

# **OsmoBTS VTY Reference**

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**COLLABORATORS**

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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 sysmocom products:

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

Table 1.2: VTY port numbers

### 1.1 Common Commands

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

### 1.1.1 end

#### Command

```
end
```

#### Parameters

end

End current mode and change to enable mode.

### 1.1.2 exit

#### Command

```
exit
```

#### Parameters

exit

Exit current mode and down to previous mode

### 1.1.3 help

#### Command

```
help
```

#### Parameters

help

Description of the interactive help system

### 1.1.4 list

#### Command

```
list
```

#### Parameters

list

Print command list

### 1.1.5 show running-config

#### Command

```
show running-config
```

#### Parameters

##### show

Show running system information

##### running-config

running configuration

### 1.1.6 write

#### Command

```
write
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

### 1.1.7 write file

#### Command

```
write file
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### file

Write to configuration file

### 1.1.8 write memory

#### Command

```
write memory
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### memory

Write configuration to the file (same as write file)

---

### 1.1.9 write terminal

#### Command

```
write terminal
```

#### Parameters

##### write

Write running configuration to memory, network, or terminal

##### terminal

Write to terminal

## 1.2 view

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

### 1.2.1 enable

#### Command

```
enable
```

#### Parameters

##### enable

Turn on privileged mode command

### 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 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|global ↔
               |llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua| ↔
               lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

### Parameters

#### logging

Configure logging

#### level

Set the log level for a specified category

#### 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
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

### 1.2.7 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

### 1.2.8 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

### 1.2.9 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

---

### 1.2.10 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>')

### 1.2.11 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

### 1.2.12 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.

### 1.2.13 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

### 1.2.14 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

### 1.2.15 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

### 1.2.16 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>'

### 1.2.17 show alarms

#### Command

```
show alarms
```

#### Parameters

##### show

Show running system information

##### alarms

Show current logging configuration

### 1.2.18 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

##### show

Show running system information

##### asciidoc

Asciidoc generation

##### counters

Generate table of all registered counters

### 1.2.19 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

---

### 1.2.20 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.2.21 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

### 1.2.22 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



### 1.2.23 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.2.24 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

### 1.2.25 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

### 1.2.26 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

### 1.2.27 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

### 1.2.28 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

show

Show running system information

rate-counters

Show all rate counters

### 1.2.29 show stats

#### Command

```
show stats
```

#### Parameters

show

Show running system information

stats

Show statistical values

### 1.2.30 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

---

### 1.2.31 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

### 1.2.32 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

### 1.2.33 **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)

### 1.2.34 **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

### 1.2.35 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

### 1.2.36 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

### 1.2.37 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)

### 1.2.38 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

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

#### Command

```
logging level (rs|oml|rl|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) (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 Intput 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

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

### 1.3.11 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

### 1.3.12 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

### 1.3.13 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

---

### 1.3.14 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>')

### 1.3.15 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

---



### 1.3.16 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.

### 1.3.17 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

### 1.3.18 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

### 1.3.19 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

### 1.3.20 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

### 1.3.21 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>'

### 1.3.22 show alarms

#### Command

```
show alarms
```

#### Parameters

##### show

Show running system information

##### alarms

Show current logging configuration

### 1.3.23 show asciidoc counters

#### Command

```
show asciidoc counters
```

#### Parameters

##### show

Show running system information

##### asciidoc

Asciidoc generation

##### counters

Generate table of all registered counters

### 1.3.24 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

---

### 1.3.25 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.3.26 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

### 1.3.27 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

---

### 1.3.28 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

### 1.3.29 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

### 1.3.30 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

### 1.3.31 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

### 1.3.32 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

### 1.3.33 show rate-counters

#### Command

```
show rate-counters
```

#### Parameters

##### show

Show running system information

##### rate-counters

Show all rate counters

### 1.3.34 show startup-config

#### Command

```
show startup-config
```

#### Parameters

##### show

Show running system information

##### startup-config

Contentes of startup configuration

### 1.3.35 show stats

#### Command

```
show stats
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values



### 1.3.36 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

### 1.3.37 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

---

### 1.3.38 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

### 1.3.39 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)

### 1.3.40 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

### 1.3.41 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

### 1.3.42 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.3.43 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)

### 1.3.44 terminal monitor

#### Command

```
terminal monitor
```

#### Parameters

##### terminal

Set terminal line parameters

##### monitor

Copy debug output to the current terminal line

---

### 1.3.45 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

### 1.3.46 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

### 1.3.47 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
```

#### Parameters

##### bts

Select a BTS to configure

##### BTS\_NR

BTS Number

---

### 1.4.4 ctrl

#### Command

```
ctrl
```

#### Parameters

ctrl

Configure the Control Interface

### 1.4.5 e1\_input

#### Command

```
e1_input
```

#### Parameters

e1\_input

Configure E1/T1/J1 TDM input

### 1.4.6 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

---

### 1.4.7 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

### 1.4.8 hostname WORD

#### Command

```
hostname WORD
```

#### Parameters

##### hostname

Set system's network name

##### WORD

This system's network name

### 1.4.9 line vty

#### Command

```
line vty
```

#### Parameters

##### line

Configure a terminal line

##### vtty

Virtual terminal



### 1.4.10 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

### 1.4.11 log file .FILENAME

#### Command

```
log file .FILENAME
```

#### Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

### 1.4.12 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)

---

### 1.4.13 log stderr

#### Command

```
log stderr
```

#### Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.14 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

---

### 1.4.15 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

### 1.4.16 no banner motd

#### Command

```
no banner motd
```

#### Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

### 1.4.17 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

---

### 1.4.18 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

### 1.4.19 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

### 1.4.20 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

### 1.4.21 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

### 1.4.22 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

### 1.4.23 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

---

### 1.4.24 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)

### 1.4.25 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

### 1.4.26 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

### 1.4.27 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

### 1.4.28 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

### 1.4.29 phy <0-255>

Command

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

Parameters

phy

Select a PHY to configure

<0-255>

PHY number

### 1.4.30 service advanced-vty

#### Command

```
service advanced-vty
```

#### Parameters

##### service

Set up miscellaneous service

##### advanced-vty

Enable advanced mode vty interface

### 1.4.31 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)

### 1.4.32 show history

#### Command

```
show history
```

#### Parameters

##### show

Show running system information

##### history

Display the session command history

---



### 1.4.33 stats interval <1-65535>

#### Command

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

#### Parameters

stats

Configure stats sub-system

interval

Set the reporting interval

<1-65535>

Interval in seconds

### 1.4.34 stats reporter log

#### Command

```
stats reporter log
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.35 stats reporter statsd

#### Command

```
stats reporter statsd
```

#### Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

---

### 1.4.36 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|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|lsccp|lsua|lm3ua| ↵
lmgcp|ljibuf|lrspro) (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

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 level (global|peer|subscriber)

Command

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

Parameters

level

Set the maximum group level

global

Report global groups only

peer

Report global and network peer related groups

subscriber

Report global, peer, and subscriber groups

---

### 1.6.4 local-ip ADDR

#### Command

```
local-ip ADDR
```

#### Parameters

local-ip

Set the IP address to which we bind locally

ADDR

IP Address

### 1.6.5 mtu <100-65535>

#### Command

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

#### Parameters

mtu

Set the maximum packet size

<100-65535>

Size in byte

### 1.6.6 no local-ip

#### Command

```
no local-ip
```

#### Parameters

no

Negate a command or set its defaults

local-ip

Set the IP address to which we bind locally

### 1.6.7 no mtu

#### Command

```
no mtu
```

#### Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

---

### 1.6.8 no prefix

#### Command

```
no prefix
```

#### Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

### 1.6.9 prefix PREFIX

#### Command

```
prefix PREFIX
```

#### Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

### 1.6.10 remote-ip ADDR

#### Command

```
remote-ip ADDR
```

#### Parameters

remote-ip

Set the remote IP address to which we connect

ADDR

IP Address

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

#### Command

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

#### Parameters

remote-port

Set the remote port to which we connect

<1-65535>

Remote port number

---

## 1.7 config-line

### 1.7.1 bind A.B.C.D [<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|ipa|unixsocket)

#### Command

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

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

driver

Set driver for this line

misdn

mISDN supported E1 Card (kernel LAPD)

misdn\_lapd

mISDN supported E1 Card (userspace LAPD)

dahdi

DAHDI supported E1/T1/J1 Card

ipa

IPA TCP/IP input

unixsocket

HSL TCP/IP input

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

#### Command

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

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

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

#### Command

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

#### Parameters

##### e1\_line

Configure E1/T1/J1 Line

##### <0-255>

Line Number

##### keepalive

Enable keep-alive probing

##### <1-300>

Idle interval in seconds before probes are sent

##### <1-20>

Number of probes to sent

##### <1-300>

Delay between probe packets in seconds

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

#### Command

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

#### Parameters

##### e1\_line

Configure E1/T1/J1 Line

##### <0-255>

Line Number

##### name

Set name for this line

##### .LINE

Human readable name

---

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

#### Command

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

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

port

Set physical port/span/card number

<0-255>

E1/T1 Port/Span/Card number

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

#### Command

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

#### Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

socket

Set socket path for unixsocket

.SOCKET

socket path

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

#### Command

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

#### Parameters

ipa

ipa driver config

bind

Set ipa local bind address

A.B.C.D

Listen on this IP address (default 0.0.0.0)

---



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

#### Command

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

#### Parameters

no

Negate a command or set its defaults

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

## 1.9 config-ctrl

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

#### Command

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

#### Parameters

bind

Set bind address to listen for Control connections

A.B.C.D

Local IP address (default 127.0.0.1)

## 1.10 phy

### 1.10.1 instance <0-255>

#### Command

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

#### Parameters

instance

Select a PHY instance to configure

<0-255>

PHY Instance number

---

### 1.10.2 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

### 1.10.3 virtual-um bts-multicast-group GROUP

#### Command

```
virtual-um bts-multicast-group GROUP
```

#### Parameters

virtual-um

Virtual Um layer

bts-multicast-group

Configure the BTS multicast group

GROUP

(null)

### 1.10.4 virtual-um bts-udp-port <0-65535>

#### Command

```
virtual-um bts-udp-port <0-65535>
```

#### Parameters

virtual-um

Virtual Um layer

bts-udp-port

Configure the BTS UDP port

<0-65535>

(null)

---

### 1.10.5 virtual-um ms-multicast-group GROUP

#### Command

```
virtual-um ms-multicast-group GROUP
```

#### Parameters

virtual-um

Virtual Um layer

ms-multicast-group

Configure the MS multicast group

GROUP

(null)

### 1.10.6 virtual-um ms-udp-port <0-65535>

#### Command

```
virtual-um ms-udp-port <0-65535>
```

#### Parameters

virtual-um

Virtual Um layer

ms-udp-port

Configure the MS UDP port

<0-65535>

(null)

### 1.10.7 virtual-um net-device NETDEV

#### Command

```
virtual-um net-device NETDEV
```

#### Parameters

virtual-um

Virtual Um layer

net-device

Configure the network device

NETDEV

(null)

---

## 1.11 phy-inst

## 1.12 bts

### 1.12.1 agch-queue-mgmt default

#### Command

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

#### Parameters

agch-queue-mgmt

AGCH queue mgmt

default

Reset clean parameters to default values

### 1.12.2 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>
```

#### 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

---

### 1.12.3 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

### 1.12.4 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.12.5 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

GSMTAP SAPI

bcch

BCCH

ccch

CCCH

rach

RACH

agch

AGCH

pch

PCH

sdccch

SDCCH

tch/f

TCH/F

tch/h

TCH/H

pacch

PACCH

pdtch

PDTCH

ptcch  
PTCCH

cbch  
CBCH

sacch  
SACCH

### 1.12.6 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

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

Command

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

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)

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

Command

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

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)

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

#### Command

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

#### 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)

### 1.12.10 no description

#### Command

```
no description
```

#### Parameters

##### no

Negate a command or set its defaults

##### description

Remove description of the object

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

#### Command

```
no gsmzap-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

##### gsmzap-sapi

GSMTAP SAPI

##### bcch

BCCH

##### ccch

CCCH

##### rach

RACH

---



agch  
AGCH

pch  
PCH

sdccch  
SDCCH

tch/f  
TCH/F

tch/h  
TCH/H

pacch  
PACCH

pdtch  
PDTCH

ptcch  
PTCCH

cbch  
CBCH

sacch  
SACCH

### 1.12.12 no supp-meas-info toa256

Command

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

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

### 1.12.13 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

### 1.12.14 paging lifetime <0-60>

#### Command

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

#### Parameters

paging

Paging related parameters

lifetime

Maximum lifetime of a paging record

<0-60>

Maximum lifetime of a paging record (secs)

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

#### Command

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

#### Parameters

paging

Paging related parameters

queue-size

Maximum length of BTS-internal paging queue

<1-1024>

Maximum length of BTS-internal paging queue

---

### 1.12.16 pcu-socket PATH

#### Command

```
pcu-socket PATH
```

#### Parameters

pcu-socket

Configure the PCU socket file/path name

PATH

(null)

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

#### Command

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

#### Parameters

rtp

RTP parameters

jitter-buffer

RTP jitter buffer

<0-10000>

jitter buffer in ms

[adaptive]

(null)

### 1.12.18 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>

(null)

<1-65534>

(null)

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

#### Command

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

#### Parameters

##### smscb

Hysteresis for SMSCB (CBCH) queue. In count of messages/pages (Default: 2)

##### queue-hysteresis

(null)

<0-30>

(null)

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

#### Command

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

#### Parameters

##### smscb

Maximum queue length for SMSCB (CBCH) queue. In count of messages/pages (Default: 15)

##### queue-max-length

(null)

<1-60>

(null)

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

#### Command

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

#### Parameters

##### smscb

Target queue length for SMSCB (CBCH) queue. In count of messages/pages (Default: 2)

##### queue-target-length

(null)

<1-30>

(null)

---

### 1.12.22 supp-meas-info toa256

#### Command

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

#### Parameters

supp-meas-info

Configure the RSL Supplementary Measurement Info

toa256

Report the TOA in 1/256th symbol periods

### 1.12.23 trx <0-254>

#### Command

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

#### Parameters

trx

Select a TRX to configure

<0-254>

TRX number

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

#### Command

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

#### 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 trx

### 1.13.1 ms-power-control (dsp|osmo)

#### Command

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

#### Parameters

##### ms-power-control

Mobile Station Power Level Control (change requires restart)

##### dsp

Handled by DSP

##### osmo

Handled by OsmoBTS

### 1.13.2 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

### 1.13.3 power-ramp max-initial <0-100000> (dBm|mdBm)

#### Command

```
power-ramp max-initial <0-100000> (dBm|mdBm)
```

#### Parameters

##### power-ramp

Power-Ramp settingsMaximum initial power

max-initial

Value

<0-100000>

Unit is dB (decibels)

dBm

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

mdBm

(null)

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

Command

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

Parameters

power-ramp

Power-Ramp settingsPower increase by step

step-interval

Step time in seconds

<1-100>

(null)

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

Command

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

Parameters

power-ramp

Power-Ramp settingsPower increase by step

step-size

Step size

<1-100000>

Unit is dB (decibels)

dB

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

mdB

(null)

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

#### Command

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

#### 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)