages

1

System Information Type 1

2

System Information Type 2

3

System Information Type 3

4

System Information Type 4

5

System Information Type 5

6

System Information Type 6

7

System Information Type 7

8

System Information Type 8

9

System Information Type 9

10

System Information Type 10

13

System Information Type 13

16

System Information Type 16

17

System Information Type 17

18

System Information Type 18

19

System Information Type 19

20	System Information Type 20
2bis	System Information Type 2bis
2ter	System Information Type 2ter
2quarter	System Information Type 2quarter
5bis	System Information Type 5bis
5ter	System Information Type 5ter
mode	System Information Mode
static	Static user-specified
computed	Dynamic, BSC-computed

### 1.16.139 system-information (1|2|3|4|5|6|7|8|9|10|13|16|17|18|19|20|2bis|2ter|2quarter|5bi...

#### Command

```
system-information (1|2|3|4|5|6|7|8|9|10|13|16|17|18|19|20|2bis|2ter|2quarter|5bis|5ter) ↔  
static HEXSTRING
```

#### Parameters

system-information	System Information Messages
1	System Information Type 1
2	System Information Type 2
3	System Information Type 3
4	System Information Type 4
5	System Information Type 5

---

6	System Information Type 6
7	System Information Type 7
8	System Information Type 8
9	System Information Type 9
10	System Information Type 10
13	System Information Type 13
16	System Information Type 16
17	System Information Type 17
18	System Information Type 18
19	System Information Type 19
20	System Information Type 20
2bis	System Information Type 2bis
2ter	System Information Type 2ter
2quater	System Information Type 2quater
5bis	System Information Type 5bis
5ter	System Information Type 5ter
static	Static System Information filling
HEXSTRING	Static user-specified SI content in HEX notation

---

### 1.16.140 temporary offset <0-60>

#### Command

```
temporary offset <0-60>
```

#### Parameters

temporary

Cell selection temporary negative offset

offset

Cell selection temporary negative offset

<0-60>

Cell selection temporary negative offset in dB

### 1.16.141 temporary offset infinite

#### Command

```
temporary offset infinite
```

#### Parameters

temporary

Cell selection temporary negative offset

offset

Cell selection temporary negative offset

infinite

Sets cell selection temporary negative offset to infinity

### 1.16.142 training\_sequence\_code <0-7>

#### Command

```
training_sequence_code <0-7>
```

#### Parameters

training\_sequence\_code

Set the Training Sequence Code (TSC) of this BTS

<0-7>

TSC

---

### 1.16.143 `trx <0-255>`

#### Command

```
trx <0-255>
```

#### Parameters

`trx`

Radio Transceiver

`<0-255>`

Select a TRX to configure

### 1.16.144 `type (unknown|bs11|nanobts|rbs2000|nokia_site|sysmobts)`

#### Command

```
type (unknown|bs11|nanobts|rbs2000|nokia_site|sysmobts)
```

#### Parameters

`type`

BTS Vendor/Type

`unknown`

Unknown BTS Type

`bs11`

Siemens BTS (BS-11 or compatible)

`nanobts`

ip.access nanoBTS or compatible

`rbs2000`

Ericsson RBS2000 Series

`nokia_site`

Nokia {Metro,Ultra,In}Site

`sysmobts`

sysmocom sysmoBTS

## 1.17 `config-net-bts-trx`

### 1.17.1 `arfcn <0-1023>`

#### Command

```
arfcn <0-1023>
```

## Parameters

### arfcn

Set the ARFCN for this TRX

<0-1023>

Absolute Radio Frequency Channel Number

## 1.17.2 description .TEXT

### Command

```
description .TEXT
```

## Parameters

### description

Save human-readable description of the object

.TEXT

Text until the end of the line

## 1.17.3 max\_power\_red <0-100>

### Command

```
max_power_red <0-100>
```

## Parameters

### max\_power\_red

Reduction of maximum BS RF Power (relative to nominal power)

<0-100>

Reduction of maximum BS RF Power in dB

## 1.17.4 no description

### Command

```
no description
```

## Parameters

### no

Negate a command or set its defaults

### description

Remove description of the object



### 1.17.5 nominal power <0-100>

#### Command

```
nominal power <0-100>
```

#### Parameters

##### nominal

Nominal TRX RF Power in dBm

##### power

Nominal TRX RF Power in dBm

##### <0-100>

Nominal TRX RF Power in dBm

### 1.17.6 rf\_locked (0|1)

#### Command

```
rf_locked (0|1)
```

#### Parameters

##### rf\_locked

Set or unset the RF Locking (Turn off RF of the TRX)

##### 0

TRX is NOT RF locked (active)

##### 1

TRX is RF locked (turned off)

### 1.17.7 rsl e1 line E1\_LINE timeslot <1-31> sub-slot (0|1|2|3|full)

#### Command

```
rsl e1 line E1_LINE timeslot <1-31> sub-slot (0|1|2|3|full)
```

#### Parameters

##### rsl

RSL Parameters

##### e1

E1/T1 interface to be used for RSL

##### line

E1/T1 interface to be used for RSL

---

**E1\_LINE**

E1/T1 Line Number to be used for RSL

**timeslot**

E1/T1 Timeslot to be used for RSL

**<1-31>**

E1/T1 Timeslot to be used for RSL

**sub-slot**

E1/T1 Sub-slot to be used for RSL

**0**

E1/T1 Sub-slot 0 is to be used for RSL

**1**

E1/T1 Sub-slot 1 is to be used for RSL

**2**

E1/T1 Sub-slot 2 is to be used for RSL

**3**

E1/T1 Sub-slot 3 is to be used for RSL

**full**

E1/T1 full timeslot is to be used for RSL

**1.17.8 rsl e1 tei <0-63>****Command**

```
rsl e1 tei <0-63>
```

**Parameters****rsl**

RSL Parameters

**e1**

Set the TEI to be used for RSL

**tei**

Set the TEI to be used for RSL

**<0-63>**

TEI to be used for RSL

### 1.17.9 timeslot <0-7>

#### Command

```
timeslot <0-7>
```

#### Parameters

##### timeslot

Select a Timeslot to configure

##### <0-7>

Timeslot number

## 1.18 config-net-bts-trx-ts

### 1.18.1 e1 line E1\_LINE timeslot <1-31> sub-slot (0|1|2|3|full)

#### Command

```
e1 line E1_LINE timeslot <1-31> sub-slot (0|1|2|3|full)
```

#### Parameters

##### e1

E1/T1 channel connected to this on-air timeslot

##### line

E1/T1 channel connected to this on-air timeslot

##### E1\_LINE

E1/T1 line connected to this on-air timeslot

##### timeslot

E1/T1 timeslot connected to this on-air timeslot

##### <1-31>

E1/T1 timeslot connected to this on-air timeslot

##### sub-slot

E1/T1 sub-slot connected to this on-air timeslot

##### 0

E1/T1 sub-slot 0 connected to this on-air timeslot

##### 1

E1/T1 sub-slot 1 connected to this on-air timeslot

##### 2

E1/T1 sub-slot 2 connected to this on-air timeslot

##### 3

E1/T1 sub-slot 3 connected to this on-air timeslot

##### full

Full E1/T1 timeslot connected to this on-air timeslot

### 1.18.2 hopping arfcn add <0-1023>

#### Command

```
hopping arfcn add <0-1023>
```

#### Parameters

##### hopping

Configure frequency hopping

##### arfcn

Configure hopping ARFCN list

##### add

Add an entry to the hopping ARFCN list

##### <0-1023>

ARFCN

### 1.18.3 hopping arfcn del <0-1023>

#### Command

```
hopping arfcn del <0-1023>
```

#### Parameters

##### hopping

Configure frequency hopping

##### arfcn

Configure hopping ARFCN list

##### del

Delete an entry to the hopping ARFCN list

##### <0-1023>

ARFCN

### 1.18.4 hopping enabled (0|1)

#### Command

```
hopping enabled (0|1)
```

#### Parameters

##### hopping

Configure frequency hopping

enabled

Enable or disable frequency hopping

0

Disable frequency hopping

1

Enable frequency hopping

### 1.18.5 hopping maio <0-63>

Command

```
hopping maio <0-63>
```

Parameters

hopping

Configure frequency hopping

maio

Which hopping MAIO to use for this channel

<0-63>

Mobile Allocation Index Offset (MAIO)

### 1.18.6 hopping sequence-number <0-63>

Command

```
hopping sequence-number <0-63>
```

Parameters

hopping

Configure frequency hopping

sequence-number

Which hopping sequence to use for this channel

<0-63>

Hopping Sequence Number (HSN)

### 1.18.7 phys\_chan\_config (none|ccch|ccch+sdccch4|tch/f|tch/h|sdccch8|pdch|tch/f\_pdch|unkno...

#### Command

```
phys_chan_config (none|ccch|ccch+sdccch4|tch/f|tch/h|sdccch8|pdch|tch/f_pdch|unknown|ccch ↔
+sdccch4+cbch|sdccch8+cbch|tch/f_tch/h_pdch)
```

#### Parameters

##### phys\_chan\_config

Physical Channel Combination

##### none

Physical Channel not configured

##### ccch

FCCH + SCH + BCCH + CCCH (Comb. IV)

##### ccch+sdccch4

FCCH + SCH + BCCH + CCCH + 4 SDCCH + 2 SACCH (Comb. V)

##### tch/f

TCH/F + FACCH/F + SACCH (Comb. I)

##### tch/h

2 TCH/H + 2 FACCH/H + 2 SACCH (Comb. II)

##### sdccch8

8 SDCCH + 4 SACCH (Comb. VII)

##### pdch

Packet Data Channel for GPRS/EDGE

##### tch/f\_pdch

Dynamic TCH/F or GPRS PDCH

##### unknown

Unknown / Unsupported channel combination

##### ccch+sdccch4+cbch

FCCH + SCH + BCCH + CCCH + CBCH + 3 SDCCH + 2 SACCH (Comb. V)

##### sdccch8+cbch

7 SDCCH + 4 SACCH + CBCH (Comb. VII)

##### tch/f\_tch/h\_pdch

Dynamic TCH/F or TCH/H or GPRS PDCH

## 1.18.8 phys\_chan\_config PCHAN

### Command

```
phys_chan_config PCHAN
```

### Parameters

phys\_chan\_config

Physical Channel configuration (TCH/SDCCH/...)

PCHAN

Physical Channel

## 1.18.9 training\_sequence\_code <0-7>

### Command

```
training_sequence_code <0-7>
```

### Parameters

training\_sequence\_code

Training Sequence Code of the Timeslot

<0-7>

TSC

## 1.19 oml

### 1.19.1 change-adm-state (locked|unlocked|shutdown|null)

#### Command

```
change-adm-state (locked|unlocked|shutdown|null)
```

#### Parameters

change-adm-state

Change the Administrative State

locked

Locked

unlocked

Unlocked

shutdown

Shutdown

null

NULL

## 1.19.2 opstart

### Command

```
opstart
```

### Parameters

opstart

Send an OPSTART message to the object

## 1.20 config-msc

This node allows to configure the MSC connection related settings.

### 1.20.1 access-list-name NAME

#### Command

```
access-list-name NAME
```

#### Parameters

access-list-name

Set the name of the access list to use.

NAME

The name of the to be used access list.

### 1.20.2 allow-emergency (allow|deny)

#### Command

```
allow-emergency (allow|deny)
```

#### Parameters

allow-emergency

Allow CM ServiceRequests with type emergency

allow

Allow

deny

Deny

---



### 1.20.3 amr-config 10\_2k (allowed|forbidden)

#### Command

```
amr-config 10_2k (allowed|forbidden)
```

#### Parameters

amr-config

AMR Multirate Configuration

10\_2k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.4 amr-config 12\_2k (allowed|forbidden)

#### Command

```
amr-config 12_2k (allowed|forbidden)
```

#### Parameters

amr-config

AMR Multirate Configuration

12\_2k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.5 amr-config 4\_75k (allowed|forbidden)

#### Command

```
amr-config 4_75k (allowed|forbidden)
```

#### Parameters

amr-config

AMR Multirate Configuration

4\_75k

    Bitrate

allowed

    Allowed

forbidden

    Forbidden

### 1.20.6 amr-config 5\_15k (allowed|forbidden)

Command

```
amr-config 5_15k (allowed|forbidden)
```

Parameters

amr-config

    AMR Multirate Configuration

5\_15k

    Bitrate

allowed

    Allowed

forbidden

    Forbidden

### 1.20.7 amr-config 5\_90k (allowed|forbidden)

Command

```
amr-config 5_90k (allowed|forbidden)
```

Parameters

amr-config

    AMR Multirate Configuration

5\_90k

    Bitrate

allowed

    Allowed

forbidden

    Forbidden

### 1.20.8 amr-config 6\_70k (allowed|forbidden)

#### Command

```
amr-config 6_70k (allowed|forbidden)
```

#### Parameters

amr-config

AMR Multirate Configuration

6\_70k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.9 amr-config 7\_40k (allowed|forbidden)

#### Command

```
amr-config 7_40k (allowed|forbidden)
```

#### Parameters

amr-config

AMR Multirate Configuration

7\_40k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.10 amr-config 7\_95k (allowed|forbidden)

#### Command

```
amr-config 7_95k (allowed|forbidden)
```

#### Parameters

amr-config

AMR Multirate Configuration

7\_95k

    Bitrate

allowed

    Allowed

forbidden

    Forbidden

### 1.20.11 bsc-addr NAME

Command

```
bsc-addr NAME
```

Parameters

bsc-addr

    Calling Address (local address of this BSC)

NAME

    SCCP address name

### 1.20.12 bsc-grace-text .TEXT

Command

```
bsc-grace-text .TEXT
```

Parameters

bsc-grace-text

    Set the USSD notification to be sent when the MSC has entered the grace period

.TEXT

    Text to be sent

### 1.20.13 bsc-msc-lost-text .TEXT

Command

```
bsc-msc-lost-text .TEXT
```

Parameters

bsc-msc-lost-text

    Set the USSD notification to be sent on MSC connection loss

.TEXT

    Text to be sent

### 1.20.14 bsc-welcome-text .TEXT

#### Command

```
bsc-welcome-text .TEXT
```

#### Parameters

##### bsc-welcome-text

Set the USSD notification to be sent

##### .TEXT

Text to be sent

### 1.20.15 codec-list .LIST

#### Command

```
codec-list .LIST
```

#### Parameters

##### codec-list

Set the allowed audio codecs

##### .LIST

List of audio codecs, e.g. fr3 fr1 hr3

### 1.20.16 core-cell-identity <0-65535>

#### Command

```
core-cell-identity <0-65535>
```

#### Parameters

##### core-cell-identity

Use this cell identity for the core network

##### <0-65535>

CI value

### 1.20.17 core-location-area-code <0-65535>

#### Command

```
core-location-area-code <0-65535>
```

#### Parameters

##### core-location-area-code

Use this location area code for the core network

##### <0-65535>

LAC value

### 1.20.18 core-mobile-country-code <1-999>

#### Command

```
core-mobile-country-code <1-999>
```

#### Parameters

core-mobile-country-code

Use this country code for the core network

<1-999>

MCC value

### 1.20.19 core-mobile-network-code <1-999>

#### Command

```
core-mobile-network-code <1-999>
```

#### Parameters

core-mobile-network-code

Use this network code for the core network

<1-999>

MNC value

### 1.20.20 dest A.B.C.D <1-65000> <0-255>

#### Command

```
dest A.B.C.D <1-65000> <0-255>
```

#### Parameters

dest

Add a destination to a MUX/MSC

A.B.C.D

IP Address

<1-65000>

Port

<0-255>

DSCP

### 1.20.21 ip.access rtp-base <1-65000>

#### Command

```
ip.access rtp-base <1-65000>
```

#### Parameters

ip.access

IP.ACCESS specific

rtp-base

Set the rtp-base port for the RTP stream

<1-65000>

Port number

### 1.20.22 local-prefix REGEXP

#### Command

```
local-prefix REGEXP
```

#### Parameters

local-prefix

Prefix for local numbers

REGEXP

REGEXP used

### 1.20.23 mgcpgw bts-base <0-65534>

#### Command

```
mgcpgw bts-base <0-65534>
```

#### Parameters

mgcpgw

Configure MGCP connection to Media Gateway

bts-base

First UDP port allocated for the BTS side

<0-65534>

UDP Port number

---

### 1.20.24 mgcpwg endpoint-range <1-65534> <1-65534>

#### Command

```
mgcpwg endpoint-range <1-65534> <1-65534>
```

#### Parameters

##### mgcpwg

Configure MGCP connection to Media Gateway

##### endpoint-range

usable range of endpoint identifiers

##### <1-65534>

set first useable endpoint identifier

##### <1-65534>

set the last useable endpoint identifier

### 1.20.25 mgcpwg local-ip A.B.C.D

#### Command

```
mgcpwg local-ip A.B.C.D
```

#### Parameters

##### mgcpwg

Configure MGCP connection to Media Gateway

##### local-ip

local bind to connect to MGCP gateway with

##### A.B.C.D

local bind IP address

### 1.20.26 mgcpwg local-port <0-65535>

#### Command

```
mgcpwg local-port <0-65535>
```

#### Parameters

##### mgcpwg

Configure MGCP connection to Media Gateway

##### local-port

local bind to connect to MGCP gateway with

##### <0-65535>

local bind port



### 1.20.27 mgcpgw remote-ip A.B.C.D

#### Command

```
mgcpgw remote-ip A.B.C.D
```

#### Parameters

##### mgcpgw

Configure MGCP connection to Media Gateway

##### remote-ip

remote bind to connect to MGCP gateway with

##### A.B.C.D

remote bind IP address

### 1.20.28 mgcpgw remote-port <0-65535>

#### Command

```
mgcpgw remote-port <0-65535>
```

#### Parameters

##### mgcpgw

Configure MGCP connection to Media Gateway

##### remote-port

remote bind to connect to MGCP gateway with

##### <0-65535>

remote bind port

### 1.20.29 mgw bts-base <0-65534>

#### Command

```
mgw bts-base <0-65534>
```

#### Parameters

##### mgw

Configure MGCP connection to Media Gateway

##### bts-base

First UDP port allocated for the BTS side

##### <0-65534>

UDP Port number

### 1.20.30 mgw endpoint-range <1-65534> <1-65534>

#### Command

```
mgw endpoint-range <1-65534> <1-65534>
```

#### Parameters

##### mgw

Configure MGCP connection to Media Gateway

##### endpoint-range

usable range of endpoint identifiers

##### <1-65534>

set first usable endpoint identifier

##### <1-65534>

set last usable endpoint identifier

### 1.20.31 mgw local-ip A.B.C.D

#### Command

```
mgw local-ip A.B.C.D
```

#### Parameters

##### mgw

Configure MGCP connection to Media Gateway

##### local-ip

local bind to connect to MGW from

##### A.B.C.D

local bind IP address

### 1.20.32 mgw local-port <0-65535>

#### Command

```
mgw local-port <0-65535>
```

#### Parameters

##### mgw

Configure MGCP connection to Media Gateway

##### local-port

local port to connect to MGW from

##### <0-65535>

local bind port

### 1.20.33 mgw remote-ip A.B.C.D

#### Command

```
mgw remote-ip A.B.C.D
```

#### Parameters

##### mgw

Configure MGCP connection to Media Gateway

##### remote-ip

remote IP address to reach the MGW at

##### A.B.C.D

remote IP address

### 1.20.34 mgw remote-port <0-65535>

#### Command

```
mgw remote-port <0-65535>
```

#### Parameters

##### mgw

Configure MGCP connection to Media Gateway

##### remote-port

remote port to reach the MGW at

##### <0-65535>

remote port

### 1.20.35 msc-addr NAME

#### Command

```
msc-addr NAME
```

#### Parameters

##### msc-addr

Called Address (remote address of the MSC)

##### NAME

SCCP address name

### 1.20.36 no access-list-name

#### Command

```
no access-list-name
```

#### Parameters

no

Negate a command or set its defaults

access-list-name

Remove the access list from the NAT.

### 1.20.37 no bsc-grace-text

#### Command

```
no bsc-grace-text
```

#### Parameters

no

Negate a command or set its defaults

bsc-grace-text

Clear the USSD notification to be sent when the MSC has entered the grace period

### 1.20.38 no bsc-msc-lost-text

#### Command

```
no bsc-msc-lost-text
```

#### Parameters

no

Negate a command or set its defaults

bsc-msc-lost-text

Clear the USSD notification to be sent on MSC connection loss

### 1.20.39 no bsc-welcome-text

#### Command

```
no bsc-welcome-text
```

#### Parameters

no

Negate a command or set its defaults

bsc-welcome-text

Clear the USSD notification to be sent

---

### 1.20.40 no dest A.B.C.D <1-65000> <0-255>

#### Command

```
no dest A.B.C.D <1-65000> <0-255>
```

#### Parameters

no

Negate a command or set its defaults

dest

Remove a destination to a MUX/MSC

A.B.C.D

IP Address

<1-65000>

Port

<0-255>

DSCP

### 1.20.41 no timeout-ping

#### Command

```
no timeout-ping
```

#### Parameters

no

Negate a command or set its defaults

timeout-ping

Disable the ping/pong handling on A-link

### 1.20.42 no timeout-ping advanced

#### Command

```
no timeout-ping advanced
```

#### Parameters

no

Negate a command or set its defaults

timeout-ping

Ping timeout handling

advanced

Enable advanced mode during SCCP

### 1.20.43 timeout-ping <1-2147483647>

#### Command

```
timeout-ping <1-2147483647>
```

#### Parameters

##### timeout-ping

Set the PING interval, negative for not sending PING

<1-2147483647>

Timeout in seconds

### 1.20.44 timeout-ping advanced

#### Command

```
timeout-ping advanced
```

#### Parameters

##### timeout-ping

Ping timeout handling

##### advanced

Enable advanced mode during SCCP

### 1.20.45 timeout-pong <1-2147483647>

#### Command

```
timeout-pong <1-2147483647>
```

#### Parameters

##### timeout-pong

Set the time to wait for a PONG

<1-2147483647>

Timeout in seconds

---

## 1.20.46 type (normal|local)

### Command

```
type (normal|local)
```

### Parameters

#### type

Select the MSC type

#### normal

Plain GSM MSC

#### local

Special MSC for local call routing

## 1.21 om2k

### 1.21.1 capabilities-request

#### Command

```
capabilities-request
```

#### Parameters

##### capabilities-request

Request MO capabilities

### 1.21.2 configuration-request

#### Command

```
configuration-request
```

#### Parameters

##### configuration-request

Send the configuration request for current MO

### 1.21.3 connect-command

#### Command

```
connect-command
```

#### Parameters

##### connect-command

Connect the MO

---

### 1.21.4 disable-request

#### Command

```
disable-request
```

#### Parameters

disable-request

Disable the MO

### 1.21.5 disconnect-command

#### Command

```
disconnect-command
```

#### Parameters

disconnect-command

Disconnect the MO

### 1.21.6 enable-request

#### Command

```
enable-request
```

#### Parameters

enable-request

Enable the MO

### 1.21.7 operational-info <0-1>

#### Command

```
operational-info <0-1>
```

#### Parameters

operational-info

Set operational information

<0-1>

Set operational info to 0 or 1

---



### 1.21.8 reset-command

#### Command

```
reset-command
```

#### Parameters

```
reset-command  
    Reset the MO
```

### 1.21.9 start-request

#### Command

```
start-request
```

#### Parameters

```
start-request  
    Start the MO
```

### 1.21.10 status-request

#### Command

```
status-request
```

#### Parameters

```
status-request  
    Get the MO Status
```

### 1.21.11 test-request

#### Command

```
test-request
```

#### Parameters

```
test-request  
    Test the MO
```

---

## 1.22 om2k-con-group

### 1.22.1 con-path (add|del) <0-2047> <0-255> concentrated <1-16>

#### Command

```
con-path (add|del) <0-2047> <0-255> concentrated <1-16>
```

#### Parameters

##### con-path

CON Path (In/Out)

##### add

Add CON Path to Concentration Group

##### del

Delete CON Path from Concentration Group

##### <0-2047>

CON Connection Point

##### <0-255>

Contiguity Index

##### concentrated

Concentrated in/outlet

##### <1-16>

Tag Number

### 1.22.2 con-path (add|del) <0-2047> <0-255> deconcentrated <0-63>

#### Command

```
con-path (add|del) <0-2047> <0-255> deconcentrated <0-63>
```

#### Parameters

##### con-path

CON Path (In/Out)

##### add

Add CON Path to Concentration Group

##### del

Delete CON Path from Concentration Group

##### <0-2047>

CON Connection Point

##### <0-255>

Contiguity Index

##### deconcentrated

De-concentrated in/outlet

##### <0-63>

TEI Value

## 1.23 config-bsc

This node allows to configure the BSC connection related settings.

### 1.23.1 access-list NAME imsi-allow [REGEXP]

Command

```
access-list NAME imsi-allow [REGEXP]
```

Parameters

access-list

Access list commands

NAME

Name of the access list

imsi-allow

Add allowed IMSI to the list

[REGEXP]

Regexp for IMSIs

### 1.23.2 access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)

Command

```
access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)
```

Parameters

access-list

Access list commands

NAME

Name of the access list

imsi-deny

Add denied IMSI to the list

[REGEXP]

Regexp for IMSIs

<0-256>

CM Service Reject reason

<0-256>

LU Reject reason

---

### 1.23.3 access-list-name NAME

#### Command

```
access-list-name NAME
```

#### Parameters

access-list-name

Set the name of the access list to use.

NAME

The name of the to be used access list.

### 1.23.4 bsc-auto-rf-off <1-65000>

#### Command

```
bsc-auto-rf-off <1-65000>
```

#### Parameters

bsc-auto-rf-off

Disable RF on MSC Connection

<1-65000>

Timeout

### 1.23.5 bsc-rf-socket PATH

#### Command

```
bsc-rf-socket PATH
```

#### Parameters

bsc-rf-socket

Set the filename for the RF control interface.

PATH

RF Control path

### 1.23.6 mid-call-text .TEXT

#### Command

```
mid-call-text .TEXT
```

#### Parameters

mid-call-text

Set the USSD notification sent to running calls when switching from Grace to Off.

.TEXT

Text to be sent

---

### 1.23.7 mid-call-timeout NR

#### Command

```
mid-call-timeout NR
```

#### Parameters

##### mid-call-timeout

Switch from Grace to Off in NR seconds.

##### NR

Timeout in seconds

### 1.23.8 missing-msc-text .TEXT

#### Command

```
missing-msc-text .TEXT
```

#### Parameters

##### missing-msc-text

Set the USSD notification to be send when a MSC has not been found.

##### .TEXT

Text to be sent

### 1.23.9 no access-list NAME

#### Command

```
no access-list NAME
```

#### Parameters

##### no

Negate a command or set its defaults

##### access-list

Remove an access-list by name

##### NAME

The access-list to remove

---

### 1.23.10 no access-list-name

#### Command

```
no access-list-name
```

#### Parameters

no

Negate a command or set its defaults

access-list-name

Remove the access list from the BSC

### 1.23.11 no bsc-auto-rf-off

#### Command

```
no bsc-auto-rf-off
```

#### Parameters

no

Negate a command or set its defaults

bsc-auto-rf-off

Disable RF on MSC Connection

### 1.23.12 no missing-msc-text

#### Command

```
no missing-msc-text
```

#### Parameters

no

Negate a command or set its defaults

missing-msc-text

Clear the USSD notification to be send when a MSC has not been found.

---