

# **OsmoMGW VTY Reference**

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|---------------|-----------------------------------------|----------------|------------------|
|               | <i>TITLE :</i><br>OsmoMGW VTY Reference |                |                  |
| <i>ACTION</i> | <i>NAME</i>                             | <i>DATE</i>    | <i>SIGNATURE</i> |
| WRITTEN BY    |                                         | April 23, 2021 |                  |

**REVISION HISTORY**

| NUMBER | DATE               | DESCRIPTION | NAME |
|--------|--------------------|-------------|------|
| v1     | 12th December 2017 | Initial     | pm   |

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# Chapter 1

## VTY reference

The Virtual Tele Type (VTY) has the concept of nodes and commands. This chapter lists all nodes and the commands that are available within the node. Each command can consist out of several words followed by a variable number of parameters. There are common patterns for the parameters, these include IPv4 addresses, number ranges, a word, a line of text and choice. The following will explain the commonly used patterns.

| Pattern                   | Example          | Explanation                                  |
|---------------------------|------------------|----------------------------------------------|
| A.B.C.D                   | 127.0.0.1        | A IPv4 address                               |
| TEXT                      | example01        | A single string without any spaces, tabs     |
| .TEXT                     | Some information | A line of text                               |
| (OptionA OptionB OptionC) | OptionA          | A choice between a list of available options |
| <0-10>                    | 5                | A number from a range                        |

Table 1.1: VTY Parameter Patterns

The application is configured through the VTY. For configuring a system one needs to enter the **enable** node and then enter the **configure terminal** command. Then the configuration can be made according to the available commands. After the system has been configured one can use the **write** command to write the new configuration to the configuration file. The new file will be used after the application has been restarted.

The following table lists the TCP port numbers of the VTY for the various Osmocom GSM related programs as used on sysmocom products:

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

Table 1.2: VTY port numbers

### 1.1 Common Commands

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

### 1.1.1 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

### 1.1.2 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

### 1.1.3 help

Command

```
help
```

Parameters

help

Description of the interactive help system

### 1.1.4 list [with-flags]

Command

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

Parameters

list

Print command list

[with-flags]

Also print the VTY attribute flags

---

### 1.1.5 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

### 1.1.6 show vty-attributes

Command

```
show vty-attributes
```

Parameters

show

Show running system information

vtty-attributes

List of VTY attributes

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

Command

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

Parameters

show

Show running system information

vtty-attributes

List of VTY attributes

application

Application specific attributes only

library

Library specific attributes only

global

Global attributes only

---

### 1.1.8 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

### 1.1.9 write file [PATH]

Command

```
write file [PATH]
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

[PATH]

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

### 1.1.10 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

---

### 1.1.11 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

## 1.2 view

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

### 1.2.1 enable [expert-mode]

Command

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

Parameters

enable

Turn on privileged mode command

[expert-mode]

Enable the expert mode (show hidden commands)

### 1.2.2 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

---

### 1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

### 1.2.4 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

### 1.2.5 logging filter all (0|1)

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

Command

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

Parameters

logging

Configure logging

**filter**

Filter log messages

**all**

Do you want to log all messages?

**0**

Only print messages matched by other filters

**1**

Bypass filter and print all messages

**1.2.6 logging level (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lg...****Command**

```
logging level (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lg... ↵
              loap|lss7|lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lms|lbssgp) (debug|info|notice|error ↵
              |fatal)
```

**Parameters****logging**

Configure logging

**level**

Set the log level for a specified category

**rtp**

RTP stream handling

**e1**

E1 line handling

**lglobal**

Library-internal global log family

**llapd**

LAPD in libosmogsm

**linp**

A-bis Input Subsystem

**lmux**

A-bis B-Subchannel TRAU Frame Multiplex

**lmi**

A-bis Input Driver for Signalling

**lmib**

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

**lsms**

Layer3 Short Message Service (SMS)

---

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

lrspro  
Remote SIM protocol

lns  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

---

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

### 1.2.9 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

---

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

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

[last]

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

### 1.2.13 logging print level (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.2.14 logging 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

### 1.2.15 logging set-log-mask MASK

Command

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

Parameters

logging

Configure logging

set-log-mask

Set the logmask of this logging target

MASK

List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL\_DEBUG=1 LOGL\_INFO=3 LOGL\_NOTICE=5 LOGL\_ERROR=7 LOGL\_FATAL=8

### 1.2.16 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

## 1.2.17 logp (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|...

Command

```
logp (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7| ↵  
      lscgp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp) (debug|info|notice|error|fatal) . ↵  
      LOGMESSAGE
```

Parameters

logp

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

rtp

RTP stream handling

e1

E1 line handling

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

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lscdp  
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

lms  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

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

### 1.2.18 no logging 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>'

### 1.2.19 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.2.20 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.2.21 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)

### 1.2.22 show e1\_driver

#### Command

```
show e1_driver
```

#### Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.2.23 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

---

### 1.2.24 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

### 1.2.25 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

### 1.2.26 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

---

### 1.2.27 show mgcp [stats]

Command

```
show mgcp [stats]
```

Parameters

show

Show running system information

mgcp

Display information about the MGCP Media Gateway

[stats]

Include Statistics

### 1.2.28 show mgcp endpoint NAME

Command

```
show mgcp endpoint NAME
```

Parameters

show

Show running system information

mgcp

Display information about the MGCP Media Gateway

endpoint

Display information about an endpoint

NAME

The name of the endpoint

### 1.2.29 show mgcp trunk <0-64> endpoint NAME

Command

```
show mgcp trunk <0-64> endpoint NAME
```

Parameters

show

Show running system information

mgcp

Display information about the MGCP Media Gateway

trunk

Display information about a trunk

<0-64>

Trunk number

endpoint

Display information about an endpoint

NAME

The name of the endpoint

### 1.2.30 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

### 1.2.31 show rate-counters

Command

```
show rate-counters
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

### 1.2.32 show stats

Command

```
show stats
```

Parameters

show

Show running system information

stats

Show statistical values

### 1.2.33 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

### 1.2.34 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

### 1.2.35 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

### 1.2.36 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)

### 1.2.37 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.2.38 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)

### 1.2.39 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

### 1.2.40 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 configure terminal

Command

```
configure terminal
```

Parameters

configure

Configuration from vty interface

terminal

Configuration terminal

### 1.3.2 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)

### 1.3.3 disable

Command

```
disable
```

Parameters

disable

Turn off privileged mode command

### 1.3.4 free-endpoint <0-64> NUMBER

Command

```
free-endpoint <0-64> NUMBER
```

Parameters

free-endpoint

Free the given endpoint

<0-64>

Trunk number

NUMBER

Endpoint number in hex.

### 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 level (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lg...

Command

```
logging level (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup| ↵  
              loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp) (debug|info|notice|error ↵  
              |fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

rtp

RTP stream handling

e1

E1 line handling

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)

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---

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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

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

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

Command

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

Parameters

---

## logging

Configure logging

## level

Set the log level for a specified category

## force-all

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

## debug

Log debug messages and higher levels

## info

Log informational messages and higher levels

## notice

Log noticeable messages and higher levels

## error

Log error messages and higher levels

## fatal

Log only fatal messages

### 1.3.11 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

### 1.3.12 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

### 1.3.13 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>')

---

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

### 1.3.15 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.

---

### 1.3.16 logging print level (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.3.17 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

### 1.3.18 logging set-log-mask MASK

Command

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

Parameters

logging

Configure logging

set-log-mask

Set the logmask of this logging target

MASK

List of logging categories to log, e.g. 'abc:mno:xyz'. Available log categories depend on the specific application, refer to the 'logging level' command. Optionally add individual log levels like 'abc,1:mno,3:xyz,5', where the level numbers are LOGL\_DEBUG=1 LOGL\_INFO=3 LOGL\_NOTICE=5 LOGL\_ERROR=7 LOGL\_FATAL=8

### 1.3.19 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

### 1.3.20 logp (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|...

Command

```
logp (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7| ↵
    lscdp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lms|lbssgp) (debug|info|notice|error|fatal) . ↵
    LOGMESSAGE
```

## Parameters

### logp

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

### rtp

RTP stream handling

### e1

E1 line handling

### 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

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### lstats

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### 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

lms  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

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

### 1.3.21 loop-endpoint <0-64> NAME (0|1)

Command

```
loop-endpoint <0-64> NAME (0|1)
```

Parameters

loop-endpoint

Loop a given endpoint

<0-64>

Trunk number

NAME

The name in hex of the endpoint

0

Disable the loop

1

Enable the loop

### 1.3.22 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>'

### 1.3.23 reset-all-endpoints

Command

```
reset-all-endpoints
```

Parameters

reset-all-endpoints

Reset all endpoints

### 1.3.24 reset-endpoint <0-64> NUMBER

Command

```
reset-endpoint <0-64> NUMBER
```

Parameters

reset-endpoint

Reset the given endpoint

<0-64>

Trunk number

NUMBER

Endpoint number in hex.

---

### 1.3.25 show alarms

Command

```
show alarms
```

Parameters

show

Show running system information

alarms

Show current logging configuration

### 1.3.26 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.3.27 show 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)

---

### 1.3.28 show e1\_driver

Command

```
show e1_driver
```

Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.3.29 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

### 1.3.30 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

### 1.3.31 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

### 1.3.32 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtty

Show current logging configuration for this vty

### 1.3.33 show mgcp [stats]

Command

```
show mgcp [stats]
```

Parameters

show

Show running system information

mgcp

Display information about the MGCP Media Gateway

[stats]

Include Statistics

---

### 1.3.34 show mgcp endpoint NAME

#### Command

```
show mgcp endpoint NAME
```

#### Parameters

##### show

Show running system information

##### mgcp

Display information about the MGCP Media Gateway

##### endpoint

Display information about an endpoint

##### NAME

The name of the endpoint

### 1.3.35 show mgcp trunk <0-64> endpoint NAME

#### Command

```
show mgcp trunk <0-64> endpoint NAME
```

#### Parameters

##### show

Show running system information

##### mgcp

Display information about the MGCP Media Gateway

##### trunk

Display information about a trunk

##### <0-64>

Trunk number

##### endpoint

Display information about an endpoint

##### NAME

The name of the endpoint

---

### 1.3.36 show online-help

Command

```
show online-help
```

Parameters

show

Show running system information

online-help

Online help

### 1.3.37 show rate-counters

Command

```
show rate-counters
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

### 1.3.38 show startup-config

Command

```
show startup-config
```

Parameters

show

Show running system information

startup-config

Contentes of startup configuration

---

### 1.3.39 show stats

Command

```
show stats
```

Parameters

show

Show running system information

stats

Show statistical values

### 1.3.40 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

### 1.3.41 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

### 1.3.42 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

### 1.3.43 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)

### 1.3.44 show version

#### Command

```
show version
```

#### Parameters

##### show

Show running system information

##### version

Displays program version

### 1.3.45 stats report

Command

```
stats report
```

Parameters

stats

Stats related commands

report

Manurally trigger reporting of stats

### 1.3.46 stats reset

Command

```
stats reset
```

Parameters

stats

Stats related commands

reset

Reset all stats

### 1.3.47 tap-rtp <0-64> ENDPOINT CONN (in|out) (A.B.C.D|X:X::X:X) <0-65534>

Command

```
tap-rtp <0-64> ENDPOINT CONN (in|out) (A.B.C.D|X:X::X:X) <0-65534>
```

Parameters

tap-rtp

Forward data on endpoint to a different system

<0-64>

Trunk number

ENDPOINT

The endpoint in hex

CONN

The connection id in hex

in

Forward incoming data

out

Forward leaving data

A.B.C.D

Destination IPv4 of the data

X:X::X:X

Destination IPv6 of the data

<0-65534>

Destination port

### 1.3.48 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)

### 1.3.49 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

### 1.3.50 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

### 1.3.51 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

### 1.3.52 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 cpu-sched

Command

```
cpu-sched
```

Parameters

cpu-sched

Configure CPU Scheduler related settings

---

#### 1.4.4 ctrl

Command

```
ctrl
```

Parameters

ctrl

Configure the Control Interface

#### 1.4.5 e1\_input

Command

```
e1_input
```

Global attributes

Flag: !

This command applies immediately

Parameters

e1\_input

Configure E1/T1/J1 TDM input

#### 1.4.6 enable password (8|) WORD

Command

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

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN 'enable' password string

---

### 1.4.7 enable password LINE

Command

```
enable password LINE
```

Parameters

enable

Modify enable password parameters

password

Assign the privileged level password

LINE

The UNENCRYPTED (cleartext) 'enable' password

### 1.4.8 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

### 1.4.9 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vtty

Virtual terminal

---

### 1.4.10 log alarms <2-32700>

Command

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

Parameters

log

Configure logging sub-system

alarms

Logging alarms to osmo\_strrb

<2-32700>

Maximum number of messages to log

### 1.4.11 log file .FILENAME

Command

```
log file .FILENAME
```

Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

### 1.4.12 log gsmtap [HOSTNAME]

Command

```
log gsmtap [HOSTNAME]
```

Parameters

log

Configure logging sub-system

gsmtap

Logging via GSMTAP

[HOSTNAME]

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

---

### 1.4.13 log stderr

Command

```
log stderr
```

Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

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

Command

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

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

authpriv

Security/authorization messages facility

cron

Clock daemon (cron/at) facility

daemon

General system daemon facility

ftp

Ftp daemon facility

lpr

Line printer facility

mail

Mail facility

news

News facility

user

Generic facility

uucp

UUCP facility

---

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

Command

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

Parameters

log

Configure logging sub-system

syslog

Logging via syslog

local

Syslog LOCAL facility

<0-7>

Local facility number

### 1.4.16 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

### 1.4.17 mgcp

Command

```
mgcp
```

Parameters

mgcp

Configure the MGCP

---

### 1.4.18 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

### 1.4.19 no enable password

Command

```
no enable password
```

Parameters

no

Negate a command or set its defaults

enable

Modify enable password parameters

password

Assign the privileged level password

### 1.4.20 no hostname [HOSTNAME]

Command

```
no hostname [HOSTNAME]
```

Parameters

no

Negate a command or set its defaults

hostname

Reset system's network name

[HOSTNAME]

Host name of this router

---

### 1.4.21 no log alarms

Command

```
no log alarms
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

alarms

Logging alarms to osmo\_strrb

### 1.4.22 no log file .FILENAME

Command

```
no log file .FILENAME
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

### 1.4.23 no log stderr

Command

```
no log stderr
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.24 no log syslog

Command

```
no log syslog
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

syslog

Logging via syslog

### 1.4.25 no log systemd-journal

Command

```
no log systemd-journal
```

Parameters

no

Negate a command or set its defaults

log

Configure logging sub-system

systemd-journal

Logging to systemd-journal

### 1.4.26 no service advanced-vty

Command

```
no service advanced-vty
```

Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

---

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

Command

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

Parameters

no

Negate a command or set its defaults

service

Set up miscellaneous service

terminal-length

System wide terminal length configuration

[<0-512>]

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

### 1.4.28 no stats reporter log

Command

```
no stats reporter log
```

Parameters

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.29 no stats reporter statsd

Command

```
no stats reporter statsd
```

Parameters

---

no

Negate a command or set its defaults

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

### 1.4.30 password (8|) WORD

Command

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

Parameters

password

Assign the terminal connection password

8

Specifies a HIDDEN password will follow

dummy string

WORD

The HIDDEN line password string

### 1.4.31 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

### 1.4.32 service advanced-vty

Command

```
service advanced-vty
```

Parameters

service

Set up miscellaneous service

advanced-vty

Enable advanced mode vty interface

### 1.4.33 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)

### 1.4.34 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

### 1.4.35 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)

### 1.4.36 stats reporter log

Command

```
stats reporter log
```

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

log

Report to the logger

### 1.4.37 stats reporter statsd

Command

```
stats reporter statsd
```

Parameters

stats

Configure stats sub-system

reporter

Configure a stats reporter

statsd

Report to a STATSD server

---

## 1.5 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 (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lg...

Command

```
logging level (rtp|e1|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup| ↵  
              loap|lss7|lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro|lns|lbssgp) (debug|info|notice|error ↵  
              |fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

rtp

RTP stream handling

e1

E1 line handling

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Input Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

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

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

---

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

lrspro  
Remote SIM protocol

lns  
GPRS NS layer

lbssgp  
GPRS BSSGP layer

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

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

Command

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

Parameters

---

## logging

Configure logging

## level

Set the log level for a specified category

## force-all

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

## debug

Log debug messages and higher levels

## info

Log informational messages and higher levels

## notice

Log noticeable messages and higher levels

## error

Log error messages and higher levels

## fatal

Log only fatal messages

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

#### Command

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

#### Parameters

## logging

Configure logging

## level

Set the log level for a specified category

## set-all

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

## debug

Log debug messages and higher levels

## info

Log informational messages and higher levels

## notice

Log noticeable messages and higher levels

## error

Log error messages and higher levels

## fatal

Log only fatal messages

### 1.5.6 logging print category (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

---

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

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

[last]

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

---

### 1.5.10 logging print level (0|1)

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.5.11 logging 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 config-mgcp

### 1.11.1 allow-transcoding

Command

```
allow-transcoding
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

allow-transcoding

Allow transcoding

### 1.11.2 bind ip (A.B.C.D|X:X::X:X)

Command

```
bind ip (A.B.C.D|X:X::X:X)
```

Parameters

bind

Listen/Bind related socket option

ip

IP information

A.B.C.D

IPv4 Address to bind to

X:X::X:X

IPv6 Address to bind to

### 1.11.3 bind port <0-65534>

Command

```
bind port <0-65534>
```

Parameters

bind

Listen/Bind related socket option

port

Port information

<0-65534>

UDP port to listen for MGCP messages

### 1.11.4 call-agent ip (A.B.C.D|X:X::X:X)

Command

```
call-agent ip (A.B.C.D|X:X::X:X)
```

Parameters

call-agent

Call agent information

ip

IP information

A.B.C.D

IPv4 Address of the call agent

X:X::X:X

IPv6 Address of the call agent

### 1.11.5 conn-timeout <0-65534>

Command

```
conn-timeout <0-65534>
```

Parameters

conn-timeout

Set a time after which inactive connections (CIs) are closed. Set to 0 to disable timeout. This can be used to work around interoperability problems causing connections to stay open forever, and slowly exhausting all available ports. Enable keep-alive packets in MGW clients when using this option together with LCLS (OsmoBSC, OsmoMSC: 'rtp keep-alive')!

<0-65534>

Timeout value (sec.)

### 1.11.6 domain NAME

Command

```
domain NAME
```

Parameters

domain

Set the domain part expected in MGCP messages' endpoint names

NAME

Qualified domain name expected in MGCP endpoint names, or '\*' to accept any domain

### 1.11.7 force-realloc (0|1)

Command

```
force-realloc (0|1)
```

Application specific attributes

---

Flag: n

This command applies when a new connection is created

Parameters

force-realloc

Force endpoint reallocation when the endpoint is still seized

0

Don't force reallocation

1

force reallocation

### 1.11.8 local ip (A.B.C.D|X:X::X:X)

Command

```
local ip (A.B.C.D|X:X::X:X)
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

local

Local options for the SDP record

ip

IP information

A.B.C.D

IPv4 Address to use in SDP record

X:X::X:X

IPv6 Address to use in SDP record

### 1.11.9 no allow-transcoding

Command

```
no allow-transcoding
```

Application specific attributes

---

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

allow-transcoding

Allow transcoding

### 1.11.10 no rtcp-omit

Command

```
no rtcp-omit
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

rtcp-omit

Drop RTCP packets in both directions

### 1.11.11 no rtp bind-ip

Command

```
no rtp bind-ip
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

bind-ip

Bind endpoints facing the Network

### 1.11.12 no rtp bind-ip-v6

Command

```
no rtp bind-ip-v6
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

bind-ip-v6

Bind endpoints facing the Network

### 1.11.13 no rtp force-ptime

Command

```
no rtp force-ptime
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

force-ptime

Force a fixed ptime for packets sent

### 1.11.14 no rtp ip-probing

Command

```
no rtp ip-probing
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

ip-probing

no automatic rtp bind ip selection

### 1.11.15 no rtp keep-alive

Command

```
no rtp keep-alive
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

---

### 1.11.16 no rtp-patch

Command

```
no rtp-patch
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

### 1.11.17 no rtp-patch rfc5993hr

Command

```
no rtp-patch rfc5993hr
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

rfc5993hr

Convert GSM-HR from TS101318 to RFC5993 and vice versa

---

### 1.11.18 no rtp-patch ssrc

Command

```
no rtp-patch ssrc
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

ssrc

Force a fixed SSRC

### 1.11.19 no rtp-patch timestamp

Command

```
no rtp-patch timestamp
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

timestamp

Adjust RTP timestamp

### 1.11.20 no sdp audio-payload send-name

Command

```
no sdp audio-payload send-name
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

sdp

SDP File related options

audio-payload

Audio payload options

send-name

Send SDP rtpmap with the audio name

### 1.11.21 no sdp audio-payload send-ptime

Command

```
no sdp audio-payload send-ptime
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

sdp

SDP File related options

audio-payload

Audio payload options

send-ptime

Send SDP ptime (packet duration) attribute

### 1.11.22 number endpoints <1-65534>

Command

```
number endpoints <1-65534>
```

Parameters

number

Number options

endpoints

Endpoints available

<1-65534>

Number endpoints

### 1.11.23 osmux (on|off|only)

Command

```
osmux (on|off|only)
```

Parameters

osmux

RTP multiplexing

on

Enable OSMUX

off

Disable OSMUX

only

Only use OSMUX

### 1.11.24 osmux batch-factor <1-8>

Command

```
osmux batch-factor <1-8>
```

Parameters

osmux

RTP multiplexing

batch-factor

Batching factor

<1-8>

Number of messages in the batch

---

### 1.11.25 osmux batch-size <1-65535>

Command

```
osmux batch-size <1-65535>
```

Parameters

osmux

RTP multiplexing

batch-size

batch size

<1-65535>

Batch size in bytes

### 1.11.26 osmux bind-ip (A.B.C.D|X:X::X:X)

Command

```
osmux bind-ip (A.B.C.D|X:X::X:X)
```

Parameters

osmux

RTP multiplexing

bind-ip

IP information

A.B.C.D

IPv4 Address to bind to

X:X::X:X

IPv6 Address to bind to

### 1.11.27 osmux dummy (on|off)

Command

```
osmux dummy (on|off)
```

Parameters

osmux

RTP multiplexing

dummy

Dummy padding

on

Enable dummy padding

off

Disable dummy padding

### 1.11.28 osmux port <1-65535>

Command

```
osmux port <1-65535>
```

Parameters

osmux

RTP multiplexing

port

port

<1-65535>

UDP port

### 1.11.29 rtcp-omit

Command

```
rtcp-omit
```

Global attributes

Flag: !

This command applies immediately

Parameters

rtcp-omit

Drop RTCP packets in both directions

### 1.11.30 rtp bind-ip A.B.C.D

Command

```
rtp bind-ip A.B.C.D
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp

RTP configuration

bind-ip

Bind endpoints facing the Network

A.B.C.D

IPv4 Address to bind to

### 1.11.31 rtp bind-ip-v6 X:X::X:X

Command

```
rtp bind-ip-v6 X:X::X:X
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp

RTP configuration

bind-ip-v6

Bind endpoints facing the Network

X:X::X:X

IPv6 Address to bind to

### 1.11.32 rtp force-ptime (10|20|40)

Command

```
rtp force-ptime (10|20|40)
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp

RTP configuration

force-ptime

Force a fixed ptime for packets sentThe required ptime (packet duration) in ms

10

10 ms

20

20 ms

40

40 ms

### 1.11.33 rtp ip-dscp <0-255>

Command

```
rtp ip-dscp <0-255>
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp

RTP configuration

ip-dscp

Apply IP\_TOS to the audio stream (including Osmux)

<0-255>

The DSCP value

### 1.11.34 rtp ip-probing

Command

```
rtp ip-probing
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp

RTP configuration

ip-probing

automatic rtp bind ip selection

### 1.11.35 rtp keep-alive <1-120>

Command

```
rtp keep-alive <1-120>
```

Global attributes

Flag: !

This command applies immediately

Parameters

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

<1-120>

Keep alive interval in secs

---

### 1.11.36 rtp keep-alive once

Command

```
rtp keep-alive once
```

Global attributes

Flag: !

This command applies immediately

Parameters

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

once

Send dummy packet only once after CRCX/MDCX

### 1.11.37 rtp port-range <1024-65534> <1025-65535>

Command

```
rtp port-range <1024-65534> <1025-65535>
```

Parameters

rtp

RTP configuration

port-range

Range of ports to use for the NET side

<1024-65534>

Start of the range of ports

<1025-65535>

End of the range of ports

### 1.11.38 rtp-accept-all (0|1)

Command

```
rtp-accept-all (0|1)
```

Global attributes

Flag: !

This command applies immediately

Parameters

rtp-accept-all

Accept all RTP packets, even when the originating IP/Port does not match

0

enable filter

1

disable filter

### 1.11.39 rtp-patch rfc5993hr

Command

```
rtp-patch rfc5993hr
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp-patch

Modify RTP packet header in both directions

rfc5993hr

Convert GSM-HR from TS101318 to RFC5993 and vice versa

---

### 1.11.40 rtp-patch ssrc

Command

```
rtp-patch ssrc
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp-patch

Modify RTP packet header in both directions

ssrc

Force a fixed SSRC

### 1.11.41 rtp-patch timestamp

Command

```
rtp-patch timestamp
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp-patch

Modify RTP packet header in both directions

timestamp

Adjust RTP timestamp

### 1.11.42 sdp audio fmp-extra .NAME

Command

```
sdp audio fmp-extra .NAME
```

Application specific attributes

---

Flag: n

This command applies when a new connection is created

Parameters

sdp

Add extra fmp for the SDP file

audio

Audio

fmp-extra

Fmp-extra

.NAME

Extra Information

### 1.11.43 sdp audio-payload send-name

Command

```
sdp audio-payload send-name
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

sdp

SDP File related options

audio-payload

Audio payload options

send-name

Send SDP rtpmap with the audio name

### 1.11.44 sdp audio-payload send-ptime

Command

```
sdp audio-payload send-ptime
```

Application specific attributes

---

Flag: n

This command applies when a new connection is created

Parameters

sdp

SDP File related options

audio-payload

Audio payload options

send-ptime

Send SDP ptime (packet duration) attribute

### 1.11.45 trunk <0-64>

Command

```
trunk <0-64>
```

Parameters

trunk

Configure a SS7 trunk

<0-64>

Trunk Nr

## 1.12 config-mgcp-trunk

### 1.12.1 allow-transcoding

Command

```
allow-transcoding
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

allow-transcoding

Allow transcoding

### 1.12.2 force-realloc (0|1)

Command

```
force-realloc (0|1)
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

force-realloc

Force endpoint reallocation when the endpoint is still seized

0

Don't force reallocation

1

force reallocation

### 1.12.3 line <0-255>

Command

```
line <0-255>
```

Parameters

line

Configure trunk for given Line

<0-255>

E1/T1 Line Number

### 1.12.4 no allow-transcoding

Command

```
no allow-transcoding
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

allow-transcoding

Allow transcoding

### 1.12.5 no rtcp-omit

Command

```
no rtcp-omit
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

rtcp-omit

Drop RTCP packets in both directions

### 1.12.6 no rtp keep-alive

Command

```
no rtp keep-alive
```

Global attributes

Flag: !

This command applies immediately

Parameters

no

Negate a command or set its defaults

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

---

### 1.12.7 no rtp-patch

Command

```
no rtp-patch
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

### 1.12.8 no rtp-patch rfc5993hr

Command

```
no rtp-patch rfc5993hr
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

rfc5993hr

Convert GSM-HR from TS101318 to RFC5993 and vice versa

---

### 1.12.9 no rtp-patch ssrc

Command

```
no rtp-patch ssrc
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

ssrc

Force a fixed SSRC

### 1.12.10 no rtp-patch timestamp

Command

```
no rtp-patch timestamp
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

rtp-patch

Modify RTP packet header in both directions

timestamp

Adjust RTP timestamp

### 1.12.11 no sdp audio-payload send-name

Command

```
no sdp audio-payload send-name
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

sdp

SDP File related options

audio-payload

Audio payload options

send-name

Send SDP rtpmap with the audio name

### 1.12.12 no sdp audio-payload send-ptime

Command

```
no sdp audio-payload send-ptime
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

no

Negate a command or set its defaults

sdp

SDP File related options

audio-payload

Audio payload options

send-ptime

Send SDP ptime (packet duration) attribute

---

### 1.12.13 rtcp-omit

Command

```
rtcp-omit
```

Global attributes

Flag: !

This command applies immediately

Parameters

rtcp-omit

Drop RTCP packets in both directions

### 1.12.14 rtp keep-alive <1-120>

Command

```
rtp keep-alive <1-120>
```

Global attributes

Flag: !

This command applies immediately

Parameters

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

<1-120>

Keep-alive interval in secs

### 1.12.15 rtp keep-alive once

Command

```
rtp keep-alive once
```

Global attributes

---

Flag: !

This command applies immediately

Parameters

rtp

RTP configuration

keep-alive

Send dummy UDP packet to net RTP destination

once

Send dummy packet only once after CRCX/MDCX

### 1.12.16 rtp-accept-all (0|1)

Command

```
rtp-accept-all (0|1)
```

Global attributes

Flag: !

This command applies immediately

Parameters

rtp-accept-all

Accept all RTP packets, even when the originating IP/Port does not match

0

enable filter

1

disable filter

### 1.12.17 rtp-patch rfc5993hr

Command

```
rtp-patch rfc5993hr
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp-patch

Modify RTP packet header in both directions

rfc5993hr

Convert GSM-HR from TS101318 to RFC5993 and vice versa

---

### 1.12.18 rtp-patch ssrc

Command

```
rtp-patch ssrc
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp-patch

Modify RTP packet header in both directions

ssrc

Force a fixed SSRC

### 1.12.19 rtp-patch timestamp

Command

```
rtp-patch timestamp
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

rtp-patch

Modify RTP packet header in both directions

timestamp

Adjust RTP timestamp

### 1.12.20 sdp audio fmp-extra .NAME

Command

```
sdp audio fmp-extra .NAME
```

Application specific attributes

---

Flag: n

This command applies when a new connection is created

Parameters

sdp

Add extra fmp for the SDP file

audio

Audio

fmp-extra

Fmp-extra

.NAME

Extra Information

### 1.12.21 sdp audio-payload send-name

Command

```
sdp audio-payload send-name
```

Application specific attributes

Flag: n

This command applies when a new connection is created

Parameters

sdp

SDP File related options

audio-payload

Audio payload options

send-name

Send SDP rtpmap with the audio name

### 1.12.22 sdp audio-payload send-ptime

Command

```
sdp audio-payload send-ptime
```

Application specific attributes

---

Flag: n

This command applies when a new connection is created

Parameters

sdp

SDP File related options

audio-payload

Audio payload options

send-ptime

Send SDP ptime (packet duration) attribute