MANAGEMENT GUIDE

C60 series
C62 series
CLI User Guide

24x PoE GbE RJ45 + 2x GbE RJ45+ 2x GbE SFP Managed Switch

Release A4

ABOUT THIS GUIDE

PURPOSE This guide gives specific information on how to operate CLI to manage this switch.

AUDIENCE The guide is intended for use by network administrators who are responsible for operating and maintaining network equipment; consequently, it assumes a basic working knowledge of general switch functions, Internet Protocol (IP), and SSH Protocol.

Revision History

Release	Date	Revision
Initial Release	**2021/02/04**	**A1**
Revision	**2022/01/03**	**A2**
Revision	**2023/03/30**	**A3**
Revision	**2024/08/06**	**A4**

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Chapter 1 CLI Management

The following description is the brief of the network connection.

-- Attach the RJ45 serial port on the switch's front panel which used to connect to the switch for telnet configuration

-- At "Com Port Properties" Menu, configure the parameters as below: (see the next section)

Baud rate	115200
Stop bits	1
Data bits	8
Parity	N
Flow control	none

1-1 Login

The command-line interface (CLI) is a text-based interface. User can access the CLI through either a direct serial connection to the device or a Telnet session (Default IP address: **192.168.1.1**). The default uaser and password to login into the Managed Switch are listed below:

Username: **admin**

Password: **admin**

After you login successfully, the prompt will be shown as “<sys_name>**#**“ . See the following figures. It means you behave as an administrator and have the privilege for setting the Managed Switch. If log as not the administrator, the prompt will be shown as “<sys_name>>”, it means you behave as a guest and are only allowed for setting the system under the administrator. Each CLI command has its privilege

```
Username: admin
Password: admin
C60-244-30-370-V2#
```

1-2 Commands of CLI

The CLI is divided into serveral modes. If a user has enouth privilege to run a particular command, the user has to run the command in the correct mode. To see the commands of the mode, please input "**?**" after the system prompt, then all commands will be listed in the screen. The command modes are listed as belows:

Command Modes

MODE	**PROMPT**	**COMMAND FUNCTION IN THIS MODE**
exec	<sys_name>#	Display current configuration, diagnostics, maintenance
config	<sys_name>(config)#	Configure features other than those below
config-if	<sys_name>(config-interface)#	Configure ports
config-if-range	<sys_name>(config-if-range)#	Configure a range of ports
config-vlan	<sys_name>(config-vlan)#	Configure static vlan

Commands reside in the corresponding modes could run only in that mode. If a user wants to run a particular command, the user has to change to the appropriate mode. The command modes are organized as a tree, and users start to in enable mode. The following table explains how to change from one mode to another.

Change Between Command Modes

MODE	**ENTER MODE**	**LEAVE MODE**
exec	--	--
config	Configure terminal	exit
config-interfcae	Interface <port-type> <port-number>	exit
config-interfcae-range	Interface range <port-type> <port-type-list>	exit
config-vlan	vlan <vlan_list>	exit

1-3 Global Commands of CLI

```
C60-244-30-370-V2# ?
  clear             Reset functions
  clock             Manage the system clock
  configure         Configuration Mode
  copy              Copy from one file to another
  debug             Debug Options
  delete            Delete a file from the flash file system
  disable           Turn off privileged mode command
  end               End current mode and change to enable mode
  exit              Exit current mode and down to previous mode
  no                Negate command
  ping              Send ICMP ECHO_REQUEST to network hosts
  reboot            Halt and perform a cold restart
  restore-defaults  Restore to default
  save              Save running configuration to flash
  show              Show running system information
  ssl               Setup SSL host keys
  terminal          Terminal configuration
  traceroute        Trace route to network hosts
```

Chapter 2 CLEAR of CLI

Table : CLEAR Commands

Command	Function
interfaces	Interface status and configuration
ip	IP information
lacp	LACP Configuration
line	To identify a specific line for configuration
lldp	Reset lldp information
logging	Log Configuration
mac	MAC configuration
port-security	Port Security
power	Power-over-Ethernet Configuration
spanning-tree	Show running system information

2-1 interfaces

Clear interface status and configuration.

Syntax

clear interfaces GigabitEthernet <port_list> counters

clear interfaces LAG <lag_list> counters

Parameter

GigabitEthernet	Gigabit ethernet interface to configure	
	<port_list>	Port List X-Y,Z
LAG	IEEE 802.3 Link Aggregation interface	
	<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# clear interfaces GigabitEthernet 1-3,6 counters
C60-244-30-370-V2# clear interfaces LAG 2-4,6 counters
C60-244-30-370-V2#
```

2-2 ip

Clear IP information.

Syntax

clear ip igmp snooping groups {<cr>|<dynamic>|<static>}

clear ip igmp snooping statistics

Parameter

groups	IPv4 multicast groups	
	<cr>	
	dynamic	dynamic groups
	static	static groups
statistics	Clear IGMP snooping statistics	

Example

```
C60-244-30-370-V2# clear ip igmp snooping statistics
C60-244-30-370-V2# clear ip igmp snooping groups static
C60-244-30-370-V2# clear ip igmp snooping groups dynamic
C60-244-30-370-V2#
```

2-3 lacp

Clear LACP Configuration.

Syntax

Clear lacp counters

Parameter

counters	LAG number

Example

```
C60-244-30-370-V2# clear lacp counters
C60-244-30-370-V2#
```

2-4 line

Clear a specific line for configuration.

Syntax

clear line telnet

Parameter

telnet	Telnet daemon configuration

Example

```
C60-244-30-370-V2# clear line telnet
C60-244-30-370-V2#
```

2-5 lldp

Clear lldp information.

Syntax

clear lldp global statistics

clear lldp interfaces GigabitEthernet <port_list> statistics

clear lldp interfaces LAG <lag_list> statistics

Parameter

global	Clear LLDP statistics		
	statistics		
interfaces	Clear LLDP statistics for specified ports		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# clear lldp global statistics
C60-244-30-370-V2# clear lldp interfaces GigabitEthernet 1-3,6
statistics
C60-244-30-370-V2# clear lldp interfaces LAG 1-3,6 statistics
```

2-6 logging

Clear log configuration.

Syntax

clear logging {<buffered>|<file>}

Parameter

buffered	Buffered logging
file	File logging

Example

```
C60-244-30-370-V2# clear logging buffered
C60-244-30-370-V2# clear logging file
C60-244-30-370-V2#
```

2-7 mac

Clear MAC configuration.

Syntax

Clear mac address-table dynamic

Clear mac address-table dynamic interface GigabitEthernet <port_list>

Clear mac address-table dynamic interface LAG <lag_list>

Clear mac address-table dynamic vlan <vlan_id>

Parameter

interface	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z
vlan	VLAN configuration		
	<vlan_id>	VLAN ID (1-4094)	

Example

```
clear mac address-table dynamic
C60-244-30-370-V2# clear mac address-table dynamic interfaces GigabitEthernet
1-3,6
C60-244-30-370-V2# clear mac address-table dynamic interfaces LAG 1-3,6
C60-244-30-370-V2# clear mac address-table dynamic vlan 2
```

2-8 port-security

Clear port security configuration.

Syntax

clear port-security all {<cr>|<address>|<interface>}

clear port-security configured {<cr>|<address>|<interface>}

clear port-security dynamic {<cr>|<address>|<interface>}

clear port-security sticky {<cr>|<address>|<interface>}

Parameter

all	All secure mac addresses
configured	Configured secure mac addresses
dynamic	Secure MAC address auto-learned by hardware
sticky	Secure MAC address either auto-learned or configured

Example

```
C60-244-30-370-V2# clear port-security all
C60-244-30-370-V2# clear port-security all address 68:8D:B6:00:00:01
C60-244-30-370-V2# clear port-security all interface GigabitEthernet 1
C60-244-30-370-V2#
```

2-9 power

Clear power-over-ethernet configuration.

Syntax

clear power inline interfaces GigabitEthernet <port_list> statistics

Parameter

<port_list>	Port List X-Y,Z

Example

```
C60-244-30-370-V2# clear power inline interfaces GigabitEthernet 3-6 statistics
C60-244-30-370-V2#
```

2-10 spanning-tree

clear spanning-tree statistics

Syntax

clear spanning-tree interfaces GigabitEthernet <port_list> statistics

clear spanning-tree interfaces LAG <lag_list> statistics

Parameter

GigabitEthernet	Gigabit ethernet interface to configure	
	<port_list>	Port List X-Y,Z
LAG	IEEE 802.3 Link Aggregation interface	
	<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# clear spanning-tree interfaces GigabitEthernet 1-3,6 statistics
C60-244-30-370-V2# clear spanning-tree interfaces LAG 1-3,6 statistics
C60-244-30-370-V2#
```

Chapter 3 CLOCK of CLI

Manage the system clock.

Syntax

clock set <HH:MM:SS> <month> <day> <year>

Parameter

set	Manually set the system clock	
	< HH:MM:SS >	Current time in hours (24 Hour format), minutes, and seconds.
	<month>	jan Month January feb Month February mar Month March apr Month April may Month May jun Month June jul Month July aug Month August sep Month September oct Month October nov Month November dec Month December
	<day>	Current day in the month.Current year
	<year>	<2000-2035>

Example

```
C60-244-30-370-V2# clock set 16:54:00 jan 7 2022
C60-244-30-370-V2#
```

Chapter 4 CONFIGURE Commands of CLI

Table : CONFIGURE Commands

Command	Function
aaa	Authentication, Authorization, Accounting
boot	Booting Operations
clock	Manage the system clock
custom	Custom Module configuration
dido	Digital I/O Configuration
dos	DoS information
dot1x	IEEE Standard for port-based Network Access Control
do	To run exec commands in current mode
end	End current mode and change to enable mode
errdisable	Error Disable
exit	Exit current mode and down to previous mode
hostname	Set system's network name
interface	Select an interface to configure
ip	IP information
ipv6	IPv6 information
jumbo-frame	Jumbo Frame configuration
lacp	LACP Configuration
lag	Link Aggregation Group Configuration
line	To identify a specific line for configuration
lldp	Global LLDP configuration subcommands
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
mirror	Mirror configuration
no	Negate command
ntp	Network Time Protocol
port-security	Port Security
power	Power-over-Ethernet Configuration
qos	QoS configuration

```
snmp              SNMP information
spanning-tree     Spanning-tree configuration
storm-control     Storm control configuration
system           System information
username        Local User
vlan             VLAN configuration
```

4-1 configure

Configure from the terminal.

Syntax

configure

Example

```
C60-244-30-370-V2# configure
C60-244-30-370-V2(config)#
```

4-1.1 aaa

Authentication, Authorization and Accounting setting.

Syntax

aaa accounting {<ssh>|<telnet>} tacacs {<cr>>|<commands>} <0-15> {<cr>>|<exec>} <cr>

aaa authentication> login {<http>|<https>|<ssh>|<telnet>} local

aaa authentication> login {<http>|<https>|<ssh>|<telnet>} {<radius>|<tacacs>}

aaa authentication> login {<http>|<https>|<ssh>|<telnet>} {<radius>|<tacacs>} local

aaa authentication> login {<http>|<https>|<ssh>|<telnet>} {<radius>|<tacacs>} {<radius>|<tacacs>}

aaa authentication> login {<http>|<https>|<ssh>|<telnet>} {<radius>|<tacacs>} {<radius>|<tacacs>} local

Parameter

accounting	Accounting					
	{<ssh>|<telnet>}	Configure SSH/TELNET				
		tacacs	Use tacacs database for accounting			
			<cr>			
			commands	Cmd Lvl (0..15)		
				<0-15>	Cmd Lvl (0..15)	
					<cr>	
					exec	exec
authentication	Authentication					
	login	Login Authentication				
		{<http>|<https>|	Configure HTTP/HTTPS/SSH/TELNET			

<table>
<tr><td></td><td></td><td><ssh>|<telnet>}</td><td>local</td><td colspan="4">Use local database for authentication</td></tr>
<tr><td></td><td></td><td></td><td></td><td><cr></td><td colspan="3"></td></tr>
<tr><td></td><td></td><td></td><td>{<radius>|
<tacacs>}</td><td colspan="4"></td></tr>
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<tacacs>}</td><td colspan="3"></td></tr>
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<tr><td></td><td></td><td></td><td></td><td></td><td></td><td><cr></td><td></td></tr>
<tr><td>authorization</td><td colspan="7">Authorization</td></tr>
<tr><td></td><td>{<ssh>|<telnet>}</td><td colspan="6">Configure SSH/TELNET</td></tr>
<tr><td></td><td></td><td>tacacs</td><td colspan="5">Use tacacs database for authorization</td></tr>
<tr><td></td><td></td><td></td><td><cr></td><td colspan="4"></td></tr>
<tr><td></td><td></td><td></td><td>commands</td><td colspan="4">Cmd Lvl (0..15)</td></tr>
<tr><td></td><td></td><td></td><td></td><td><0-15></td><td colspan="3">Cmd Lvl (0..15)</td></tr>
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<tr><td></td><td></td><td></td><td></td><td></td><td>{<config-commands>|<fallback>}</td><td>config-commands
/fallback</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td><cr></td></tr>
</table>

Example

```
C60-244-30-370-V2(config)# aaa authentication login http tacacs radius local
C60-244-30-370-V2(config)#
```

4-1.2 boot

To select booting image.

Syntax

boot system {<image0>|<image1>}

Parameter

image0	Runtime image 0
Image1	Runtime image 1

Example

```
C60-244-30-370-V2(config)# boot system image0
C60-244-30-370-V2(config)#
```

4-1.3 clock

To manage the system clock.

Syntax

clock {<source>|<summer-time>|<timezone>}

Parameter

source	Configure an external time source for the system clock
summer-time	Configure the system to automatically switch to summer time (daylight saving time)
timezone	Set the time zone for display purposes

Example

```
C60-244-30-370-V2(config)# clock source local
C60-244-30-370-V2(config)# clock source ntp
C60-244-30-370-V2(config)#
```

4-1.4 custom

To configure custom module.

Syntax

custom enable

Parameter

Example

```
C60-244-30-370-V2(config)# custom enable
C60-244-30-370-V2(config)#
```

4-1.5 dos

To configure DoS.

Syntax

dos {<daeqsa-deny>|<icmp-frag-pkts-deny>|<icmpv4-ping-max-check>|<icmpv6-ping-max-check>|

<ipv6-min-frag-size-check>|<land-deny>|<nullscan-deny>|<pod-deny>|<smurf-deny>|

<syn-sportl1024-deny>|<synfin-deny>|<synrst-deny>|<tcp-frag-off-min-check>|<tcpblat-deny>|

<tcphdr-min-check>|<udpblat-deny>|<udpblat-deny>}

dos icmp-ping-max-length <0-65535>

dos ipv6-min-frag-size-length <0-65535>

dos smurf-netmask <0-32>

dos tcphdr-min-length <0-31>

Parameter

daeqsa-deny	Destination MAC equals to source MAC
icmp-frag-pkts-deny	Fragmented ICMP packets
icmp-ping-max-length	DoS information
icmpv4-ping-max-check	Check ICMPv4 ping maximum packets size
icmpv6-ping-max-check	Check ICMPv6 ping maximum packets size
ipv6-min-frag-size-check	Check minimum size of IPv6 fragments
ipv6-min-frag-size-length	DoS information
land-deny	Source IP equals to destination IP
nullscan-deny	NULL Scan Attacks
pod-deny	Ping of Death Attacks
smurf-deny	Smurf Attacks
smurf-netmask	DoS information
syn-sportl1024-deny	SYN packets with sport less than 1024
synfin-deny	SYN and FIN bits set in the packet
synrst-deny	SYNC and RST bits set in the packet
tcp-frag-off-min-check	TCP fragment packet with offset equals to one
tcpblat-deny	Source TCP port equals to destination TCP port
tcphdr-min-check	Check minimum TCP header
tcphdr-min-length	DoS information
udpblat-deny	Source UDP port equals to destination UDP port

xma-deny	Xmascan: sequence number is zero and the FIN, URG and PSH bits are set

Example

```
C60-244-30-370-V2(config)# dos xma-deny
C60-244-30-370-V2(config)#
```

4-1.6 dot1x

To configure 802.1x.

Syntax

dot1x {<authentication>|<feature>|<guest-vlan>|<max-reauth-req>|

<re-authentication>|<system-auth-control>|<timeout>}

dot1x authentication timer re-authenticate <1-3600>

dot1x feature guest-vlan radius-vlan

dot1x guest-vlan supplicant

dot1x max-reauth-req <1-255>

dot1x re-authentication

dot1x system-auth-control

dot1x timeout tx-period <1-65535>

Parameter

authentication	Authentication
feature	Globally enables/disables a dot1x feature functionality
guest-vlan	Guest VLAN
max-reauth-req	The number of times a Request Identity EAPOL frame is sent without response before considering entering the Guest VLAN
re-authentication	Set Re-authentication state
system-auth-control	Set the global 802.1x state
timeout	timeout

Example

```
C60-244-30-370-V2(config)# dot1x authentication timer re-authenticate
<1-3600>
```

4-1.7 do

To run exec commands in current mode.

Syntax

do <command for exec mode>

Parameter

Example

```
C60-244-30-370-V2(config)# do show users
   Username      Protocol         Location
--------------- ------------ ------------------------
      admin      console     0.0.0.0
C60-244-30-370-V2(config)#
```

4-1.8 end

End current mode and change to enable mode.

Syntax

end

Example

```
C60-244-30-370-V2(config)# end
C60-244-30-370-V2#
```

4-1.9 erps

Ethernet Ring Protection Switching(ERPS) settings.

Syntax

erps {<cr>|<instance>|<node-id>|<ring>|<vlan-group>}

Parameter

instance	ERPS Ring Instance
node-id	ERPS Node Id
ring	Name of a specific ERPS ring
Vlan-group	ERPS Ring Instance

Example

```
C60-244-30-370-V2(config)# erps
C60-244-30-370-V2#
```

4-1.10 errdisable

Error Disable.

Syntax

errdisable recovery cause {<acl>|<all>|<arp-inspection>|<bpduguard>|<broadcast-flood>|
<dhcp-rate-limit>|<psecure-violation>|<selfloop>|
<unicast-flood>|<unknown-multicast-flood>}

errdisable recovery interval <interval_time>

Parameter

cause	Error Disabled caused reason	
	acl	Enable timer to recover from acl causes
	all	Enable timer to recover from all causes
	arp-inspection	Enable timer to recover from arp rate limit causes
	bpduguard	Enable timer to recover from bpdu guard causes
	broadcast-flood	Enable timer to recover from broadcast flood causes
	dhcp-rate-limit	Enable timer to recover from dhcp rate limit causes
	psecure-violation	Enable timer to recover from port security causes
	selfloop	Enable timer to recover from selfloop causes
	unicast-flood	Enable timer to recover from unicast flood causes
	unknown-multicast-flood	Enable timer to recover from unknown multicast flood
interval	Recovery interval	
	<interval_time>	Interval with the number of seconds (30-86400)

Example

```
C60-244-30-370-V2(config)# errdisable recovery cause
unknown-multicast-flood
```

4-1.11 exit

Exit current mode and down to previous mode.

Syntax

exit

Example

```
C60-244-30-370-V2(config)# exit
C60-244-30-370-V2#
```

4-1.12 hostname

To set system's network name.

Syntax

hostname <system_network_name>

Parameter

system_network_name	System network name (1-32 words)

Example

```
C60-244-30-370-V2(config)# hostname C60-244-30-370-V2
C60-244-30-370-V2(config)#
```

4-1.13 interface

Select an interface to configure.

Syntax

interface GigabitEthernet <port_number>

interface LAG <lag_id>

interface range GigabitEthernet <port_list>

interface range LAG <lag_list>

Parameter

GigabitEthernet	Gigabit ethernet interface to configure			
	<port_number>	Port number		
LAG	IEEE 802.3 Link Aggregation interface			
	<lag_id>	LAG id		
range	Interface range command			
	GigabitEthernet	Gigabit ethernet interface to configure		
		<port_list>	Port List X-Y,Z	
			acl	acl
			back-pressure	Enable back-pressure
			custom	Custom Module configuration
			description	Interface specific description
			dos	DoS information
			do	To run exec commands in current mode
			duplex	Configure duplex operation
			eee	EEE configuration
			end	End current mode and change to enable mode
			exit	Exit from current mode
			flowcontrol	Configure flow-control mode
			ip	IP information
			lacp	LACP Configuration
			lag	Link Aggregation Group Configuration
			lldp	LLDP interface subcommands
			mac	MAC configuration
			no	Negate command
			port-security	Port Security
			power	Power-over-Ethernet Configuration
			protected	Configure an interface to be a protected port
			qos	QoS configuration

			rate-limit	Rate limit configuration of the specified incoming traffic
			shutdown	Shutdown the selected interface
			spanning-tree	Spanning-tree configuration
			speed	Configure speed operation
			storm-control	Storm control configuration
			switchport	Set switching mode characteristics
	LAG	IEEE 802.3 Link Aggregation interface		
		<lag_list>	LAG List X-Y,Z	
			back-pressure	Enable back-pressure
			custom	Custom Module configuration
			description	Interface specific description
			dos	DoS information
			do	To run exec commands in current mode
			duplex	Configure duplex operation
			end	End current mode and change to enable mode
			exit	Exit from current mode
			flowcontrol	Configure flow-control mode
			ip	IP information
			mac	MAC configuration
			no	Negate command
			protected	Configure an interface to be a protected port
			qos	QoS configuration
			shutdown	Shutdown the selected interface
			spanning-tree	Spanning-tree configuration
			speed	Configure speed operation
			switchport	Set switching mode characteristics

Example

```
C60-244-30-370-V2(config)# interface GigabitEthernet 1
C60-244-30-370-V2(config-if)#
```

4-1.13.1 acl

Access control list configuration.

Syntax

acl bind ACL_NAME {<cr>|<seq>}

no acl bind ACL_NAME

Example

```
C60-244-30-370-V2(config-if)# acl bind abc
C60-244-30-370-V2(config-if)# no acl bind abc
C60-244-30-370-V2(config-if)#
```

4-1.13.2 back-pressure

Back-pressure configuration.

Syntax

back-pressure

no back-pressure

Example

```
C60-244-30-370-V2(config-if)# back-pressure
C60-244-30-370-V2(config-if)# no back-pressure
C60-244-30-370-V2(config-if)#
```

4-1.13.3 custom

Per port custom module configuration

Syntax

custom enable

no custom enable

Parameter

custom enable	Enable per port custom function
no custom enable	Disable per port custom function

Example

```
C60-244-30-370-V2(config-if)# custom enable
C60-244-30-370-V2(config-if)# no custom enable
C60-244-30-370-V2(config-if)#
```

4-1.13.4 description

Interface specific description

Syntax

description <WORD>

no description

Parameter

WORD	Description string (1-63 words)

Example

```
C60-244-30-370-V2(config-if)# description desc_word
C60-244-30-370-V2(config-if)# no description
C60-244-30-370-V2(config-if)#
```

4-1.13.5 dos

Per port DoS-related function configuration

Syntax

dos

no dos

Parameter

dos	Enable per port DoS function
no dos	Disable per port DoS function

Example

```
C60-244-30-370-V2(config-if)# dos
C60-244-30-370-V2(config-if)# no dos
C60-244-30-370-V2(config-if)#
```

4-1.13.6 do

To run exec commands in current mode

Syntax

do <sequence>

Parameter

sequence	Exec Command

Example

```
C60-244-30-370-V2(config-if)# do show info
System Name      : C60-244-30-370-V2
System Location  :
System Contact   :
MAC Address      : 68:8D:B6:00:00:00
IP Address       : 192.168.11.199
Subnet Mask      : 255.255.255.0
Loader Version   : 2.0.0.1
Loader Date      : Jan 11 2022 - 13:46:46
Firmware Version : 2.0.1.3_vk
Firmware Date    : Jan 11 2022 - 13:52:13
System Object ID : 1.3.6.1.4.1.27282.3.2.10
System Up Time   : 0 days, 0 hours, 40 mins, 3 secs
C60-244-30-370-V2(config-if)#
```

4-1.13.7 duplex

Per Port duplex configuration

Syntax

Duplex {<auto>|<full>|<half>}

Parameter

auto	Enable auto duplex configuration
full	Force full duplex operation
half	Force half duplex operation

Example

```
C60-244-30-370-V2(config-if)# duplex auto
C60-244-30-370-V2(config-if)#
```

4-1.13.8 eee

Per port EEE configuration

Syntax

eee

no eee

Parameter

eee	Enable per port EEE function
no eee	Disable per port EEE function

Example

```
C60-244-30-370-V2(config-if)# eee
C60-244-30-370-V2(config-if)# no eee
C60-244-30-370-V2(config-if)#
```

4-1.13.9 end

End current mode and change to enable mode

Syntax

end

Example

```
C60-244-30-370-V2(config-if)# end
C60-244-30-370-V2#
```

4-1.13.10 exit

Exit from current mode

Syntax

exit

Example

```
C60-244-30-370-V2(config-if)# exit
C60-244-30-370-V2(config)#
```

4-1.13.11 flowcontrol

Per port flow control configuration

Syntax

flowcontrol {<auto>|<off>|<on>}

Parameter

auto	Enable per port auto mode flow control
off	Disable per port flow control function
on	Force on per port flow control function

Example

```
C60-244-30-370-V2(config-if)# flowcontrol auto
C60-244-30-370-V2(config-if)#
```

4-1.13.12 ip

Per port IP information.

Syntax

ip igmp filter <1-128>

ip igmp max-groups <0-256>

ip igmp max-groups action {<deny>|<replace>}

Parameter

filter	IPv4 filter	
	<1-128>	IPv4 filter profile index
max-groups	IGMP snooping max group number 0~256	

	deny	IGMP max-group action deny
	replace	IGMP max-group action replace

Example

```
C60-244-30-370-V2(config-if)# ip igmp filter 1
C60-244-30-370-V2(config-if)#
```

4-1.13.13 lacp

Per port LACP-related function configuration

Syntax

lacp priority <1-65535>

lacp timeout {<fast>|<slow>}

no lacp priority

no lacp timeout

Parameter

priority	IEEE 802.3 link aggregation port priority	
	<1-65535>	Port-priority value
timeout	IEEE 802.3 link aggregation port timeout	
	fast	Long timeout value
	slow	Short timeout value

Example

```
C60-244-30-370-V2(config-if)# lacp timeout slow
C60-244-30-370-V2(config-if)#
```

4-1.13.14 lag

Per port llnk aggregation group configuration.

Syntax

lag <lag-id> lacp {<active>|<passive}

lag <lag-id> mode static

no lag

Parameter

<lag-id>	configure port as LAG <lag-id> member port		
	mode	Set LAG mode	
		static	Enable Static Only
	lacp	LACP Configuration	
		active	active mode
		passive	passive mode

Example

```
C60-244-30-370-V2(config-if)# lag 1 lacp active
C60-244-30-370-V2(config-if)#
```

4-1.13.15 lldp

Per port LLDP function configuration

Syntax

lldp rx

lldp tlv-select {<TLV>|pvid {<enable>|<disable>}|vlan-name {add <VLAN-LIST>|remove <VLAN-LIST>}}

lldp tx

no lldp rx

no tlv-select

no tlv-select pvid

no lldp tx

Parameter

rx	Enable LLDP reception on interface

tlv-select	Selection of LLDP TLVs to send			
	TLV	LLDP optional TLV, pick from: port-desc, sys-name, sys-desc, sys-cap, mac-phy, lag, max-frame-size, management-addr		
	pvid	disable	Disable Tx optional-TLV 802.1 PVID	
		enable	Enable Tx optional-TLV 802.1 PVID	
	vlan-name	Add/remove VLAN for advertise		
		add	<VLAN_LIST>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 0 to 4095
		remove	<VLAN_LIST>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 0 to 4095
tx	Enable LLDP transmission on interface			

Example

```
C60-244-30-370-V2(config-if)# lldp tx
C60-244-30-370-V2(config-if)#
```

4-1.13.16 mac

Per port mac address table configuration

Syntax

mac address-table learn {<auto>|<disable>|<secure>}

Parameter

auto	Learning is done automatically
disable	No learning
secure	Only static MAC entries are learned, all other frames are dropped.

Example

```
C60-244-30-370-V2(config-if)# mac address-table learn secure
C60-244-30-370-V2(config-if)#
```

4-1.13.17 port-security

Per port port-security function configuration.

Syntax

port-security {<cr>|<address-limit>|<mac-address>|<violation>}

no port-security {<cr>|<address-limit>|<mac-address>|<violation>}

Parameter

address-limit	MAC address limitation
mac_address	Sticky MAC address
violation	Action to be taken when limitation is reached

Example

```
C60-244-30-370-V2(config-if)# port-security
C60-244-30-370-V2(config-if)#
```

4-1.13.18 power

Per port power over ethernet (PoE) configuration.

Syntax

power inline auto

power inline auto-check {<action>|<interval>|<ip>|<reboot-max>|<reboot-time>|<retry>|<start-time>}

power inline delay initial {<cr>|<0-300>}

power inline bt

power inline poh

power inline force

power inline limit <0-30000>

power inline never

power inline priority {<critical>|<high>|<low>}

power inline schedule <schedule_profile_number>

no power inline {<delay>|<limit>|<schedule>}

Parameter

auto	Turns on the device discovery protocol and applies power to the device.		
auto_check	Auto check funtion		
	action	ilpower port auto check action	
	interval	ilpower port auto check interval	
	ip	ilpower port auto check ip	
	reboot-max	ilpower port auto check maximum reboot times	
	reboot-time	ilpower port auto check reboot time	
	retry	ilpower port auto check retry times	
	start-time	ilpower port auto check start time	
delay	**initial**	Initial power enable	
		<0-300>	Specifies the port power delay time in seconds
force	The switch port will power up the linked PD without any detect/negotiate mechanism		
bt	BT Mode		
poh	POH Mode		
limit	The port limit of the interface from the point of view of inline power management		
	<0-30000>	Specify the port limit in milliwatt	
never	Turns off the device discovery protocol and stops supplying power to the device		
priority	ilpower port priority		
	critical	Specifies that the powered device operation is critical	
	high	Specifies that the powered device operation is high	
	low	Specifies that the powered device operation is low	
schedule	Schedule Profile Configuration		
	<1-10>	Schedule Profile number	

Example

```
C60-244-30-370-V2(config-if)# power inline schedule 1
C60-244-30-370-V2(config-if)#
```

4-1.13.19 protected

Per port protected function configuration.

Syntax

protected

no protected

Example

```
C60-244-30-370-V2(config-if)# protected
C60-244-30-370-V2(config-if)#
```

4-1.13.20 qos

Per port QoS-related configuration

Syntax

qos {<cos>|<queue>|<remark>|<schedule>|<trust>}

Parameter

cos	Configure the default CoS value for a port. Use the no form of the command to return to the default setting.
queue	Queue configuration
remark	Configure remarking state of each port
schedule	QoS scheduling algorithm
trust	Configure each port to trust state while the system is in basic mode. Use the no form of the command to disable trust state on each port

Example

```
C60-244-30-370-V2(config-if)# qos schedule wfq
C60-244-30-370-V2(config-if)#
```

4-1.13.21 rate-limit

Per port rate limit configuration

Syntax

rate-limit egress <16-1000000>

rate-limit egress queue <queue_id> <16-1000000>

rate-limit ingress <16-1000000>

no rate-limit egress queue <queue_id>

no rate-limit ingress

Parameter

<table>
<tr><td rowspan="6">egress</td><td colspan="4">Rate limit args egress configuration</td></tr>
<tr><td><16-1000000></td><td colspan="3">The average traffic rate in Kbps, must be a multiple of 16</td></tr>
<tr><td rowspan="4">queue</td><td colspan="3">queue configuration</td></tr>
<tr><td rowspan="3"><queue_id></td><td colspan="2">queue id</td></tr>
<tr><td rowspan="2"><16-1000000></td><td rowspan="2">The average traffic rate in Kbps, must be a multiple of 16</td></tr>
<tr></tr>
<tr><td rowspan="2">ingress</td><td colspan="4">Rate limit args ingress configuration</td></tr>
<tr><td><16-1000000></td><td colspan="3">The average traffic rate in Kbps, must be a multiple of 16</td></tr>
</table>

Example

```
C60-244-30-370-V2(config-if)# rate-limit ingress 16000
C60-244-30-370-V2(config-if)#
```

4-1.13.22 shutdown

Shutdown the selected interface

Syntax

shutdown

no shutdown

Parameter

shutdown shutdown the interface

no shutdown turn on the interface

Example

```
C60-244-30-370-V2(config-if)# shutdown
C60-244-30-370-V2(config-if)#
```

4-1.13.23 spanning-tree

Per port spanning tree configuration

Syntax

spanning-tree

spanning-tree bpdu-filter

spanning-tree bpdu-guard

spanning-tree cost <0-200000000>

spanning-tree edge

spanning-tree link-type {<point-to-point>|<shared>}

spanning-tree mcheck

spanning-tree mst <0-15> **cost** <0-200000000>

spanning-tree mst <0-15> **port-priority** <0-240>

spanning-tree port-priority <0-240>

Parameter

bpdu-filter	Sets the BPDU-Filter for specified port	
bpdu-guard	Sets the BPDU-Guard for specified port	
cost	Change an interface's spanning tree path cost	
	<0-200000000>	The value of external path cost (0 = Auto)
edge	Sets the edge-port for specified port	

link-type	Specify a link type for spanning tree protocol use			
	<point-to-point>	Consider the interface as point-to-point		
	<shared>	Consider the interface as shared		
mcheck	Set the mcheck for specified port to migrate			
mst	Sets spanning-tree parameters of instance			
	<0-15>	Instance ID (0~15)		
		cost	Sets the internal path cost for specified instance	
			<0-200000000>	The value of internal path cost (0 = Auto)
		port-priority	Sets the priority for specified instance	
			<0-240>	Priority (0~240)
port-priority	Sets the priority for specified instance			
	<0-240>	Priority (0~240)		

Example

```
C60-244-30-370-V2(config-if)# spanning-tree link-type point-to-point
C60-244-30-370-V2(config-if)#
```

4-1.13.24 speed

Per port speed configuration

Syntax

speed {10|100|1000|auto}

Parameter

Example

```
C60-244-30-370-V2(config-if)# speed 1000
C60-244-30-370-V2(config-if)#
```

4-1.13.25 storm-control

Per port storm-control configuration

Syntax

storm-control {<cr>|<action>|<broadcast>|<unknown-multicast>|<unknown-unicast>}

no storm-control {<cr>|<action>|<broadcast>|<unknown-multicast>|<unknown-unicast>}

Parameter

action	Storm control action after exceed threshold
broadcast	Broadcast storm control
unknown-multicast	Unknown-multicast storm control
unknown-unicast	Unknown-unicast storm control

Example

```
C60-244-30-370-V2(config-if)# storm-control
C60-244-30-370-V2(config-if)#
```

4-1.13.26 switchport

Set per port switching mode characteristics.

Syntax

switchport {<access>|<default-vlan>|<forbidden>|<hybrid>|<mode>|<trunk>}

no switchport {<access>|<default-vlan>|<forbidden>|<hybrid>|<mode>|<trunk>}

Parameter

access	Vlan aware port
default-vlan	Default VLAN
forbidden	Forbidden VLAN
hybrid	Configure switchport in hybrid mode
mode	VLAN mode
trunk	Vlan aware port

Example

```
C60-244-30-370-V2(config-if)# switchport mode access
C60-244-30-370-V2(config-if)#
```

4-1.14 ip

Internet Protocol.

Syntax

ip acl <ACLNAME>

ip address <ipv4_addr> {<cr>|mask <ipv4_mask>}

ip default-gateway <ipv4_addr>

ip dhcp

ip dhcp server

ip dhcp server dhcp-range <pool_start_ipv4_addr> <pool_end_ipv4_addr>

ip dhcp server lease-time <0-864000000>

ip dns <ipv4_addr>

ip http

ip http port <1-65535>

ip http session-timeout <0-65535>

ip https

ip https port <1-65535>

ip https session-timeout <0-65535>

ip igmp profile <1-128>

ip igmp snooping {<cr>|<forward-method>|<report-suppression>|<unknown-multicast>|<version>|<vlan>}

Parameter

acl	This command creates an ACL, which perform classification on layer 3 fields and enters ip-access configuration mode.				
	do	To run exec commands in current mode			
	exit	Exit from current mode			
	icmp	ICMP			
	ip-protocol	IP protocol			
	no	Negate command			
	sequence	Specify sequence of access control entry			
	show	Show running system information			
	tcp	TCP			
	udp	UDP			
address	IPv4 Address				
	A.B.C.D	IP Address format is A.B.C.D where (A/B/C/D = 0 ~ 255)			
		mask	A.B.C.D		
default-gateway	Set default gateway IP address				
	A.B.C.D	Default gateway IP address			
dhcp	DHCP configuration				
	server	dhcp server configuration			
		dhcp-range	IPv4 range		
			A.B.C.D	IPv4 start address	A.B.C.D IPv4 end address
		lease-time	lease time		
			<0-864000000>	0-864000000 seconds (0: infinite)	
dns	DNS				
	A.B.C.D	IP Address format is A.B.C.D where (A/B/C/D = 0 ~ 255)			
http	HTTP server configuration				
	port	Configure port			
		<1-65535>	port number		
	session-timeout	Session timeout configuration			
		<0-65535>	Timeout after specified minutes (0 means no timeout)		
https	HTTPS server configuration				
	port	Configure port			
		<1-65535>	port number		
	session-timeout	Session timeout configuration			
		<0-65535>	Timeout after specified minutes (0 means no timeout)		
igmp	IGMP Configuration				
	profile	IGMP profile			

		<1-128>	Profile index			
	snooping	IGMP Snooping Configuration				
		forward-method	Forward method			
			dip	DIP method		
			mac	MAC method		
		report-suppression	IGMP v1/v2 report suppression			
		unknown-multicast	Unknown multicast			
			action	Action on receiving unknown multicast packets		
				drop	Drop the packets	
				flood	Flood the packets	
				router-port	Forward to router ports	
	version	IGMP Snooping Operation Version				
		2	IGMP Operation Version is v2			
		3	IGMP Operation Version is v3			
	vlan	VLAN configuration				
		VLAN-LIST	VLAN List (e.g. 3,6-8): The range of VLAN ID is 1 to 4094			
			forbidden-port	IPv4 forbidden port configuration		
			forbidden-router-port	Forbidden mrouter port configuration		
			immediate-leave	IGMP snooping immediate-leave function		
			last-member-query-count	Last Member Query Count		
			last-member-query-interval	Last Member Query Interval		
			querier	IGMP snooping querier function		
			query-interval	Query Interval		
			response-time	Response Time		
			robustness-variable	Robustness Variable		
			router	IGMP snooping router		
			static-group	Static group configuration		
			static-port	IPv4 static port configuration		
			static-router-port	Static mrouter port configuration		
ssh	SSH daemon configuration					
	port	Configure port				
		<1-65535>	port number			
telnet	Telnet daemon configuration					
	port	Configure port				
		<1-65535>	port number			

Example

```
C60-244-30-370-V2(config)# ip address 192.168.11.1
C60-244-30-370-V2(config)# ip dhcp server dhcp-range 192.168.11.100
192.168.11.200
C60-244-30-370-V2(config)# ip dhcp server
C60-244-30-370-V2(config)# ip dns_address 8.8.8.8
```

4-1.15 ipv6

IPv6 configuration commands.

Syntax

Ipv6

ipv6 address <ipv6_address> prefix <0-128>

ipv6 default-gateway <ipv6_address>

ipv6 dhcp

Parameter

address	Set IPv6 address and prefix			
	<ipv6_addr>	**prefix**	prefix length	
			<0-128>	lengh value
autoconfig	Enable Ipv6 auto-configuration			
default-gateway	Set IPv6 gateway			
	<ipv6_addr>	IPv6 gateway		
dhcp	Set IPv6 DHCP Client			

Example

```
C60-244-30-370-V2(config)# ipv6 address FC00:: prefix 8
C60-244-30-370-V2(config)#
```

4-1.16 jumbo-frame

Jumbo frame configuration.

Syntax

jumbo-frame {<cr>|<1518-10000>}

Example

```
C60-244-30-370-V2(config)# jumbo-frame
C60-244-30-370-V2(config)#
```

4-1.17 lacp

Lacp system configuration.

Syntax

lacp sys-priority <1-65535>

Parameter

sys-priority	LACP priority for the system	
	<1-65535>	Priority value

Example

```
C60-244-30-370-V2(config)# lacp sys-priority 1
C60-244-30-370-V2(config)#
```

4-1.18 lag

Link aggregation group configuration.

Syntax

lacp load-balance {<src-dst-mac>|<src-dst-mac-ip>}

Parameter

load-balance	Configure load balancing policy of the trunk	
	src-dst-mac	LAG load balancing is based on source and destination MAC address
	src-dst-mac-ip	LAG load balancing is based on source and destination of MAC and IP address

Example

```
C60-244-30-370-V2(config)# lag load-balance src-dst-mac
C60-244-30-370-V2(config)#
```

4-1.19 line

To identify a specific line for configuration.

Syntax

line {<console>|<ssh>|<telnet>}

Parameter

console	Console terminal line
ssh	Virtual terminal for secured remote console access (SSH)
telnet	Virtual terminal for remote console access (Telnet)

Example

```
C60-244-30-370-V2(config)# line console
C60-244-30-370-V2(config)#
```

4-1.20 lldp

LLDP configuration.

Syntax

lldp holdtime-multiplier <2-10>

lldp lldpdu {<filtering>|<bridging>|<flooding>}

lldp reinit-delay <1-10>

lldp tx-delay <1-8192>

lldp tx-interval <5-32767>

Parameter

holdtime-multiplier	Configuration of multiplier used for calculating the LLDP discovery packet hold time	
	<2-10>	Multiplier used for calculating the LLDP discovery packet hold time
lldpdu	Configure the action on LLDPDU upon disabled LLDP	
	bridging	Bridging LLDP PDU to VLAN member ports
	filtering	Drop LLDP PDU
	flooding	Flooding LLDP PDU to all ports (VLAN unawared)
reinit-delay	Delay (in sec) for LLDP initialization on any interface	
	<1-10>	Specify the delay (in secs) for LLDP to initialize
tx-delay	Delay between successive LLDP frame transmission	
	<1-8192>	LLDP Tx-delay time in seconds
tx-interval	Specify the rate at which LLDP packets are sent (in sec)	
	<5-32768>	Rate at which LLDP packets are sent (in sec)

Example

```
C60-244-30-370-V2(config)# lldp holdtime-multiplier 5
C60-244-30-370-V2(config)# lldp tx-delay 1
C60-244-30-370-V2(config)# lldp tx-interval 5
C60-244-30-370-V2(config)#
```

4-1.21 logging

Log Configuration.

Syntax

logging {<cr>|<buffered>|<console>|<file>} severity <0-7>

logging host

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} facility <local0-local7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> facility <local0-local7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> severity <0-7>

logging host {<ipv4_addr>|<hostname>|<ipv6_addr>} port <1-65535> severity <0-7> facility <local0-local7>

Parameter

<table>
<tr><td rowspan="3">buffered / console / file</td><td colspan="3">Buffered logging / Console logging / File logging</td></tr>
<tr><td>severity</td><td colspan="2">Specify logging level</td></tr>
<tr><td><0-7></td><td>Minimum severity <0-7> (EMEGR-DEBUG)</td></tr>
<tr><td rowspan="5">host</td><td colspan="3">Remote syslog host</td></tr>
<tr><td rowspan="4"><ipv4_addr> /
Hostname /
<ipv6_addr></td><td colspan="2">Valid IP v4 Address / Host name / Valid IP v6 Address</td></tr>
<tr><td>facility</td><td>Specify facility parameter for syslog messages</td></tr>
<tr><td>port</td><td>Remote server port, default 514</td></tr>
<tr><td>severity</td><td>Specify logging level</td></tr>
</table>

Example

```
C60-244-30-370-V2(config)# logging host 10.10.10.1 facility local7
C60-244-30-370-V2(config)# logging console severity 5
C60-244-30-370-V2(config)#
```

4-1.22 loop-prevention

Loop prevention configuration.

Syntax

loop-prevention

Example

```
C60-244-30-370-V2(config)# loop-prevention
C60-244-30-370-V2(config)#
```

4-1.23 mac

MAC address table configuration.

Syntax

mac acl <ACLNAME>

mac address-table {<aging>|<aging-time>|<static>}

Parameter

acl	This command enters the extended MAC ACL configuration in order to create layer 2 extended ACL.		
	do	To run exec commands in current mode	
	etype-value	Ether type value	
	exit	Exit from current mode	
	no	Negate command	
	sequence	Specify sequence of access control entry	
	show	Show running system information	
	smac	Source MAC address field	
address-table	aging	aging state	
	aging-time	aging time of the address table	
		<10-630>	Aging-time range in seconds indicating how long an entry remain in mac address table
	static	Static MAC address	

Example

```
C60-244-30-370-V2(config)# mac address-table aging
C60-244-30-370-V2(config)#
```

4-1.24 management vlan

Management VLAN configuration.

Syntax

management-vlan vlan <1-4094>

Parameter

<1-4094>	VLAN ID

Example

```
C60-244-30-370-V2(config)# management-vlan vlan 1
C60-244-30-370-V2(config)#
```

4-1.25 mirror

Mirror configuration.

Syntax

mirror session <1-4> source interface GigabitEthernet <port_id> {<both>|<tx>|<rx>}

mirror session <1-4> source interface LAG <lag_id> {<both>|<tx>|<rx>}

mirror session <1-4> destination interface GigabitEthernet <port_id> {<cr>|<allow-ingress>}

Parameter

session	Mirror Session configuration

	<1-4>	Session ID (e.g. 1-4)configuraton	
		destination	Mirror destination configuration
		source	Mirror Source configuration

Example

```
C60-244-30-370-V2(config)# mirror session 1 destination interface GigabitEthernet
1 allow-ingress
C60-244-30-370-V2(config)#
```

4-1.26 no

Negate a command or set its defaults.

Table : configure – no Commands

Command	Function
aaa	Authentication, Authorization, Accounting
clock	Manage the system clock
custom	Custom Module configuration
dos	DoS information
dot1x	IEEE Standard for port-based Network Access Control
errdisable	Error Disable
ip	IP information
ipv6	IPv6 information
jumbo-frame	Jumbo Frame configuration
lacp	LACP Configuration
lag	Link Aggregation Group Configuration
lldp	Global LLDP configuration subcommands
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
mirror	Mirror configuration
ntp	Network Time Protocol
port-security	Port Security
power	Power-over-Ethernet Configuration
qos	QoS configuration
snmp	SNMP information

spanning-tree	Spanning-tree configuration
username	Local User
vlan	VLAN configuration

4-1.27 ntp

Configure NTP.

Syntax

ntp host {<ip_address>|<hostname>} port <1-65535>

Parameter

ip_address	Valid IP v4 address
hostname	Host name

Example

```
C60-244-30-370-V2(config)# ntp host 118.163.81.61 port 123
C60-244-30-370-V2(config)#
```

4-1.28 port-security

Port security configuration.

Syntax

port-security

port-security rate-limit <1-600>

Parameter

rate-limit	Rate limiter to protect the CPU against excessive load	
	<1-600>	Rate in packet per second (pps)

Example

```
C60-244-30-370-V2(config)# port-security rate-limit 300
C60-244-30-370-V2(config)#
```

4-1.29 power

Power over Ethernet (PoE) configuration.

Syntax

power inline auto-check

power inline limit-mode {<class>|<port>}

power inline schedule <1-10> name <profile_name>

power inline schedule <1-10> weekday <1-7> {<start>|<end>} hour <0-23> minute <0-59>

Parameter

auto-check	The auto refresh function of the interface from the point of view of inline power management	
limit-mode	PoE power limit mode of the system	
	class	The power limit of a port is fixed regardless of the class of the discovered PD
	port	The power limit of a port is based on the class of the PD as detected during the classification process
schedule	Schedule Profile Configuration	

Example

```
C60-244-30-370-V2(config)# power inline limit-mode class
C60-244-30-370-V2(config)#
```

4-1.30 qos

Quality of Service.

Syntax

qos

qos map {<cos-queue>|<dscp-queue>|<precedence-queue>|<queue-cos>|<queue-dscp>|
<queue-precedence>}

qos queue strict-priority-num <0-8>

qos queue weight <1-8>

qos trust {<cos>|<cos-dscp>|<dscp>|<precedence>}

Parameter

map	Configure the QoS maps	
	cos-queue	Map assigned CoS values to select an egress queue. Use the command no form to return to the default values.
	dscp-queue	Modify the DSCP to queue map.
	precedence-queue	Modify the IP Precedence to queue map.
	queue-cos	Modify the queue to CoS map.
	queue-dscp	Modify the queue to DSCP map.
	queue-precedence	Modify the queue to ip precedence map.
queue	Queue configuration	
	strict-priority-num	Configure the number of strict priority queues
	weight	Configure weights to egress queues. Use no form to return to default values
trust	Configure the global trust mode . Use the no form to return untrusted state.	
	cos	Specify trust mode cos.
	cos-dscp	Specify trust mode Cos-DSCP.
	dscp	Specify trust mode DSCP.
	precedence	Specify trust mode precedence

Example

```
C60-244-30-370-V2(config)# qos
C60-244-30-370-V2(config)#
```

4-1.31 snmp

SNMP server's configuration.

Syntax

snmp

snmp community <community_string> (ro | rw)

snmp host {<ipv4_addr>|<hostname>|<ipv6_addr>}

snmp trap

Parameter

community	Set community or security name string		
	<community_string>	Community name (maximum length is 20 characters)	
		ro	Set community access read_only
		rw	Set community access read_write
host	Trap or inform host		
trap	SNMP trap setting		
	auth	Set snmp authentication failure trap	
	cold-start	Set snmp bootup cold start-up trap	
	linkUpDown	Set snmp link up and down trap	
	warm-start	Set snmp bootup warm start-up trap	

Example

```
C60-244-30-370-V2(config)# snmp
C60-244-30-370-V2(config)# snmp community abcd rw
C60-244-30-370-V2(config)#
```

4-1.32 spanning-tree

Spanning Tree protocol.

Table : configure –spanning-tree Commands

Command	Function
mst configuration	Enter MST configuration submode

Syntax

spanning-tree

spanning-tree bpdu (filtering | flooding)

spanning-tree forward-delay <4-30>

spanning-tree hello-time <1-10>

spanning-tree max-hops <1-40>

spanning-tree maximum-age <6-40>

spanning-tree mode [stp | rstp | mstp]

spanning-tree mst <0-15> priority <0-61440>

spanning-tree pathcost method (long | short)

spanning-tree priority <0-61440>

spanning-tree tx-hold-count <1-10>

Parameter

bpdu	Configure default bpdu action.
filtering	BPDU packets are filtered on STP-disable ports.
flooding	BPDU packets are flooding to all ports when STP-disable.
forward-delay	Configure forward-delay parameter.
<4-30>	Forward-delay time in seconds.
hello-time	Configure hello-time parameter.
<1-10>	Configure hello time in seconds.
max-hops	Configure MSTP bridge max hop count.
<1-40>	Configure maximum number of hops.
maximum-age	Configure the age time for receiving control packet from root switch.
<6-40>	Age time of control packet from root switch.
mode	Spanning tree protocol type
mst	MSTP bridge instance
<0-15>	MST instance ID , 0 is for CIST (0..15)
priority	Priority of the instance

spanning-tree	Enable spanning-tree protocol.
tx-hold-count	Configure tx-hold-count in seconds.
<1-10>	Tx-hold counts.

Example

```
C60-244-30-370-V2(config)# spanning-tree mode stp
C60-244-30-370-V2(config)#
```

4-1.32.1 mst configuration

STP bridge instance configuration submenu.

Syntax

spanning-tree mst configuration

instance <0-15> vlan <vlan_list>

name <word32>

revision <0-65535>

Parameter

mst configuration	Enter MST configuration submode.
Instance	Sets spanning-tree parameters of instances.
<0-15>	MST instance ID , 0 is for CIST (0..15)
vlan	Add the MSTI-to-VLAN mapping.
<vlan_list>	List of VLAN numbers, 1~4094.
name	Name keyword
<word32>	Name of the bridge (word32)
revision	Set revision level.
<0-65535>	Revision level (0..65535)

Example

```
C60-244-30-370-V2(config)# spanning-tree mst 7 vlan 10
C60-244-30-370-V2(config)#
```

4-1.33 storm-control

Storm control configuration.

Syntax

storm-control ifg {<exclude>|<include>}

storm-control unit {<bps>|<pps>}

Parameter

ifg	Interframe configuration	
	exclude	Exclude preamble and IFG
	include	Include preamble and IFG
unit	Unit configuration	
	bps	Bits per second
	pps	Packets per second

Example

```
C60-244-30-370-V2(config)# storm-control ifg exclude
C60-244-30-370-V2(config)#
```

4-1.34 system

Set the system information configuration.

Syntax

system contact <word255>

system location <word255>

system name <word32>

Parameter

contact	Set host contact	
	<word255>	contact string (word255)
location	Set host location	
	<word255>	location string (word255)
name	Set host name	
	<word32>	name string (word32)

Example

```
C60-244-30-370-V2(config)# system contact ”Contact here”
C60-244-30-370-V2(config)#
```

4-1.35 username

Enable telnet server.

Syntax

username WORD<0-32> {<encrypted>|<password>} <PASSWORD>

Example

```
C60-244-30-370-V2(config)# username ”user_1” password ”pwd_1”
C60-244-30-370-V2(config)#
```

4-1.36 vlan

VLAN configuration.

Syntax

vlan {<vlan_list>|<ip-subnet>|<mac>|<protocol>}

Parameter

<vlan_list>	VLAN List (e.g. 3,6-8): The range of VLAN ID is 1 to 4094
<ip-subnet>	IP subnet based VLAN commands
<mac>	MAC-based VLAN commands
<protocol>	Protocol-based VLAN commands

Example

```
C60-244-30-370-V2(config)# vlan 3,6-8
C60-244-30-370-V2(config)#
```

4-1.37 dido

Digital I/O Configuration.

Syntax

dido di {<abnormal>|<normal>} event-description <event_description>

dido di normal-mode {<high>|<low>}

dido di trigger-mode {<off>|<on>}

dido do auto-recovery

dido do mode {<close>|<open>}

dido do normal-mode {<close>|<open>}

dido do pulse-duration <1-300>

dido do value> {<close>|<open>}

Parameter

di	Digital Input (DI) Configuration		
	abnormal / normal	DI Abnormal Event Description Configuration / DI Abnormal Event Description Configuration	
		event-description	DI event Configuration

			event_description	DI event description
	normal-mode	DI Normal Mode Configuration		
		high	Define DI High as Normal Mode	
		low	Define DI Low as Normal Mode	
	trigger-mode	DI trigger mode configuration		
		off	Off	
		on	On	
do	Digital Output (DO) Configuration			
	auto-recovery	DO auto recovery		
	mode	DO Normal Mode Configuration		
		close	Define DO Close as Normal Mode	
		open	Define DO Open as Normal Mode	
	normal-mode	DO Normal Mode Configuration		
		close	Define DO Close as Normal Mode	
		open	Define DO Open as Normal Mode	
	pulse-duration	Timer interval with the number of seconds		
		<1-300>	Timer interval range in seconds	
	value	DO Normal Mode Configuration		
		close	Define DO Close as Normal Mode	
		open	Define DO Open as Normal Mode	

Example

```
C60-244-30-370-V2(config)# dido do auto-recovery
C60-244-30-370-V2(config)#
```

Chapter 5 COPY Commands of CLI

Copy from source to destination.

Syntax

copy backup-config {<running-config>|<startup-config>|<tftp://server/path-to-file>}

copy flash:image {<flash:image>|<tftp://server/path-to-file>}

copy running-config {< backup-config>|<startup-config>|<tftp://server/path-to-file>}

copy startup-config {<running-config>|<backup-config>|<tftp://server/path-to-file>}

copy tftp://server/path-to-file {<backup-config>|<flash:image>|<running-config>|<startup-config>|<tftp://server/path-to-file>}

Parameter

backup-config	Backup configuration.
flash:image	Copy from flash: file system
running-config	Running configuration
startup-config	Startup configuration
tftp://server/path-to-file	Copy from tftp: file system

Example

```
C60-244-30-370-V2# copy tftp://192.168.137.100/vmlinux.bix flash://image
Downloading file. Please wait...
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Correct FW[C60-244-30-370-V2_v1.2.3.7] for model[C60-244-30-370-V2]
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Upgrade firmware success. Do you want to reboot now? (y/n)y
```

Chapter 6 DEBUG of CLI

Table : DEBUG Commands

Command	Function
acl	acl
igmp	igmp
l2	l2
lag	lag
lldp	lldp
platform	platform
power	power-over-ethernet configuration
psecure	port security
spanning-tree	spanning-tree configuration
time	time
vlan	vlan

Chapter 7 DELETE Commands of CLI

Delete a file from the flash file system.

Syntax

delete {<backup-config>|<flash:image>|<startup-config>|<system>}

Parameter

backup-config	Backup configuration.	
flash:image	Delete a file from the flash file system	
startup-config	Startup configuration	
system	Run time firmware image	
	image0	Runtime image 0
	image1	Runtime image 1

Example

```
C60-244-30-370-V2# delete flash://startup-config
Delete flash://startup-config [y/n] y
*Dec 04 2020 11:10:35: %SYSTEM-5: System restore to default
Do you want to reload the system to take effect? [y/n]
```

Chapter 8 DISABLE of CLI

Turn off privileged mode command.

Syntax

disable

Example

```
C60-244-30-370-V2# disable
```

Chapter 9 END of CLI

End current mode and change to enable mode.

Syntax

end

Example

```
C60-244-30-370-V2# end
```

Chapter 10 EXIT of CLI

Exit current mode and down to previous mode.

Syntax

exit

Parameter

Example

```
C60-244-30-370-V2# exit
```

Turn off debug mode.

Syntax

no debug {<acl>|<igmp>|<l2>|<lag>|<lldp>|<platform>|<power>|<psecure>|<spanning-tree>|<time>|<vlan>}

Parameter

Table : DEBUG Commands

Command	Function
acl	acl
igmp	igmp
l2	l2
lag	lag
lldp	lldp
platform	platform
psecure	port security
spanning-tree	spanning-tree configuration
time	time
vlan	vlan

Example

```
C60-244-30-370-V2# no debug l2
```

Chapter 12 PING Commands of CLI

Send ICMP ECHO_REQUEST to network hosts

Syntax

ping {<ipv4_addr>|<HOSTNAME>|<ipv6_addr>} {<cr>|<count>} <1-65535>

Parameter

<ipv4_addr>	Valid ipv4 address.
HOSTNAME	Host name
<ipv6_addr>	Valid ipv6 address.

Example

```
C60-244-30-370-V2# ping 1.1.1.1 count 2
PING 1.1.1.1 (1.1.1.1): 56 data bytes
64 bytes from 1.1.1.1: icmp_seq=0 ttl=54 time=20.0 ms
64 bytes from 1.1.1.1: icmp_seq=1 ttl=54 time=10.0 ms

--- 1.1.1.1 ping statistics ---
2 packets transmitted, 2 packets received, 0% packet loss
round-trip min/avg/max = 10.0/15.0/20.0 ms
C60-244-30-370-V2#
```

Chapter 13 REBOOT Commands of CLI

Halt and perform a cold restart.

Syntax

reboot

Example

```
C60-244-30-370-V2# reboot
*Dec 04 2020 14:11:15: %SYSTEM-4: System reboot
```

Chapter 14 RESTORE-DEFAULTS Commands of CLI

Restore to default.

Syntax

restore-defaults

restore-defaults interfaces GigabitEthernet <port_list>

restore-defaults interfaces LAG <lag_list>

Parameter

GigabitEthernet	Gigabit ethernet interface to configure	
	<port_list>	Port List X-Y,Z
LAG	IEEE 802.3 Link Aggregation interface	
	<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# restore-defaults
*Dec 04 2020 14:12:25: %SYSTEM-5: System restore to default
System: restore factory defaults. Do you want to reboot now? (y/n)y
Rebooting now...
```

Chapter 15 SAVE of CLI

Save running configuration to flash.

Syntax

save

Example

```
C60-244-30-370-V2# save
```

Chapter 16 Show Commands of CLI

Table : SHOW Commands

Command	Function
aaa	Authentication, Authorization, Accounting
backup-config	Backup configuration
bootvar	Show boot attributes
cable-diag	Cable Diagnostics
clock	Display the time and date from the system clock
cpu	Displays information about the system CPU utilization.
custom	Custom Module configuration
debugging	Debugging information
dido	Display Digital I/O Configuration
dos	DoS information
dot1x	IEEE Standard for port-based Network Access Control
errdisable	Error Disable
fiber-transceiver	Fiber ports diagnositics
flash	Flash Operations
history	List the last several history commands
info	Basic information
interfaces	Interface status and configuration
ip	IP information
ipv6	IPv6 information
lacp	LACP Configuration
lag	Link Aggregation Group Configuration
line	To identify a specific line for configuration
lldp	LLDP information
logging	Log Configuration
loop-prevention	Loop-prevention configuration
mac	MAC configuration
management-vlan	Management VLAN configuration
memory	Memory statistics.
mirror	Mirror configuration
ntp	Simple Network Time Protocol (NTP) information
port-security	Port Security

power	Power-over-Ethernet Configuration
qos	QoS configuration
running-config	Running configuration
snmp	SNMP information
spanning-tree	Show running system information
startup-config	Startup configuration
storm-control	Storm control configuration
username	Local User
users	Display information about users
version	System hardware and software status
vlan	VLAN configuration

16-1 aaa

To show Authentication, Authorization and Accounting setting

Syntax

show aaa

Example

```
C60-244-30-370-V2# show aaa
 Client  Method1  Method2  Method3 Service Port
------- -------- -------- -------- ------------
 telnet    local
    ssh    local
   http    local
  https    local

Authorization :
 Client Method Cmd Lvl Cfg Cmd Fallback
------- ------ ------- ------- --------
 telnet     no       0
    ssh     no       0

Accounting :
 Client Method Cmd Lvl Exec
------- ------ ------- ----
 telnet     no       0
    ssh     no       0
C60-244-30-370-V2#
```

16-2 acl

Display not empty access control lists (ACLs) configured on the switch.

Syntax

show acl {<cr>|<bind>}

Example

```
C60-244-30-370-V2# show acl
MAC access list 222

MAC access list acc

IP access list abc

IP access list 111
C60-244-30-370-V2#
```

16-3 backup-config

Backup configuration

Syntax

show backup-config

Example

```
C60-244-30-370-V2# show backup-config
```

16-4 bootvar

Boot attributes.

Syntax

show bootvar

Example

```
C60-244-30-370-V2# show bootvar
Image  Version     Date                  Status      File Name
-----  ----------  --------------------  ----------  ----------
0      C60-244-30-370-V2_v2.0.1.3_vk  2022-01-11 13:52:13    Active*
1      C60-244-30-370-V2_v2.0.1.3_vk  2022-01-11 13:52:13    Not active

"*" designates that the image was selected for the next boot
C60-244-30-370-V2#
```

16-5 cable-diag

Cable Diagnostics.

Syntax

show cable-diag interfaces GigabitEthernet <port_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```
C60-244-30-370-V2# show cable-diag interfaces GigabitEthernet 1
 Port   |  Speed | Local pair | Pair length | Pair status
--------+--------+------------+-------------+---------------
  gi1   |  auto  |    Pair A  |     0.52    | Open
                  Pair B  |     0.50    | Open
                  Pair C  |     0.51    | Open
                  Pair D  |     0.51    | Open
C60-244-30-370-V2#
```

16-6 clock

The time and date from the system clock.

Syntax

show clock {<cr>|<detail>}

Parameter

detail	Show timezone and summertime configuration

Example

```
C60-244-30-370-V2# show clock
2022-01-01 08:35:52
Time set manually
C60-244-30-370-V2#  show clock detail
2022-01-01 08:35:59
Time set manually
Time zone:
Acronym is
Offset is UTC+8
C60-244-30-370-V2#
```

16-7 cpu

CPU information.

Syntax

show cpu input rate

show cpu utilization

Parameter

input	Show rate of input frames to CPU.	
	rate	Show rate of input frames to CPU
utilization	Displays information about the system CPU utilization	

Example

```
C60-244-30-370-V2# show cpu input rate
Input Rate to CPU is 0 pps
C60-244-30-370-V2# show cpu utilization
CPU utilization
---------------
Current: 53%
C60-244-30-370-V2#
```

16-8 custom

Custom Module configuration.

Syntax

show custom enable

show custom enable interface GigabitEthernet <port_list>

show custom enable interface LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# show custom enable interfaces GigabitEthernet 3,6-8
  Port  |  Status
--------+----------
    gi3 | disabled
    gi6 | disabled
    gi7 | disabled
    gi8 | disabled
C60-244-30-370-V2#
```

16-9 debugging

Debugging information.

Syntax

show debugging

Example

```
C60-244-30-370-V2# show debugging
C60-244-30-370-V2#
```

16-10 dos

DoS information.

Syntax

show dos

show dos interface GigabitEthernet <port_list>

show dos interface LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# show dos
   Type                    | State (Length)
-----------------------------+---------------------------------
  DMAC equal to SMAC        | enabled
  Land (DIP = SIP)          | enabled
  UDP Blat (DPORT = SPORT)  | enabled
  TCP Blat (DPORT = SPORT)  | enabled
  POD (Ping of Death)       | enabled
  IPv6 Min Fragment Size    | enabled  (1240 Bytes)
  ICMP Fragment Packets     | enabled
  IPv4 Ping Max Packet Size | enabled  (512 Bytes)
  IPv6 Ping Max Packet Size | enabled  (512 Bytes)
  Smurf Attack              | enabled  (Netmask Length: 0)
  TCP Min Header Length     | enabled  (20 Bytes)
  TCP Syn (SPORT < 1024)    | enabled
  Null Scan Attack          | enabled
  X-Mas Scan Attack         | enabled
  TCP SYN-FIN Attack        | enabled
  TCP SYN-RST Attack        | enabled
  TCP Fragment (Offset = 1) | enabled
C60-244-30-370-V2#
```

16-11 dot1x

Debugging information.

Syntax

show dot1x statistics {<all>|<eapol>|<radius>}

show dot1x statistics {<all>|<eapol>|<radius>} interfaces GigabitEthernet <port_number>

show dot1x status

Example

```
C60-244-30-370-V2# show dot1x statistics all interfaces GigabitEthernet 1
                   Rx      Tx      Rx      Tx      Rx      Tx      Rx      Rx      Rx
Interface            Total   Total   RespId  ReqId   Resp    Req     Start   Logoff  Error
---------------------  ------  ------  ------  ------  ------  ------  ------  ------
-----
gi1                 0       0       0       0       0       0       0       0       0

                   Rx Access   Rx Other    Rx Auth.    Rx Auth.    Tx         MAC
Interface            Challenges  Requests    Successes   Failures    Responses   Address
---------------------  ----------  ----------  ----------  ----------  ----------  -------
gi1                 0           0           0           0           0

C60-244-30-370-V2#
```

16-12 errdisable

Error Disable.

Syntax

show errdisable recovery

Example

```
C60-244-30-370-V2# show errdisable recovery
ErrDisable Reason       | Timer Status
------------------------+--------------
             bpduguard | disabled
              selfloop | disabled
        broadcast-flood | disabled
  unknown-multicast-flood | disabled
          unicast-flood | disabled
                   acl | disabled
       psecure-violation | disabled
         dhcp-rate-limit | disabled
          arp-inspection | disabled

Timer Interval : 300 seconds

Interfaces that will be enabled at the next timeout:

Port |  Error Disable Reason    | Time Left
-----+--------------------------+------------
C60-244-30-370-V2#
```

16-13 fiber-transceiver

Fiber ports diagnositics.

Syntax

show fiber-transceiver interfaces GigabitEthernet <port_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```
C60-244-30-370-V2# show fiber-transceiver interfaces GigabitEthernet 1-5
Port   | Temperature  | Voltage     | Current      | Output power | Input power |
OE-Present | LOS
       | [C]          | [Volt]      | [mA]         | [mWatt]      | [mWatt]     |
==========================================================================================
=================
  gi1   |
  gi2   |
  gi3   |
  gi4   |
  gi5   |

 Temp        - Internally measured transceiver temperature
 Voltage     - Internally measured supply voltage
 Current     - Measured TX bias current
 Output Power - Measured TX output power in milliWatts
 Input Power  - Measured RX received power in milliWatts
 OE-Present   - SFP Presetn or Not Present
 LOS         - Loss of signal
 N/A - Not Available, N/S - Not Supported, W - Warning, E - Error
C60-244-30-370-V2#
```

16-14 flash

Flash Operations.

Syntax

show flash

Example

```
C60-244-30-370-V2# show flash
       File Name           File Size       Modified
------------------------ ---------------- ------------------------
 startup-config          948              2022-01-01 00:08:49
 ssl_cert                1277             2022-01-01 00:00:59
 image0 (active)         10448078         2022-01-11 13:52:13
 image1 (backup)         10448078         2022-01-11 13:52:13
C60-244-30-370-V2#
```

16-15 history

Show CLI command history.

Syntax

show history

Example

```
C60-244-30-370-V2# show history
Maximun History Count: 128
------------------------------------------------------------
1. conf
C60-244-30-370-V2#
```

16-16 info

Basic information.

Syntax

show info

Example

```
C60-244-30-370-V2# show info
System Name      : C60-244-30-370-V2
System Location  :
System Contact   :
MAC Address      : 68:8D:B6:01:02:03
IP Address       : 192.168.11.199
Subnet Mask      : 255.255.255.0
Loader Version   : 2.0.0.1
Loader Date      : Jan 11 2022 - 13:46:46
Firmware Version : 2.0.1.3_vk
Firmware Date    : Jan 11 2022 - 13:52:13
System Object ID : 1.3.6.1.4.1.27282.3.2.10
System Up Time   : 0 days, 2 hours, 18 mins, 54 secs
C60-244-30-370-V2#
```

16-17 interface

Interface status and configuration.

Syntax

show interfaces GigabitEthernet <port_list> {<cr>|<protected>|<status>}

show interfaces LAG <lag_list> {<cr>|<protected>|<status>}

show interfaces switchport GigabitEthernet <port_list>

show interfaces switchport LAG <lag_list>

Parameter

interfaces	Interface status and configuration			
	GigabitEthernet	Gigabit ethernet interface to configure		
		<port_list>	Port List X-Y,Z	
			protected	Configure an interface to be a protected port
			status	Port status information
	LAG	IEEE 802.3 Link Aggregation interface		

		<lag_list>	LAG List X-Y,Z	
			protected	Configure an interface to be a protected port
			status	Port status information
	switchport	Set switching mode characteristics		
		GigabitEthernet	Gigabit ethernet interface to configure	
			<port_list>	Port List X-Y,Z
		LAG	IEEE 802.3 Link Aggregation interface	
			<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# show interfaces GigabitEthernet 2-3 status
Port  Status     Duplex  Speed    Type
gi2   notconnect  auto    auto    Copper
gi3   notconnect  auto    auto    Copper
C60-244-30-370-V2#
```

16-18 ip

Internet Protocol.

Syntax

show ip

show ip acl {<cr>|<NAME>}

show ip dhcp {<cr>|<server>}

show ip http

show ip https

show ip igmp filter

show ip igmp filter interfaces GigabitEthernet <port_list>

show ip igmp filter interfaces LAG <lag_list>

show ip igmp max-group

show ip igmp max-group action {<cr>|interfaces GigabitEthernet <port_list>|interfaces LAG <lag_list>}

show ip igmp max-group interfaces GigabitEthernet <port_list>

show ip igmp max-group interfaces LAG <lag_list>

show ip igmp profile {<cr>|<1-128>}

show ip igmp snooping {<cr>|<forward-all>|<groups>|<querier>|<router>|<vlan>}

Parameter

acl	Display not empty access control lists (ACLs) configured on the switch		
	NAME		
dhcp	DHCP information		
	server	DHCP Server	
http	HTTP server configuration		
https	HTTPS server configuration		
igmp	Interface status and configuration		
	filter	IGMP port filter	
	max-group	IGMP port group limit num	
	profile	IGMP profile configuration	
	snooping	IGMP Snooping Configuration	
		<forward-all>	IPv4 forward all
		<groups>	IPv4 multicast groups
		<querier>	Querier information
		<router>	IPv4 multicast routers
		<vlan>	VLAN configuration

Example

```
C60-244-30-370-V2# show ip dhcp server
DHCP Server State : disabled
Start IPv4 Address: 0.0.0.0
End   IPv4 Address: 0.0.0.0
Client Lease Time : 86400 seconds
C60-244-30-370-V2#
```

16-19 ipv6

IPv6 configuration commands.

Syntax

show ipv6

Example

```
C60-244-30-370-V2# show ipv6
###### Config ######
         State: enabled
    Auto Config: enabled
        DHCPv6: disabled
       Gateway: ::

###### Status ######
     IP Address: fe80::6a8d:b6ff:fe00:0/64
Default Gateway: ::
C60-244-30-370-V2#
```

16-20 lacp

Lacp configuration.

Syntax

show lacp

Example

```
C60-244-30-370-V2# show lacp
Status: C - current,  E - expired, D - defaulted
       a - attached, d - detached
State:  A - activity,     T - timeout(fast), G - aggregation
       S - synchronized, C - collecting,    D - distributing
       F - defaulted,    E - expired

LAG Port  Status         Sys ID           Port ID Sys Pri Port Pri Key     State
--- ----- ------         ---------------- ------- ------- -------- -------- --------
C60-244-30-370-V2#
```

16-21 lag

Link Aggregation Group Configuration.

Syntax

show lag

Example

```
C60-244-30-370-V2# show lag
Load Balancing: src-dst-mac.

 Group ID |  Type  |         Ports
----------+--------+-----------------------------------------------
   1      | ------ |
   2      | ------ |
   3      | ------ |
   4      | ------ |
   5      | ------ |
   6      | ------ |
   7      | ------ |
   8      | ------ |
C60-244-30-370-V2#
```

16-22 line

A specific line for configuration.

Syntax

show line {<cr>|<console>|<ssh>|<telnet>}

Parameter

console	Access CLI from console
ssh	Access CLI from ssh
telnet	Access CLI from telnet

Example

```
C60-244-30-370-V2# show line
Console ==============================
    Session Timeout : 10 (minutes)
    History Count   : 128
    Password Retry  : 3
    Silent Time     : 0 (seconds)
Telnet ==============================
    Telnet Server   : disabled (23)
    Session Timeout : 10 (minutes)
    History Count   : 128
    Password Retry  : 3
    Silent Time     : 0 (seconds)
SSH ==============================
    SSH Server      : disabled (22)
    Session Timeout : 0 (minutes)
    History Count   : 128
    Password Retry  : 0
    Silent Time     : 0 (seconds)
C60-244-30-370-V2#
```

16-23 lldp

show lldp configuration.

Syntax

show lldp

show lldp interface GigabitEthernet <port _list>

show lldp interface GigabitEthernet <port _list> {<local-device>|<neighbor>|<statistics>|<tlvs-overloading>}

show lldp local-device

show lldp neighbor

show lldp statistics

Parameter

<table>
<tr><td rowspan="7">interfaces</td><td colspan="4">Interface status and configuration</td></tr>
<tr><td rowspan="6">GigabitEthernet</td><td colspan="3">Gigabit ethernet interface to configure</td></tr>
<tr><td rowspan="5"><port_list></td><td colspan="2">Port List X-Y,Z</td></tr>
<tr><td>local-device</td><td>LLDP information that is advertised from a specific port</td></tr>
<tr><td>neighbor</td><td>Information about neighboring devices discovered using Link Layer Discovery Protocol</td></tr>
<tr><td>statistics</td><td>LLDP Statistics information</td></tr>
<tr><td>tlvs-overloading</td><td>LLDP TLVs overloading information</td></tr>
<tr><td>local-device</td><td colspan="4">LLDP information that is advertised from a specific port</td></tr>
<tr><td>neighbor</td><td colspan="4">Information about neighboring devices discovered using Link Layer Discovery Protocol</td></tr>
<tr><td>statistics</td><td colspan="4">LLDP Statistics information</td></tr>
</table>

Example

```
C60-244-30-370-V2# show lldp neighbor

 Port |   Device ID       |     Port ID      |      SysName      | Capabilities  |  TTL
 ---- + ----------------- + ---------------- + ----------------- + ------------- + -----
  gi8 | 00:68:8D:B6:51:04 |              6 |    H51-044-90-250 |        Bridge |   117
C60-244-30-370-V2#
```

16-24 logging

Log Configuration.

Syntax

show logging

show logging {<buffered>|<file>}

Parameter

buffered	Buffered logging
file	File logging

Example

```
C60-244-30-370-V2# show logging

Logging service is enabled

Console Logging: level notice
Buffer Logging : level notice
File Logging   : disabled

Buffer Logging
--------------
*Jan 01 2000 00:00:31: SYSTEM-5: New console connection for user admin,
source async ACCEPTED
*Jan 01 2000 00:00:26: PORT-5: Interface GigabitEthernet10 link up
*Jan 01 2000 00:00:15: PORT-5: Interface GigabitEthernet9 link up
*Jan 01 2000 00:00:13: SYSTEM-5: Cold startup
C60-244-30-370-V2#
```

16-25 loop-prevention

Show loop prevention

Syntax

show loop-prevention

show loop-prevention interfaces GigabitEthernet <port_list>

show loop-prevention interfaces LAG <lag_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# show loop-prevention
Loop Prevention:                Disabled
Loop Prevention Tx Interval:      2
Loop Prevention Recovery Interval: 16
Loop Prevention switch_priority:   0x800000
Loop Prevention hop cnt max:      10
Loop Prevention is root:          Ture
Loop Prevention Root Port:        N/A


C60-244-30-370-V2#
```

16-26 mac

Mac Address Table information.

Syntax

show mac acl {<cr>|<NAME>}

show mac address-table

show mac address-table interface (GigabitEthernet <port_list> | LAG <lag_list>)

show mac address-table vlan <vlan_id>

show mac address-table vlan <vlan_id> interface (GigabitEthernet <port_list> | LAG <lag_list>)

Parameter

acl	Display not empty access control lists (ACLs) configured on the switch		
	NAME	Name of the ACL	
interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z

Example

```
C60-244-30-370-V2# show mac address-table
VID  | MAC Address       | Type              | Ports
------+-------------------+-------------------+----------------
   1 | 68:8D:B6:00:00:00 | Management        | CPU
   1 | 00:33:33:33:33:33 | Dynamic           | gi15
   1 | 94:C6:91:FA:13:05 | Dynamic           | gi11
   1 | F0:2F:74:0A:D8:CC | Dynamic           | gi11

Total number of entries: 4
C60-244-30-370-V2#
```

16-27 management-vlan

Management VLAN configuration.

Syntax

show management-vlan

Example

```
C60-244-30-370-V2# show management-vlan
  Management VLAN-ID : default(1)
C60-244-30-370-V2#
```

16-28 memory

Memory statistics

Syntax

show memory statistics

Parameter

statistics	Memory statistics

Example

```
C60-244-30-370-V2# show memory statistics
         total(KB)     used(KB)     free(KB)   shared(KB)   buffer(KB)    cache(KB)
--------------------+------------+------------+------------+------------+------------
Mem:         125836       43608       82228           0           0           0
-/+ buffers/cache:         43608       82228
Swap:            0           0           0
C60-244-30-370-V2#
```

16-29 mirror

Show mirror configuration

Syntax

show mirror

show mirror session> <1-4>

Example

```
C60-244-30-370-V2# show mirror

Session 1 Configuration
Mirrored source   : Not Config
Destination port  : Not Config

Session 2 Configuration
Mirrored source   : Not Config
Destination port  : Not Config

Session 3 Configuration
Mirrored source   : Not Config
Destination port  : Not Config

Session 4 Configuration
Mirrored source   : Not Config
Destination port  : Not Config
C60-244-30-370-V2#
```

16-30 ntp

Simple Network Time Protocol (NTP) information.

Syntax

show ntp

Example

```
C60-244-30-370-V2# show ntp
NTP is Disabled
NTP Server address:
NTP Server port: 123
C60-244-30-370-V2#
```

16-31 port-security

show port security.

Syntax

show port-security {<cr>|<address>|interface GigabitEthernet <port _list>}

Parameter

address	All port security related MAC addresses		
interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```
C60-244-30-370-V2# show port-security
Port Security: Disabled
Rate Limit: 100 pps
C60-244-30-370-V2#
```

16-32 power

Power over Ethernet (PoE) configuration.

Syntax

show power inline

show power inline consumption

show power inline consumption interface GigabitEthernet <port_list>

show power inline interface GigabitEthernet <port_list>

Parameter

inline	Inline Power				
	consumption	Power consumption			
		interfaces	Interface status and configuration		
			GigabitEthernet	Gigabit ethernet interface to configure	
				<port_list>	Port List X-Y,Z
	interfaces	Interface status and configuration			
		GigabitEthernet	Gigabit ethernet interface to configure		
			<port_list>	Port List X-Y,Z	

Example

```
C60-244-30-370-V2# show power inline interfaces GigabitEthernet 1
Port State Status    Priority Class   Max.Power (Admin) Device
                                 (mW)
---- ----- ---------- -------- ------- ----------------- ----------------
gi1  Auto  searching  high     class0  30000 (30000)     N/A

Port Overload     Short Current  Power Denied  MPS Absent    Invalid Sig.
---- ------------ ------------- ------------- ------------- -------------
gi1  0            0             0             0             0
C60-244-30-370-V2#
```

16-33 qos

Show Quality of Service configuration.

Syntax

show qos

show qos interface GigabitEthernet <port_list>

show qos interfaces LAG <lag_list>

show qos map {<cr>|<cos-queue>|<dscp-queue>|<precedence-queue>|

<queue-cos>|<queue-dscp>|<queue-precedence>}

show qos queueing

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z
map	Configure the QoS maps		
	cos-queue	CoS to Queue mapping	
	dscp-queue	DSCP to Queue mapping	
	precedence-queue	IP Precedence to Queue mapping	
	queue-cos	Queue to CoS mapping	
	queue-dscp	Queue to DSCP mapping	
	queue-precedence	Queue to IP Precedence mapping	
queueing	Display quality of service (QoS) queuing information		

Example

```
C60-244-30-370-V2# show qos
QQoS Mode: basic
Basic trust: cos
C60-244-30-370-V2#
```

16-34 running-config

Running configuration.

Syntax

show running-config

show running-config interface GigabitEthernet <port_list>

show running-config interface LAG <lag_list>

Example

```
C60-244-30-370-V2# show running-config
SYSTEM CONFIG FILE ::= BEGIN
! System Description: AETEK PoE SW 24P-MA-POE-D Switch
! System Version: v2.0.1.3_vk
! System Name: 24P-MA-POE-D
! System Up Time: 0 days, 5 hours, 40 mins, 32 secs
!
!
!
system name "24P-MA-POE-D"
ip address 192.168.11.199 mask 255.255.255.0
ip default-gateway 192.168.11.1
username "admin" encrypted password
MjEyMzJmMjk3YTU3YTVhNzQzODk0YTBlNGE4MDFmYzM=
!
!
!
!
!
!
spanning-tree mst configuration
 name "68:8D:B6:00:00:00"
!
!
!
!
--More--
C60-244-30-370-V2#
```

16-35 snmp

Display SNMP configurations.

Syntax

show snmp

show snmp trap

Parameter

trap	Display snmp class of trap enable or disable

Example

```
C60-244-30-370-V2# show snmp
SNMP is disabled.
Community Name         Access Right
----------------------------------------

Total Community Entries: 0
Server           Community Name   Notification Version    Notification Type
--------------------------------------------------------------------------------

Total Trap Entries: 0
C60-244-30-370-V2#
```

16-36 spanning-tree

Show spanning tree protocol configuration.

Syntax

show spanning-tree

show spanning-tree brief

show spanning-tree interface {GigabitEthernet <port_list> | LAG <lag_list>}

show spanning-tree interface {GigabitEthernet <port_list> | LAG <lag_list>} statistics

show spanning-tree mst <0-15>

show spanning-tree mst <0-15> interface {GigabitEthernet <port_list> | LAG <lag_list>}

show spanning-tree mst configuration

Parameter

brief	Displays spanning-tree brief information			
interfaces	Interface status and configuration			
	GigabitEthernet	Gigabit ethernet interface to configure		
		<port_list>	Port List X-Y,Z	
			statistics	Statistics for specified ports
	LAG	IEEE 802.3 Link Aggregation interface		
		<lag_list>	LAG List X-Y,Z	
			statistics	Statistics for specified ports
mst	Multiple spanning trees			
	<0-15>	Instance ID (0~15)		
		interfaces	Interface status and configuration	
			GigabitEthernet	Gigabit ethernet interface to configure
				<port_list> Port List X-Y,Z
			LAG	IEEE 802.3 Link Aggregation interface
				<lag_list> LAG List X-Y,Z
	configuration	MST current region configuration		

Example

```
C60-244-30-370-V2# show spanning-tree
Spanning tree enabled mode MSTP
Default port cost method:  long
Gathering information ..........
###### MST 0 Vlans Mapped:
CST Root ID    Priority    32768
               Address     00:68:8d:b6:51:08
               This switch is root for CST and IST master
               Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
               Max hops    20
  Name     State   Prio.Nbr   Cost    Sts   Role EdgePort      Type
--------- -------- -------- -------- ------ ---- -------- -----------------
###### MST 1 Vlans Mapped: 1-4094
Root ID       Priority    32768
               Address     00:68:8d:b6:51:08
               This switch is the regional Root
Interfaces
Name      State     Prio.Nbr   Cost      Sts  Role  EdgePort  Type
--------   --------  --------   --------- ---- ----  --------  ----------
gi7       enabled   128.7     20000     Frw  Desg  No       P2P Intr
gi8       enabled   128.8     20000     Blk  Bckp  No       P2P Intr
C60-244-30-370-V2# show spanning-tree mst 1 interfaces GigabitEthernet 2
 MST Port Information
============================================================
 Instance Type : MSTI (1)
------------------------------------------------------------
     Port Identifier : 128/2
   Internal Path-Cost : 0       /20000
------------------------------------------------------------
    Regional Root Bridge : 0/00:00:00:00:00:00
     Internal Root Cost : 0
      Designated Bridge : 0/00:00:00:00:00:00
 Internal Port Path Cost : 20000
             Port Role : Disabled
            Port State : Disabled
  ------------------------------------------------------------
C60-244-30-370-V2#
```

16-37 startup-config

Startup configuration.

Syntax

show startup-config

Example

```
C60-244-30-370-V2# show startup-config
SYSTEM CONFIG FILE ::= BEGIN
! System Description: AETEK PoE SW 24P-MA-POE-D Switch
! System Version: v2.0.1.3_vk
! System Name: 24P-MA-POE-D
! System Up Time: 0 days, 0 hours, 9 mins, 46 secs
!
!
!
system name "24P-MA-POE-D"
ip address 192.168.11.199 mask 255.255.255.0
ip default-gateway 192.168.11.1
username "admin" encrypted password
MjEyMzJmMjk3YTU3YTVhNzQzODk0YTBlNGE4MDFmYzM=
!
!
!
!
!
!
spanning-tree mst configuration
 name "68:8D:B6:00:00:00"
!
!
!
!
--More--
C60-244-30-370-V2#
```

16-38 storm-control

show storm-control configuration.

Syntax

show storm-control

show storm-control interfaces GigabitEthernet <port_list>

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z

Example

```
C60-244-30-370-V2# show storm-control interfaces GigabitEthernet 1-5

  Port    | State |  Broadcast  |  Unkown-Multicast  | Unknown-Unicast |
Action
        |       |     kbps    |       kbps         |      kbps       |
----------+-------+-------------+--------------------+----------------
-|-----------
  gi1     disable Off(  10000)   Off(  10000)        Off(  10000)
Drop
  gi2     disable Off(  10000)   Off(  10000)        Off(  10000)
Drop
  gi3     disable Off(  10000)   Off(  10000)        Off(  10000)
Drop
  gi4     disable Off(  10000)   Off(  10000)        Off(  10000)
Drop
  gi5     disable Off(  10000)   Off(  10000)        Off(  10000)
Drop

C60-244-30-370-V2#
```

16-39 username

Local user information.

Syntax

show username

Example

```
C60-244-30-370-V2# show username
Priv   |  Type  |    User Name  |         Password
------+--------+---------------+----------------------------------
 admin | secret |     admin     | MjEyMzJmMjk3YTU3YTVhNzQzODk0YTBlNGE4MDFmYzM=
C60-244-30-370-V2#
```

16-40 user

Information about users.

Syntax

show users

Example

```
C60-244-30-370-V2# show users
   Username      Protocol         Location
--------------- ------------ ----------------------
      admin      console          0.0.0.0
C60-244-30-370-V2#
```

16-41 version

System hardware and software status.

Syntax

show version

Example

```
C60-244-30-370-V2# show version
Loader Version   : 2.0.0.1
Loader Date      : Jan 11 2022 - 13:46:46
Firmware Version : 2.0.1.3_vk
Firmware Date    : Jan 11 2022 - 13:52:13
C60-244-30-370-V2#
```

16-42 vlan

VLAN information.

Syntax

show vlan

show vlan <VLAN-LIST>

show vlan <VLAN-LIST> interfaces GigabitEthernet <port_list> membership

show vlan <VLAN-LIST> interfaces LAG <lag_list> membership

show vlan dynamic

show vlan static

show vlan {<ip-subnet>|<mac>|<protocol>}

Parameter

interfaces	Interface status and configuration		
	GigabitEthernet	Gigabit ethernet interface to configure	
		<port_list>	Port List X-Y,Z
	LAG	IEEE 802.3 Link Aggregation interface	
		<lag_list>	LAG List X-Y,Z
dynamic	Display dynamic entries		
static	Display static entries		
ip-subnet	Show VLAN ip-subnet entries		
mac	Show VLAN MAC entries		
protocol	Protocol-based VLAN status		

Example

```
C60-244-30-370-V2# show vlan
  VID  | VLAN Name |  Untagged Ports | Tagged Ports | Type
------+-----------+-----------------+--------------+--------
    1 |   default |    gi1-28,lag1-8 |          --- | Default
C60-244-30-370-V2#
```

16-43 dido

Display Digital I/O Configuration.

Syntax

show dido

Example

```
C60-244-30-370-V2# show dido
DIDO Check Interval: 2 seconds

 DO Auto Recovery Mode: enable

--------+---------------------------------
   DI      Event Description:
--------+---------------------------------
Normal  |"normal_event"
Abnormal|"abnormal_event"

------+-----------+--------------------
 DIDO | Direction | Value | Normal Mode
------+-----------+--------------------
    DI|        IN|     1|       high
    DO|       OUT|     0|       open

C60-244-30-370-V2#
```

Chapter 17 SSL of CLI

Setup SSL host keys.

Syntax

ssl

Parameter

Example

```
C60-244-30-370-V2# ssl
Generating a RSA private key
.....................................................................+++++
.............................................+++++
writing new private key to '/mnt/ssh/ssl_key.pem_tmp'
-----
C60-244-30-370-V2#
```

Chapter 18 TERMINAL Commands of CLI

Terminal configuration.

Syntax

terminal length <0-24>

Parameter

length	Terminal length	
	<0-24>	Length value. 0 means no limit

Example

```
C60-244-30-370-V2# terminal length 24
```

Chapter 19 TRACEROUTE of CLI

Trace route to network hosts.

Syntax

traceroute <hostname>

traceroute <hostname> max_hop <2-255>

Parameter

hostname	The IP address or hostname address to trace		
	max_hop	The number of maximun hop.(Default:30)	
		<2-255>	Maximum hop range

Example

```
C60-244-30-370-V2# traceroute 1.1.1.1 max_hop 2
traceroute to 1.1.1.1 (1.1.1.1), 2 hops max, 38 byte packets
 1  192.168.11.1 (192.168.11.1)  0.000 ms  0.000 ms  0.000 ms
 2  10.135.91.1 (10.135.91.1)  0.000 ms  0.000 ms  0.000 ms
C60-244-30-370-V2#
```