

OsmoBSC VTY Reference

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Contents

1	VTY reference	1
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	enable	4
1.2.2	logging color (01)	4
1.2.3	logging disable	5
1.2.4	logging enable	5
1.2.5	logging filter all (01)	5
1.2.6	logging filter imsi IMSI	6
1.2.7	logging level (rllmmlrrlrsllnmlpaglmeaslmchlholhoclreflnatctrlfilterpcullc...	6
1.2.8	logging level force-all (debug info notice error fatal)	9
1.2.9	logging level set-all (debug info notice error fatal)	9
1.2.10	logging print category (01)	10
1.2.11	logging print category-hex (01)	10
1.2.12	logging print extended-timestamp (01)	11
1.2.13	logging print file (01 basename) [last]	11
1.2.14	logging print level (01)	12
1.2.15	logging set-log-mask MASK	12
1.2.16	logging timestamp (01)	12
1.2.17	logp (rllmmlrrlrsllnmlpaglmeaslmchlholhoclreflnatctrlfilterpcullclschanlt...	13
1.2.18	no logging level force-all	16

1.2.19	show access-list NAME	16
1.2.20	show alarms	16
1.2.21	show asciidoc counters	17
1.2.22	show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>lany)	17
1.2.23	show bts <0-255> smscb [(basicextended)]	18
1.2.24	show bts [<0-255>]	18
1.2.25	show cbc	18
1.2.26	show conns	19
1.2.27	show cs7 (sualm3ualipa) [<0-65534>]	19
1.2.28	show cs7 instance <0-15> as (active all m3ualsua)	19
1.2.29	show cs7 instance <0-15> asp	20
1.2.30	show cs7 instance <0-15> sccp addressbook	21
1.2.31	show cs7 instance <0-15> sccp connections	21
1.2.32	show cs7 instance <0-15> sccp ssn <0-65535>	22
1.2.33	show cs7 instance <0-15> sccp timers	22
1.2.34	show cs7 instance <0-15> sccp users	23
1.2.35	show cs7 instance <0-15> users	23
1.2.36	show e1_driver	24
1.2.37	show e1_line [line_nr] [stats]	24
1.2.38	show e1_timeslot [line_nr] [ts_nr]	24
1.2.39	show fsm NAME	25
1.2.40	show fsm all	25
1.2.41	show fsm-instances NAME	25
1.2.42	show fsm-instances all	26
1.2.43	show history	26
1.2.44	show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]	26
1.2.45	show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]	27
1.2.46	show lchan summary-all [<0-255>] [<0-255>] [<0-7>] [<0-7>]	27
1.2.47	show logging vty	28
1.2.48	show mscs	28
1.2.49	show network	28
1.2.50	show online-help	29
1.2.51	show paging [<0-255>]	29
1.2.52	show paging-group <0-255> IMSI	29
1.2.53	show position	30
1.2.54	show rate-counters	30
1.2.55	show rejected-bts	30
1.2.56	show statistics	30
1.2.57	show stats	31

1.2.58	show stats level (globalpeer subscriber)	31
1.2.59	show subscriber all	31
1.2.60	show talloc-context (application all) (full brief DEPTH)	32
1.2.61	show talloc-context (application all) (full brief DEPTH) filter REGEXP	32
1.2.62	show talloc-context (application all) (full brief DEPTH) tree ADDRESS	33
1.2.63	show timer [TNNNN]	33
1.2.64	show timeslot [<0-255>] [<0-255>] [<0-7>]	34
1.2.65	show trx (connected disconnected)	34
1.2.66	show trx [<0-255>] [<0-255>]	35
1.2.67	show version	35
1.2.68	terminal length <0-512>	35
1.2.69	terminal no length	36
1.2.70	who	36
1.3	enable	36
1.3.1	assignment any	36
1.3.2	bts <0-255> om2000 class (trx cts tfl is con ld plc fl tx rx) <0-255> <0-255> <0-255>	37
1.3.3	bts <0-255> om2000 class <0-255> <0-255> <0-255> <0-255>	38
1.3.4	bts <0-255> oml class (site-manager bts radio-carrier baseband-transceiver chann...)	38
1.3.5	bts <0-255> oml class <0-255> instance <0-255> <0-255> <0-255>	40
1.3.6	bts <0-255> resend-system-information	40
1.3.7	bts <0-255> smscb-command (normal schedule default) <1-4> HEXSTRING	41
1.3.8	bts <0-255> trx <0-255> timeslot <0-7> pdch (activate deactivate)	41
1.3.9	bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> (activate deactivate) (hrl...)	42
1.3.10	bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> assignment	43
1.3.11	bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> handover <0-255>	44
1.3.12	bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> mdcx A.B.C.D <0-65535>	44
1.3.13	configure terminal	45
1.3.14	copy running-config startup-config	45
1.3.15	ctrl-interface generate-trap TRAP VALUE	46
1.3.16	disable	46
1.3.17	drop bts connection <0-65535> (om l rs l)	46
1.3.18	generate-location-state-trap <0-255>	47
1.3.19	handover any	47
1.3.20	handover any to arfcn <0-1023> bsic (<0-63> any)	47
1.3.21	logging color (0 1)	48
1.3.22	logging disable	48
1.3.23	logging enable	49
1.3.24	logging filter all (0 1)	49
1.3.25	logging filter imsi IMSI	49

1.3.26	logging level (rllmmlrrlrsllnmlpaglmeaslm sclholhodeclreflnatcltrllfilterlpcullc...	50
1.3.27	logging level force-all (debuglinfofnoticeerrorfatal)	53
1.3.28	logging level set-all (debuglinfofnoticeerrorfatal)	53
1.3.29	logging print category (011)	54
1.3.30	logging print category-hex (011)	54
1.3.31	logging print extended-timestamp (011)	55
1.3.32	logging print file (011 basename) [last]	55
1.3.33	logging print level (011)	56
1.3.34	logging set-log-mask MASK	56
1.3.35	logging timestamp (011)	56
1.3.36	logp (rllmmlrrlrsllnmlpaglmeaslm sclholhodeclreflnatcltrllfilterlpcullclschanlt...	57
1.3.37	no logging level force-all	60
1.3.38	restart-bts <0-65535>	60
1.3.39	show access-list NAME	60
1.3.40	show alarms	61
1.3.41	show asciidoc counters	61
1.3.42	show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63> any)	61
1.3.43	show bts <0-255> smscb [(basic extended)]	62
1.3.44	show bts [<0-255>]	62
1.3.45	show conns	63
1.3.46	show cs7 (sualm3ualipa) [<0-65534>]	63
1.3.47	show cs7 instance <0-15> as (activelallm3ualsua)	63
1.3.48	show cs7 instance <0-15> asp	64
1.3.49	show cs7 instance <0-15> sccp addressbook	65
1.3.50	show cs7 instance <0-15> sccp connections	65
1.3.51	show cs7 instance <0-15> sccp ssn <0-65535>	66
1.3.52	show cs7 instance <0-15> sccp timers	66
1.3.53	show cs7 instance <0-15> sccp users	67
1.3.54	show cs7 instance <0-15> users	67
1.3.55	show e1_driver	68
1.3.56	show e1_line [line_nr] [stats]	68
1.3.57	show e1_timeslot [line_nr] [ts_nr]	68
1.3.58	show fsm NAME	69
1.3.59	show fsm all	69
1.3.60	show fsm-instances NAME	69
1.3.61	show fsm-instances all	70
1.3.62	show history	70
1.3.63	show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]	70
1.3.64	show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]	71

1.3.65	show lchan summary-all [<0-255>] [<0-255>] [<0-7>] [<0-7>]	71
1.3.66	show logging vty	72
1.3.67	show mscs	72
1.3.68	show network	72
1.3.69	show online-help	73
1.3.70	show paging [<0-255>]	73
1.3.71	show paging-group <0-255> IMSI	73
1.3.72	show position	74
1.3.73	show rate-counters	74
1.3.74	show rejected-bts	74
1.3.75	show startup-config	74
1.3.76	show statistics	75
1.3.77	show stats	75
1.3.78	show stats level (global peer subscriber)	75
1.3.79	show subscriber all	76
1.3.80	show talloc-context (application all) (full brief DEPTH)	76
1.3.81	show talloc-context (application all) (full brief DEPTH) filter REGEXP	77
1.3.82	show talloc-context (application all) (full brief DEPTH) tree ADDRESS	77
1.3.83	show timer [TNNNN]	78
1.3.84	show timeslot [<0-255>] [<0-255>] [<0-7>]	78
1.3.85	show trx (connected disconnected)	79
1.3.86	show trx [<0-255>] [<0-255>]	79
1.3.87	show version	79
1.3.88	terminal length <0-512>	80
1.3.89	terminal monitor	80
1.3.90	terminal no length	80
1.3.91	terminal no monitor	81
1.3.92	who	81
1.4	config	81
1.4.1	banner motd default	81
1.4.2	banner motd file [FILE]	82
1.4.3	bsc	82
1.4.4	cbc	82
1.4.5	cs7 instance <0-15>	83
1.4.6	ctrl	83
1.4.7	e1_input	83
1.4.8	enable password (8l) WORD	83
1.4.9	enable password LINE	84
1.4.10	hostname WORD	84

1.4.11	line vty	85
1.4.12	log alarms <2-32700>	85
1.4.13	log file .FILENAME	85
1.4.14	log gsmzap [HOSTNAME]	86
1.4.15	log stderr	86
1.4.16	log syslog (authpriv cron daemon ftp lpr mail news user uucp)	86
1.4.17	log syslog local <0-7>	87
1.4.18	msc [<0-1000>]	87
1.4.19	network	88
1.4.20	no banner motd	88
1.4.21	no enable password	88
1.4.22	no hostname [HOSTNAME]	89
1.4.23	no log alarms	89
1.4.24	no log file .FILENAME	89
1.4.25	no log stderr	90
1.4.26	no log syslog	90
1.4.27	no service advanced-vty	90
1.4.28	no service terminal-length [<0-512>]	91
1.4.29	no stats reporter log	91
1.4.30	no stats reporter statsd	91
1.4.31	password (8) WORD	92
1.4.32	password LINE	92
1.4.33	service advanced-vty	92
1.4.34	service terminal-length <0-512>	93
1.4.35	show history	93
1.4.36	stats interval <1-65535>	93
1.4.37	stats reporter log	94
1.4.38	stats reporter statsd	94
1.5	config-log	94
1.5.1	logging color (01)	94
1.5.2	logging filter all (01)	95
1.5.3	logging filter imsi IMSI	95
1.5.4	logging level (r l m l r l r l n m p a g m e a s m s c h o h d e c r e f n a t c t r l f l t e r p c u l l c ...	96
1.5.5	logging level force-all (debug info notice error fatal)	98
1.5.6	logging level set-all (debug info notice error fatal)	99
1.5.7	logging print category (01)	100
1.5.8	logging print category-hex (01)	100
1.5.9	logging print extended-timestamp (01)	101
1.5.10	logging print file (01 basename) [last]	101

1.5.11	logging print level (01)	102
1.5.12	logging timestamp (01)	102
1.5.13	no logging level force-all	102
1.6	config-stats	103
1.6.1	disable	103
1.6.2	enable	103
1.6.3	level (globalpeerlsubscriber)	103
1.6.4	local-ip ADDR	104
1.6.5	mtu <100-65535>	104
1.6.6	no local-ip	104
1.6.7	no mtu	104
1.6.8	no prefix	105
1.6.9	prefix PREFIX	105
1.6.10	remote-ip ADDR	105
1.6.11	remote-port <1-65535>	105
1.7	config-line	106
1.7.1	bind A.B.C.D [<0-65535>]	106
1.7.2	login	106
1.7.3	no login	106
1.8	config-e1_input	107
1.8.1	e1_line <0-255> driver (misdnmisdn_lapldahdilipalunixsocket)	107
1.8.2	e1_line <0-255> keepalive	107
1.8.3	e1_line <0-255> keepalive <1-300> <1-20> <1-300>	108
1.8.4	e1_line <0-255> name .LINE	108
1.8.5	e1_line <0-255> port <0-255>	109
1.8.6	e1_line <0-255> socket .SOCKET	109
1.8.7	ipa bind A.B.C.D	109
1.8.8	no e1_line <0-255> keepalive	110
1.9	config-ctrl	110
1.9.1	bind A.B.C.D	110
1.10	config-cs7	110
1.10.1	as NAME (sualm3ualipa)	110
1.10.2	asp NAME <0-65535> <0-65535> (sualm3ualipa)	111
1.10.3	description .TEXT	111
1.10.4	network-indicator (international national reserved spare)	112
1.10.5	no as NAME	112
1.10.6	no asp NAME	112
1.10.7	no sccp-address NAME	113
1.10.8	point-code POINT_CODE	113

1.10.9	point-code delimiter (defaultldash)	113
1.10.10	point-code format <1-24> [<1-23>] [<1-22>]	114
1.10.11	point-code format default	114
1.10.12	sccp-address NAME	114
1.10.13	sccp-timer (conn_estliasiarllrepeat_rellintlguardresetlreassembly) <1-99999...	115
1.10.14	xua rkm routing-key-allocation (static-onlyldynamic-permitted)	115
1.11	config-cs7-as	116
1.11.1	asp NAME	116
1.11.2	description .TEXT	116
1.11.3	no asp NAME	117
1.11.4	point-code override dpc PC	117
1.11.5	qos-class <0-255>	117
1.11.6	recovery-timeout <1-2000>	118
1.11.7	routing-key RCONTEXT DPC	118
1.11.8	routing-key RCONTEXT DPC si (aal2lbicclb-isuplh248lisuplsat-isuplsccpltup)	118
1.11.9	routing-key RCONTEXT DPC si (aal2lbicclb-isuplh248lisuplsat-isuplsccpltup) ssn S...	119
1.11.10	routing-key RCONTEXT DPC ssn SSN	120
1.11.11	traffic-mode (broadcast loadshare roundrobin override)	120
1.12	config-cs7-asp	121
1.12.1	block	121
1.12.2	description .TEXT	121
1.12.3	local-ip A.B.C.D	121
1.12.4	qos-class <0-255>	122
1.12.5	remote-ip A.B.C.D	122
1.12.6	shutdown	122
1.13	config-cs7-sccpaddr	122
1.13.1	global-title	122
1.13.2	no global-title	123
1.13.3	no point-code	123
1.13.4	no subsystem-number	123
1.13.5	point-code POINT_CODE	123
1.13.6	routing-indicator (GTIPCIIP)	124
1.13.7	subsystem-number <0-4294967295>	124
1.14	config-cs7-sccpaddr-gt	124
1.14.1	digits DIGITS	124
1.14.2	global-title-indicator <0-15>	125
1.14.3	nature-of-address-indicator <0-127>	125
1.14.4	numbering-plan-indicator <0-15>	125
1.14.5	translation-type <0-255>	125

1.15	config-net	126
1.15.1	bts <0-255>	126
1.15.2	encryption a5 <0-3> [<0-3>] [<0-3>] [<0-3>]	126
1.15.3	handover (0 1 default)	126
1.15.4	handover algorithm (1 2 default)	127
1.15.5	handover1 maximum distance (<0-9999> default)	127
1.15.6	handover1 power budget hysteresis (<0-999> default)	128
1.15.7	handover1 power budget interval (<1-99> default)	128
1.15.8	handover1 window rxlev averaging (<1-10> default)	129
1.15.9	handover1 window rxlev neighbor averaging (<1-10> default)	129
1.15.10	handover1 window rxqual averaging (<1-10> default)	130
1.15.11	handover2 afs-bias rxlev (<0-20> default)	130
1.15.12	handover2 afs-bias rxqual (<0-7> default)	131
1.15.13	handover2 assignment (0 1 default)	131
1.15.14	handover2 congestion-check (disabled <1-999> now)	132
1.15.15	handover2 max-handovers (<1-9999> default)	132
1.15.16	handover2 maximum distance (<0-9999> default)	133
1.15.17	handover2 min rxlev (<-110--50> default)	133
1.15.18	handover2 min rxqual (<0-7> default)	134
1.15.19	handover2 min-free-slots tch/f (<0-9999> default)	134
1.15.20	handover2 min-free-slots tch/h (<0-9999> default)	135
1.15.21	handover2 penalty-time failed-assignment (<0-99999> default)	135
1.15.22	handover2 penalty-time failed-ho (<0-99999> default)	136
1.15.23	handover2 penalty-time max-distance (<0-99999> default)	136
1.15.24	handover2 power budget hysteresis (<0-999> default)	137
1.15.25	handover2 power budget interval (<1-99> default)	137
1.15.26	handover2 retries (<0-9> default)	138
1.15.27	handover2 tdma-measurement (full subset default)	138
1.15.28	handover2 window rxlev averaging (<1-10> default)	138
1.15.29	handover2 window rxlev neighbor averaging (<1-10> default)	139
1.15.30	handover2 window rxqual averaging (<1-10> default)	140
1.15.31	meas-feed destination ADDR <0-65535>	140
1.15.32	meas-feed scenario NAME	141
1.15.33	mobile network code <0-999>	141
1.15.34	neci (0 1)	141
1.15.35	network country code <1-999>	142
1.15.36	no periodic location update	142
1.15.37	no timezone	142
1.15.38	paging any use tch (0 1)	143

1.15.39	periodic location update <6-1530>	143
1.15.40	timer [TNNNN] [(<0-2147483647> default)]	144
1.15.41	timezone <-19-19> (0115130145)	144
1.15.42	timezone <-19-19> (0115130145) <0-2>	145
1.16	config-net-bts	145
1.16.1	abis-lower-transport (single-timeslotsuper-channel)	145
1.16.2	access-control-class-ramping	146
1.16.3	access-control-class-ramping-step-interval (<30-600> dynamic)	146
1.16.4	access-control-class-ramping-step-size (<1-10>)	146
1.16.5	amr tch-f hysteresis (mslfts) <0-15>	147
1.16.6	amr tch-f hysteresis (mslfts) <0-15> <0-15>	147
1.16.7	amr tch-f hysteresis (mslfts) <0-15> <0-15> <0-15>	148
1.16.8	amr tch-f modes (01121314151617)	148
1.16.9	amr tch-f modes (01121314151617) (01121314151617)	149
1.16.10	amr tch-f modes (01121314151617) (01121314151617) (01121314151617)	150
1.16.11	amr tch-f modes (01121314151617) (01121314151617) (01121314151617) (01121314...	152
1.16.12	amr tch-f start-mode (auto1121314)	154
1.16.13	amr tch-f threshold (mslfts) <0-63>	154
1.16.14	amr tch-f threshold (mslfts) <0-63> <0-63>	155
1.16.15	amr tch-f threshold (mslfts) <0-63> <0-63> <0-63>	155
1.16.16	amr tch-h hysteresis (mslfts) <0-15>	156
1.16.17	amr tch-h hysteresis (mslfts) <0-15> <0-15>	156
1.16.18	amr tch-h hysteresis (mslfts) <0-15> <0-15> <0-15>	157
1.16.19	amr tch-h modes (0112131415)	157
1.16.20	amr tch-h modes (0112131415) (0112131415)	158
1.16.21	amr tch-h modes (0112131415) (0112131415) (0112131415)	159
1.16.22	amr tch-h modes (0112131415) (0112131415) (0112131415) (0112131415)	160
1.16.23	amr tch-h start-mode (auto1121314)	162
1.16.24	amr tch-h threshold (mslfts) <0-63>	162
1.16.25	amr tch-h threshold (mslfts) <0-63> <0-63>	163
1.16.26	amr tch-h threshold (mslfts) <0-63> <0-63> <0-63>	164
1.16.27	band BAND	164
1.16.28	base_station_id_code <0-63>	165
1.16.29	ccch load-indication-threshold <0-100>	165
1.16.30	cell bar qualify (01)	165
1.16.31	cell barred (01)	166
1.16.32	cell reselection hysteresis <0-14>	166
1.16.33	cell reselection offset <0-126>	166
1.16.34	cell_identity <0-65535>	167

1.16.35 channel allocator (ascending descending)	167
1.16.36 channel-description attach (0 1)	168
1.16.37 channel-description bs-ag-blks-res <0-7>	168
1.16.38 channel-description bs-pa-mfrms <2-9>	168
1.16.39 codec-support fr	169
1.16.40 codec-support fr (hrlefrl mr)	169
1.16.41 codec-support fr (hrlefrl mr) (hrlefrl mr)	169
1.16.42 codec-support fr (hrlefrl mr) (hrlefrl mr) (hrlefrl mr)	170
1.16.43 codec-support fr (hrlefrl mr) (hrlefrl mr) (hrlefrl mr) (hrlefrl mr)	171
1.16.44 con-connection-group <1-31>	172
1.16.45 del-connection-group <1-31>	172
1.16.46 depends-on-bts <0-255>	172
1.16.47 depepends-on-bts <0-255>	172
1.16.48 description .TEXT	173
1.16.49 dtx downlink	173
1.16.50 dtx uplink [force]	173
1.16.51 early-classmark-sending (allowed forbidden)	174
1.16.52 early-classmark-sending-3g (allowed forbidden)	174
1.16.53 force-combined-si	174
1.16.54 gprs 11bit_rach_support_for_egprs (0 1)	175
1.16.55 gprs cell bvci <2-65535>	175
1.16.56 gprs cell timer (blocking-timer blocking-retries unblocking-retries reset-timer ...	175
1.16.57 gprs control-ack-type-rach	176
1.16.58 gprs mode (none gprs egprs)	177
1.16.59 gprs network-control-order (nc0 nc1 nc2)	177
1.16.60 gprs ns timer (tns-block tns-block-retries tns-reset tns-reset-retries tns-testl...	178
1.16.61 gprs nsei <0-65535>	178
1.16.62 gprs nsvc <0-1> local udp port <0-65535>	179
1.16.63 gprs nsvc <0-1> nsvci <0-65535>	179
1.16.64 gprs nsvc <0-1> remote ip A.B.C.D	180
1.16.65 gprs nsvc <0-1> remote udp port <0-65535>	180
1.16.66 gprs routing area <0-255>	181
1.16.67 handover (0 1 default)	181
1.16.68 handover algorithm (1 2 default)	182
1.16.69 handover1 maximum distance (<0-9999> default)	182
1.16.70 handover1 power budget hysteresis (<0-999> default)	183
1.16.71 handover1 power budget interval (<1-99> default)	183
1.16.72 handover1 window rxlev averaging (<1-10> default)	184
1.16.73 handover1 window rxlev neighbor averaging (<1-10> default)	184

1.16.74	handover1 window rxqual averaging (<1-10> default)	185
1.16.75	handover2 afs-bias rxlev (<0-20> default)	185
1.16.76	handover2 afs-bias rxqual (<0-7> default)	186
1.16.77	handover2 assignment (0 1 default)	186
1.16.78	handover2 max-handovers (<1-9999> default)	187
1.16.79	handover2 maximum distance (<0-9999> default)	187
1.16.80	handover2 min rxlev (<-110--50> default)	187
1.16.81	handover2 min rxqual (<0-7> default)	188
1.16.82	handover2 min-free-slots tch/f (<0-9999> default)	188
1.16.83	handover2 min-free-slots tch/h (<0-9999> default)	189
1.16.84	handover2 penalty-time failed-assignment (<0-99999> default)	189
1.16.85	handover2 penalty-time failed-ho (<0-99999> default)	190
1.16.86	handover2 penalty-time max-distance (<0-99999> default)	190
1.16.87	handover2 power budget hysteresis (<0-999> default)	191
1.16.88	handover2 power budget interval (<1-99> default)	191
1.16.89	handover2 retries (<0-9> default)	192
1.16.90	handover2 tdma-measurement (full subset default)	192
1.16.91	handover2 window rxlev averaging (<1-10> default)	192
1.16.92	handover2 window rxlev neighbor averaging (<1-10> default)	193
1.16.93	handover2 window rxqual averaging (<1-10> default)	194
1.16.94	ipa rsl-ip A.B.C.D	194
1.16.95	ipa unit-id <0-65534> <0-255>	194
1.16.96	is-connection-list (add del) <0-2047> <0-2047> <0-255>	195
1.16.97	location_area_code <0-65535>	195
1.16.98	ms max power <0-40>	196
1.16.99	neighbor bts <0-255>	196
1.16.100	neighbor cgi <0-999> <0-999> <0-65535> <0-65535>	196
1.16.101	neighbor cgi <0-999> <0-999> <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63> any...)	197
1.16.102	neighbor lac <0-65535>	198
1.16.103	neighbor lac <0-65535> arfcn <0-1023> bsic (<0-63> any)	198
1.16.104	neighbor lac-ci <0-65535> <0-65535>	199
1.16.105	neighbor lac-ci <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63> any)	199
1.16.106	neighbor-list (add del) arfcn <0-1023>	200
1.16.107	neighbor-list mode (automatic manual manual-si5)	200
1.16.108	no access-control-class-ramping	201
1.16.109	no description	201
1.16.110	no dtx downlink	201
1.16.111	no dtx uplink	202
1.16.112	no force-combined-si	202

1.16.113	no gprs control-ack-type-rach	202
1.16.114	no neighbor arfcn <0-1023> bsic (<0-63> any)	203
1.16.115	no neighbor bts <0-255>	203
1.16.116	no neighbors	204
1.16.117	no rf-lock-exclude	204
1.16.118	no system-information unused-send-empty	204
1.16.119	no timer-dynamic TNNNN	205
1.16.120	nokia_site bts-reset-timer <15-100>	205
1.16.121	nokia_site no-local-rel-conf (0 1)	205
1.16.122	nokia_site skip-reset (0 1)	206
1.16.123	ml e1 line E1_LINE timeslot <1-31> sub-slot (0 1 2 3 full)	206
1.16.124	ml e1 tei <0-63>	207
1.16.125	ml ipa stream-id <0-255> line E1_LINE	207
1.16.126	paging free <-1-1024>	208
1.16.127	pcu-socket PATH	208
1.16.128	penalty time <20-620>	208
1.16.129	penalty time reserved	209
1.16.130	rach access-control-class (0 1 2 3 4 5 6 7 8 9 11 12 13 14 15) (barred allowed)	209
1.16.131	rach emergency call allowed (0 1)	210
1.16.132	rach max transmission (1 2 4 7)	211
1.16.133	rach nm busy threshold <0-255>	211
1.16.134	rach nm load average <0-65535>	212
1.16.135	rach tx integer <0-15>	212
1.16.136	radio-link-timeout <4-64>	212
1.16.137	radio-link-timeout infinite	213
1.16.138	rf-lock-exclude	213
1.16.139	xlev access min <0-63>	213
1.16.140	i2quater neighbor-list add earfcn <0-65535> thresh-hi <0-31> thresh-lo <0-32> p...	214
1.16.141	i2quater neighbor-list add uarfcn <0-16383> <0-511> <0-1>	215
1.16.142	i2quater neighbor-list del earfcn <0-65535>	215
1.16.143	i2quater neighbor-list del uarfcn <0-16383> <0-511>	216
1.16.144	i5 neighbor-list (add del) arfcn <0-1023>	216
1.16.145	system-information (1 2 3 4 5 6 7 8 9 10 13 16 17 18 19 20 2bis 2ter 2quater 5bi...	217
1.16.146	system-information (1 2 3 4 5 6 7 8 9 10 13 16 17 18 19 20 2bis 2ter 2quater 5bi...	218
1.16.147	system-information unused-send-empty	220
1.16.148	temporary offset <0-60>	220
1.16.149	temporary offset infinite	220
1.16.150	timer-dynamic TNNNN	221
1.16.151	trx <0-255>	221

1.16.15	type (unknownlbs11nanobtslrbs2000lnokia_sitelsystemobts)	221
1.17	config-net-bts-trx	222
1.17.1	arfcn <0-1023>	222
1.17.2	description .TEXT	222
1.17.3	max_power_red <0-100>	222
1.17.4	no description	223
1.17.5	nominal power <0-100>	223
1.17.6	rf_locked (01)	223
1.17.7	rsl e1 line E1_LINE timeslot <1-31> sub-slot (01 2 3 full)	224
1.17.8	rsl e1 tei <0-63>	224
1.17.9	timeslot <0-7>	225
1.18	config-net-bts-trx-ts	225
1.18.1	e1 line E1_LINE timeslot <1-31> sub-slot (01 2 3 full)	225
1.18.2	hopping arfcn add <0-1023>	226
1.18.3	hopping arfcn del <0-1023>	226
1.18.4	hopping enabled (01)	227
1.18.5	hopping maio <0-63>	227
1.18.6	hopping sequence-number <0-63>	227
1.18.7	phys_chan_config (none ccch ccch+sdccch4 tch/ftch/hlsdccc8 pdch tch/f_pdch unkno...	228
1.18.8	training_sequence_code <0-7>	229
1.19	oml	229
1.19.1	change-adm-state (locked unlocked shutdown null)	229
1.19.2	opstart	229
1.20	config-msc	230
1.20.1	access-list-name NAME	230
1.20.2	allow-emergency (allow deny)	230
1.20.3	amr-config 10_2k (allowed forbidden)	230
1.20.4	amr-config 12_2k (allowed forbidden)	231
1.20.5	amr-config 4_75k (allowed forbidden)	231
1.20.6	amr-config 5_15k (allowed forbidden)	231
1.20.7	amr-config 5_90k (allowed forbidden)	232
1.20.8	amr-config 6_70k (allowed forbidden)	232
1.20.9	amr-config 7_40k (allowed forbidden)	233
1.20.10	amr-config 7_95k (allowed forbidden)	233
1.20.11	amr-payload (octet-aligned bandwidth-efficient)	233
1.20.12	asp-protocol (m3ua sua ipa)	234
1.20.13	bsc-addr NAME	234
1.20.14	bsc-grace-text .TEXT	234
1.20.15	bsc-msc-lost-text .TEXT	235

1.20.16 bsc-welcome-text .TEXT	235
1.20.17 codec-list .LIST	235
1.20.18 core-cell-identity <0-65535>	235
1.20.19 core-location-area-code <0-65535>	236
1.20.20 core-mobile-country-code <1-999>	236
1.20.21 core-mobile-network-code <1-999>	236
1.20.22 ip.access rtp-base <1-65000>	237
1.20.23 lcls-codec-mismatch (allowed forbidden)	237
1.20.24 lcls-mode (disabled mgw-loop bts-loop)	237
1.20.25 local-prefix REGEXP	238
1.20.26 mgw endpoint-domain NAME	238
1.20.27 mgw local-ip A.B.C.D	238
1.20.28 mgw local-port <0-65535>	239
1.20.29 mgw remote-ip A.B.C.D	239
1.20.30 mgw remote-port <0-65535>	239
1.20.31 mgw x-osmo-ign call-id	240
1.20.32 msc-addr NAME	240
1.20.33 no access-list-name	240
1.20.34 no bsc-grace-text	241
1.20.35 no bsc-msc-lost-text	241
1.20.36 no bsc-welcome-text	241
1.20.37 no mgw x-osmo-ign	242
1.20.38 osmux (on off only)	242
1.20.39 type (normal local)	242
1.21 om2k	243
1.21.1 capabilities-request	243
1.21.2 configuration-request	243
1.21.3 connect-command	243
1.21.4 disable-request	243
1.21.5 disconnect-command	244
1.21.6 enable-request	244
1.21.7 operational-info <0-1>	244
1.21.8 reset-command	244
1.21.9 start-request	245
1.21.10 status-request	245
1.21.11 test-request	245
1.22 om2k-con-group	245
1.22.1 con-path (add del) <0-2047> <0-255> concentrated <1-16>	245
1.22.2 con-path (add del) <0-2047> <0-255> deconcentrated <0-63>	246

1.23	config-bsc	246
1.23.1	access-list NAME imsi-allow [REGEXP]	247
1.23.2	access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)	247
1.23.3	access-list-name NAME	248
1.23.4	bsc-auto-rf-off <1-65000>	248
1.23.5	bsc-rf-socket PATH	248
1.23.6	mid-call-text .TEXT	248
1.23.7	mid-call-timeout NR	249
1.23.8	missing-msc-text .TEXT	249
1.23.9	no access-list NAME	249
1.23.10	no access-list-name	250
1.23.11	no bsc-auto-rf-off	250
1.23.12	no missing-msc-text	250
1.24	config-cbc	251
1.24.1	listen-ip A.B.C.D	251
1.24.2	listen-port <1-65535>	251
1.24.3	no listen-port	251
1.24.4	no remote-ip	252
1.24.5	remote-ip A.B.C.D	252
1.24.6	remote-port <1-65535>	252

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 sismocom 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

Common Commands

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

end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

help

Command

```
help
```

Parameters

help

Description of the interactive help system

list

Command

```
list
```

Parameters

list

Print command list

show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

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)

write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

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.

enable

Command

```
enable
```

Parameters

enable

Turn on privileged mode command

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

logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

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

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

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

logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lc...

Command

```
logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan ↔
|ts|as|cbs|lglobal|llapd|linp|lmux|lmi|lmib|lsm|lctrl|lgtp|lstats|lgsup|loap|lss7| ↔
lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

rll

A-bis Radio Link Layer (RLL)

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

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

lcls
Local Call, Local Switch

chan
lchan FSM

ts
timeslot FSM

as
assignment FSM

cbs
Cell Broadcast System

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

lrspro
Remote SIM protocol

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

logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note: any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

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

logging level set-all (debug|info|notice|error|fatal)

Command

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category is set to the given level, period.

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

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

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>')

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

logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

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

[last]

Log source file info at the end of a log line. If omitted, log source file info just before the log text.

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

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

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

logp (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan|t...**Command**

```
logp (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan|ts|as| ↔
      cbs|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp| ↔
      lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters**logp**

Print a message on all log outputs; useful for placing markers in test logs

rll

A-bis Radio Link Layer (RLL)

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

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

lcls
Local Call, Local Switch

chan
lchan FSM

ts
timeslot FSM

as
assignment FSM

cbs
Cell Broadcast System

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

lrspro
Remote SIM protocol

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

.LOGMESSAGE
Arbitrary message to log on given category and log level

no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

Release any globally forced log level set with 'logging level force-all <level>'

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

show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>|any)

Command

```
show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS number

neighbor

Query which cell would be the target for this neighbor ARFCN+BSIC

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

show bts <0-255> smscb [(basic|extended)]

Command

```
show bts <0-255> smscb [(basic|extended)]
```

Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS number

smscb

SMS Cell Broadcast State

[basic]

Show only information related to CBCH BASIC

[extended]

Show only information related to CBCH EXTENDED

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

show cbc

Command

```
show cbc
```

Parameters

show

Show running system information

cbc

Display state of CBC / CBSP

show conns

Command

```
show conns
```

Parameters

show

Show running system information

conns

Display currently active subscriber connections

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

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

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)

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

Signalling Connection Control Part

addressbook

List all SCCP addressbook entries

show cs7 instance <0-15> sccp connections

Command

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

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

Signalling Connection Control Part

connections

Show List of active SCCP connections

show cs7 instance <0-15> sccp ssn <0-65535>

Command

```
show cs7 instance <0-15> sccp ssn <0-65535>
```

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

Signalling Connection Control Part

ssn

Find an SCCP User registered for the given SSN

<0-65535>

Subsystem Number (SSN)

show cs7 instance <0-15> sccp timers

Command

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

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

Signaling Connection Control Part

timers

Show List of SCCP timers

show cs7 instance <0-15> sccp users

Command

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

sccp

Signalling Connection Control Part

users

Show List of SCCP Users registered

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

show e1_driver

Command

```
show e1_driver
```

Parameters

show

Show running system information

e1_driver

Display information about available E1 drivers

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

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

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

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

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

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

show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

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

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 (used lchans)

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

summary-all

Short summary (all lchans)

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

show mscs

Command

```
show mscs
```

Parameters

show

Show running system information

mscs

MSC Connections and State

show network

Command

```
show network
```

Parameters

show

Show running system information

network

Display information about a GSM NETWORK

show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

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

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

show position

Command

```
show position
```

Parameters

show

Show running system information

position

Position information of the BTS

show rate-counters

Command

```
show rate-counters
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

show rejected-bts

Command

```
show rejected-bts
```

Parameters

show

Show running system information

rejected-bts

Display recently rejected BTS devices

show statistics

Command

```
show statistics
```

Parameters

show

Show running system information

statistics

Statistics about the BSC

show stats

Command

```
show stats
```

Parameters

show

Show running system information

stats

Show statistical values

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

show subscriber all

Command

```
show subscriber all
```

Parameters

show

Show running system information

subscriber

Display information about subscribers

all

All Subscribers

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

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

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)

show timer [TNNNN]

Command

```
show timer [TNNNN]
```

Parameters

show

Show running system information

timer

Show timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

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

show trx (connected|disconnected)

Command

```
show trx (connected|disconnected)
```

Parameters

show

Show running system information

trx

Display information about a TRX

connected

Show TRX with RSL connected

disconnected

Show TRX with RSL disconnected

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

show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

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)

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

who

Command

```
who
```

Parameters

who

Display who is on vty

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.

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.

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

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

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

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

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

bts <0-255> smscb-command (normal|schedule|default) <1-4> HEXSTRING

Command

```
bts <0-255> smscb-command (normal|schedule|default) <1-4> HEXSTRING
```

Parameters

bts

BTS related commands

<0-255>

BTS Number

smscb-command

SMS Cell Broadcast

normal

Normal (one-shot) SMSCB Message; sent once over Abis+Um

schedule

Schedule (one-shot) SMSCB Message; sent once over Abis+Um

default

Default (repeating) SMSCB Message; sent once over Abis, unlimited over Um

<1-4>

Last Valid Block

HEXSTRING

Hex Encoded SMSCB message (up to 88 octets)

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)

bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> (activate|deactivate) (hr|...

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

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)

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

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

configure terminal

Command

```
configure terminal
```

Parameters

configure

Configuration from vty interface

terminal

Configuration terminal

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)

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

disable

Command

```
disable
```

Parameters

disable

Turn off privileged mode command

drop bts connection <0-65535> (oml|rs1)

Command

```
drop bts connection <0-65535> (oml|rs1)
```

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

rs1

Drop RSL Connection

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

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.

handover any to arfcn <0-1023> bsic (<0-63>|any)

Command

```
handover any to arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

handover

Manually trigger handover (for debugging)

any

Pick any actively used TCH/F or TCH/H lchan to handover to another cell. This is likely to fail outside of a lab setup where you are certain that all MS are able to see the target cell.

to

'to'

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

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

logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

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

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

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

logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lc...**Command**

```
logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan ↔
|ts|as|cbs|lglobal|llapd|linp|lmux|lmi|lmib|lms|lctrl|lgtpl|stats|lgsup|loap|lss7| ↔
lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

Parameters**logging**

Configure logging

level

Set the log level for a specified category

rll

A-bis Radio Link Layer (RLL)

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

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

lcls
Local Call, Local Switch

chan
lchan FSM

ts
timeslot FSM

as
assignment FSM

cbs
Cell Broadcast System

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

lrspro
Remote SIM protocol

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

logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note: any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

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

logging level set-all (debug|info|notice|error|fatal)

Command

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category is set to the given level, period.

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

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

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>')

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

logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

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

[last]

Log source file info at the end of a log line. If omitted, log source file info just before the log text.

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

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

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

logp (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan|t...**Command**

```
logp (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan|ts|as| ←
      cbs|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp| ←
      lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters**logp**

Print a message on all log outputs; useful for placing markers in test logs

rll

A-bis Radio Link Layer (RLL)

mm

Layer3 Mobility Management (MM)

rr

Layer3 Radio Resource (RR)

rsl

A-bis Radio Signalling Link (RSL)

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Osmocom Authentication Protocol

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libosmo-sigtran Signalling System 7

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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

lrspro
Remote SIM protocol

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

.LOGMESSAGE
Arbitrary message to log on given category and log level

no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

Release any globally forced log level set with 'logging level force-all <level>'

restart-bts <0-65535>

Command

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

Parameters

restart-bts

Restart ip.access nanoBTS through OML

<0-65535>

BTS Number

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

show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>|any)

Command

```
show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS number

neighbor

Query which cell would be the target for this neighbor ARFCN+BSIC

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

show bts <0-255> smscb [(basic|extended)]

Command

```
show bts <0-255> smscb [(basic|extended)]
```

Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS number

smscb

SMS Cell Broadcast State

[basic]

Show only information related to CBCH BASIC

[extended]

Show only information related to CBCH EXTENDED

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

show conns

Command

```
show conns
```

Parameters

show

Show running system information

conns

Display currently active subscriber connections

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

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

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)

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

Signalling Connection Control Part

addressbook

List all SCCP addressbook entries

show cs7 instance <0-15> sccp connections

Command

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

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

Signalling Connection Control Part

connections

Show List of active SCCP connections

show cs7 instance <0-15> sccp ssn <0-65535>

Command

```
show cs7 instance <0-15> sccp ssn <0-65535>
```

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

Signalling Connection Control Part

ssn

Find an SCCP User registered for the given SSN

<0-65535>

Subsystem Number (SSN)

show cs7 instance <0-15> sccp timers

Command

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

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

Signaling Connection Control Part

timers

Show List of SCCP timers

show cs7 instance <0-15> sccp users

Command

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

sccp

Signalling Connection Control Part

users

Show List of SCCP Users registered

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

show e1_driver

Command

```
show e1_driver
```

Parameters

show

Show running system information

e1_driver

Display information about available E1 drivers

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

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

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

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

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

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

show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

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

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 (used lchans)

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

summary-all

Short summary (all lchans)

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

show mscs

Command

```
show mscs
```

Parameters

show

Show running system information

mscs

MSC Connections and State

show network

Command

```
show network
```

Parameters

show

Show running system information

network

Display information about a GSM NETWORK

show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

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

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

show position

Command

```
show position
```

Parameters

show

Show running system information

position

Position information of the BTS

show rate-counters

Command

```
show rate-counters
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

show rejected-bts

Command

```
show rejected-bts
```

Parameters

show

Show running system information

rejected-bts

Display recently rejected BTS devices

show startup-config

Command

```
show startup-config
```

Parameters

show

Show running system information

startup-config

Contentes of startup configuration

show statistics

Command

```
show statistics
```

Parameters

show

Show running system information

statistics

Statistics about the BSC

show stats

Command

```
show stats
```

Parameters

show

Show running system information

stats

Show statistical values

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

show subscriber all

Command

```
show subscriber all
```

Parameters

show

Show running system information

subscriber

Display information about subscribers

all

All Subscribers

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

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

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)

show timer [TNNNN]

Command

```
show timer [TNNNN]
```

Parameters

show

Show running system information

timer

Show timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

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

show trx (connected|disconnected)

Command

```
show trx (connected|disconnected)
```

Parameters

show

Show running system information

trx

Display information about a TRX

connected

Show TRX with RSL connected

disconnected

Show TRX with RSL disconnected

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

show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

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)

terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

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

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

who

Command

```
who
```

Parameters

who

Display who is on vty

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.

banner motd default

Command

```
banner motd default
```

Parameters

banner

Set banner string

motd

Strings for motd

default

Default string

banner motd file [FILE]

Command

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

Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

bsc

Command

```
bsc
```

Parameters

bsc

Configure BSC

cbc

Command

```
cbc
```

Parameters

cbc

Configure CBSP Link to Cell Broadcast Centre

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

ctrl

Command

```
ctrl
```

Parameters

ctrl

Configure the Control Interface

e1_input

Command

```
e1_input
```

Parameters

e1_input

Configure E1/T1/J1 TDM input

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

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

hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vtty

Virtual terminal

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

log file .FILENAME

Command

```
log file .FILENAME
```

Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

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)

log stderr

Command

```
log stderr
```

Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

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

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

msc [<0-1000>]

Command

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

Parameters

msc

Configure MSC details

[<0-1000>]

MSC connection to configure

network

Command

```
network
```

Parameters

network

Configure the GSM network

no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

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

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

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_strrb

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

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

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

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

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)

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

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

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

password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

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)

show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

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

stats reporter log

Command

```
stats reporter log
```

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

stats reporter statsd

Command

```
stats reporter statsd
```

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

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.

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

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

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

logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lc...**Command**

```
logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan ↔
|ts|as|cbs|lglobal|llapd|linp|lmux|lmi|lmib|lms|lctrl|lgtplstats|lgsup|loap|lss7| ↔
lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

Parameters**logging**

Configure logging

level

Set the log level for a specified category

rll

A-bis Radio Link Layer (RLL)

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

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

lcls
Local Call, Local Switch

chan
lchan FSM

ts
timeslot FSM

as
assignment FSM

cbs
Cell Broadcast System

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

lrspro

Remote SIM protocol

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

logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

Globally force all logging categories to a specific level. This is released by the 'no logging level force-all' command. Note: any 'logging level <category> <level>' commands will have no visible effect after this, until the forced level is released.

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

logging level set-all (debug|info|notice|error|fatal)**Command**

```
logging level set-all (debug|info|notice|error|fatal)
```

Parameters**logging**

Configure logging

level

Set the log level for a specified category

set-all

Once-off set all categories to the given log level. There is no single command to take back these changes -- each category is set to the given level, period.

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

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

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>')

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

logging print file (0|1|basename) [last]

Command

```
logging print file (0|1|basename) [last]
```

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

[last]

Log source file info at the end of a log line. If omitted, log source file info just before the log text.

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

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

no logging level force-all

Command

```
no logging level force-all
```

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

Release any globally forced log level set with 'logging level force-all <level>'

config-stats

disable

Command

```
disable
```

Parameters

disable

Disable the reporter

enable

Command

```
enable
```

Parameters

enable

Enable the reporter

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

local-ip ADDR

Command

```
local-ip ADDR
```

Parameters

local-ip

Set the IP address to which we bind locally

ADDR

IP Address

mtu <100-65535>

Command

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

Parameters

mtu

Set the maximum packet size

<100-65535>

Size in byte

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

no mtu

Command

```
no mtu
```

Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

no prefix

Command

```
no prefix
```

Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

prefix PREFIX

Command

```
prefix PREFIX
```

Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

remote-ip ADDR

Command

```
remote-ip ADDR
```

Parameters

remote-ip

Set the remote IP address to which we connect

ADDR

IP Address

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

config-line

bind A.B.C.D [<0-65535>]

Command

```
bind A.B.C.D [<0-65535>]
```

Parameters

bind

Accept VTY telnet connections on local interface

A.B.C.D

Local interface IP address (default: 127.0.0.1)

[<0-65535>]

Local TCP port number

login

Command

```
login
```

Parameters

login

Enable password checking

no login

Command

```
no login
```

Parameters

no

Negate a command or set its defaults

login

Enable password checking

config-e1_input

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

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

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

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

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

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

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)

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

config-ctrl

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)

config-cs7

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)

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)

description .TEXT**Command**

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

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

no as NAME

Command

```
no as NAME
```

Parameters

no

Negate a command or set its defaults

as

Disable Application Server

NAME

Name of AS

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

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

point-code POINT_CODE

Command

```
point-code POINT_CODE
```

Parameters

point-code

Configure the local Point Code

POINT_CODE

Point Code

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

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

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)

sccp-address NAME

Command

```
sccp-address NAME
```

Parameters

sccp-address

Create/Modify an SCCP addressbook entry

NAME

Name of the SCCP Address

sccp-timer (conn_est|ias|iar|rel|repeat_rel|int|guard|reset|reassembly) <1-99999...

Command

```
sccp-timer (conn_est|ias|iar|rel|repeat_rel|int|guard|reset|reassembly) <1-999999>
```

Parameters

sccp-timer

Configure SCCP timer values, see ITU-T Q.714

conn_est

Waiting for connection confirm message, 1 to 2 minutes (default: 60)

ias

Send keep-alive: on an idle connection, delay before sending an Idle Timer message, 5 to 10 minutes (default: 420)

iar

Receive keep-alive: on an idle connection, delay until considering a connection as stale, 11 to 21 minutes (default: 900)

rel

Waiting for release complete message, 10 to 20 seconds (default: 10)

repeat_rel

Waiting for release complete message; or to repeat sending released message after the initial expiry, 10 to 20 seconds (default: 10)

int

Waiting for release complete message; or to release connection resources, freeze the LRN and alert a maintenance function after the initial expiry, extending to 1 minute (default: 60)

guard

Waiting to resume normal procedure for temporary connection sections during the restart procedure, 23 to 25 minutes (default: 1380)

reset

Waiting to release temporary connection section or alert maintenance function after reset request message is sent, 10 to 20 seconds (default: 10)

reassembly

Waiting to receive all the segments of the remaining segments, single segmented message after receiving the first segment, 10 to 20 seconds (default: 10)

<1-999999>

Timer value, in seconds

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

config-cs7-as

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

description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

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

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

qos-class <0-255>

Command

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

Parameters

qos-class

Specify QoS Class of AS

<0-255>

QoS Class of AS

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

routing-key RCONTEXT DPC

Command

```
routing-key RCONTEXT DPC
```

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

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

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

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

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

config-cs7-asp

block

Command

```
block
```

Parameters

block

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

description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

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

qos-class <0-255>

Command

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

Parameters

qos-class

Specify QoS Class of ASP

<0-255>

QoS Class of ASP

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

shutdown

Command

```
shutdown
```

Parameters

shutdown

Terminates SCTP association; New associations will be rejected

config-cs7-sccpaddr

global-title

Command

```
global-title
```

Parameters

global-title

Add/Modify Global Title

no global-title

Command

```
no global-title
```

Parameters

no

Negate a command or set its defaults

global-title

Remove Global Title

no point-code

Command

```
no point-code
```

Parameters

no

Negate a command or set its defaults

point-code

Remove point-code Number

no subsystem-number

Command

```
no subsystem-number
```

Parameters

no

Negate a command or set its defaults

subsystem-number

Remove Subsystem Number

point-code POINT_CODE

Command

```
point-code POINT_CODE
```

Parameters

point-code

Add point-code Number

POINT_CODE

PC

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

subsystem-number <0-4294967295>

Command

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

Parameters

subsystem-number

Add Subsystem Number

<0-4294967295>

SSN

config-cs7-sccpaddr-gt

digits DIGITS

Command

```
digits DIGITS
```

Parameters

digits

Set Global Title Digits

DIGITS

Number digits

global-title-indicator <0-15>

Command

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

Parameters

global-title-indicator

Set Global Title Indicator

<0-15>

GTI

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

numbering-plan-indicator <0-15>

Command

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

Parameters

numbering-plan-indicator

Set Global Title Numbering Plan Indicator

<0-15>

NPI

translation-type <0-255>

Command

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

Parameters

translation-type

Set Global Title Translation Type

<0-255>

TT

config-net

bts <0-255>

Command

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

Parameters

bts

Select a BTS to configure

<0-255>

BTS Number

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

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

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

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

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 dB stronger must a neighbor be to become a HO candidate

<0-999>

Neighbor's strength difference in dB

default

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

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

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 to use for averaging

<1-10>

RxLev averaging: Number of values to average over

default

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

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 to use for averaging

averaging

How many Neighbor RxLev measurements to use for averaging

<1-10>

Neighbor RxLev averaging: Number of values to average over

default

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

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 to use for averaging

<1-10>

RxQual averaging: Number of values to average over

default

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

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

rxlev

RxLev improvement bias for AFS over other codecs

<0-20>

Virtual RxLev improvement (dB)

default

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

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

rxqual

RxQual improvement bias for AFS over other codecs

<0-7>

Virtual RxQual improvement

default

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

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 within the same cell

0

Disable in-call assignment

1

Enable in-call assignment

default

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

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

disabled

Disable congestion checking, do not handover based on cell load. Note: there is one global congestion check interval, i.e. contrary to other handover2 settings, this is not configurable per individual cell.

<1-999>

Congestion check interval in seconds (default 10)

now

Manually trigger a congestion check to run right now

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

<1-9999>

Number

default

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

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

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

rxlev

How weak may RxLev of an MS become before triggering HO

<-110--50>

minimum RxLev (dBm; note: negative values)

default

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

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

rxqual

How bad may RxQual of an MS become before triggering HO

<0-7>

minimum RxQual

default

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

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

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

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

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

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

failed-assignment

Time to suspend handover for a subscriber after a failed re-assignment within this cell; see also 'handover2 retries'

<0-99999>

Seconds

default

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

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

failed-ho

Time to suspend handover for a subscriber after a failed handover into this cell; see also 'handover2 retries'

<0-99999>

Seconds

default

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

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

max-distance

Time to suspend handover for a subscriber after leaving this cell due to exceeding max distance; see also 'handover2 retries'

<0-99999>

Seconds

default

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

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 dB stronger must a neighbor be to become a HO candidate

<0-999>

Neighbor's strength difference in dB

default

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

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

handover2 retries (<0-9>|default)

Command

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

Parameters

handover2

Handover options for handover decision algorithm 2

retries

Number of times to immediately retry a failed handover/assignment, before a penalty time is applied

<0-9>

Number of retries

default

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

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

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

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 to use for averaging

<1-10>

RxLev averaging: Number of values to average over

default

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

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 to use for averaging

averaging

How many Neighbor RxLev measurements to use for averaging

<1-10>

Neighbor RxLev averaging: Number of values to average over

default

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

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 to use for averaging

<1-10>

RxQual averaging: Number of values to average over

default

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

meas-feed destination ADDR <0-65535>

Command

```
meas-feed destination ADDR <0-65535>
```

Parameters

meas-feed

Measurement Report export

destination

Where to forward Measurement Report feeds

ADDR

address or hostname

<0-65535>

port number

meas-feed scenario NAME

Command

```
meas-feed scenario NAME
```

Parameters

meas-feed

Measurement Report export

scenario

Set a name to include in the Measurement Report feeds

NAME

Name string, up to 31 characters

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

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

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

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

no timezone

Command

```
no timezone
```

Parameters

no

Negate a command or set its defaults

timezone

Disable network timezone override, use system tz

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

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

timer [TNNNN] [(<0-2147483647>**|default)]**

Command

```
timer [TNNNN] [(<0-2147483647>|default)]
```

Parameters

timer

Configure or show timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

[**<0-2147483647>**]

New timer value

[default]

Set to default timer value

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)

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)

config-net-bts**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)

access-control-class-ramping

Command

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

Parameters

access-control-class-ramping

Enable Access Control Class ramping

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

band BAND

Command

```
band BAND
```

Parameters

band

Set the frequency band of this BTS

BAND

Frequency band

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

ccch load-indication-threshold <0-100>

Command

```
ccch load-indication-threshold <0-100>
```

Parameters

ccch

Common Control Channel

load-indication-threshold

Percentage of CCCH load at which BTS sends RSL CCCH LOAD IND

<0-100>

CCCH Load Threshold in percent (Default: 10)

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

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

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

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

cell_identity <0-65535>

Command

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

Parameters

cell_identity

Set the Cell identity of this BTS

<0-65535>

Cell Identity

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

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)

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

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

codec-support fr

Command

```
codec-support fr
```

Parameters

codec-support
Codec Support settings

fr
Fullrate

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

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

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

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

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

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

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

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

description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

dtx downlink

Command

```
dtx downlink
```

Parameters

dtx

Configure discontinuous transmission

downlink

Enable Downlink DTX for this BTS

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).

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

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

force-combined-si

Command

```
force-combined-si
```

Parameters

force-combined-si

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

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

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

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

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

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

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

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|tsns-prov) <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

tsns-prov

SNS Provision Timer (Tsns-prov) timeout

<0-255>

Timer Value

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

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

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

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

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

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

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

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

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

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 dB stronger must a neighbor be to become a HO candidate

<0-999>

Neighbor's strength difference in dB

default

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

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

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 to use for averaging

<1-10>

RxLev averaging: Number of values to average over

default

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

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 to use for averaging

averaging

How many Neighbor RxLev measurements to use for averaging

<1-10>

Neighbor RxLev averaging: Number of values to average over

default

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

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 to use for averaging

<1-10>

RxQual averaging: Number of values to average over

default

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

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

rxlev

RxLev improvement bias for AFS over other codecs

<0-20>

Virtual RxLev improvement (dB)

default

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

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

rxqual

RxQual improvement bias for AFS over other codecs

<0-7>

Virtual RxQual improvement

default

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

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 within the same cell

0

Disable in-call assignment

1

Enable in-call assignment

default

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

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

<1-9999>

Number

default

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

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

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

rxlev

How weak may RxLev of an MS become before triggering HO

<-110--50>

minimum RxLev (dBm; note: negative values)

default

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

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

rxqual

How bad may RxQual of an MS become before triggering HO

<0-7>

minimum RxQual

default

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

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

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

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

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

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

failed-assignment

Time to suspend handover for a subscriber after a failed re-assignment within this cell; see also 'handover2 retries'

<0-99999>

Seconds

default

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

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

failed-ho

Time to suspend handover for a subscriber after a failed handover into this cell; see also 'handover2 retries'

<0-99999>

Seconds

default

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

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

max-distance

Time to suspend handover for a subscriber after leaving this cell due to exceeding max distance; see also 'handover2 retries'

<0-99999>

Seconds

default

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

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 dB stronger must a neighbor be to become a HO candidate

<0-999>

Neighbor's strength difference in dB

default

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

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

handover2 retries (<0-9>|default)

Command

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

Parameters

handover2

Handover options for handover decision algorithm 2

retries

Number of times to immediately retry a failed handover/assignment, before a penalty time is applied

<0-9>

Number of retries

default

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

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

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

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 to use for averaging

<1-10>

RxLev averaging: Number of values to average over

default

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

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 to use for averaging

averaging

How many Neighbor RxLev measurements to use for averaging

<1-10>

Neighbor RxLev averaging: Number of values to average over

default

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

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 to use for averaging

<1-10>

RxQual averaging: Number of values to average over

default

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

ipa rsl-ip A.B.C.D

Command

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

Parameters

ipa

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

ipa unit-id <0-65534> <0-255>

Command

```
ipa unit-id <0-65534> <0-255>
```

Parameters

ipa

Abis/IP specific options

unit-id

Set the IPA BTS Unit ID

<0-65534>

Unit ID (Site)

<0-255>

Unit ID (BTS)

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

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

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

neighbor bts <0-255>

Command

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

Parameters

neighbor

Manage local and remote-BSS neighbor cells

bts

Add Neighbor cell by local BTS number

<0-255>

BTS number

neighbor cgi <0-999> <0-999> <0-65535> <0-65535>

Command

```
neighbor cgi <0-999> <0-999> <0-65535> <0-65535>
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

cgi

Add Neighbor cell by cgi

<0-999>

MCC

<0-999>

MNC

<0-65535>

LAC

<0-65535>

CI

neighbor cgi <0-999> <0-999> <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63>|any...

Command

```
neighbor cgi <0-999> <0-999> <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

cgi

Add Neighbor cell by cgi

<0-999>

MCC

<0-999>

MNC

<0-65535>

LAC

<0-65535>

CI

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

neighbor lac <0-65535>

Command

```
neighbor lac <0-65535>
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

lac

Add Neighbor cell by LAC

<0-65535>

LAC

neighbor lac <0-65535> arfcn <0-1023> bsic (<0-63>|any)

Command

```
neighbor lac <0-65535> arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

lac

Add Neighbor cell by LAC

<0-65535>

LAC

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

neighbor lac-ci <0-65535> <0-65535>

Command

```
neighbor lac-ci <0-65535> <0-65535>
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

lac-ci

Add Neighbor cell by LAC and CI

<0-65535>

LAC

<0-65535>

CI

neighbor lac-ci <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63>|any)

Command

```
neighbor lac-ci <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

lac-ci

Add Neighbor cell by LAC and CI

<0-65535>

LAC

<0-65535>

CI

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

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

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 BSC

manual

Manual

manual-si5

Manual with different lists for SI2 and SI5

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

no description

Command

```
no description
```

Parameters

no

Negate a command or set its defaults

description

Remove description of the object

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

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

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)

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

no neighbor arfcn <0-1023> bsic (<0-63>|any)

Command

```
no neighbor arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

no

Negate a command or set its defaults

neighbor

Remove local or remote-BSS neighbor cell

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

no neighbor bts <0-255>

Command

```
no neighbor bts <0-255>
```

Parameters

no

Negate a command or set its defaults

neighbor

Remove local or remote-BSS neighbor cell

bts

Neighbor cell by local BTS number

<0-255>

BTS number

no neighbors

Command

```
no neighbors
```

Parameters

no

Negate a command or set its defaults

neighbors

Remove all local and remote-BSS neighbor config for this cell. Note that this falls back to the legacy behavior of regarding all local cells as neighbors.

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

no system-information unused-send-empty

Command

```
no system-information unused-send-empty
```

Parameters

no

Negate a command or set its defaults

system-information

System Information Messages

unused-send-empty

Avoid sending BCCH Info with empty 'Full BCCH Info' TLV to notify disabled SI. Some nanoBTS fw versions are known to fail upon receipt of these messages.

no timer-dynamic TNNNN

Command

```
no timer-dynamic TNNNN
```

Parameters

no

Negate a command or set its defaults

timer-dynamic

Set given timer to non-dynamic and use the default or user provided fixed value

TNNNN

T-number, optionally preceded by 't' or 'T'

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.

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

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

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

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

oml ipa stream-id <0-255> line E1_LINE

Command

```
oml ipa stream-id <0-255> line E1_LINE
```

Parameters

- oml
Organization & Maintenance Link
 - ipa
A-bis/IP Specific Options
 - stream-id
Set the ipa Stream ID of the OML link of this BTS
 - <0-255>
Stream Identifier
 - line
Virtual E1 Line Number
 - E1_LINE
Virtual E1 Line Number
-

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

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

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)

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)

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

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

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

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

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

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

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)

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)

rf-lock-exclude

Command

```
rf-lock-exclude
```

Parameters

rf-lock-exclude

Exclude this BTS from the global RF Lock

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)

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)

si2quarter neighbor-list add uarfcn <0-16383> <0-511> <0-1>

Command

```
si2quarter neighbor-list add uarfcn <0-16383> <0-511> <0-1>
```

Parameters

si2quarter

SI2quarter Neighbor List

neighbor-list

SI2quarter Neighbor List

add

Add to manual SI2quarter neighbor list

uarfcn

UARFCN of neighbor

<0-16383>

UARFCN of neighbor

<0-511>

scrambling code

<0-1>

diversity bit

si2quarter neighbor-list del earfcn <0-65535>

Command

```
si2quarter neighbor-list del earfcn <0-65535>
```

Parameters

si2quarter

SI2quarter Neighbor List

neighbor-list

SI2quarter Neighbor List

del

Delete from SI2quarter manual neighbor list

earfcn

EARFCN of neighbor

<0-65535>

EARFCN

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

<0-16383>

UARFCN

<0-511>

scrambling code

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

<0-1023>

ARFCN of neighbor

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
2quater	System Information Type 2quater
5bis	System Information Type 5bis
5ter	System Information Type 5ter
mode	System Information Mode
static	Static user-specified
computed	Dynamic, BSC-computed

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) ↔  
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

system-information unused-send-empty

Command

```
system-information unused-send-empty
```

Parameters

system-information

System Information Messages

unused-send-empty

Send BCCH Info with empty 'Full BCCH Info' TLV to notify disabled SI. Some nanoBTS fw versions are known to fail upon receipt of these messages.

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

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

timer-dynamic TNNNN

Command

```
timer-dynamic TNNNN
```

Parameters

timer-dynamic

Calculate T3113 dynamically based on channel config and load

TNNNN

T-number, optionally preceded by 't' or 'T'

trx <0-255>

Command

```
trx <0-255>
```

Parameters

trx

Radio Transceiver

<0-255>

Select a TRX to configure

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

config-net-bts-trx

arfcn <0-1023>

Command

```
arfcn <0-1023>
```

Parameters

arfcn

Set the ARFCN for this TRX

<0-1023>

Absolute Radio Frequency Channel Number

description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

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

no description

Command

```
no description
```

Parameters

no

Negate a command or set its defaults

description

Remove description of the object

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

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)

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

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

timeslot <0-7>

Command

```
timeslot <0-7>
```

Parameters

timeslot

Select a Timeslot to configure

<0-7>

Timeslot number

config-net-bts-trx-ts

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

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

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

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

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)

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)

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

training_sequence_code <0-7>

Command

```
training_sequence_code <0-7>
```

Parameters

training_sequence_code

Training Sequence Code of the Timeslot

<0-7>

TSC

oml

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

opstart

Command

```
opstart
```

Parameters

opstart

Send an OPSTART message to the object

config-msc

This node allows to configure the MSC connection related settings.

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.

allow-emergency (allow|deny)

Command

```
allow-emergency (allow|deny)
```

Parameters

allow-emergency

Allow CM ServiceRequests with type emergency

allow

Allow

deny

Deny

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

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

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

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

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

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

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

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

amr-payload (octet-aligned|bandwith-efficient)

Command

```
amr-payload (octet-aligned|bandwith-efficient)
```

Parameters

amr-payload

Set AMR payload framing mode

octet-aligned

payload fields aligned on octet boundaries

bandwith-efficient

payload fields packed (AoIP)

asp-protocol (m3ua|sua|ipa)

Command

```
asp-protocol (m3ua|sua|ipa)
```

Parameters

asp-protocol

A interface protocol to use for this MSC)

m3ua

MTP3 User Adaptation

sua

SCCP User Adaptation

ipa

IPA Multiplex (SCCP Lite)

bsc-addr NAME

Command

```
bsc-addr NAME
```

Parameters

bsc-addr

Calling Address (local address of this BSC)

NAME

SCCP address name

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

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

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

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

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

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

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

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

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

lcls-codec-mismatch (allowed|forbidden)

Command

```
lcls-codec-mismatch (allowed|forbidden)
```

Parameters

lcls-codec-mismatch

Allow 3GPP LCLS (Local Call, Local Switch) when call legs use different codec/rate

allowed

Allow LCLS only for calls that use the same codec/rate on both legs

forbidden

Do not Allow LCLS for calls that use a different codec/rate on both legs

lcls-mode (disabled|mgw-loop|bts-loop)

Command

```
lcls-mode (disabled|mgw-loop|bts-loop)
```

Parameters

lcls-mode

Configure 3GPP LCLS (Local Call, Local Switch)

disabled

Disable LCLS for all calls of this MSC

mgw-loop

Enable LCLS with looping traffic in MGW

bts-loop

Enable LCLS with looping traffic between BTS

local-prefix REGEXP

Command

```
local-prefix REGEXP
```

Parameters

local-prefix

Prefix for local numbers

REGEXP

REGEXP used

mgw endpoint-domain NAME

Command

```
mgw endpoint-domain NAME
```

Parameters

mgw

Configure MGCP connection to Media Gateway

endpoint-domain

Set the domain name to send in MGCP messages, e.g. the part 'foo' in 'rtpbridge/*@foo'.

NAME

Domain name, should be alphanumeric.

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

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

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

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

mgw x-osmo-ign call-id

Command

```
mgw x-osmo-ign call-id
```

Parameters

mgw

Configure MGCP connection to Media Gateway

x-osmo-ign

Set a (non-standard) X-Osmo-IGN header in all CRCX messages for RTP streams associated with this MSC, useful for A/SCCP lite MSCs, since osmo-bsc cannot know the MSC's chosen CallID. This is enabled by default for A/SCCP lite connections, disabled by default for all others.

call-id

Send 'X-Osmo-IGN: C' to ignore CallID mismatches. See OsmoMGW.

msc-addr NAME

Command

```
msc-addr NAME
```

Parameters

msc-addr

Called Address (remote address of the MSC)

NAME

SCCP address name

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.

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

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

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

no mgw x-osmo-ign

Command

```
no mgw x-osmo-ign
```

Parameters

no

Negate a command or set its defaults

mgw

Configure MGCP connection to Media Gateway

x-osmo-ign

Do not send X-Osmo-IGN MGCP header to this MSC

osmux (on|off|only)

Command

```
osmux (on|off|only)
```

Parameters

osmux

RTP multiplexing

on

Enable OSMUX

off

Disable OSMUX

only

Only use OSMUX

type (normal|local)

Command

```
type (normal|local)
```

Parameters

type

Select the MSC type

normal

Plain GSM MSC

local

Special MSC for local call routing

om2k

capabilities-request

Command

```
capabilities-request
```

Parameters

capabilities-request

Request MO capabilities

configuration-request

Command

```
configuration-request
```

Parameters

configuration-request

Send the configuration request for current MO

connect-command

Command

```
connect-command
```

Parameters

connect-command

Connect the MO

disable-request

Command

```
disable-request
```

Parameters

disable-request

Disable the MO

disconnect-command

Command

```
disconnect-command
```

Parameters

disconnect-command

Disconnect the MO

enable-request

Command

```
enable-request
```

Parameters

enable-request

Enable the MO

operational-info <0-1>

Command

```
operational-info <0-1>
```

Parameters

operational-info

Set operational information

<0-1>

Set operational info to 0 or 1

reset-command

Command

```
reset-command
```

Parameters

reset-command

Reset the MO

start-request

Command

```
start-request
```

Parameters

```
start-request  
    Start the MO
```

status-request

Command

```
status-request
```

Parameters

```
status-request  
    Get the MO Status
```

test-request

Command

```
test-request
```

Parameters

```
test-request  
    Test the MO
```

om2k-con-group

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

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

config-bsc

This node allows to configure the BSC connection related settings.

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

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

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.

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

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

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

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

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

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

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

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

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.

config-cbc

listen-ip A.B.C.D

Command

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

Parameters

listen-ip

Local IP Address where BSC listens for incoming CBC connections (Default: 0.0.0.0)

A.B.C.D

Local IP Address where BSC listens for incoming CBC connections

listen-port <1-65535>

Command

```
listen-port <1-65535>
```

Parameters

listen-port

Local TCP port at which BSC listens for incoming CBSP connections from CBC

<1-65535>

Local TCP port at which BSC listens for incoming CBSP connections from CBC

no listen-port

Command

```
no listen-port
```

Parameters

no

Negate a command or set its defaults

listen-port

Remove CBSP Listen Port; disables inbound CBSP connections

no remote-ip

Command

```
no remote-ip
```

Parameters

no

Negate a command or set its defaults

remote-ip

Remove IP address of CBC; disables outbound CBSP connections

remote-ip A.B.C.D

Command

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

Parameters

remote-ip

IP Address of the Cell Broadcast Centre

A.B.C.D

IP Address of the Cell Broadcast Centre

remote-port <1-65535>

Command

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

Parameters

remote-port

TCP Port number of the Cell Broadcast Centre (Default: 48049)

<1-65535>

TCP Port number of the Cell Broadcast Centre (Default: 48049)
