# OsmoBTS VTY Reference

**COLLABORATORS**

| | *TITLE* :<br><br>OsmoBTS VTY Reference | |
|---|---|---|

| *ACTION* | *NAME* | *DATE* | *SIGNATURE* |
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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

## Common Commands

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

## end

Command

```
end
```

Parameters

end
: End current mode and change to enable mode.

## exit

Command

```
exit
```

Parameters

exit
: Exit current mode and down to previous mode

## help

Command

```
help
```

Parameters

help
: Description of the interactive help system

## list

Command

```
list
```

Parameters

list
: Print command list

### show running-config

Command

```
show running-config
```

Parameters

show
: Show running system information

running-config
: running configuration

### write

Command

```
write
```

Parameters

write
: Write running configuration to memory, network, or terminal

### write file

Command

```
write file
```

Parameters

write
: Write running configuration to memory, network, or terminal

file
: Write to configuration file

### write memory

Command

```
write memory
```

Parameters

write
: Write running configuration to memory, network, or terminal

memory
: Write configuration to the file (same as write file)

### write terminal

Command

```
write terminal
```

Parameters

write
: Write running configuration to memory, network, or terminal

terminal
: Write to terminal

## view

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

### enable

Command

```
enable
```

Parameters

enable
: Turn on privileged mode command

### logging color (0|1)

Command

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

Parameters

logging
: Configure logging

color
: Configure color-printing for log messages

0
: Don’t use color for printing messages

1
: Use color for printing messages

### logging disable

Command

```
logging disable
```

Parameters

logging
: Configure logging

disable
: Disables logging to this vty

### logging enable

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

Command

```
logging enable
```

Parameters

logging
: Configure logging

enable
: Enables logging to this vty

### logging filter all (0|1)

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

Command

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

Parameters

logging
: Configure logging

filter
: Filter log messages

all
: Do you want to log all messages?

0
: Only print messages matched by other filters

1
: Bypass filter and print all messages

### logging 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

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 Intput Subsystem

rtp
: Realtime Transfer Protocol

sum
: DSUM

lglobal
: Library-internal global log family

llapd
: LAPD in libosmogsm

linp
: A-bis Intput Subsystem

lmux
: A-bis B-Subchannel TRAU Frame Multiplex

lmi
: A-bis Input Driver for Signalling

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

lsms
: Layer3 Short Message Service (SMS)

lctrl
: Control Interface

lgtp
: GPRS GTP library

lstats
: Statistics messages and logging

lgsup
: Generic Subscriber Update Protocol

loap
: Osmocom Authentication Protocol

lss7
: libosmo-sigtran Signalling System 7

lsccp
: libosmo-sigtran SCCP Implementation

lsua
: libosmo-sigtran SCCP User Adaptation

lm3ua
: libosmo-sigtran MTP3 User Adaptation

lmgcp
: libosmo-mgcp Media Gateway Control Protocol

ljibuf
: libosmo-netif Jitter Buffer

lrspro
: Remote SIM protocol

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

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

Command

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

Parameters

logging
: Configure logging

level
: Set the log level for a specified category

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

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

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

Command

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

Parameters

logging
: Configure logging

level
: Set the log level for a specified category

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

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

## logging print category (0|1)

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

category
: Configure log message

0
: Don’t prefix each log message

1
: Prefix each log message with category/subsystem name

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

category-hex
: Configure log message

0
: Don’t prefix each log message

1
: Prefix each log message with category/subsystem nr in hex (’<000b>’)

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

extended-timestamp
: Configure log message timestamping

0
: Don’t prefix each log message

1
: Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

file
: Configure log message

0
: Don't prefix each log message

1
: Prefix each log message with the source file and line

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

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

### logging print level (0|1)

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

level
: Configure log message

0
: Don't prefix each log message

1
: Prefix each log message with the log level name

## logging set-log-mask MASK

Command

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

Parameters

logging
: Configure logging

set-log-mask
: Set the logmask of this logging target

MASK
: List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL_DEBUG=1 LOGL_INFO=3 LOGL_NOTICE=5 LOGL_ERROR=7 LOGL_FATAL=8

## logging timestamp (0|1)

Command

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

Parameters

logging
: Configure logging

timestamp
: Configure log message timestamping

0
: Don't prefix each log message

1
: Prefix each log message with current timestamp

## no logging level force-all

Command

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

Parameters

no
: Negate a command or set its defaults

logging
: Configure logging

level
: Set the log level for a specified category

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

## show alarms

Command

```
show alarms
```

Parameters

show
: Show running system information

alarms
: Show current logging configuration

## show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show
: Show running system information

asciidoc
: Asciidoc generation

counters
: Generate table of all registered counters

## show bts <0-255>

Command

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

Parameters

show
: Show running system information

bts
: Display information about a BTS

<0-255>
: BTS Number

### show e1_driver

Command

```
show e1_driver
```

Parameters

show
: Show running system information

e1_driver
: Display information about available E1 drivers

### show e1_line [line_nr] [stats]

Command

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

Parameters

show
: Show running system information

e1_line
: Display information about a E1 line

[line_nr]
: E1 Line Number

[stats]
: Include statistics

### show e1_timeslot [line_nr] [ts_nr]

Command

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

Parameters

show
: Show running system information

e1_timeslot
: Display information about a E1 timeslot

[line_nr]
: E1 Line Number

[ts_nr]
: E1 Timeslot Number

### show history

Command

```
show history
```

Parameters

show
: Show running system information

history
: Display the session command history

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

Command

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

Parameters

show
: Show running system information

lchan
: Display information about a logical channel

[<0-255>]
: BTS Number

[<0-255>]
: TRX Number

[<0-7>]
: Timeslot Number

[<0-7>]
: Logical Channel Number

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

Command

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

Parameters

show
: Show running system information

lchan
: Display information about a logical channel

summary
: Short summary

[<0-255>]
: BTS Number

[<0-255>]
: TRX Number

[<0-7>]
: Timeslot Number

[<0-7>]
: Logical Channel Number

### show logging vty

Command

```
show logging vty
```

Parameters

show
: Show running system information

logging
: Show current logging configuration

vty
: Show current logging configuration for this vty

### show online-help

Command

```
show online-help
```

Parameters

show
: Show running system information

online-help
: Online help

### show rate-counters

Command

```
show rate-counters
```

Parameters

show
: Show running system information

rate-counters
: Show all rate counters

### show stats

Command

```
show stats
```

Parameters

show
: Show running system information

stats
: Show statistical values

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

Command

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

Parameters

show
: Show running system information

stats
: Show statistical values

level
: Set the maximum group level

global
: Show global groups only

peer
: Show global and network peer related groups

subscriber
: Show global, peer, and subscriber groups

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

Command

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

Parameters

show
: Show running system information

talloc-context
: Show talloc memory hierarchy

application
: Application's context

all
: All contexts, if NULL-context tracking is enabled

full
: Display a full talloc memory hierarchy

brief
: Display a brief talloc memory hierarchy

DEPTH
: Specify required maximal depth value

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

Command

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

Parameters

show
: Show running system information

talloc-context
: Show talloc memory hierarchy

application
: Application's context

all
: All contexts, if NULL-context tracking is enabled

full
: Display a full talloc memory hierarchy

brief
: Display a brief talloc memory hierarchy

DEPTH
: Specify required maximal depth value

filter
: Filter chunks using regular expression

REGEXP
: Regular expression

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

Command

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

Parameters

show
: Show running system information

talloc-context
: Show talloc memory hierarchy

application
: Application's context

all
: All contexts, if NULL-context tracking is enabled

full
: Display a full talloc memory hierarchy

brief
: Display a brief talloc memory hierarchy

DEPTH
: Specify required maximal depth value

tree
: Display only a specific memory chunk

ADDRESS
: Chunk address (e.g. 0xdeadbeef)

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

Command

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

Parameters

show
: Show running system information

timeslot
: Display information about a TS

[<0-255>]
: BTS Number

[<0-255>]
: TRX Number

[<0-7>]
: Timeslot Number

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

Command

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

Parameters

show
: Show running system information

trx
: Display information about a TRX

[<0-255>]
: BTS Number

[<0-255>]
: TRX Number

### show version

Command

```
show version
```

Parameters

show
: Show running system information

version
: Displays program version

### terminal length <0-512>

Command

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

Parameters

terminal
: Set terminal line parameters

length
: Set number of lines on a screen

<0-512>
: Number of lines on screen (0 for no pausing)

### terminal no length

Command

```
terminal no length
```

Parameters

terminal
: Set terminal line parameters

no
: Negate a command or set its defaults

length
: Set number of lines on a screen

### who

Command

```
who
```

Parameters

who
: Display who is on vty

## enable

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

### 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

### 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)

### configure terminal

Command

```
configure terminal
```

Parameters

configure
: Configuration from vty interface

terminal
: Configuration terminal

### copy running-config startup-config

Command

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

Parameters

copy
: Copy configuration

running-config
: Copy running config to...

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

## disable

Command

```
disable
```

Parameters

disable
: Turn off privileged mode command

## logging color (0|1)

Command

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

Parameters

logging
: Configure logging

color
: Configure color-printing for log messages

0
: Don’t use color for printing messages

1
: Use color for printing messages

## logging disable

Command

```
logging disable
```

Parameters

logging
: Configure logging

disable
: Disables logging to this vty

### logging enable

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

Command

```
logging enable
```

Parameters

logging
: Configure logging

enable
: Enables logging to this vty

### logging filter all (0|1)

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

Command

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

Parameters

logging
: Configure logging

filter
: Filter log messages

all
: Do you want to log all messages?

0
: Only print messages matched by other filters

1
: Bypass filter and print all messages

### logging 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

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 Intput Subsystem

rtp
: Realtime Transfer Protocol

sum
: DSUM

lglobal
: Library-internal global log family

llapd
: LAPD in libosmogsm

linp
: A-bis Intput Subsystem

lmux
: A-bis B-Subchannel TRAU Frame Multiplex

lmi
: A-bis Input Driver for Signalling

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

lsms
: Layer3 Short Message Service (SMS)

lctrl
: Control Interface

lgtp
: GPRS GTP library

lstats
: Statistics messages and logging

lgsup
: Generic Subscriber Update Protocol

loap
: Osmocom Authentication Protocol

lss7
: libosmo-sigtran Signalling System 7

lsccp
: libosmo-sigtran SCCP Implementation

lsua
: libosmo-sigtran SCCP User Adaptation

lm3ua
: libosmo-sigtran MTP3 User Adaptation

lmgcp
: libosmo-mgcp Media Gateway Control Protocol

ljibuf
: libosmo-netif Jitter Buffer

lrspro
: Remote SIM protocol

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

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

Command

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

Parameters

logging
: Configure logging

level
: Set the log level for a specified category

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

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

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

Command

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

Parameters

logging
: Configure logging

level
: Set the log level for a specified category

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

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

## logging print category (0|1)

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

category
: Configure log message

0
: Don't prefix each log message

1
: Prefix each log message with category/subsystem name

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

category-hex
: Configure log message

0
: Don’t prefix each log message

1
: Prefix each log message with category/subsystem nr in hex (’<000b>’)

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

extended-timestamp
: Configure log message timestamping

0
: Don’t prefix each log message

1
: Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

file
: Configure log message

0
: Don't prefix each log message

1
: Prefix each log message with the source file and line

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

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

### logging print level (0|1)

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

level
: Configure log message

0
: Don't prefix each log message

1
: Prefix each log message with the log level name

### logging set-log-mask MASK

Command

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

Parameters

logging
: Configure logging

set-log-mask
: Set the logmask of this logging target

MASK
: List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL_DEBUG=1 LOGL_INFO=3 LOGL_NOTICE=5 LOGL_ERROR=7 LOGL_FATAL=8

### logging timestamp (0|1)

Command

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

Parameters

logging
: Configure logging

timestamp
: Configure log message timestamping

0
: Don't prefix each log message

1
: Prefix each log message with current timestamp

### 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

### no logging level force-all

Command

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

Parameters

no
: Negate a command or set its defaults

logging
: Configure logging

level
: Set the log level for a specified category

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

## show alarms

Command

```
show alarms
```

Parameters

show
: Show running system information

alarms
: Show current logging configuration

## show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show
: Show running system information

asciidoc
: Asciidoc generation

counters
: Generate table of all registered counters

## show bts <0-255>

Command

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

Parameters

show
: Show running system information

bts
: Display information about a BTS

<0-255>
: BTS Number

### show e1_driver

Command

```
show e1_driver
```

Parameters

show
: Show running system information

e1_driver
: Display information about available E1 drivers

### show e1_line [line_nr] [stats]

Command

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

Parameters

show
: Show running system information

e1_line
: Display information about a E1 line

[line_nr]
: E1 Line Number

[stats]
: Include statistics

### show e1_timeslot [line_nr] [ts_nr]

Command

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

Parameters

show
: Show running system information

e1_timeslot
: Display information about a E1 timeslot

[line_nr]
: E1 Line Number

[ts_nr]
: E1 Timeslot Number

### show history

Command

```
show history
```

Parameters

show
: Show running system information

history
: Display the session command history

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

Command

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

Parameters

show
: Show running system information

lchan
: Display information about a logical channel

[<0-255>]
: BTS Number

[<0-255>]
: TRX Number

[<0-7>]
: Timeslot Number

[<0-7>]
: Logical Channel Number

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

Command

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

Parameters

show
: Show running system information

lchan
: Display information about a logical channel

summary
: Short summary

[<0-255>]
: BTS Number

[<0-255>]
: TRX Number

[<0-7>]
: Timeslot Number

[<0-7>]
: Logical Channel Number

### show logging vty

Command

```
show logging vty
```

Parameters

show
: Show running system information

logging
: Show current logging configuration

vty
: Show current logging configuration for this vty

### show online-help

Command

```
show online-help
```

Parameters

show
: Show running system information

online-help
: Online help

### show rate-counters

Command

```
show rate-counters
```

Parameters

show
: Show running system information

rate-counters
: Show all rate counters

### show startup-config

Command

```
show startup-config
```

Parameters

show
: Show running system information

startup-config
: Contentes of startup configuration

### show stats

Command

```
show stats
```

Parameters

show
: Show running system information

stats
: Show statistical values

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

Command

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

Parameters

show
: Show running system information

stats
: Show statistical values

level
: Set the maximum group level

global
: Show global groups only

peer
: Show global and network peer related groups

subscriber
: Show global, peer, and subscriber groups

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

Command

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

Parameters

show
: Show running system information

talloc-context
: Show talloc memory hierarchy

application
: Application's context

all
: All contexts, if NULL-context tracking is enabled

full
: Display a full talloc memory hierarchy

brief
: Display a brief talloc memory hierarchy

DEPTH
: Specify required maximal depth value

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

Command

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

Parameters

show
: Show running system information

talloc-context
: Show talloc memory hierarchy

application
: Application's context

all
: All contexts, if NULL-context tracking is enabled

full
: Display a full talloc memory hierarchy

brief
: Display a brief talloc memory hierarchy

DEPTH
: Specify required maximal depth value

filter
: Filter chunks using regular expression

REGEXP
: Regular expression

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

Command

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

Parameters

show
: Show running system information

talloc-context
: Show talloc memory hierarchy

application
: Application's context

all
: All contexts, if NULL-context tracking is enabled

full
: Display a full talloc memory hierarchy

brief
: Display a brief talloc memory hierarchy

DEPTH
: Specify required maximal depth value

tree
: Display only a specific memory chunk

ADDRESS
: Chunk address (e.g. 0xdeadbeef)

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

Command

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

Parameters

show
: Show running system information

timeslot
: Display information about a TS

[<0-255>]
: BTS Number

[<0-255>]
: TRX Number

[<0-7>]
: Timeslot Number

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

Command

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

Parameters

show
: Show running system information

trx
: Display information about a TRX

[<0-255>]
: BTS Number

[<0-255>]
: TRX Number

### show version

Command

```
show version
```

Parameters

show
: Show running system information

version
: Displays program version

### terminal length <0-512>

Command

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

Parameters

terminal
: Set terminal line parameters

length
: Set number of lines on a screen

<0-512>
: Number of lines on screen (0 for no pausing)

### terminal monitor

Command

```
terminal monitor
```

Parameters

terminal
: Set terminal line parameters

monitor
: Copy debug output to the current terminal line

### terminal no length

Command

```
terminal no length
```

Parameters

terminal
: Set terminal line parameters

no
: Negate a command or set its defaults

length
: Set number of lines on a screen

### terminal no monitor

Command

```
terminal no monitor
```

Parameters

terminal
: Set terminal line parameters

no
: Negate a command or set its defaults

monitor
: Copy debug output to the current terminal line

### who

Command

```
who
```

Parameters

who
: Display who is on vty

## config

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

### banner motd default

Command

```
banner motd default
```

Parameters

banner
: Set banner string

motd
: Strings for motd

default
: Default string

### banner motd file [FILE]

Command

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

Parameters

banner
: Set banner

motd
: Banner for motd

file
: Banner from a file

[FILE]
: Filename

### bts BTS_NR

Command

```
bts BTS_NR
```

Parameters

bts
: Select a BTS to configure

BTS_NR
: BTS Number

### ctrl

Command

```
ctrl
```

Parameters

ctrl
: Configure the Control Interface

### e1_input

Command

```
e1_input
```

Parameters

e1_input
: Configure E1/T1/J1 TDM input

### enable password (8|) WORD

Command

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

Parameters

enable
: Modify enable password parameters

password
: Assign the privileged level password

8
: Specifies a HIDDEN password will follow

dummy string

WORD
: The HIDDEN 'enable' password string

### enable password LINE

Command

```
enable password LINE
```

Parameters

enable
: Modify enable password parameters

password
: Assign the privileged level password

LINE
: The UNENCRYPTED (cleartext) 'enable' password

### hostname WORD

Command

```
hostname WORD
```

Parameters

hostname
: Set system's network name

WORD
: This system's network name

### line vty

Command

```
line vty
```

Parameters

line
: Configure a terminal line

vty
: Virtual terminal

### log alarms <2-32700>

Command

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

Parameters

log
: Configure logging sub-system

alarms
: Logging alarms to osmo_strrb

<2-32700>
: Maximum number of messages to log

### log file .FILENAME

Command

```
log file .FILENAME
```

Parameters

log
: Configure logging sub-system

file
: Logging to text file

.FILENAME
: Filename

### log gsmtap [HOSTNAME]

Command

```
log gsmtap [HOSTNAME]
```

Parameters

log
: Configure logging sub-system

gsmtap
: Logging via GSMTAP

[HOSTNAME]
: Host name to send the GSMTAP logging to (UDP port 4729)

### log stderr

Command

```
log stderr
```

Parameters

log
: Configure logging sub-system

stderr
: Logging via STDERR of the process

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

Command

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

Parameters

log
: Configure logging sub-system

syslog
: Logging via syslog

authpriv
: Security/authorization messages facility

cron
: Clock daemon (cron/at) facility

daemon
: General system daemon facility

ftp
: Ftp daemon facility

lpr
: Line printer facility

mail
: Mail facility

news
: News facility

user
: Generic facility

uucp
: UUCP facility

### log syslog local <0-7>

Command

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

Parameters

log
: Configure logging sub-system

syslog
: Logging via syslog

local
: Syslog LOCAL facility

<0-7>
: Local facility number

### no banner motd

Command

```
no banner motd
```

Parameters

no
: Negate a command or set its defaults

banner
: Set banner string

motd
: Strings for motd

### no enable password

Command

```
no enable password
```

Parameters

no
: Negate a command or set its defaults

enable
: Modify enable password parameters

password
: Assign the privileged level password

### no hostname [HOSTNAME]

Command

```
no hostname [HOSTNAME]
```

Parameters

no
: Negate a command or set its defaults

hostname
: Reset system's network name

[HOSTNAME]
: Host name of this router

### no log alarms

Command

```
no log alarms
```

Parameters

no
: Negate a command or set its defaults

log
: Configure logging sub-system

alarms
: Logging alarms to osmo_strrb

### no log file .FILENAME

Command

```
no log file .FILENAME
```

Parameters

no
: Negate a command or set its defaults

log
: Configure logging sub-system

file
: Logging to text file

.FILENAME
: Filename

## no log stderr

Command

```
no log stderr
```

Parameters

no
: Negate a command or set its defaults

log
: Configure logging sub-system

stderr
: Logging via STDERR of the process

## no log syslog

Command

```
no log syslog
```

Parameters

no
: Negate a command or set its defaults

log
: Configure logging sub-system

syslog
: Logging via syslog

## no service advanced-vty

Command

```
no service advanced-vty
```

Parameters

no
: Negate a command or set its defaults

service
: Set up miscellaneous service

advanced-vty
: Enable advanced mode vty interface

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

Command

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

Parameters

no
: Negate a command or set its defaults

service
: Set up miscellaneous service

terminal-length
: System wide terminal length configuration

[<0-512>]
: Number of lines of VTY (0 means no line control)

## no stats reporter log

Command

```
no stats reporter log
```

Parameters

no
: Negate a command or set its defaults

stats
: Configure stats sub-system

reporter
: Configure a stats reporter

log
: Report to the logger

## no stats reporter statsd

Command

```
no stats reporter statsd
```

Parameters

no
: Negate a command or set its defaults

stats
: Configure stats sub-system

reporter
: Configure a stats reporter

statsd
: Report to a STATSD server

### password (8|) WORD

Command

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

Parameters

password
: Assign the terminal connection password

8
: Specifies a HIDDEN password will follow

dummy string

WORD
: The HIDDEN line password string

### password LINE

Command

```
password LINE
```

Parameters

password
: Assign the terminal connection password

LINE
: The UNENCRYPTED (cleartext) line password

### phy <0-255>

Command

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

Parameters

phy
: Select a PHY to configure

<0-255>
: PHY number

### service advanced-vty

Command

```
service advanced-vty
```

Parameters

service
: Set up miscellaneous service

advanced-vty
: Enable advanced mode vty interface

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

Command

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

Parameters

service
: Set up miscellaneous service

terminal-length
: System wide terminal length configuration

<0-512>
: Number of lines of VTY (0 means no line control)

### show history

Command

```
show history
```

Parameters

show
: Show running system information

history
: Display the session command history

### stats interval <1-65535>

Command

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

Parameters

stats
: Configure stats sub-system

interval
: Set the reporting interval

<1-65535>
: Interval in seconds

### stats reporter log

Command

```
stats reporter log
```

Parameters

stats
: Configure stats sub-system

reporter
: Configure a stats reporter

log
: Report to the logger

### stats reporter statsd

Command

```
stats reporter statsd
```

Parameters

stats
: Configure stats sub-system

reporter
: Configure a stats reporter

statsd
: Report to a STATSD server

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

Command

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

Parameters

vty
: Configure the VTY

telnet-port
: Set the VTY telnet port

<0-65535>
: TCP Port number

## config-log

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

### logging color (0|1)

Command

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

Parameters

logging
: Configure logging

color
: Configure color-printing for log messages

0
: Don't use color for printing messages

1
: Use color for printing messages

### logging filter all (0|1)

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

Command

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

Parameters

logging
: Configure logging

filter
: Filter log messages

all
: Do you want to log all messages?

0
: Only print messages matched by other filters

1
: Bypass filter and print all messages

### logging 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

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 Intput Subsystem

rtp
: Realtime Transfer Protocol

sum
: DSUM

lglobal
: Library-internal global log family

llapd
: LAPD in libosmogsm

linp
: A-bis Intput Subsystem

lmux
: A-bis B-Subchannel TRAU Frame Multiplex

lmi
: A-bis Input Driver for Signalling

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

lsms
: Layer3 Short Message Service (SMS)

lctrl
: Control Interface

lgtp
: GPRS GTP library

lstats
: Statistics messages and logging

lgsup
: Generic Subscriber Update Protocol

loap
: Osmocom Authentication Protocol

lss7
: libosmo-sigtran Signalling System 7

lsccp
: libosmo-sigtran SCCP Implementation

lsua
: libosmo-sigtran SCCP User Adaptation

lm3ua
: libosmo-sigtran MTP3 User Adaptation

lmgcp
: libosmo-mgcp Media Gateway Control Protocol

ljibuf
: libosmo-netif Jitter Buffer

lrspro
: Remote SIM protocol

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

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

Command

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

Parameters

logging
: Configure logging

level
: Set the log level for a specified category

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

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

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

Command

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

Parameters

logging
: Configure logging

level
: Set the log level for a specified category

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

debug
: Log debug messages and higher levels

info
: Log informational messages and higher levels

notice
: Log noticeable messages and higher levels

error
: Log error messages and higher levels

fatal
: Log only fatal messages

### logging print category (0|1)

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

category
: Configure log message

0
: Don't prefix each log message

1
: Prefix each log message with category/subsystem name

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

category-hex
: Configure log message

0
: Don't prefix each log message

1
: Prefix each log message with category/subsystem nr in hex ('<000b>')

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

extended-timestamp
: Configure log message timestamping

0
: Don't prefix each log message

1
: Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

file
: Configure log message

0
: Don't prefix each log message

1
: Prefix each log message with the source file and line

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

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

### logging print level (0|1)

Command

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

Parameters

logging
: Configure logging

print
: Log output settings

level
: Configure log message

0
: Don’t prefix each log message

1
: Prefix each log message with the log level name

### logging timestamp (0|1)

Command

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

Parameters

logging
: Configure logging

timestamp
: Configure log message timestamping

0
: Don’t prefix each log message

1
: Prefix each log message with current timestamp

### no logging level force-all

Command

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

Parameters

no
: Negate a command or set its defaults

logging
: Configure logging

level
: Set the log level for a specified category

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

## config-stats

### disable

Command

```
disable
```

Parameters

disable
: Disable the reporter

### enable

Command

```
enable
```

Parameters

enable
: Enable the reporter

### level (global|peer|subscriber)

Command

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

Parameters

level
: Set the maximum group level

global
: Report global groups only

peer
: Report global and network peer related groups

subscriber
: Report global, peer, and subscriber groups

### local-ip ADDR

Command

```
local-ip ADDR
```

Parameters

local-ip
: Set the IP address to which we bind locally

ADDR
: IP Address

### mtu <100-65535>

Command

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

Parameters

mtu
: Set the maximum packet size

<100-65535>
: Size in byte

### no local-ip

Command

```
no local-ip
```

Parameters

no
: Negate a command or set its defaults

local-ip
: Set the IP address to which we bind locally

### no mtu

Command

```
no mtu
```

Parameters

no
: Negate a command or set its defaults

mtu
: Set the maximum packet size

### no prefix

Command

```
no prefix
```

Parameters

no
: Negate a command or set its defaults

prefix
: Set the item name prefix

### prefix PREFIX

Command

```
prefix PREFIX
```

Parameters

prefix
: Set the item name prefix

PREFIX
: The prefix string

### remote-ip ADDR

Command

```
remote-ip ADDR
```

Parameters

remote-ip
: Set the remote IP address to which we connect

ADDR
: IP Address

### remote-port <1-65535>

Command

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

Parameters

remote-port
: Set the remote port to which we connect

<1-65535>
: Remote port number

## config-line

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

Command

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

Parameters

bind
: Accept VTY telnet connections on local interface

A.B.C.D
: Local interface IP address (default: 127.0.0.1)

[<0-65535>]
: Local TCP port number

### login

Command

```
login
```

Parameters

login
: Enable password checking

### no login

Command

```
no login
```

Parameters

no
: Negate a command or set its defaults

login
: Enable password checking

# config-e1_input

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

Command

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

Parameters

e1_line
: Configure E1/T1/J1 Line

<0-255>
: Line Number

driver
: Set driver for this line

misdn
: mISDN supported E1 Card (kernel LAPD)

misdn_lapd
: mISDN supported E1 Card (userspace LAPD)

dahdi
: DAHDI supported E1/T1/J1 Card

ipa
: IPA TCP/IP input

unixsocket
: HSL TCP/IP input

## e1_line <0-255> keepalive

Command

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

Parameters

e1_line
: Configure E1/T1/J1 Line

<0-255>
: Line Number

keepalive
: Enable keep-alive probing

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

Command

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

Parameters

e1_line
: Configure E1/T1/J1 Line

<0-255>
: Line Number

keepalive
: Enable keep-alive probing

<1-300>
: Idle interval in seconds before probes are sent

<1-20>
: Number of probes to sent

<1-300>
: Delay between probe packets in seconds

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

Command

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

Parameters

e1_line
: Configure E1/T1/J1 Line

<0-255>
: Line Number

name
: Set name for this line

.LINE
: Human readable name

### e1_line <0-255> port <0-255>

Command

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

Parameters

e1_line
: Configure E1/T1/J1 Line

<0-255>
: Line Number

port
: Set physical port/span/card number

<0-255>
: E1/T1 Port/Span/Card number

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

Command

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

Parameters

e1_line
: Configure E1/T1/J1 Line

<0-255>
: Line Number

socket
: Set socket path for unixsocket

.SOCKET
: socket path

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

Command

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

Parameters

ipa
: ipa driver config

bind
: Set ipa local bind address

A.B.C.D
: Listen on this IP address (default 0.0.0.0)

### no e1_line <0-255> keepalive

Command

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

Parameters

no
: Negate a command or set its defaults

e1_line
: Configure E1/T1/J1 Line

<0-255>
: Line Number

keepalive
: Enable keep-alive probing

## config-ctrl

### bind A.B.C.D

Command

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

Parameters

bind
: Set bind address to listen for Control connections

A.B.C.D
: Local IP address (default 127.0.0.1)

## phy

### instance <0-255>

Command

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

Parameters

instance
: Select a PHY instance to configure

<0-255>
: PHY Instance number

### 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

### 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)

### 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)

### 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)

### 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)

### 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)

# phy-inst

# bts

## agch-queue-mgmt default

Command

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

Parameters

agch-queue-mgmt
: AGCH queue mgmt

default
: Reset clean parameters to default values

## 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

### 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

### description .TEXT

Command

```
description .TEXT
```

Parameters

description
: Save human-readable description of the object

.TEXT
: Text until the end of the line

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

Command

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

Parameters

gsmtap-sapi
: GSMTAP SAPI

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

### 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

### 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)

### 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)

### 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)

### no description

Command

```
no description
```

Parameters

no
: Negate a command or set its defaults

description
: Remove description of the object

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

Command

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

Parameters

no
: Negate a command or set its defaults

gsmtap-sapi
: GSMTAP SAPI

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

### 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

### 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

### 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 (secods)

### 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

### pcu-socket PATH

Command

```
pcu-socket PATH
```

Parameters

pcu-socket
: Configure the PCU socket file/path name

PATH
: (null)

### 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)

### 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)

### 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)

### 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)

### 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)

### 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

### trx <0-254>

Command

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

Parameters

trx
: Select a TRX to configure

<0-254>
: TRX number

### 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

## trx

### 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

### 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

### 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)

### 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)

### 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)

### 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)