

# **OsmoBSC VTY Reference**

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**COLLABORATORS**

	<i>TITLE :</i> OsmoBSC VTY Reference		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		August 29, 2020	

**REVISION HISTORY**

NUMBER	DATE	DESCRIPTION	NAME
v1	13th August 2012	Initial	hf
v2	5th March 2014	Update to match osmo-bsc version 0.13.0-305	hf
v3	6th June 2019	Update to match osmo-bsc version 1.4.0.84-3f1f	dw

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# Chapter 1

## VTY reference

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

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

Table 1.1: VTY Parameter Patterns

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

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

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

Table 1.2: VTY port numbers

### 1.1 Common Commands

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

### 1.1.1 end

Command

```
end
```

Parameters

end

End current mode and change to enable mode.

### 1.1.2 exit

Command

```
exit
```

Parameters

exit

Exit current mode and down to previous mode

### 1.1.3 help

Command

```
help
```

Parameters

help

Description of the interactive help system

### 1.1.4 list

Command

```
list
```

Parameters

list

Print command list

---

### 1.1.5 show running-config

Command

```
show running-config
```

Parameters

show

Show running system information

running-config

running configuration

### 1.1.6 write

Command

```
write
```

Parameters

write

Write running configuration to memory, network, or terminal

### 1.1.7 write file

Command

```
write file
```

Parameters

write

Write running configuration to memory, network, or terminal

file

Write to configuration file

---

### 1.1.8 write memory

Command

```
write memory
```

Parameters

write

Write running configuration to memory, network, or terminal

memory

Write configuration to the file (same as write file)

### 1.1.9 write terminal

Command

```
write terminal
```

Parameters

write

Write running configuration to memory, network, or terminal

terminal

Write to terminal

## 1.2 view

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

### 1.2.1 enable

Command

```
enable
```

Parameters

enable

Turn on privileged mode command

### 1.2.2 logging color (0|1)

Command

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

Parameters

logging

Configure logging

color

Configure color-printing for log messages

0

Don't use color for printing messages

1

Use color for printing messages

### 1.2.3 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

### 1.2.4 logging enable

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

Command

```
logging enable
```

Parameters

logging

Configure logging

enable

Enables logging to this vty

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

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

#### Command

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

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### all

Do you want to log all messages?

##### 0

Only print messages matched by other filters

##### 1

Bypass filter and print all messages

### 1.2.6 logging filter imsi IMSI

#### Command

```
logging filter imsi IMSI
```

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### imsi

Filter log messages by IMSI

##### IMSI

IMSI to be used as filter

---

## 1.2.7 logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lc...

Command

```
logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan ↔
|ts|as|cbs|lglobal|llapd|linp|lmux|lmi|lmib|lms|lctrl|lgtplstats|lgsup|loap|lss7| ↔
lscpp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

rll

A-bis Radio Link Layer (RLL)

mm

Layer3 Mobility Management (MM)

rr

Layer3 Radio Resource (RR)

rsl

A-bis Radio Signalling Link (RSL)

nm

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

pag

Paging Subsystem

meas

Radio Measurement Processing

msc

Mobile Switching Center

ho

Hand-Over Process

hodec

Hand-Over Decision

ref

Reference Counting

nat

GSM 08.08 NAT/Multiplexer

ctrl

Control interface

---

filter  
BSC/NAT IMSI based filtering

pcu  
PCU Interface

lcls  
Local Call, Local Switch

chan  
lchan FSM

ts  
timeslot FSM

as  
assignment FSM

cbs  
Cell Broadcast System

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

---

lss7

libosmo-sigtran Signalling System 7

lscpp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

force-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

level

Set the log level for a specified category

set-all

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

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

category

Configure log message

0

Don't prefix each log message

1

Prefix each log message with category/subsystem name

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

category-hex

Configure log message

0

Don't prefix each log message

1

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

---

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

extended-timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp with YYYYMMDDhhmmssnnn

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

file

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the source file and line

basename

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

[last]

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

---

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

Command

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

Parameters

logging

Configure logging

print

Log output settings

level

Configure log message

0

Don't prefix each log message

1

Prefix each log message with the log level name

### 1.2.15 logging set-log-mask MASK

Command

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

Parameters

logging

Configure logging

set-log-mask

Set the logmask of this logging target

MASK

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

### 1.2.16 logging timestamp (0|1)

Command

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

Parameters

logging

Configure logging

timestamp

Configure log message timestamping

0

Don't prefix each log message

1

Prefix each log message with current timestamp

### 1.2.17 logp (rll|mm|rr|rs|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan|t...

Command

```
logp (rll|mm|rr|rs|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan|ts|as| ↵
      cbs|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp| ↵
      lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal) .LOGMESSAGE
```

Parameters

logp

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

rll

A-bis Radio Link Layer (RLL)

mm

Layer3 Mobility Management (MM)

rr

Layer3 Radio Resource (RR)

rs

A-bis Radio Signalling Link (RSL)

nm

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

pag

Paging Subsystem

---

meas  
    Radio Measurement Processing

msc  
    Mobile Switching Center

ho  
    Hand-Over Process

hodec  
    Hand-Over Decision

ref  
    Reference Counting

nat  
    GSM 08.08 NAT/Multiplexer

ctrl  
    Control interface

filter  
    BSC/NAT IMSI based filtering

pcu  
    PCU Interface

lcls  
    Local Call, Local Switch

chan  
    lchan FSM

ts  
    timeslot FSM

as  
    assignment FSM

cbs  
    Cell Broadcast System

lglobal  
    Library-internal global log family

llapd  
    LAPD in libosmogsm

linp  
    A-bis Input Subsystem

lmux  
    A-bis B-Subchannel TRAU Frame Multiplex

lmi  
    A-bis Input Driver for Signalling

---

---

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

ljibuf  
libosmo-netif Jitter Buffer

lrspro  
Remote SIM protocol

debug  
Log debug messages and higher levels

info  
Log informational messages and higher levels

notice  
Log noticeable messages and higher levels

error  
Log error messages and higher levels

fatal  
Log only fatal messages

.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 access-list NAME

#### Command

```
show access-list NAME
```

#### Parameters

show

Show running system information

access-list

IMSI access list

NAME

Name of the access list

### 1.2.20 show alarms

#### Command

```
show alarms
```

#### Parameters

show

Show running system information

alarms

Show current logging configuration

---

### 1.2.21 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.2.22 show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>|any)

Command

```
show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS number

neighbor

Query which cell would be the target for this neighbor ARFCN+BSIC

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

---

### 1.2.23 show bts <0-255> smscb [(basic|extended)]

#### Command

```
show bts <0-255> smscb [(basic|extended)]
```

#### Parameters

##### show

Show running system information

##### bts

Display information about a BTS

##### <0-255>

BTS number

##### smscb

SMS Cell Broadcast State

##### [basic]

Show only information related to CBCH BASIC

##### [extended]

Show only information related to CBCH EXTENDED

### 1.2.24 show bts [<0-255>]

#### Command

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

#### Parameters

##### show

Show running system information

##### bts

Display information about a BTS

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

BTS number

---

### 1.2.25 show cbc

#### Command

```
show cbc
```

#### Parameters

show

Show running system information

cbc

Display state of CBC / CBSP

### 1.2.26 show conns

#### Command

```
show conns
```

#### Parameters

show

Show running system information

conns

Display currently active subscriber connections

### 1.2.27 show cs7 (sua|m3ua|ipa) [<0-65534>]

#### Command

```
show cs7 (sua|m3ua|ipa) [<0-65534>]
```

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

[<0-65534>]

Port Number

---

### 1.2.28 show cs7 instance <0-15> as (active|all|m3ua|sua)

#### Command

```
show cs7 instance <0-15> as (active|all|m3ua|sua)
```

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

as

Application Server (AS)

active

Display all active ASs

all

Display all ASs (default)

m3ua

Display all m3ua ASs

sua

Display all SUA ASs

### 1.2.29 show cs7 instance <0-15> asp

#### Command

```
show cs7 instance <0-15> asp
```

#### Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

asp

Application Server Process (ASP)

### 1.2.30 show cs7 instance <0-15> sccp addressbook

Command

```
show cs7 instance <0-15> sccp addressbook
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

addressbook

List all SCCP addressbook entries

### 1.2.31 show cs7 instance <0-15> sccp connections

Command

```
show cs7 instance <0-15> sccp connections
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

instance

An instance of the SS7 stack

<0-15>

An instance of the SS7 stack

sccp

Signalling Connection Control Part

connections

Show List of active SCCP connections

---

### 1.2.32 show cs7 instance <0-15> sccp ssn <0-65535>

#### Command

```
show cs7 instance <0-15> sccp ssn <0-65535>
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp

Signalling Connection Control Part

##### ssn

Find an SCCP User registered for the given SSN

##### <0-65535>

Subsystem Number (SSN)

### 1.2.33 show cs7 instance <0-15> sccp timers

#### Command

```
show cs7 instance <0-15> sccp timers
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp

Signaling Connection Control Part

##### timers

Show List of SCCP timers

---

### 1.2.34 show cs7 instance <0-15> sccp users

#### Command

```
show cs7 instance <0-15> sccp users
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp

Signalling Connection Control Part

##### users

Show List of SCCP Users registered

### 1.2.35 show cs7 instance <0-15> users

#### Command

```
show cs7 instance <0-15> users
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### users

User Table

---

### 1.2.36 show e1\_driver

Command

```
show e1_driver
```

Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.2.37 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

### 1.2.38 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

### 1.2.39 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

### 1.2.40 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

### 1.2.41 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

---

### 1.2.42 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

### 1.2.43 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

summary

Short summary (used lchans)

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

summary-all

Short summary (all lchans)

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

### 1.2.47 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtv

Show current logging configuration for this vty

### 1.2.48 show mscls

Command

```
show mscls
```

Parameters

show

Show running system information

mscls

MSC Connections and State

### 1.2.49 show network

#### Command

```
show network
```

#### Parameters

##### show

Show running system information

##### network

Display information about a GSM NETWORK

### 1.2.50 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.2.51 show paging [<0-255>]

#### Command

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

#### Parameters

##### show

Show running system information

##### paging

Display information about paging requests of a BTS

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

BTS Number

---

### 1.2.52 show paging-group <0-255> IMSI

Command

```
show paging-group <0-255> IMSI
```

Parameters

show

Show running system information

paging-group

Display the paging group

<0-255>

BTS Number

IMSI

IMSI

### 1.2.53 show position

Command

```
show position
```

Parameters

show

Show running system information

position

Position information of the BTS

### 1.2.54 show rate-counters

Command

```
show rate-counters
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

### 1.2.55 show rejected-bts

#### Command

```
show rejected-bts
```

#### Parameters

##### show

Show running system information

##### rejected-bts

Display recently rejected BTS devices

### 1.2.56 show statistics

#### Command

```
show statistics
```

#### Parameters

##### show

Show running system information

##### statistics

Statistics about the BSC

### 1.2.57 show stats

#### Command

```
show stats
```

#### Parameters

##### show

Show running system information

##### stats

Show statistical values

### 1.2.58 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

### 1.2.59 show subscriber all

#### Command

```
show subscriber all
```

#### Parameters

##### show

Show running system information

##### subscriber

Display information about subscribers

##### all

All Subscribers

---

### 1.2.60 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

### 1.2.61 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

### 1.2.62 **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)

---

### 1.2.63 show timer [TNNNN]

Command

```
show timer [TNNNN]
```

Parameters

show

Show running system information

timer

Show timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

### 1.2.64 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

### 1.2.65 show trx (connected|disconnected)

Command

```
show trx (connected|disconnected)
```

## Parameters

### show

Show running system information

### trx

Display information about a TRX

### connected

Show TRX with RSL connected

### disconnected

Show TRX with RSL disconnected

## 1.2.66 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

## 1.2.67 show version

## Command

```
show version
```

## Parameters

### show

Show running system information

### version

Displays program version

### 1.2.68 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)

### 1.2.69 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

### 1.2.70 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 assignment any

Command

```
assignment any
```

Parameters

assignment

Manually trigger assignment (for debugging)

any

Pick any actively used TCH/F or TCH/H lchan and re-assign within the same BTS. This will fail if no lchans of the same type are available besides the used one.

### 1.3.2 bts <0-255> om2000 class (trxc|ts|tf|is|con|dp|cf|tx|rx) <0-255> <0-255> <0-255>

Command

```
bts <0-255> om2000 class (trxc|ts|tf|is|con|dp|cf|tx|rx) <0-255> <0-255> <0-255>
```

Parameters

bts

BTS related commands

<0-255>

BTS Number

om2000

Manipulate the OM2000 managed objects

class

Object Class

trxc

TRX Controller

ts

Timeslot

tf

Timing Function

is  
    Interface Switch

con  
    Abis Concentrator

dp  
    Digital Path

cf  
    Central Function

tx  
    Transmitter

rx  
    Receiver

<0-255>  
    BTS Number

<0-255>  
    Associated SO Instance

<0-255>  
    Instance Number

### 1.3.3 **bts <0-255> om2000 class <0-255> <0-255> <0-255> <0-255>**

Command

```
bts <0-255> om2000 class <0-255> <0-255> <0-255> <0-255>
```

Parameters

bts  
    BTS related commands

<0-255>  
    BTS Number

om2000  
    Manipulate the OML managed objects

class  
    Object Class

<0-255>  
    Object Class

<0-255>  
    BTS Number

<0-255>  
    Associated SO Instance

<0-255>  
    Instance Number

### 1.3.4 **bts <0-255> oml class (site-manager|bts|radio-carrier|baseband-transceiver|chann...**

#### Command

```
bts <0-255> oml class (site-manager|bts|radio-carrier|baseband-transceiver|channel|adjc ↔  
|handover|power-contorl|btse|rack|test|envabtse|bport|gprs-nse|gprs-cell|gprs-nsvc| ↔  
siemenshw) instance <0-255> <0-255> <0-255>
```

#### Parameters

bts

BTS related commands

<0-255>

BTS Number

oml

Manipulate the OML managed objects

class

Object Class

site-manager

Site Manager Object

bts

BTS Object

radio-carrier

Radio Carrier Object

baseband-transceiver

Baseband Transceiver Object

channel

Channel (Timeslot) Object

adjc

Adjacent Object (Siemens)

handover

Handover Object (Siemens)

power-contorl

Power Control Object (Siemens)

btse

BTSE Object (Siemens)

rack

Rack Object (Siemens)

test

Test Object (Siemens)

envabtse

ENVABTSE Object (Siemens)

bport

BPORT Object (Siemens)

gprs-nse

GPRS NSE Object (ip.access/osmo-bts)

gprs-cell

GPRS Cell Object (ip.acecss/osmo-bts)

gprs-nsvc

GPRS NSVC Object (ip.acecss/osmo-bts)

siemenshw

SIEMENSHW Object (Siemens)

instance

Object Instance

<0-255>

BTS Number

<0-255>

TRX Number

<0-255>

TS Number

### 1.3.5 **bts <0-255> oml class <0-255> instance <0-255> <0-255> <0-255>**

Command

```
bts <0-255> oml class <0-255> instance <0-255> <0-255> <0-255>
```

Parameters

bts

BTS related commands

<0-255>

BTS Number

oml

Manipulate the OML managed objects

class

Object Class

<0-255>

Object Class

instance

Object Instance

<0-255>

BTS Number

<0-255>

TRX Number

<0-255>

TS Number

### 1.3.6 **bts <0-255> resend-system-information**

Command

```
bts <0-255> resend-system-information
```

Parameters

bts

BTS Specific Commands

<0-255>

BTS Number

resend-system-information

Re-generate + re-send BCCH SYSTEM INFORMATION

### 1.3.7 **bts <0-255> smscb-command (normal|schedule|default) <1-4> HEXSTRING**

Command

```
bts <0-255> smscb-command (normal|schedule|default) <1-4> HEXSTRING
```

Parameters

bts

BTS related commands

<0-255>

BTS Number

smscb-command

SMS Cell Broadcast

normal

Normal (one-shot) SMSCB Message; sent once over Abis+Um

schedule

Schedule (one-shot) SMSCB Message; sent once over Abis+Um

default

Default (repeating) SMSCB Message; sent once over Abis, unlimited over Um

<1-4>

Last Valid Block

HEXSTRING

Hex Encoded SMSCB message (up to 88 octets)

### 1.3.8 **bts <0-255> trx <0-255> timeslot <0-7> pdch (activate|deactivate)**

Command

```
bts <0-255> trx <0-255> timeslot <0-7> pdch (activate|deactivate)
```

Parameters

bts

BTS for manual command

<0-255>

BTS Number

trx

TRX for manual command

<0-255>

TRX Number

timeslot

Timeslot for manual command

<0-7>

Timeslot Number

pdch

Packet Data Channel

activate

Activate Dynamic PDCH/TCH (-> PDCH mode)

deactivate

Deactivate Dynamic PDCH/TCH (-> TCH mode)

### 1.3.9 **bts** <0-255> **trx** <0-255> **timeslot** <0-7> **sub-slot** <0-7> **(activate|deactivate)** **(hr|fr|efr|↔amr)** [**<0-7>**]

#### Command

```
bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> (activate|deactivate) (hr|fr|efr|↔amr) [<0-7>]
```

#### Parameters

**bts**

BTS for manual command

**<0-255>**

BTS Number

**trx**

TRX for manual command

**<0-255>**

TRX Number

**timeslot**

Timeslot for manual command

**<0-7>**

Timeslot Number

**sub-slot**

Sub-slot for manual command

**<0-7>**

Sub-slot Number

**activate**

Manual Channel Activation (e.g. for BER test)

**deactivate**

Manual Channel Deactivation (e.g. for BER test)

**hr**

Half-Rate v1

**fr**

Full-Rate

**efr**

Enhanced Full Rate

**amr**

Adaptive Multi-Rate

**[<0-7>]**

AMR Mode

---

### 1.3.10 **bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> assignment**

Command

```
bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> assignment
```

Parameters

bts

BTS for manual command

<0-255>

BTS Number

trx

TRX for manual command

<0-255>

TRX Number

timeslot

Timeslot for manual command

<0-7>

Timeslot Number

sub-slot

Sub-slot for manual command

<0-7>

Sub-slot Number

assignment

Manually trigger assignment (for debugging)

### 1.3.11 **bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> handover <0-255>**

Command

```
bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> handover <0-255>
```

Parameters

bts

BTS for manual command

<0-255>

BTS Number

trx

TRX for manual command

<0-255>

TRX Number

timeslot

Timeslot for manual command

<0-7>

Timeslot Number

sub-slot

Sub-slot for manual command

<0-7>

Sub-slot Number

handover

Manually trigger handover (for debugging)

<0-255>

New BTS Number

### 1.3.12 **bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> mdcx A.B.C.D <0-65535>**

Command

```
bts <0-255> trx <0-255> timeslot <0-7> sub-slot <0-7> mdcx A.B.C.D <0-65535>
```

Parameters

bts

BTS for manual command

<0-255>

BTS Number

trx

TRX for manual command

<0-255>

TRX Number

timeslot

Timeslot for manual command

<0-7>

Timeslot Number

sub-slot

Sub-slot for manual command

<0-7>

Sub-slot Number

mdcx

Modify RTP Connection

A.B.C.D

MGW IP Address

<0-65535>

MGW UDP Port

### 1.3.13 configure terminal

Command

```
configure terminal
```

Parameters

configure

Configuration from vty interface

terminal

Configuration terminal

### 1.3.14 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)

---

### 1.3.15 ctrl-interface generate-trap TRAP VALUE

Command

```
ctrl-interface generate-trap TRAP VALUE
```

Parameters

ctrl-interface

Commands related to the CTRL Interface

generate-trap

Generate a TRAP for test purpose

TRAP

Identity/Name of the TRAP variable

VALUE

Value of the TRAP variable

### 1.3.16 disable

Command

```
disable
```

Parameters

disable

Turn off privileged mode command

### 1.3.17 drop bts connection <0-65535> (oml|rs1)

Command

```
drop bts connection <0-65535> (oml|rs1)
```

Parameters

drop

Debug/Simulation command to drop Abis/IP BTS

bts

Debug/Simulation command to drop Abis/IP BTS

connection

Debug/Simulation command to drop Abis/IP BTS

---

<0-65535>

BTS NR

oml

Drop OML Connection

rsl

Drop RSL Connection

### 1.3.18 generate-location-state-trap <0-255>

Command

```
generate-location-state-trap <0-255>
```

Parameters

generate-location-state-trap

Generate location state report

<0-255>

BTS to report

### 1.3.19 handover any

Command

```
handover any
```

Parameters

handover

Manually trigger handover (for debugging)

any

Pick any actively used TCH/F or TCH/H lchan and handover to any other BTS. This is likely to fail if not all BTS are guaranteed to be reachable by the MS.

### 1.3.20 handover any to arfcn <0-1023> bsic (<0-63>|any)

Command

```
handover any to arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

---

handover

Manually trigger handover (for debugging)

any

Pick any actively used TCH/F or TCH/H lchan to handover to another cell. This is likely to fail outside of a lab setup where you are certain that all MS are able to see the target cell.

to

'to'

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

### 1.3.21 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

### 1.3.22 logging disable

Command

```
logging disable
```

Parameters

logging

Configure logging

disable

Disables logging to this vty

### 1.3.23 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

### 1.3.24 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

### 1.3.25 logging filter imsi IMSI

Command

```
logging filter imsi IMSI
```

Parameters

logging

Configure logging

filter

Filter log messages

imsi

Filter log messages by IMSI

IMSI

IMSI to be used as filter

### 1.3.26 logging level (rll|mm|rr|rs|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lc...

Command

```
logging level (rll|mm|rr|rs|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lc|chan ↔
|ts|as|cbs|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7| ↔
lsccp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

rll

A-bis Radio Link Layer (RLL)

---

mm	Layer3 Mobility Management (MM)
rr	Layer3 Radio Resource (RR)
rsl	A-bis Radio Signalling Link (RSL)
nm	A-bis Network Management / O&M (NM/OML)
pag	Paging Subsystem
meas	Radio Measurement Processing
msc	Mobile Switching Center
ho	Hand-Over Process
hodec	Hand-Over Decision
ref	Reference Counting
nat	GSM 08.08 NAT/Multiplexer
ctrl	Control interface
filter	BSC/NAT IMSI based filtering
pcu	PCU Interface
lcls	Local Call, Local Switch
chan	lchan FSM
ts	timeslot FSM
as	assignment FSM
cbs	Cell Broadcast System

---

lglobal

Library-internal global log family

llapd

LAPD in libosmogsm

linp

A-bis Input Subsystem

lmux

A-bis B-Subchannel TRAU Frame Multiplex

lmi

A-bis Input Driver for Signalling

lmib

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

lsms

Layer3 Short Message Service (SMS)

lctrl

Control Interface

lgtp

GPRS GTP library

lstats

Statistics messages and logging

lgsup

Generic Subscriber Update Protocol

loap

Osmocom Authentication Protocol

lss7

libosmo-sigtran Signalling System 7

lsccp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

---

**debug**

Log debug messages and higher levels

**info**

Log informational messages and higher levels

**notice**

Log noticeable messages and higher levels

**error**

Log error messages and higher levels

**fatal**

Log only fatal messages

### 1.3.27 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

---

### 1.3.28 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

### 1.3.29 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

---

### 1.3.30 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>')

### 1.3.31 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

---

### 1.3.32 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.

### 1.3.33 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

---

### 1.3.34 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

### 1.3.35 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

### 1.3.36 logp (rll|mm|rr|rs|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan|t...

Command

```
logp (rll|mm|rr|rs|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan|t... ↵
    cbs|lglobal|llapd|linp|lmux|lmi|lmib|lsms|lctrl|lgtp|lstats|lgsup|loap|lss7|lsccp| ↵
    lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal) .LOGMESSAGE
```

## Parameters

### logp

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

### rll

A-bis Radio Link Layer (RLL)

### mm

Layer3 Mobility Management (MM)

### rr

Layer3 Radio Resource (RR)

### rsl

A-bis Radio Signalling Link (RSL)

### nm

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

### pag

Paging Subsystem

### meas

Radio Measurement Processing

### msc

Mobile Switching Center

### ho

Hand-Over Process

### hodec

Hand-Over Decision

### ref

Reference Counting

### nat

GSM 08.08 NAT/Multiplexer

### ctrl

Control interface

### filter

BSC/NAT IMSI based filtering

### pcu

PCU Interface

### lcls

Local Call, Local Switch

### chan

lchan FSM

### ts

timeslot FSM

---

---

as  
assignment FSM

cbs  
Cell Broadcast System

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

lss7  
libosmo-sigtran Signalling System 7

lsccp  
libosmo-sigtran SCCP Implementation

lsua  
libosmo-sigtran SCCP User Adaptation

lm3ua  
libosmo-sigtran MTP3 User Adaptation

lmgcp  
libosmo-mgcp Media Gateway Control Protocol

---

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

debug

Log debug messages and higher levels

info

Log informational messages and higher levels

notice

Log noticeable messages and higher levels

error

Log error messages and higher levels

fatal

Log only fatal messages

.LOGMESSAGE

Arbitrary message to log on given category and log level

### 1.3.37 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>'

### 1.3.38 restart-bts <0-65535>

#### Command

```
restart-bts <0-65535>
```

#### Parameters

##### restart-bts

Restart ip.access nanoBTS through OML

##### <0-65535>

BTS Number

### 1.3.39 show access-list NAME

#### Command

```
show access-list NAME
```

#### Parameters

##### show

Show running system information

##### access-list

IMSI access list

##### NAME

Name of the access list

### 1.3.40 show alarms

#### Command

```
show alarms
```

#### Parameters

##### show

Show running system information

##### alarms

Show current logging configuration

### 1.3.41 show asciidoc counters

Command

```
show asciidoc counters
```

Parameters

show

Show running system information

asciidoc

Asciidoc generation

counters

Generate table of all registered counters

### 1.3.42 show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>|any)

Command

```
show bts <0-255> neighbor arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS number

neighbor

Query which cell would be the target for this neighbor ARFCN+BSIC

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

---

### 1.3.43 **show bts <0-255> smscb [(basic|extended)]**

Command

```
show bts <0-255> smscb [(basic|extended)]
```

Parameters

show

Show running system information

bts

Display information about a BTS

<0-255>

BTS number

smscb

SMS Cell Broadcast State

[basic]

Show only information related to CBCH BASIC

[extended]

Show only information related to CBCH EXTENDED

### 1.3.44 **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

### 1.3.45 show conns

Command

```
show conns
```

Parameters

show

Show running system information

conns

Display currently active subscriber connections

### 1.3.46 show cs7 (sua|m3ua|ipa) [<0-65534>]

Command

```
show cs7 (sua|m3ua|ipa) [<0-65534>]
```

Parameters

show

Show running system information

cs7

ITU-T Signaling System 7

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

[<0-65534>]

Port Number

### 1.3.47 show cs7 instance <0-15> as (active|all|m3ua|sua)

Command

```
show cs7 instance <0-15> as (active|all|m3ua|sua)
```

Parameters

---

show  
    Show running system information

cs7  
    ITU-T Signaling System 7

instance  
    An instance of the SS7 stack

<0-15>  
    An instance of the SS7 stack

as  
    Application Server (AS)

active  
    Display all active ASs

all  
    Display all ASs (default)

m3ua  
    Display all m3ua ASs

sua  
    Display all SUA ASs

### 1.3.48 show cs7 instance <0-15> asp

Command

```
show cs7 instance <0-15> asp
```

Parameters

show  
    Show running system information

cs7  
    ITU-T Signaling System 7

instance  
    An instance of the SS7 stack

<0-15>  
    An instance of the SS7 stack

asp  
    Application Server Process (ASP)

### 1.3.49 show cs7 instance <0-15> sccp addressbook

#### Command

```
show cs7 instance <0-15> sccp addressbook
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp

Signalling Connection Control Part

##### addressbook

List all SCCP addressbook entries

### 1.3.50 show cs7 instance <0-15> sccp connections

#### Command

```
show cs7 instance <0-15> sccp connections
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp

Signalling Connection Control Part

##### connections

Show List of active SCCP connections

---

### 1.3.51 show cs7 instance <0-15> sccp ssn <0-65535>

#### Command

```
show cs7 instance <0-15> sccp ssn <0-65535>
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp

Signalling Connection Control Part

##### ssn

Find an SCCP User registered for the given SSN

##### <0-65535>

Subsystem Number (SSN)

### 1.3.52 show cs7 instance <0-15> sccp timers

#### Command

```
show cs7 instance <0-15> sccp timers
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp

Signaling Connection Control Part

##### timers

Show List of SCCP timers

### 1.3.53 show cs7 instance <0-15> sccp users

#### Command

```
show cs7 instance <0-15> sccp users
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### sccp

Signalling Connection Control Part

##### users

Show List of SCCP Users registered

### 1.3.54 show cs7 instance <0-15> users

#### Command

```
show cs7 instance <0-15> users
```

#### Parameters

##### show

Show running system information

##### cs7

ITU-T Signaling System 7

##### instance

An instance of the SS7 stack

##### <0-15>

An instance of the SS7 stack

##### users

User Table

---

### 1.3.55 show e1\_driver

Command

```
show e1_driver
```

Parameters

show

Show running system information

e1\_driver

Display information about available E1 drivers

### 1.3.56 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

### 1.3.57 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

### 1.3.58 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

### 1.3.59 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

### 1.3.60 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

---

### 1.3.61 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

### 1.3.62 show history

Command

```
show history
```

Parameters

show

Show running system information

history

Display the session command history

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

summary

Short summary (used lchans)

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

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

Command

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

Parameters

show

Show running system information

lchan

Display information about a logical channel

summary-all

Short summary (all lchans)

[<0-255>]

BTS Number

[<0-255>]

TRX Number

[<0-7>]

Timeslot Number

[<0-7>]

Logical Channel Number

### 1.3.66 show logging vty

Command

```
show logging vty
```

Parameters

show

Show running system information

logging

Show current logging configuration

vtv

Show current logging configuration for this vty

### 1.3.67 show mscc

Command

```
show mscc
```

Parameters

show

Show running system information

mscc

MSC Connections and State

### 1.3.68 show network

#### Command

```
show network
```

#### Parameters

##### show

Show running system information

##### network

Display information about a GSM NETWORK

### 1.3.69 show online-help

#### Command

```
show online-help
```

#### Parameters

##### show

Show running system information

##### online-help

Online help

### 1.3.70 show paging [<0-255>]

#### Command

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

#### Parameters

##### show

Show running system information

##### paging

Display information about paging requests of a BTS

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

BTS Number

---

### 1.3.71 show paging-group <0-255> IMSI

Command

```
show paging-group <0-255> IMSI
```

Parameters

show

Show running system information

paging-group

Display the paging group

<0-255>

BTS Number

IMSI

IMSI

### 1.3.72 show position

Command

```
show position
```

Parameters

show

Show running system information

position

Position information of the BTS

### 1.3.73 show rate-counters

Command

```
show rate-counters
```

Parameters

show

Show running system information

rate-counters

Show all rate counters

---

### 1.3.74 show rejected-bts

#### Command

```
show rejected-bts
```

#### Parameters

##### show

Show running system information

##### rejected-bts

Display recently rejected BTS devices

### 1.3.75 show startup-config

#### Command

```
show startup-config
```

#### Parameters

##### show

Show running system information

##### startup-config

Contentes of startup configuration

### 1.3.76 show statistics

#### Command

```
show statistics
```

#### Parameters

##### show

Show running system information

##### statistics

Statistics about the BSC

---

### 1.3.77 show stats

Command

```
show stats
```

Parameters

show

Show running system information

stats

Show statistical values

### 1.3.78 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

### 1.3.79 show subscriber all

Command

```
show subscriber all
```

Parameters

---

show

Show running system information

subscriber

Display information about subscribers

all

All Subscribers

### 1.3.80 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

### 1.3.81 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

### 1.3.82 **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)

### 1.3.83 show timer [TNNNN]

Command

```
show timer [TNNNN]
```

Parameters

show

Show running system information

timer

Show timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

### 1.3.84 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

### 1.3.85 show trx (connected|disconnected)

Command

```
show trx (connected|disconnected)
```

## Parameters

### show

Show running system information

### trx

Display information about a TRX

### connected

Show TRX with RSL connected

### disconnected

Show TRX with RSL disconnected

## 1.3.86 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

## 1.3.87 show version

## Command

```
show version
```

## Parameters

### show

Show running system information

### version

Displays program version

### 1.3.88 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)

### 1.3.89 terminal monitor

Command

```
terminal monitor
```

Parameters

terminal

Set terminal line parameters

monitor

Copy debug output to the current terminal line

### 1.3.90 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

---

### 1.3.91 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

### 1.3.92 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 bsc

Command

```
bsc
```

Parameters

bsc

Configure BSC

### 1.4.4 cbc

Command

```
cbc
```

Parameters

cbc

Configure CBSP Link to Cell Broadcast Centre

---

### 1.4.5 cs7 instance <0-15>

Command

```
cs7 instance <0-15>
```

Parameters

cs7

ITU-T Signaling System 7

instance

Configure a SS7 Instance

<0-15>

An instance of the SS7 stack

### 1.4.6 ctrl

Command

```
ctrl
```

Parameters

ctrl

Configure the Control Interface

### 1.4.7 e1\_input

Command

```
e1_input
```

Parameters

e1\_input

Configure E1/T1/J1 TDM input

---

### 1.4.8 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

### 1.4.9 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

### 1.4.10 hostname WORD

Command

```
hostname WORD
```

Parameters

hostname

Set system's network name

WORD

This system's network name

---

### 1.4.11 line vty

Command

```
line vty
```

Parameters

line

Configure a terminal line

vtty

Virtual terminal

### 1.4.12 log alarms <2-32700>

Command

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

Parameters

log

Configure logging sub-system

alarms

Logging alarms to osmo\_strb

<2-32700>

Maximum number of messages to log

### 1.4.13 log file .FILENAME

Command

```
log file .FILENAME
```

Parameters

log

Configure logging sub-system

file

Logging to text file

.FILENAME

Filename

---

### 1.4.14 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)

### 1.4.15 log stderr

Command

```
log stderr
```

Parameters

log

Configure logging sub-system

stderr

Logging via STDERR of the process

### 1.4.16 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

### 1.4.17 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

### 1.4.18 msc [<0-1000>]

Command

```
msc [<0-1000>]
```

Parameters

msc

Configure MSC details

[<0-1000>]

MSC connection to configure

### 1.4.19 network

Command

```
network
```

Parameters

network

Configure the GSM network

### 1.4.20 no banner motd

Command

```
no banner motd
```

Parameters

no

Negate a command or set its defaults

banner

Set banner string

motd

Strings for motd

### 1.4.21 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

### 1.4.22 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

### 1.4.23 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

### 1.4.24 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

### 1.4.25 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

### 1.4.26 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

### 1.4.27 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

### 1.4.28 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)

### 1.4.29 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

### 1.4.30 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

### 1.4.31 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

### 1.4.32 password LINE

Command

```
password LINE
```

Parameters

password

Assign the terminal connection password

LINE

The UNENCRYPTED (cleartext) line password

### 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 <1-65535>

Command

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

Parameters

stats

Configure stats sub-system

interval

Set the reporting interval

<1-65535>

Interval in seconds

### 1.4.37 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

## 1.5 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 filter imsi IMSI

#### Command

```
logging filter imsi IMSI
```

#### Parameters

##### logging

Configure logging

##### filter

Filter log messages

##### imsi

Filter log messages by IMSI

##### IMSI

IMSI to be used as filter

---

### 1.5.4 logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lc...

Command

```
logging level (rll|mm|rr|rsl|nm|pag|meas|msc|ho|hodec|ref|nat|ctrl|filter|pcu|lcls|chan ↔
|ts|as|cbs|lglobal|llapd|linp|lmux|lmi|lmib|lms|lctrl|lgtp|lstats|lgsup|loap|lss7| ↔
lscdp|lsua|lm3ua|lmgcp|ljibuf|lrspro) (debug|info|notice|error|fatal)
```

Parameters

logging

Configure logging

level

Set the log level for a specified category

rll

A-bis Radio Link Layer (RLL)

mm

Layer3 Mobility Management (MM)

rr

Layer3 Radio Resource (RR)

rsl

A-bis Radio Signalling Link (RSL)

nm

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

pag

Paging Subsystem

meas

Radio Measurement Processing

msc

Mobile Switching Center

ho

Hand-Over Process

hodec

Hand-Over Decision

ref

Reference Counting

nat

GSM 08.08 NAT/Multiplexer

ctrl

Control interface

---

filter  
BSC/NAT IMSI based filtering

pcu  
PCU Interface

lcls  
Local Call, Local Switch

chan  
lchan FSM

ts  
timeslot FSM

as  
assignment FSM

cbs  
Cell Broadcast System

lglobal  
Library-internal global log family

llapd  
LAPD in libosmogsm

linp  
A-bis Input Subsystem

lmux  
A-bis B-Subchannel TRAU Frame Multiplex

lmi  
A-bis Input Driver for Signalling

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

lsms  
Layer3 Short Message Service (SMS)

lctrl  
Control Interface

lgtp  
GPRS GTP library

lstats  
Statistics messages and logging

lgsup  
Generic Subscriber Update Protocol

loap  
Osmocom Authentication Protocol

---

lss7

libosmo-sigtran Signalling System 7

lscpp

libosmo-sigtran SCCP Implementation

lsua

libosmo-sigtran SCCP User Adaptation

lm3ua

libosmo-sigtran MTP3 User Adaptation

lmgcp

libosmo-mgcp Media Gateway Control Protocol

ljibuf

libosmo-netif Jitter Buffer

lrspro

Remote SIM protocol

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 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

### 1.5.6 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

---

### 1.5.7 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

### 1.5.8 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>')

---

### 1.5.9 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

### 1.5.10 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.

---

### 1.5.11 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

### 1.5.12 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 level (global|peer|subscriber)

Command

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

Parameters

level

Set the maximum group level

global

Report global groups only

peer

Report global and network peer related groups

subscriber

Report global, peer, and subscriber groups

### 1.6.4 local-ip ADDR

Command

```
local-ip ADDR
```

Parameters

local-ip

Set the IP address to which we bind locally

ADDR

IP Address

### 1.6.5 mtu <100-65535>

Command

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

Parameters

mtu

Set the maximum packet size

<100-65535>

Size in byte

---

### 1.6.6 no local-ip

#### Command

```
no local-ip
```

#### Parameters

no

Negate a command or set its defaults

local-ip

Set the IP address to which we bind locally

### 1.6.7 no mtu

#### Command

```
no mtu
```

#### Parameters

no

Negate a command or set its defaults

mtu

Set the maximum packet size

### 1.6.8 no prefix

#### Command

```
no prefix
```

#### Parameters

no

Negate a command or set its defaults

prefix

Set the item name prefix

### 1.6.9 prefix PREFIX

Command

```
prefix PREFIX
```

Parameters

prefix

Set the item name prefix

PREFIX

The prefix string

### 1.6.10 remote-ip ADDR

Command

```
remote-ip ADDR
```

Parameters

remote-ip

Set the remote IP address to which we connect

ADDR

IP Address

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

Command

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

Parameters

remote-port

Set the remote port to which we connect

<1-65535>

Remote port number

## 1.7 config-line

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

Command

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

Parameters

bind

Accept VTY telnet connections on local interface

A.B.C.D

Local interface IP address (default: 127.0.0.1)

[<0-65535>]

Local TCP port number

### 1.7.2 login

Command

```
login
```

Parameters

login

Enable password checking

### 1.7.3 no login

Command

```
no login
```

Parameters

no

Negate a command or set its defaults

login

Enable password checking

---

## 1.8 config-e1\_input

### 1.8.1 e1\_line <0-255> driver (misdn|misdn\_lapd|dahdi|ipa|unixsocket)

Command

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

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

driver

Set driver for this line

misdn

mISDN supported E1 Card (kernel LAPD)

misdn\_lapd

mISDN supported E1 Card (userspace LAPD)

dahdi

DAHDI supported E1/T1/J1 Card

ipa

IPA TCP/IP input

unixsocket

HSL TCP/IP input

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

Command

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

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

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

Command

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

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

<1-300>

Idle interval in seconds before probes are sent

<1-20>

Number of probes to sent

<1-300>

Delay between probe packets in seconds

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

Command

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

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

name

Set name for this line

.LINE

Human readable name

---

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

Command

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

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

port

Set physical port/span/card number

<0-255>

E1/T1 Port/Span/Card number

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

Command

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

Parameters

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

socket

Set socket path for unixsocket

.SOCKET

socket path

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

Command

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

Parameters

---

ipa

ipa driver config

bind

Set ipa local bind address

A.B.C.D

Listen on this IP address (default 0.0.0.0)

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

Command

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

Parameters

no

Negate a command or set its defaults

e1\_line

Configure E1/T1/J1 Line

<0-255>

Line Number

keepalive

Enable keep-alive probing

## 1.9 config-ctrl

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

Command

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

Parameters

bind

Set bind address to listen for Control connections

A.B.C.D

Local IP address (default 127.0.0.1)

## 1.10 config-cs7

### 1.10.1 as NAME (sua|m3ua|ipa)

Command

```
as NAME (sua|m3ua|ipa)
```

Parameters

as

Configure an Application Server

NAME

Name of the Application Server

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

### 1.10.2 asp NAME <0-65535> <0-65535> (sua|m3ua|ipa)

Command

```
asp NAME <0-65535> <0-65535> (sua|m3ua|ipa)
```

Parameters

asp

Configure Application Server Process

NAME

Name of ASP

<0-65535>

Remote SCTP port number

<0-65535>

Local SCTP port number

sua

SCCP User Adaptation

m3ua

MTP3 User Adaptation

ipa

IPA Multiplex (SCCP Lite)

### 1.10.3 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.10.4 network-indicator (international | national | reserved | spare)

Command

```
network-indicator (international | national | reserved | spare)
```

Parameters

network-indicator

Configure the Network Indicator

international

International Network

national

National Network

reserved

Reserved Network

spare

Spare Network

### 1.10.5 no as NAME

Command

```
no as NAME
```

Parameters

no

Negate a command or set its defaults

as

Disable Application Server

NAME

Name of AS

### 1.10.6 no asp NAME

Command

```
no asp NAME
```

Parameters

no

Negate a command or set its defaults

asp

Disable Application Server Process

NAME

Name of ASP

### 1.10.7 no sccp-address NAME

Command

```
no sccp-address NAME
```

Parameters

no

Negate a command or set its defaults

sccp-address

Delete an SCCP addressbook entry

NAME

Name of the SCCP Address

### 1.10.8 point-code POINT\_CODE

Command

```
point-code POINT_CODE
```

Parameters

point-code

Configure the local Point Code

POINT\_CODE

Point Code

---

### 1.10.9 point-code delimiter (default|dash)

#### Command

```
point-code delimiter (default|dash)
```

#### Parameters

##### point-code

Point Code

##### delimiter

Configure Point Code Delimiter

##### default

Use dot as delimiter

##### dash

User dash as delimiter

### 1.10.10 point-code format <1-24> [<1-23>] [<1-22>]

#### Command

```
point-code format <1-24> [<1-23>] [<1-22>]
```

#### Parameters

##### point-code

Point Code

##### format

Configure Point Code Format

##### <1-24>

Length of first PC component

##### [<1-23>]

Length of second PC component

##### [<1-22>]

Length of third PC component

---

### 1.10.11 point-code format default

Command

```
point-code format default
```

Parameters

point-code

Point Code

format

Configure Point Code Format

default

Default Point Code Format (3.8.3)

### 1.10.12 sccp-address NAME

Command

```
sccp-address NAME
```

Parameters

sccp-address

Create/Modify an SCCP addressbook entry

NAME

Name of the SCCP Address

### 1.10.13 sccp-timer (conn\_est|ias|iar|rel|repeat\_rel|int|guard|reset|reassembly) <1-99999...

Command

```
sccp-timer (conn_est|ias|iar|rel|repeat_rel|int|guard|reset|reassembly) <1-999999>
```

Parameters

sccp-timer

Configure SCCP timer values, see ITU-T Q.714

conn\_est

Waiting for connection confirm message, 1 to 2 minutes (default: 60)

ias

Send keep-alive: on an idle connection, delay before sending an Idle Timer message, 5 to 10 minutes (default: 420)

iar

Receive keep-alive: on an idle connection, delay until considering a connection as stale, 11 to 21 minutes (default: 900)

rel

Waiting for release complete message, 10 to 20 seconds (default: 10)

repeat\_rel

Waiting for release complete message; or to repeat sending released message after the initial expiry, 10 to 20 seconds (default: 10)

int

Waiting for release complete message; or to release connection resources, freeze the LRN and alert a maintenance function after the initial expiry, extending to 1 minute (default: 60)

guard

Waiting to resume normal procedure for temporary connection sections during the restart procedure, 23 to 25 minutes (default: 1380)

reset

Waiting to release temporary connection section or alert maintenance function after reset request message is sent, 10 to 20 seconds (default: 10)

reassembly

Waiting to receive all the segments of the remaining segments, single segmented message after receiving the first segment, 10 to 20 seconds (default: 10)

<1-999999>

Timer value, in seconds

#### 1.10.14 xua rkm routing-key-allocation (static-only|dynamic-permitted)

Command

```
xua rkm routing-key-allocation (static-only|dynamic-permitted)
```

Parameters

xua

SIGTRAN xxxUA related

rkm

Routing Key Management

routing-key-allocation

Routing Key Management Allocation Policy

static-only

Only static (pre-configured) Routing Keys permitted

dynamic-permitted

Dynamically allocate Routing Keys for what ASPs request

---

## 1.11 config-cs7-as

### 1.11.1 asp NAME

Command

```
asp NAME
```

Parameters

asp

Specify that a given ASP is part of this AS

NAME

Name of ASP to be added to AS

### 1.11.2 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.11.3 no asp NAME

Command

```
no asp NAME
```

Parameters

no

Negate a command or set its defaults

asp

Specify ASP to be removed from this AS

NAME

Name of ASP to be removed

### 1.11.4 point-code override dpc PC

Command

```
point-code override dpc PC
```

Parameters

point-code

Point Code Specific Features

override

Override (force) a point-code to hard-coded value

dpc

Override Source Point Code

PC

Override Destination Point Code

### 1.11.5 qos-class <0-255>

Command

```
qos-class <0-255>
```

Parameters

qos-class

Specity QoS Class of AS

<0-255>

QoS Class of AS

### 1.11.6 recovery-timeout <1-2000>

Command

```
recovery-timeout <1-2000>
```

Parameters

recovery-timeout

Specifies the recovery timeout value in milliseconds

<1-2000>

Recovery Timeout in Milliseconds

---

### 1.11.7 routing-key RCONTEXT DPC

Command

```
routing-key RCONTEXT DPC
```

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

### 1.11.8 routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup)

Command

```
routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup)
```

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

si

Match on Service Indicator

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

---

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

### 1.11.9 routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup) ssn S...

Command

```
routing-key RCONTEXT DPC si (aal2|bicc|b-isup|h248|isup|sat-isup|sccp|tup) ssn SSN
```

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

si

Match on Service Indicator

aal2

ATM Adaption Layer 2

bicc

Bearer Independent Call Control

b-isup

Broadband ISDN User Part

h248

H.248

isup

ISDN User Part

sat-isup

Sattelite ISDN User Part

sccp

Signalling Connection Control Part

tup

Telephony User Part

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

### 1.11.10 routing-key RCONTEXT DPC ssn SSN

Command

```
routing-key RCONTEXT DPC ssn SSN
```

Parameters

routing-key

Define a routing key

RCONTEXT

Routing context number

DPC

Destination Point Code

ssn

Match on Sub-System Number

SSN

Sub-System Number to match on

### 1.11.11 traffic-mode (broadcast | loadshare | roundrobin | override)

Command

```
traffic-mode (broadcast | loadshare | roundrobin | override)
```

Parameters

traffic-mode

Specifies traffic mode of operation of the ASP within the AS

broadcast

Broadcast to all ASP within AS

loadshare

Share Load among all ASP within AS

roundrobin

Round-Robin between all ASP within AS

override

Override

---

## 1.12 config-cs7-asp

### 1.12.1 block

Command

```
block
```

Parameters

block

Allows a SCTP Association with ASP, but doesn't let it become active

### 1.12.2 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.12.3 local-ip A.B.C.D

Command

```
local-ip A.B.C.D
```

Parameters

local-ip

Specify Local IP Address from which to contact ASP

A.B.C.D

Local IP Address from which to contact of ASP

---

### 1.12.4 qos-class <0-255>

Command

```
qos-class <0-255>
```

Parameters

qos-class

Specify QoS Class of ASP

<0-255>

QoS Class of ASP

### 1.12.5 remote-ip A.B.C.D

Command

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

Parameters

remote-ip

Specify Remote IP Address of ASP

A.B.C.D

Remote IP Address of ASP

### 1.12.6 shutdown

Command

```
shutdown
```

Parameters

shutdown

Terminates SCTP association; New associations will be rejected

## 1.13 config-cs7-sccpaddr

### 1.13.1 global-title

Command

```
global-title
```

Parameters

global-title

Add/Modify Global Title

### 1.13.2 no global-title

Command

```
no global-title
```

Parameters

no

Negate a command or set its defaults

global-title

Remove Global Title

### 1.13.3 no point-code

Command

```
no point-code
```

Parameters

no

Negate a command or set its defaults

point-code

Remove point-code Number

### 1.13.4 no subsystem-number

Command

```
no subsystem-number
```

Parameters

no

Negate a command or set its defaults

subsystem-number

Remove Subsystem Number

### 1.13.5 point-code POINT\_CODE

Command

```
point-code POINT_CODE
```

Parameters

point-code

Add point-code Number

POINT\_CODE

PC

### 1.13.6 routing-indicator (GT|PC|IP)

Command

```
routing-indicator (GT|PC|IP)
```

Parameters

routing-indicator

Add Routing Indicator

GT

by global-title

PC

by point-code

IP

by ip-address

---

### 1.13.7 subsystem-number <0-4294967295>

Command

```
subsystem-number <0-4294967295>
```

Parameters

subsystem-number

Add Subsystem Number

<0-4294967295>

SSN

## 1.14 config-cs7-sccpaddr-gt

### 1.14.1 digits DIGITS

Command

```
digits DIGITS
```

Parameters

digits

Set Global Title Digits

DIGITS

Number digits

### 1.14.2 global-title-indicator <0-15>

Command

```
global-title-indicator <0-15>
```

Parameters

global-title-indicator

Set Global Title Indicator

<0-15>

GTI

### 1.14.3 nature-of-address-indicator <0-127>

Command

```
nature-of-address-indicator <0-127>
```

Parameters

nature-of-address-indicator

Set Global Title Nature of Address Indicator

<0-127>

NAI

### 1.14.4 numbering-plan-indicator <0-15>

Command

```
numbering-plan-indicator <0-15>
```

Parameters

numbering-plan-indicator

Set Global Title Numbering Plan Indicator

<0-15>

NPI

### 1.14.5 translation-type <0-255>

Command

```
translation-type <0-255>
```

Parameters

translation-type

Set Global Title Translation Type

<0-255>

TT

## 1.15 config-net

### 1.15.1 **bts <0-255>**

Command

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

Parameters

bts

Select a BTS to configure

<0-255>

BTS Number

### 1.15.2 **encryption a5 <0-3> [<0-3>] [<0-3>] [<0-3>]**

Command

```
encryption a5 <0-3> [<0-3>] [<0-3>] [<0-3>]
```

Parameters

encryption

Encryption options

a5

GSM A5 Air Interface Encryption

<0-3>

A5/n Algorithm Number

[<0-3>]

A5/n Algorithm Number

[<0-3>]

A5/n Algorithm Number

[<0-3>]

A5/n Algorithm Number

### 1.15.3 handover (0|1|default)

#### Command

```
handover (0|1|default)
```

#### Parameters

##### handover

Handover general config

##### 0

Disable in-call handover

##### 1

Enable in-call handover

##### default

Enable/disable handover: Use default (0), remove explicit setting on this node

### 1.15.4 handover algorithm (1|2|default)

#### Command

```
handover algorithm (1|2|default)
```

#### Parameters

##### handover

Handover general config

##### algorithm

Choose algorithm for handover decision

##### 1

Algorithm 1: trigger handover based on comparing current cell and neighbor RxLev and RxQual, only.

##### 2

Algorithm 2: trigger handover on RxLev/RxQual, and also to balance the load across several cells. Consider available codecs. Prevent repeated handover by penalty timers.

##### default

Use default (1), remove explicit setting on this node

---

### 1.15.5 handover1 maximum distance (<0-9999>|default)

#### Command

```
handover1 maximum distance (<0-9999>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### maximum

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### distance

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### <0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### default

Use default (9999), remove explicit setting on this node

### 1.15.6 handover1 power budget hysteresis (<0-999>|default)

#### Command

```
handover1 power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dB stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dB

##### default

Use default (3), remove explicit setting on this node

### 1.15.7 handover1 power budget interval (<1-99>|default)

Command

```
handover1 power budget interval (<1-99>|default)
```

Parameters

handover1

Handover options for handover decision algorithm 1

power

Neighbor cell power triggering

budget

Neighbor cell power triggering

interval

How often to check for a better cell (SACCH frames)

<1-99>

Check for stronger neighbor every N number of SACCH frames

default

Use default (6), remove explicit setting on this node

### 1.15.8 handover1 window rxlev averaging (<1-10>|default)

Command

```
handover1 window rxlev averaging (<1-10>|default)
```

Parameters

handover1

Handover options for handover decision algorithm 1

window

Measurement averaging settings

rxlev

Received-Level averaging

averaging

How many RxLev measurements to use for averaging

<1-10>

RxLev averaging: Number of values to average over

default

Use default (10), remove explicit setting on this node

---

### 1.15.9 handover1 window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover1 window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements to use for averaging

##### averaging

How many Neighbor RxLev measurements to use for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.15.10 handover1 window rxqual averaging (<1-10>|default)

#### Command

```
handover1 window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements to use for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node

### 1.15.11 handover2 afs-bias rxlev (<0-20>|default)

#### Command

```
handover2 afs-bias rxlev (<0-20>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### afs-bias

Configure bias to prefer AFS (AMR on TCH/F) over other codecs

##### rxlev

RxLev improvement bias for AFS over other codecs

##### <0-20>

Virtual RxLev improvement (dB)

##### default

Use default (0), remove explicit setting on this node

### 1.15.12 handover2 afs-bias rxqual (<0-7>|default)

#### Command

```
handover2 afs-bias rxqual (<0-7>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### afs-bias

Configure bias to prefer AFS (AMR on TCH/F) over other codecs

##### rxqual

RxQual improvement bias for AFS over other codecs

##### <0-7>

Virtual RxQual improvement

##### default

Use default (0), remove explicit setting on this node

---

### 1.15.13 handover2 assignment (0|1|default)

Command

```
handover2 assignment (0|1|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

assignment

Enable or disable in-call channel re-assignment within the same cell

0

Disable in-call assignment

1

Enable in-call assignment

default

Use default (0), remove explicit setting on this node

### 1.15.14 handover2 congestion-check (disabled|<1-999>|now)

Command

```
handover2 congestion-check (disabled|<1-999>|now)
```

Parameters

handover2

Handover options for handover decision algorithm 2

congestion-check

Configure congestion check interval

disabled

Disable congestion checking, do not handover based on cell load. Note: there is one global congestion check interval, i.e. contrary to other handover2 settings, this is not configurable per individual cell.

<1-999>

Congestion check interval in seconds (default 10)

now

Manually trigger a congestion check to run right now

---

### 1.15.15 handover2 max-handovers (<1-9999>|default)

#### Command

```
handover2 max-handovers (<1-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### max-handovers

Maximum number of concurrent handovers allowed per cell

##### <1-9999>

Number

##### default

Use default (9999), remove explicit setting on this node

### 1.15.16 handover2 maximum distance (<0-9999>|default)

#### Command

```
handover2 maximum distance (<0-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### maximum

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### distance

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### <0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### default

Use default (9999), remove explicit setting on this node

### 1.15.17 handover2 min rxlev (<-110--50>|default)

#### Command

```
handover2 min rxlev (<-110--50>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### min

Minimum Level/Quality thresholds before triggering HO

##### rxlev

How weak may RxLev of an MS become before triggering HO

##### <-110--50>

minimum RxLev (dBm; note: negative values)

##### default

Use default (-100), remove explicit setting on this node

### 1.15.18 handover2 min rxqual (<0-7>|default)

#### Command

```
handover2 min rxqual (<0-7>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### min

Minimum Level/Quality thresholds before triggering HO

##### rxqual

How bad may RxQual of an MS become before triggering HO

##### <0-7>

minimum RxQual

##### default

Use default (5), remove explicit setting on this node

### 1.15.19 handover2 min-free-slots tch/f (<0-9999>|default)

#### Command

```
handover2 min-free-slots tch/f (<0-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### min-free-slots

Minimum free TCH timeslots before cell is considered congested

##### tch/f

Minimum free TCH/F timeslots before cell is considered congested

##### <0-9999>

Number of TCH/F slots

##### default

Use default (0), remove explicit setting on this node

### 1.15.20 handover2 min-free-slots tch/h (<0-9999>|default)

#### Command

```
handover2 min-free-slots tch/h (<0-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### min-free-slots

Minimum free TCH timeslots before cell is considered congested

##### tch/h

Minimum free TCH/H timeslots before cell is considered congested

##### <0-9999>

Number of TCH/H slots

##### default

Use default (0), remove explicit setting on this node

### 1.15.21 handover2 penalty-time failed-assignment (<0-99999>|default)

#### Command

```
handover2 penalty-time failed-assignment (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers

##### failed-assignment

Time to suspend handover for a subscriber after a failed re-assignment within this cell; see also 'handover2 retries'

##### <0-99999>

Seconds

##### default

Use default (60), remove explicit setting on this node

### 1.15.22 handover2 penalty-time failed-ho (<0-99999>|default)

#### Command

```
handover2 penalty-time failed-ho (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers

##### failed-ho

Time to suspend handover for a subscriber after a failed handover into this cell; see also 'handover2 retries'

##### <0-99999>

Seconds

##### default

Use default (60), remove explicit setting on this node

### 1.15.23 handover2 penalty-time max-distance (<0-99999>|default)

#### Command

```
handover2 penalty-time max-distance (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers

##### max-distance

Time to suspend handover for a subscriber after leaving this cell due to exceeding max distance; see also 'handover2 retries'

##### <0-99999>

Seconds

##### default

Use default (300), remove explicit setting on this node

### 1.15.24 handover2 power budget hysteresis (<0-999>|default)

#### Command

```
handover2 power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dB stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dB

##### default

Use default (3), remove explicit setting on this node

---

### 1.15.25 handover2 power budget interval (<1-99>|default)

Command

```
handover2 power budget interval (<1-99>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

power

Neighbor cell power triggering

budget

Neighbor cell power triggering

interval

How often to check for a better cell (SACCH frames)

<1-99>

Check for stronger neighbor every N number of SACCH frames

default

Use default (6), remove explicit setting on this node

### 1.15.26 handover2 retries (<0-9>|default)

Command

```
handover2 retries (<0-9>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

retries

Number of times to immediately retry a failed handover/assignment, before a penalty time is applied

<0-9>

Number of retries

default

Use default (0), remove explicit setting on this node

---

### 1.15.27 handover2 tdma-measurement (full|subset|default)

#### Command

```
handover2 tdma-measurement (full|subset|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### tdma-measurement

Define measurement set of TDMA frames

##### full

Full set of 102/104 TDMA frames

##### subset

Sub set of 4 TDMA frames (SACCH)

##### default

Use default (subset), remove explicit setting on this node

### 1.15.28 handover2 window rxlev averaging (<1-10>|default)

#### Command

```
handover2 window rxlev averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### averaging

How many RxLev measurements to use for averaging

##### <1-10>

RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.15.29 handover2 window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover2 window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements to use for averaging

##### averaging

How many Neighbor RxLev measurements to use for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.15.30 handover2 window rxqual averaging (<1-10>|default)

#### Command

```
handover2 window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements to use for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node

### 1.15.31 meas-feed destination ADDR <0-65535>

Command

```
meas-feed destination ADDR <0-65535>
```

Parameters

meas-feed

Measurement Report export

destination

Where to forward Measurement Report feeds

ADDR

address or hostname

<0-65535>

port number

### 1.15.32 meas-feed scenario NAME

Command

```
meas-feed scenario NAME
```

Parameters

meas-feed

Measurement Report export

scenario

Set a name to include in the Measurement Report feeds

NAME

Name string, up to 31 characters

### 1.15.33 mobile network code <0-999>

Command

```
mobile network code <0-999>
```

Parameters

mobile

Set the GSM mobile network code

---

network

Network Commands

code

Code commands

<0-999>

Mobile Network Code to use

### 1.15.34 neci (0|1)

Command

```
neci (0|1)
```

Parameters

neci

New Establish Cause Indication

0

Don't set the NECI bit

1

Set the NECI bit

### 1.15.35 network country code <1-999>

Command

```
network country code <1-999>
```

Parameters

network

Set the GSM network country code

country

Country commands

code

Code commands

<1-999>

Network Country Code to use

### 1.15.36 no periodic location update

#### Command

```
no periodic location update
```

#### Parameters

no

Negate a command or set its defaults

periodic

Periodic Location Updating Interval

location

Periodic Location Updating Interval

update

Periodic Location Updating Interval

### 1.15.37 no timezone

#### Command

```
no timezone
```

#### Parameters

no

Negate a command or set its defaults

timezone

Disable network timezone override, use system tz

### 1.15.38 paging any use tch (0|1)

#### Command

```
paging any use tch (0|1)
```

#### Parameters

paging

Assign a TCH when receiving a Paging Any request

any

Any Channel

---

use

Use

tch

TCH

0

Do not use TCH for Paging Request Any

1

Do use TCH for Paging Request Any

### 1.15.39 periodic location update <6-1530>

Command

```
periodic location update <6-1530>
```

Parameters

periodic

Periodic Location Updating Interval

location

Periodic Location Updating Interval

update

Periodic Location Updating Interval

<6-1530>

Periodic Location Updating Interval in Minutes

### 1.15.40 timer [TNNNN] [(<0-2147483647>|default)]

Command

```
timer [TNNNN] [(<0-2147483647>|default)]
```

Parameters

timer

Configure or show timers

[TNNNN]

T- or X-timer-number -- 3GPP compliant timer number of the format '1234' or 'T1234' or 't1234'; Osmocom-specific timer number of the format: 'X1234' or 'x1234'.

[<0-2147483647>]

New timer value

[default]

Set to default timer value

### 1.15.41 **timezone** <-19-19> (0|15|30|45)

Command

```
timezone <-19-19> (0|15|30|45)
```

Parameters

timezone

Set the Timezone Offset of the network

<-19-19>

Timezone offset (hours)

0

Timezone offset (00 minutes)

15

Timezone offset (15 minutes)

30

Timezone offset (30 minutes)

45

Timezone offset (45 minutes)

### 1.15.42 **timezone** <-19-19> (0|15|30|45) <0-2>

Command

```
timezone <-19-19> (0|15|30|45) <0-2>
```

Parameters

timezone

Set the Timezone Offset of the network

<-19-19>

Timezone offset (hours)

0

Timezone offset (00 minutes)

15

Timezone offset (15 minutes)

30

Timezone offset (30 minutes)

45

Timezone offset (45 minutes)

<0-2>

DST offset (hours)

---

## 1.16 config-net-bts

### 1.16.1 abis-lower-transport (single-timeslot|super-channel)

Command

```
abis-lower-transport (single-timeslot|super-channel)
```

Parameters

abis-lower-transport

Configure the Abis Lower Transport

single-timeslot

Single Timeslot (classic Abis)

super-channel

SuperChannel (Packet Abis)

### 1.16.2 access-control-class-ramping

Command

```
access-control-class-ramping
```

Parameters

access-control-class-ramping

Enable Access Control Class ramping

### 1.16.3 access-control-class-ramping-step-interval (<30-600>|dynamic)

Command

```
access-control-class-ramping-step-interval (<30-600>|dynamic)
```

Parameters

access-control-class-ramping-step-interval

Configure Access Control Class ramping step interval

<30-600>

Set a fixed step interval (in seconds)

dynamic

Use dynamic step interval based on BTS channel load

---

### 1.16.4 access-control-class-ramping-step-size (<1-10>)

Command

```
access-control-class-ramping-step-size (<1-10>)
```

Parameters

access-control-class-ramping-step-size

Configure Access Control Class ramping step size

<1-10>

Set the number of Access Control Classes to enable per ramping step

### 1.16.5 amr tch-f hysteresis (ms|bts) <0-15>

Command

```
amr tch-f hysteresis (ms|bts) <0-15>
```

Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

### 1.16.6 amr tch-f hysteresis (ms|bts) <0-15> <0-15>

Command

```
amr tch-f hysteresis (ms|bts) <0-15> <0-15>
```

Parameters

---

amr  
    Adaptive Multi Rate settings

tch-f  
    Full Rate

hysteresis  
    AMR hysteresis between codecs

ms  
    MS side

bts  
    BTS side

<0-15>  
    Hysteresis between codec 1 and 2

<0-15>  
    Hysteresis between codec 1 and 2

### 1.16.7 amr tch-f hysteresis (ms|bts) <0-15> <0-15> <0-15>

Command

```
amr tch-f hysteresis (ms|bts) <0-15> <0-15> <0-15>
```

Parameters

amr  
    Adaptive Multi Rate settings

tch-f  
    Full Rate

hysteresis  
    AMR hysteresis between codecs

ms  
    MS side

bts  
    BTS side

<0-15>  
    Hysteresis between codec 1 and 2

<0-15>  
    Hysteresis between codec 1 and 2

<0-15>  
    Hysteresis between codec 1 and 2

### 1.16.8 amr tch-f modes (0|1|2|3|4|5|6|7)

Command

```
amr tch-f modes (0|1|2|3|4|5|6|7)
```

Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

modes

Codec modes to use with AMR codec

0

4,75k

1

5,15k

2

5,90k

3

6,70k

4

7,40k

5

7,95k

6

10,2k

7

12,2k

### 1.16.9 amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)

Command

```
amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)
```

Parameters

amr

Adaptive Multi Rate settings

---

tch-f

Full Rate

modes

Codec modes to use with AMR codec

0

4,75k

1

5,15k

2

5,90k

3

6,70k

4

7,40k

5

7,95k

6

10,2k

7

12,2k

0

4,75k

1

5,15k

2

5,90k

3

6,70k

4

7,40k

5

7,95k

6

10,2k

7

12,2k

**1.16.10 amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)**

Command

```
amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)
```

Parameters

- amr
  - Adaptive Multi Rate settings
- tch-f
  - Full Rate
- modes
  - Codec modes to use with AMR codec
- 0
  - 4,75k
- 1
  - 5,15k
- 2
  - 5,90k
- 3
  - 6,70k
- 4
  - 7,40k
- 5
  - 7,95k
- 6
  - 10,2k
- 7
  - 12,2k
- 0
  - 4,75k
- 1
  - 5,15k
- 2
  - 5,90k
- 3
  - 6,70k
- 4
  - 7,40k

5	7,95k
6	10,2k
7	12,2k
0	4,75k
1	5,15k
2	5,90k
3	6,70k
4	7,40k
5	7,95k
6	10,2k
7	12,2k

**1.16.11 amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4...**

Command

```
amr tch-f modes (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7) (0|1|2|3|4|5|6|7)
```

Parameters

- amr  
Adaptive Multi Rate settings
- tch-f  
Full Rate
- modes  
Codec modes to use with AMR codec
- 0  
4,75k

- 1
  - 5,15k
- 2
  - 5,90k
- 3
  - 6,70k
- 4
  - 7,40k
- 5
  - 7,95k
- 6
  - 10,2k
- 7
  - 12,2k
- 0
  - 4,75k
- 1
  - 5,15k
- 2
  - 5,90k
- 3
  - 6,70k
- 4
  - 7,40k
- 5
  - 7,95k
- 6
  - 10,2k
- 7
  - 12,2k
- 0
  - 4,75k
- 1
  - 5,15k
- 2
  - 5,90k
- 3
  - 6,70k

4	7,40k
5	7,95k
6	10,2k
7	12,2k
0	4,75k
1	5,15k
2	5,90k
3	6,70k
4	7,40k
5	7,95k
6	10,2k
7	12,2k

### 1.16.12 amr tch-f start-mode (auto|1|2|3|4)

Command

```
amr tch-f start-mode (auto|1|2|3|4)
```

Parameters

amr

Adaptive Multi Rate settings

tch-f

Full Rate

start-mode

Initial codec to use with AMR

- auto
  - Automatically
- 1
  - First codec
- 2
  - Second codec
- 3
  - Third codec
- 4
  - Fourth codec

### 1.16.13 amr tch-f threshold (ms|bts) <0-63>

Command

```
amr tch-f threshold (ms|bts) <0-63>
```

Parameters

- amr
  - Adaptive Multi Rate settings
- tch-f
  - Full Rate
- threshold
  - AMR threshold between codecs
- ms
  - MS side
- bts
  - BTS side
- <0-63>
  - Threshold between codec 1 and 2

### 1.16.14 amr tch-f threshold (ms|bts) <0-63> <0-63>

Command

```
amr tch-f threshold (ms|bts) <0-63> <0-63>
```

Parameters

---

amr  
Adaptive Multi Rate settings

tch-f  
Full Rate

threshold  
AMR threshold between codecs

ms  
MS side

bts  
BTS side

<0-63>  
Threshold between codec 1 and 2

<0-63>  
Threshold between codec 1 and 2

### 1.16.15 amr tch-f threshold (ms|bts) <0-63> <0-63> <0-63>

Command

```
amr tch-f threshold (ms|bts) <0-63> <0-63> <0-63>
```

Parameters

amr  
Adaptive Multi Rate settings

tch-f  
Full Rate

threshold  
AMR threshold between codecs

ms  
MS side

bts  
BTS side

<0-63>  
Threshold between codec 1 and 2

<0-63>  
Threshold between codec 1 and 2

<0-63>  
Threshold between codec 1 and 2

### 1.16.16 amr tch-h hysteresis (ms|bts) <0-15>

Command

```
amr tch-h hysteresis (ms|bts) <0-15>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

### 1.16.17 amr tch-h hysteresis (ms|bts) <0-15> <0-15>

Command

```
amr tch-h hysteresis (ms|bts) <0-15> <0-15>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2

### 1.16.18 amr tch-h hysteresis (ms|bts) <0-15> <0-15> <0-15>

Command

```
amr tch-h hysteresis (ms|bts) <0-15> <0-15> <0-15>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

hysteresis

AMR hysteresis between codecs

ms

MS side

bts

BTS side

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2

<0-15>

Hysteresis between codec 1 and 2

### 1.16.19 amr tch-h modes (0|1|2|3|4|5)

Command

```
amr tch-h modes (0|1|2|3|4|5)
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

modes

Codec modes to use with AMR codec

0

4,75k

---

- 1  
5,15k
- 2  
5,90k
- 3  
6,70k
- 4  
7,40k
- 5  
7,95k

### 1.16.20 amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5)

Command

```
amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5)
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

modes

Codec modes to use with AMR codec

- 0  
4,75k
- 1  
5,15k
- 2  
5,90k
- 3  
6,70k
- 4  
7,40k
- 5  
7,95k
- 0  
4,75k

- 1  
5,15k
- 2  
5,90k
- 3  
6,70k
- 4  
7,40k
- 5  
7,95k

### 1.16.21 amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5)

Command

```
amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5)
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

modes

Codec modes to use with AMR codec

- 0  
4,75k
- 1  
5,15k
- 2  
5,90k
- 3  
6,70k
- 4  
7,40k
- 5  
7,95k
- 0  
4,75k

- 1
  - 5,15k
- 2
  - 5,90k
- 3
  - 6,70k
- 4
  - 7,40k
- 5
  - 7,95k
- 0
  - 4,75k
- 1
  - 5,15k
- 2
  - 5,90k
- 3
  - 6,70k
- 4
  - 7,40k
- 5
  - 7,95k

**1.16.22 amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5)**

Command

```
amr tch-h modes (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5) (0|1|2|3|4|5)
```

Parameters

- amr
  - Adaptive Multi Rate settings
- tch-h
  - Half Rate
- modes
  - Codec modes to use with AMR codec
- 0
  - 4,75k

1  
5,15k  
2  
5,90k  
3  
6,70k  
4  
7,40k  
5  
7,95k  
0  
4,75k  
1  
5,15k  
2  
5,90k  
3  
6,70k  
4  
7,40k  
5  
7,95k  
0  
4,75k  
1  
5,15k  
2  
5,90k  
3  
6,70k  
4  
7,40k  
5  
7,95k  
0  
4,75k  
1  
5,15k

- 2  
5,90k
- 3  
6,70k
- 4  
7,40k
- 5  
7,95k

### 1.16.23 amr tch-h start-mode (auto|1|2|3|4)

Command

```
amr tch-h start-mode (auto|1|2|3|4)
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

start-mode

Initial codec to use with AMR

auto

Automatically

1

First codec

2

Second codec

3

Third codec

4

Fourth codec

### 1.16.24 amr tch-h threshold (ms|bts) <0-63>

Command

```
amr tch-h threshold (ms|bts) <0-63>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2

### 1.16.25 amr tch-h threshold (ms|bts) <0-63> <0-63>

Command

```
amr tch-h threshold (ms|bts) <0-63> <0-63>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2

<0-63>

Threshold between codec 1 and 2

---

### 1.16.26 amr tch-h threshold (ms|bts) <0-63> <0-63> <0-63>

Command

```
amr tch-h threshold (ms|bts) <0-63> <0-63> <0-63>
```

Parameters

amr

Adaptive Multi Rate settings

tch-h

Half Rate

threshold

AMR threshold between codecs

ms

MS side

bts

BTS side

<0-63>

Threshold between codec 1 and 2

<0-63>

Threshold between codec 1 and 2

<0-63>

Threshold between codec 1 and 2

### 1.16.27 band BAND

Command

```
band BAND
```

Parameters

band

Set the frequency band of this BTS

BAND

Frequency band

### 1.16.28 base\_station\_id\_code <0-63>

Command

```
base_station_id_code <0-63>
```

Parameters

base\_station\_id\_code

Set the Base Station Identity Code (BSIC) of this BTS

<0-63>

BSIC of this BTS

### 1.16.29 ccch load-indication-threshold <0-100>

Command

```
ccch load-indication-threshold <0-100>
```

Parameters

ccch

Common Control Channel

load-indication-threshold

Percentage of CCCH load at which BTS sends RSL CCCH LOAD IND

<0-100>

CCCH Load Threshold in percent (Default: 10)

### 1.16.30 cell bar qualify (0|1)

Command

```
cell bar qualify (0|1)
```

Parameters

cell

Cell Parameters

bar

Cell Bar Qualify

qualify

Cell Bar Qualify

0

Set CBQ to 0

1

Set CBQ to 1

### 1.16.31 cell barred (0|1)

Command

```
cell barred (0|1)
```

Parameters

cell

Should this cell be barred from access?

barred

Should this cell be barred from access?

0

Cell should NOT be barred

1

Cell should be barred

### 1.16.32 cell reselection hysteresis <0-14>

Command

```
cell reselection hysteresis <0-14>
```

Parameters

cell

Cell Parameters

reselection

Cell re-selection parameters

hysteresis

Cell Re-Selection Hysteresis in dB

<0-14>

Cell Re-Selection Hysteresis in dB

### 1.16.33 cell reselection offset <0-126>

Command

```
cell reselection offset <0-126>
```

Parameters

---

cell

Cell Parameters

reselection

Cell Re-Selection Parameters

offset

Cell Re-Selection Offset (CRO) in dB

<0-126>

Cell Re-Selection Offset (CRO) in dB

### 1.16.34 cell\_identity <0-65535>

Command

```
cell_identity <0-65535>
```

Parameters

cell\_identity

Set the Cell identity of this BTS

<0-65535>

Cell Identity

### 1.16.35 channel\_allocator (ascending|descending)

Command

```
channel_allocator (ascending|descending)
```

Parameters

channel

Channel Allocator

allocator

Channel Allocator

ascending

Allocate Timeslots and Transceivers in ascending order

descending

Allocate Timeslots and Transceivers in descending order

### 1.16.36 channel-description attach (0|1)

Command

```
channel-description attach (0|1)
```

Parameters

channel-description

Channel Description

attach

Set if attachment is required

0

Attachment is NOT required

1

Attachment is required (standard)

### 1.16.37 channel-description bs-ag-blks-res <0-7>

Command

```
channel-description bs-ag-blks-res <0-7>
```

Parameters

channel-description

Channel Description

bs-ag-blks-res

Set number of blocks reserved for access grant

<0-7>

Number of blocks reserved for access grant

### 1.16.38 channel-description bs-pa-mfrms <2-9>

Command

```
channel-description bs-pa-mfrms <2-9>
```

Parameters

channel-description

Channel Description

bs-pa-mfrms

Set number of multiframe periods for paging groups

<2-9>

Number of multiframe periods for paging groups

---

### 1.16.39 codec-support fr

Command

```
codec-support fr
```

Parameters

codec-support

Codec Support settings

fr

Fullrate

### 1.16.40 codec-support fr (hr|efr|amr)

Command

```
codec-support fr (hr|efr|amr)
```

Parameters

codec-support

Codec Support settings

fr

Fullrate

hr

Half Rate

efr

Enhanced Full Rate

amr

Adaptive Multirate

### 1.16.41 codec-support fr (hr|efr|amr) (hr|efr|amr)

Command

```
codec-support fr (hr|efr|amr) (hr|efr|amr)
```

Parameters

codec-support

Codec Support settings

fr  
Fullrate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

### 1.16.42 **codec-support fr (hr|efr|amr) (hr|efr|amr) (hr|efr|amr)**

Command

```
codec-support fr (hr|efr|amr) (hr|efr|amr) (hr|efr|amr)
```

Parameters

codec-support  
Codec Support settings

fr  
Fullrate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

### 1.16.43 codec-support fr (hr|efr|amr) (hr|efr|amr) (hr|efr|amr) (hr|efr|amr)

Command

```
codec-support fr (hr|efr|amr) (hr|efr|amr) (hr|efr|amr) (hr|efr|amr)
```

Parameters

codec-support  
Codec Support settings

fr  
Fullrate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

hr  
Half Rate

efr  
Enhanced Full Rate

amr  
Adaptive Multirate

### 1.16.44 con-connection-group <1-31>

Command

```
con-connection-group <1-31>
```

Parameters

con-connection-group

Configure a CON (Concentrator) Connection Group

<1-31>

CON Connection Group Number

### 1.16.45 del-connection-group <1-31>

Command

```
del-connection-group <1-31>
```

Parameters

del-connection-group

Delete a CON (Concentrator) Connection Group

<1-31>

CON Connection Group Number

### 1.16.46 depends-on-bts <0-255>

Command

```
depends-on-bts <0-255>
```

Parameters

depends-on-bts

This BTS can only be started if another one is up

<0-255>

BTS Number

### 1.16.47 **depeneds-on-bts <0-255>**

Command

```
depeneds-on-bts <0-255>
```

Parameters

depeneds-on-bts

Negate a command or set its defaults

<0-255>

This BTS can only be started if another one is up

### 1.16.48 **description .TEXT**

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.16.49 **dtx downlink**

Command

```
dtx downlink
```

Parameters

dtx

Configure discontinuous transmission

downlink

Enable Downlink DTX for this BTS

---

### 1.16.50 dtx uplink [force]

Command

```
dtx uplink [force]
```

Parameters

dtx

Configure discontinuous transmission

uplink

Enable Uplink DTX for this BTS

[force]

MS 'shall' use DTXu instead of 'may' use (might not be supported by older phones).

### 1.16.51 early-classmark-sending (allowed|forbidden)

Command

```
early-classmark-sending (allowed|forbidden)
```

Parameters

early-classmark-sending

Early Classmark Sending

allowed

Early Classmark Sending is allowed

forbidden

Early Classmark Sending is forbidden

### 1.16.52 early-classmark-sending-3g (allowed|forbidden)

Command

```
early-classmark-sending-3g (allowed|forbidden)
```

Parameters

early-classmark-sending-3g

3G Early Classmark Sending

allowed

3G Early Classmark Sending is allowed

forbidden

3G Early Classmark Sending is forbidden

### 1.16.53 force-combined-si

Command

```
force-combined-si
```

Parameters

force-combined-si

Force the generation of a single SI (no ter/bis)

### 1.16.54 gprs 11bit\_rach\_support\_for\_egprs (0|1)

Command

```
gprs 11bit_rach_support_for_egprs (0|1)
```

Parameters

gprs

GPRS Packet Network

11bit\_rach\_support\_for\_egprs

11 bit RACH options

0

Disable 11 bit RACH for EGPRS

1

Enable 11 bit RACH for EGPRS

### 1.16.55 gprs cell bvci <2-65535>

Command

```
gprs cell bvci <2-65535>
```

Parameters

gprs

GPRS Packet Network

cell

GPRS Cell Settings

bvci

GPRS BSSGP VC Identifier

<2-65535>

GPRS BSSGP VC Identifier

---

## 1.16.56 gprs cell timer (blocking-timer|blocking-retries|unblocking-retries|reset-timer|...

Command

```
gprs cell timer (blocking-timer|blocking-retries|unblocking-retries|reset-timer|reset- ↵
retries|suspend-timer|suspend-retries|resume-timer|resume-retries|capability-update ↵
-timer|capability-update-retries) <0-255>
```

Parameters

gprs

GPRS Packet Network

cell

Cell / BSSGP

timer

Cell/BSSGP Timer

blocking-timer

Tbvc-block timeout

blocking-retries

Tbvc-block retries

unblocking-retries

Tbvc-unblock retries

reset-timer

Tbvcc-reset timeout

reset-retries

Tbvc-reset retries

suspend-timer

Tbvc-suspend timeout

suspend-retries

Tbvc-suspend retries

resume-timer

Tbvc-resume timeout

resume-retries

Tbvc-resume retries

capability-update-timer

Tbvc-capa-update timeout

capability-update-retries

Tbvc-capa-update retries

<0-255>

Timer Value

### 1.16.57 gprs control-ack-type-rach

Command

```
gprs control-ack-type-rach
```

Parameters

gprs

GPRS Packet Network

control-ack-type-rach

Set GPRS Control Ack Type for PACKET CONTROL ACKNOWLEDGMENT message to four access bursts format instead of default RLC/MAC control block

### 1.16.58 gprs mode (none|gprs|egprs)

Command

```
gprs mode (none|gprs|egprs)
```

Parameters

gprs

GPRS Packet Network

mode

GPRS Mode for this BTS

none

GPRS Disabled on this BTS

gprs

GPRS Enabled on this BTS

egprs

EGPRS (EDGE) Enabled on this BTS

### 1.16.59 gprs network-control-order (nc0|nc1|nc2)

Command

```
gprs network-control-order (nc0|nc1|nc2)
```

Parameters

---

gprs

GPRS Packet Network

network-control-order

GPRS Network Control Order

nc0

MS controlled cell re-selection, no measurement reporting

nc1

MS controlled cell re-selection, MS sends measurement reports

nc2

Network controlled cell re-selection, MS sends measurement reports

### 1.16.60 gprs ns timer (tns-block|tns-block-retries|tns-reset|tns-reset-retries|tns-test|...

Command

```
gprs ns timer (tns-block|tns-block-retries|tns-reset|tns-reset-retries|tns-test|tns- ↵  
alive|tns-alive-retries|tns-prov) <0-255>
```

Parameters

gprs

GPRS Packet Network

ns

Network Service

timer

Network Service Timer

tns-block

(un)blocking Timer (Tns-block) timeout

tns-block-retries

(un)blocking Timer (Tns-block) number of retries

tns-reset

Reset Timer (Tns-reset) timeout

tns-reset-retries

Reset Timer (Tns-reset) number of retries

tns-test

Test Timer (Tns-test) timeout

tns-alive

Alive Timer (Tns-alive) timeout

tns-alive-retries

Alive Timer (Tns-alive) number of retries

tsns-prov

SNS Provision Timer (Tsns-prov) timeout

<0-255>

Timer Value

### 1.16.61 gprs nsei <0-65535>

Command

```
gprs nsei <0-65535>
```

Parameters

gprs

GPRS Packet Network

nsei

GPRS NS Entity Identifier

<0-65535>

GPRS NS Entity Identifier

### 1.16.62 gprs nsvc <0-1> local udp port <0-65535>

Command

```
gprs nsvc <0-1> local udp port <0-65535>
```

Parameters

gprs

GPRS Packet Network

nsvc

Network Service Virtual Connection (NS-VC)

<0-1>

NSVC Logical Number

local

GPRS NS Local UDP Port

udp

GPRS NS Local UDP Port

port

GPRS NS Local UDP Port

<0-65535>

GPRS NS Local UDP Port Number

### 1.16.63 gprs nsvc <0-1> nsvci <0-65535>

Command

```
gprs nsvc <0-1> nsvci <0-65535>
```

Parameters

gprs

GPRS Packet Network

nsvc

Network Service Virtual Connection (NS-VC)

<0-1>

NSVC Logical Number

nsvci

NS Virtual Connection Identifier

<0-65535>

GPRS NS VC Identifier

### 1.16.64 gprs nsvc <0-1> remote ip A.B.C.D

Command

```
gprs nsvc <0-1> remote ip A.B.C.D
```

Parameters

gprs

GPRS Packet Network

nsvc

Network Service Virtual Connection (NS-VC)

<0-1>

NSVC Logical Number

remote

GPRS NS Remote IP Address

ip

GPRS NS Remote IP Address

A.B.C.D

GPRS NS Remote IP Address

---

### 1.16.65 gprs nsvc <0-1> remote udp port <0-65535>

Command

```
gprs nsvc <0-1> remote udp port <0-65535>
```

Parameters

gprs

GPRS Packet Network

nsvc

Network Service Virtual Connection (NS-VC)

<0-1>

NSVC Logical Number

remote

GPRS NS Remote UDP Port

udp

GPRS NS Remote UDP Port

port

GPRS NS Remote UDP Port

<0-65535>

GPRS NS Remote UDP Port Number

### 1.16.66 gprs routing area <0-255>

Command

```
gprs routing area <0-255>
```

Parameters

gprs

GPRS Packet Network

routing

GPRS Routing Area Code

area

GPRS Routing Area Code

<0-255>

GPRS Routing Area Code

### 1.16.67 handover (0|1|default)

#### Command

```
handover (0|1|default)
```

#### Parameters

##### handover

Handover general config

##### 0

Disable in-call handover

##### 1

Enable in-call handover

##### default

Enable/disable handover: Use default (0), remove explicit setting on this node

### 1.16.68 handover algorithm (1|2|default)

#### Command

```
handover algorithm (1|2|default)
```

#### Parameters

##### handover

Handover general config

##### algorithm

Choose algorithm for handover decision

##### 1

Algorithm 1: trigger handover based on comparing current cell and neighbor RxLev and RxQual, only.

##### 2

Algorithm 2: trigger handover on RxLev/RxQual, and also to balance the load across several cells. Consider available codecs. Prevent repeated handover by penalty timers.

##### default

Use default (1), remove explicit setting on this node

---

### 1.16.69 handover1 maximum distance (<0-9999>|default)

#### Command

```
handover1 maximum distance (<0-9999>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### maximum

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### distance

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### <0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### default

Use default (9999), remove explicit setting on this node

### 1.16.70 handover1 power budget hysteresis (<0-999>|default)

#### Command

```
handover1 power budget hysteresis (<0-999>|default)
```

#### Parameters

##### handover1

Handover options for handover decision algorithm 1

##### power

Neighbor cell power triggering

##### budget

Neighbor cell power triggering

##### hysteresis

How many dB stronger must a neighbor be to become a HO candidate

##### <0-999>

Neighbor's strength difference in dB

##### default

Use default (3), remove explicit setting on this node

### 1.16.71 handover1 power budget interval (<1-99>|default)

Command

```
handover1 power budget interval (<1-99>|default)
```

Parameters

handover1

Handover options for handover decision algorithm 1

power

Neighbor cell power triggering

budget

Neighbor cell power triggering

interval

How often to check for a better cell (SACCH frames)

<1-99>

Check for stronger neighbor every N number of SACCH frames

default

Use default (6), remove explicit setting on this node

### 1.16.72 handover1 window rxlev averaging (<1-10>|default)

Command

```
handover1 window rxlev averaging (<1-10>|default)
```

Parameters

handover1

Handover options for handover decision algorithm 1

window

Measurement averaging settings

rxlev

Received-Level averaging

averaging

How many RxLev measurements to use for averaging

<1-10>

RxLev averaging: Number of values to average over

default

Use default (10), remove explicit setting on this node

---

### 1.16.73 handover1 window rxlev neighbor averaging (<1-10>|default)

Command

```
handover1 window rxlev neighbor averaging (<1-10>|default)
```

Parameters

handover1

Handover options for handover decision algorithm 1

window

Measurement averaging settings

rxlev

Received-Level averaging

neighbor

How many Neighbor RxLev measurements to use for averaging

averaging

How many Neighbor RxLev measurements to use for averaging

<1-10>

Neighbor RxLev averaging: Number of values to average over

default

Use default (10), remove explicit setting on this node

### 1.16.74 handover1 window rxqual averaging (<1-10>|default)

Command

```
handover1 window rxqual averaging (<1-10>|default)
```

Parameters

handover1

Handover options for handover decision algorithm 1

window

Measurement averaging settings

rxqual

Received-Quality averaging

averaging

How many RxQual measurements to use for averaging

<1-10>

RxQual averaging: Number of values to average over

default

Use default (1), remove explicit setting on this node

### 1.16.75 handover2 afs-bias rxlev (<0-20>|default)

#### Command

```
handover2 afs-bias rxlev (<0-20>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### afs-bias

Configure bias to prefer AFS (AMR on TCH/F) over other codecs

##### rxlev

RxLev improvement bias for AFS over other codecs

##### <0-20>

Virtual RxLev improvement (dB)

##### default

Use default (0), remove explicit setting on this node

### 1.16.76 handover2 afs-bias rxqual (<0-7>|default)

#### Command

```
handover2 afs-bias rxqual (<0-7>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### afs-bias

Configure bias to prefer AFS (AMR on TCH/F) over other codecs

##### rxqual

RxQual improvement bias for AFS over other codecs

##### <0-7>

Virtual RxQual improvement

##### default

Use default (0), remove explicit setting on this node

### 1.16.77 handover2 assignment (0|1|default)

#### Command

```
handover2 assignment (0|1|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### assignment

Enable or disable in-call channel re-assignment within the same cell

##### 0

Disable in-call assignment

##### 1

Enable in-call assignment

##### default

Use default (0), remove explicit setting on this node

### 1.16.78 handover2 max-handovers (<1-9999>|default)

#### Command

```
handover2 max-handovers (<1-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### max-handovers

Maximum number of concurrent handovers allowed per cell

##### <1-9999>

Number

##### default

Use default (9999), remove explicit setting on this node

### 1.16.79 handover2 maximum distance (<0-9999>|default)

#### Command

```
handover2 maximum distance (<0-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### maximum

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### distance

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### <0-9999>

Maximum Timing-Advance value (i.e. MS distance) before triggering HO

##### default

Use default (9999), remove explicit setting on this node

### 1.16.80 handover2 min rxlev (<-110--50>|default)

#### Command

```
handover2 min rxlev (<-110--50>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### min

Minimum Level/Quality thresholds before triggering HO

##### rxlev

How weak may RxLev of an MS become before triggering HO

##### <-110--50>

minimum RxLev (dBm; note: negative values)

##### default

Use default (-100), remove explicit setting on this node

### 1.16.81 handover2 min rxqual (<0-7>|default)

#### Command

```
handover2 min rxqual (<0-7>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### min

Minimum Level/Quality thresholds before triggering HO

##### rxqual

How bad may RxQual of an MS become before triggering HO

##### <0-7>

minimum RxQual

##### default

Use default (5), remove explicit setting on this node

### 1.16.82 handover2 min-free-slots tch/f (<0-9999>|default)

#### Command

```
handover2 min-free-slots tch/f (<0-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### min-free-slots

Minimum free TCH timeslots before cell is considered congested

##### tch/f

Minimum free TCH/F timeslots before cell is considered congested

##### <0-9999>

Number of TCH/F slots

##### default

Use default (0), remove explicit setting on this node

### 1.16.83 handover2 min-free-slots tch/h (<0-9999>|default)

#### Command

```
handover2 min-free-slots tch/h (<0-9999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### min-free-slots

Minimum free TCH timeslots before cell is considered congested

##### tch/h

Minimum free TCH/H timeslots before cell is considered congested

##### <0-9999>

Number of TCH/H slots

##### default

Use default (0), remove explicit setting on this node

### 1.16.84 handover2 penalty-time failed-assignment (<0-99999>|default)

#### Command

```
handover2 penalty-time failed-assignment (<0-99999>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### penalty-time

Set penalty times to wait between repeated handovers

##### failed-assignment

Time to suspend handover for a subscriber after a failed re-assignment within this cell; see also 'handover2 retries'

##### <0-99999>

Seconds

##### default

Use default (60), remove explicit setting on this node

### 1.16.85 handover2 penalty-time failed-ho (<0-99999>|default)

Command

```
handover2 penalty-time failed-ho (<0-99999>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

penalty-time

Set penalty times to wait between repeated handovers

failed-ho

Time to suspend handover for a subscriber after a failed handover into this cell; see also 'handover2 retries'

<0-99999>

Seconds

default

Use default (60), remove explicit setting on this node

### 1.16.86 handover2 penalty-time max-distance (<0-99999>|default)

Command

```
handover2 penalty-time max-distance (<0-99999>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

penalty-time

Set penalty times to wait between repeated handovers

max-distance

Time to suspend handover for a subscriber after leaving this cell due to exceeding max distance; see also 'handover2 retries'

<0-99999>

Seconds

default

Use default (300), remove explicit setting on this node

---

### 1.16.87 handover2 power budget hysteresis (<0-999>|default)

Command

```
handover2 power budget hysteresis (<0-999>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

power

Neighbor cell power triggering

budget

Neighbor cell power triggering

hysteresis

How many dB stronger must a neighbor be to become a HO candidate

<0-999>

Neighbor's strength difference in dB

default

Use default (3), remove explicit setting on this node

### 1.16.88 handover2 power budget interval (<1-99>|default)

Command

```
handover2 power budget interval (<1-99>|default)
```

Parameters

handover2

Handover options for handover decision algorithm 2

power

Neighbor cell power triggering

budget

Neighbor cell power triggering

interval

How often to check for a better cell (SACCH frames)

<1-99>

Check for stronger neighbor every N number of SACCH frames

default

Use default (6), remove explicit setting on this node

---

### 1.16.89 handover2 retries (<0-9>|default)

#### Command

```
handover2 retries (<0-9>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### retries

Number of times to immediately retry a failed handover/assignment, before a penalty time is applied

##### <0-9>

Number of retries

##### default

Use default (0), remove explicit setting on this node

### 1.16.90 handover2 tdma-measurement (full|subset|default)

#### Command

```
handover2 tdma-measurement (full|subset|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### tdma-measurement

Define measurement set of TDMA frames

##### full

Full set of 102/104 TDMA frames

##### subset

Sub set of 4 TDMA frames (SACCH)

##### default

Use default (subset), remove explicit setting on this node

---

### 1.16.91 handover2 window rxlev averaging (<1-10>|default)

#### Command

```
handover2 window rxlev averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### averaging

How many RxLev measurements to use for averaging

##### <1-10>

RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.16.92 handover2 window rxlev neighbor averaging (<1-10>|default)

#### Command

```
handover2 window rxlev neighbor averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxlev

Received-Level averaging

##### neighbor

How many Neighbor RxLev measurements to use for averaging

##### averaging

How many Neighbor RxLev measurements to use for averaging

##### <1-10>

Neighbor RxLev averaging: Number of values to average over

##### default

Use default (10), remove explicit setting on this node

### 1.16.93 handover2 window rxqual averaging (<1-10>|default)

#### Command

```
handover2 window rxqual averaging (<1-10>|default)
```

#### Parameters

##### handover2

Handover options for handover decision algorithm 2

##### window

Measurement averaging settings

##### rxqual

Received-Quality averaging

##### averaging

How many RxQual measurements to use for averaging

##### <1-10>

RxQual averaging: Number of values to average over

##### default

Use default (1), remove explicit setting on this node

### 1.16.94 ipa rsl-ip A.B.C.D

#### Command

```
ipa rsl-ip A.B.C.D
```

#### Parameters

##### ipa

Abis/IP specific options

##### rsl-ip

Set the IPA RSL IP Address of the BSC

##### A.B.C.D

Destination IP address for RSL connection

---

### 1.16.95 ipa unit-id <0-65534> <0-255>

Command

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

Parameters

ipa

Abis/IP specific options

unit-id

Set the IPA BTS Unit ID

<0-65534>

Unit ID (Site)

<0-255>

Unit ID (BTS)

### 1.16.96 is-connection-list (add|del) <0-2047> <0-2047> <0-255>

Command

```
is-connection-list (add|del) <0-2047> <0-2047> <0-255>
```

Parameters

is-connection-list

Interface Switch Connection List

add

Add to IS list

del

Delete from IS list

<0-2047>

ICP1

<0-2047>

ICP2

<0-255>

Contiguity Index

---

### 1.16.97 location\_area\_code <0-65535>

Command

```
location_area_code <0-65535>
```

Parameters

location\_area\_code

Set the Location Area Code (LAC) of this BTS

<0-65535>

LAC

### 1.16.98 ms max power <0-40>

Command

```
ms max power <0-40>
```

Parameters

ms

MS Options

max

Maximum transmit power of the MS

power

Maximum transmit power of the MS

<0-40>

Maximum transmit power of the MS in dBm

### 1.16.99 neighbor bts <0-255>

Command

```
neighbor bts <0-255>
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

bts

Add Neighbor cell by local BTS number

<0-255>

BTS number

**1.16.100 neighbor cgi <0-999> <0-999> <0-65535> <0-65535>**

Command

```
neighbor cgi <0-999> <0-999> <0-65535> <0-65535>
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

cgi

Add Neighbor cell by cgi

&lt;0-999&gt;

MCC

&lt;0-999&gt;

MNC

&lt;0-65535&gt;

LAC

&lt;0-65535&gt;

CI

**1.16.101 neighbor cgi <0-999> <0-999> <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63>|any...**

Command

```
neighbor cgi <0-999> <0-999> <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

cgi

Add Neighbor cell by cgi

&lt;0-999&gt;

MCC

&lt;0-999&gt;

MNC

&lt;0-65535&gt;

LAC

&lt;0-65535&gt;

CI

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

### 1.16.102 neighbor lac <0-65535>

Command

```
neighbor lac <0-65535>
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

lac

Add Neighbor cell by LAC

<0-65535>

LAC

### 1.16.103 neighbor lac <0-65535> arfcn <0-1023> bsic (<0-63>|any)

Command

```
neighbor lac <0-65535> arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

lac

Add Neighbor cell by LAC

<0-65535>

LAC

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

#### 1.16.104 neighbor lac-ci <0-65535> <0-65535>

Command

```
neighbor lac-ci <0-65535> <0-65535>
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

lac-ci

Add Neighbor cell by LAC and CI

<0-65535>

LAC

<0-65535>

CI

#### 1.16.105 neighbor lac-ci <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63>|any)

Command

```
neighbor lac-ci <0-65535> <0-65535> arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

neighbor

Manage local and remote-BSS neighbor cells

lac-ci

Add Neighbor cell by LAC and CI

<0-65535>

LAC

<0-65535>

CI

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

### 1.16.106 neighbor-list (add|del) arfcn <0-1023>

Command

```
neighbor-list (add|del) arfcn <0-1023>
```

Parameters

neighbor-list

Neighbor List

add

Add to manual neighbor list

del

Delete from manual neighbor list

arfcn

ARFCN of neighbor

<0-1023>

ARFCN of neighbor

### 1.16.107 neighbor-list mode (automatic|manual|manual-si5)

Command

```
neighbor-list mode (automatic|manual|manual-si5)
```

Parameters

neighbor-list

Neighbor List

mode

Mode of Neighbor List generation

automatic

Automatically from all BTS in this BSC

manual

Manual

manual-si5

Manual with different lists for SI2 and SI5

### 1.16.108 no access-control-class-ramping

Command

```
no access-control-class-ramping
```

Parameters

no

Negate a command or set its defaults

access-control-class-ramping

Disable Access Control Class ramping

### 1.16.109 no description

Command

```
no description
```

Parameters

no

Negate a command or set its defaults

description

Remove description of the object

---

### 1.16.110 no dtx downlink

Command

```
no dtx downlink
```

Parameters

no

Negate a command or set its defaults

dtx

Configure discontinuous transmission

downlink

Disable Downlink DTX for this BTS

### 1.16.111 no dtx uplink

Command

```
no dtx uplink
```

Parameters

no

Negate a command or set its defaults

dtx

Configure discontinuous transmission

uplink

Disable Uplink DTX for this BTS

### 1.16.112 no force-combined-si

Command

```
no force-combined-si
```

Parameters

no

Negate a command or set its defaults

force-combined-si

Force the generation of a single SI (no ter/bis)

---

### 1.16.113 no gprs control-ack-type-rach

Command

```
no gprs control-ack-type-rach
```

Parameters

no

Negate a command or set its defaults

gprs

GPRS Packet Network

control-ack-type-rach

Set GPRS Control Ack Type for PACKET CONTROL ACKNOWLEDGMENT message to four access bursts format instead of default RLC/MAC control block

### 1.16.114 no neighbor arfcn <0-1023> bsic (<0-63>|any)

Command

```
no neighbor arfcn <0-1023> bsic (<0-63>|any)
```

Parameters

no

Negate a command or set its defaults

neighbor

Remove local or remote-BSS neighbor cell

arfcn

ARFCN of neighbor cell

<0-1023>

ARFCN value

bsic

BSIC of neighbor cell

<0-63>

BSIC value

any

for all BSICs / use any BSIC in this ARFCN

---

### 1.16.115 no neighbor bts <0-255>

#### Command

```
no neighbor bts <0-255>
```

#### Parameters

no

Negate a command or set its defaults

neighbor

Remove local or remote-BSS neighbor cell

bts

Neighbor cell by local BTS number

<0-255>

BTS number

### 1.16.116 no neighbors

#### Command

```
no neighbors
```

#### Parameters

no

Negate a command or set its defaults

neighbors

Remove all local and remote-BSS neighbor config for this cell. Note that this falls back to the legacy behavior of regarding all local cells as neighbors.

### 1.16.117 no rf-lock-exclude

#### Command

```
no rf-lock-exclude
```

#### Parameters

no

Negate a command or set its defaults

rf-lock-exclude

Exclude this BTS from the global RF Lock

---

### 1.16.118 no system-information unused-send-empty

Command

```
no system-information unused-send-empty
```

Parameters

no

Negate a command or set its defaults

system-information

System Information Messages

unused-send-empty

Avoid sending BCCH Info with empty 'Full BCCH Info' TLV to notify disabled SI. Some nanoBTS fw versions are known to fail upon receipt of these messages.

### 1.16.119 no timer-dynamic TNNNN

Command

```
no timer-dynamic TNNNN
```

Parameters

no

Negate a command or set its defaults

timer-dynamic

Set given timer to non-dynamic and use the default or user provided fixed value

TNNNN

T-number, optionally preceded by 't' or 'T'

### 1.16.120 nokia\_site bts-reset-timer <15-100>

Command

```
nokia_site bts-reset-timer <15-100>
```

Parameters

nokia\_site

Nokia \*Site related commands

bts-reset-timer

The amount of time (in sec.) between BTS\_RESET is sent,

<15-100>

and the BTS is being bootstrapped.

---

### 1.16.121 nokia\_site no-local-rel-conf (0|1)

Command

```
nokia_site no-local-rel-conf (0|1)
```

Parameters

nokia\_site

Nokia \*Site related commands

no-local-rel-conf

Do not wait for RELease CONFirm message when releasing channel locally

0

Wait for RELease CONFirm

1

Do not wait for RELease CONFirm

### 1.16.122 nokia\_site skip-reset (0|1)

Command

```
nokia_site skip-reset (0|1)
```

Parameters

nokia\_site

Nokia \*Site related commands

skip-reset

Skip the reset step during bootstrap process of this BTS

0

Do NOT skip the reset

1

Skip the reset

### 1.16.123 oml e1 line E1\_LINE timeslot <1-31> sub-slot (0|1|2|3|full)

Command

```
oml e1 line E1_LINE timeslot <1-31> sub-slot (0|1|2|3|full)
```

Parameters

---

oml  
Organization & Maintenance Link

e1  
OML E1/T1 Configuration

line  
E1/T1 line number to be used for OML

E1\_LINE  
E1/T1 line number to be used for OML

timeslot  
E1/T1 timeslot to be used for OML

<1-31>  
E1/T1 timeslot to be used for OML

sub-slot  
E1/T1 sub-slot to be used for OML

0  
Use E1/T1 sub-slot 0

1  
Use E1/T1 sub-slot 1

2  
Use E1/T1 sub-slot 2

3  
Use E1/T1 sub-slot 3

full  
Use full E1 slot 3

#### 1.16.124 oml e1 tei <0-63>

Command

```
oml e1 tei <0-63>
```

Parameters

oml  
Organization & Maintenance Link

e1  
OML E1/T1 Configuration

tei  
Set the TEI to be used for OML

<0-63>  
TEI Number

### 1.16.125 oml ipa stream-id <0-255> line E1\_LINE

Command

```
oml ipa stream-id <0-255> line E1_LINE
```

Parameters

oml

Organization & Maintenance Link

ipa

A-bis/IP Specific Options

stream-id

Set the ipa Stream ID of the OML link of this BTS

<0-255>

Stream Identifier

line

Virtual E1 Line Number

E1\_LINE

Virtual E1 Line Number

### 1.16.126 paging free <-1-1024>

Command

```
paging free <-1-1024>
```

Parameters

paging

Paging options

free

Only page when having a certain amount of free slots

<-1-1024>

amount of required free paging slots. -1 to disable

---

### 1.16.127 pcu-socket PATH

Command

```
pcu-socket PATH
```

Parameters

pcu-socket

PCU Socket Path for using OsmoPCU co-located with BSC (legacy BTS)

PATH

Path in the file system for the unix-domain PCU socket

### 1.16.128 penalty time <20-620>

Command

```
penalty time <20-620>
```

Parameters

penalty

Cell selection penalty time

time

Cell selection penalty time

<20-620>

Cell selection penalty time in seconds (by 20s increments)

### 1.16.129 penalty time reserved

Command

```
penalty time reserved
```

Parameters

penalty

Cell selection penalty time

time

Cell selection penalty time

reserved

Set cell selection penalty time to reserved value 31, (indicate that CELL\_RESELECT\_OFFSET is subtracted from C2 and TEMPORARY\_OFFSET is ignored)

---

**1.16.130 rach access-control-class (0|1|2|3|4|5|6|7|8|9|11|12|13|14|15) (barred|allowed)**

Command

```
rach access-control-class (0|1|2|3|4|5|6|7|8|9|11|12|13|14|15) (barred|allowed)
```

Parameters

rach

Random Access Control Channel

access-control-class

Set access control class

0

Access control class 0

1

Access control class 1

2

Access control class 2

3

Access control class 3

4

Access control class 4

5

Access control class 5

6

Access control class 6

7

Access control class 7

8

Access control class 8

9

Access control class 9

11

Access control class 11 for PLMN use

12

Access control class 12 for security services

13

Access control class 13 for public utilities (e.g. water/gas suppliers)

14

Access control class 14 for emergency services

---

15

Access control class 15 for PLMN staff

barred

barred to use access control class

allowed

allowed to use access control class

### 1.16.131 rach emergency call allowed (0|1)

Command

```
rach emergency call allowed (0|1)
```

Parameters

rach

Random Access Control Channel

emergency

Should this cell allow emergency calls?

call

Should this cell allow emergency calls?

allowed

Should this cell allow emergency calls?

0

Do NOT allow emergency calls

1

Allow emergency calls

### 1.16.132 rach max transmission (1|2|4|7)

Command

```
rach max transmission (1|2|4|7)
```

Parameters

rach

Random Access Control Channel

max

Set the maximum number of RACH burst transmissions

#### transmission

Set the maximum number of RACH burst transmissions

1

Maximum number of 1 RACH burst transmissions

2

Maximum number of 2 RACH burst transmissions

4

Maximum number of 4 RACH burst transmissions

7

Maximum number of 7 RACH burst transmissions

### 1.16.133 rach nm busy threshold <0-255>

#### Command

```
rach nm busy threshold <0-255>
```

#### Parameters

rach

Random Access Control Channel

nm

Network Management

busy

Set the NM Busy Threshold

threshold

Set the NM Busy Threshold

<0-255>

NM Busy Threshold in dB

### 1.16.134 rach nm load average <0-65535>

#### Command

```
rach nm load average <0-65535>
```

#### Parameters

rach

Random Access Control Channel

nm

Network Management

load

Set the NM Loadaverage Slots value

average

Set the NM Loadaverage Slots value

<0-65535>

NM Loadaverage Slots value

### 1.16.135 rach tx integer <0-15>

Command

```
rach tx integer <0-15>
```

Parameters

rach

Random Access Control Channel

tx

Set the raw tx integer value in RACH Control parameters IE

integer

Set the raw tx integer value in RACH Control parameters IE

<0-15>

Raw tx integer value in RACH Control parameters IE

### 1.16.136 radio-link-timeout <4-64>

Command

```
radio-link-timeout <4-64>
```

Parameters

radio-link-timeout

Radio link timeout criterion (BTS side)

<4-64>

Radio link timeout value (lost SACCH block)

### 1.16.137 radio-link-timeout infinite

#### Command

```
radio-link-timeout infinite
```

#### Parameters

##### radio-link-timeout

Radio link timeout criterion (BTS side)

##### infinite

Infinite Radio link timeout value (use only for BTS RF testing)

### 1.16.138 rf-lock-exclude

#### Command

```
rf-lock-exclude
```

#### Parameters

##### rf-lock-exclude

Exclude this BTS from the global RF Lock

### 1.16.139 rxlev access min <0-63>

#### Command

```
rxlev access min <0-63>
```

#### Parameters

##### rxlev

Minimum RxLev needed for cell access

##### access

Minimum RxLev needed for cell access

##### min

Minimum RxLev needed for cell access

##### <0-63>

Minimum RxLev needed for cell access (better than -110dBm)

---

### 1.16.140 si2quater neighbor-list add earfcn <0-65535> thresh-hi <0-31> thresh-lo <0-32> p...

#### Command

```
si2quater neighbor-list add earfcn <0-65535> thresh-hi <0-31> thresh-lo <0-32> prio <0-8> qrxlv <0-32> meas <0-8>
```

#### Parameters

##### si2quater

SI2quater Neighbor List

##### neighbor-list

SI2quater Neighbor List

##### add

Add to manual SI2quater neighbor list

##### earfcn

EARFCN of neighbor

##### <0-65535>

EARFCN of neighbor

##### thresh-hi

threshold high bits

##### <0-31>

threshold high bits

##### thresh-lo

threshold low bits

##### <0-32>

threshold low bits (32 means NA)

##### prio

priority

##### <0-8>

priority (8 means NA)

##### qrxlv

QRXLEVMIN

##### <0-32>

QRXLEVMIN (32 means NA)

##### meas

measurement bandwidth

##### <0-8>

measurement bandwidth (8 means NA)

### 1.16.141 si2quater neighbor-list add uarfcn <0-16383> <0-511> <0-1>

#### Command

```
si2quater neighbor-list add uarfcn <0-16383> <0-511> <0-1>
```

#### Parameters

##### si2quater

SI2quater Neighbor List

##### neighbor-list

SI2quater Neighbor List

##### add

Add to manual SI2quater neighbor list

##### uarfcn

UARFCN of neighbor

<0-16383>

UARFCN of neighbor

<0-511>

scrambling code

<0-1>

diversity bit

### 1.16.142 si2quater neighbor-list del earfcn <0-65535>

#### Command

```
si2quater neighbor-list del earfcn <0-65535>
```

#### Parameters

##### si2quater

SI2quater Neighbor List

##### neighbor-list

SI2quater Neighbor List

##### del

Delete from SI2quater manual neighbor list

##### earfcn

EARFCN of neighbor

<0-65535>

EARFCN

---

### 1.16.143 si2quater neighbor-list del uarfcn <0-16383> <0-511>

#### Command

```
si2quater neighbor-list del uarfcn <0-16383> <0-511>
```

#### Parameters

##### si2quater

SI2quater Neighbor List

##### neighbor-list

SI2quater Neighbor List

##### del

Delete from SI2quater manual neighbor list

##### uarfcn

UARFCN of neighbor

##### <0-16383>

UARFCN

##### <0-511>

scrambling code

### 1.16.144 si5 neighbor-list (add|del) arfcn <0-1023>

#### Command

```
si5 neighbor-list (add|del) arfcn <0-1023>
```

#### Parameters

##### si5

SI5 Neighbor List

##### neighbor-list

SI5 Neighbor List

##### add

Add to manual SI5 neighbor list

##### del

Delete from SI5 manual neighbor list

##### arfcn

ARFCN of neighbor

##### <0-1023>

ARFCN of neighbor

---

**1.16.145 system-information (1|2|3|4|5|6|7|8|9|10|13|16|17|18|19|20|2bis|2ter|2quater|5bi...**

Command

```
system-information (1|2|3|4|5|6|7|8|9|10|13|16|17|18|19|20|2bis|2ter|2quater|5bis|5ter) ←  
mode (static|computed)
```

Parameters

system-information

System Information Messages

- 1  
System Information Type 1
  - 2  
System Information Type 2
  - 3  
System Information Type 3
  - 4  
System Information Type 4
  - 5  
System Information Type 5
  - 6  
System Information Type 6
  - 7  
System Information Type 7
  - 8  
System Information Type 8
  - 9  
System Information Type 9
  - 10  
System Information Type 10
  - 13  
System Information Type 13
  - 16  
System Information Type 16
  - 17  
System Information Type 17
  - 18  
System Information Type 18
-

19  
    System Information Type 19

20  
    System Information Type 20

2bis  
    System Information Type 2bis

2ter  
    System Information Type 2ter

2quater  
    System Information Type 2quater

5bis  
    System Information Type 5bis

5ter  
    System Information Type 5ter

mode  
    System Information Mode

static  
    Static user-specified

computed  
    Dynamic, BSC-computed

### 1.16.146 **system-information** (1|2|3|4|5|6|7|8|9|10|13|16|17|18|19|20|2bis|2ter|2quater|5bi...

Command

```
system-information (1|2|3|4|5|6|7|8|9|10|13|16|17|18|19|20|2bis|2ter|2quater|5bis|5ter) ←  
    static HEXSTRING
```

Parameters

system-information  
    System Information Messages

1  
    System Information Type 1

2  
    System Information Type 2

3  
    System Information Type 3

4  
    System Information Type 4

---

---

5	System Information Type 5
6	System Information Type 6
7	System Information Type 7
8	System Information Type 8
9	System Information Type 9
10	System Information Type 10
13	System Information Type 13
16	System Information Type 16
17	System Information Type 17
18	System Information Type 18
19	System Information Type 19
20	System Information Type 20
2bis	System Information Type 2bis
2ter	System Information Type 2ter
2quater	System Information Type 2quater
5bis	System Information Type 5bis
5ter	System Information Type 5ter
static	Static System Information filling
HEXSTRING	Static user-specified SI content in HEX notation

---

### 1.16.147 system-information unused-send-empty

Command

```
system-information unused-send-empty
```

Parameters

system-information

System Information Messages

unused-send-empty

Send BCCH Info with empty 'Full BCCH Info' TLV to notify disabled SI. Some nanoBTS fw versions are known to fail upon receipt of these messages.

### 1.16.148 temporary offset <0-60>

Command

```
temporary offset <0-60>
```

Parameters

temporary

Cell selection temporary negative offset

offset

Cell selection temporary negative offset

<0-60>

Cell selection temporary negative offset in dB

### 1.16.149 temporary offset infinite

Command

```
temporary offset infinite
```

Parameters

temporary

Cell selection temporary negative offset

offset

Cell selection temporary negative offset

infinite

Sets cell selection temporary negative offset to infinity

---

### 1.16.150 timer-dynamic TNNNN

Command

```
timer-dynamic TNNNN
```

Parameters

timer-dynamic

Calculate T3113 dynamically based on channel config and load

TNNNN

T-number, optionally preceded by 't' or 'T'

### 1.16.151 trx <0-255>

Command

```
trx <0-255>
```

Parameters

trx

Radio Transceiver

<0-255>

Select a TRX to configure

### 1.16.152 type (unknown|bs11|nanobts|rbs2000|nokia\_site|sysmobts)

Command

```
type (unknown|bs11|nanobts|rbs2000|nokia_site|sysmobts)
```

Parameters

type

BTS Vendor/Type

unknown

Unknown BTS Type

bs11

Siemens BTS (BS-11 or compatible)

nanobts

ip.access nanoBTS or compatible

---

rbs2000

Ericsson RBS2000 Series

nokia\_site

Nokia {Metro,Ultra,In}Site

sysmobts

sysmocom sysmoBTS

## 1.17 config-net-bts-trx

### 1.17.1 arfcn <0-1023>

Command

```
arfcn <0-1023>
```

Parameters

arfcn

Set the ARFCN for this TRX

<0-1023>

Absolute Radio Frequency Channel Number

### 1.17.2 description .TEXT

Command

```
description .TEXT
```

Parameters

description

Save human-readable description of the object

.TEXT

Text until the end of the line

### 1.17.3 max\_power\_red <0-100>

Command

```
max_power_red <0-100>
```

Parameters

max\_power\_red

Reduction of maximum BS RF Power (relative to nominal power)

<0-100>

Reduction of maximum BS RF Power in dB

### 1.17.4 no description

Command

```
no description
```

Parameters

no

Negate a command or set its defaults

description

Remove description of the object

### 1.17.5 nominal power <0-100>

Command

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

Parameters

nominal

Nominal TRX RF Power in dBm

power

Nominal TRX RF Power in dBm

<0-100>

Nominal TRX RF Power in dBm

---

### 1.17.6 rf\_locked (0|1)

Command

```
rf_locked (0|1)
```

Parameters

rf\_locked

Set or unset the RF Locking (Turn off RF of the TRX)

0

TRX is NOT RF locked (active)

1

TRX is RF locked (turned off)

### 1.17.7 rsl e1 line E1\_LINE timeslot <1-31> sub-slot (0|1|2|3|full)

Command

```
rsl e1 line E1_LINE timeslot <1-31> sub-slot (0|1|2|3|full)
```

Parameters

rsl

RSL Parameters

e1

E1/T1 interface to be used for RSL

line

E1/T1 interface to be used for RSL

E1\_LINE

E1/T1 Line Number to be used for RSL

timeslot

E1/T1 Timeslot to be used for RSL

<1-31>

E1/T1 Timeslot to be used for RSL

sub-slot

E1/T1 Sub-slot to be used for RSL

0

E1/T1 Sub-slot 0 is to be used for RSL

1

E1/T1 Sub-slot 1 is to be used for RSL

2

E1/T1 Sub-slot 2 is to be used for RSL

3

E1/T1 Sub-slot 3 is to be used for RSL

full

E1/T1 full timeslot is to be used for RSL

### 1.17.8 rsl e1 tei <0-63>

Command

```
rsl e1 tei <0-63>
```

Parameters

rsl

RSL Parameters

e1

Set the TEI to be used for RSL

tei

Set the TEI to be used for RSL

<0-63>

TEI to be used for RSL

### 1.17.9 timeslot <0-7>

Command

```
timeslot <0-7>
```

Parameters

timeslot

Select a Timeslot to configure

<0-7>

Timeslot number

## 1.18 config-net-bts-trx-ts

### 1.18.1 e1 line E1\_LINE timeslot <1-31> sub-slot (0|1|2|3|full)

Command

```
e1 line E1_LINE timeslot <1-31> sub-slot (0|1|2|3|full)
```

Parameters

e1

E1/T1 channel connected to this on-air timeslot

line

E1/T1 channel connected to this on-air timeslot

E1\_LINE

E1/T1 line connected to this on-air timeslot

timeslot

E1/T1 timeslot connected to this on-air timeslot

<1-31>

E1/T1 timeslot connected to this on-air timeslot

sub-slot

E1/T1 sub-slot connected to this on-air timeslot

0

E1/T1 sub-slot 0 connected to this on-air timeslot

1

E1/T1 sub-slot 1 connected to this on-air timeslot

2

E1/T1 sub-slot 2 connected to this on-air timeslot

3

E1/T1 sub-slot 3 connected to this on-air timeslot

full

Full E1/T1 timeslot connected to this on-air timeslot

### 1.18.2 hopping arfcn add <0-1023>

Command

```
hopping arfcn add <0-1023>
```

Parameters

---

## hopping

Configure frequency hopping

## arfcn

Configure hopping ARFCN list

## add

Add an entry to the hopping ARFCN list

<0-1023>

ARFCN

### 1.18.3 hopping arfcn del <0-1023>

#### Command

```
hopping arfcn del <0-1023>
```

#### Parameters

## hopping

Configure frequency hopping

## arfcn

Configure hopping ARFCN list

## del

Delete an entry to the hopping ARFCN list

<0-1023>

ARFCN

### 1.18.4 hopping enabled (0|1)

#### Command

```
hopping enabled (0|1)
```

#### Parameters

## hopping

Configure frequency hopping

## enabled

Enable or disable frequency hopping

0

Disable frequency hopping

1

Enable frequency hopping

---

### 1.18.5 hopping maio <0-63>

Command

```
hopping maio <0-63>
```

Parameters

hopping

Configure frequency hopping

maio

Which hopping MAIO to use for this channel

<0-63>

Mobile Allocation Index Offset (MAIO)

### 1.18.6 hopping sequence-number <0-63>

Command

```
hopping sequence-number <0-63>
```

Parameters

hopping

Configure frequency hopping

sequence-number

Which hopping sequence to use for this channel

<0-63>

Hopping Sequence Number (HSN)

### 1.18.7 phys\_chan\_config (none|ccch|ccch+sdccch4|tch/f|tch/h|sdccch8|pdch|tch/f\_pdch|unkno...

Command

```
phys_chan_config (none|ccch|ccch+sdccch4|tch/f|tch/h|sdccch8|pdch|tch/f_pdch|unknown|ccch ↔  
+sdccch4+cbch|sdccch8+cbch|tch/f_tch/h_pdch)
```

Parameters

phys\_chan\_config

Physical Channel Combination

none

Physical Channel not configured

ccch

FCCH + SCH + BCCH + CCCH (Comb. IV)

ccch+sdccch4

FCCH + SCH + BCCH + CCCH + 4 SDCCH + 2 SACCH (Comb. V)

tch/f

TCH/F + FACCH/F + SACCH (Comb. I)

tch/h

2 TCH/H + 2 FACCH/H + 2 SACCH (Comb. II)

sdccch8

8 SDCCH + 4 SACCH (Comb. VII)

pdch

Packet Data Channel for GPRS/EDGE

tch/f\_pdch

Dynamic TCH/F or GPRS PDCH

unknown

Unknown / Unsupported channel combination

ccch+sdccch4+cbch

FCCH + SCH + BCCH + CCCH + CBCH + 3 SDCCH + 2 SACCH (Comb. V)

sdccch8+cbch

7 SDCCH + 4 SACCH + CBCH (Comb. VII)

tch/f\_tch/h\_pdch

Dynamic TCH/F or TCH/H or GPRS PDCH

### 1.18.8 training\_sequence\_code <0-7>

Command

```
training_sequence_code <0-7>
```

Parameters

training\_sequence\_code

Training Sequence Code of the Timeslot

<0-7>

TSC

## 1.19 oml

### 1.19.1 change-adm-state (locked|unlocked|shutdown|null)

Command

```
change-adm-state (locked|unlocked|shutdown|null)
```

Parameters

change-adm-state

Change the Administrative State

locked

Locked

unlocked

Unlocked

shutdown

Shutdown

null

NULL

### 1.19.2 opstart

Command

```
opstart
```

Parameters

opstart

Send an OPSTART message to the object

## 1.20 config-msc

This node allows to configure the MSC connection related settings.

---

### 1.20.1 access-list-name NAME

Command

```
access-list-name NAME
```

Parameters

access-list-name

Set the name of the access list to use.

NAME

The name of the to be used access list.

### 1.20.2 allow-emergency (allow|deny)

Command

```
allow-emergency (allow|deny)
```

Parameters

allow-emergency

Allow CM ServiceRequests with type emergency

allow

Allow

deny

Deny

### 1.20.3 amr-config 10\_2k (allowed|forbidden)

Command

```
amr-config 10_2k (allowed|forbidden)
```

Parameters

amr-config

AMR Multirate Configuration

10\_2k

Bitrate

allowed

Allowed

forbidden

Forbidden

---

#### 1.20.4 amr-config 12\_2k (allowed|forbidden)

Command

```
amr-config 12_2k (allowed|forbidden)
```

Parameters

amr-config

AMR Multirate Configuration

12\_2k

Bitrate

allowed

Allowed

forbidden

Forbidden

#### 1.20.5 amr-config 4\_75k (allowed|forbidden)

Command

```
amr-config 4_75k (allowed|forbidden)
```

Parameters

amr-config

AMR Multirate Configuration

4\_75k

Bitrate

allowed

Allowed

forbidden

Forbidden

#### 1.20.6 amr-config 5\_15k (allowed|forbidden)

Command

```
amr-config 5_15k (allowed|forbidden)
```

Parameters

---

amr-config

AMR Multirate Configuration

5\_15k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.7 amr-config 5\_90k (allowed|forbidden)

Command

```
amr-config 5_90k (allowed|forbidden)
```

Parameters

amr-config

AMR Multirate Configuration

5\_90k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.8 amr-config 6\_70k (allowed|forbidden)

Command

```
amr-config 6_70k (allowed|forbidden)
```

Parameters

amr-config

AMR Multirate Configuration

6\_70k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.9 amr-config 7\_40k (allowed|forbidden)

Command

```
amr-config 7_40k (allowed|forbidden)
```

Parameters

amr-config

AMR Multirate Configuration

7\_40k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.10 amr-config 7\_95k (allowed|forbidden)

Command

```
amr-config 7_95k (allowed|forbidden)
```

Parameters

amr-config

AMR Multirate Configuration

7\_95k

Bitrate

allowed

Allowed

forbidden

Forbidden

### 1.20.11 amr-payload (octet-aligned|bandwidth-efficient)

Command

```
amr-payload (octet-aligned|bandwidth-efficient)
```

Parameters

---

amr-payload

Set AMR payload framing mode

octet-aligned

payload fields aligned on octet boundaries

bandwidth-efficient

payload fields packed (AoIP)

### 1.20.12 asp-protocol (m3ua|sua|ipa)

Command

```
asp-protocol (m3ua|sua|ipa)
```

Parameters

asp-protocol

A interface protocol to use for this MSC)

m3ua

MTP3 User Adaptation

sua

SCCP User Adaptation

ipa

IPA Multiplex (SCCP Lite)

### 1.20.13 bsc-addr NAME

Command

```
bsc-addr NAME
```

Parameters

bsc-addr

Calling Address (local address of this BSC)

NAME

SCCP address name

### 1.20.14 bsc-grace-text .TEXT

Command

```
bsc-grace-text .TEXT
```

Parameters

bsc-grace-text

Set the USSD notification to be sent when the MSC has entered the grace period

.TEXT

Text to be sent

### 1.20.15 bsc-msc-lost-text .TEXT

Command

```
bsc-msc-lost-text .TEXT
```

Parameters

bsc-msc-lost-text

Set the USSD notification to be sent on MSC connection loss

.TEXT

Text to be sent

### 1.20.16 bsc-welcome-text .TEXT

Command

```
bsc-welcome-text .TEXT
```

Parameters

bsc-welcome-text

Set the USSD notification to be sent

.TEXT

Text to be sent

### 1.20.17 codec-list .LIST

Command

```
codec-list .LIST
```

Parameters

codec-list

Set the allowed audio codecs

.LIST

List of audio codecs, e.g. fr3 fr1 hr3

### 1.20.18 core-cell-identity <0-65535>

Command

```
core-cell-identity <0-65535>
```

Parameters

core-cell-identity

Use this cell identity for the core network

<0-65535>

CI value

### 1.20.19 core-location-area-code <0-65535>

Command

```
core-location-area-code <0-65535>
```

Parameters

core-location-area-code

Use this location area code for the core network

<0-65535>

LAC value

### 1.20.20 core-mobile-country-code <1-999>

Command

```
core-mobile-country-code <1-999>
```

Parameters

core-mobile-country-code

Use this country code for the core network

<1-999>

MCC value

### 1.20.21 core-mobile-network-code <1-999>

Command

```
core-mobile-network-code <1-999>
```

Parameters

core-mobile-network-code

Use this network code for the core network

<1-999>

MNC value

### 1.20.22 ip.access rtp-base <1-65000>

Command

```
ip.access rtp-base <1-65000>
```

Parameters

ip.access

IP.ACCESS specific

rtp-base

Set the rtp-base port for the RTP stream

<1-65000>

Port number

### 1.20.23 lcls-codec-mismatch (allowed|forbidden)

Command

```
lcls-codec-mismatch (allowed|forbidden)
```

Parameters

lcls-codec-mismatch

Allow 3GPP LCLS (Local Call, Local Switch) when call legs use different codec/rate

allowed

Allow LCLS only for calls that use the same codec/rate on both legs

forbidden

Do not Allow LCLS for calls that use a different codec/rate on both legs

### 1.20.24 lcls-mode (disabled|mgw-loop|bts-loop)

Command

```
lcls-mode (disabled|mgw-loop|bts-loop)
```

Parameters

lcls-mode

Configure 3GPP LCLS (Local Call, Local Switch)

disabled

Disable LCLS for all calls of this MSC

mgw-loop

Enable LCLS with looping traffic in MGW

bts-loop

Enable LCLS with looping traffic between BTS

### 1.20.25 local-prefix REGEXP

Command

```
local-prefix REGEXP
```

Parameters

local-prefix

Prefix for local numbers

REGEXP

REGEXP used

### 1.20.26 mgw endpoint-domain NAME

Command

```
mgw endpoint-domain NAME
```

Parameters

mgw

Configure MGCP connection to Media Gateway

endpoint-domain

Set the domain name to send in MGCP messages, e.g. the part 'foo' in 'rtpbridge/\*@foo'.

NAME

Domain name, should be alphanumeric.

### 1.20.27 mgw local-ip A.B.C.D

Command

```
mgw local-ip A.B.C.D
```

Parameters

mgw

Configure MGCP connection to Media Gateway

local-ip

local bind to connect to MGW from

A.B.C.D

local bind IP address

### 1.20.28 mgw local-port <0-65535>

Command

```
mgw local-port <0-65535>
```

Parameters

mgw

Configure MGCP connection to Media Gateway

local-port

local port to connect to MGW from

<0-65535>

local bind port

---

### 1.20.29 mgw remote-ip A.B.C.D

Command

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

Parameters

mgw

Configure MGCP connection to Media Gateway

remote-ip

remote IP address to reach the MGW at

A.B.C.D

remote IP address

### 1.20.30 mgw remote-port <0-65535>

Command

```
mgw remote-port <0-65535>
```

Parameters

mgw

Configure MGCP connection to Media Gateway

remote-port

remote port to reach the MGW at

<0-65535>

remote port

### 1.20.31 mgw x-osmo-ign call-id

Command

```
mgw x-osmo-ign call-id
```

Parameters

mgw

Configure MGCP connection to Media Gateway

x-osmo-ign

Set a (non-standard) X-Osmo-IGN header in all CRCX messages for RTP streams associated with this MSC, useful for A/SCCPlite MSCs, since osmo-bsc cannot know the MSC's chosen CallID. This is enabled by default for A/SCCPlite connections, disabled by default for all others.

call-id

Send 'X-Osmo-IGN: C' to ignore CallID mismatches. See OsmoMGW.

---

### 1.20.32 msc-addr NAME

Command

```
msc-addr NAME
```

Parameters

msc-addr

Called Address (remote address of the MSC)

NAME

SCCP address name

### 1.20.33 no access-list-name

Command

```
no access-list-name
```

Parameters

no

Negate a command or set its defaults

access-list-name

Remove the access list from the NAT.

### 1.20.34 no bsc-grace-text

Command

```
no bsc-grace-text
```

Parameters

no

Negate a command or set its defaults

bsc-grace-text

Clear the USSD notification to be sent when the MSC has entered the grace period

---

### 1.20.35 no bsc-msc-lost-text

Command

```
no bsc-msc-lost-text
```

Parameters

no

Negate a command or set its defaults

bsc-msc-lost-text

Clear the USSD notification to be sent on MSC connection loss

### 1.20.36 no bsc-welcome-text

Command

```
no bsc-welcome-text
```

Parameters

no

Negate a command or set its defaults

bsc-welcome-text

Clear the USSD notification to be sent

### 1.20.37 no mgw x-osmo-ign

Command

```
no mgw x-osmo-ign
```

Parameters

no

Negate a command or set its defaults

mgw

Configure MGCP connection to Media Gateway

x-osmo-ign

Do not send X-Osmo-IGN MGCP header to this MSC

---

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

Command

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

Parameters

osmux

RTP multiplexing

on

Enable OSMUX

off

Disable OSMUX

only

Only use OSMUX

### 1.20.39 type (normal|local)

Command

```
type (normal|local)
```

Parameters

type

Select the MSC type

normal

Plain GSM MSC

local

Special MSC for local call routing

## 1.21 om2k

### 1.21.1 capabilities-request

Command

```
capabilities-request
```

Parameters

capabilities-request

Request MO capabilities

### 1.21.2 configuration-request

Command

```
configuration-request
```

Parameters

configuration-request

Send the configuration request for current MO

### 1.21.3 connect-command

Command

```
connect-command
```

Parameters

connect-command

Connect the MO

### 1.21.4 disable-request

Command

```
disable-request
```

Parameters

disable-request

Disable the MO

### 1.21.5 disconnect-command

Command

```
disconnect-command
```

Parameters

disconnect-command

Disconnect the MO

---

### 1.21.6 enable-request

Command

```
enable-request
```

Parameters

enable-request

Enable the MO

### 1.21.7 operational-info <0-1>

Command

```
operational-info <0-1>
```

Parameters

operational-info

Set operational information

<0-1>

Set operational info to 0 or 1

### 1.21.8 reset-command

Command

```
reset-command
```

Parameters

reset-command

Reset the MO

### 1.21.9 start-request

Command

```
start-request
```

Parameters

start-request

Start the MO

---

### 1.21.10 status-request

Command

```
status-request
```

Parameters

status-request

Get the MO Status

### 1.21.11 test-request

Command

```
test-request
```

Parameters

test-request

Test the MO

## 1.22 om2k-con-group

### 1.22.1 con-path (add|del) <0-2047> <0-255> concentrated <1-16>

Command

```
con-path (add|del) <0-2047> <0-255> concentrated <1-16>
```

Parameters

con-path

CON Path (In/Out)

add

Add CON Path to Concentration Group

del

Delete CON Path from Concentration Group

<0-2047>

CON Connection Point

<0-255>

Contiguity Index

concentrated

Concentrated in/outlet

<1-16>

Tag Number

---

### 1.22.2 con-path (add|del) <0-2047> <0-255> deconcentrated <0-63>

Command

```
con-path (add|del) <0-2047> <0-255> deconcentrated <0-63>
```

Parameters

con-path

CON Path (In/Out)

add

Add CON Path to Concentration Group

del

Delete CON Path from Concentration Group

<0-2047>

CON Connection Point

<0-255>

Contiguity Index

deconcentrated

De-concentrated in/outlet

<0-63>

TEI Value

## 1.23 config-bsc

This node allows to configure the BSC connection related settings.

### 1.23.1 access-list NAME imsi-allow [REGEXP]

Command

```
access-list NAME imsi-allow [REGEXP]
```

Parameters

access-list

Access list commands

NAME

Name of the access list

imsi-allow

Add allowed IMSI to the list

[REGEXP]

Regexp for IMSIs

---

### 1.23.2 access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)

Command

```
access-list NAME imsi-deny [REGEXP] (<0-256>) (<0-256>)
```

Parameters

access-list

Access list commands

NAME

Name of the access list

imsi-deny

Add denied IMSI to the list

[REGEXP]

Regexp for IMSIs

<0-256>

CM Service Reject reason

<0-256>

LU Reject reason

### 1.23.3 access-list-name NAME

Command

```
access-list-name NAME
```

Parameters

access-list-name

Set the name of the access list to use.

NAME

The name of the to be used access list.

### 1.23.4 bsc-auto-rf-off <1-65000>

Command

```
bsc-auto-rf-off <1-65000>
```

Parameters

bsc-auto-rf-off

Disable RF on MSC Connection

<1-65000>

Timeout

### 1.23.5 bsc-rf-socket PATH

Command

```
bsc-rf-socket PATH
```

Parameters

bsc-rf-socket

Set the filename for the RF control interface.

PATH

RF Control path

### 1.23.6 mid-call-text .TEXT

Command

```
mid-call-text .TEXT
```

Parameters

mid-call-text

Set the USSD notification sent to running calls when switching from Grace to Off.

.TEXT

Text to be sent

### 1.23.7 mid-call-timeout NR

Command

```
mid-call-timeout NR
```

Parameters

mid-call-timeout

Switch from Grace to Off in NR seconds.

NR

Timeout in seconds

### 1.23.8 missing-msc-text .TEXT

Command

```
missing-msc-text .TEXT
```

Parameters

missing-msc-text

Set the USSD notification to be send when a MSC has not been found.

.TEXT

Text to be sent

### 1.23.9 no access-list NAME

Command

```
no access-list NAME
```

Parameters

no

Negate a command or set its defaults

access-list

Remove an access-list by name

NAME

The access-list to remove

### 1.23.10 no access-list-name

Command

```
no access-list-name
```

Parameters

no

Negate a command or set its defaults

access-list-name

Remove the access list from the BSC

---

### 1.23.11 no bsc-auto-rf-off

Command

```
no bsc-auto-rf-off
```

Parameters

no

Negate a command or set its defaults

bsc-auto-rf-off

Disable RF on MSC Connection

### 1.23.12 no missing-msc-text

Command

```
no missing-msc-text
```

Parameters

no

Negate a command or set its defaults

missing-msc-text

Clear the USSD notification to be send when a MSC has not been found.

## 1.24 config-cbc

### 1.24.1 listen-ip A.B.C.D

Command

```
listen-ip A.B.C.D
```

Parameters

listen-ip

Local IP Address where BSC listens for incoming CBC connections (Default: 0.0.0.0)

A.B.C.D

Local IP Address where BSC listens for incoming CBC connections

---

### 1.24.2 listen-port <1-65535>

Command

```
listen-port <1-65535>
```

Parameters

listen-port

Local TCP port at which BSC listens for incoming CBSP connections from CBC

<1-65535>

Local TCP port at which BSC listens for incoming CBSP connections from CBC

### 1.24.3 no listen-port

Command

```
no listen-port
```

Parameters

no

Negate a command or set its defaults

listen-port

Remove CBSP Listen Port; disables inbound CBSP connections

### 1.24.4 no remote-ip

Command

```
no remote-ip
```

Parameters

no

Negate a command or set its defaults

remote-ip

Remove IP address of CBC; disables outbound CBSP connections

---

### 1.24.5 remote-ip A.B.C.D

Command

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

Parameters

remote-ip

IP Address of the Cell Broadcast Centre

A.B.C.D

IP Address of the Cell Broadcast Centre

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

Command

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

Parameters

remote-port

TCP Port number of the Cell Broadcast Centre (Default: 48049)

<1-65535>

TCP Port number of the Cell Broadcast Centre (Default: 48049)