CLI User Manual

miniCMTS200a

Pico Digital Inc. www.picodigital.com	20 August 2014	Release 1.3

Product Inspection

Inspect the equipment for shipping damage. Should any damage be discovered, immediately file a claim with the carrier.

Important Safety Instructions

To ensure proper installation and operation, take a moment to read this guide before proceeding with the installation. If you have any questions or comments about the product, please contact your dealer or have him contact the Pico Digital service center at this phone number: 800-421-6511.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

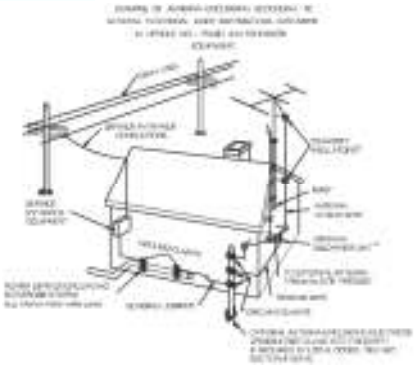
WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT OPEN THE CABINET REFER SERVICING TO QUALIFIED PERSONNEL ONLY

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENCION: POUR PREVENIR LES CHOCS ELECTRIQUES, NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT

1. **Read Instructions:** All safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions:** The safety and operating instructions should be retained for future reference.
3. **Heed Warnings:** All warnings on the appliance should be adhered to.
4. **Follow Instructions:** All operating and user instructions should be followed.
5. **Cleaning:** Unplug this appliance from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use liquid cleaners or aerosol cleansers.
6. **Do Not Use Attachments:** Use of attachments not recommended by the manufacturer may cause hazards.
7. **Water and Moisture**: Do not use this product near water for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool and the like.
8. **Accessories:** Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the appliance.
9. **Elevated Operating Ambient**: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature 50°C.
10. **Reduced Air Flow**: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
11. **Mechanical Loading:** The product is designed to be rack mounted in a standard EIA 19 inch width telecommunications rack. Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
12. **Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
13. **Reliable Earthing:** Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)

14. **Power Sources:** This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your appliance dealer or local power company.
15. **Power-cord Protection:** Power-supply cords should be routed so they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
16. **Lightning:** For added protection for this product during a lightning storm, or when it is left unattended or unused for long periods of time, the unit should be disconnected from power source.
17. **Power Lines:** An outside antenna system should not be located in the vicinity of overhead power lines, other electric light or power circuits, where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them may be fatal.
18. **Object and Liquid Entry:** Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
19. **Servicing:** Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
20. **Damage Requiring Service:** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power-supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen into the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally by following the operating instruction. Adjust only those controls that are covered by the operating instructions. An improper adjustment may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
    e. If the product has been dropped or the cabinet has been damaged.
    f. When the product exhibits a distinct change in performance—this indicates a need for service.
21. **Replacement Parts:** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock or other hazards.
22. **Safety Check:** Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating conditions.
23. **Outdoor Antenna Grounding:** Before attempting to install this product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges.
    a. Use No.10 AWG (5.3mm) copper, No.8 AWG (8.4mm) aluminum, No.7 AWG (10mm) copper-clad steel or bronze wire or larger, as ground wire.



    b. Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22m) to 6 feet (1.83m) apart.
    c. Mount TV antenna discharge unit as close as possible to where lead-in enters house.
    d. A driven rod may be used as the grounding electrode where other types of electrode systems do not exist. Refer to the National Electrical Code, ANSI/NFPA 70-1984 for information.
    e. Use jumper wire not smaller than No.6 AWG (13.3mm) copper or equivalent, when a separate antenna grounding electrode is used

NOTE TO THE CATV SYSTEM INSTALLER

THIS REMINDER IS PROVIDED TO CALL THE CATV SYSTEM INSTALLER'S ATTENTION TO ARTICLE 820-22 OF THE NEC THAT PROVIDES GUIDELINES FOR PROPER GROUNDING AND, IN PARTICULAR, SPECIFIES THAT THE CABLE GROUND SHALL BE CONNECTED TO THE GROUNDING SYSTEM OF THE BUILDING, AS CLOSE TO THE POINT OF CABLE ENTRY AS PRACTICAL.

Equipment connected to the protective earthing of the building installation through the main connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system must therefore be provided through a galvanic isolator providing electrical isolation below 5 MHz

Warning and Disclaimer

This document is intended to provide information about installing and operating the "IPQC". Every effort has been made to make this document as complete and accurate as possible, but no warranty or fitness is implied. The information is provided on an "as is" basis and Pico Digital, Inc. shall have neither liability nor responsibility to any person or entity with respect to any loss or damages arising from the information contained in this document.

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Patent Pending

Warning! Approved external telecom power cross protection must be incorporated into the final installation in accordance with Annex NAC of UL/CSA standard 60950-1. Failure to comply may result in a fire or electric shock hazard and will void regulatory compliance certification.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION OF THIS DEVICE IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

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Revision History

Rev #	Date	SW Version	Description
1.1	7/19/2014	NA	Initial version
1.2	7/24/2014	NA	Format changes
1.3	8/20/2014	NA	Login update

Table 1 Revision History

1 CLI Basic operation

The Command Line Interface (CLI) is supported on TELNET, SSH, and direct serial communication (115200 baud rate, 8 bit, 1 stop bit, parity none, flow control none or Xon/Xoff.

1.1 Username and Password

Username: blsh

Password: blsh

Note: The username and password is applicable for System SW version V2.66/ DOCSIS SW V5.36 and above. Please contact miniCMTSsupport@picodigital.com for any inquires or updates.

1.2 CLI basic buttons:

"?": Displays all commands in the current directory and help information or command parameters related information

"Tab": After entering the first few characters of the command press the Tab key command to automatically add the full article

1.3 General commands:

> Bash	Exit CLI mode
> Shell	Exit CLI mode
> Quit	Exit the current directory, the return on a directory
> Exit	Exit the current directory, the return on a directory
> Help	Display the CLI help documentation

2 CMTS CLI Command

2.1 Start CMTS CLI

Enter the command in a terminal "blsh" into the CMTS CLI setup mode

```
[root@CMC2.07 ~]# blsh

*********************************************
*                  miniCMTS                 *
*                                           *
*      WARNING: Authorised Access Only      *
*********************************************

Welcome root it is Sun Jan  1 12:01:59 GMT-8 2012
>
```

Figure 1 CLI mode

2.2 CMTS reboot

Command: system reboot

Description: Reboot the system.

Mode: user mode, privileged mode, configuration mode

Output:

```
BL#system reboot
reboot
WARNING: could not determine runlevel - doing soft reboot
  (it's better to use shutdown instead of reboot from the command line)
```

Figure 2 CMTS reboot

2.3 CMTS basic information display command

2.3.1 Show CLI configuration information

Command: show running-config

Description: Displays the running system configuration information.

Mode: Global

Output:

```
config#show running-config
!
frequency 37000000 4
```

Figure 3 Show Running Config

2.3.2 Display the software version number

Command: show version

Description: Displays the software version of the system, boot version and the version number bcm

Mode: Global

Output:

```
BL#show version
hostname:CMC2.07
boot:2
bcm:4_2_0beta5_v26
```

Figure 4 Verison Numbers

2.3.3 Display system version number

Command: show system

Description: Displays hardware models and versions

Mode: Global

Output:

```
>show system
Hardware Model:E8Ka
Hardware Version:1
```

Figure 5 System Version Number

2.3.4 Display process operation

Command: show cpuinfo

Description: Displays the process operation.

Mode: Global

Output:

```
config#show cpuinfo
Processor       : ARM926EJ-S rev 5 (v5l)
BogoMIPS        : 217.08
Features        : swp half fastmult edsp java
CPU implementer : 0x41
CPU architecture: 5TEJ
CPU variant     : 0x0
CPU part        : 0x926
CPU revision    : 5

Hardware        : Freescale MX28EVK board
Revision        : 0000
Serial          : 0000000000000000
```

Figure 6 Process Operation

2.3.5 Display memory operation

Command: show meminfo

Description: Display memory operation.

Mode: Global

Output:

```
config#show meminfo
MemTotal:         126464 kB
MemFree:           91776 kB
Buffers:               0 kB
Cached:            11124 kB
SwapCached:            0 kB
Active:            19104 kB
Inactive:           8632 kB
Active(anon):      14656 kB
Inactive(anon):     2052 kB
Active(file):       4448 kB
Inactive(file):     6580 kB
Unevictable:           0 kB
Mlocked:               0 kB
SwapTotal:             0 kB
SwapFree:              0 kB
Dirty:                 0 kB
Writeback:             0 kB
AnonPages:         16640 kB
Mapped:             6480 kB
Shmem:                96 kB
Slab:               4292 kB
SReclaimable:        896 kB
SUnreclaim:         3396 kB
KernelStack:         360 kB
PageTables:          344 kB
NFS_Unstable:          0 kB
Bounce:                0 kB
WritebackTmp:          0 kB
CommitLimit:       63232 kB
Committed_AS:      45904 kB
VmallocTotal:     647168 kB
VmallocUsed:        1328 kB
VmallocChunk:     645448 kB
```

Figure 7 Memory Operation

2.3.6 Show all current processes

Command: show process

Description: Displays all current processes.

Mode: Global

Output:

```
>show process
UID        PID  PPID  C STIME TTY          TIME CMD
root         1     0  0 11:59 ?        00:00:01 init [3]
root         2     0  0 11:59 ?        00:00:00 [kthreadd]
root         3     2  0 11:59 ?        00:00:31 [ksoftirqd/0]
root         4     2  0 11:59 ?        00:00:00 [events/0]
root         5     2  0 11:59 ?        00:00:00 [khelper]
root         8     2  0 11:59 ?        00:00:00 [async/mgr]
```

2.3.7 Display the process of running

Command: show process status <pid>

Description: Specifies the process running.

Mode: Global

Output:

```
>show process status 2131
Name:   konfd
State:  S (sleeping)
Tgid:   2131
Pid:    2131
PPid:   1
TracerPid:      0
Uid:    0       0       0       0
Gid:    0       0       0       0
FDSize: 32
Groups:
VmPeak:     1728 kB
VmSize:     1728 kB
VmLck:         0 kB
VmHWM:       476 kB
VmRSS:       476 kB
VmData:      152 kB
VmStk:       136 kB
VmExe:        12 kB
VmLib:      1324 kB
VmPTE:         6 kB
VmSwap:        0 kB
Threads:       1
SigQ:   0/987
SigPnd: 0000000000000000
ShdPnd: 0000000000000000
SigBlk: 0000000000000000
SigIgn: 0000000000001000
SigCgt: 0000000000004006
CapInh: 0000000000000000
CapPrm: ffffffffffffffff
CapEff: ffffffffffffffff
CapBnd: ffffffffffffffff
Cpus_allowed:   1
Cpus_allowed_list:      0
voluntary_ctxt_switches:        38
nonvoluntary_ctxt_switches:     7
```

Figure 8 Display running processes

2.3.8 Displays the current time

Command: show clock

Description: Displays the current time.

Mode: Global

Output:

```
>show clock
Sun Jan  1 15:37:37 CST 2012
```

Figure 9 Display Time

2.3.9 Displays the current temperature

Command: show temperature

Description: Displays the current temperature.

Mode: Global

Output:

```
>show temperature
Memory Temperature: 71
Master Chip Temperature: 71
RF Amplifier Temperature: 71
Upstream Amplifier Temperature: 66
Power Temperature: 57
```

Figure 10 Display Temperature

2.3.10 Displays the current voltage

Command: show voltage

Description: Displays the current voltage.

Mode: Global

Output:

```
>show voltage
Input Voltage: 12.00.V
CH1 Voltage: 0.90V
CH2 Voltage: 1.24V
CH3 Voltage: 2.48V
CH4 Voltage: 6.21V
```

Figure 11 Display Voltages

2.3.11 Show uplink channel setting information

Command: show interface upstream

Description: Displays all configuration information MiniCMTS upstream channel

Mode: Global

Example:

```
show interface upstream
```

2.3.12 Filter uplink channel setting information

Command: show interface upstream | <include|exclude|begin> <word>

Description: Displays the upstream channel information based on the filter and the <word>

Mode: Global

2.3.13 Show uplink channel running statistics

Command: show interface upstream stat

Description: Displays the operating statistics for all upstream channel MiniCMTS

Mode: Global

Example: show interface upstream stat

2.3.14 Show downlink channel information

Command: show interface downstream

Description: Display the configuration of all the downstream channel MiniCMTS

Mode: Global

Example:

```
show interface downstream
```

2.3.15 Filter downlink channel information display

Command: show interface downstream | <include|exclude|begin> <word>

Description: According to the word filter conditions display the downstream information

Mode: Global

2.3.16 Show downlink channel utilization

Command: show interface downstream stat

Description: Show utilization MiniCMTS all downstream channel

Mode: Global

Example:

```
show interface downstream stat
```

2.3.17 Show Management IP

Command: show ethernet

Description: Display Manager IP configuration information

Mode: Global

Example:

```
show ethernet
```

2.3.18 Show business IP information

Command: show giaddr

Description: Displays all business IP information MiniCMTS

Mode: Global

Example:

```
show giaddr
```

2.3.19 IP filtering business information

Command: show giaddr | <include|exclude|begin> <word>

Description: Displays IP information based on the filtering type and the <word>

Mode: Global

2.3.20 Show trap server information

Command: show trap

Description: Displays MiniCMTS trap server information

Mode: Global

Example:

```
show trap
```

2.3.21 Filter trap server information

Command: show trap | <include|exclude|begin> <word>

Description: Displays the trap server information filtering based on word condition | Said Enable filters The begin to display matching lines from exclude said display matching lines are not included include lines display a consistent representation Find a word string representation

Mode: Global

2.3.22 View information about the current business model

Command: show business

Description: View information about the current business model

Mode: Global

Example:

```
show business
```

2.3.23 View business model and information

Command: show business model <relay|option60|bundle>

Description: View the business model relay, option60, bundle information

Mode: Global

Example:

```
show business model relay
```

display business model

2.3.24 Filtration business model and information

Command: show business model <relay|option60|bundle> | <include|exclude|begin> <word>

Description: filtration business model and information | Said Enable filters The begin to display matching lines from exclude said display matching lines are not included include lines display a consistent representation Find a word string representation

Mode: Global

Example:

2.3.25 Show l2vpn

Command: show l2vpn

Description: Show l2vpn

Mode: Global

Example:

2.3.26 Filter information displayed l2vpn

Command: show l2vpn | <include|exclude|begin> <word>

Description: Displays information on the l2vpn based on the filtering and the <word>

Mode: Global

2.3.27 Setting the display time

Command: show timezone

Description: Displays the time zone settings

Mode: Global

Example:

2.3.28 Display log server

Command: show syslog server

Description: Displays the log server

Mode: Global

Example:

2.3.29 Show CM VLAN

Command: show cm vlan

Description: Displays CM VLAN

Mode: Global

Example:

2.3.30 Display configuration IPQAM

Command: show ipqam ip

Description: Display configuration IPQAM

Mode: Global

Example:

2.3.31 Show IPQAM mapping table

Command: show ipqam maps

Description: Displays IPQAM mapping table

Mode: Global

Example:

2.3.32 Display route information

Command: show ip route

Description: Displays route information

Mode: Global

2.3.33 tftp upload configuration files

Command: tftp config put server <server_ip>

Description: The current CMTS configuration information is uploaded to the specified server

Mode: Global Server IP address uploaded:

Parameters: server_ip

2.3.34 tftp downstream configuration file

Command: tftp config get file <file_path> server <server_ip> [withip]

Description: download the configuration file from the specified server

Mode: Global

Parameters: file_path: the name of the configuration file on the server server_ip: download server IP address with ip: After downloading the configuration file does not overwrite the original ip.conf file. Optional.

2.3.35 tftp upload files

Command: tftp upMode put server <server_ip> src <src_path> dst <dst_path>

Description: The current CMTS files uploaded to the server

Mode: Global Server IP address uploaded:

Parameters: server_ip CMTS in the full path of the file to be uploaded: src_path dst_path: file name is stored in the server

2.3.36 tftp to download the file

Command: tftp upMode get server <server_ip> src <src_path> dst <dst_path>

Description: download the specified file from the specified server

Mode: Global

Parameters: server_ip: download server IP address src_path: servers need to download a file name dst_path: download the full path of the file stored in CMTS

2.3.37 ftp upload configuration files

Command: ftp config put server <server_ip> user <user_name> passwd <user_password>

Description: The current CMTS configuration information is uploaded to the specified server

Mode: Global Server IP address uploaded:

Parameters: server_ip user_name: ftp server username user_password: ftp server user password

2.3.38 ftp configuration file downstream

Command: ftp config get file <file_path> server <server_ip> user <user_name> passwd <user_password> [withip]

Description: download the configuration file from the specified server

Mode: Global

Parameters: file_path: the name of the configuration file on the server server_ip: download server IP address user_name: ftp server username user_password: ftp server user password withip: After downloading the configuration file does not overwrite the original ip.conf file. Optional.

2.3.39 ftp upload files

Command: ftp upMode put server <server_ip> src <src_path> dst <dst_path> user <user_name> passwd <user_password>

Description: The current CMTS files uploaded to the server

Mode: Global Server IP address uploaded:

Parameters: server_ip CMTS in the full path of the file to be uploaded: src_path dst_path: file name is stored in the server user_name: ftp server username user_password: ftp server user password

2.3.40 ftp download file

Command: ftp upMode get server <server_ip> src <src_path> dst <dst_path> user <user_name> passwd <user_password>

Description: download the specified file from the specified server

Mode: Global

Parameters: server_ip: download server IP address src_path: servers need to download a file name dst_path: download the full path of the file stored in CMTS user_name: ftp server username user_password: ftp server user password

2.3.41 Display SNMP information

Command: show snmp

Description: Displays SNMP information

Mode: Global

Example:

2.4 2.4 CMTS CM Information Display Commands

2.4.1 Displays current information online CM

Command: show cablemodem [mac]

Description: Displays the current information online CM

Mode: Global

Parameters: mac: mac display considerable CM based on the information. Optional Parameters

Output:

```
BL#show cablemodem
MAC_Address        US  DS  Connect State          Docsis Version  Power1  SNR1    Power2  SNR2    Power3  SNR1    Power4  SNR4
00:25:f2:57:fc:6b  1   1   online                Docsis20        0.0     28.4
```

Figure 12 Show Cable Modems

2.4.2 Display the CM service flow information

Command: show cablemodem [mac] service-flow

Description: Specifies the CM service flow information

Mode: Global

Parameters: mac: mac display considerable CM based on the information.

2.4.3 Displays the current CM statistics

Command: show cablemodem stat

Description: Displays the statistics of the current CM

Mode: Global

Output:

```
BL#show cablemodem stat
CM history max:  1
CM current online:  1
CM 3.0:  1
CM error:  0
CPE history max:  0
CPE current online:  0
STB current online:  0
PC current online:  0
```

Figure 13 Cable Modem Stats

2.4.4 Filter current CM Statistics

Command: show cablemodem | <include|exclude|begin> <word>

Description: CM filtering statistics for the current conditions in accordance word | Said Enable filters The begin to display matching lines from exclude said display matching lines are not included include lines display a consistent representation Find a word string representation

Mode: Global

2.4.5 The current CM statistics Showing

Command: show cablemodem | sort [ascending | descending] n

Description: The statistics for the current CM sort display Parameters: ascending: display in ascending order. The default is ascending order display descending: display in descending order. n: number of sorted column

Mode: Global

2.4.6 Show designated CM details

Command: show cablemodem detail <CM MAC>

Description: Displays the detailed information of the CM Mode: Global Example: BL # show cablemodem detail 00:25: f2: 57: fc: 6b

Output:

```
BL#show cablemodem detail 00:25:f2:57:fc:6b
Mac Address:  00:25:f2:57:fc:6b
IP Address:  0.0.0.0
Connectivity State:  operational
Last Register State:  0
Docsis Version:  Docsis20
Service Flow Counter:  1
MTC:  no support
Fragmentation:  support
PHS:  support
adv_phy:  support
lb_grp_id:  0
BPI:  disabled
qos_prov_mode:  1
```

Figure 14 Show CM Details

2.4.7 Show CPE information

Command: show cablemodem cpe [CPE-MAC]

Description: Displays CPE information, if parameters CPE-MAC, only to demonstrate compliance with this CPE-MAC's CPE information.

Mode: Global

Parameters: CPE-MAC: query the CPE MAC, The format is XX-XX-XX-XX-XX-XX or XX: XX: XX: XX: XX: XX. Optional.

2.4.8 Filter CPE information

Command: show cablemodem cpe | <include|exclude|begin> <word>

Description: Display information on the CPE based on the filter type and the <word>

Mode: Global

2.4.9 The current CPE Information Ordering Display

Command: show cablemodem cpe | sort [ascending | descending] n

Description: Information on the current sort CPE display

Parameters: ascending: display in ascending order. The default is ascending order display descending: display in descending order. n: number of sorted column

Mode: Global

2.4.10 Show Init state CM information

Command: show cablemodem init

Description: Displays information Init state CM

Mode: Global

2.4.11 Filter Init state CM information

Command: show cablemodem init | <include|exclude|begin> <word>

Description: Filter Init state information based on word condition CM | Said Enable filters The begin to display matching lines from exclude said display matching lines are not included include lines display a consistent representation Find a word string representation

Mode: Global

2.4.12 The current Init state CM sort display information

Command: show cablemodem init | sort [ascending | descending] n

Description: CM information on the state of the current sort Init Display

Parameters: ascending: display in ascending order. The default is ascending order display descending: display in descending order. n: number of sorted column

Mode: Global

2.4.13 Display online status of CM information

Command: show cablemodem online

Description: Displays information online CM

Mode: Global

Output:

```
BL#show cablemodem online
CM_IP               CM_MAC
192.168.190.161     00:25:f2:57:fc:6b
```

Figure 15 Online CM Status

2.4.14 Filter online status CM information

Command: show cablemodem online | <include|exclude|begin> <word>

Description: Display cable modem information based on the filter type and the <word>

Mode: Global

2.4.15 The current online status of CM Information Ordering Display

Command: show cablemodem online | sort [ascending | descending] n

Description: For information on the current online status of CM sort display

Parameters: ascending: display in ascending order. The default is ascending order display descending: display in descending order. n: number of sorted column

Mode: Global

2.4.16 Show CM 's history information

Command: show cablemodem history

Description: Displays the CM history information

Mode: Global

2.4.17 Filter CM of history information

Command: show cablemodem history | <include|exclude|begin> <word>

Description: CM filter information according to word the conditions of history | Said Enable filters The begin to display matching lines from exclude said display matching lines are not included include lines display a consistent representation Find a word string representation

Mode: Global

2.5 CMTS downstream configuration

2.5.1 Downlink channel setting mode

Command: annex <A|B> [channel port list]

Description: Sets the downstream channel mode. The default is Annex A, 8Mhz bandwidth.

Mode: config downstream

Parameters: channel port list: optional parameters. Need to set the mode of a list of downstream channel port. If you do not specify a channel port, the settings for all channels

Example:

miniCMTS (config_ds) # anenx B Set all the downstream channel Annex mode B

miniCMTS (config_ds) # 1 Annex B Set the downstream channel Annx Mode 1 is B

miniCMTS (config_ds) # Annex A 1 3 16 Set the downlink channel 1,3,16 A mode of Annx

2.5.2 Set symbol rate downstream channel

Command: symbol <6875 | 6900 | 6952> [channel port list]

Description: Sets the symbol rate

Mode: config downstream

Parameters: channel port list: optional parameters. Need to set up a list of port downstream channel symbol rate. If you do not specify a channel port, the settings for all channels

Example:

miniCMTS (config_ds) # symbol 6900	Set all the downstream channel symbol rate 6900
miniCMTS (config_ds) # symbol 6875 1	Set the downstream channel symbol rate of 1 in 6875

miniCMTS (config_ds) # symbol 6875 5 7 9 Set the downlink channel 5,7,9 symbol rate 6875

2.5.3 Set the frequency of the downstream channel

Command: frequency <freq> <channel port> <channel number>

Description: Sets the downstream channel frequency.

Mode: config downstream Channel frequency settings:

Parameters: freq channel port: you need to set the frequency channel number channel number: optional parameters. Starts from channel channel port, subsequent channel number one center channel frequency bandwidth is automatically incremented by freq based on the value of. The default channel number Recognize the value 1.

Example:

miniCMTS (config_ds) # 1 Frequency 440000000 Set the downlink a channel for the 440Mhz frequency

miniCMTS (config_ds) # Frequency 540000000 4 5 From the beginning of the downstream channel 4 consecutive set frequency channel 5

2.5.4 Set the type of downstream channel

Command: mode <DOCSIS|IPQAM> [channel port list]

Description: Set the type of the downstream channel. The default mode for all channels as DOCSIS. Mode: config downstream Parameters: channel port list: optional parameters. Need to set up a list of the downstream channel port type. If you do not specify a channel port, the settings for all channels

Example:

miniCMTS (config_ds) # mode DOCSIS Set all types of DOCSIS downstream channel

miniCMTS (config_ds) # mode DOCSIS 1 Set the downstream DOCSIS channel type 1 is

miniCMTS (config_ds) # mode IPQAM 1 2 16 Type setting for IPQAM downstream channel 2, 16

2.5.5 Set the downstream channel QAM modulation mode

Command: modulation <64 | 256 | 1024> [channel port list]

Description: Sets the downstream QAM modulation mode.

Mode: config downstream

Parameters: channel port list: optional parameters. Need to set up a list of downstream modulation mode channel port. If you do not specify a channel port, the settings for all channels

Example:

miniCMTS (config_ds) # modulation 256 Set all the downstream channel modulation mode is 256

miniCMTS (config_ds) # modulation 64 1 Set the downstream channel modulation mode 1 to 64

miniCMTS (config_ds) # modulation 1024 2 5 16 set downstream channel modulation mode 2,5,16 1024

2.5.6 Disposed downstream channel output level

Command: power_level <37 .. 60> [channel port list]

Description: Set the output level of the downstream channel.

Mode: config downstream

Parameters: channel port list: optional parameters. Need to set the output level of the list of downstream channel port. If you do not specify a channel port, the settings for all channels

Example:

miniCMTS (config_ds) # power_level 37 Set all the downstream channel output level of 37

miniCMTS (config_ds) # power_level 60 3 Set the output level of a downlink channel is 60

miniCMTS (config_ds) # power_level 40 1 5 16 downstream channel output level setting is 40 1,5,16

2.5.7 Disposed downstream channel interleaving depth

Command: interleave <128_1 | 64_2 | 32_4 | 16_8 | 8_16> [channel port list]

Description: Sets the downlink channel interleaving depth.

Mode: config downstream

Parameters: channel port list: optional parameters. Need to set up a list of port channel downstream interleave depth. If you do not specify a channel port, the settings for all channels

Example:

miniCMTS (config_ds) # interleave 16_8 Set all downstream channel interleaving depth of 16_8

miniCMTS (config_ds) # 1 interleave 64_2 Set the downlink channel interleaving a depth of 64_2

miniCMTS (config_ds) # interleave 32_4 2 5 16 set downstream channel 2,5,16 interleaving depth of 32_4

2.5.8 Close down channel

Command: showdown [channel port list]

Description: Close the downstream channel.

Mode: config downstream

Parameters: channel port list: optional parameters. Need to close the channel list of port down. If you do not specify a channel port, the settings for all channels

Example:

miniCMTS (config_ds) # shutdown Close all the downstream channel

miniCMTS (config_ds) # shutdown 1 Close the downstream channel 1

miniCMTS (config_ds) # shutdown 2 5 14 16 Close the downstream channel 2,5,14,16

2.5.9 Open the downstream channel

Command: no showdown [channel port list]

Description: Open the downstream channel. Mode: config downstream Parameters: channel port list: optional parameters. Port downstream channel list needs to open. If you do not specify a channel port, the settings for all channels

Example:

miniCMTS (config_ds) # no shutdown Open all downstream channel

miniCMTS (config_ds) # no shutdown 1 Open the downstream channel 1

miniCMTS (config_ds) # no shutdown 2 5 14 16 Open the downstream channel 2,5,14,16

2.6 CMTS upstream configuration

2.6.1 Set the upstream channel frequency

Command: frequency <freq> <channel port> [channel number]

Description: Sets the center frequency of the assigned channel number of channel index.

Parameters: freq: center frequency setting channel port: you need to set the center frequency of the channel number channel number: optional parameters. Starts from channel channel port, subsequent channel number one center channel frequency bandwidth is automatically incremented by freq based on the value of. The default channel number Recognize the value 1.

Mode: config upstream

Example:

miniCMTS (config_us) # 5000000 1 Frequency Set the first one frequency channel 5Mhz

miniCMTS (config_us) # Frequency 37700000 2 2 Set the first two channels of frequency 37.7Mhz, the frequency of the first three channels is 40.9Mhz

2.6.2 Set the upstream channel bandwidth

Command: width <bandwidth> [channel port list]

Description: Sets the upstream channel bandwidth. If you do not specify a channel index, then for all channels.

Parameters: bandwidth: channel bandwidth settings, desirable value 1600000,3200000,6400000. channel port list: optional parameters. Need to set up a list of port channel channel bandwidth. As

If you do not specify channel port, then set all channels.

Mode: config upstream

Example:

miniCMTS (config_us) # width 6400000 Set all upstream channel bandwidth of 6.4Mhz

miniCMTS (config_us) # width 1600000 1 Set the first one upstream channel bandwidth of 1.6Mhz

miniCMTS (config_us) # width 6400000 3 4 ,Set the first three or four upstream channel bandwidth of 6.4Mhz

2.6.3 Set the upstream channel input level

Command: power_level <level> Description: Set the input level upstream channel. All uplink channel input levels are the same Mode: config upstream Parameters: level: the level of the value set Example: miniCMTS (config_us) # power_level 6 to set the input level for all upstream channel 6

2.6.4 Set the upstream channel mode

Command: profile <profile> [channel port list]

Description: Sets the upstream channel mode. Including QAM mode channel mode, channel type, anti-noise level. Mode: config upstream

Parameters: profile: channel mode settings channel port list: optional parameters. Need to set the channel mode channel list port. As If you do not specify channel port, then set all channels.

Example:

miniCMTS (config_us) # Profile AtdmaMediumNoiseQam256 Set all upstream channel mode AtdmaMediumNoiseQam256

miniCMTS (config_us) # 1 Profile AtdmaMediumNoiseQam64 Set the first one upstream channel mode AtdmaMediumNoiseQam64

miniCMTS (config_us) # Profile ScdmaHighNoiseQam16 3 4 Set the first three or four upstream channel mode ScdmaHighNoiseQam16

2.6.5 Configure an uplink channel

Command: cable upstream <channel port> [frequency <freq-hz>] [Width <width-hz>] [power_level <power_level-value>] [Profile <profile-value>] Explanation: The configuration specified upstream channel frequency, bandwidth, power level, channel mode Mode: config upstream

Parameters: channel port: Specifies the configuration of the upstream channel freq-hz: configurable center frequency width-hz: Configure bandwidth power_level-value: the configuration level profile-value: configurable channel mode

Example:

miniCMTS (config_us) # 5000000 cable upstream 2 Frequency Set the first one upstream channel center frequency 5Mhz

miniCMTS (config_us) # width 5000000 cable upstream 2 Frequency 6400000 power_level 6 profile AtdmaMediumNoiseQam256 Section 2 Setting the center frequency of the uplink channel is 5Mhz, bandwidth of 6.4Mhz, level 6 channel mode AtdmaMediumNoiseQam256

2.6.6 Close upstream channel

Command: shutdown [channel port list]

Description: close the channel.

Mode: config upstream

Parameters: channel port list: optional parameters. Need to close the channel list port information. If you do not specify a channel port, the settings for all channels.

Example:

miniCMTS (config_us) # shutdown Close all upstream channel miniCMTS (config_us) # shutdown 1 Closing the first one upstream channel

miniCMTS (config_us) # shutdown 2 4 Close 2nd and 4th uplink channel

2.6.7 Open the upstream channel

Command: no shutdown [channel index list]

Description: Open channel. If you do not specify a channel index, said that for all channel operation.

Mode: config upstream

Parameters: channel port list: optional parameters. Need to open the channel list port information. If you do not specify a channel port, the settings for all channels.

Example:

miniCMTS (config_us) # no shutdown Open all upstream channel

miniCMTS (config_us) # no shutdown 1 Open the first one upstream channel

miniCMTS (config_us) # no shutdown 2 4 Open the second and fourth upstream channel

2.7 CMTS management IP configuration

2.7.1 Set Management IP

Command: ip [address <IP>] [mask <MASK>] [gateway <GATEWAY>] [vlan <VLAN>]

Description: Sets the management IP

Mode: config Ethernet

Parameters:

IP: Set the management IP, optional parameters.

MASK: Set the management of IP Mask, optional parameters.

GATEWAY: Set the management of IP Gateway, optional parameters.

VLAN: Set the management of IP VLAN, optional parameters.

Example:

miniCMTS (config_if) # ip address 192.168.25.23 mask 255.255.0.0 gateway 192.168.25.1 Set the IP to manage IP 192.168.25.23, Mask is 255.255.0.0, gateway to 192.168.25.1, vlan is empty

miniCMTS (config_if) # ip address 192.168.25.23 mask 255.255.0.0 gateway 192.168.25.1 vlan 55 Set the IP to manage IP 192.168.25.23, Mask is 255.255.0.0, gateway to 192.168.25.1, vlan 55

2.7.2 Set dhcp

Command: ip address dhcp [vlan <VLAN>]

Description: Set dhcp

Parameters: VLAN: Set the management of IP VLAN, optional parameters.

Mode: config ethernet

Example:

miniCMTS (config_if) # ip address dhcp Set the management IP to DHCP mode, VLAN is empty

miniCMTS (config_if) # ip address dhcp vlan 55 Set the management IP to DHCP mode, VLAN 55

2.8 CMTS business IP configuration

2.8.1 Add Business IP

Command: giaddr add address <giaddr-ip> mask <giaddr-mask> [Gateway <giaddr-gateway>] [vlan <giaddr-vlan>]

Description: Add Business IP

Mode: config giaddr

Parameters: giaddr-ip: IP add business giaddr-mask: Mask IP-added services giaddr-gateway: IP-added services Gateway, optional parameters giaddr-vlan: IP-added service VLAN, optional parameters

Example:

miniCMTS (config_giaddr) # giaddr add address 192.168.25.23 mask 255.255.0.0

miniCMTS (config_giaddr) # giaddr add address 192.168.25.23 mask 255.255.0.0 gateway 192.168.25.1

miniCMTS (config_giaddr) # giaddr add address 192.168.25.23 mask 255.255.0.0 gateway 192.168.25.1 vlan 4

2.8.2 Deleting Business IP

Command: giaddr del [address <giaddr-ip>] [mask <giaddr-mask>] [Gateway <giaddr-gateway>] [vlan <giaddr-vlan>]

Description: Delete Business IP

Mode: config giaddr

Parameters: giaddr-ip: IP-delete operations query IP, optional parameters giaddr-mask: delete the query service IP Mask, optional parameters giaddr-gateway: delete the query service IP Gateway, optional parameters giaddr-vlan: Delete Business IP query conditions VLAN, optional parameters

Example:

```
miniCMTS (config_giaddr) # giaddr del address 192.168.25.23
```

Delete IP address of 192.168.25.23 IP information for all business

```
miniCMTS (config_giaddr) # giaddr del mask 255.255.0.0
```

Delete IP mask of 255.255.0.0 IP information for all business

```
miniCMTS (config_giaddr) # giaddr del Gateway 192.168.25.1
```

Delete IP gateway is 192.168.25.1 IP information for all business

```
miniCMTS (config_giaddr) # giaddr del vlan 1
```

Delete IP vlan IP information for all businesses 1

```
miniCMTS (config_giaddr) # giaddr del address 192.168.25.23 mask 255.255.0.0
gateway 192.168.25.1 vlan 1
```

Deleting a qualified business IP information

2.8.3 Enable Business IP configuration

Command: giaddr enable

Description: Enables Business IP configuration

Mode: config giaddr

Example:

```
miniCMTS (config_giaddr) # giaddr enable
```

2.8.4 Disable Business IP configuration

Command: giaddr disable

Description: Disable the service IP configuration

Mode: config giaddr

Example:

```
miniCMTS (config_giaddr) # giaddr disable
```

2.9 CMTS SNMP

2.9.1 Set the SNMP write community identifier

Command: snmp read_community <read-string> write_ community <write-string>

Description: Sets the SNMP write community identifier Mode: config snmp

Parameters: read-string: SNMP read-only community character, optional parameters write-string: SNMP write community character only, optional parameters Command

examples:

```
miniCMTS (config_snmp) # snmp read_community publicr write_ community publicw
miniCMTS (config_snmp) # snmp read_community publicr
miniCMTS (config_snmp) # snmp community write_ Public
```

2.9.2 Disable SNMP

Command: snmp disable

Description: Disable SNMP Mode: config snmp

Parameters: Command examples: miniCMTS (config_snmp) # snmp disable

2.9.3 Enable SNMP

Command: snmp enable

Description: Enable SNMP

Mode: config snmp

Parameters: Command

examples:

```
miniCMTS (config_snmp) # snmp enable
```

2.9.4 Add TRAP server

Command: trap add ip <trap-ip> port <trap-port> [state <SNMP-state>] [Community <trap- community>] Description: Add TRAP server Mode: config snmp

Parameters: trap-ip: TRAP server IP address trap-port: TRAP PORT server port SNMP-state: TRAP SNMP server status, optional value close, v1, v2, respectively, close, SNMP V1, SNMP V2. Optional Parameters trap-community: TRAP server community. Optional Parameters

Example:

```
miniCMTS (config_snmp) # ip 10.7.100.1 trap add Port 50
miniCMTS (config_snmp) # ip 10.7.100.5 Port trap add 50 State v2
```

2.9.5 Delete TRAP server

Command: trap del [ip <trap-ip>] [port <trap-port>] [state <SNMP-state>] [Community <trap- community>]

Description: Add TRAP server Mode: config snmp Parameters: trap-ip: TRAP server IP address. Optional Parameters trap-port: TRAP PORT server port. Optional Parameters SNMP-state: TRAP SNMP server status, optional value close, v1, v2, respectively, close, SNMP V1, SNMP V2. Optional Parameters trap-community: TRAP server community. Optional Parameters

Example:

```
miniCMTS (config_snmp) # ip 10.7.100.1 del trap
miniCMTS (config_snmp) # ip 10.7.100.5 trap del Port 50 State v2
```

2.10 CMTS business model

2.10.1 Set business model

Command: business model <disable|relay|option60|bundle|advanced_relay>

Description: Set of business model Mode: config business

Example:

```
config> business model relay
```

2.11 CMTS relay

2.11.1 Add relay cm

Command: relay add cm option60 <option60-str> server_ip <server-ip> giaddr_ip <giaddr-ip> [driver_name <driver_type>] [For_l2vpn < for_l2vpn >]

Description: Add relay cm, only the first to add relay cm, can perform relay cpe

Parameters:

driver_type: device name. Optional Parameters

option60-str: option60 information. Optional parameter defaults to docsis

server-ip: server ip.

Giaddr_ip: relay address

for_l2vpn: a value of 1 or 0. Optional Parameters

Mode: config business relay

Example:

```
miniCMTS (config_relay) # add relay cm driver_name CM30 Option60 docsis server_ip
10.7.100.13
miniCMTS (config_relay) # add relay cm driver_name CM30 Option60 docsis server_ip
10.7.100.13 alias 1
```

2.11.2 Add relay cpe

Command: relay add cpe [option60 <option60-str>] server_ip <server-ip> giaddr_ip <giaddr-ip> [driver_name <driver_type>] [For_l2vpn <for_l2vpn>]

Description: Add relay cpe

Parameters:

driver_type: device name. Optional Parameters

option60-str: option60 information. Optional, default is empty. All cpe allows only one option60 is empty

server-ip: server ip.

Giaddr_ip: relay address

for_l2vpn: a value of 1 or 0. The default is 0. Optional parameters

Mode: config business relay

Example:

```
miniCMTS (config_relay) # relay add cpe driver_name CM30 Option60 docsis
server_ip 10.7.100.13
miniCMTS (config_relay) # relay add cpe driver_name CM30 Option60 docsis
server_ip 10.7.100.13 alias 1
```

2.11.3 Modify relay cm

Command: relay modify cm option60 <option60-str> server_ip <server-ip> giaddr_ip <giaddr-ip> [driver_name <driver_type>] [For_l2vpn < for_l2vpn >]

Description: Modify relay cm

Parameters:

driver_type: device name. Optional Parameters

option60-str: option60 information. Optional Parameters server-ip: server ip. Optional Parameters

Giaddr_ip: relay address. Optional Parameters

for_l2vpn: a value of 1 or 0. Optional Parameters

Mode: config business relay

Example:

```
miniCMTS (config_relay) # add relay cm driver_name CM30 Option60 docsis server_ip
10.7.100.13
```

```
miniCMTS (config_relay) # add relay cm driver_name CM30 Option60 docsis server_ip
10.7.100.13 alias 1
```

2.11.4 Delete relay cpe

Command: relay del cpe [driver_name <driver_type>] [Option60 <option60-str>] [server_ip <server-ip>] [Giaddr_ip <giaddr-ip>] [for_l2vpn <for_l2vpn>]

Description: Remove relay cpe equipment

Parameters:

driver_type: device name. Optional Parameters

Giaddr_ip: relay address. Optional Parameters

server-ip: server ip. Optional Parameters

giaddr-ip: relay address. Optional Parameters

for_l2vpn: for_l2vpn information. Optional Parameters

Mode: config business relay

Example:

```
miniCMTS (config_relay) # relay del cpe driver_name CM30 remove the deviceThe
relay name CM30
miniCMTS (config_relay) # relay del cpe driver_name CM30 Option60 docsis
server_ip 10.7.100.13 alias 1
```

2.11.5 Enable relay

Command: relay enable

Description: Enables relay

Parameters:

Mode: config business relay

Example:

```
miniCMTS (config_relay) # relay enable
```

2.11.6 Disable relay

Command: relay disable

Description: Disable relay

Parameters:

Mode: config business relay

Example:

```
miniCMTS (config_relay) # disable relay
```

2.12 CMTS option60

2.12.1 Add to option60

Command: option60 add driver_name <driver_type> option60 <option60-str> [Vlanid <vlan-id>] [priority <priority-id>]

Description: Add option60

Parameters:

driver_type: device name, device name include: cable-modem, host, stb, mta, CM, CM10, CM11, CM20, CM30, CPE, windows.

option60-str: option60 information. driver-mask: driver mask. Optional Parameters

vlan-id: vlan id. Optional Parameters

priority-id: priority. Optional Parameters

Mode: config business option60

Example:

```
miniCMTS (config_option60) # Option60 add driver_name CM30 option60 docsis
miniCMTS (config_option60) # Option60 add driver_name CM30 option60 docsis vlanid
1
miniCMTS (config_option60) # Option60 add driver_name CM30 option60 docsis vlanid
1 priority 2
```

2.12.2 Delete option60

Command: option60 del [driver_name <driver_type>] [Option60 <option60-str>] [vlanid <vlan-id>] [Priority <priority-id>]

Description: Delete option60

Parameters:

driver_type: device name, device name include: cable-modem, host, stb, mta, CM, CM10, CM11, CM20, CM30, CPE, windows. Optional Parameters

option60-str: option60 information. Optional Parameters

driver-mask: driver mask. Optional Parameters

vlan-id: vlan id. Optional Parameters

priority-id: priority. Optional Parameters

Mode: config business option60

Example:

```
miniCMTS (config_option60) # Option60 del driver_name CM30 delete located
```

The device name for the CM30 option60

```
miniCMTS (config_option60) # Option60 del driver_name CM30 option60 docsis vlanid
1
```

```
miniCMTS (config_option60) # Option60 del driver_name CM30 option60 docsis vlanid
1 priority 2
```

2.12.3 Enable option60

Command: option60 enable

Description: Enables option60

Parameters:

Mode: config business option60

Example:

```
miniCMTS (config_option60) # Option60 enable
```

2.12.4 Disable option60

Command: option60 disable Description: Disable option60 Parameters: Mode: config business option60 Example: miniCMTS (config_option60) # Option60 disable

2.13 CMTS bundle

2.13.1 Add to bundle

Command: bundle add

Description: Add a bundle

Parameters:

Mode: config business bundle

Example:

```
miniCMTS (config_bundle) # bundle add
```

2.13.2 Delete bundle

Command: bundle del [bundle_id]

Description: Delete bundle

Parameters:

bundle_id: bundle device id

Mode: config business bundle

Example:

```
miniCMTS (config_bundle) # bundle del 1 Delete bundle and all its equipment under
```

2.13.3 Modify bundle property

Command: bundle property id [bundle_id] <cpe_vlan_id [cpe_vlan_id]> <cpe_vlan_priority [cpe_vlan_priority]> <pppoe_vlan_id [pppoe_vlan_id]> <pppoe_vlan_priority [pppoe_vlan_priority]>

Description: Modify the bundle property

Parameters:

bundle_id: bundle device id

cpe_vlan_id: bundle cpe vlan id. Optional Parameters

cpe_vlan_priority: bundle cpe vlan priority. Optional Parameters

pppoe_vlan_id: pppoe vlan id. Optional Parameters

pppoe_vlan_priority: pppoe vlan priority. Optional Parameters

Mode: config business bundle

Example:

```
miniCMTS (config_bundle) # 4 cpe_vlan_id 1 bundle property ID cpe_vlan_priority 2
pppoe_vlan_id 3 pppoe_vlan_priority 5
```

2.13.4 Modify bundle CM

Command: bundle modify cm id [bundle_id] option60 [option60] ip [ip] mask [mask] <Device_name [device_name]> <Vlanid [vlanid]> <priority [priority]>

Description: Modify bundle CM

Parameters:

bundle_id: bundle device id

option60: bundle CM option60

ip: bundle CM IP

mask: bundle CM MASK

device_name: bundle CM device name. Optional Parameters

vlanid: bundle CM VLAN ID. Optional Parameters

priority: bundle CM VLAN priority. Optional Parameters

Mode: config business bundle

Example:

2.13.5 Add bundle Terminal Equipment

Command: bundle add terminal id [bundle_id] option60 [option60] <Device_name [device_name]> <Vlanid [vlanid]> <priority [priority]>

Description: Add bundle Terminal Equipment

Parameters:

bundle_id: bundle device id

option60: bundle CM option60

device_name: bundle CM device name. Optional Parameters

vlanid: bundle CM VLAN ID. Optional Parameters

priority: bundle CM VLAN priority. Optional Parameters

Mode: config business bundle

Example:

2.13.6 Delete bundle Terminal Equipment

Command: bundle del terminal id [bundle_id] option60 [option60] <Device_name [device_name]> <Vlanid [vlanid]> <priority [priority]>

Description: Removes bundle Terminal Equipment

Parameters:

bundle_id: bundle device id

option60: bundle CM option60

device_name: bundle CM device name. Optional Parameters

vlanid: bundle CM VLAN ID. Optional Parameters

priority: bundle CM VLAN priority. Optional Parameters

Mode: config business bundle

Example:

2.13.7 Enable bundle

Command: bundle enable

Description: Enables bundle

Parameters:

Mode: config business bundle

Example:

```
miniCMTS (config_bundle) # bundle enable
```

2.13.8 Disable bundle

Command: bundle disable

Description: Disable bundle

Parameters:

Mode: config business bundle

Example:

```
miniCMTS (config_bundle) # bundle disable
```

2.14 CMTS l2vpn

2.14.1 Open l2vpn

Command: l2vpn enable

Description: Open l2vpn

Mode: config l2vpn

Example:

```
miniCMTS (config_l2vpn) # l2vpn enable
```

2.14.2 Shut down l2vpn

Command: l2vpn disable

Description: Close l2vpn

Mode: config l2vpn

Example:

```
miniCMTS (config_l2vpn) # l2vpn disable
```

2.14.3 Add to l2vpn

Command: l2vpn add former [former_id] reset [reset_id]

Description: Add l2vpn

Parameters:

former_id: previous l2vpn id

reset_id: reset l2vpn id

Mode: config l2vpn

Example:

```
miniCMTS (config_l2vpn) # l2vpn add Former RESET 2 1
```

2.14.4 Delete l2vpn

Command: l2vpn del [former <former_id>] [reset <reset_id>]

Description: Delete l2vpn

Parameters:

former_id: previous l2vpn id, optional parameters

reset_id: reset l2vpn id, optional parameters

Mode: config l2vpn

Example:

```
miniCMTS (config_l2vpn) # l2vpn del Former 1
miniCMTS (config_l2vpn) # l2vpn del Former RESET 2 1
miniCMTS (config_l2vpn) # l2vpn del RESET 2
```

2.15 CMTS Server Configuration

2.15.1 When you open zone setting function

Command: timezone enable Note: When you open zone settings

Mode: config server

Example:

```
miniCMTS (config_server) # Timezone enable
```

2.15.2 Turn off the time zone setting function

Command: timezone disable Note: When you open zone settings

Mode: config server

Example:

```
miniCMTS (config_server) # Timezone disable
```

2.15.3 Set the time zone

Command: timezone set <time-zone>

Description: Sets the time zone

Parameters:

ime-zone: Time zone settings, it is one of the following values: UTC, GMT-12, GMT-11, GMT-10, GMT-9, GMT-8, GMT-7, GMT-6, GMT-5, GMT-4, GMT-3, GMT-2, GMT-1, GMT0, GMT +1, GMT +2, GMT +3, GMT +4, GMT +5, GMT +6, GMT +7, GMT +8, GMT +9, GMT +10, GMT +11, GMT +12

Mode: config server

Example:

```
miniCMTS (config_server) # set Timezone GMT +12
```

2.15.4 Open the log server functions

Command: syslog server enable

Description: Open the log server functions

Mode: config server

Example:

```
miniCMTS (config_server) # enable syslog Server
```

2.15.5 Close the log server function

Command: syslog server disable

Description: Open the log server functions

Mode: config server

Example:

```
miniCMTS (config_server) # syslog Server disable
```

2.15.6 Add a Log Server

Command: syslog server add <server-ip>

Description: Add a Log Server Parameters: server-ip: add log server IP

Mode: config server

Example:

```
miniCMTS (config_server) # syslog Server add 192.168.131.1
```

2.15.7 Delete the log server

Command: syslog server del <server-ip>

Description: Delete the log server

Parameters:

server-ip: Deleted log server IP

Mode: config server

Example:

```
miniCMTS (config_server) # syslog Server del 192.168.131.1
```

2.16 CMTS CM VLAN configuration

2.16.1 Open the CM VLAN

Command: cm vlan enable

Description: On CM VLAN

Mode: config cm vlan

Example:

```
miniCMTS (config_cm_vlan) # vlan enable cm
```

2.16.2 Close CM VLAN

Command: cm vlan disable

Description: Close CM VLAN

Mode: config cm vlan

Example:

```
miniCMTS (config_cm_vlan) # vlan disable cm
```

2.16.3 Set CM VLAN Priority

Command: cm vlan priority <priority-id>

Description: Set CM VLAN Priority

Parameters:

priority-id: CM VLAN Priority

Mode: config cm vlan

Example:

```
miniCMTS (config_cm_vlan) # vlan priority 2 cm
```

2.16.4 Set CM VLAN ID

Command: cm vlan id <vlan-id>

Description: Set CM VLAN ID

Parameters: vlan-id: CM VLAN id

Mode: config cm vlan

Example:

```
miniCMTS (config_cm_vlan) # vlan ID 2 cm
```

2.16.5 Open the CPE VLAN

Command: cpe vlan enable

Description: Open CPE VLAN

Mode: config cm vlan

Example:

```
miniCMTS (config_cm_vlan) # vlan enable cpe
```

2.16.6 Close CPE VLAN

Command: cpe vlan disable

Description: Close CPE VLAN

Mode: config cm vlan

Example:

```
miniCMTS (config_cm_vlan) # vlan disable cpe
```

2.16.7 Set CPE VLAN Priority

Command: cpe vlan priority <priority-id>

Description: Sets the CPE VLAN Priority

Parameters: priority-id: CPE VLAN Priority

Mode: config cm vlan

Example:

```
miniCMTS (config_cm_vlan) # cpe vlan priority 2
```

2.16.8 Set CPE VLAN ID

Command: cpe vlan id <vlan-id>

Description: Sets the CPE VLAN ID

Parameters: vlan-id: CPE VLAN id

Mode: config cm vlan

Example:

```
miniCMTS (config_cm_vlan) # cpe vlan ID 2
```

2.17 CMTS restore the factory configuration

2.17.1 Restore factory settings

Command: restore

Description: Restore factory settings

Mode: config

Example:

```
miniCMTS (config) # Restore
```

2.17.2 Restore the factory configuration does not include IP

Command: restore withoutip

Description: Restore factory configuration does not include IP

Mode: config

Example:

```
miniCMTS (config) # Restore withoutip
```