

Cornerstone CMTS 1500 v 4.2

Command Line Interface Quick Reference

Top-level Console Commands

Console Command	Description
authentication	Sets the authentication string.
console-reset	Clears the CLI console interface through the serial port. Resets the UART port. Usage: console> console-reset
cable	Sets the CMTS for Euro DOCSIS or North America DOCSIS. Usage: cable <europe northamerica>
dhcptrace	Activates a DHCP Trace. Usage: dhcptrace [on off] [-l -s]
dir	Displays the installed software album in the flash memory. Usage: dir
error-trace	Maintains an internal log of hardware and software events that may cause a reset. This log can be used by customer support personnel to trace the source of errors occurring on a CMTS. Usage: error-trace [ON OFF]
exit	Exits the console or remote session. Console session displays the login prompt, remote session terminates the connection. Exits anywhere in manage and returns to the console prompt. Remote session remains open. Usage: exit
fpd	Sets the CMTS front panel display timeout period Usage fpd lcd-timeout [<time-value>[<time-units>]]
get	View a specified MIB value. Depending on privilege, you may view read-write, read-only, and/or read-create MIBS. Corresponds to SNMP manager get command Usage: get <objectname> . <instance>
getmng	Provisions a CMTS from a specific location using the config. file exported using the <i>putmng</i> command.The config file location, (IP address or DNS host) and file name must be specified so the CMTS can access the config. file. An invalid IP address or if the TFTP server, or the connection between TFTP and CMTS is disabled, the CMTS attempts to get the file up to four min., then times out. getmng stops the CMTS while loading config. file. Larger files may disrupt service for several minutes. Usage: getmng [<a.b.c.d host-name> <filename>]
help	Displays syntax (command usage) information or detailed help. Usage: help [<command name> console tree]
llc-ping	Sends LLC TEST packet to a modem. Usage: llc-ping <mac alias name> [repeat-count continuous] [time-out in secs]
logout	Ends the CLI console or remote session. CLI login and password must be re-entered to establish a new session.
manage	Accesses the Management sub-system command tree which has 11 major command groups to view or set data items for various CMTS operations. Show displays information, info is used to configure the operation of CMTS, and “?” is used to query info items or to view the next level. Usage: manage #box
modem	Displays the modem status. Usage: modem <subverb> <mac-addr alias *> [qualifiers] Subverbs: activity sets or clears modem activity settings alias gives alias for modem's MAC address connected displays modems connected history gives history of modem restart forces an individual modem to restart state displays current operational state of modem total displays total number of currently registered modems unalias clears current alias of modem worst lists worst offending modem
more	Controls the way information output is displayed. Usage: more <ON OFF> [#of lines per screen]
next	Displays the next MIB object and it's associated value. Usage: next <objectname>.<instance> next <objectname> <instance-component-count. next <objectname>
output	Used to disable or enable background output to the screen. Usage: output [ON/OFF]
passwd	Changes the login password. Usage: passwd

Console Command	Description
ping	Sends test packets to a device to determine if there is communication at the network layer. Usage: ping <a.b.c.d hostname> [repeat-count continuous] [time-out in secs]
port	Displays data packet information about the cable, ethernet cable, upstream and downstream ports. Usage: port [ethernet cable downstream upstream {1-8}]
purge-fdb	Deletes all ethernet and Customer Product Equipment (CPE) entries from the forwarding database (FDB). Purges all CPE devices with static IP addresses from the database. Usage: purge-fdb
putcfg	Downloads/displays current configuration parameters stored in flash. ASCII output contains MIB variables and values that differ from factory default config. Usage: putcfg [<a.b.c.d hostname> <filename>] DISPLAY]
putmng	Displays/exports a CMTS config. file in the “mng” format to a specified location. The manage format of the config. file is readable, with each output line being either a level identifier (preceded by a \$) or a parameter followed by a value. Usage: putmng [<a.b.c.d host-name> <filename>] [DISPLAY]
quit	Ends the CLI session. Console session terminates and the login prompt is displayed. Remote session (Telnet or SSH) terminates and the connection to the CMTS is lost. Usage: quit
reset	Resets the CMTS. Two options: First - reset restores the CMTS to current settings stored in FLASH memory (NVRAM). Second - reset factory restores the CMTS to the factory default settings. Usage: reset [factory]
set	Sets SNMP MIB objects. Objects must be referred to by name and instance. Usage: set <objectname>.<instance> <value>
ssh-keygen	Generates a Secure Shell (SSH) host key and defines key size for both CMTS host and remote terminal session keys. Usage: ssh-keygen [-hb] value [-sb] value [-regen] [-info]
snmp-mode	Displays or sets the current CMTS SNMP mode (coexistence, traps or nmacess). Usage: snmp [coexistence traps nmacess]
system	Displays current CMTS system parameter values. Usage: system
upstream-bandwidth	Displays and calculates upstream bandwidth statistics for all eight channels. Inactive channels statistics not displayed. Usage: upstream-bandwidth <display calculate> [<grant size> <grant interval> <channel id>]
upstream failover	Manually switches specified channel (1-7) to the spare (channel 8) upstream receiver. Usage: upstream-failover <channel 0-7>
v3passwd	Changes the user password for SNMPv3 accounts. Usage: v3password [-p -a] <username>
who	Displays current and remote CLI sessions for the console and remote (Telnet or Secure Shell) ports. Usage: who

manage [s,i] - Accesses sub-commands to operate, administer, and provision the CMTS

sys-obj-resources [s] - Displays SNMP object resource values

Sys-obj-resources Command	Description
sys-obj-resources [s]	Displays SNMP object resource values associated with the CMTS. System object resources define the object identification, the capability statement, and the current up-time. Usage: show

admin [s,i] - Configures and administers the CMTS

Admin Command	Description
cm-vendor-list [s]	Displays a list of cable modem vendor information.
cm-vendor-modify/<number> [i]	View and set parameters of a specified cable modem vendor.

Admin Command	Description
bootp-list [s]	Displays the bootp relay table. Shows list of servers that network devices can use for bootp functions.
bootp-modify/<index {1-10} [s,i]	Displays and sets the parameters for access to a specified bootp server.

accounts [i] - Controls security access to the CMTS

Accounts Command	Description
user-list [s]	Displays the current list of user accounts w/parameters.
user-modify/<index {1-10} [i]	Modifies or adds users to the CMTS.
privileges-list [s]	Displays list of user account privilege categories.
privileges-modify/<index {1-10} [i]	Sets or modifies access privileges for an indexed user account.

ethernet-level [s,i] - Displays ethernet activity and sets parameters

Ethernet-level Command	Description
phy-level [i]	Sets physical-level parameters for ethernet port.
phy-list [s]	Displays CMTS ethernet phy connections list. Displays actual and assigned data rate status.
phy-specific/<index {1-10}> [s,i]	Displays CMTS ethernet phy status and sets the ethernet phy admin. status.

cable-level [s,i] - Displays and sets CMTS RF Interface parameters

Cable-level Command	Description
mod-iuc-list/<profile {1-10}> [s]	Displays interval usage codes (IUC) for CMTS.
mod-iuc-list/<profile {1-10}> <iuc> [s]	Displays interval usage codes (IUC) for CMTS.
modulation/<profile {1-10}> <request> [s,i]	Displays and sets the modulation profile for the request IUC.
modulation/<profile {1-10}> <data-request>[s,i]	Displays and sets the modulation profile for the data-request IUC.
modulation/<profile {1-10}>/initial-ranging [s,i]	Displays and sets the modulation profile for the initial ranging process.
modulation/<profile {1-10}>/periodic-ranging [s,i]	Displays and sets the modulation profile for periodic ranging messages from the CM to the CMTS.
modulation/<profile {1-10}>/short-data [s,i]	Displays and sets the modulation profile for short data packets sent from the CM to the CMTS.
modulation/<profile {1-10}>/long-data [s,i]	Displays and sets the modulation profile for long data packets sent by the CM to the CMTS.
downstream [s,i]	Manages downstream RF interface from CMTS to CM.
annex [i]	Defines downstream formatting type used: a=EuroDOCSIS b=NorthAmerican DOCSIS
frequency-split [i]	Sets the “split” point between the downstream and upstream channels. North American DOCSIS = 5 to 42MHz upstream = 65 to 860 MHz downstream EuroDOCSIS = 5 to 65 MHz upstream = 100 to 862 MHz downstream
upstream-list [s]	Displays the CMTS list of upstream RF channels (4-11) and their operating parameters.
upstream-specific/<channel{4-11}>[s,i]	Displays and sets parameters for specified upstream channel.
upstream-test-port [i]	Selects the upstream receiver RF port (corresponding to upstream receiver number) that is routed to the CMTS test port.
multi-us-list [s]	Displays the carrier path and channel group for each upstream.
multi-us-config/<channel {4-11} [i]	Configures the carrier path and channel group for a specific upstream channel.

Cable-level Command	Description
multi-usage-us [s,i]	Sets and displays the usage of the eighth upstream port.
ingress-avoidance-level [?]	Selects RF signal parameters that minimize ingress noise in the upstream path.
ingress-avoidance-us-config-list [s]	Displays ingress avoidance parameters for upstream channels 4-11.
ingress-avoidance-us-threshold-list [s]	Displays a list of threshold values used for metric1 and metric2.
enable/<channel {4-11} [i]	Activates the ingress avoidance feature on upstream channels 4-11.
freq-list/<carrier-path {1-8} [s]	Displays frequencies available for a particular upstream carrier path.
freq-config/<carrier-path {1-8}> <freq-index {1-10}> [i]	Sets the frequency availability and frequency band (start/stop frequencies) for a specified carrier path/ frequency index.
change-pref/<channel {4-11} [i]	Selects profile or frequency change preference used for ingress avoidance.
metric-threshold-config/<channel {4-11}> [i]	Sets the metric threshold parameters for a specified channel. The treshold parameters trigger alerts or actions when ingress avoidance feature is enabled.
profile-list/<ifIndex {4-11}> [s]	Displays three preference choices for selected IfIndex value (corresponding to the upstream channel.) The table is indexed to the TX Profile.
profile-config/<ifIndex {4-11}> <pref-index {1-3}> [i]	Sets the status of the specified channel/preference and links the status to the TX Profile index.
tx-profile-list [s]	Displays the upstream transmission profiles.
tx-profile-config/<index {1-24}> [s,i]	Displays the indexed list of upstream transmission profiles with bandwidth and calculated efficiency.
metric-config [i]	Sets an aging multiplier and calculation timer which are used for measuring a frequency.
metric2-config [i]	Sets the parameters for metric2 flapping modems.
freq-status-aging-config [i]	Defines the aging parameter used for aging frequencies marked bad.
freq-status-list/<carrier-path {1-8}>[s]	Displays the frequency characteristics of the available frequency range for a specific upstream carrier path.
health-list [s]	Displays the health characteristics for all upstream channels including uptime and metric values.
modem-list [s]	Displays a list of cable modems recognized by the CMTS.
modem-specific/<number> [s]	Displays information for a specific cable modem on the network.
cpe-ip-list/<modem-number> [s]	Displays a list of cpe ip addresses associated with a specific modem
cpe-ip-specific/<modem-number>/<index{1-1024}> [s]	Displays the index table list for each CPE (by IP address) and cable modem
cpe-control-list [s]	Displays the CPE control status listed by cable modem.Whe enabled, the CMTS can remotely control the CPE and learn it's IP address.
cm-filter-list [s]	Displays a list of upstream and downstream filter index values for the CM and CPE.
modem-us-disable-list [s]	Displays the MAC address operational status for each CM reorganized by the CMTS
modem-us-disable-modify/<mac-addr> [i]	Sets the operational status for the modem specified by MAC address
sid-list [s]	Displays a list of Service Identification Numbers (SID) assigned to cable modems on the network.
sid-specific/<sid-num> [s]	Displays information for a specific SID assigned to a cable modem on the network.
qos-1.1-level [?]	Displays the next level of CMTS DOCSIS QoS 1.1 data items and parameters and to delete a log entry from the CLI.
mac-sf-list [s]	Displays service flow mapping to cable MAC addresses.
sf-per-mac-list/<mac-addr> [s]	Displays service flows for a specific MAC address.
sf-list [s]	Displays all service flows administered by the CMTS.
sf-specific/<sfid> [s]	Displays service flow information by service flow ID.
sf-stats-list [s]	Displays a list of service flow statistics indexed by SFID.

Cable-level Command	Description
sf-stats-specific/<sfid> [s]	Displays statistics for a specific service flow.
upstream-stats-list [s]	Displays upstream statistical information for all SIDs
upstream-stats-specific/<sid>s [s]	Displays statistics for the upstream service flow specified by SID.
classifier-list [s]	Displays a summary of all classifiers configured by the CMTS.
classifier-per-sf-list/<sfid> [s]	Displays a summary of all classifiers for a specific service flow selected by sfid.
classifier-specific/<sfid>/<class-id> [s]	Displays statistics for a specific classifier selected by <sfid> and <class-id>.
dynamic-service-stats [s]	Displays a table that lists the Dynamic Service Flow statistics
dynamic-service-specific/downstream [s]	Displays a table that lists the Dynamic Service Flow downstream statistics
dynamic-service-specific/upstream [s]	Displays a table that list the Dynamic Service Flow upstream statistics
sf-log-list	Displays a list of deleted service flows with statistics. Entry generated by poweroff, reset, or a DSD.
sf-log-specific/<index> [s,i]	Displays service flow log list statistics.
sfact-log-list [s]	Displays service flow active log statistics.
sfact-log-specific/<index> [s,i]	Displays service flow log entries for a specific index in the table
qos-params-list [s]	Displays a summary of all QoS parameter sets on CMTS
qos-params-per-sf-list/<sfid> [s]	Displays param sets used by a specific SFID
qos-params-specific/<sfid>/active [s,i]	Display or change the QoS parameters for a specified active service flow.
qos-params-specific/<sfid>/admitted [s,i]	Display the QoS parameters for a specified admitted service flow.
qos-params-specific/<sfid>/provisioned [s,i]	Display or change the QoS parameters for a specific provisioned service flow.
phs-list [s]	Displays a list of payload header suppression (PHS) parameters.
phs-per-sf-list/<sfid>[s]	Displays a list of PHS rules per service flow by <sfid>.
phs-sf-specific/<sfid>/<cid> [s]	Displays a list of PHS rules per service flow by SFID and CID indexes.
qos-1.0-list [s]	Displays a list of the different Quality of Service (QoS) classes offered on the network for DOCSIS 1.0 devices.
qos-1.0-specific/<qos-index> [s]	Displays information for a particular Quality of Service class.

forwarder [s,i] - Controls packet forwarding and data traffic

Forwarder Command	Description
ethernet-port-fwd [s]	Displays statistics on packet information forwarded on the CMTS ethernet port.
cable-port-fwd [s]	Displays statistics on packet information forwarded on the CMTS cable port.
port-filter-list [s]	Displays a list of configured port filters and their corresponding MAC addresses and connectivity.
port-filter-modify/<mac-addr>/<both-ports> [s,i]	Modifies both the CMTS ethernet and cable network connections.
port-filter-modify/<mac-addr>/<ethernet> [s,i]	Display and modifies the CMTS ethernet port filters.
port-filter-modify/<mac-addr>/<cable> [s,i]	Display and modifies the CMTS RF cable port filters.
tp-forwarding-data-base [s]	Displays the transparent bridge forwarding database connections.

Forwarder Command	Description
spanning-tree [s,i]	Displays and sets spanning tree parameters for the CMTS.
ethernet-port-stp [s,i]	Displays and configures ethernet port parameters
cable-port-stp# [s,i]	Displays and configures cable port parameters.
link-filter-list [s]	Displays a list of filtered ports at the MAC layer level.
link-filter-modify/<index> [s,i]	Displays link filters at the MAC layer and configure the status, interface, and protocols for the link filter.
ip-filter-list [s]	Display and configure entries in the ip-filter list referenced by <index>
ip-filter-modify/<index> [s,i]	Modify and configure entries in the ip-filter list referenced by <index>
cpe-addr-filter-list [s]	Displays customer premise equipment (CPE) filter addresses
cpe-state-filter-list [s]	Displays CPE filters
cpe-filter-modify/<group{1 to 1024}>/<index{1-1024}> [i]	Displays a count of CPE filter matches
tcp-udp-filter-list [s]	Filters group and index numbers, source port and destination port filters, flag mask and values and filter status
tcp-udp-filter-modify/<group {1 to 1024}>/<index {1-1024}> [i]	Displays an index of TCP/UD filter group and index numbers.

ip-level [s,i] - Configure CMTS IP-level packet processing

IP-level Command	Description
route-list [s]	Displays routing information on the CMTS.
route-modify/<dest-ip-addr> [s,i]	Displays and configures routing information for a IP address destination.
icmp [s]	Displays Internet Control Message Protocol (ICMP) routing messages.
udp-stats [s]	Displays User Datagram Protocol (UDP) traffic.
udp-entry-list [s]	Displays User Datagram Protocol entries.
tcp-stats [s]	Displays Transmission Control Protocol (TCP) statistics for the CMTS.
tcp-connection-list [s]	Displays list of active telnet session users.
arp-list [s]	Displays Address Resolution Protocol (ARP) list
arp-modify/<ethernet>/<ip-addr>[i]	Configures an ethernet interface that receives Address Resolution Protocol (ARP) requests.
arp-modify/<cable>/<ip-addr> [i]	Configures a cable interface that receives Address Resolution Protocol (ARP) requests.
igmp-modify/<ethernet> [s,i]	Configures the ethernet interface used for IGMP multicasting
igmp-modify/<cable> [s,i]	Configures the cable interface used for IGMP multicasting
multicast-list [s]	Displays a list of multicast IP addresses and their present status on the network.
multicast-modify/<ip-addr> [s,i]	Displays and configures a multicast list entry specified by IP address on the ethernet or cable interface.
multicast-modify/<ethernet> [s,i]	Displays and configures a multicast list entry specified by IP address on the ethernet interface.
multicast-modify/<cable> [s,i]	Displays and configures a multicast list entry specified by IP address on the ethernet interface.
scope-list [s]	Displays the current state of multicast traffic.
scope-modify/<ethernet>/<ip-addr>/<ip-mask> [s,i]	Configures the multicast entry specified by IP addr and mask, on the CMTS ethernet interface.

IP-level Command	Description
scope-modify/<cable>/<ip-addr>/<ip-mask> [s,i]	Configures the multicast entry specified by IP addr and mask, on the CMTS cable interface.
dns-lists [s]	Displays a list of domain name servers and their present status on the network.
dns-modify/<index {1-10}> [i]	Configure or modify a domain name server and displays its present status on the network.

snmp [s,i] - Configures snmp functions and displays data/next level

SNMP Command	Description
coex [?]	Displays SNMPv1, SNMPv2 statistical data concurrently
ver3 [s,?]	Displays SNMPv3 statistical data
v3user-list [s]	Displays SNMPv3 user accounts.
v3user-modify/<username> [i]	Create or modify new SNMPv3 accounts.
view-list [s]	Displays internet, restricted and dhKickRestricted view tables.
view-modify/<viewname>/<subtree>[i]	Changes views for SNMPv3 users.
group-list [s]	View the list of group names and associated user names.
group-modify/<user-name> [i]	Creates or modifies users associated with groups.
v3access-list [s]	Displays the SNMPv3 access list by group and entry.
v3access-modify/<group>/<context>/<sec-model>/<sec-level> [i]	Displays the SNMPv1, SNMPv2 and USM event messages for the specified group name, context, security model and security level.
v3access-modify/<group-name>/context-prefix/noAuthNoPriv [i]	Displays SNMP event messages for the specified user, with no authorization and no privileges.
v3access-modify/<group-name>/context-prefix/AuthNoPriv [i]	Displays SNMP event messages for the specified user, with authorization and no privileges.
v3access-modify/<group-name>/context-prefix/authPriv [i]	Displays SNMP event messages for the specified user, with authorization and privileges.
snmpcommunity-list [s]	Displays a list of the SNMP community string data items
snmpcommunity-specific/<snmpcommunity index> [i]	Defines parameters for a specified (by index #) SNMP community string
snmptargetaddr-list [s]	Displays list of SNMP target addresses
snmptargetaddr-specific/<snmptargetaddrname> [i]	Defines data items for a specified SNMP transport address
snmptargetaddrex-list	Displays list of SNMP target parameters
snmptargetaddrex-specific/<index {1-1024}> [i]	Configures the SNMP target address for a specified SNMP address
snmptargetparams-list [s]	Displays a list of SNMP target parameters
snmptargetparams-specific/<snmptargetparamsname> [i]	Configures SNMP target parameters for a specified SNMP target
snmpnotify-list [s]	Displays an SNMP notify list
snmpnotify-specific/<snmpnotifyname> [i]	Displays SNMPv3 access notification list by group and entry
snmpfilterprofile-list [s]	Displays a list of SNMP filter profiles
snmpfilterprofile-specific/<snmptargetparamsname> [i]	Configures SNMP filter profile parameters for a specified SNMP target.
snmpfilter-list [s]	Displays a list of SNMP filters
snmpfilter-specific/<profilename>/<filtersubtree> [i]	Displays SNMPv3 access filter list by group and entry

SNMP Command	Description
traps [?]	Configures SNMP traps.
non-docs-traps [i]	Configures SNMP traps for non-DOCSIS 1.1 compliant cable devices
docs-traps [i]	Configures SNMP traps generated by DOCSIS 1.1 compliant cable devices
nmaccess [?]	Displays nmaccess list
acces-list [s]	Displays SNMP access list.
access-specific/<index> [i]	Displays SNMP users/privileges from access-list.
community-list [s]	Displays the community string list.
alarms [s,i] ?	View and configure alarms in the CMTS.
active-list [s]	Displays active alarms.
loc-list [s]	Displays loss of communication active alarms.
loc-provisioning/<mac-addr>[i]	Provisions loss of communication alarms for specific modem.

baseline-privacy [s,i] ? - Display and configure baseline-privacy

Baseline-Privacy Command	Description
auth-list [s]	Displays CM authorization items.
authorization/<mac-addr> [s,i]	Displays CM authorization status and configures CM authorization keys.
said-bp-list [s]	Displays security and timing information.
said-bp-modify/<sid-num> [s,i]	Displays and sets security and timing information.
ip-mcast-list [s]	Displays indexes, multicast IP addresses, masks, SAID numbers, request, rejections and control for each index.
ip-mcast-auth-modify/<mcast-index> [s,i]	Modifies internet protocol multicast index
mcast-authlist [s]	Displays multicast SAID numbers, CM MAC addresses associated w/CMs and controls CM operation for Mcast SAID
mcast-auth-modify/<mcast-said-num>/<cm-mac-addr> [s,i]	Displays multicast SAID and CM MAC addresses
prov-cm-cert-list [s]	Displays the list of provisioned modem certificates recognized by the CMTS.
prov-cm-cert-modify/<mac-addr> s,i]	Displays and configures modem certificates, selected by MAC address.
ca-cert-list [s]	Displays the list of manufacturer certificates.
ca-cert-modify/<index> [s,i]	Display or configures modem certificates.

event-level [s,i] - Displays/configures event reporting

Event-level Command	Description
events-list [s,i]	Displays event log

serial-port [i] - Adjusts serial port connections

Serial-Port Command	Description
serial-port [i]	Adjusts serial port connections