

OsmoBTS VTY Reference



osmo-bts-sysmo

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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 sismocom products:

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

Table 1.2: VTY port numbers

1.1 Common Commands

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

1.1.1 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

1.1.2 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

1.1.3 help

Command

```
help
```

Parameters

help

Description of the interactive help system

1.1.4 list [with-flags]

Command

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

Parameters

list

Print command list

[with-flags]

Also print the VTY attribute flags

1.1.5 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

1.1.6 show vty-attributes

Command

```
show vty-attributes
```

Parameters

show

Show running system information

vtty-attributes

List of VTY attributes

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

Command

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

Parameters

show

Show running system information

vtty-attributes

List of VTY attributes

application

Application specific attributes only

library

Library specific attributes only

global

Global attributes only

1.1.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

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

1.1.10 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

1.1.11 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

1.2 view

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

1.2.1 enable [expert-mode]

Command

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

Parameters

enable

Turn on privileged mode command

[expert-mode]

Enable the expert mode (show hidden commands)

1.2.2 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

1.2.4 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

1.2.5 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

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

Command

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

Parameters

logging

- Configure logging

filter

- Filter log messages

l1-sapi

- L1 SAPI

unknown

- UNKNOWN

agch

- AGCH

bcch

- BCCH

cbch

- CBCH

facch/f

- FACCH/F

facch/h

- FACCH/H

fcch

- FCCH

idle

- IDLE

nch

- NCH

pacch

- PACCH

pagch

- PAGCH

pbccch

- PBCCH

pch

- PCH

pdtch

- PDTCH

pnch

- PNCH

ppch

- PPCH

prach

PRACH

ptcch

PTCCH

rach

RACH

sacch

SACCH

sch

SCH

sdcch

SDCCH

tch/f

TCH/F

tch/h

TCH/H

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

rsl

A-bis Radio Signalling Link (RSL)

oml

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

rll

A-bis Radio Link Layer (RLL)

rr

Layer3 Radio Resource (RR)

meas

Radio Measurement Processing

pag
Paging Subsystem

llc
Layer 1 Control (MPH)

llp
Layer 1 Primitives (PH)

dsp
DSP Trace Messages

pcu
PCU interface

ho
Handover

trx
TRX interface

loop
Control loops

abis
A-bis Input Subsystem

rtp
Realtime Transfer Protocol

sum
DSUM

lglobal
Library-internal global log family

llapd
LAPD in libosmogsm

linp
A-bis Input Subsystem

lmux
A-bis B-Subchannel TRAU Frame Multiplex

lmi
A-bis Input Driver for Signalling

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

lsms
Layer3 Short Message Service (SMS)

lctrl
Control Interface

lgtp
GPRS GTP library

lstats
Statistics messages and logging

lgsup
Generic Subscriber Update Protocol

loap
Osmocom Authentication Protocol

lss7
libosmo-sigtran Signalling System 7

lsccp
libosmo-sigtran SCCP Implementation

lsua
libosmo-sigtran SCCP User Adaptation

lm3ua
libosmo-sigtran MTP3 User Adaptation

lmgcp
libosmo-mgcp Media Gateway Control Protocol

ljibuf
libosmo-netif Jitter Buffer

lrspro
Remote SIM protocol

lns
GPRS NS layer

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice
Log noticeable messages and higher levels

error
Log error messages and higher levels

fatal
Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.2.10 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.2.11 logging print category-hex (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

1.2.12 logging print extended-timestamp (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

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

[last]

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

1.2.14 logging print level (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

1.2.15 logging set-log-mask MASK

Command

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

Parameters

logging

Configure logging

set-log-mask

Set the logmask of this logging target

MASK

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

1.2.16 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

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

Command

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

Parameters

logp

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

rsl

A-bis Radio Signalling Link (RSL)

oml

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

rll

A-bis Radio Link Layer (RLL)

rr

Layer3 Radio Resource (RR)

meas

Radio Measurement Processing

pag

Paging Subsystem

llc

Layer 1 Control (MPH)

llp

Layer 1 Primitives (PH)

dsp

DSP Trace Messages

pcu

PCU interface

ho
Handover

trx
TRX interface

loop
Control loops

abis
A-bis Input Subsystem

rtp
Realtime Transfer Protocol

sum
DSUM

lglobal
Library-internal global log family

llapd
LAPD in libosmogsm

linp
A-bis Input Subsystem

lmux
A-bis B-Subchannel TRAU Frame Multiplex

lmi
A-bis Input Driver for Signalling

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

lsms
Layer3 Short Message Service (SMS)

lctrl
Control Interface

lgtp
GPRS GTP library

lstats
Statistics messages and logging

lgsup
Generic Subscriber Update Protocol

loap
Osmocom Authentication Protocol

lss7
libosmo-sigtran Signalling System 7

lsccp
libosmo-sigtran SCCP Implementation

lsua
libosmo-sigtran SCCP User Adaptation

lm3ua
libosmo-sigtran MTP3 User Adaptation

lmgcp
libosmo-mgcp Media Gateway Control Protocol

ljibuf
libosmo-netif Jitter Buffer

lrspro
Remote SIM protocol

lns
GPRS NS layer

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice
Log noticeable messages and higher levels

error
Log error messages and higher levels

fatal
Log only fatal messages

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

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

Command

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

Parameters

no
Negate a command or set its defaults

logging
Configure logging

filter
Filter log messages

l1-sapi
L1 SAPI

unknown
UNKNOWN

agch
AGCH

bcch
BCCH

cbch
CBCH

facch/f
FACCH/F

facch/h
FACCH/H

fcch
FCCH

idle
IDLE

nch
NCH

pacch
PACCH

pagch
PAGCH

pbccch
PBCCH

pch
PCH

pdtech
PDTCH

pnch
PNCH

ppch
PPCH

prach
PRACH

ptcch
PTCCH

rach
RACH

sacch
SACCH

sch
SCH

sdcch
SDCCH

tch/f
TCH/F

tch/h
TCH/H

1.2.19 no logging level force-all

Command

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

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

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

1.2.20 no trx <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_...

Command

```
no trx <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_msg| ↔  
l1_tx_msg_byte|mph_cnf|mph_ind|mph_req|ph_ind|ph_req|phy_rf|phy_msg_byte|mode| ↔  
tdma_info|bad_crc|ph_ind_byte|ph_req_byte|device_msg|rach_info|log_ch_info|memory| ↔  
profiling|test_comment|test|status)
```

Parameters

no
Negate a command or set its defaults

trx
Transceiver related commands

<0-0>
TRX number

dsp-trace-flag
DSP Trace Flag

debug
Debug Region

l1_warning
L1 Warning Region

error
Error Region

l1_rx_msg
L1_RX_MSG Region

l1_rx_msg_byte
L1_RX_MSG_BYTE Region

l1_tx_msg
L1_TX_MSG Region

l1_tx_msg_byte
L1_TX_MSG_BYTE Region

mph_cnf
MphConfirmation Region

mph_ind
MphIndication Region

mph_req
MphRequest Region

ph_ind
PhIndication Region

ph_req
PhRequest Region

phy_rf
PhyRF Region

phy_msg_byte
PhyRF Message Region

mode
Mode Region

tdma_info
 TDMA Info Region

bad_crc
 Bad CRC Region

ph_ind_byte
 PH_IND_BYTE

ph_req_byte
 PH_REQ_BYTE

device_msg
 Device Message Region

rach_info
 RACH Info

log_ch_info
 LOG_CH_INFO

memory
 Memory Region

profiling
 Profiling Region

test_comment
 Test Comments

test
 Test Region

status
 Status Region

1.2.21 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

1.2.22 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

1.2.23 show bts [<0-255>]

Command

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

Parameters

show

Show running system information

bts

Display information about a BTS

[<0-255>]

BTS Number

1.2.24 show cpu-sched threads

Command

```
show cpu-sched threads
```

Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

1.2.25 show e1_driver

Command

```
show e1_driver
```

Parameters

show

Show running system information

e1_driver

Display information about available E1 drivers

1.2.26 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

1.2.27 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

1.2.28 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.2.29 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

1.2.30 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

1.2.31 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

1.2.32 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.2.33 show phy <0-255> clock-source

Command

```
show phy <0-255> clock-source
```

Parameters

show

Show running system information

phy

Transceiver related commands

<0-255>

TRX number

clock-source

Display the clock source for this TRX

1.2.34 show phy <0-255> instance <0-255> system-information

Command

```
show phy <0-255> instance <0-255> system-information
```

Parameters

show

Show running system information

phy

Transceiver related commands

<0-255>

TRX number

instance

Display information about system

<0-255>

(null)

system-information

(null)

1.2.35 show rate-counters

Command

```
show rate-counters
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

1.2.36 show stats

Command

```
show stats
```

Parameters

show

Show running system information

stats

Show statistical values

1.2.37 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

1.2.38 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

1.2.39 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

1.2.40 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)

1.2.41 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

1.2.42 show trx <0-0> dsp-trace-flags

Command

```
show trx <0-0> dsp-trace-flags
```

Parameters

show

Show running system information

trx

Transceiver related commands

<0-0>

TRX number

dsp-trace-flags

Display the current setting of the DSP trace flags

1.2.43 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

1.2.44 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.2.45 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)

1.2.46 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

1.2.47 `trx <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_...`

Command

```
trx <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_msg| ↵  
l1_tx_msg_byte|mph_cnf|mph_ind|mph_req|ph_ind|ph_req|phy_rf|phy_msg_byte|mode| ↵  
tdma_info|bad_crc|ph_ind_byte|ph_req_byte|device_msg|rach_info|log_ch_info|memory| ↵  
profiling|test_comment|test|status)
```

Parameters

trx

Transceiver related commands

<0-0>

TRX number

dsp-trace-flag

DSP Trace Flag

debug

Debug Region

l1_warning

L1 Warning Region

error

Error Region

l1_rx_msg

L1_RX_MSG Region

l1_rx_msg_byte

L1_RX_MSG_BYTE Region

l1_tx_msg

L1_TX_MSG Region

l1_tx_msg_byte

L1_TX_MSG_BYTE Region

mph_cnf

MphConfirmation Region

mph_ind

MphIndication Region

mph_req

MphRequest Region

ph_ind

PhIndication Region

ph_req

PhRequest Region

phy_rf
PhyRF Region

phy_msg_byte
PhyRF Message Region

mode
Mode Region

tdma_info
TDMA Info Region

bad_crc
Bad CRC Region

ph_ind_byte
PH_IND_BYTE

ph_req_byte
PH_REQ_BYTE

device_msg
Device Message Region

rach_info
RACH Info

log_ch_info
LOG_CH_INFO

memory
Memory Region

profiling
Profiling Region

test_comment
Test Comments

test
Test Region

status
Status Region

1.2.48 who

Command

```
who
```

Parameters

who

Display who is on vty

1.3 enable

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

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

Command

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

Parameters

bts

BTS related commands

<0-0>

BTS number

trx

TRX related commands

<0-0>

TRX number

ts

timeslot related commands

<0-7>

timeslot number

lchan

logical channel commands

<0-1>

logical channel number

loopback

Set loopback

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

Command

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

Parameters

bts

BTS related commands

<0-0>

BTS number

trx

TRX related commands

<0-0>

TRX number

ts

timeslot related commands

<0-7>

timeslot number

lchan

logical channel commands

<0-1>

logical channel number

rtp

RTP settings

jitter-buffer

Jitter buffer

<0-10000>

Size of jitter buffer in (ms)

1.3.3 configure terminal

Command

```
configure terminal
```

Parameters

configure

Configuration from vty interface

terminal

Configuration terminal

1.3.4 copy running-config startup-config

Command

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

Parameters

copy

Copy configuration

running-config

Copy running config to...

startup-config

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

1.3.5 disable

Command

```
disable
```

Parameters

disable

Turn off privileged mode command

1.3.6 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.3.7 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

1.3.8 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

1.3.9 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

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

Command

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


Parameters

logging

- Configure logging

filter

- Filter log messages

l1-sapi

- L1 SAPI

unknown

- UNKNOWN

agch

- AGCH

bcch

- BCCH

cbch

- CBCH

facch/f

- FACCH/F

facch/h

- FACCH/H

fcch

- FCCH

idle

- IDLE

nch

- NCH

pacch

- PACCH

pagch

- PAGCH

pbccch

- PBCCCH

pch

- PCH

pdtch

- PDTCH

pnch

- PNCH

ppch

- PPCH

prach

PRACH

ptcch

PTCCH

rach

RACH

sacch

SACCH

sch

SCH

sdcch

SDCCH

tch/f

TCH/F

tch/h

TCH/H

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

rsl

A-bis Radio Signalling Link (RSL)

oml

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

rll

A-bis Radio Link Layer (RLL)

rr

Layer3 Radio Resource (RR)

meas

Radio Measurement Processing

pag
Paging Subsystem

llc
Layer 1 Control (MPH)

llp
Layer 1 Primitives (PH)

dsp
DSP Trace Messages

pcu
PCU interface

ho
Handover

trx
TRX interface

loop
Control loops

abis
A-bis Input Subsystem

rtp
Realtime Transfer Protocol

sum
DSUM

lglobal
Library-internal global log family

llapd
LAPD in libosmogsm

linp
A-bis Input Subsystem

lmux
A-bis B-Subchannel TRAU Frame Multiplex

lmi
A-bis Input Driver for Signalling

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

lsms
Layer3 Short Message Service (SMS)

lctrl
Control Interface

lgtp
GPRS GTP library

lstats
Statistics messages and logging

lgsup
Generic Subscriber Update Protocol

loap
Osmocom Authentication Protocol

lss7
libosmo-sigtran Signalling System 7

lsccp
libosmo-sigtran SCCP Implementation

lsua
libosmo-sigtran SCCP User Adaptation

lm3ua
libosmo-sigtran MTP3 User Adaptation

lmgcp
libosmo-mgcp Media Gateway Control Protocol

ljibuf
libosmo-netif Jitter Buffer

lrspro
Remote SIM protocol

lns
GPRS NS layer

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice
Log noticeable messages and higher levels

error
Log error messages and higher levels

fatal
Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.3.14 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.3.15 logging print category-hex (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

1.3.16 logging print extended-timestamp (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

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

[last]

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

1.3.18 logging print level (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

1.3.19 logging set-log-mask MASK

Command

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

Parameters

logging

Configure logging

set-log-mask

Set the logmask of this logging target

MASK

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

1.3.20 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

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

Command

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

Parameters

logp

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

rsl

A-bis Radio Signalling Link (RSL)

oml

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

rll

A-bis Radio Link Layer (RLL)

rr

Layer3 Radio Resource (RR)

meas

Radio Measurement Processing

pag

Paging Subsystem

llc

Layer 1 Control (MPH)

llp

Layer 1 Primitives (PH)

dsp

DSP Trace Messages

pcu

PCU interface

ho
Handover

trx
TRX interface

loop
Control loops

abis
A-bis Input Subsystem

rtp
Realtime Transfer Protocol

sum
DSUM

lglobal
Library-internal global log family

llapd
LAPD in libosmogsm

linp
A-bis Input Subsystem

lmux
A-bis B-Subchannel TRAU Frame Multiplex

lmi
A-bis Input Driver for Signalling

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

lsms
Layer3 Short Message Service (SMS)

lctrl
Control Interface

lgtp
GPRS GTP library

lstats
Statistics messages and logging

lgsup
Generic Subscriber Update Protocol

loap
Osmocom Authentication Protocol

lss7
libosmo-sigtran Signalling System 7

lscpp
libosmo-sigtran SCCP Implementation

lsua
libosmo-sigtran SCCP User Adaptation

lm3ua
libosmo-sigtran MTP3 User Adaptation

lmgcp
libosmo-mgcp Media Gateway Control Protocol

ljibuf
libosmo-netif Jitter Buffer

lrspro
Remote SIM protocol

lns
GPRS NS layer

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice
Log noticeable messages and higher levels

error
Log error messages and higher levels

fatal
Log only fatal messages

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

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

Command

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

Parameters

no
Negate a command or set its defaults

bts
BTS related commands

<0-0>
BTS number

trx

TRX related commands

<0-0>

TRX number

ts

timeslot related commands

<0-7>

timeslot number

lchan

logical channel commands

<0-1>

logical channel number

loopback

Set loopback

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

Command

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

Parameters

no

Negate a command or set its defaults

logging

Configure logging

filter

Filter log messages

l1-sapi

L1 SAPI

unknown

UNKNOWN

agch

AGCH

bcch

BCCH

cbch

CBCH

facch/f
FACCH/F

facch/h
FACCH/H

fcch
FCCH

idle
IDLE

nch
NCH

pacch
PACCH

pagch
PAGCH

pbccch
PBCCH

pch
PCH

pdtech
PDTCH

pnch
PNCH

ppch
PPCH

prach
PRACH

ptcch
PTCCH

rach
RACH

sacch
SACCH

sch
SCH

sdccch
SDCCH

tch/f
TCH/F

tch/h
TCH/H

1.3.24 no logging level force-all

Command

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

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

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

1.3.25 no trx <0-0> <0-7> loopback <0-1>

Command

```
no trx <0-0> <0-7> loopback <0-1>
```

Parameters

no

Negate a command or set its defaults

trx

Transceiver related commands

<0-0>

TRX number

<0-7>

Timeslot number

loopback

Set TCH loopback

<0-1>

Logical Channel Number

1.3.26 no trx <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_...

Command

```
no trx <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_msg| ↔  
l1_tx_msg_byte|mph_cnf|mph_ind|mph_req|ph_ind|ph_req|phy_rf|phy_msg_byte|mode| ↔  
tdma_info|bad_crc|ph_ind_byte|ph_req_byte|device_msg|rach_info|log_ch_info|memory| ↔  
profiling|test_comment|test|status)
```

Parameters

no

Negate a command or set its defaults

trx

Transceiver related commands

<0-0>

TRX number

dsp-trace-flag

DSP Trace Flag

debug

Debug Region

l1_warning

L1 Warning Region

error

Error Region

l1_rx_msg

L1_RX_MSG Region

l1_rx_msg_byte

L1_RX_MSG_BYTE Region

l1_tx_msg

L1_TX_MSG Region

l1_tx_msg_byte

L1_TX_MSG_BYTE Region

mph_cnf

MphConfirmation Region

mph_ind

MphIndication Region

mph_req

MphRequest Region

ph_ind

PhIndication Region

ph_req
PhRequest Region

phy_rf
PhyRF Region

phy_msg_byte
PhyRF Message Region

mode
Mode Region

tdma_info
TDMA Info Region

bad_crc
Bad CRC Region

ph_ind_byte
PH_IND_BYTE

ph_req_byte
PH_REQ_BYTE

device_msg
Device Message Region

rach_info
RACH Info

log_ch_info
LOG_CH_INFO

memory
Memory Region

profiling
Profiling Region

test_comment
Test Comments

test
Test Region

status
Status Region

1.3.27 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

1.3.28 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

1.3.29 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

1.3.30 show cpu-sched threads

Command

```
show cpu-sched threads
```

Parameters

show

Show running system information

cpu-sched

Show Sched section information

threads

Show information about running threads)

1.3.31 show e1_driver

Command

```
show e1_driver
```

Parameters

show

Show running system information

e1_driver

Display information about available E1 drivers

1.3.32 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

1.3.33 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

1.3.34 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

summary

Short summary

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

1.3.37 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

1.3.38 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

1.3.39 show phy <0-255> clock-source

Command

```
show phy <0-255> clock-source
```

Parameters

show

Show running system information

phy

Transceiver related commands

<0-255>

TRX number

clock-source

Display the clock source for this TRX

1.3.40 show phy <0-255> instance <0-255> system-information

Command

```
show phy <0-255> instance <0-255> system-information
```

Parameters

show

Show running system information

phy

Transceiver related commands

<0-255>

TRX number

instance

Display information about system

<0-255>

(null)

system-information

(null)

1.3.41 show rate-counters

Command

```
show rate-counters
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

1.3.42 show startup-config

Command

```
show startup-config
```

Parameters

show

Show running system information

startup-config

Contentes of startup configuration

1.3.43 show stats

Command

```
show stats
```

Parameters

show

Show running system information

stats

Show statistical values

1.3.44 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

1.3.45 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

1.3.46 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

1.3.47 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)

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

Command

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

Parameters

show

Show running system information

timeslot

Display information about a TS

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

1.3.49 show trx <0-0> dsp-trace-flags

Command

```
show trx <0-0> dsp-trace-flags
```

Parameters

show

Show running system information

trx

Transceiver related commands

<0-0>

TRX number

dsp-trace-flags

Display the current setting of the DSP trace flags

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

Command

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

Parameters

show

Show running system information

trx

Display information about a TRX

[<0-255>]

BTS Number

[<0-255>]

TRX Number

1.3.51 show version

Command

```
show version
```

Parameters

show

Show running system information

version

Displays program version

1.3.52 stats report

Command

```
stats report
```

Parameters

stats

Stats related commands

report

Manurally trigger reporting of stats

1.3.53 stats reset

Command

```
stats reset
```

Parameters

stats

Stats related commands

reset

Reset all stats

1.3.54 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)

1.3.55 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

1.3.56 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

1.3.57 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

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

Command

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

Parameters

test

Various testing commands

send-failure-event-report

Send a test OML failure event report to the BSC

<0-255>

BTS Number

1.3.59 **trx <0-0> <0-7> (activate|deactivate) <0-7>**

Command

```
trx <0-0> <0-7> (activate|deactivate) <0-7>
```

Parameters

trx

Transceiver related commands

<0-0>

TRX number

<0-7>

Timeslot number

activate

Activate Logical Channel

deactivate

Deactivate Logical Channel

<0-7>

Logical Channel Number

1.3.60 **trx <0-0> <0-7> loopback <0-1>**

Command

```
trx <0-0> <0-7> loopback <0-1>
```

Parameters

trx

Transceiver related commands

<0-0>

TRX number

<0-7>

Timeslot number

loopback

Set TCH loopback

<0-1>

Logical Channel Number

1.3.61 `trx <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_...`

Command

```
trx <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_msg| ↵  
l1_tx_msg_byte|mph_cnf|mph_ind|mph_req|ph_ind|ph_req|phy_rf|phy_msg_byte|mode| ↵  
tdma_info|bad_crc|ph_ind_byte|ph_req_byte|device_msg|rach_info|log_ch_info|memory| ↵  
profiling|test_comment|test|status)
```

Parameters

trx

Transceiver related commands

<0-0>

TRX number

dsp-trace-flag

DSP Trace Flag

debug

Debug Region

l1_warning

L1 Warning Region

error

Error Region

l1_rx_msg

L1_RX_MSG Region

l1_rx_msg_byte

L1_RX_MSG_BYTE Region

l1_tx_msg

L1_TX_MSG Region

l1_tx_msg_byte

L1_TX_MSG_BYTE Region

mph_cnf

MphConfirmation Region

mph_ind

MphIndication Region

mph_req

MphRequest Region

ph_ind

PhIndication Region

ph_req

PhRequest Region

phy_rf
PhyRF Region

phy_msg_byte
PhyRF Message Region

mode
Mode Region

tdma_info
TDMA Info Region

bad_crc
Bad CRC Region

ph_ind_byte
PH_IND_BYTE

ph_req_byte
PH_REQ_BYTE

device_msg
Device Message Region

rach_info
RACH Info

log_ch_info
LOG_CH_INFO

memory
Memory Region

profiling
Profiling Region

test_comment
Test Comments

test
Test Region

status
Status Region

1.3.62 **trx <0-0> rf-clock-info correct**

Command

```
trx <0-0> rf-clock-info correct
```

Parameters

trx

Transceiver related commands

<0-0>

TRX number

rf-clock-info

RF Clock Information

correct

Apply

1.3.63 **trx <0-0> rf-clock-info reset**

Command

```
trx <0-0> rf-clock-info reset
```

Parameters

trx

Transceiver related commands

<0-0>

TRX number

rf-clock-info

RF Clock Information

reset

Reset the counter

1.3.64 **trx <0-0> tx-power <-110-100>**

Command

```
trx <0-0> tx-power <-110-100>
```

Parameters

trx

Transceiver related commands

<0-0>

TRX number

tx-power

Set transmit power (override BSC)

<-110-100>

Transmit power in dBm

1.3.65 who

Command

```
who
```

Parameters

who

Display who is on vty

1.4 config

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

1.4.1 banner motd default

Command

```
banner motd default
```

Parameters

banner

Set banner string

motd

Strings for motd

default

Default string

1.4.2 banner motd file [FILE]

Command

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

Parameters

banner

Set banner

motd

Banner for motd

file

Banner from a file

[FILE]

Filename

1.4.3 bts BTS_NR

Command

```
bts BTS_NR
```

Global attributes

Flag: !

This command applies immediately

Parameters

bts

Select a BTS to configure

BTS_NR

BTS Number

1.4.4 cpu-sched

Command

```
cpu-sched
```

Parameters

cpu-sched

Configure CPU Scheduler related settings

1.4.5 ctrl

Command

```
ctrl
```

Parameters

ctrl

Configure the Control Interface

1.4.6 e1_input

Command

```
e1_input
```

Global attributes

Flag: !

This command applies immediately

Parameters

e1_input

Configure E1/T1/J1 TDM input

1.4.7 enable password (8|) WORD

Command

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

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN 'enable' password string

1.4.8 enable password LINE

Command

```
enable password LINE
```

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

LINE

The UNENCRYPTED (cleartext) 'enable' password

1.4.9 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

1.4.10 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vtty

Virtual terminal

1.4.11 log alarms <2-32700>

Command

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

Parameters

log

Configure logging sub-system

alarms

Logging alarms to osmo_strrb

<2-32700>

Maximum number of messages to log

1.4.12 log file .FILENAME

Command

```
log file .FILENAME
```

Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

1.4.13 log gsmtap [HOSTNAME]

Command

```
log gsmtap [HOSTNAME]
```

Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

1.4.14 log stderr

Command

```
log stderr
```

Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

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

Command

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

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

daemon
 General system daemon facility

ftp
 Ftp daemon facility

lpr
 Line printer facility

mail
 Mail facility

news
 News facility

user
 Generic facility

uucp
 UUCP facility

1.4.16 log syslog local <0-7>

Command

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

Parameters

log
 Configure logging sub-system

syslog
 Logging via syslog

local
 Syslog LOCAL facility

<0-7>
 Local facility number

1.4.17 log systemd-journal [raw]

Command

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

Parameters

log
 Configure logging sub-system

systemd-journal
 Logging to systemd-journal

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

1.4.18 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

1.4.19 no enable password

Command

```
no enable password
```

Parameters

no

Negate a command or set its defaults

enable

Modify enable password parameters

password

Assign the privileged level password

1.4.20 no hostname [HOSTNAME]

Command

```
no hostname [HOSTNAME]
```

Parameters

no

Negate a command or set its defaults

hostname

Reset system's network name

[HOSTNAME]

Host name of this router

1.4.21 no log alarms

Command

```
no log alarms
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

alarms

Logging alarms to osmo_strrb

1.4.22 no log file .FILENAME

Command

```
no log file .FILENAME
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

1.4.23 no log stderr

Command

```
no log stderr
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

stderr

Logging via STDERR of the process

1.4.24 no log syslog

Command

```
no log syslog
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

syslog

Logging via syslog

1.4.25 no log systemd-journal

Command

```
no log systemd-journal
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

1.4.26 no service advanced-vty

Command

```
no service advanced-vty
```

Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

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

Command

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

Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

[<0-512>]

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

1.4.28 no stats reporter log

Command

```
no stats reporter log
```

Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

1.4.29 no stats reporter statsd

Command

```
no stats reporter statsd
```

Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

1.4.30 password (8|) WORD

Command

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

Parameters

password

Assign the terminal connection password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN line password string

1.4.31 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

1.4.32 phy <0-255>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

phy

Select a PHY to configure

<0-255>

PHY number

1.4.33 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

1.4.34 service terminal-length <0-512>

Command

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

Parameters

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

<0-512>

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

1.4.35 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

1.4.36 stats interval <0-65535>

Command

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

Parameters

stats

Configure stats sub-system

interval

Set the reporting interval

<0-65535>

Interval in seconds (0 disables the reporting interval)

1.4.37 stats reporter log

Command

```
stats reporter log
```

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

1.4.38 stats reporter statsd

Command

```
stats reporter statsd
```

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

1.4.39 vty telnet-port <0-65535>

Command

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

Parameters

vtty

Configure the VTY

telnet-port

Set the VTY telnet port

<0-65535>

TCP Port number

1.5 config-log

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

1.5.1 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

1.5.2 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

filter

Filter log messages

all

Do you want to log all messages?

0

Only print messages matched by other filters

1

Bypass filter and print all messages

1.5.3 logging level (rsl|oml|rll|rr|meas|pag|llc|llp|dsp|pcu|ho|trx|loop|abis|rtp|sum|...

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

rsl

A-bis Radio Signalling Link (RSL)

oml

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

rll

A-bis Radio Link Layer (RLL)

rr
Layer3 Radio Resource (RR)

meas
Radio Measurement Processing

pag
Paging Subsystem

llc
Layer 1 Control (MPH)

llp
Layer 1 Primitives (PH)

dsp
DSP Trace Messages

pcu
PCU interface

ho
Handover

trx
TRX interface

loop
Control loops

abis
A-bis Input Subsystem

rtp
Realtime Transfer Protocol

sum
DSUM

lglobal
Library-internal global log family

llapd
LAPD in libosmogsm

linp
A-bis Input Subsystem

lmux
A-bis B-Subchannel TRAU Frame Multiplex

lmi
A-bis Input Driver for Signalling

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

lsms
Layer3 Short Message Service (SMS)

lctrl
Control Interface

lgtp
GPRS GTP library

lstats
Statistics messages and logging

lgsup
Generic Subscriber Update Protocol

loap
Osmocom Authentication Protocol

lss7
libosmo-sigtran Signalling System 7

lscpp
libosmo-sigtran SCCP Implementation

lsua
libosmo-sigtran SCCP User Adaptation

lm3ua
libosmo-sigtran MTP3 User Adaptation

lmgcp
libosmo-mgcp Media Gateway Control Protocol

ljibuf
libosmo-netif Jitter Buffer

lrspro
Remote SIM protocol

lns
GPRS NS layer

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice
Log noticeable messages and higher levels

error
Log error messages and higher levels

fatal
Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

1.5.6 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

1.5.7 logging print category-hex (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

1.5.8 logging print extended-timestamp (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

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

[last]

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

1.5.10 logging print level (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

1.5.11 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

1.5.12 no logging level force-all

Command

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

Parameters

no

Negate a command or set its defaults

logging

Configure logging

level

Set the log level for a specified category

force-all

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

1.6 config-stats

1.6.1 disable

Command

```
disable
```

Parameters

disable

Disable the reporter

1.6.2 enable

Command

```
enable
```

Parameters

enable

Enable the reporter

1.6.3 flush-period <0-65535>

Command

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

Parameters

flush-period

Configure stats sub-system

<0-65535>

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

1.6.4 level (global|peer|subscriber)

Command

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

Parameters

level

Set the maximum group level

global

Report global groups only

peer

Report global and network peer related groups

subscriber

Report global, peer, and subscriber groups

1.6.5 local-ip ADDR

Command

```
local-ip ADDR
```

Parameters

local-ip

Set the IP address to which we bind locally

ADDR

IP Address

1.6.6 mtu <100-65535>

Command

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

Parameters

mtu

Set the maximum packet size

<100-65535>

Size in byte

1.6.7 no local-ip

Command

```
no local-ip
```

Parameters

no

Negate a command or set its defaults

local-ip

Set the IP address to which we bind locally

1.6.8 no mtu

Command

```
no mtu
```

Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

1.6.9 no prefix

Command

```
no prefix
```

Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

1.6.10 prefix PREFIX

Command

```
prefix PREFIX
```

Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

1.6.11 remote-ip ADDR

Command

```
remote-ip ADDR
```

Parameters

remote-ip

Set the remote IP address to which we connect

ADDR

IP Address

1.6.12 remote-port <1-65535>

Command

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

Parameters

remote-port

Set the remote port to which we connect

<1-65535>

Remote port number

1.7 config-line

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

Command

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

Parameters

bind

Accept VTY telnet connections on local interface

A.B.C.D

Local interface IP address (default: 127.0.0.1)

[<0-65535>]

Local TCP port number

1.7.2 login

Command

```
login
```

Parameters

login

Enable password checking

1.7.3 no login

Command

```
no login
```

Parameters

no

Negate a command or set its defaults

login

Enable password checking

1.8 config-e1_input

1.8.1 e1_line <0-255> driver (misdn|misdn_lapd|dahdi|e1d|ipa|unixsocket)

Command

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

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

driver

Set driver for this line

misdn

mISDN supported E1 Card (kernel LAPD)

misdn_lapd

mISDN supported E1 Card (userspace LAPD)

dahdi

DAHDI supported E1/T1/J1 Card

e1d

osmo-e1d supported E1 interface

ipa

IPA TCP/IP input

unixsocket

Unix socket input

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

ipa-keepalive

Enable IPA PING/PONG keep-alive

<1-300>

Idle interval in seconds before probes are sent

<1-300>

Time to wait for PONG response

1.8.3 e1_line <0-255> keepalive

Command

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

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

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

Command

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

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

<1-300>

Idle interval in seconds before probes are sent

<1-20>

Number of probes to sent

<1-300>

Delay between probe packets in seconds

1.8.5 e1_line <0-255> name .LINE

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

name

Set name for this line

.LINE

Human readable name

1.8.6 e1_line <0-255> port <0-255>

Command

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

Library specific attributes

Flag: L

This command applies on E1 line update

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

port

Set physical port/span/card number

<0-255>

E1/T1 Port/Span/Card number

1.8.7 e1_line <0-255> socket .SOCKET

Command

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

Library specific attributes

Flag: L

This command applies on E1 line update

Parameters

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

socket

Set socket path for unixsocket

.SOCKET

socket path

1.8.8 ipa bind A.B.C.D

Command

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

Library specific attributes

Flag: L

This command applies on E1 line update

Parameters

ipa

ipa driver config

bind

Set ipa local bind address

A.B.C.D

Listen on this IP address (default 0.0.0.0)

1.8.9 no e1_line <0-255> ipa-keepalive

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

ipa-keepalive

Enable IPA PING/PONG keep-alive

1.8.10 no e1_line <0-255> keepalive

Command

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

Library specific attributes

Flag: I

This command applies on IPA link establishment

Parameters

no

Negate a command or set its defaults

e1_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

1.8.11 no pcap

Command

```
no pcap
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

pcap

Disable pcap recording of all E1 traffic

1.8.12 pcap .FILE

Command

```
pcap .FILE
```

Global attributes

Flag: !

This command applies immediately

Parameters

pcap

Setup a pcap recording of all E1 traffic

.FILE

Filename to save the packets to

1.9 config-ctrl

1.9.1 bind A.B.C.D

Command

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

Parameters

bind

Set bind address to listen for Control connections

A.B.C.D

Local IP address (default 127.0.0.1)

1.10 config-cpu-sched

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

cpu-affinity

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

self

Set CPU affinity mask on thread running the VTY

all

Set CPU affinity mask on all process' threads

<0-4294967295>

Set CPU affinity mask on a thread with specified PID

THREADNAME

Set CPU affinity mask on a thread with specified thread name

CPUHEXMASK

CPU affinity mask

[delay]

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

1.10.2 policy rr <1-32>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

policy

Set the scheduling policy to use for the process

rr

Use the SCHED_RR real-time scheduling algorithm

<1-32>

Set the SCHED_RR real-time priority

1.11 phy

1.11.1 instance <0-255>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

instance

Select a PHY instance to configure

<0-255>

PHY Instance number

1.11.2 no instance <0-255>

Command

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

Parameters

no

Negate a command or set its defaults

instance

Select a PHY instance to remove

<0-255>

PHY Instance number

1.12 phy-inst

1.12.1 clock-calibration <-4095-4095>

Command

```
clock-calibration <-4095-4095>
```

Parameters

clock-calibration

Set the clock calibration value

<-4095-4095>

Offset in PPB

1.12.2 clock-calibration default

Command

```
clock-calibration default
```

Parameters

clock-calibration

Set the clock calibration value

default

Default Clock DAC value

1.12.3 clock-calibration eeprom

Command

```
clock-calibration eeprom
```

Parameters

clock-calibration

Use the eeprom clock calibration value

eeprom

(null)

1.12.4 clock-source (tcxo|ocxo|ext|gps)

Command

```
clock-source (tcxo|ocxo|ext|gps)
```

Parameters

clock-source

Set the clock source value

tcxo

Use the TCXO

ocxo

Use the OCXO

ext

Use an external clock

gps

Use the GPS pps

1.12.5 dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_msg|l1_tx...

Command

```
dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_msg| ↔  
l1_tx_msg_byte|mph_cnf|mph_ind|mph_req|ph_ind|ph_req|phy_rf|phy_msg_byte|mode| ↔  
tdma_info|bad_crc|ph_ind_byte|ph_req_byte|device_msg|rach_info|log_ch_info|memory| ↔  
profiling|test_comment|test|status)
```

Parameters

dsp-trace-flag

DSP Trace Flag

debug

Debug Region

l1_warning

L1 Warning Region

error

Error Region

l1_rx_msg

L1_RX_MSG Region

l1_rx_msg_byte

L1_RX_MSG_BYTE Region

l1_tx_msg

L1_TX_MSG Region

l1_tx_msg_byte

L1_TX_MSG_BYTE Region

mph_cnf

MphConfirmation Region

mph_ind

MphIndication Region

mph_req

MphRequest Region

ph_ind

PhIndication Region

ph_req

PhRequest Region

phy_rf

PhyRF Region

phy_msg_byte

PhyRF Message Region

mode
 Mode Region

tdma_info
 TDMA Info Region

bad_crc
 Bad CRC Region

ph_ind_byte
 PH_IND_BYTE

ph_req_byte
 PH_REQ_BYTE

device_msg
 Device Message Region

rach_info
 RACH Info

log_ch_info
 LOG_CH_INFO

memory
 Memory Region

profiling
 Profiling Region

test_comment
 Test Comments

test
 Test Region

status
 Status Region

1.12.6 no dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_msg|l1_...

Command

```
no dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_msg| ↔
l1_tx_msg_byte|mph_cnf|mph_ind|mph_req|ph_ind|ph_req|phy_rf|phy_msg_byte|mode| ↔
tdma_info|bad_crc|ph_ind_byte|ph_req_byte|device_msg|rach_info|log_ch_info|memory| ↔
profiling|test_comment|test|status)
```

Parameters

no
 Negate a command or set its defaults

dsp-trace-flag
 DSP Trace Flag

debug
 Debug Region

l1_warning
 L1 Warning Region

error
 Error Region

l1_rx_msg
 L1_RX_MSG Region

l1_rx_msg_byte
 L1_RX_MSG_BYTE Region

l1_tx_msg
 L1_TX_MSG Region

l1_tx_msg_byte
 L1_TX_MSG_BYTE Region

mph_cnf
 MphConfirmation Region

mph_ind
 MphIndication Region

mph_req
 MphRequest Region

ph_ind
 PhIndication Region

ph_req
 PhRequest Region

phy_rf
 PhyRF Region

phy_msg_byte
 PhyRF Message Region

mode
 Mode Region

tdma_info
 TDMA Info Region

bad_crc
 Bad CRC Region

ph_ind_byte
 PH_IND_BYTE

ph_req_byte
 PH_REQ_BYTE

device_msg
 Device Message Region

rach_info
 RACH Info

log_ch_info
 LOG_CH_INFO

memory
 Memory Region

profiling
 Profiling Region

test_comment
 Test Comments

test
 Test Region

status
 Status Region

1.12.7 **trx-calibration-path** PATH

Command

```
trx-calibration-path PATH
```

Parameters

trx-calibration-path
 Set the path name to TRX calibration data

PATH

Path name

1.13 **bts**

1.13.1 **agch-queue-mgmt** default

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

agch-queue-mgmt

AGCH queue mgmt

default

Reset clean parameters to default values

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

agch-queue-mgmt

AGCH queue mgmt

threshold

Threshold to start cleanup

<0-100>

in % of the maximum queue length

low

Low water mark for cleanup

<0-100>

in % of the maximum queue length

high

High water mark for cleanup

<0-100000>

in % of the maximum queue length

1.13.3 auto-band

Command

```
auto-band
```

Parameters

auto-band

Automatically select band for ARFCN based on configured band

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

Command

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

Parameters

band

Set the frequency band of this BTS

450

Alias for GSM450

GSM450

450Mhz

480

Alias for GSM480

GSM480

480Mhz

750

Alias for GSM750

GSM750

750Mhz

810

Alias for GSM810

GSM810

810Mhz

850

Alias for GSM850

GSM850

850Mhz

900

Alias for GSM900

GSM900

900Mhz

1800

Alias for DCS1800

DCS1800

1800Mhz

1900

Alias for PCS1900

PCS1900

1900Mhz

1.13.5 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

1.13.6 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|sacch)
```

Parameters

gsmtap-sapi

Enable sending of UL/DL messages over GSMTAP

bcch

BCCH

ccch

CCCH

rach

RACH

agch

AGCH

pch

PCH

sdccch

SDCCCH

tch/f

TCH/F

tch/h

TCH/H

pacch

PACCH

pdtch

PDTCH

ptch
PTCCH

cbch
CBCH

sacch
SACCH

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

Command

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

Parameters

gsmtap-sapi
Enable/disable sending of UL/DL messages over GSMTAP

enable-all
Enable all kinds of messages (all SAPI)

disable-all
Disable all kinds of messages (all SAPI)

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

Command

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

Parameters

ipa
ip.access RSL commands

unit-id
Set the Unit ID of this BTS

<0-65534>
Site ID

<0-255>
Unit ID

1.13.9 max-ber10k-rach <0-10000>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

max-ber10k-rach

Set the maximum BER for valid RACH requests

<0-10000>

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

1.13.10 min-qual-norm <-100-100>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

min-qual-norm

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

<-100-100>

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

1.13.11 min-qual-rach <-100-100>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

min-qual-rach

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

<-100-100>

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

1.13.12 no auto-band

Command

```
no auto-band
```

Parameters

no

Negate a command or set its defaults

auto-band

Automatically select band for ARFCN based on configured band

1.13.13 no description

Command

```
no description
```

Parameters

no

Negate a command or set its defaults

description

Remove description of the object

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

Command

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

Parameters

no

Negate a command or set its defaults

gsmtap-sapi

Disable sending of UL/DL messages over GSMTAP

bcch

BCCH

ccch

CCCH

rach

RACH

agch

AGCH

pch

PCH

sdch

SDCCH

tch/f

TCH/F

tch/h

TCH/H

pacch

PACCH

pdтч

PDTCH

ptch

PTCCH

cbch

CBCH

sacch

SACCH

1.13.15 no supp-meas-info toa256

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

supp-meas-info

Configure the RSL Supplementary Measurement Info

toa256

Report the TOA in 1/256th symbol periods

1.13.16 no uplink-power-filtering

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

uplink-power-filtering

Disable filtering for uplink power control loop

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

Command

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

Parameters

oml

OML Parameters

remote-ip

OML IP Address

A.B.C.D

OML IP Address

1.13.18 paging lifetime <0-60>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

paging

Paging related parameters

lifetime

Maximum lifetime of a paging record

<0-60>

Maximum lifetime of a paging record (seconds)

1.13.19 paging queue-size <1-1024>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

paging

Paging related parameters

queue-size

Maximum length of BTS-internal paging queue

<1-1024>

Maximum length of BTS-internal paging queue

1.13.20 pcu-socket PATH

Command

```
pcu-socket PATH
```

Parameters

pcu-socket

Configure the PCU socket file/path name

PATH

UNIX socket path

1.13.21 rtp ip-dscp <0-63>

Command

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

Application specific attributes

Flag: 1

This command applies for newly created lchans

Parameters

rtp

RTP parameters

ip-dscp

Specify DSCP for RTP/IP packets

<0-63>

The DSCP value (upper 6 bits of TOS)

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

Command

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

Application specific attributes

Flag: 1

This command applies for newly created lchans

Parameters

rtp

RTP parameters

jitter-buffer

RTP jitter buffer

<0-10000>

Jitter buffer in ms

[adaptive]

Enable adaptive RTP jitter buffering

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

Command

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

Parameters

rtp

RTP parameters

port-range

Range of local ports to use for RTP/RTCP traffic

<1-65534>

Port range start (inclusive)

<1-65534>

Port range end (inclusive)

1.13.24 smscb queue-hysteresis <0-30>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-hysteresis

Hysteresis of the SMSCB (CBCH) queue

<0-30>

In count of messages/pages (default: 2)

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-max-length

Maximum length of the SMSCB (CBCH) queue

<1-60>

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

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

smscb

SMSCB (SMS Cell Broadcast) / CBCH configuration

queue-target-length

Target length of the SMSCB (CBCH) queue

<1-30>

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

1.13.27 supp-meas-info toa256

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

supp-meas-info

Configure the RSL Supplementary Measurement Info

toa256

Report the TOA in 1/256th symbol periods

1.13.28 trx <0-254>

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

trx

Select a TRX to configure

<0-254>

TRX number

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

uplink-power-filtering

Configure filtering for uplink power control loop

algo

Select the filtering algorithm

ewma

Exponentially Weighted Moving Average (EWMA)

beta

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

<1-99>

1% - lowest smoothing, 99% - highest smoothing

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

uplink-power-target

Set the nominal target Rx Level for uplink power control loop

<-110-0>

Target uplink Rx level in dBm

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

uplink-power-target

Set the nominal target Rx Level for uplink power control loop

<-110-0>

Target uplink Rx level in dBm

hysteresis

Target Rx Level hysteresis

<1-25>

Tolerable deviation in dBm

1.14 trx

1.14.1 ms-power-control (dsp|osmo)

Command

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

Parameters

ms-power-control

Mobile Station Power Level Control

dsp

Handled by DSP

osmo

Handled by OsmoBTS

1.14.2 nominal-tx-power <0-100>

Command

```
nominal-tx-power <0-100>
```

Parameters

nominal-tx-power

Set the nominal transmit output power in dBm

<0-100>

Nominal transmit output power level in dBm

1.14.3 phy <0-255> instance <0-255>

Command

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

Parameters

phy

Configure PHY Link+Instance for this TRX

<0-255>

PHY Link number

instance

PHY instance

<0-255>

PHY Instance number

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

Command

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

Parameters

power-ramp

Power-Ramp settings

max-initial

Maximum initial power

<-10000-100000>

Value

dBm

Unit is dB (decibels)

mdBm

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

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

Command

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

Parameters

power-ramp

Power-Ramp settings

step-interval

Power increase by step

<1-100>

Step time in seconds

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

Command

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

Parameters

power-ramp

Power-Ramp settings

step-size

Power increase by step

<1-100000>

Step size

dB

Unit is dB (decibels)

mdB

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

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

Command

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

Global attributes

Flag: !

This command applies immediately

Parameters

user-gain

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

<-100000-100000>

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

dB

Unit is dB (decibels)

mdB

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