

# **OsmoBTS VTY Reference**



**osmo-bts-trx**

Copyright © 2024

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

---

**COLLABORATORS**

	<i>TITLE :</i> OsmoBTS VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		November 14, 2024	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
DRAFT 1.8.0-17-g64d9f	2024-Jul-19	Automatically Generated VTY Reference	s.f.m.c.

# Contents

<b>1</b>	<b>VTY reference</b>	<b>1</b>
1.1	Common Commands	1
1.1.1	end	2
1.1.2	exit	2
1.1.3	help	2
1.1.4	list [with-flags]	2
1.1.5	show running-config	3
1.1.6	show vty-attributes	3
1.1.7	show vty-attributes (application library global)	3
1.1.8	write	4
1.1.9	write file [PATH]	4
1.1.10	write memory	4
1.1.11	write terminal	5
1.2	view	5
1.2.1	enable [expert-mode]	5
1.2.2	logging color (0 1)	5
1.2.3	logging disable	6
1.2.4	logging enable	6
1.2.5	logging filter all (0 1)	6
1.2.6	logging filter 11-sapi (unknown lagch bech cbch facch ffacch hlfacch idle inchn pac...	7
1.2.7	logging level (rs l om lr l rr meas pag l cl l p ds p cu ho l tr x lo op lab is rt p os mu...	8
1.2.8	logging level force-all (debug info notice error fatal)	11
1.2.9	logging level set-all (debug info notice error fatal)	12
1.2.10	logging print category (0 1)	13
1.2.11	logging print category-hex (0 1)	13
1.2.12	logging print extended-timestamp (0 1)	14
1.2.13	logging print file (0 1 basename) [last]	14
1.2.14	logging print level (0 1)	15
1.2.15	logging print thread-id (0 1)	15
1.2.16	logging set-log-mask MASK	16

1.2.17	logging timestamp (01)	16
1.2.18	logp (rslomlrrllrrlmeaslpagll1cll1pldsplpculholtrxllooplabislrtplomuxlascillg...	16
1.2.19	no logging filter l1-sapi (unknownlagchlbchlcbbchlfacch/ffacch/hlfchldlelnchl...	19
1.2.20	no logging level force-all	21
1.2.21	show alarms	21
1.2.22	show asciidoc counters	22
1.2.23	show bts <0-255> gprs	22
1.2.24	show bts [<0-255>]	22
1.2.25	show cpu-sched threads	23
1.2.26	show e1_driver	23
1.2.27	show e1_line [<0-255>] [stats]	23
1.2.28	show e1_timeslot [<0-255>] [<0-31>]	24
1.2.29	show fsm NAME	24
1.2.30	show fsm all	24
1.2.31	show fsm-instances NAME	25
1.2.32	show fsm-instances all	25
1.2.33	show fsm-state-graph NAME	25
1.2.34	show history	26
1.2.35	show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]	26
1.2.36	show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]	26
1.2.37	show logging vty	27
1.2.38	show online-help	27
1.2.39	show phy	28
1.2.40	show pid	28
1.2.41	show rate-counters [skip-zero]	28
1.2.42	show stats [skip-zero]	29
1.2.43	show stats level (globalpeerlsubscriber) [skip-zero]	29
1.2.44	show talloc-context (applicationlglobalall) (fulllbrieflDEPTH)	30
1.2.45	show talloc-context (applicationlglobalall) (fulllbrieflDEPTH) filter REGEXP	30
1.2.46	show talloc-context (applicationlglobalall) (fulllbrieflDEPTH) tree ADDRESS	31
1.2.47	show timer [(btslabis)] [TNNNN]	32
1.2.48	show timeslot [<0-255>] [<0-255>] [<0-7>]	32
1.2.49	show transceiver	33
1.2.50	show trx [<0-255>] [<0-255>]	33
1.2.51	show uptime	33
1.2.52	show version	34
1.2.53	terminal length <0-512>	34
1.2.54	terminal no length	34
1.2.55	who	35

1.3	enable	35
1.3.1	bts <0-0> c0-power-red <0-6>	35
1.3.2	bts <0-0> trx <0-255> ts <0-7> (lchanshadow-lchan) <0-7> rtp jitter-buffer <0-1...	35
1.3.3	configure [terminal]	36
1.3.4	copy running-config startup-config	37
1.3.5	disable	37
1.3.6	logging color (011)	37
1.3.7	logging disable	38
1.3.8	logging enable	38
1.3.9	logging filter all (011)	38
1.3.10	logging filter l1-sapi (unknownlagchlbccchbcchlfacch/flfacch/hlfccchldlelnchlpac...	39
1.3.11	logging level (rsllomlrlrrlmeaslpagll1cll1pldsplpculholtrxlllooplabislrtplomu...	40
1.3.12	logging level force-all (debuglinfofnoticeerrorlfatal)	43
1.3.13	logging level set-all (debuglinfofnoticeerrorlfatal)	44
1.3.14	logging print category (011)	45
1.3.15	logging print category-hex (011)	45
1.3.16	logging print extended-timestamp (011)	46
1.3.17	logging print file (011 basename) [last]	46
1.3.18	logging print level (011)	47
1.3.19	logging print thread-id (011)	47
1.3.20	logging set-log-mask MASK	48
1.3.21	logging timestamp (011)	48
1.3.22	logp (rsllomlrlrrlmeaslpagll1cll1pldsplpculholtrxlllooplabislrtplomuxlascillg...	48
1.3.23	no logging filter l1-sapi (unknownlagchlbccchbcchlfacch/flfacch/hlfccchldlelnchl...	51
1.3.24	no logging level force-all	53
1.3.25	show alarms	53
1.3.26	show asciidoc counters	54
1.3.27	show bts <0-255> gprs	54
1.3.28	show bts [<0-255>]	54
1.3.29	show cpu-sched threads	55
1.3.30	show e1_driver	55
1.3.31	show e1_line [<0-255>] [stats]	55
1.3.32	show e1_timeslot [<0-255>] [<0-31>]	56
1.3.33	show fsm NAME	56
1.3.34	show fsm all	56
1.3.35	show fsm-instances NAME	57
1.3.36	show fsm-instances all	57
1.3.37	show fsm-state-graph NAME	57
1.3.38	show history	58

1.3.39	show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]	58
1.3.40	show lchan summary [<0-255>] [<0-255>] [<0-7>] [<0-7>]	58
1.3.41	show logging vty	59
1.3.42	show online-help	59
1.3.43	show phy	60
1.3.44	show rate-counters [skip-zero]	60
1.3.45	show startup-config	60
1.3.46	show stats [skip-zero]	61
1.3.47	show stats level (globalpeer subscriber) [skip-zero]	61
1.3.48	show talloc-context (application global all) (full brief DEPTH)	62
1.3.49	show talloc-context (application global all) (full brief DEPTH) filter REGEXP	62
1.3.50	show talloc-context (application global all) (full brief DEPTH) tree ADDRESS	63
1.3.51	show timer [(bts abis)] [TNNNN]	64
1.3.52	show timeslot [<0-255>] [<0-255>] [<0-7>]	64
1.3.53	show transceiver	65
1.3.54	show trx [<0-255>] [<0-255>]	65
1.3.55	show version	65
1.3.56	shutdown	66
1.3.57	stats report	66
1.3.58	stats reset	66
1.3.59	terminal length <0-512>	67
1.3.60	terminal monitor	67
1.3.61	terminal no length	67
1.3.62	terminal no monitor	68
1.3.63	test send-failure-event-report <0-255>	68
1.3.64	who	68
1.4	config	69
1.4.1	banner motd default	69
1.4.2	banner motd file [FILE]	69
1.4.3	bts BTS_NR	70
1.4.4	cpu-sched	70
1.4.5	ctrl	70
1.4.6	e1_input	71
1.4.7	enable password (8l) WORD	71
1.4.8	enable password LINE	71
1.4.9	hostname WORD	72
1.4.10	line vty	72
1.4.11	log alarms <2-32700>	72
1.4.12	log file FILENAME [blocking-io]	73

1.4.13	log gsmzap [HOSTNAME]	73
1.4.14	log stderr [blocking-io]	73
1.4.15	log syslog (authpriv cron daemon ftp lpr mail news user uucp)	74
1.4.16	log syslog local <0-7>	74
1.4.17	log systemd-journal [raw]	75
1.4.18	no banner motd	75
1.4.19	no enable password	76
1.4.20	no hostname [HOSTNAME]	76
1.4.21	no log alarms	76
1.4.22	no log file FILENAME	77
1.4.23	no log gsmzap [HOSTNAME]	77
1.4.24	no log stderr	77
1.4.25	no log syslog	78
1.4.26	no log systemd-journal	78
1.4.27	no service advanced-vty	78
1.4.28	no service terminal-length [<0-512>]	79
1.4.29	no stats reporter log [NAME]	79
1.4.30	no stats reporter statsd [NAME]	80
1.4.31	password (8) WORD	80
1.4.32	password LINE	80
1.4.33	phy <0-255>	81
1.4.34	service advanced-vty	81
1.4.35	service terminal-length <0-512>	81
1.4.36	show history	82
1.4.37	stats interval <0-65535>	82
1.4.38	stats reporter log [NAME]	82
1.4.39	stats reporter statsd [NAME]	83
1.4.40	stats-tcp batch-size <1-65535>	83
1.4.41	stats-tcp interval <0-65535>	83
1.4.42	timer [(bts lab is)] [TNNNN] [(<0-2147483647> default)]	84
1.4.43	vtty telnet-port <0-65535>	84
1.5	config-log	84
1.5.1	logging color (0 1)	85
1.5.2	logging filter all (0 1)	85
1.5.3	logging level (rs l om lr l rr meas pag l cl l p ds p pcu l ho l tr x l oo p lab is l rt p os mu ...)	86
1.5.4	logging level force-all (debug info notice error fatal)	89
1.5.5	logging level set-all (debug info notice error fatal)	89
1.5.6	logging print category (0 1)	90
1.5.7	logging print category-hex (0 1)	90



1.5.8	logging print extended-timestamp (01)	91
1.5.9	logging print file (01 basename) [last]	91
1.5.10	logging print level (01)	92
1.5.11	logging print thread-id (01)	92
1.5.12	logging timestamp (01)	93
1.5.13	no logging level force-all	93
1.6	config-stats	94
1.6.1	disable	94
1.6.2	enable	94
1.6.3	flush-period <0-65535>	94
1.6.4	level (globalpeer subscriber)	95
1.6.5	local-ip ADDR	95
1.6.6	mtu <100-65535>	95
1.6.7	no local-ip	96
1.6.8	no mtu	96
1.6.9	no prefix	96
1.6.10	prefix PREFIX	97
1.6.11	remote-ip ADDR	97
1.6.12	remote-port <1-65535>	97
1.7	config-line	98
1.7.1	bind A.B.C.D [<0-65535>]	98
1.7.2	login	98
1.7.3	no login	98
1.8	config-e1_input	99
1.8.1	e1_line <0-255> connect-timeout <0-60>	99
1.8.2	e1_line <0-255> driver (misdn misdn_lap ldah le1 lunixsocket)	99
1.8.3	e1_line <0-255> ipa-keepalive <1-300> <1-300>	100
1.8.4	e1_line <0-255> keepalive	100
1.8.5	e1_line <0-255> keepalive <1-300> <1-20> <1-300>	101
1.8.6	e1_line <0-255> name .LINE	102
1.8.7	e1_line <0-255> pcap .FILE	102
1.8.8	e1_line <0-255> port <0-255>	103
1.8.9	e1_line <0-255> socket .SOCKET	103
1.8.10	ipa bind A.B.C.D	104
1.8.11	ipa ip-dscp (oml rs) <0-63>	104
1.8.12	ipa socket-priority (oml rs) <0-255>	105
1.8.13	no e1_line <0-255> ipa-keepalive	105
1.8.14	no e1_line <0-255> keepalive	106
1.8.15	no e1_line <0-255> pcap	106

---

1.9	config-ctrl	107
1.9.1	bind A.B.C.D [<0-65535>]	107
1.10	config-cpu-sched	107
1.10.1	cpu-affinity (self all <0-4294967295> THREADNAME) CPUHEXMASK [delay]	107
1.10.2	policy rr <1-32>	108
1.11	phy	108
1.11.1	instance <0-255>	108
1.11.2	no instance <0-255>	109
1.11.3	no osmotrx legacy-setbsic	109
1.11.4	osmotrx base-port (local remote) <0-65535>	109
1.11.5	osmotrx fn-advance <0-30>	110
1.11.6	osmotrx ip (local remote) A.B.C.D	110
1.11.7	osmotrx ip HOST	111
1.11.8	osmotrx legacy-setbsic	111
1.11.9	osmotrx rts-advance <0-30>	112
1.11.10	osmotrx trxd-max-version (latest <0-15>)	112
1.12	phy-inst	113
1.12.1	no osmotrx maxdly	113
1.12.2	no osmotrx maxdlynb	113
1.12.3	no osmotrx rx-gain	114
1.12.4	osmotrx maxdly <0-63>	114
1.12.5	osmotrx maxdly <0-63>	115
1.12.6	osmotrx maxdlynb <0-63>	115
1.12.7	osmotrx rx-gain <0-50>	115
1.12.8	osmotrx tx-attenuation (oml <0-50>)	116
1.12.9	slotmask (110) (110) (110) (110) (110) (110) (110) (110)	116
1.13	bts	117
1.13.1	agch-queue-mgmt default	117
1.13.2	agch-queue-mgmt threshold <0-100> low <0-100> high <0-100000>	118
1.13.3	band (450 GSM450 480 GSM480 750 GSM750 810 GSM810 850 GSM850 900 GSM900 1800 DCS...)	118
1.13.4	description .TEXT	119
1.13.5	gsmtap-local-host HOSTNAME	120
1.13.6	gsmtap-remote-host [HOSTNAME]	120
1.13.7	gsmtap-rlp [skip-null]	120
1.13.8	gsmtap-sapi (bcch ccch rach lagch pchs dcch tch/fltch/hl pacch pdtch ptcch cbch sa...)	121
1.13.9	gsmtap-sapi (enable-all disable-all)	122
1.13.10	ipa unit-id <0-65534> <0-255>	122
1.13.11	max-ber10k-rach <0-10000>	122
1.13.12	min-qual-norm <-100-100>	123

1.13.13 min-qual-rach <-100-100>	123
1.13.14 no description	123
1.13.15 no gsmtap-local-host	124
1.13.16 no gsmtap-remote-host	124
1.13.17 no gsmtap-rlp	124
1.13.18 no gsmtap-sapi (bcchlcchlrrachlagchlpchlsdcchlth/fltch/hlpacchlpdtchlpctchlcch...	125
1.13.19 no oml remote-ip A.B.C.D	126
1.13.20 no rtp continuous-streaming	126
1.13.21 no rtp internal-uplink-ecu	126
1.13.22 no supp-meas-info toa256	127
1.13.23 oml remote-ip A.B.C.D	127
1.13.24 osmux	127
1.13.25 paging lifetime <0-60>	128
1.13.26 paging queue-size <1-1024>	128
1.13.27 pcu-socket PATH	129
1.13.28 pcu-socket-wqueue-length <1-2147483647>	129
1.13.29 rtp continuous-streaming	129
1.13.30 rtp hr-format (rfc5993/101318)	130
1.13.31 rtp internal-uplink-ecu	130
1.13.32 rtp ip-dscp <0-63>	130
1.13.33 rtp jitter-buffer <0-10000> [adaptive]	131
1.13.34 rtp port-range <1-65534> <1-65534>	131
1.13.35 rtp socket-priority <0-255>	132
1.13.36 smscb queue-hysteresis <0-30>	132
1.13.37 smscb queue-max-length <1-60>	133
1.13.38 smscb queue-target-length <1-30>	133
1.13.39 supp-meas-info toa256	134
1.13.40 trx <0-254>	134
1.14 trx	134
1.14.1 ms-power-control (dsplosmo)	134
1.14.2 no nominal-tx-power	135
1.14.3 nominal-tx-power <-10-100>	135
1.14.4 phy <0-255> instance <0-255>	136
1.14.5 power-ramp max-initial <-10000-100000> (dBm/dBm)	136
1.14.6 power-ramp step-interval <1-100>	137
1.14.7 power-ramp step-size <1-100000> (dB/dB)	137
1.14.8 ta-control interval <0-31>	137
1.14.9 user-gain <-100000-100000> (dB/dB)	138
1.15 osmux	138

---

1.15.1	batch-factor <1-8>	138
1.15.2	batch-size <1-65535>	138
1.15.3	dummy-padding (on off)	139
1.15.4	local-ip (A.B.C.D X:X::X:X)	139
1.15.5	local-port <1-65535>	139
1.15.6	use (off on only)	140

---

# 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

### 1.1 Common Commands

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

### 1.1.1 end

#### Command

```
end
```

#### Parameters

end

End current mode and change to enable mode.

### 1.1.2 exit

#### Command

```
exit
```

#### Parameters

exit

Exit current mode and down to previous mode

### 1.1.3 help

#### Command

```
help
```

#### Parameters

help

Description of the interactive help system

### 1.1.4 list [with-flags]

#### Command

```
list [with-flags]
```

#### Parameters

list

Print command list

[with-flags]

Also print the VTY attribute flags

---

### 1.1.5 show running-config

#### Command

```
show running-config
```

#### Parameters

show

Show running system information

running-config

running configuration

### 1.1.6 show vty-attributes

#### Command

```
show vty-attributes
```

#### Parameters

show

Show running system information

vtty-attributes

List of VTY attributes

### 1.1.7 show vty-attributes (application|library|global)

#### Command

```
show vty-attributes (application|library|global)
```

#### Parameters

show

Show running system information

vtty-attributes

List of VTY attributes

application

Application specific attributes only

library

Library specific attributes only

global

Global attributes only



### 1.1.8 write

#### Command

```
write
```

#### Parameters

write

Write running configuration to memory, network, or terminal

### 1.1.9 write file [PATH]

#### Command

```
write file [PATH]
```

#### Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

Set file path to store the config, or replace if already exists

### 1.1.10 write memory

#### Command

```
write memory
```

#### Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

---

### 1.1.11 write terminal

#### Command

```
write terminal
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### terminal

Write to terminal

## 1.2 view

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

### 1.2.1 enable [expert-mode]

#### Command

```
enable [expert-mode]
```

#### Parameters

##### enable

Turn on privileged mode command

##### [expert-mode]

Enable the expert mode (show hidden commands)

### 1.2.2 logging color (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### color

Configure color-printing for log messages

##### 0

Don't use color for printing messages

##### 1

Use color for printing messages

---

### 1.2.3 logging disable

#### Command

```
logging disable
```

#### Parameters

##### logging

Configure logging

##### disable

Disables logging to this vty

### 1.2.4 logging enable

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

#### Command

```
logging enable
```

#### Parameters

##### logging

Configure logging

##### enable

Enables logging to this vty

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

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

---

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

## 1.2.6 logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pac...

Command

```
logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch| ←  
pagch|pbccch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdcch|tch/f|tch/h)
```

Parameters

logging

Configure logging

filter

Filter log messages

l1-sapi

L1 SAPI

unknown

UNKNOWN

agch

AGCH

bcch

BCCH

cbch

CBCH

facch/f

FACCH/F

facch/h

FACCH/H

fcch

FCCH

idle

IDLE

nch

NCH

pacch  
PACCH

pagch  
PAGCH

pbccch  
PBCCH

pch  
PCH

pdtech  
PDTCH

pnch  
PNCH

ppch  
PPCH

prach  
PRACH

ptech  
PTCCH

rach  
RACH

sacch  
SACCH

sch  
SCH

sdccch  
SDCCH

tch/f  
TCH/F

tch/h  
TCH/H

## 1.2.7 logging level (rs|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmu...

### Command

```
logging level (rs|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmux|asci| ↔  
lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtpl|lstats|lgsup|loap|lss7|lscpp|lsua| ↔  
lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup|lpfcp|lcsn1|lio) ( ↔  
debug|info|notice|error|fatal)
```

---

## Parameters

### logging

Configure logging

### level

Set the log level for a specified category

### rsl

A-bis Radio Signalling Link (RSL)

### oml

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

### rll

A-bis Radio Link Layer (RLL)

### rr

Layer3 Radio Resource (RR)

### meas

Radio Measurement Processing

### pag

Paging Subsystem

### llc

Layer 1 Control (MPH)

### llp

Layer 1 Primitives (PH)

### dsp

DSP Trace Messages

### pcu

PCU interface

### ho

Handover

### trx

TRX interface

### loop

Control loops

### abis

A-bis Input Subsystem

### rtp

Realtime Transfer Protocol

### osmux

Osmux (Osmocom RTP multiplexing)

### asci

ASCI (Advanced Speech Call Items: VGCS/VBS)

---

---

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

---

Ins  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

Insdata  
GPRS NS layer data PDU

Inssignal  
GPRS NS layer signal PDU

liuup  
Iu UP layer

lpfcp  
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1  
libosmo-csn1 Concrete Syntax Notation 1 codec

lio  
libosmocore IO Subsystem

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

### 1.2.8 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

### 1.2.9 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

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category-hex

Configure log message

0

Don't prefix each log message

1

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

---

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

### 1.2.13 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.

---

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.2.15 logging print thread-id (0|1)

#### Command

```
logging print thread-id (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

## 1.2.16 logging set-log-mask MASK

### Command

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

### Parameters

#### logging

Configure logging

#### set-log-mask

Set the logmask of this logging target

#### MASK

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

## 1.2.17 logging timestamp (0|1)

### Command

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

### Parameters

#### logging

Configure logging

#### timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

## 1.2.18 logp (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmux|asci|lg...

### Command

```
logp (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmux|asci|lglobal| ↔
llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscdp|lsua|lm3ua| ↔
lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info ↔
|notice|error|fatal) .LOGMESSAGE
```

---

## Parameters

### logp

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

### rsl

A-bis Radio Signalling Link (RSL)

### oml

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

### rll

A-bis Radio Link Layer (RLL)

### rr

Layer3 Radio Resource (RR)

### meas

Radio Measurement Processing

### pag

Paging Subsystem

### llc

Layer 1 Control (MPH)

### llp

Layer 1 Primitives (PH)

### dsp

DSP Trace Messages

### pcu

PCU interface

### ho

Handover

### trx

TRX interface

### loop

Control loops

### abis

A-bis Input Subsystem

### rtp

Realtime Transfer Protocol

### osmux

Osmux (Osmocom RTP multiplexing)

### asci

ASCI (Advanced Speech Call Items: VGCS/VBS)

### 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

lns  
GPRS NS layer

---

**lbssgp**  
GPRS BSSGP layer

**lndata**  
GPRS NS layer data PDU

**lnsignal**  
GPRS NS layer signal PDU

**liuup**  
Iu UP layer

**lpfcp**  
libosmo-pfcp Packet Forwarding Control Protocol

**lcsn1**  
libosmo-csn1 Concrete Syntax Notation 1 codec

**lio**  
libosmocore IO Subsystem

**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

### 1.2.19 no logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|...

#### Command

```
no logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch| ←  
pagch|pbccch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdcch|tch/f|tch/h)
```

#### Parameters

**no**  
Negate a command or set its defaults

**logging**  
Configure logging



---

filter  
Filter log messages

l1-sapi  
L1 SAPI

unknown  
UNKNOWN

agch  
AGCH

bcch  
BCCH

cbch  
CBCH

facch/f  
FACCH/F

facch/h  
FACCH/H

fcch  
FCCH

idle  
IDLE

nch  
NCH

pacch  
PACCH

pagch  
PAGCH

pbccch  
PBCCH

pch  
PCH

pdtech  
PDTCH

pnch  
PNCH

ppch  
PPCH

prach  
PRACH

---

ptch  
PTCCH

rach  
RACH

sacch  
SACCH

sch  
SCH

sdccch  
SDCCH

tch/f  
TCH/F

tch/h  
TCH/H

### 1.2.20 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>'

### 1.2.21 show alarms

#### Command

```
show alarms
```

#### Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.2.22 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.2.23 show bts <0-255> gprs

#### Command

```
show bts <0-255> gprs
```

#### Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS Number

gprs

GPRS/EGPRS configuration

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

#### Command

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

#### Parameters

show

Show running system information

bts

Display information about a BTS

[<0-255>]

BTS Number

### 1.2.25 show cpu-sched threads

#### Command

```
show cpu-sched threads
```

#### Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

### 1.2.26 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.2.27 show e1\_line [<0-255>] [stats]

#### Command

```
show e1_line [<0-255>] [stats]
```

#### Parameters

show

Show running system information

e1\_line

Display information about a E1 line

[<0-255>]

E1 Line Number

[stats]

Include statistics

### 1.2.28 show e1\_timeslot [<0-255>] [<0-31>]

#### Command

```
show e1_timeslot [<0-255>] [<0-31>]
```

#### Parameters

show

Show running system information

e1\_timeslot

Display information about a E1 timeslot

[<0-255>]

E1 Line Number

[<0-31>]

E1 Timeslot Number

### 1.2.29 show fsm NAME

#### Command

```
show fsm NAME
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

### 1.2.30 show fsm all

#### Command

```
show fsm all
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

### 1.2.31 show fsm-instances NAME

#### Command

```
show fsm-instances NAME
```

#### Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

NAME

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

### 1.2.32 show fsm-instances all

#### Command

```
show fsm-instances all
```

#### Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

all

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

### 1.2.33 show fsm-state-graph NAME

#### Command

```
show fsm-state-graph NAME
```

#### Parameters

show

Show running system information

fsm-state-graph

Generate a state transition graph (using DOT language)

NAME

FSM name

---

### 1.2.34 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

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

#### Command

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

#### Parameters

##### show

Show running system information

##### lchan

Display information about a logical channel

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

#### Command

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

#### Parameters

---

show

Show running system information

lchan

Display information about a logical channel

summary

Short summary

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

### 1.2.37 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtv

Show current logging configuration for this vty

### 1.2.38 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help



### 1.2.39 show phy

#### Command

```
show phy
```

#### Parameters

show

Show running system information

phy

Display information about the available PHYs

### 1.2.40 show pid

#### Command

```
show pid
```

#### Parameters

show

Show running system information

pid

Displays the process ID

### 1.2.41 show rate-counters [skip-zero]

#### Command

```
show rate-counters [skip-zero]
```

#### Parameters

show

Show running system information

rate-counters

Show all rate counters

[skip-zero]

Skip items with total count zero

---

### 1.2.42 show stats [skip-zero]

#### Command

```
show stats [skip-zero]
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### [skip-zero]

Skip items with total count zero

### 1.2.43 show stats level (global|peer|subscriber) [skip-zero]

#### Command

```
show stats level (global|peer|subscriber) [skip-zero]
```

#### 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

##### [skip-zero]

Skip items with total count zero

---

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

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### global

Global context (OTC\_GLOBAL)

##### all

All contexts, if NULL-context tracking is enabled

##### full

Display a full talloc memory hierarchy

##### brief

Display a brief talloc memory hierarchy

##### DEPTH

Specify required maximal depth value

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

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### global

Global context (OTC\_GLOBAL)

---

- all
  - All contexts, if NULL-context tracking is enabled
- full
  - Display a full talloc memory hierarchy
- brief
  - Display a brief talloc memory hierarchy
- DEPTH
  - Specify required maximal depth value
- filter
  - Filter chunks using regular expression
- REGEXP
  - Regular expression

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

#### Command

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

#### Parameters

- show
  - Show running system information
- talloc-context
  - Show talloc memory hierarchy
- application
  - Application's context
- global
  - Global context (OTC\_GLOBAL)
- all
  - All contexts, if NULL-context tracking is enabled
- full
  - Display a full talloc memory hierarchy
- brief
  - Display a brief talloc memory hierarchy
- DEPTH
  - Specify required maximal depth value
- tree
  - Display only a specific memory chunk
- ADDRESS
  - Chunk address (e.g. 0xdeadbeef)

### 1.2.47 show timer [(bts|abis)] [TNNNN]

#### Command

```
show timer [(bts|abis)] [TNNNN]
```

#### Parameters

##### show

Show running system information

##### timer

Show timers

##### [bts]

BTS process timers

##### [abis]

Abis (RSL) related 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'.

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

#### Command

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

#### Parameters

##### show

Show running system information

##### timeslot

Display information about a TS

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

BTS Number

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

TRX Number

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

Timeslot Number

### 1.2.49 show transceiver

#### Command

```
show transceiver
```

#### Parameters

show

Show running system information

transceiver

Display information about transceivers

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

#### Command

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

#### Parameters

show

Show running system information

trx

Display information about a TRX

[<0-255>]

BTS Number

[<0-255>]

TRX Number

### 1.2.51 show uptime

#### Command

```
show uptime
```

#### Parameters

show

Show running system information

uptime

Displays how long the program has been running

### 1.2.52 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.2.53 terminal length <0-512>

#### Command

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

#### Parameters

##### terminal

Set terminal line parameters

##### length

Set number of lines on a screen

##### <0-512>

Number of lines on screen (0 for no pausing)

### 1.2.54 terminal no length

#### Command

```
terminal no length
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### length

Set number of lines on a screen

---

### 1.2.55 who

#### Command

```
who
```

#### Parameters

who

Display who is on vty

## 1.3 enable

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

### 1.3.1 bts <0-0> c0-power-red <0-6>

#### Command

```
bts <0-0> c0-power-red <0-6>
```

#### Parameters

bts

BTS Specific Commands

<0-0>

BTS Number

c0-power-red

BCCH carrier power reduction operation

<0-6>

Power reduction value (in dB, even numbers only)

### 1.3.2 bts <0-0> trx <0-255> ts <0-7> (lchan|shadow-lchan) <0-7> rtp jitter-buffer <0-1...

#### Command

```
bts <0-0> trx <0-255> ts <0-7> (lchan|shadow-lchan) <0-7> rtp jitter-buffer <0-10000>
```

#### Parameters

bts

BTS related commands



<0-0>

BTS number

trx

TRX related commands

<0-255>

TRX number

ts

timeslot related commands

<0-7>

timeslot number

lchan

Primary logical channel commands

shadow-lchan

Shadow logical channel commands

<0-7>

logical channel number

rtp

RTP settings

jitter-buffer

Jitter buffer

<0-10000>

Size of jitter buffer in (ms)

### 1.3.3 configure [terminal]

Command

```
configure [terminal]
```

Parameters

configure

Configuration from vty interface

[terminal]

Configuration terminal

### 1.3.4 copy running-config startup-config

#### Command

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

#### Parameters

##### copy

Copy configuration

##### running-config

Copy running config to...

##### startup-config

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

### 1.3.5 disable

#### Command

```
disable
```

#### Parameters

##### disable

Turn off privileged mode command

### 1.3.6 logging color (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### color

Configure color-printing for log messages

##### 0

Don't use color for printing messages

##### 1

Use color for printing messages

---

### 1.3.7 logging disable

#### Command

```
logging disable
```

#### Parameters

##### logging

Configure logging

##### disable

Disables logging to this vty

### 1.3.8 logging enable

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

#### Command

```
logging enable
```

#### Parameters

##### logging

Configure logging

##### enable

Enables logging to this vty

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

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

---

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

### 1.3.10 logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pac...

Command

```
logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch| ←
pagch|pbccch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdcch|tch/f|tch/h)
```

Parameters

logging

Configure logging

filter

Filter log messages

l1-sapi

L1 SAPI

unknown

UNKNOWN

agch

AGCH

bcch

BCCH

cbch

CBCH

facch/f

FACCH/F

facch/h

FACCH/H

fcch

FCCH

idle

IDLE

nch

NCH

pacch  
PACCH

pagch  
PAGCH

pbccch  
PBCCH

pch  
PCH

pdtech  
PDTCH

pnch  
PNCH

ppch  
PPCH

prach  
PRACH

ptech  
PTCCH

rach  
RACH

sacch  
SACCH

sch  
SCH

sdccch  
SDCCH

tch/f  
TCH/F

tch/h  
TCH/H

### 1.3.11 logging level (rs|oml|rl|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmu...

#### Command

```
logging level (rs|oml|rl|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmux|asci| ↔  
lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtpl|lstats|lgsup|loap|lss7|lscpp|lsua| ↔  
lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lndata|lnssignal|liuup|lpfcp|lcsn1|lio) ( ↔  
debug|info|notice|error|fatal)
```

---

Parameters

logging

Configure logging

level

Set the log level for a specified category

rsl

A-bis Radio Signalling Link (RSL)

oml

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

rll

A-bis Radio Link Layer (RLL)

rr

Layer3 Radio Resource (RR)

meas

Radio Measurement Processing

pag

Paging Subsystem

llc

Layer 1 Control (MPH)

llp

Layer 1 Primitives (PH)

dsp

DSP Trace Messages

pcu

PCU interface

ho

Handover

trx

TRX interface

loop

Control loops

abis

A-bis Input Subsystem

rtp

Realtime Transfer Protocol

osmux

Osmux (Osmocom RTP multiplexing)

asci

ASCI (Advanced Speech Call Items: VGCS/VBS)

---

---

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

---

lns  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

lnsdata  
GPRS NS layer data PDU

lnssignal  
GPRS NS layer signal PDU

liuup  
Iu UP layer

lpfcp  
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1  
libosmo-csn1 Concrete Syntax Notation 1 codec

lio  
libosmocore IO Subsystem

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

### 1.3.12 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

### 1.3.13 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

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### category-hex

Configure log message

0

Don't prefix each log message

1

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

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

### 1.3.17 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.

---

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.3.19 logging print thread-id (0|1)

#### Command

```
logging print thread-id (0|1)
```

#### Parameters

##### logging

Configure logging

##### print

Log output settings

##### thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

### 1.3.20 logging set-log-mask MASK

#### Command

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

#### Parameters

##### logging

Configure logging

##### set-log-mask

Set the logmask of this logging target

##### MASK

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

### 1.3.21 logging timestamp (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

### 1.3.22 logp (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmux|asci|lg...

#### Command

```
logp (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmux|asci|lglobal| ↔
llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp|lsua|lm3ua| ↔
lmgcp|ljibuf|lrspro|lns|lbssgp|lndata|lnssignal|liuup|lpfcp|lcsn1|lio) (debug|info ↔
|notice|error|fatal) .LOGMESSAGE
```

---

## Parameters

### logp

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

### rsl

A-bis Radio Signalling Link (RSL)

### oml

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

### rll

A-bis Radio Link Layer (RLL)

### rr

Layer3 Radio Resource (RR)

### meas

Radio Measurement Processing

### pag

Paging Subsystem

### llc

Layer 1 Control (MPH)

### llp

Layer 1 Primitives (PH)

### dsp

DSP Trace Messages

### pcu

PCU interface

### ho

Handover

### trx

TRX interface

### loop

Control loops

### abis

A-bis Input Subsystem

### rtp

Realtime Transfer Protocol

### osmux

Osmux (Osmocom RTP multiplexing)

### asci

ASCI (Advanced Speech Call Items: VGCS/VBS)

### 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

lns  
GPRS NS layer

---

**lbssgp**  
GPRS BSSGP layer

**lndata**  
GPRS NS layer data PDU

**lnsignal**  
GPRS NS layer signal PDU

**liuup**  
Iu UP layer

**lpfcp**  
libosmo-pfcp Packet Forwarding Control Protocol

**lcsn1**  
libosmo-csn1 Concrete Syntax Notation 1 codec

**lio**  
libosmocore IO Subsystem

**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

### 1.3.23 no logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|...

#### Command

```
no logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch| ←  
pagch|pbccch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdcch|tch/f|tch/h)
```

#### Parameters

**no**  
Negate a command or set its defaults

**logging**  
Configure logging



---

filter  
Filter log messages

l1-sapi  
L1 SAPI

unknown  
UNKNOWN

agch  
AGCH

bcch  
BCCH

cbch  
CBCH

facch/f  
FACCH/F

facch/h  
FACCH/H

fcch  
FCCH

idle  
IDLE

nch  
NCH

pacch  
PACCH

pagch  
PAGCH

pbccch  
PBCCH

pch  
PCH

pdtech  
PDTCH

pnch  
PNCH

ppch  
PPCH

prach  
PRACH

---

ptch  
PTCCH

rach  
RACH

sacch  
SACCH

sch  
SCH

sdccch  
SDCCH

tch/f  
TCH/F

tch/h  
TCH/H

### 1.3.24 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>'

### 1.3.25 show alarms

#### Command

```
show alarms
```

#### Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.3.26 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.3.27 show bts <0-255> gprs

#### Command

```
show bts <0-255> gprs
```

#### Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS Number

gprs

GPRS/EGPRS configuration

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

#### Command

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

#### Parameters

show

Show running system information

bts

Display information about a BTS

[<0-255>]

BTS Number

### 1.3.29 show cpu-sched threads

#### Command

```
show cpu-sched threads
```

#### Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

### 1.3.30 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.3.31 show e1\_line [<0-255>] [stats]

#### Command

```
show e1_line [<0-255>] [stats]
```

#### Parameters

show

Show running system information

e1\_line

Display information about a E1 line

[<0-255>]

E1 Line Number

[stats]

Include statistics

---

### 1.3.32 show e1\_timeslot [<0-255>] [<0-31>]

#### Command

```
show e1_timeslot [<0-255>] [<0-31>]
```

#### Parameters

show

Show running system information

e1\_timeslot

Display information about a E1 timeslot

[<0-255>]

E1 Line Number

[<0-31>]

E1 Timeslot Number

### 1.3.33 show fsm NAME

#### Command

```
show fsm NAME
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

NAME

Display information about a single named finite state machine

### 1.3.34 show fsm all

#### Command

```
show fsm all
```

#### Parameters

show

Show running system information

fsm

Show information about finite state machines

all

Display a list of all registered finite state machines

### 1.3.35 show fsm-instances NAME

#### Command

```
show fsm-instances NAME
```

#### Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

NAME

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

### 1.3.36 show fsm-instances all

#### Command

```
show fsm-instances all
```

#### Parameters

show

Show running system information

fsm-instances

Show information about finite state machine instances

all

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

### 1.3.37 show fsm-state-graph NAME

#### Command

```
show fsm-state-graph NAME
```

#### Parameters

show

Show running system information

fsm-state-graph

Generate a state transition graph (using DOT language)

NAME

FSM name

### 1.3.38 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

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

#### Command

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

#### Parameters

##### show

Show running system information

##### lchan

Display information about a logical channel

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

#### Command

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

#### Parameters

---

show

Show running system information

lchan

Display information about a logical channel

summary

Short summary

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

### 1.3.41 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtv

Show current logging configuration for this vty

### 1.3.42 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help



### 1.3.43 show phy

#### Command

```
show phy
```

#### Parameters

show

Show running system information

phy

Display information about the available PHYs

### 1.3.44 show rate-counters [skip-zero]

#### Command

```
show rate-counters [skip-zero]
```

#### Parameters

show

Show running system information

rate-counters

Show all rate counters

[skip-zero]

Skip items with total count zero

### 1.3.45 show startup-config

#### Command

```
show startup-config
```

#### Parameters

show

Show running system information

startup-config

Contentes of startup configuration

### 1.3.46 show stats [skip-zero]

#### Command

```
show stats [skip-zero]
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

##### [skip-zero]

Skip items with total count zero

### 1.3.47 show stats level (global|peer|subscriber) [skip-zero]

#### Command

```
show stats level (global|peer|subscriber) [skip-zero]
```

#### 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

##### [skip-zero]

Skip items with total count zero

---

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

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### global

Global context (OTC\_GLOBAL)

##### all

All contexts, if NULL-context tracking is enabled

##### full

Display a full talloc memory hierarchy

##### brief

Display a brief talloc memory hierarchy

##### DEPTH

Specify required maximal depth value

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

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### global

Global context (OTC\_GLOBAL)

---

- all
  - All contexts, if NULL-context tracking is enabled
- full
  - Display a full talloc memory hierarchy
- brief
  - Display a brief talloc memory hierarchy
- DEPTH
  - Specify required maximal depth value
- filter
  - Filter chunks using regular expression
- REGEXP
  - Regular expression

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

#### Command

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

#### Parameters

- show
  - Show running system information
- talloc-context
  - Show talloc memory hierarchy
- application
  - Application's context
- global
  - Global context (OTC\_GLOBAL)
- all
  - All contexts, if NULL-context tracking is enabled
- full
  - Display a full talloc memory hierarchy
- brief
  - Display a brief talloc memory hierarchy
- DEPTH
  - Specify required maximal depth value
- tree
  - Display only a specific memory chunk
- ADDRESS
  - Chunk address (e.g. 0xdeadbeef)

### 1.3.51 show timer [(bts|abis)] [TNNNN]

#### Command

```
show timer [(bts|abis)] [TNNNN]
```

#### Parameters

##### show

Show running system information

##### timer

Show timers

##### [bts]

BTS process timers

##### [abis]

Abis (RSL) related 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'.

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

#### Command

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

#### Parameters

##### show

Show running system information

##### timeslot

Display information about a TS

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

BTS Number

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

TRX Number

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

Timeslot Number

### 1.3.53 show transceiver

#### Command

```
show transceiver
```

#### Parameters

show

Show running system information

transceiver

Display information about transceivers

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

#### Command

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

#### Parameters

show

Show running system information

trx

Display information about a TRX

[<0-255>]

BTS Number

[<0-255>]

TRX Number

### 1.3.55 show version

#### Command

```
show version
```

#### Parameters

show

Show running system information

version

Displays program version

### 1.3.56 shutdown

#### Command

```
shutdown
```

#### Parameters

shutdown

Request a shutdown of the program

### 1.3.57 stats report

#### Command

```
stats report
```

#### Parameters

stats

Stats related commands

report

Manurally trigger reporting of stats

### 1.3.58 stats reset

#### Command

```
stats reset
```

#### Parameters

stats

Stats related commands

reset

Reset all rate counter stats

---

### 1.3.59 terminal length <0-512>

#### Command

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

#### Parameters

##### terminal

Set terminal line parameters

##### length

Set number of lines on a screen

##### <0-512>

Number of lines on screen (0 for no pausing)

### 1.3.60 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### monitor

Copy debug output to the current terminal line

### 1.3.61 terminal no length

#### Command

```
terminal no length
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### length

Set number of lines on a screen

---



### 1.3.62 terminal no monitor

#### Command

```
terminal no monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### no

Negate a command or set its defaults

##### monitor

Copy debug output to the current terminal line

### 1.3.63 test send-failure-event-report <0-255>

#### Command

```
test send-failure-event-report <0-255>
```

#### Parameters

##### test

Various testing commands

##### send-failure-event-report

Send a test OML failure event report to the BSC

##### <0-255>

BTS Number

### 1.3.64 who

#### Command

```
who
```

#### Parameters

##### who

Display who is on vty

## 1.4 config

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

### 1.4.1 banner motd default

#### Command

```
banner motd default
```

#### Parameters

##### banner

Set banner string

##### motd

Strings for motd

##### default

Default string

### 1.4.2 banner motd file [FILE]

#### Command

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

#### Parameters

##### banner

Set banner

##### motd

Banner for motd

##### file

Banner from a file

##### [FILE]

Filename

### 1.4.3 bts BTS\_NR

#### Command

```
bts BTS_NR
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

bts

Select a BTS to configure

BTS\_NR

BTS Number

### 1.4.4 cpu-sched

#### Command

```
cpu-sched
```

#### Parameters

cpu-sched

Configure CPU Scheduler related settings

### 1.4.5 ctrl

#### Command

```
ctrl
```

#### Parameters

ctrl

Configure the Control Interface

---

### 1.4.6 e1\_input

Command

```
e1_input
```

Global attributes

Flag: !

This command applies immediately

Parameters

e1\_input

Configure E1/T1/J1 TDM input

### 1.4.7 enable password (8|) WORD

Command

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

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN 'enable' password string

### 1.4.8 enable password LINE

Command

```
enable password LINE
```

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

LINE

The UNENCRYPTED (cleartext) 'enable' password

---

### 1.4.9 hostname WORD

#### Command

```
hostname WORD
```

#### Parameters

##### hostname

Set system's network name

##### WORD

This system's network name

### 1.4.10 line vty

#### Command

```
line vty
```

#### Parameters

##### line

Configure a terminal line

##### vtty

Virtual terminal

### 1.4.11 log alarms <2-32700>

#### Command

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

#### Parameters

##### log

Configure logging sub-system

##### alarms

Logging alarms to osmo\_strrb

##### <2-32700>

Maximum number of messages to log

---

### 1.4.12 log file FILENAME [blocking-io]

#### Command

```
log file FILENAME [blocking-io]
```

#### Parameters

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

[blocking-io]

Use blocking, synchronous I/O

### 1.4.13 log gsmtap [HOSTNAME]

#### Command

```
log gsmtap [HOSTNAME]
```

#### Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

### 1.4.14 log stderr [blocking-io]

#### Command

```
log stderr [blocking-io]
```

#### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

[blocking-io]

Use blocking, synchronous I/O

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

#### Command

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

#### Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

daemon

General system daemon facility

ftp

Ftp daemon facility

lpr

Line printer facility

mail

Mail facility

news

News facility

user

Generic facility

uucp

UUCP facility

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

#### Command

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

#### Parameters

log

Configure logging sub-system

syslog

Logging via syslog

local

Syslog LOCAL facility

<0-7>

Local facility number

### 1.4.17 log systemd-journal [raw]

Command

```
log systemd-journal [raw]
```

Parameters

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

[raw]

Offload rendering of the meta information (location, category) to systemd

### 1.4.18 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd



### 1.4.19 no enable password

#### Command

```
no enable password
```

#### Parameters

no

Negate a command or set its defaults

enable

Modify enable password parameters

password

Assign the privileged level password

### 1.4.20 no hostname [HOSTNAME]

#### Command

```
no hostname [HOSTNAME]
```

#### Parameters

no

Negate a command or set its defaults

hostname

Reset system's network name

[HOSTNAME]

Host name of this router

### 1.4.21 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

### 1.4.22 no log file FILENAME

#### Command

```
no log file FILENAME
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

file

Logging to text file

FILENAME

Filename

### 1.4.23 no log gsmtap [HOSTNAME]

#### Command

```
no log gsmtap [HOSTNAME]
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

### 1.4.24 no log stderr

#### Command

```
no log stderr
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.25 no log syslog

#### Command

```
no log syslog
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

syslog

Logging via syslog

### 1.4.26 no log systemd-journal

#### Command

```
no log systemd-journal
```

#### Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

### 1.4.27 no service advanced-vty

#### Command

```
no service advanced-vty
```

#### Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

---

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

#### Command

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

#### Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

[<0-512>]

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

### 1.4.29 no stats reporter log [NAME]

#### Command

```
no stats reporter log [NAME]
```

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

[NAME]

Name of the reporter

### 1.4.30 no stats reporter statsd [NAME]

#### Command

```
no stats reporter statsd [NAME]
```

#### 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

[NAME]

Name of the reporter

### 1.4.31 password (8|) WORD

#### Command

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

#### Parameters

password

Assign the terminal connection password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN line password string

### 1.4.32 password LINE

#### Command

```
password LINE
```

#### Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

### 1.4.33 phy <0-255>

#### Command

```
phy <0-255>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

phy

Select a PHY to configure

<0-255>

PHY number

### 1.4.34 service advanced-vty

#### Command

```
service advanced-vty
```

#### Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

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

#### Command

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

#### Parameters

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

<0-512>

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

---

### 1.4.36 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.4.37 stats interval <0-65535>

#### Command

```
stats interval <0-65535>
```

#### Parameters

##### stats

Configure stats sub-system

##### interval

Set the reporting interval

##### <0-65535>

Interval in seconds (0 disables the reporting interval)

### 1.4.38 stats reporter log [NAME]

#### Command

```
stats reporter log [NAME]
```

#### Parameters

##### stats

Configure stats sub-system

##### reporter

Configure a stats reporter

##### log

Report to the logger

##### [NAME]

Name of the reporter

---

### 1.4.39 stats reporter statsd [NAME]

#### Command

```
stats reporter statsd [NAME]
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

[NAME]

Name of the reporter

### 1.4.40 stats-tcp batch-size <1-65535>

#### Command

```
stats-tcp batch-size <1-65535>
```

#### Parameters

stats-tcp

Configure stats sub-system

batch-size

Set the number of tcp sockets that are processed per stats polling interval

<1-65535>

Number of sockets per interval

### 1.4.41 stats-tcp interval <0-65535>

#### Command

```
stats-tcp interval <0-65535>
```

#### Parameters

stats-tcp

Configure stats sub-system

interval

Set the tcp socket stats polling interval

<0-65535>

Interval in seconds (0 disables the polling interval)

---



### 1.4.42 timer [(bts|abis)] [TNNNN] [(<0-2147483647>|default)]

#### Command

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

#### Parameters

##### timer

Configure or show timers

##### [bts]

BTS process timers

##### [abis]

Abis (RSL) related 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

### 1.4.43 vty telnet-port <0-65535>

#### Command

```
vty telnet-port <0-65535>
```

#### Parameters

##### vty

Configure the VTY

##### telnet-port

Set the VTY telnet port

##### <0-65535>

TCP Port number

## 1.5 config-log

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

### 1.5.1 logging color (0|1)

#### Command

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

#### Parameters

##### logging

Configure logging

##### color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

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

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

### 1.5.3 logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmu...

#### Command

```
logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|osmux|asci| ←
lglobal|llapd|linp|lmux|lmi|lmib|lms|lctrl|lgtpl|lstats|lgsup|loap|lss7|lscpp|lsua| ←
lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp|lndata|lnsignal|liuup|lpfcp|lcsn1|lio) ( ←
debug|info|notice|error|fatal)
```

#### Parameters

##### logging

Configure logging

##### level

Set the log level for a specified category

##### rsl

A-bis Radio Signalling Link (RSL)

##### oml

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

##### rll

A-bis Radio Link Layer (RLL)

##### rr

Layer3 Radio Resource (RR)

##### meas

Radio Measurement Processing

##### pag

Paging Subsystem

##### l1c

Layer 1 Control (MPH)

##### l1p

Layer 1 Primitives (PH)

##### dsp

DSP Trace Messages

##### pcu

PCU interface

##### ho

Handover

##### trx

TRX interface

##### loop

Control loops

---

abis  
A-bis Input Subsystem

rtp  
Realtime Transfer Protocol

osmux  
Osmux (Osmocom RTP multiplexing)

asci  
ASCII (Advanced Speech Call Items: VGCS/VBS)

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

lns  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

lndata  
GPRS NS layer data PDU

lnsignal  
GPRS NS layer signal PDU

liuup  
Iu UP layer

lpfcp  
libosmo-pfcp Packet Forwarding Control Protocol

lcsn1  
libosmo-csn1 Concrete Syntax Notation 1 codec

lio  
libosmocore IO Subsystem

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

---

### 1.5.4 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

### 1.5.5 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

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

### 1.5.9 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.

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.5.11 logging print thread-id (0|1)

Command

```
logging print thread-id (0|1)
```

Parameters

logging

Configure logging

print

Log output settings

thread-id

Configure log message logging Thread ID

0

Don't prefix each log message

1

Prefix each log message with current Thread ID

### 1.5.12 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

### 1.5.13 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>'

## 1.6 config-stats

### 1.6.1 disable

Command

```
disable
```

Parameters

disable

Disable the reporter

### 1.6.2 enable

Command

```
enable
```

Parameters

enable

Enable the reporter

### 1.6.3 flush-period <0-65535>

Command

```
flush-period <0-65535>
```

Parameters

flush-period

Configure stats sub-system

<0-65535>

Send all stats even if they have not changed (i.e. force the flush) every N-th reporting interval. Set to 0 to disable regular flush (default).

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

#### Command

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

#### Parameters

##### level

Set the maximum group level

##### global

Report global groups only

##### peer

Report global and network peer related groups

##### subscriber

Report global, peer, and subscriber groups

### 1.6.5 local-ip ADDR

#### Command

```
local-ip ADDR
```

#### Parameters

##### local-ip

Set the IP address to which we bind locally

##### ADDR

IP Address

### 1.6.6 mtu <100-65535>

#### Command

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

#### Parameters

##### mtu

Set the maximum packet size

##### <100-65535>

Size in byte

---

### 1.6.7 no local-ip

#### Command

```
no local-ip
```

#### Parameters

no

Negate a command or set its defaults

local-ip

Set the IP address to which we bind locally

### 1.6.8 no mtu

#### Command

```
no mtu
```

#### Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

### 1.6.9 no prefix

#### Command

```
no prefix
```

#### Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

---

### 1.6.10 prefix PREFIX

#### Command

```
prefix PREFIX
```

#### Parameters

##### prefix

Set the item name prefix

##### PREFIX

The prefix string

### 1.6.11 remote-ip ADDR

#### Command

```
remote-ip ADDR
```

#### Parameters

##### remote-ip

Set the remote IP address to which we connect

##### ADDR

IP Address

### 1.6.12 remote-port <1-65535>

#### Command

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

#### Parameters

##### remote-port

Set the remote port to which we connect

##### <1-65535>

Remote port number

---

## 1.7 config-line

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

### 1.7.2 login

#### Command

```
login
```

#### Parameters

##### login

Enable password checking

### 1.7.3 no login

#### Command

```
no login
```

#### Parameters

##### no

Negate a command or set its defaults

##### login

Enable password checking

---

## 1.8 config-e1\_input

### 1.8.1 e1\_line <0-255> connect-timeout <0-60>

#### Command

```
e1_line <0-255> connect-timeout <0-60>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

connect-timeout

Set connect timeout

<0-60>

Connect timeout in seconds (0 to disable)

### 1.8.2 e1\_line <0-255> driver (misdn|misdn\_lapd|dahdi|e1d|ipa|unixsocket)

#### Command

```
e1_line <0-255> driver (misdn|misdn_lapd|dahdi|e1d|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

e1d

osmo-e1d supported E1 interface

ipa

IPA TCP/IP input

unixsocket

Unix socket input

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

ipa-keepalive

Enable IPA PING/PONG keep-alive

<1-300>

Idle interval in seconds before probes are sent

<1-300>

Time to wait for PONG response

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

Command

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

Library specific attributes

---

Flag: I

This command applies on IPA link establishment

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

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

Command

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

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

<1-300>

Idle interval in seconds before probes are sent

<1-20>

Number of probes to sent

<1-300>

Delay between probe packets in seconds

---

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

name

Set name for this line

.LINE

Human readable name

### 1.8.7 e1\_line <0-255> pcap .FILE

#### Command

```
e1_line <0-255> pcap .FILE
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

pcap

Setup a pcap recording of E1 traffic for line

.FILE

Filename to save the packets to

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

#### Command

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

#### Library specific attributes

Flag: L

This command applies on E1 line update

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

port

Set physical port/span/card number

<0-255>

E1/T1 Port/Span/Card number

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

#### Command

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

#### Library specific attributes

Flag: L

This command applies on E1 line update

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

socket

Set socket path for unixsocket

.SOCKET

socket path

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

#### Command

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

#### Library specific attributes

Flag: L

This command applies on E1 line update

#### Parameters

ipa

ipa driver config

bind

Set ipa local bind address

A.B.C.D

Listen on this IP address (default 0.0.0.0)

### 1.8.11 ipa ip-dscp (oml|rsl) <0-63>

#### Command

```
ipa ip-dscp (oml|rsl) <0-63>
```

#### Library specific attributes

Flag: I

This command applies on IPA link establishment

#### Parameters

ipa

ipa driver config

ip-dscp

Set IP DSCP value for outbound packets

oml

Set IP DSCP for OML link

rsl

Set IP DSCP for RSL link

<0-63>

IP DSCP Value to use

### 1.8.12 ipa socket-priority (oml|rsl) <0-255>

#### Command

```
ipa socket-priority (oml|rsl) <0-255>
```

#### Library specific attributes

#### Flag: I

This command applies on IPA link establishment

#### Parameters

##### ipa

ipa driver config

##### socket-priority

Set socket priority value for outbound packets

##### oml

Set socket priority for OML link

##### rsl

Set socket priority for RSL link

##### <0-255>

socket priority value to use (>6 requires CAP\_NET\_ADMIN)

### 1.8.13 no e1\_line <0-255> ipa-keepalive

#### Command

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

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

##### no

Negate a command or set its defaults

##### e1\_line

Configure E1/T1/J1 Line

##### <0-255>

Line Number

##### ipa-keepalive

Enable IPA PING/PONG keep-alive

---

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

#### Command

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

#### Library specific attributes

#### Flag: I

This command applies on IPA link establishment

#### Parameters

no

Negate a command or set its defaults

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

### 1.8.15 no e1\_line <0-255> pcap

#### Command

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

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

no

Negate a command or set its defaults

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

pcap

Disable pcap recording of E1 traffic for line

## 1.9 config-ctrl

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

#### Command

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

#### Parameters

##### bind

Set bind address to listen for Control connections

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

Local IP address (default 127.0.0.1)

##### [<0-65535>]

Local TCP port number

## 1.10 config-cpu-sched

### 1.10.1 cpu-affinity (self|all|<0-4294967295>|THREADNAME) CPUHEXMASK [delay]

#### Command

```
cpu-affinity (self|all|<0-4294967295>|THREADNAME) CPUHEXMASK [delay]
```

#### Global attributes

##### Flag: !

This command applies immediately

#### Parameters

##### cpu-affinity

Set CPU affinity mask on a (group of) thread(s)

##### self

Set CPU affinity mask on thread running the VTY

##### all

Set CPU affinity mask on all process' threads

##### <0-4294967295>

Set CPU affinity mask on a thread with specified PID

##### THREADNAME

Set CPU affinity mask on a thread with specified thread name

##### CPUHEXMASK

CPU affinity mask

##### [delay]

If set, delay applying the affinity mask now and let the app handle it at a later point



## 1.10.2 policy rr <1-32>

### Command

```
policy rr <1-32>
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### policy

Set the scheduling policy to use for the process

#### rr

Use the SCHED\_RR real-time scheduling algorithm

#### <1-32>

Set the SCHED\_RR real-time priority

## 1.11 phy

### 1.11.1 instance <0-255>

### Command

```
instance <0-255>
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### instance

Select a PHY instance to configure

#### <0-255>

PHY Instance number

---

### 1.11.2 no instance <0-255>

#### Command

```
no instance <0-255>
```

#### Parameters

no

Negate a command or set its defaults

instance

Select a PHY instance to remove

<0-255>

PHY Instance number

### 1.11.3 no osmotrx legacy-setbsic

#### Command

```
no osmotrx legacy-setbsic
```

#### Application specific attributes

Flag: p

This command applies when the TRX powercycles or restarts

#### Parameters

no

Negate a command or set its defaults

osmotrx

OsmoTRX Transceiver configuration

legacy-setbsic

Disable Legacy SETBSIC to configure transceiver

### 1.11.4 osmotrx base-port (local|remote) <0-65535>

#### Command

```
osmotrx base-port (local|remote) <0-65535>
```

#### Parameters

---

osmotrx

OsmoTRX Transceiver configuration

base-port

Set base UDP port number

local

Local UDP port

remote

Remote UDP port

<0-65535>

UDP base port number

### 1.11.5 osmotrx fn-advance <0-30>

Command

```
osmotrx fn-advance <0-30>
```

Global attributes

Flag: !

This command applies immediately

Parameters

osmotrx

OsmoTRX Transceiver configuration

fn-advance

Set the number of frames to be transmitted to transceiver in advance of current FN

<0-30>

Advance in frames

### 1.11.6 osmotrx ip (local|remote) A.B.C.D

Command

```
osmotrx ip (local|remote) A.B.C.D
```

Parameters

osmotrx

OsmoTRX Transceiver configuration

---

ip

Set IP address

local

Local IP address (BTS)

remote

Remote IP address (OsmoTRX)

A.B.C.D

IP address

### 1.11.7 osmotrx ip HOST

Command

```
osmotrx ip HOST
```

Parameters

osmotrx

OsmoTRX Transceiver configuration

ip

Set local and remote IP address

HOST

IP address (for both OsmoBtsTrx and OsmoTRX)

### 1.11.8 osmotrx legacy-setbsic

Command

```
osmotrx legacy-setbsic
```

Application specific attributes

Flag: p

This command applies when the TRX powercycles or restarts

Parameters

osmotrx

OsmoTRX Transceiver configuration

legacy-setbsic

Use SETBSIC to configure transceiver (use ONLY with OpenBTS Transceiver!)

### 1.11.9 osmotrx rts-advance <0-30>

#### Command

```
osmotrx rts-advance <0-30>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

osmotrx

OsmoTRX Transceiver configuration

rts-advance

Set the number of frames to be requested (PCU) in advance of current FN. Do not change this, unless you have a good reason!

<0-30>

Advance in frames

### 1.11.10 osmotrx trxd-max-version (latest|<0-15>)

#### Command

```
osmotrx trxd-max-version (latest|<0-15>)
```

#### Application specific attributes

Flag: p

This command applies when the TRX powercycles or restarts

#### Parameters

osmotrx

OsmoTRX Transceiver configuration

trxd-max-version

Set maximum TRXD format version to negotiate with TRX

latest

Use latest supported TRXD format version (default)

<0-15>

Maximum TRXD format version number

---

## 1.12 phy-inst

### 1.12.1 no osmotrx maxdly

#### Command

```
no osmotrx maxdly
```

#### Application specific attributes

#### Flag: p

This command applies when the TRX powercycles or restarts

#### Parameters

#### no

Negate a command or set its defaults

#### osmotrx

OsmoTRX Transceiver configuration

#### maxdly

Unset the maximum delay of GSM symbols

### 1.12.2 no osmotrx maxdlynb

#### Command

```
no osmotrx maxdlynb
```

#### Application specific attributes

#### Flag: p

This command applies when the TRX powercycles or restarts

#### Parameters

#### no

Negate a command or set its defaults

#### osmotrx

OsmoTRX Transceiver configuration

#### maxdlynb

Unset the maximum delay of GSM symbols

### 1.12.3 no osmotrx rx-gain

#### Command

```
no osmotrx rx-gain
```

#### Application specific attributes

#### Flag: p

This command applies when the TRX powercycles or restarts

#### Parameters

#### no

Negate a command or set its defaults

#### osmotrx

OsmoTRX Transceiver configuration

#### rx-gain

Unset the receiver gain in dB

### 1.12.4 osmotrx maxdly <0-63>

Access Burst is the first burst a mobile transmits in order to establish a connection and it is used to estimate Timing Advance (TA) which is then applied to Normal Bursts to compensate for signal delay due to distance. So changing this setting effectively changes maximum range of the cell, because Access Bursts with a delay higher than this value will be ignored.

#### Command

```
osmotrx maxdly <0-63>
```

#### Application specific attributes

#### Flag: p

This command applies when the TRX powercycles or restarts

#### Parameters

#### osmotrx

OsmoTRX Transceiver configuration

#### maxdly

Set the maximum acceptable delay of an Access Burst

#### <0-63>

Delay in GSMK symbol periods (approx. 550m per symbol)

---

### 1.12.5 osmotrx maxdly <0-63>

Access Burst is the first burst a mobile transmits in order to establish a connection and it is used to estimate Timing Advance (TA) which is then applied to Normal Bursts to compensate for signal delay due to distance. So changing this setting effectively changes maximum range of the cell, because Access Bursts with a delay higher than this value will be ignored.

#### Command

```
osmotrx maxdly <0-63>
```

#### Parameters

### 1.12.6 osmotrx maxdlynb <0-63>

USE FOR TESTING ONLY, DO NOT CHANGE IN PRODUCTION USE! During the normal operation, delay of Normal Bursts is controlled by the Timing Advance loop and thus Normal Bursts arrive to a BTS with no more than a couple GSM symbols, which is already taken into account in osmo-trx. Changing this setting will have no effect in production installations except increasing osmo-trx CPU load. This setting is only useful when testing with a transmitter which cannot precisely synchronize to the BTS downlink signal, like R&S CMD57.

#### Command

```
osmotrx maxdlynb <0-63>
```

#### Parameters

### 1.12.7 osmotrx rx-gain <0-50>

#### Command

```
osmotrx rx-gain <0-50>
```

#### Application specific attributes

#### Flag: p

This command applies when the TRX powercycles or restarts

#### Parameters

#### osmotrx

OsmoTRX Transceiver configuration

#### rx-gain

Set the receiver gain in dB

#### <0-50>

Gain in dB

---



### 1.12.8 osmotrx tx-attenuation (oml|<0-50>)

#### Command

```
osmotrx tx-attenuation (oml|<0-50>)
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

osmotrx

OsmoTRX Transceiver configuration

tx-attenuation

Set the transmitter attenuation

oml

Use NM\_ATT\_RF\_MAXPOWR\_R (max power reduction) from BSC via OML (default)

<0-50>

Fixed attenuation in dB, overriding OML (default)

### 1.12.9 slotmask (1|0) (1|0) (1|0) (1|0) (1|0) (1|0) (1|0) (1|0)

#### Command

```
slotmask (1|0) (1|0) (1|0) (1|0) (1|0) (1|0) (1|0) (1|0)
```

#### Parameters

slotmask

Set the supported slots

1

TS0 supported

0

TS0 unsupported

1

TS1 supported

0

TS1 unsupported

1

TS2 supported

0  
TS2 unsupported

1  
TS3 supported

0  
TS3 unsupported

1  
TS4 supported

0  
TS4 unsupported

1  
TS5 supported

0  
TS5 unsupported

1  
TS6 supported

0  
TS6 unsupported

1  
TS7 supported

0  
TS7 unsupported

## 1.13 bts

### 1.13.1 agch-queue-mgmt default

#### Command

```
agch-queue-mgmt default
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

agch-queue-mgmt

AGCH queue mgmt

default

Reset clean parameters to default values

### 1.13.2 agch-queue-mgmt threshold <0-100> low <0-100> high <0-100000>

#### Command

```
agch-queue-mgmt threshold <0-100> low <0-100> high <0-100000>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

agch-queue-mgmt

AGCH queue mgmt

threshold

Threshold to start cleanup

<0-100>

in % of the maximum queue length

low

Low water mark for cleanup

<0-100>

in % of the maximum queue length

high

High water mark for cleanup

<0-100000>

in % of the maximum queue length

### 1.13.3 band (450|GSM450|480|GSM480|750|GSM750|810|GSM810|850|GSM850|900|GSM900|1800|DCS...)

#### Command

```
band (450|GSM450|480|GSM480|750|GSM750|810|GSM810|850|GSM850|900|GSM900|1800|DCS1800 ↔  
|1900|PCS1900)
```

#### Parameters

band

Set the frequency band of this BTS

450

Alias for GSM450

GSM450

450Mhz

480

Alias for GSM480

GSM480

480Mhz

750

Alias for GSM750

GSM750

750Mhz

810

Alias for GSM810

GSM810

810Mhz

850

Alias for GSM850

GSM850

850Mhz

900

Alias for GSM900

GSM900

900Mhz

1800

Alias for DCS1800

DCS1800

1800Mhz

1900

Alias for PCS1900

PCS1900

1900Mhz

### 1.13.4 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

---

### 1.13.5 gsmtap-local-host HOSTNAME

#### Command

```
gsmtap-local-host HOSTNAME
```

#### Parameters

##### gsmtap-local-host

Enable local bind for GSMTAP Um logging (see also 'gsmtap-sapi')

##### HOSTNAME

Local IP address or hostname

### 1.13.6 gsmtap-remote-host [HOSTNAME]

#### Command

```
gsmtap-remote-host [HOSTNAME]
```

#### Parameters

##### gsmtap-remote-host

Enable GSMTAP Um logging (see also 'gsmtap-sapi')

##### [HOSTNAME]

Remote IP address or hostname ('localhost' if omitted)

### 1.13.7 gsmtap-rlp [skip-null]

#### Command

```
gsmtap-rlp [skip-null]
```

#### Parameters

##### gsmtap-rlp

Enable generation of GSMTAP frames for RLP (non-transparent CSD)

##### [skip-null]

Skip the generation of GSMTAP for RLP NULL frames

---

### 1.13.8 gsmtap-sapi (bcch|ccch|rach|agch|pch|sdcch|tch/f|tch/h|pacch|pdtch|ptcch|cbch|sa...

#### Command

```
gsmtap-sapi (bcch|ccch|rach|agch|pch|sdcch|tch/f|tch/h|pacch|pdtch|ptcch|cbch|sacch)
```

#### Parameters

##### gsmtap-sapi

Enable sending of UL/DL messages over GSMTAP

##### bcch

BCCH

##### ccch

CCCH

##### rach

RACH

##### agch

AGCH

##### pch

PCH

##### sdcch

SDCCH

##### tch/f

TCH/F

##### tch/h

TCH/H

##### pacch

PACCH

##### pdtch

PDTCH

##### ptcch

PTCCH

##### cbch

CBCH

##### sacch

SACCH

### 1.13.9 gsmtap-sapi (enable-all|disable-all)

#### Command

```
gsmtap-sapi (enable-all|disable-all)
```

#### Parameters

##### gsmtap-sapi

Enable/disable sending of UL/DL messages over GSMTAP

##### enable-all

Enable all kinds of messages (all SAPI)

##### disable-all

Disable all kinds of messages (all SAPI)

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

#### Command

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

#### Parameters

##### ipa

ip.access RSL commands

##### unit-id

Set the Unit ID of this BTS

##### <0-65534>

Site ID

##### <0-255>

Unit ID

### 1.13.11 max-ber10k-rach <0-10000>

#### Command

```
max-ber10k-rach <0-10000>
```

#### Global attributes

##### Flag: !

This command applies immediately

#### Parameters

##### max-ber10k-rach

Set the maximum BER for valid RACH requests

##### <0-10000>

BER in 1/10000 units (0=no BER; 100=1% BER)

---

### 1.13.12 min-qual-norm <-100-100>

#### Command

```
min-qual-norm <-100-100>
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

#### min-qual-norm

Set the minimum link quality level of Normal Bursts to be accepted

#### <-100-100>

C/I (Carrier-to-Interference) ratio in centiBels (10e-2 B or 10e-1 dB)

### 1.13.13 min-qual-rach <-100-100>

#### Command

```
min-qual-rach <-100-100>
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

#### min-qual-rach

Set the minimum link quality level of Access Bursts to be accepted

#### <-100-100>

C/I (Carrier-to-Interference) ratio in centiBels (10e-2 B or 10e-1 dB)

### 1.13.14 no description

#### Command

```
no description
```

#### Parameters

#### no

Negate a command or set its defaults

#### description

Remove description of the object

---



### 1.13.15 no gsmtap-local-host

#### Command

```
no gsmtap-local-host
```

#### Parameters

no

Negate a command or set its defaults

gsmtap-local-host

Disable local bind for GSMTAP Um logging

### 1.13.16 no gsmtap-remote-host

#### Command

```
no gsmtap-remote-host
```

#### Parameters

no

Negate a command or set its defaults

gsmtap-remote-host

Disable GSMTAP Um logging

### 1.13.17 no gsmtap-rlp

#### Command

```
no gsmtap-rlp
```

#### Parameters

no

Negate a command or set its defaults

gsmtap-rlp

Disable generation of GSMTAP frames for RLP (non-transparent CSD)

---

### 1.13.18 no gsmtap-sapi (bcch|ccch|rach|agch|pch|sdcch|tch/f|tch/h|pacch|pdtch|ptcch|cbch...

#### Command

```
no gsmtap-sapi (bcch|ccch|rach|agch|pch|sdcch|tch/f|tch/h|pacch|pdtch|ptcch|cbch|sacch)
```

#### Parameters

no

Negate a command or set its defaults

gsmtap-sapi

Disable sending of UL/DL messages over GSMTAP

bcch

BCCH

ccch

CCCH

rach

RACH

agch

AGCH

pch

PCH

sdcch

SDCCH

tch/f

TCH/F

tch/h

TCH/H

pacch

PACCH

pdtch

PDTCH

ptcch

PTCCH

cbch

CBCH

sacch

SACCH

### 1.13.19 no oml remote-ip A.B.C.D

#### Command

```
no oml remote-ip A.B.C.D
```

#### Parameters

no

Negate a command or set its defaults

oml

OML Parameters

remote-ip

OML IP Address

A.B.C.D

OML IP Address

### 1.13.20 no rtp continuous-streaming

#### Command

```
no rtp continuous-streaming
```

#### Parameters

no

Negate a command or set its defaults

rtp

RTP parameters

continuous-streaming

Always emit an RTP packet every 20 ms

### 1.13.21 no rtp internal-uplink-ecu

#### Command

```
no rtp internal-uplink-ecu
```

#### Parameters

no

Negate a command or set its defaults

rtp

RTP parameters

internal-uplink-ecu

Apply a BTS-internal ECU to the uplink traffic frame stream

---

### 1.13.22 no supp-meas-info toa256

#### Command

```
no supp-meas-info toa256
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

#### no

Negate a command or set its defaults

#### supp-meas-info

Configure the RSL Supplementary Measurement Info

#### toa256

Report the TOA in 1/256th symbol periods

### 1.13.23 oml remote-ip A.B.C.D

#### Command

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

#### Parameters

#### oml

OML Parameters

#### remote-ip

OML IP Address

#### A.B.C.D

OML IP Address

### 1.13.24 osmux

#### Command

```
osmux
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

#### osmux

Configure Osmux

---

### 1.13.25 paging lifetime <0-60>

#### Command

```
paging lifetime <0-60>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

paging

Paging related parameters

lifetime

Maximum lifetime of a paging record

<0-60>

Maximum lifetime of a paging record (seconds)

### 1.13.26 paging queue-size <1-1024>

#### Command

```
paging queue-size <1-1024>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

paging

Paging related parameters

queue-size

Maximum length of BTS-internal paging queue

<1-1024>

Maximum length of BTS-internal paging queue

---

### 1.13.27 **pcu-socket PATH**

#### Command

```
pcu-socket PATH
```

#### Parameters

##### pcu-socket

Configure the PCU socket file/path name

##### PATH

UNIX socket path

### 1.13.28 **pcu-socket-wqueue-length <1-2147483647>**

#### Command

```
pcu-socket-wqueue-length <1-2147483647>
```

#### Parameters

##### pcu-socket-wqueue-length

Configure the PCU socket queue length

<1-2147483647>

Queue length

### 1.13.29 **rtp continuous-streaming**

#### Command

```
rtp continuous-streaming
```

#### Parameters

##### rtp

RTP parameters

##### continuous-streaming

Always emit an RTP packet every 20 ms

### 1.13.30 rtp hr-format (rfc5993|ts101318)

#### Command

```
rtp hr-format (rfc5993|ts101318)
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

rtp

RTP parameters

hr-format

HRv1 codec output format

rfc5993

RFC 5993

ts101318

TS 101 318

### 1.13.31 rtp internal-uplink-ecu

#### Command

```
rtp internal-uplink-ecu
```

#### Parameters

rtp

RTP parameters

internal-uplink-ecu

Apply a BTS-internal ECU to the uplink traffic frame stream

### 1.13.32 rtp ip-dscp <0-63>

#### Command

```
rtp ip-dscp <0-63>
```

#### Application specific attributes

---

Flag: 1

This command applies for newly created lchans

Parameters

rtp

RTP parameters

ip-dscp

Specify DSCP for RTP/IP packets

<0-63>

The DSCP value (upper 6 bits of TOS)

### 1.13.33 rtp jitter-buffer <0-10000> [adaptive]

Command

```
rtp jitter-buffer <0-10000> [adaptive]
```

Application specific attributes

Flag: 1

This command applies for newly created lchans

Parameters

rtp

RTP parameters

jitter-buffer

RTP jitter buffer

<0-10000>

Jitter buffer in ms

[adaptive]

Enable adaptive RTP jitter buffering

### 1.13.34 rtp port-range <1-65534> <1-65534>

Command

```
rtp port-range <1-65534> <1-65534>
```

Parameters

---



rtp

RTP parameters

port-range

Range of local ports to use for RTP/RTCP traffic

<1-65534>

Port range start (inclusive)

<1-65534>

Port range end (inclusive)

### 1.13.35 rtp socket-priority <0-255>

Command

```
rtp socket-priority <0-255>
```

Application specific attributes

Flag: 1

This command applies for newly created lchans

Parameters

rtp

RTP parameters

socket-priority

Specify socket priority for RTP/IP packets

<0-255>

The socket priority value (> 6 requires CAP\_NET\_ADMIN)

### 1.13.36 smscb queue-hysteresis <0-30>

Command

```
smscb queue-hysteresis <0-30>
```

Global attributes

Flag: !

This command applies immediately

Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-hysteresis

Hysteresis of the SMSCB (CBCH) queue

<0-30>

In count of messages/pages (default: 2)

### 1.13.37 smscb queue-max-length <1-60>

#### Command

```
smscb queue-max-length <1-60>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-max-length

Maximum length of the SMSCB (CBCH) queue

<1-60>

Length in count of messages/pages (default: 15)

### 1.13.38 smscb queue-target-length <1-30>

#### Command

```
smscb queue-target-length <1-30>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-target-length

Target length of the SMSCB (CBCH) queue

<1-30>

Length in count of messages/pages (default: 2)

### 1.13.39 **supp-meas-info toa256**

#### Command

```
supp-meas-info toa256
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

supp-meas-info

Configure the RSL Supplementary Measurement Info

toa256

Report the TOA in 1/256th symbol periods

### 1.13.40 **trx <0-254>**

#### Command

```
trx <0-254>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

trx

Select a TRX to configure

<0-254>

TRX number

## 1.14 **trx**

### 1.14.1 **ms-power-control (dsp|osmo)**

#### Command

```
ms-power-control (dsp|osmo)
```

## Parameters

### ms-power-control

Mobile Station Power Level Control

### dsp

Handled by DSP

### osmo

Handled by OsmoBTS

## 1.14.2 no nominal-tx-power

### Command

```
no nominal-tx-power
```

### Application specific attributes

#### Flag: p

This command applies when the TRX powercycles or restarts

## Parameters

### no

Negate a command or set its defaults

### nominal-tx-power

Manually set (force) the nominal transmit output power; ask the TRX instead (default)

## 1.14.3 nominal-tx-power <-10-100>

### Command

```
nominal-tx-power <-10-100>
```

### Application specific attributes

#### Flag: p

This command applies when the TRX powercycles or restarts

## Parameters

### nominal-tx-power

Manually set (force) the nominal transmit output power in dBm

### <-10-100>

Nominal transmit output power level in dBm

---

### 1.14.4 phy <0-255> instance <0-255>

#### Command

```
phy <0-255> instance <0-255>
```

#### Parameters

##### phy

Configure PHY Link+Instance for this TRX

##### <0-255>

PHY Link number

##### instance

PHY instance

##### <0-255>

PHY Instance number

### 1.14.5 power-ramp max-initial <-10000-100000> (dBm|mdBm)

#### Command

```
power-ramp max-initial <-10000-100000> (dBm|mdBm)
```

#### Parameters

##### power-ramp

Power-Ramp settings

##### max-initial

Maximum initial power

##### <-10000-100000>

Value

##### dBm

Unit is dB (decibels)

##### mdBm

Unit is mdB (milli-decibels, or rather 1/10000 bel)

### 1.14.6 power-ramp step-interval <1-100>

#### Command

```
power-ramp step-interval <1-100>
```

#### Parameters

##### power-ramp

Power-Ramp settings

##### step-interval

Power increase by step

##### <1-100>

Step time in seconds

### 1.14.7 power-ramp step-size <1-100000> (dB|mdB)

#### Command

```
power-ramp step-size <1-100000> (dB|mdB)
```

#### Parameters

##### power-ramp

Power-Ramp settings

##### step-size

Power increase by step

##### <1-100000>

Step size

##### dB

Unit is dB (decibels)

##### mdB

Unit is mdB (milli-decibels, or rather 1/10000 bel)

### 1.14.8 ta-control interval <0-31>

#### Command

```
ta-control interval <0-31>
```

#### Parameters

##### ta-control

Timing Advance Control Parameters

##### interval

Set TA control loop interval

##### <0-31>

As in P\_CON\_INTERVAL, in units of 2 SACCH periods (0.96 seconds) (default=0, every SACCH block)

## 1.14.9 user-gain <-100000-100000> (dB|mdB)

### Command

```
user-gain <-100000-100000> (dB|mdB)
```

### Global attributes

#### Flag: !

This command applies immediately

### Parameters

#### user-gain

Inform BTS about additional, user-provided gain or attenuation at TRX output

#### <-100000-100000>

Value of user-provided external gain(+)/attenuation(-)

#### dB

Unit is dB (decibels)

#### mdB

Unit is mdB (milli-decibels, or rather 1/10000 bel)

## 1.15 osmux

### 1.15.1 batch-factor <1-8>

#### Command

```
batch-factor <1-8>
```

### Parameters

#### batch-factor

Batching factor

#### <1-8>

Number of messages in the batch

### 1.15.2 batch-size <1-65535>

#### Command

```
batch-size <1-65535>
```

### Parameters

#### batch-size

Batch size

#### <1-65535>

Batch size in bytes

---

### 1.15.3 dummy-padding (on|off)

#### Command

```
dummy-padding (on|off)
```

#### Parameters

##### dummy-padding

Dummy padding

##### on

Enable dummy padding

##### off

Disable dummy padding (default)

### 1.15.4 local-ip (A.B.C.D|X:X::X:X)

#### Command

```
local-ip (A.B.C.D|X:X::X:X)
```

#### Parameters

##### local-ip

IP information

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

IPv4 Address to bind to

##### X:X::X:X

IPv6 Address to bind to

### 1.15.5 local-port <1-65535>

#### Command

```
local-port <1-65535>
```

#### Parameters

##### local-port

Osmux port

##### <1-65535>

UDP port

---



### 1.15.6 use (off|on|only)

#### Command

```
use (off|on|only)
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

##### use

Configure Osmux usage

##### off

Never use Osmux

##### on

Use Osmux if requested by BSC (default)

##### only

Always use Osmux, reject non-Osmux BSC requests