

# OsmoBTS VTY Reference



**osmo-bts-trx**

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**COLLABORATORS**

	<i>TITLE :</i> OsmoBTS VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		November 25, 2020	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
v1	13th October 2016	Initial	hw
v2	25th November 2020	Automatic build (1.2.0.332-2edf)	s.f.m.c.

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# 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

vty-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

vty-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|pbcch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdccch|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

## pdtch

- PDTCH

## pnch

- PNCH

## ppch

- PPCH

prach  
PRACH

ptcch  
PTCCH

rach  
RACH

sacch  
SACCH

sch  
SCH

sdcch  
SDCCH

tch/f  
TCH/F

tch/h  
TCH/H

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

Command

```
logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|sum|lglobal ↔
|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp|lsua|lm3ua| ↔
lmgcp|ljibuf|lrspro|lns) (debug|info|notice|error|fatal)
```

Parameters

logging  
Configure logging

level  
Set the log level for a specified category

rsl  
A-bis Radio Siganlling 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

sum  
DSUM

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

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 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

### 1.2.16 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

### 1.2.17 logp (rsl|oml|rll|rr|meas|pag|llc|llp|dsp|pcu|ho|trx|loop|abis|rtp|sum|lglobal|l...

#### Command

```
logp (rsl|oml|rll|rr|meas|pag|llc|llp|dsp|pcu|ho|trx|loop|abis|rtp|sum|lglobal|llapd| ↔
linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp| ↔
ljibuf|lrspro|lns) (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

sum  
DSUM

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

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

### 1.2.18 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|sdccch|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

### 1.2.19 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>'

### 1.2.20 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.2.21 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

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

#### Command

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

#### Parameters

show

Show running system information

bts

Display information about a BTS

[<0-255>]

BTS Number

### 1.2.23 show 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)

---

### 1.2.24 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

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

#### Command

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

#### Parameters

show

Show running system information

e1\_line

Display information about a E1 line

[line\_nr]

E1 Line Number

[stats]

Include statistics

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

#### Command

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

#### Parameters

show

Show running system information

e1\_timeslot

Display information about a E1 timeslot

[line\_nr]

E1 Line Number

[ts\_nr]

E1 Timeslot Number



### 1.2.27 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.2.28 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

### 1.2.29 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

### 1.2.30 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtty

Show current logging configuration for this vty

### 1.2.31 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

### 1.2.32 show phy

#### Command

```
show phy
```

#### Parameters

show

Show running system information

phy

Display information about the available PHYs

### 1.2.33 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

show

Show running system information

rate-counters

Show all rate counters

### 1.2.34 show stats

#### Command

```
show stats
```

#### Parameters

show

Show running system information

stats

Show statistical values

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

#### Command

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

#### Parameters

show

Show running system information

stats

Show statistical values

level

Set the maximum group level

global

Show global groups only

peer

Show global and network peer related groups

subscriber

Show global, peer, and subscriber groups

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

#### Command

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

#### Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

---

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

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### all

All contexts, if NULL-context tracking is enabled

##### full

Display a full talloc memory hierarchy

##### brief

Display a brief talloc memory hierarchy

##### DEPTH

Specify required maximal depth value

##### filter

Filter chunks using regular expression

##### REGEXP

Regular expression

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

#### Command

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

#### Parameters

##### show

Show running system information

##### talloc-context

Show talloc memory hierarchy

##### application

Application's context

##### all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

### 1.2.39 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

### 1.2.40 show transceiver

Command

```
show transceiver
```

Parameters

show

Show running system information

transceiver

Display information about transceivers

### 1.2.41 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

### 1.2.42 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.2.43 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)

---

### 1.2.44 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

### 1.2.45 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> trx <0-0> ts <0-7> lchan <0-1> loopback

#### Command

```
bts <0-0> trx <0-0> ts <0-7> lchan <0-1> loopback
```

#### Parameters

##### bts

BTS related commands

##### <0-0>

BTS number

##### trx

TRX related commands



<0-0>

TRX number

ts

timeslot related commands

<0-7>

timeslot number

lchan

logical channel commands

<0-1>

logical channel number

loopback

Set loopback

### 1.3.2 **bts <0-0> trx <0-0> ts <0-7> lchan <0-1> rtp jitter-buffer <0-10000>**

Command

```
bts <0-0> trx <0-0> ts <0-7> lchan <0-1> rtp jitter-buffer <0-10000>
```

Parameters

bts

BTS related commands

<0-0>

BTS number

trx

TRX related commands

<0-0>

TRX number

ts

timeslot related commands

<0-7>

timeslot number

lchan

logical channel commands

<0-1>

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

pdтч  
    PDTCH

pnch  
    PNCH

ppch  
    PPCH

prach  
    PRACH

ptcch  
    PTCCH

rach  
    RACH

sacch  
    SACCH

sch  
    SCH

---

sdccch

SDCCCH

tch/f

TCH/F

tch/h

TCH/H

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

Command

```
logging level (rsl|oml|rll|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|sum|lglobal ↔
|llapd|linp|lmux|lmi|lmib|lsm|lctrl|lgtpl|lstats|lgsup|loap|lss7|lscpp|lsua|lm3ua| ↔
|lmgcp|ljibuf|lrspro|lms) (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

sum  
DSUM

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
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 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

### 1.3.20 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

### 1.3.21 logp (rsl|oml|rll|rr|meas|pag|llc|llp|dsp|pcu|ho|trx|loop|abis|rtp|sum|lglobal|l...

## Command

```
logp (rsl|oml|rll|rr|meas|pag|llc|llp|dsp|pcu|ho|trx|loop|abis|rtp|sum|lglobal|llapd| ↔
linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua|lmgcp| ↔
ljibuf|lrspro|lns) (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

sum  
DSUM

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

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

### 1.3.22 no bts <0-0> trx <0-0> ts <0-7> lchan <0-1> loopback

#### Command

```
no bts <0-0> trx <0-0> ts <0-7> lchan <0-1> loopback
```

#### Parameters

no  
Negate a command or set its defaults

bts  
BTS related commands

<0-0>  
BTS number

trx

TRX related commands

<0-0>

TRX number

ts

timeslot related commands

<0-7>

timeslot number

lchan

logical channel commands

<0-1>

logical channel number

loopback

Set loopback

### 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|pbcch|pch|pdtch|pnch|ppch|prach|ptcch|rach|sacch|sch|sdccch|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

pdтч  
PDTCH

pnch  
PNCH

ppch  
PPCH

prach  
PRACH

ptccch  
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>]

#### Command

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

#### Parameters

show

Show running system information

bts

Display information about a BTS

[<0-255>]

BTS Number

### 1.3.28 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)

### 1.3.29 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

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

#### Command

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

#### Parameters

show

Show running system information

e1\_line

Display information about a E1 line

[line\_nr]

E1 Line Number

[stats]

Include statistics

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

#### Command

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

#### Parameters

show

Show running system information

e1\_timeslot

Display information about a E1 timeslot

[line\_nr]

E1 Line Number

[ts\_nr]

E1 Timeslot Number

### 1.3.32 show history

#### Command

```
show history
```

#### Parameters

show

Show running system information

history

Display the session command history

### 1.3.33 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

### 1.3.34 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

### 1.3.35 show logging vty

#### Command

```
show logging vty
```

#### Parameters

##### show

Show running system information

##### logging

Show current logging configuration

##### vtty

Show current logging configuration for this vty

### 1.3.36 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.3.37 show phy

#### Command

```
show phy
```

#### Parameters

##### show

Show running system information

##### phy

Display information about the available PHYs

---

### 1.3.38 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

show

Show running system information

rate-counters

Show all rate counters

### 1.3.39 show startup-config

#### Command

```
show startup-config
```

#### Parameters

show

Show running system information

startup-config

Contentes of startup configuration

### 1.3.40 show stats

#### Command

```
show stats
```

#### Parameters

show

Show running system information

stats

Show statistical values

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

#### Command

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

#### Parameters

show

Show running system information

stats

Show statistical values

level

Set the maximum group level

global

Show global groups only

peer

Show global and network peer related groups

subscriber

Show global, peer, and subscriber groups

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

#### Command

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

#### Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

---



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

#### Command

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

#### Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

filter

Filter chunks using regular expression

REGEXP

Regular expression

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

#### Command

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

#### Parameters

show

Show running system information

talloc-context

Show talloc memory hierarchy

application

Application's context

all

All contexts, if NULL-context tracking is enabled

full

Display a full talloc memory hierarchy

brief

Display a brief talloc memory hierarchy

DEPTH

Specify required maximal depth value

tree

Display only a specific memory chunk

ADDRESS

Chunk address (e.g. 0xdeadbeef)

### 1.3.45 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

### 1.3.46 show transceiver

Command

```
show transceiver
```

Parameters

show

Show running system information

transceiver

Display information about transceivers

### 1.3.47 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

### 1.3.48 show version

#### Command

```
show version
```

#### Parameters

show

Show running system information

version

Displays program version

### 1.3.49 stats report

#### Command

```
stats report
```

#### Parameters

stats

Stats related commands

report

Manurally trigger reporting of stats

### 1.3.50 stats reset

#### Command

```
stats reset
```

#### Parameters

stats

Stats related commands

reset

Reset all stats

### 1.3.51 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)

### 1.3.52 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

### 1.3.53 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

### 1.3.54 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

### 1.3.55 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

---

### 1.3.56 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

#### Command

```
log file .FILENAME
```

#### Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

### 1.4.13 log gsmtap [HOSTNAME]

#### Command

```
log gsmtap [HOSTNAME]
```

#### Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

### 1.4.14 log stderr

#### Command

```
log stderr
```

#### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

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

#### Command

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

#### Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

---

daemon  
    General system daemon facility

ftp  
    Ftp daemon facility

lpr  
    Line printer facility

mail  
    Mail facility

news  
    News facility

user  
    Generic facility

uucp  
    UUCP facility

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

Command

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

Parameters

log  
    Configure logging sub-system

syslog  
    Logging via syslog

local  
    Syslog LOCAL facility

<0-7>  
    Local facility number

#### 1.4.17 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 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

### 1.4.24 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

### 1.4.25 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

### 1.4.26 no service advanced-vty

#### Command

```
no service advanced-vty
```

#### Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

---

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

#### Command

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

#### Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

[<0-512>]

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

### 1.4.28 no stats reporter log

#### Command

```
no stats reporter log
```

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.29 no stats reporter statsd

#### Command

```
no stats reporter statsd
```

#### Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

### 1.4.30 password (8|) WORD

Command

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

Parameters

password

Assign the terminal connection password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN line password string

### 1.4.31 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

### 1.4.32 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

### 1.4.33 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

### 1.4.34 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)

### 1.4.35 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

### 1.4.36 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)

### 1.4.37 stats reporter log

#### Command

```
stats reporter log
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.38 stats reporter statsd

#### Command

```
stats reporter statsd
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

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

#### Command

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

#### Parameters

vtty

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|llc|llp|dsp|pcu|ho|trx|loop|abis|rtp|sum|...)

### Command

```
logging level (rsl|oml|rll|rr|meas|pag|llc|llp|dsp|pcu|ho|trx|loop|abis|rtp|sum|lglobal ↔
|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lscpp|lsua|lm3ua| ↔
lmgcp|ljibuf|lrspro|lns) (debug|info|notice|error|fatal)
```

### Parameters

#### logging

Configure logging

#### level

Set the log level for a specified category

#### rsl

A-bis Radio Siganlling 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

sum  
DSUM

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

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 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

### 1.5.12 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> 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

### 1.8.2 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

### 1.8.3 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

### 1.8.4 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

### 1.8.5 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

### 1.8.6 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

### 1.8.7 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

### 1.8.8 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)

### 1.8.9 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

### 1.8.10 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

### 1.8.11 no pcap

#### Command

```
no pcap
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

no

Negate a command or set its defaults

pcap

Disable pcap recording of all E1 traffic

## 1.8.12 pcap .FILE

Command

```
pcap .FILE
```

Global attributes

Flag: !

This command applies immediately

Parameters

pcap

Setup a pcap recording of all E1 traffic

.FILE

Filename to save the packets to

## 1.9 config-ctrl

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

Command

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

Parameters

bind

Set bind address to listen for Control connections

A.B.C.D

Local IP address (default 127.0.0.1)

## 1.10 config-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 <0-31>

#### Command

```
osmotrx maxdly <0-31>
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

##### osmotrx

OsmoTRX Transceiver configuration

##### maxdly

Set the maximum acceptable delay of an Access Burst (in GSM symbols). 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 if we receive an Access Burst with a delay higher than this value, it will be ignored and connection is dropped.

##### <0-31>

GSM symbols (approx. 1.1km per symbol)

---

### 1.12.5 osmotrx maxdlynb <0-31>

#### Command

```
osmotrx maxdlynb <0-31>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

osmotrx

OsmoTRX Transceiver configuration

maxdlynb

Set the maximum acceptable delay of a Normal Burst (in GSM symbols). **USE FOR TESTING ONLY, DON'T CHANGE IN PRODUCTION USE!** During normal operation, Normal Bursts delay are controlled by a Timing Advance control 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. So 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 can't precisely synchronize to the BTS downlink signal, like e.g. R&S CMD57.

<0-31>

GSM symbols (approx. 1.1km per symbol)

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

#### Command

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

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

osmotrx

OsmoTRX Transceiver configuration

rx-gain

Set the receiver gain in dB

<0-50>

Gain in dB

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

#### Command

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

#### 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)

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

#### Command

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

#### Parameters

gsmtap-sapi

Enable sending of UL/DL messages over GSMTAP

bcch

BCCH

ccch

CCCH

rach

RACH

agch

AGCH

pch

PCH

sdccch

SDCCCH

tch/f

TCH/F

tch/h

TCH/H

pacch

PACCH

pdtch

PDTCH

ptcch

PTCCH

cbch

CBCH

sacch

SACCH

### 1.13.6 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)

### 1.13.7 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

### 1.13.8 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)

---

### 1.13.9 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)

### 1.13.10 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)

### 1.13.11 no description

#### Command

```
no description
```

#### Parameters

##### no

Negate a command or set its defaults

##### description

Remove description of the object

---

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

#### 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

### 1.13.13 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

### 1.13.14 no uplink-power-filtering

#### Command

```
no uplink-power-filtering
```

#### Global attributes

#### Flag: !

This command applies immediately

#### Parameters

no

Negate a command or set its defaults

uplink-power-filtering

Disable filtering for uplink power control loop

### 1.13.15 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

---

### 1.13.16 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)

### 1.13.17 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

### 1.13.18 pcu-socket PATH

#### Command

```
pcu-socket PATH
```

#### Parameters

#### pcu-socket

Configure the PCU socket file/path name

#### PATH

UNIX socket path

---

### 1.13.19 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)

### 1.13.20 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



### 1.13.21 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)

### 1.13.22 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)

### 1.13.23 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)

### 1.13.24 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)

### 1.13.25 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

### 1.13.26 **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

### 1.13.27 **uplink-power-filtering algo ewma beta <1-99>**

#### Command

```
uplink-power-filtering algo ewma beta <1-99>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

uplink-power-filtering

Configure filtering for uplink power control loop

algo

Select the filtering algorithm

ewma

Exponentially Weighted Moving Average (EWMA)

beta

Smoothing factor (in %):  $\beta = (100 - \alpha)$

<1-99>

1% - lowest smoothing, 99% - highest smoothing

---

### 1.13.28 uplink-power-target <-110-0>

#### Command

```
uplink-power-target <-110-0>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

uplink-power-target

Set the nominal target Rx Level for uplink power control loop

<-110-0>

Target uplink Rx level in dBm

### 1.13.29 uplink-power-target <-110-0> hysteresis <1-25>

#### Command

```
uplink-power-target <-110-0> hysteresis <1-25>
```

#### Global attributes

Flag: !

This command applies immediately

#### Parameters

uplink-power-target

Set the nominal target Rx Level for uplink power control loop

<-110-0>

Target uplink Rx level in dBm

hysteresis

Target Rx Level hysteresis

<1-25>

Tolerable deviation in dBm

---

## 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 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)