OsmoBTS VTY Reference

osmo-bts-lc15
## COLLABORATORS

<table>
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<tr>
<td>WRITTEN BY</td>
<td></td>
<td>April 15, 2021</td>
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## REVISION HISTORY

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<td>v1</td>
<td>13th October 2016</td>
<td>Initial</td>
<td>hw</td>
</tr>
<tr>
<td>v2</td>
<td>15th April 2021</td>
<td>Automatic build (1.3.0.16-f88f5)</td>
<td>s.f.m.c.</td>
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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.

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Example</th>
<th>Explanation</th>
</tr>
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<tr>
<td>A.B.C.D</td>
<td>127.0.0.1</td>
<td>A IPv4 address</td>
</tr>
<tr>
<td>TEXT</td>
<td>example01</td>
<td>A single string without any spaces, tabs</td>
</tr>
<tr>
<td>.TEXT</td>
<td>Some information</td>
<td>A line of text</td>
</tr>
<tr>
<td>(OptionA</td>
<td>OptionB</td>
<td>OptionC)</td>
</tr>
<tr>
<td>&lt;0-10&gt;</td>
<td>5</td>
<td>A number from a range</td>
</tr>
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</table>

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:

<table>
<thead>
<tr>
<th>Port Number</th>
<th>Software</th>
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<tbody>
<tr>
<td>4240</td>
<td>osmo-pcu</td>
</tr>
<tr>
<td>4241</td>
<td>osmo-bts</td>
</tr>
<tr>
<td>4242</td>
<td>osmo-nitb, osmo-bsc</td>
</tr>
<tr>
<td>4243</td>
<td>osmo-bsc_mgcp</td>
</tr>
<tr>
<td>4244</td>
<td>osmo-bsc_nat</td>
</tr>
<tr>
<td>4245</td>
<td>osmo-sgsn</td>
</tr>
<tr>
<td>4246</td>
<td>osmo-gbproxy</td>
</tr>
</tbody>
</table>

Table 1.2: VTY port numbers

1.1 Common Commands

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

Command
end

Parameters
end
End current mode and change to enable mode.

1.1.2 exit

Command
exit

Parameters
exit
Exit current mode and down to previous mode

1.1.3 help

Command
help

Parameters
help
Description of the interactive help system

1.1.4 list [with-flags]

Command
list [with-flags]

Parameters
list
Print command list
[with-flags]
Also print the VTY attribute flags
1.1.5 show running-config

Command

```
show running-config
```

Parameters

show
  Show running system information
running-config
  running configuration

1.1.6 show vty-attributes

Command

```
show vty-attributes
```

Parameters

show
  Show running system information
vty-attributes
  List of VTY attributes

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

Command

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

Parameters

show
  Show running system information
vty-attributes
  List of VTY attributes
application
  Application specific attributes only
library
  Library specific attributes only
global
  Global attributes only
1.1.8 write

Command
write

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

1.1.9 write file [PATH]

Command
write file [PATH]

Parameters
write
Write running configuration to memory, network, or terminal
file
Write to configuration file
[PATH]
Set file path to store the config, or replace if already exists

1.1.10 write memory

Command
write memory

Parameters
write
Write running configuration to memory, network, or terminal
memory
Write configuration to the file (same as write file)

1.1.11 write terminal

Command
write terminal

Parameters
write
Write running configuration to memory, network, or terminal
terminal
Write to terminal
1.2 view

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

1.2.1 enable [expert-mode]

Command

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

Parameters

enable
   Turn on privileged mode command

[expert-mode]
   Enable the expert mode (show hidden commands)

1.2.2 logging color (0|1)

Command

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

Parameters

logging
   Configure logging
color
   Configure color-printing for log messages
0
   Don’t use color for printing messages
1
   Use color for printing messages

1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging
   Configure logging
disable
   Disables logging to this vty
1.2.4 logging enable

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

Command

logging enable

Parameters

logging
Configure logging
enable
Enables logging to this vty

1.2.5 logging filter all (0|1)

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

Command

logging filter all (0|1)

Parameters

logging
Configure logging
filter
Filter log messages
all
Do you want to log all messages?
0
Only print messages matched by other filters
1
Bypass filter and print all messages

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

pageh
    PAGCH

pbcch
    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|lms|lctrl|lgtp|lstats|lgsup|loap|ls7|lsccp|lsua|lm3ua| ← |lmgcp|ljibuf|lspro|lns|lbssgp|lnsdata|lnsignal) (debug|info|notice|error|fatal)

Parameters

logging
   Configure logging
level
   Set the log level for a specified category
rsl
   A-bis Radio Signalling Link (RSL)
oml
   A-bis Network Management / O&M (NM/OML)
rll
   A-bis Radio Link Layer (RLL)
rr
   Layer3 Radio Resource (RR)
meas
   Radio Measurement Processing
pag
  Paging Subsystem

l1c
  Layer 1 Control (MPH)

l1p
  Layer 1 Primitives (PH)

dsp
  DSP Trace Messages

pcu
  PCU interface

ho
  Handover

trx
  TRX interface

loop
  Control loops

abis
  A-bis Input Subsystem

rtp
  Realtime Transfer Protocol

sum
  DSUM

lglobal
  Library-internal global log family

llapd
  LAPD in libosmogsm

linp
  A-bis Input Subsystem

lmux
  A-bis B-Subchannel TRAU Frame Multiplex

lmi
  A-bis Input Driver for Signalling

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

lsms
  Layer3 Short Message Service (SMS)

lctrl
  Control Interface
lgtp
   GPRS GTP library
lstats
   Statistics messages and logging
lgsup
   Generic Subscriber Update Protocol
loap
   Osmocom Authentication Protocol
lss7
   libosmo-sigtran Signalling System 7
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
lrpro
   Remote SIM protocol
lns
   GPRS NS layer
lbssgp
   GPRS BSSGP layer
lnsdata
   GPRS NS layer data PDU
lnssignal
   GPRS NS layer signal PDU
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 YYYMMDDhhmssnnn

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

**Command**

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

**Parameters**

- `logging`
  - Configure logging
- `print`
  - Log output settings
- `file`
  - Configure log message
- `0`
  - Don’t prefix each log message
- `1`
  - Prefix each log message with the source file and line
- `basename`
  - Prefix each log message with the source file’s basename (strip leading paths) and line
- `[last]`
  - Log source file info at the end of a log line. If omitted, log source file info just before the log text.
1.2.14 **logging print level (0|1)**

Command

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

Parameters

logging
  Configure logging

print
  Log output settings

level
  Configure log message

0
  Don’t prefix each log message

1
  Prefix each log message with the log level name

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

Command

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

Parameters

logging
  Configure logging

print
  Log output settings

thread-id
  Configure log message logging Thread ID

0
  Don’t prefix each log message

1
  Prefix each log message with current Thread ID
1.2.16 logging set-log-mask MASK

Command

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

Parameters

logging
Configure logging

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

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

<table>
<thead>
<tr>
<th>Level</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEBUG</td>
<td>1</td>
</tr>
<tr>
<td>INFO</td>
<td>3</td>
</tr>
<tr>
<td>NOTICE</td>
<td>5</td>
</tr>
<tr>
<td>ERROR</td>
<td>7</td>
</tr>
<tr>
<td>FATAL</td>
<td>8</td>
</tr>
</tbody>
</table>

1.2.17 logging timestamp (0|1)

Command

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

Parameters

logging
Configure logging

timestamp
Configure log message timestamping

0
Don’t prefix each log message

1
Prefix each log message with current timestamp

1.2.18 logp (rsl|oml|rl|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|sum|global|...)

Command

```
logp (rsl|oml|rl|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|sum|global|llapd|← l1p|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsp|loap|lss7|lscp|lsua|lm3ua|lmgcp|← ljbuf|lrspro|lns|lbssgp|lnsdata|lnssignal) (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
  Layer 3 Radio Resource (RR)
meas
  Radio Measurement Processing
pag
  Paging Subsystem
l1c
  Layer 1 Control (MPH)
l1p
  Layer 1 Primitives (PH)
dsp
  DSP Trace Messages
pcu
  PCU interface
ho
  Handover
trx
  TRX interface
loop
  Control loops
abis
  A-bis Input Subsystem
rtp
  Realtime Transfer Protocol
sum
  DSUM
lglobal
  Library-internal global log family
llapd
  LAPD in libosmogsm
linp
A-bis Input Subsystem

lmux
A-bis B-Subchannel TRAU Frame Multiplex

lmi
A-bis Input Driver for Signalling

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

lsms
Layer3 Short Message Service (SMS)

lctrl
Control Interface

lgtp
GPRS GTP library

lstats
Statistics messages and logging

lgsup
Generic Subscriber Update Protocol

loap
Osmocom Authentication Protocol

lss7
libosmo-sigtran Signalling System 7

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

lins
GPRS NS layer

lbssgp
GPRS BSSGP layer
lnsdata
  GPRS NS layer data PDU
lnssignal
  GPRS NS layer signal PDU
debug
  Log debug messages and higher levels
info
  Log informational messages and higher levels
notice
  Log noticeable messages and higher levels
error
  Log error messages and higher levels
fatal
  Log only fatal messages

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

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

Command

```
no logging filter l1-sapi (unknown|agch|bcch|cbch|facch/f|facch/h|fcch|idle|nch|pacch|pagch|pbcch|pch|ptcch|pncch|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
pageh
    PAGCH
pbcch
    PBCCH
pch
    PCH
pdtch
    PDTCH
pnch
    PNCH
ppch
    PPCH
prach
    PRACH
ptcch
    PTCCH
rach
    RACH
sacch
    SACCH
sch
    SCH
sdech
    SDCCH
tch/f
  TCH/F

tch/h
  TCH/H

1.2.20  no logging level force-all

Command

    no logging level force-all

Parameters

no
  Negate a command or set its defaults

logging
  Configure logging

level
  Set the log level for a specified category

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

1.2.21  no phy <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx...)

Command

    no phy <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

phy
  Transceiver related commands

<0-0>
  TRX number

dsp-trace-flag
  DSP Trace Flag
default
  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

1.2.22  phy <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1_tx_...

Command
phy <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
phy
   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
1.2.23  show alarms

Command

```
show alarms
```

Parameters

```
show
  Show running system information
alarms
  Show current logging configuration
```

1.2.24  show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

```
show
  Show running system information
asciidoc
  Asciidoc generation
counters
  Generate table of all registered counters
```

1.2.25  show bts <0-255> gprs

Command

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

Parameters

```
show
  Show running system information
```
bts
  Display information about a BTS

<0-255>
  BTS Number

gprs
  GPRS/EGPRS configuration

1.2.26  **show bts [<0-255>]**

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

Parameters
  show
    Show running system information
  bts
    Display information about a BTS

1.2.27  **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)

1.2.28  **show e1_driver**

Command
  `show e1_driver`

Parameters
  show
    Show running system information
e1_driver
    Display information about available E1 drivers
1.2.29  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

1.2.30  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

1.2.31  show fsm NAME

Command

```
show fsm NAME
```

Parameters

show
Show running system information
fsm
Show information about finite state machines

NAME
Display information about a single named finite state machine
### 1.2.32 show fsm all

**Command**

```
show fsm all
```

**Parameters**

- `show`
  - Show running system information
- `fsm`
  - Show information about finite state machines
- `all`
  - Display a list of all registered finite state machines

### 1.2.33 show fsm-instances NAME

**Command**

```
show fsm-instances NAME
```

**Parameters**

- `show`
  - Show running system information
- `fsm-instances`
  - Show information about finite state machine instances
- `NAME`
  - Display a list of all FSM instances of the named finite state machine

### 1.2.34 show fsm-instances all

**Command**

```
show fsm-instances all
```

**Parameters**

- `show`
  - Show running system information
- `fsm-instances`
  - Show information about finite state machine instances
- `all`
  - Display a list of all FSM instances of all finite state machines
### 1.2.35 show history

**Command**

```plaintext
show history
```

**Parameters**

- `show`
  - Show running system information
- `history`
  - Display the session command history

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

**Command**

```plaintext
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

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

**Command**

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

**Parameters**

- `show`
  - Show running system information
ichan

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

1.2.38  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

1.2.39  show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help
1.2.40  show phy <0-1> instance <0-0> system-information

Command
show phy <0-1> instance <0-0> system-information

Parameters
show
  Show running system information
phy
  Transceiver related commands
<0-1>
  TRX number
instance
  Display information about system
<0-0>
  (null)
system-information
  (null)

1.2.41  show rate-counters

Command
show rate-counters

Parameters
show
  Show running system information
rate-counters
  Show all rate counters

1.2.42  show stats

Command
show stats

Parameters
show
  Show running system information
stats
  Show statistical values
1.2.43  **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

1.2.44  **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
1.2.45  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

1.2.46  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)

1.2.47  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

1.2.48  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
1.2.49  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

1.2.50  show version

Command

```
show version
```

Parameters

show
  Show running system information

version
  Displays program version

1.2.51  terminal length <0-512>

Command

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

Parameters

terminal
  Set terminal line parameters

length
  Set number of lines on a screen

<0-512>
  Number of lines on screen (0 for no pausing)
1.2.52  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

1.2.53  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 <0-255> ts <0-7> lchan <0-7> rtp jitter-buffer <0-10000>

Command

```
bts <0-0> trx <0-255> ts <0-7> lchan <0-7> rtp jitter-buffer <0-10000>
```

Parameters

- `bts`
  - BTS related commands
- `<0-0>`
  - BTS number
- `trx`
  - TRX related commands
<0-255>
   TRX number
-ts
   timeslot related commands
<0-7>
   timeslot number
-lchan
   logical channel commands
<0-7>
   logical channel number
-rtp
   RTP settings
-jitter-buffer
   Jitter buffer
<0-10000>
   Size of jitter buffer in (ms)

1.3.2 configure terminal

Command
   configure terminal

Parameters
configure
   Configuration from vty interface
terminal
   Configuration terminal

1.3.3 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)
1.3.4 disable

Command

```
disable
```

Parameters

disable

Turn off privileged mode command

1.3.5 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

1.3.6 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty
1.3.7 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

1.3.8 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

1.3.9 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|ptcch|pnc|ppch|prach|tch|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

pageh
  PAGCH

pbcch
  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

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

Command

logging level (rsl|oml|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|lscpcp|lsua|lm3ua| ← lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnsignal) (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)
rrll
   A-bis Radio Link Layer (RLL)
rr
   Layer3 Radio Resource (RR)
meas
   Radio Measurement Processing
pag
   Paging Subsystem
l1c
   Layer 1 Control (MPH)
l1p
   Layer 1 Primitives (PH)
dsp
   DSP Trace Messages
pcu
   PCU interface
ho
   Handover
trx
   TRX interface
loop
   Control loops
abis
   A-bis Input Subsystem
rtp
   Realtime Transfer Protocol
sum
   DSUM
lglobal
   Library-internal global log family
llapd
   LAPD in libosmogsm
linp
   A-bis Input Subsystem
lmux
   A-bis B-Subchannel TRAU Frame Multiplex
lmi
   A-bis Input Driver for Signalling
lmib
   A-bis Input Driver for B-Channels (voice)
lsms
   Layer3 Short Message Service (SMS)
lctrl
   Control Interface
lgtp
  GPRS GTP library
lstats
  Statistics messages and logging
lgsup
  Generic Subscriber Update Protocol
loap
  Osmocom Authentication Protocol
lss7
  libosmo-sigtran Signalling System 7
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
lrpro
  Remote SIM protocol
lns
  GPRS NS layer
lbssgp
  GPRS BSSGP layer
lnsdata
  GPRS NS layer data PDU
lnsignal
  GPRS NS layer signal PDU
debug
  Log debug messages and higher levels
info
  Log informational messages and higher levels
notice
  Log noticeable messages and higher levels
error
  Log error messages and higher levels
fatal
  Log only fatal messages
1.3.11 logging level force-all (debug|info|notice|error|fatal)

Command

```
logging level force-all {debug|info|notice|error|fatal}
```

Parameters

logging
Configure logging

level
Set the log level for a specified category

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

debug
Log debug messages and higher levels

info
Log informational messages and higher levels

notice
Log noticeable messages and higher levels

error
Log error messages and higher levels

fatal
Log only fatal messages

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

Command

```
logging level set-all {debug|info|notice|error|fatal}
```

Parameters

logging
Configure logging

level
Set the log level for a specified category

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

debug
Log debug messages and higher levels
info
  Log informational messages and higher levels
notice
  Log noticeable messages and higher levels
error
  Log error messages and higher levels
fatal
  Log only fatal messages

1.3.13 logging print category (0|1)

Command

logging print category (0|1)

Parameters

logging
  Configure logging
print
  Log output settings
category
  Configure log message
0
  Don’t prefix each log message
1
  Prefix each log message with category/subsystem name

1.3.14 logging print category-hex (0|1)

Command

logging print category-hex (0|1)

Parameters

logging
  Configure logging
print
  Log output settings
category-hex
  Configure log message
0
  Don’t prefix each log message
1
  Prefix each log message with category/subsystem nr in hex (`<000b>`)
1.3.15  **logging print extended-timestamp (0|1)**

**Command**

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

**Parameters**

logging
 Configure logging

print
 Log output settings

extended-timestamp
 Configure log message timestamping

0
 Don’t prefix each log message

1
 Prefix each log message with current timestamp with YYYYMMDDhhmmsnnn

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

**Command**

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

**Parameters**

logging
 Configure logging

print
 Log output settings

file
 Configure log message

0
 Don’t prefix each log message

1
 Prefix each log message with the source file and line

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

[last]
 Log source file info at the end of a log line. If omitted, log source file info just before the log text.
### 1.3.17  logging print level (0|1)

**Command**

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

**Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>logging</td>
<td>Configure logging</td>
</tr>
<tr>
<td>print</td>
<td>Log output settings</td>
</tr>
<tr>
<td>level</td>
<td>Configure log message</td>
</tr>
<tr>
<td>0</td>
<td>Don’t prefix each log message</td>
</tr>
<tr>
<td>1</td>
<td>Prefix each log message with the log level name</td>
</tr>
</tbody>
</table>

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

**Command**

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

**Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>logging</td>
<td>Configure logging</td>
</tr>
<tr>
<td>print</td>
<td>Log output settings</td>
</tr>
<tr>
<td>thread-id</td>
<td>Configure log message logging Thread ID</td>
</tr>
<tr>
<td>0</td>
<td>Don’t prefix each log message</td>
</tr>
<tr>
<td>1</td>
<td>Prefix each log message with current Thread ID</td>
</tr>
</tbody>
</table>
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

\[
\begin{align*}
  &\text{LOGL\_DEBUG}=1 \\
  &\text{LOGL\_INFO}=3 \\
  &\text{LOGL\_NOTICE}=5 \\
  &\text{LOGL\_ERROR}=7 \\
  &\text{LOGL\_FATAL}=8
\end{align*}
\]

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|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|sum|global|l...
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)
rlr
   A-bis Radio Link Layer (RLL)
rr
   Layer3 Radio Resource (RR)
meas
   Radio Measurement Processing
pag
   Paging Subsystem
l1c
   Layer 1 Control (MPH)
l1p
   Layer 1 Primitives (PH)
dsp
   DSP Trace Messages
pcu
   PCU interface
ho
   Handover
trx
   TRX interface
loop
   Control loops
abis
   A-bis Input Subsystem
rtp
   Realtime Transfer Protocol
sum
   DSUM
lglobal
   Library-internal global log family
llapd
   LAPD in libosmogsm
linp
   A-bis Input Subsystem

lmux
   A-bis B-Subchannel TRAU Frame Multiplex

imi
   A-bis Input Driver for Signalling

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

lsms
   Layer3 Short Message Service (SMS)

lctrl
   Control Interface

lgtp
   GPRS GTP library

lstats
   Statistics messages and logging

lgsup
   Generic Subscriber Update Protocol

loap
   Osmocom Authentication Protocol

lss7
   libosmo-sigtran Signalling System 7

lsccp
   libosmo-sigtran SCCP Implementation

lsua
   libosmo-sigtran SCCP User Adaptation

lm3ua
   libosmo-sigtran MTP3 User Adaptation

lmgcp
   libosmo-mgcp Media Gateway Control Protocol

ljibuf
   libosmo-netif Jitter Buffer

lrspro
   Remote SIM protocol

lns
   GPRS NS layer

lbssgp
   GPRS BSSGP layer
Insdata
   GPRS NS layer data PDU
Inssignal
   GPRS NS layer signal PDU
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 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|pncch|ppch|prach|ptcch|rach|sacch|sch|sdch|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
pageh
PAGCH
pbcch
PBCCH
pch
PCH
pdtch
PDTCH
pnch
PNCH
ppeh
PPCH
prach
PRACH
ptcch
PTCCH
rach
RACH
sacch
SACCH
sch
SCH
sdcch
SDCCH
tch/f
  TCH/F

tch/h
  TCH/H

1.3.23  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>'

1.3.24  no phy <0-0> dsp-trace-flag (debug|l1_warning|error|l1_rx_msg|l1_rx_msg_byte|l1...

Command

no phy <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
phy
  Transceiver related commands
<0-0>
  TRX number
dsp-trace-flag
  DSP Trace Flag
default
  Debug Region
OsmoBTS VTY Reference

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

Command

```
phy <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

phy
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> gprs

Command

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

Parameters

```
show

Show running system information

bts

Display information about a BTS

<0-255>

BTS Number

gprs

GPRS/EGPRS configuration
```

1.3.30  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
```
1.3.31  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)

1.3.32  show e1_driver

Command

```
show e1_driver
```

Parameters

show
  Show running system information
e1_driver
  Display information about available E1 drivers

1.3.33  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
### 1.3.34 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

### 1.3.35 show fsm NAME

**Command**

```
show fsm NAME
```

**Parameters**

- **show**
  - Show running system information
- **fsm**
  - Show information about finite state machines
- **NAME**
  - Display information about a single named finite state machine

### 1.3.36 show fsm all

**Command**

```
show fsm all
```

**Parameters**

- **show**
  - Show running system information
- **fsm**
  - Show information about finite state machines
- **all**
  - Display a list of all registered finite state machines
1.3.37  show fsm-instances NAME

Command

```
show fsm-instances NAME
```

Parameters

show
  Show running system information

fsm-instances
  Show information about finite state machine instances

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

1.3.38  show fsm-instances all

Command

```
show fsm-instances all
```

Parameters

show
  Show running system information

fsm-instances
  Show information about finite state machine instances

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

1.3.39  show history

Command

```
show history
```

Parameters

show
  Show running system information

history
  Display the session command history
1.3.40  show lchan [<0-255>] [<0-255>] [<0-7>] [<0-7>]

Command

```plaintext
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

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

Command

```plaintext
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
1.3.42  show logging vty

Command

```plaintext
show logging vty
```

Parameters

```plaintext
show
  Show running system information
logging
  Show current logging configuration
vty
  Show current logging configuration for this vty
```

1.3.43  show online-help

Command

```plaintext
show online-help
```

Parameters

```plaintext
show
  Show running system information
online-help
  Online help
```

1.3.44  show phy <0-1> instance <0-0> system-information

Command

```plaintext
show phy <0-1> instance <0-0> system-information
```

Parameters

```plaintext
show
  Show running system information
phy
  Transceiver related commands
<0-1>
  TRX number
instance
  Display information about system
<0-0>
  (null)
```

```plaintext
system-information
  (null)
```

```plaintext
```
1.3.45  **show rate-counters**

Command

```
show rate-counters
```

Parameters

show
  Show running system information
rate-counters
  Show all rate counters

1.3.46  **show startup-config**

Command

```
show startup-config
```

Parameters

show
  Show running system information
startup-config
  Contents of startup configuration

1.3.47  **show stats**

Command

```
show stats
```

Parameters

show
  Show running system information
stats
  Show statistical values
1.3.48  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

1.3.49  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
1.3.50  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

1.3.51  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)

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

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

Parameters
show
    Show running system information
timeslot
    Display information about a TS
    [<0-255>]
        BTS Number
    [<0-255>]
        TRX Number
    [<0-7>]
        Timeslot Number

1.3.53  show 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
1.3.54  **show trx [<0-255>] [<0-255>]**

**Command**

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

**Parameters**

- `show`
  - Show running system information
- `trx`
  - Display information about a TRX
- `<0-255>`
  - BTS Number
- `<0-255>`
  - TRX Number

1.3.55  **show version**

**Command**

```
show version
```

**Parameters**

- `show`
  - Show running system information
- `version`
  - Displays program version

1.3.56  **stats report**

**Command**

```
stats report
```

**Parameters**

- `stats`
  - Stats related commands
- `report`
  - Manurally trigger reporting of stats
1.3.57 stats reset

Command
stats reset

Parameters
stats
Stats related commands
reset
Reset all stats

1.3.58 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)

1.3.59 terminal monitor

Command
terminal monitor

Parameters
terminal
Set terminal line parameters
monitor
Copy debug output to the current terminal line
1.3.60  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

1.3.61  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

1.3.62  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
1.3.63  \texttt{trx <0-0> <0-7> (activate|deactivate) <0-7>}

Command
\begin{verbatim}
trx <0-0> <0-7> (activate|deactivate) <0-7>
\end{verbatim}

Parameters
\begin{itemize}
  \item \texttt{trx}
    Transceiver related commands
  \item <0-0>
    TRX number
  \item <0-7>
    Timeslot number
  \item activate
    Activate Logical Channel
  \item deactivate
    Deactivate Logical Channel
  \item <0-7>
    Logical Channel Number
\end{itemize}

1.3.64  \texttt{trx <0-0> <0-7> loopback <0-1>}

Command
\begin{verbatim}
trx <0-0> <0-7> loopback <0-1>
\end{verbatim}

Parameters
\begin{itemize}
  \item \texttt{trx}
    Transceiver related commands
  \item <0-0>
    TRX number
  \item <0-7>
    Timeslot number
  \item loopback
    Set TCH loopback
  \item <0-1>
    Logical Channel Number
\end{itemize}
1.3.65  **trx nr <0-1> tx-power <-110-100>**

Command

```
trx nr <0-1> tx-power <-110-100>
```

Parameters

- **trx**
  - Transceiver related commands
- **nr**
  - TRX number
- **<0-1>**
  - TRX number
- **tx-power**
  - Set transmit power (override BSC)
- **<-110-100>**
  - Transmit power in dBm

1.3.66  **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
```plaintext
ctrl
```

Parameters
```
ctrl
```
Configure the Control Interface

1.4.6  e1_input

Command
```plaintext
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
```plaintext
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
vty
   Virtual terminal
1.4.11  log alarms <2-32700>

Command

```bash
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

```bash
log file .FILENAME
```

Parameters

- log
  - Configure logging sub-system
- file
  - Logging to text file
- .FILENAME
  - Filename

1.4.13  log gsmtap [HOSTNAME]

Command

```bash
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**: 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

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

Parameters

vty
Configure the VTY
telnet-port
Set the VTY telnet port

<0-65535>
TCP Port number
1.5 config-log

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

1.5.1 logging color (0|1)

Command

logging color (0|1)

Parameters

logging
  Configure logging
color
  Configure color-printing for log messages
0
  Don’t use color for printing messages
1
  Use color for printing messages

1.5.2 logging filter all (0|1)

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

Command

logging filter all (0|1)

Parameters

logging
  Configure logging
filter
  Filter log messages
all
  Do you want to log all messages?
0
  Only print messages matched by other filters
1
  Bypass filter and print all messages
1.5.3 logging level (rsl|oml|rl|rr|meas|pag|l1c|l1p|dsp|pcu|ho|trx|loop|abis|rtp|sum|...)

Command

```
logging level (rsl|oml|rl|rr|meas|pag|llc|llp|dsp|pcu|ho|trx|loop|abis|rtp|sum|lglobal ←
|llapd|llinp|lmux|lmi|lmib|lms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp|lsua|lm3ua| ←
lmgcp|ljibuf|lrspro|lns|lbssgp|lnsdata|lnsignal) (debug|info|notice|error|fatal)
```

Parameters

logging level

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
Layer 3 Radio Resource (RR)

meas
Radio Measurement Processing

pag
Paging Subsystem

llc
Layer 1 Control (MPH)

llp
Layer 1 Primitives (PH)

dsp
DSP Trace Messages

cpu
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
ljbuf
   libosmo-netif Jitter Buffer
lrspro
   Remote SIM protocol
lns
   GPRS NS layer
lbssgp
   GPRS BSSGP layer
lnsdata
   GPRS NS layer data PDU
lnssignal
   GPRS NS layer signal PDU
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 YYYYMMDDhhmms

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

Command

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

Parameters
logging
    Configure logging
print
    Log output settings
file
    Configure log message
0
    Don’t prefix each log message
1
    Prefix each log message with the source file and line
basename
    Prefix each log message with the source file’s basename (strip leading paths) and line
[last]
    Log source file info at the end of a log line. If omitted, log source file info just before the log text.
1.5.10 logging print level (0|1)

Command

logging print level (0|1)

Parameters

logging
  Configure logging
print
  Log output settings
level
  Configure log message
0
  Don’t prefix each log message
1
  Prefix each log message with the log level name

1.5.11 logging print thread-id (0|1)

Command

logging print thread-id (0|1)

Parameters

logging
  Configure logging
print
  Log output settings
thread-id
  Configure log message logging Thread ID
0
  Don’t prefix each log message
1
  Prefix each log message with current Thread ID
1.5.12  logging timestamp (0|1)

Command

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

Parameters

logging
  Configure logging
timestamp
  Configure log message timestamping
  0
  Don’t prefix each log message
  1
  Prefix each log message with current timestamp

1.5.13  no logging level force-all

Command

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

Parameters

no
  Negate a command or set its defaults
logging
  Configure logging
level
  Set the log level for a specified category
force-all
  Release any globally forced log level set with 'logging level force-all <level>'

1.6  config-stats

1.6.1  disable

Command

```
disable
```

Parameters

disable
  Disable the reporter
1.6.2 **enable**

**Command**
```
enable
```

**Parameters**

enable

Enable the reporter

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

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

**Parameters**

flush-period

Configure stats sub-system

<0-65535>

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

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

**Command**
```
level {global|peer|subscriber}
```

**Parameters**

level

Set the maximum group level

global

Report global groups only

peer

Report global and network peer related groups

subscriber

Report global, peer, and subscriber groups
1.6.5  local-ip ADDR

Command

```
local-ip ADDR
```

Parameters

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

1.6.6  mtu <100-65535>

Command

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

Parameters

- **mtu**: Set the maximum packet size
- **<100-65535>**: Size in byte

1.6.7  no local-ip

Command

```
no local-ip
```

Parameters

- **no**: Negate a command or set its defaults
- **local-ip**: Set the IP address to which we bind locally

1.6.8  no mtu

Command

```
no mtu
```

Parameters

- **no**: Negate a command or set its defaults
- **mtu**: Set the maximum packet size
1.6.9  **no prefix**

Command

```
no prefix
```

Parameters

- **no**
  - Negate a command or set its defaults
- **prefix**
  - Set the item name prefix

1.6.10  **prefix PREFIX**

Command

```
prefix PREFIX
```

Parameters

- **prefix**
  - Set the item name prefix
- **PREFIX**
  - The prefix string

1.6.11  **remote-ip ADDR**

Command

```
remote-ip ADDR
```

Parameters

- **remote-ip**
  - Set the remote IP address to which we connect
- **ADDR**
  - IP Address

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

Command

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

Parameters

- **remote-port**
  - Set the remote port to which we connect
- **<1-65535>**
  - Remote port number
1.7 config-line

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

Command

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

Parameters

bind

Accept VTY telnet connections on local interface

A.B.C.D

Local interface IP address (default: 127.0.0.1)

[<0-65535>]

Local TCP port number

1.7.2 login

Command

```
login
```

Parameters

login

Enable password checking

1.7.3 no login

Command

```
no login
```

Parameters

no

Negate a command or set its defaults

login

Enable password checking
### 1.8 config-e1_input

#### 1.8.1 e1_line <0-255> 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  c0-idle-red-pwr <0-40>

Command

c0-idle-red-pwr <0-40>

Parameters

c0-idle-red-pwr

Set reduction output power for C0 idle slot in dB unit

<0-40>

(null)
1.12.2 diversity-mode (siso-a|siso-b|mrc)

Command

```
diversity-mode {siso-a|siso-b|mrc}
```

Parameters

diversity-mode
  Set reception diversity mode

siso-a
  Reception diversity mode can be (siso-a, siso-b, mrc)

siso-b
  (null)

mrc
  (null)

1.12.3 dsp-alive-period <0-60>

Command

```
dsp-alive-period <0-60>
```

Parameters

dsp-alive-period
  Set DSP alive timer period in second

<0-60>
  (null)

1.12.4 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|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|...}
```

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

1.12.5  max-cell-size <0-166>

Command

```
max-cell-size <0-166>
```

Parameters

max-cell-size
   Set the maximum cell size in qbits

<0-166>
   (null)

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 ...
```

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
1.12.7 pedestal-mode (on|off)

Command

```
pedestal-mode (on|off)
```

Parameters

pedestal-mode

Set unused time-slot transmission in pedestal mode

on

Transmission pedestal mode can be (off, on)

off

(null)

1.12.8 pwr-adj-mode (none|auto)

Command

```
pwr-adj-mode (none|auto)
```

Parameters

pwr-adj-mode

Set output power adjustment mode

none

(null)

auto

(null)
1.12.9  trx-calibration-path PATH

Command

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

Parameters

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

PATH
   Path name

1.12.10  tx-red-pwr-8psk <0-40>

Command

```
tx-red-pwr-8psk <0-40>
```

Parameters

tx-red-pwr-8psk
   Set reduction output power for 8-PSK scheme in dB unit

<0-40>
   (null)

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**

```plaintext
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**

```plaintext
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...|1900|PCS1900)**

**Command**

<table>
<thead>
<tr>
<th>band</th>
<th>450</th>
<th>480</th>
<th>750</th>
<th>810</th>
<th>850</th>
<th>900</th>
<th>1800</th>
<th>1900</th>
<th>PCS1900</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>Alias for GSM450</td>
<td>450Mhz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>480</td>
<td>Alias for GSM480</td>
<td>480Mhz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>750</td>
<td>Alias for GSM750</td>
<td>750Mhz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>810</td>
<td>Alias for GSM810</td>
<td>810Mhz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>850</td>
<td>Alias for GSM850</td>
<td>850Mhz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>900</td>
<td>Alias for GSM900</td>
<td>900Mhz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1800</td>
<td>Alias for DCS1800</td>
<td>DCS1800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td>Alias for PCS1900</td>
<td>PCS1900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Parameters

**band**

Set the frequency band of this BTS

450
- Alias for GSM450
- 450Mhz

480
- Alias for GSM480
- 480Mhz

750
- Alias for GSM750
- 750Mhz

810
- Alias for GSM810
- 810Mhz

850
- Alias for GSM850
- 850Mhz

900
- Alias for GSM900
- 900Mhz

1800
- Alias for DCS1800
- DCS1800

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-remote-host [HOSTNAME]

Command

gsmtap-remote-host [HOSTNAME]

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

[HOSTNAME]
    Remote IP address or hostname ('localhost' if omitted)

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

Command

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

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

bcch
    BCCH

ccch
    CCCH

rach
    RACH

agch
    AGCH
1.13.8  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)

1.13.9  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

1.13.10  led-control-mode (bts|external)

Command

```
led-control-mode (bts|external)
```

Parameters

led-control-mode
  Set LED controlled by BTS or external software

bts
  LED can be controlled by (bts, external)

external
  (null)

1.13.11  max-ber10k-rach <0-10000>

Command

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

Global attributes

Flag: !
  This command applies immediately

Parameters

max-ber10k-rach
  Set the maximum BER for valid RACH requests

\(<0-10000>\)
  BER in 1/10000 units (0=no BER; 100=1% BER)
1.13.12 **min-qual-norm <-100-100>**

**Command**

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

**Global attributes**

Flag: !

This command applies immediately

**Parameters**

`min-qual-norm`

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

`<-100-100>`

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

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

**Command**

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

**Global attributes**

Flag: !

This command applies immediately

**Parameters**

`min-qual-rach`

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

`<-100-100>`

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

1.13.14 **no auto-band**

**Command**

```
noc auto-band
```

**Parameters**

`no`

Negate a command or set its defaults

`auto-band`

Automatically select band for ARFCN based on configured band
1.13.15  **no description**

**Command**

```
no description
```

**Parameters**

no

Negate a command or set its defaults

description

Remove description of the object

1.13.16  **no gsmtap-remote-host**

**Command**

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

**Parameters**

no

Negate a command or set its defaults

gsmtap-remote-host

Disable GSMTAP Um logging

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

**Command**

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

**Parameters**

no

Negate a command or set its defaults

gsmtap-sapi

Disable sending of UL/DL messages over GSMTAP

bcch

BCCH

cch

CCCH

rach

RACH
1.13.18  no supp-meas-info toa256

Command

<table>
<thead>
<tr>
<th>no supp-meas-info toa256</th>
</tr>
</thead>
</table>

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
1.13.19  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

1.13.20  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)

1.13.21  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

1.13.22  pcu-socket PATH

Command

  pcu-socket PATH

Parameters

pcu-socket
  Configure the PCU socket file/path name

PATH
  UNIX socket path

1.13.23  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)
1.13.24  rtp jitter-buffer <0-10000> [adaptive]

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

Application specific attributes
Flag: I
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

1.13.25  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)

1.13.26  rtp-drift-threshold <0-10000>

Command
```
  rtp-drift-threshold <0-10000>
```

Parameters
- **rtp-drift-threshold**
  RTP parameters
- `<0-10000>`
  RTP timestamp drift threshold in ms
1.13.27  *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)

1.13.28  *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)
1.13.29  `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)

1.13.30  `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

1.13.31  `trx <0-254>`

Command

```
trx <0-254>
```
Flag: !
   This command applies immediately

Parameters
trx
   Select a TRX to configure
<0-254>
   TRX number

1.14   trx

1.14.1  ms-power-control (dsp|osmo)

Command
ms-power-control (dsp|osmo)

Parameters
ms-power-control
   Mobile Station Power Level Control
dsp
   Handled by DSP
osmo
   Handled by OsmoBTS

1.14.2  nominal-tx-power <0-40>

Command
nominal-tx-power <0-40>

Parameters
nominal-tx-power
   Set the nominal transmit output power in dBm
<0-40>
   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>
```
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|dB)

Command

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

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)