

# **FSM-510G series**

## **10-Port Managed Industrial Ethernet Switch**

### **CLI Command Reference**

**Version Number:**  
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# **1. Scope**

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**1.1 Scope**

**1.2 Audience**

**1.3 Pre-required Knowledge**

**1.4 Access to Hardware Interface**

**1.5 Related Documents**



# 1 Scope

## 1.1 Scope

This user guide describes the commands and parameters of the Command Line Interface (CLI) as implemented in the current version of FSM-510G series software. These commands are used to set-up, administer and maintain the system.

## 1.2 Audience

The guide is intended for Operating personnel (sometimes called craft persons).

## 1.3 Pre-required Knowledge

The reader must be familiar with the:

- Basic operations of FSM-510G series (see the HW Installation Guide).
- Security and activity monitoring constraints that limit how a command is implemented.

## 1.4 Access to Hardware Interface

Access to the hardware interface is by a terminal (or computer with terminal emulation software). Requirements for the terminal are:

- RS-232 ASCII port
- Selectable transmission baud rate
- Full alphanumeric capability
- Selectable odd/even or no parity check

## 1.5 Related Documents

You may want to refer to the following related documents:

- FSM-510G series Quick Installation Guide

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## ***2. Operator Interface***

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***2.1 Introduction***

***2.2 Connect Interface***

***2.3 Authorization Level***

***2.4 Screen Description***

***2.5 Execution Modes***

***2.6 Getting Help***

***2.7 Terminal Key Function***

***2.8 Notation Conventions***

## 2 Operator Interface

### 2.1 Introduction

Access to the Switch is protected by a logon security system. You can log on to the switch with the user name and password. After three failed logon attempts, the system refuses further attempts.

After you log on, the system monitors the interface for periods of inactivity. If the interface is inactive for too long, you are automatically logged off.

The CLI initial user name is (admin) and none password (). You should change the password as soon as possible, because the initial password is known to anyone who reads this manual. You can also change the user name or add additional user names. Use the “account add” command to enter a new user identification, password and authorization level.

### 2.2 Connect Interface

Interface	Parameter
Console	Baud rate: 115200bps, Data bit: 8, Parity: None, Stop bit: 1
Telnet	Port 23
SSH	Port 22 (In Windows, you can run terminal emulator such as PuTTY)

### 2.3 Screen Description

1. Connecting to FSM-510G Ethernet port(RJ45 Ethernet port)
2. Key-in the command under Telnet: **telnet 192.0.2.1**
3. Login with default account and password.  
**Username: admin**  
**Password: (none)**

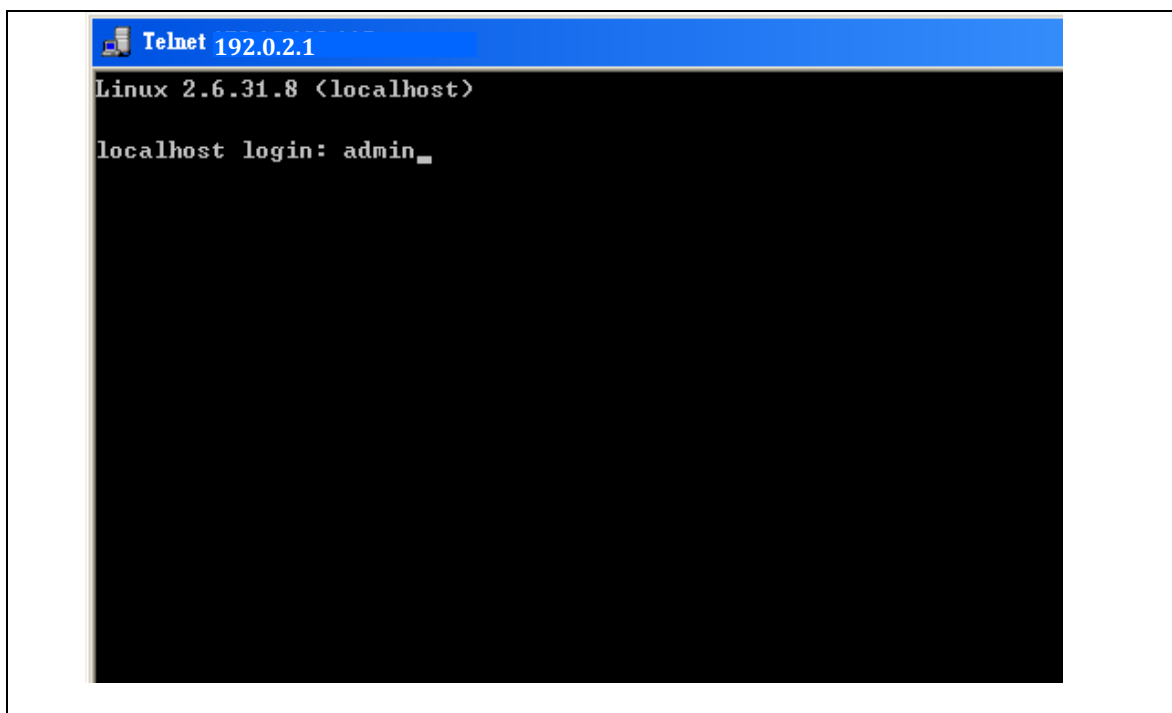


Figure 2-1 Screen Description

## 2.4 Execution Modes

The CLI contains several execution modes. Users will see different set of commands under different execution modes. Table 2-1 lists all the execution modes and their purposes. When users enter a certain execution mode, the corresponding mode prompt will be displayed automatically on the screen. The mode prompts of all the execution modes are also listed in Table 2-1.

Table 2-1 List of Execution Modes

Mode	Access Level	Prompt
Init Mode	Guest	>
Enable Mode	Guest	#
Config Mode	Guest	(conf)#
Alarm Profile Config Mode	Engineer	(alarm-profile-conf)#
Gigabit Interface Config Mode	Engineer	(gigabit-intf-conf)#
ACL Profile Config Mode	Engineer	(acl-profile-conf)#
scheduler Profile Config Mode	Engineer	(sch-profile-conf)#
Vlan Interface Config Mode	Engineer	(vlan-intf-conf)#
IGMP MVR Profile Config Mode	Engineer	(igmp-mvr-profile-conf)#
IGMP ACL Profile Config Mode	Engineer	(igmp-acl-profile-conf)#
Ring Group Config Mode	Engineer	(ring-group-conf)#
Trunk Group Config Mode	Engineer	(trunk-group-conf)#

## 2.5 Getting help

The user can get help by entering a question mark '?' at each position in the command. The displayed result depends on the execution mode and previous input.

## 2.6 Terminal Key Function

Following is the list of all the terminal keys and their function.

Table 2-2 List of Terminal Keys

ENTER	Run a CLI config script
CTRL-M	
TAB	Tab completion. If tab is pressed after a non-whitespace character, complete the word before the Tab. If tab is pressed after a whitespace character, complete the next word.
CTRL-I	
?	Display available commands If ? is pressed after a non-whitespace character, show possible choices for this word. If ? is pressed after a whitespace character, show possible choices for the next word.
<Up Arrow>	Up history
CTRL-P	
<Down Arrow>	Down history
CTRL-N	
Home	Move the cursor to the beginning of the input line
CTRL-A	
End	Move the cursor to the end of the input line
CTRL-E	
<Left Arrow>	Move the cursor backward
CTRL-B	
<Right Arrow>	Move the cursor forward
CTRL-F	
BACKSPACE	Erase the character before the cursor
CTRL-H	

## 2.7 Notation Conventions

The notation conventions for the parameter syntax of each CLI command are as follows:

- Parameters enclosed in [ ] are optional.
- Parameter values are separated by a vertical bar “|” only when one of the specified values can be used.
- Parameter values are enclosed in { } when you must use one of the values specified.



## **3. Commands Descriptions**

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- 3.1      *Initialize Mode Commands***
- 3.2      *Enable Mode Commands***
- 3.3      *Configure Mode Commands***
- 3.4      *VLAN Mode Commands***
- 3.5      *Interface VLAN Mode Commands***
- 3.6      *Ring Group Mode Commands***
- 3.7      *Spanning Tree Configure Commands***
- 3.8      *sFlow Configure Command***
- 3.9      *SNMP Configure Command***
- 3.10     *Qos Function Command***
- 3.11     *IGMP Functional Commands***
- 3.12     *MVR Functional Commands***
- 3.13     *MLD Functional Commands***
- 3.14     *Authenticate Mode Commands***
- 3.15     *Loop-Protection Configure commands***
- 3.16     *LLDP Configure commands***
- 3.17     *RFC2544 Testing Configure Commands***
- 3.18     *GVRP Configure Commands***
- 3.19     *Voice VLAN Configure Commands***

---

## 3 Commands Descriptions

### 3.1 Initialize Mode Commands

The commands in this section (except 'enable' command) can be executed under all command modes. These commands are global commands.

#### 3.1.1 exit

<b>Description</b>	Exit current mode and quit CLI.
<b>Syntax</b>	exit
<b>Parameter</b>	None

#### 3.1.2 configure terminal

<b>Description</b>	Enter configuration mode.
<b>Syntax</b>	configure terminal
<b>Parameter</b>	None

#### 3.1.3 enable

<b>Description</b>	Enter enable mode.
<b>Syntax</b>	enable
<b>Parameter</b>	None

#### 3.1.4 Show terminal

<b>Description</b>	Show CLI environment variables
<b>Syntax</b>	show terminal
<b>Parameter</b>	None

#### 3.1.5 Show history

<b>Description</b>	Show command history (Note: commands issued in one execution mode only appear in history of that execution mode)
<b>Syntax</b>	show history
<b>Parameter</b>	None

#### 3.1.6 Show clock

<b>Description</b>	Show current time
<b>Syntax</b>	show clock [detail]
<b>Parameter</b>	None

#### 3.1.7 Show clock detail

<b>Description</b>	Show detailed information
<b>Syntax</b>	show clock detail
<b>Parameter</b>	None



## 3.2 Enable Mode Commands

All the “show -” commands in this section can also be executed under any other command mode except Initialize Mode.

### 3.2.1 configure terminal

<b>Description</b>	Enter configuration mode.
<b>Syntax</b>	configure
<b>Parameter</b>	None

### 3.2.2 disable

<b>Description</b>	Enter init mode.
<b>Syntax</b>	disable
<b>Parameter</b>	None

### 3.2.3 show ntp status

<b>Description</b>	Show SNTP information.
<b>Syntax</b>	show sntp
<b>Parameter</b>	None

### 3.2.4 show users

<b>Description</b>	Show account list.
<b>Syntax</b>	show account
<b>Parameter</b>	None

### 3.2.5 show running-cfg

<b>Description</b>	Show running configuration.
<b>Syntax</b>	show running-cfg
<b>Parameter</b>	None

### 3.2.6 show running-config interface

<b>Description</b>	Show default running configuration.
<b>Syntax</b>	show running-config interface vlan <vlan_list> [ all-defaults]
<b>Parameter</b>	None

### 3.2.7 show version

<b>Description</b>	Show firmware hardware and software status update status.
<b>Syntax</b>	show version
<b>Parameter</b>	None

### 3.2.8 show clock

<b>Description</b>	Show current time.
<b>Syntax</b>	Show clock
<b>Parameter</b>	None

### 3.2.9 show version

<b>Description</b>	Show version information.
<b>Syntax</b>	show version
<b>Parameter</b>	None

### 3.2.10 show system inventory

<b>Description</b>	Show system inventory.
<b>Syntax</b>	show system inventory

---

<b>Parameter</b>	None
------------------	------

### 3.2.11 show mac address table aging-time

<b>Description</b>	Show aging time for MAC learning table (system-wide).
<b>Syntax</b>	show aging time
<b>Parameter</b>	None

### 3.2.12 show mac address table

<b>Description</b>	Show MAC learning table.
<b>Syntax</b>	show mac address-table [ conf   static   aging-time   { { learning   count } [ interface <port_type> [ <port_type_list> ] ] }   { address <mac_addr> [ vlan <vlan_id> ] }   vlan <vlan_id>   interface <port_type> [ <port_type_list> ] ]
<b>Parameter</b>	None

**3.2.13 show mac address table interface**

<b>Description</b>	Show MAC learning table per port.	
<b>Syntax</b>	show mac address-table [ interface <port_type> [ <port_type_list> ] ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<portNo>	<b>Valid values:</b> 1 ~10(GIE5010) or 1~8(GIE510G8) <b>Type:</b> Mandatory

**3.2.14 show mac address vlan <vlanid>**

<b>Description</b>	Show MAC learning table per VLAN index.	
<b>Syntax</b>	show mac address-table { learning   count } vlan <vlan_id>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlanid>	<b>Valid values:</b> 1~4094 <b>Type:</b> Mandatory

**3.2.15 show fdb static table**

<b>Description</b>	Show static MAC forwarding table.	
<b>Syntax</b>	show mac address-table static	
<b>Parameter</b>	None	

**3.2.16 show fdbstatic interface gigabit <portNo>**

<b>Description</b>	Show static MAC forwarding table per gigabit port.	
<b>Syntax</b>	Show mac address-table { learning   count } [ interface <port_type> [ <port_type_list> ] ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<port_type>	Port type in Fast, Giga or Tengiga ethernet
	<portNo>	<b>Valid values:</b> 1 ~ 10 <b>Type:</b> Mandatory

**3.2.17 show fdbstatic vlan <vlanid>**

<b>Description</b>	Show static MAC forwarding table per VLAN index.	
<b>Syntax</b>	show mac address-table { learning   count } vlan <vlanid>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlanid>	<b>Valid values:</b> 1~4094 <b>Type:</b> Mandatory

**3.2.18 show interface port < port\_type\_list >**

<b>Description</b>	Show interface information per \port.	
<b>Syntax</b>	show interface <port_type> [ <port_type_list> ] status	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<port_type>	Port type in Fast, Giga or Tengiga ethernet
	<portNo>	<b>Valid values:</b> 1 ~ 10 <b>Type:</b> Mandatory

### 3.2.19 show interface port <portNo> statistics

<b>Description</b>	Show Ethernet counter per gigabit port.	
<b>Syntax</b>	show interface <port_type> [ <port_type_list> ] statistics	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<port_type>	Port type in Fast, Giga or Tengiga ethernet
	<portNo>	<b>Valid values:</b> 1 ~ 10 <b>Type:</b> Mandatory
	counter	Show Gigabit Ethernet counter.

### 3.2.20 show spanning-tree

<b>Description</b>	System Wide Spanning Tree Setting/Status.
<b>Syntax</b>	show spanning-tree
<b>Parameter</b>	None

### 3.2.21 show vlan

<b>Description</b>	Show bridge port memberset/status.
<b>Syntax</b>	show vlan
<b>Parameter</b>	None

### 3.2.22 show vlan ID

<b>Description</b>	Show bridge port member set/status per VLAN index (1~4094).	
<b>Syntax</b>	show vlan id <vlanid>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlanid>	<b>Valid values:</b> 1~4094 <b>Type:</b> Mandatory.

### 3.2.23 show vlan name

<b>Description</b>	Show bridge port member set/status per VLAN name ( 32 words ).	
<b>Syntax</b>	show vlan name <vword32>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< vword32>	<b>Valid values:</b> 32 words <b>Type:</b> Mandatory.

### 3.2.24 show qos-queue-mapping

<b>Description</b>	Show CoS queue mapping table.
<b>Syntax</b>	show qos maps
<b>Parameter</b>	None

### 3.2.25 show interface ports <portNo> priority

<b>Description</b>	Show QoS per gigabit port.	
<b>Syntax</b>	show interface <port_type> [ <port_type_list> ] statistics { priority [ <0~7> ] }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	priority [ <0~7> ]	<b>Valid values:</b> 0 ~7 <b>Type:</b> Mandatory
	<port_type>	Port type in Fast, Giga or Tengiga ethernet
	<portNo>	<b>Valid values:</b> 0 ~ 10 <b>Type:</b> Mandatory

### 3.2.26 show qos

<b>Description</b>	Show scheduler profile table.
<b>Syntax</b>	show queue-scheduler profile
<b>Parameter</b>	None

### 3.2.27 show queue-shaper

<b>Description</b>	Show queue shaper information.
<b>Syntax</b>	show queue-shaper
<b>Parameter</b>	None

### 3.2.28 show port-shaper

<b>Description</b>	Show port shaper information.
<b>Syntax</b>	show port-shaper
<b>Parameter</b>	None

### 3.2.29 show pvlan isolation [ interface <port\_type> [ <port\_type\_list> ] ]

<b>Description</b>	Show all port isolation information.	
<b>Syntax</b>	show pvlan isolation [ interface <port_type> [ <port_type_list> ] ]	
<b>Parameter</b>	None	
	<b>Name</b>	<b>Description</b>
	<port_type>	Port type in Fast, Giga or Tengiga ethernet
	<portNo>	<b>Valid values:</b> 1 ~ 10 <b>Type:</b> Mandatory

### 3.2.30 show interface gigabit <portNo> port-isolation

<b>Description</b>	Show isolation information per gigabit port.	
<b>Syntax</b>	show pvlan isolation [ interface <port_type> [ <port_type_list> ] ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<portNo>	<b>Valid values:</b> 1 ~ 10 <b>Type:</b> Mandatory

### 3.2.31 show interface gigabit <portNo> storm-control

<b>Description</b>	Show storm control information per gigabit port.	
<b>Syntax</b>	show interface gigabit <portNo> storm-control	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<port_type>	Port type in Fast, Giga or Tengiga ethernet
	<portNo>	<b>Valid values:</b> 1~10 <b>Type:</b> Mandatory

### 3.2.32 show qos storm {unknown-uc|unknown-mc|broadcast}

<b>Description</b>	Show storm control information by VLAN.	
<b>Syntax</b>	show vlan unknown-uc show vlan unknown-mc show vlan broadcast	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	unknown-uc	Show unknown unicast storm control information by

		VLAN. <b>Type:</b> Mandatory
	unknown-mc	Show unknown multicast storm control information by VLAN. <b>Type:</b> Mandatory
	broadcast	Show broadcast storm control information by VLAN. <b>Type:</b> Mandatory

### 3.2.33 show port-mirror

<b>Description</b>	Show port mirror information.
<b>Syntax</b>	show port-mirror
<b>Parameter</b>	None

### 3.2.34 show ring-protect

<b>Description</b>	Show ring protect information
<b>Syntax</b>	show ring-protect
<b>Parameter</b>	None

### 3.2.35 show interface gigabit <portNo>

<b>Description</b>	Show interface gigaport information	
<b>Syntax</b>	show interface gigabit <portNo>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<portNo>	Gigabit port. <b>Valid values:</b> 1 ~ 10 <b>Type:</b> Mandatory

### 3.2.36 show ext-tpid

<b>Description</b>	Show TPID for the VLAN Tag
<b>Syntax</b>	show ext-tpid
<b>Parameter</b>	None

### 3.2.37 show interface vlan

<b>Description</b>	Show VLAN interface information of all VLANs.
<b>Syntax</b>	show interface vlan
<b>Parameter</b>	None

### 3.2.38 show interface vlan <vlanid>

<b>Description</b>	Show VLAN interface information of specify VLAN.	
<b>Syntax</b>	show interface vlan <vlanid>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlanid>	VLAN ID. <b>Valid values:</b> 1 ~ 4094 <b>Type:</b> Mandatory

### 3.2.39 show protocol-vlan

<b>Description</b>	Show protocol based VLAN information for all entries.
<b>Syntax</b>	show protocol-vlan
<b>Parameter</b>	None

**3.2.40 show interface gigabit <portNo> vlan**

<b>Description</b>	Show vlan information per port	
<b>Syntax</b>	show interface gigabit <portNo> vlan	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<portNo>	Gigabit port. <b>Valid values:</b> 1 ~ 10 <b>Type:</b> Mandatory

**3.2.41 show vlan-trans**

<b>Description</b>	Show VLAN translation table for all
<b>Syntax</b>	show vlan-trans
<b>Parameter</b>	None

**3.2.42 show multicast-fdb**

<b>Description</b>	Show IGMP group membership table
<b>Syntax</b>	show multicast-fdb
<b>Parameter</b>	None

**3.2.43 show dot1x**

<b>Description</b>	Show dot1x information.
<b>Syntax</b>	show dot1x
<b>Parameter</b>	None

**3.2.44 show dot1x status**

<b>Description</b>	Show dot1x stats.
<b>Syntax</b>	show dot1x status [ interface <port_type> [ <port_type_list> ] ] [ brief ]
<b>Parameter</b>	None

**3.2.45 show radius-server [ statistics ]**

<b>Description</b>	show radius-server statistics	
<b>Syntax</b>	show radius-server [ statistics ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	[ statistics ]	Count radius packet statistics

**3.2.46 show rfc2544 profile [ <word32> ]**

<b>Description</b>	show rfc2544 profile name	
<b>Syntax</b>	show rfc2544 profile [ <word32> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<word32>	rfc2544 profile name

---

### 3.3 Configure Mode Commands

Commands that can be executed under Configure Mode

#### 3.3.1 interface gigabit <portNo>

<b>Description</b>	Gigabit Ethernet interface. (enter gigabit interface mode)	
<b>Syntax</b>	interface gigabit <portNo>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<portNo>	<b>Valid values:</b> 1 ~ 10 <b>Type:</b> Mandatory

#### 3.3.2 interface vlan <vlanid>

<b>Description</b>	Vlan Ethernet interface (enter mode of interface vlan)	
<b>Syntax</b>	interface vlan <vlanid>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlanid>	<b>Valid values:</b> 1 ~ 4094 <b>Type:</b> Mandatory

#### 3.3.3 access-list

<b>Description</b>	Enter Acl Profile Config Mode	
<b>Syntax</b>	profile acl	
<b>Parameter</b>	<b>Name</b>	<b>Description</b>
	<vlanid>	<b>Valid values:</b> 1 ~ 4094 <b>Type:</b> Mandatory
<b>Parameter</b>	None	

#### 3.3.4 profile sch

<b>Description</b>	Enter Scheduling Profile Config Mode	
<b>Syntax</b>	profile sch	
<b>Parameter</b>	None	

#### 3.3.5 ntp server <1-5> ip-address <ip>

<b>Description</b>	Set NTP server address.	
<b>Syntax</b>	ntp server <1-5> ip-address { <ipv4_ucast>   <ipv6_ucast>   <hostname> }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<1-5>	index number
	<ipv4> <ipv6 >	<b>Type:</b> Mandatory
	<hostname>	Server name

#### 3.3.6 clock timezone

<b>Description</b>	Set time zone.	
<b>Syntax</b>	clock timezone <word16> <-23-23> [ <0-59> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< word16>	<b>Valid values:</b> please see ' <a href="#">list timezone</a> ' <b>Type:</b> Mandatory



	default	Set time zone to default (GMT/UTC). <b>Type:</b> Mandatory
--	---------	---

### 3.3.7 clock summer-time set [start-time] [end-time]

<b>Description</b>	Set date/time.	
<b>Syntax</b>	clock summer-time <word16> date [ <1-12> <1-31> <2000-2097> <hhmm> <1-12> <1-31> <2000-2097> <hhmm> [ <1-1440> ] ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< word16 >	<b>Valid values:</b> please see ' <a href="#">list timezone</a> ' <b>Type:</b> Mandatory
	<day>	<b>Valid values:</b> 1 ~ 31 <b>Type:</b> Mandatory
	<month>	<b>Valid values:</b> 1 ~ 12 <b>Type:</b> Mandatory
	<year>	<b>Valid values:</b> 2000-2097 <b>Type:</b> Mandatory
	<minute>	<b>Valid values:</b> 0 ~ 59 <b>Type:</b> Mandatory
	<second>	<b>Valid values:</b> 0 ~ 59 <b>Type:</b> Optional

### 3.3.8 account add <username>

<b>Description</b>	Add an account.	
<b>Syntax</b>	username <word31> privilege <0-15> password encrypted <word4-44>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< word31 >	<b>Valid values:</b> 1 ~ 31 characters <b>Type:</b> Mandatory
	<0-15>	<b>Valid values:</b> 0 ~ 15 <b>Type:</b> Mandatory
	< word4-44 >	<b>Valid values:</b> 4-44 characters <b>Type:</b> Mandatory

### 3.3.9 account delete <username>

<b>Description</b>	Delete an account.	
<b>Syntax</b>	no username <word31>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< word31 >	<b>Valid values:</b> 1 ~ 31 characters <b>Type:</b> Mandatory

### 3.3.10 syslog {enable|disable}

<b>Description</b>	Disable or enable syslog service.
<b>Syntax</b>	logging on no logging on
<b>Parameter</b>	None

### 3.3.11 Configuration save and replace

<b>Description</b>	Save and install configuration
<b>Syntax</b>	copy { startup-config   running-config   <Filename> } { startup-config   running-config   < Filename > } [ syntax-check ]

Parameter		
	Name	Description
	running-config	Currently running configuration
	startup-config	Startup configuration
	syntax-check	Perform syntax check on source configuration
	Filename	File in FLASH or on TFTP server

### 3.3.12 clearipigmp snoopingstatistics

<b>Description</b>	clear ipigmpsnoopingstatisti	
<b>Syntax</b>	clear ipigmp snooping [ vlan<vlan_list> ] statistics	
<b>Parameter</b>		
	Name	Description
	vlan_list	VLAN list.

### 3.3.13 clear logging

<b>Description</b>	clear logging	
<b>Syntax</b>	clear logging [ info ] [ warning ] [ error ] [ switch <switch_list> ]	
<b>Parameter</b>		
	Name	Description
	info	Information
	warning	Warning
	error	Error
	Switch list	List of switch ID, ex, 1,3-5,6

### 3.3.14 clear mac address-table

<b>Description</b>	clear mac address-table	
<b>Syntax</b>	clear mac address-table	
<b>Parameter</b>		

### 3.3.15 delete

<b>Description</b>	Delete one file in flash: file system	
<b>Syntax</b>	delete <word>	
<b>Parameter</b>		
	Name	Description
	<word>	Name of file to delete

### 3.3.16 dir

<b>Description</b>	Directory of all files in flash: file system	
<b>Syntax</b>	dir	
<b>Parameter</b>		

### 3.3.17 do

<b>Description</b>	To run exec commands in config mode	
<b>Syntax</b>	do <line>	
<b>Parameter</b>		
	Name	Description
	<line>	Exec Command

### 3.3.18 duplex

<b>Description</b>	Set duplex mode	
<b>Syntax</b>	duplex { half   full   auto [ half   full ] }	
<b>Parameter</b>		
	Name	Description

	half	Forced half duplex.
	full	Forced full duplex.
	auto	Auto negotiation of duplex mode.
	[ half   full ]	Advertise half /full duplex.

### 3.3.19 editing

<b>Description</b>	Enable command line editing
<b>Syntax</b>	editing
<b>Parameter</b>	

### 3.3.20 flowcontrol

<b>Description</b>	Enable/Disable flow control.	
<b>Syntax</b>	flowcontrol { on   off }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	on	Enable flow control.
	off	Disable flow control.

### 3.3.21 frame-sizes

<b>Description</b>	Select the frame sizes that the enabled tests will loop through	
<b>Syntax</b>	frame-sizes { [ 64 ] [ 128 ] [ 256 ] [ 512 ] [ 1024 ] [ 1280 ] [ 1518 ] [ 2000 ] [ 9600 ] }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	64	Enable testing with 64-byte TST PDUs
	128	Enable testing with 128-byte TST PDUs
	256	Enable testing with 256-byte TST PDUs
	512	Enable testing with 512-byte TST PDUs
	1024	Enable testing with 1024-byte TST PDUs
	1280	Enable testing with 1280-byte TST PDUs
	1518	Enable testing with 1518-byte TST PDUs
	2000	Enable testing with 2000-byte TST PDUs
	9600	Enable testing with 9600-byte TST PDUs

### 3.3.22 green-etherneteee

<b>Description</b>	Powering down of PHYs when there is no traffic.
<b>Syntax</b>	green-etherneteee
<b>Parameter</b>	

### 3.3.23 green-etherneteee optimize-for-power

<b>Description</b>	Set if EEE shall be optimized for least power consumption (else optimized for least traffic latency).
<b>Syntax</b>	green-etherneteee optimize-for-power
<b>Parameter</b>	

### 3.3.24 green-etherneteee urgent-queues

<b>Description</b>	Enables EEE urgent queue. An urgent queue means that latency is kept to a minimum for traffic goin to that queue. Note: EEE power savings will be reduced.	
<b>Syntax</b>	green-etherneteee urgent-queues [ <range_list> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	range_list	EEE Interface.

### 3.3.25 help

<b>Description</b>	Description of the interactive help system
<b>Syntax</b>	help
<b>Parameter</b>	

### 3.3.26

#### iparp inspection

<b>Description</b>	iparp inspection
<b>Syntax</b>	iparp inspection
<b>Parameter</b>	

### 3.3.27 iparp inspection translate

<b>Description</b>	IP ARP inspection entry interface configuration	
<b>Syntax</b>	iparp inspection translate [ interface <port_type><port_type_id><vlan_id><mac_ucast><ipv4_ucast> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	port_type	Port type in Fast, Giga or Tengigaethernet
	port_type_id	Port ID in the format of switch-no/port-no
	vlan_id	Select a VLAN id to configure
	mac_ucast	Select a MAC address to configure
	ipv4_ucast	Select an IP Address to configure

### 3.3.28 iparp inspection trust

<b>Description</b>	IP ARP inspection trust configuration
<b>Syntax</b>	iparp inspection trust
<b>Parameter</b>	

### 3.3.29 iparp inspection vlan

<b>Description</b>	IP ARP inspection vlan setting	
<b>Syntax</b>	iparp inspection vlan<vlan_list>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_list	arp inspection vlan list

### 3.3.30 ipdns proxy

<b>Description</b>	IP DNS proxy service
<b>Syntax</b>	ipdns proxy
<b>Parameter</b>	

### 3.3.31 ip http secure-redirect

<b>Description</b>	IP http secure-redirect
<b>Syntax</b>	ip http secure-redirect
<b>Parameter</b>	

### 3.3.32 ip http secure-server

<b>Description</b>	IP Secure HTTP web server
<b>Syntax</b>	ip http secure-server
<b>Parameter</b>	

**3.3.33 ip source binding interface**

<b>Description</b>	IP source binding entry interface configuration	
<b>Syntax</b>	Ip source binding interface <port_type> <port_type_id> <vlan_id> <ipv4_ucast> <mac_ucast>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	port_type	Port type in Fast, Giga or Tengigaethernet
	port_type_id	Port ID in the format of switch-no/port-no
	vlan_id	Select a VLAN id to configure
	ipv4_ucast	Select an IP Address to configure
	mac_ucast	Select a MAC address to configure

**3.3.34 ipssh**

<b>Description</b>	IP Secure Shell
<b>Syntax</b>	ipssh
<b>Parameter</b>	

**3.3.35 ipmc profile**

<b>Description</b>	IPMC profile configuration
<b>Syntax</b>	ipmc profile
<b>Parameter</b>	

**3.3.36 ipmc range**

<b>Description</b>	A range of IPv4/IPv6 multicast addresses for the profile	
<b>Syntax</b>	ipmc range <word16> { <ipv4_mcast> [ <ipv4_mcast> ]   <ipv6_mcast> [ <ipv6_mcast> ] }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	word16	Range entry name in 16 char's
	ipv4_mcast	Valid IPv4 multicast address
	ipv4_mcast	Valid IPv4 multicast address that is not less than start address
	ipv6_mcast	Valid IPv6 multicast address
	ipv6_mcast	Valid IPv6 multicast address that is not less than start address

**3.3.37 vlan <vlanid>**

<b>Description</b>	Configure VLAN.	
<b>Syntax</b>	vlan <vlanid>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlanid>	Create an empty VLAN index. <b>Valid values:</b> 1 ~ 4094 <b>Type:</b> Mandatory

**3.3.38 vlan <vlanid> <name>**

<b>Description</b>	Configure VLAN's name.	
<b>Syntax</b>	vlan <vlanid> <name>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlanid>	Create an empty VLAN index. <b>Valid values:</b> 1 ~ 4094

		<b>Type:</b> Mandatory
	<name>	VLAN Name (0~31) <b>String Size:</b> 0~31 <b>Type:</b> Mandatory

### 3.3.39 vlan disable <vlanid>

<b>Description</b>	Delete VLAN memberset/setting.	
<b>Syntax</b>	vlan disable <vlanid>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlanid>	<b>Valid values:</b> 1 ~ 4094 <b>Type:</b> Mandatory

### 3.3.40 aging <time>

<b>Description</b>	Configure aging time for a bridge port.	
<b>Syntax</b>	aging <time>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<time>	<b>Valid values:</b> 10 ~ 1000000 (seconds) <b>Type:</b> Mandatory

### 3.3.41 jumboframe {enable|disable}

<b>Description</b>	Set jumbo frame settings.	
<b>Syntax</b>	jumboframe {enable disable}	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	enable	Enable jumbo frame.
	disable	Disable jumbo frame.

### 3.3.42 jumboframe mtu <value>

<b>Description</b>	MTU size.	
<b>Syntax</b>	jumboframe mtu <value>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<value>	Range. <b>Valid values:</b> 1536~9000 (bytes) <b>Type:</b> Mandatory

### 3.3.43 media-type

<b>Description</b>	Configure media-type	
<b>Syntax</b>	media-type { rj45   sfp   dual }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	rj45	rj45 interface (copper interface).
	sfp	sfp interface (fiber interface).
	dual	Dual media interface (cu & fiber interface).

### 3.3.44 monitor destination interface

<b>Description</b>	The destination port. That is the port that trafficed should be mirrored to.	
<b>Syntax</b>	monitor destination interface <port_type> <port_type_id>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

	<port_type	Port type
	<port_type_id>	Port Number

### 3.3.45 speed

<b>Description</b>	Configures interface speed. If you use 10, 100, or 1000 keywords with the auto keyword the port will only advertise the specified speeds.	
<b>Syntax</b>	speed { 10g   2510G   1000   100   10   auto { [ 10 ] [ 100 ] [ 1000 ] } }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	1000	1Gbps
	100	100Mbps
	10	10Mbps
	auto	Auto negotiation
	[ 10 ]	10Mbps
	[ 10 0 ]	100Mbps
	[ 1000 ]	1Gbps

### 3.3.46 tacacs-server host

<b>Description</b>	Configure TACACS+ server	
<b>Syntax</b>	tacacs-server host <word1-255> [ port <0-65535> ] [ timeout <1-1000> ] [ key <line1-63> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	word1-255	Hostname or IP address
	0-65535	TCP port number
	1-1000	Wait time in seconds
	line1-63	The shared key

### 3.3.47 tacacs-server key

<b>Description</b>	Configure TACACS+ encryption key	
<b>Syntax</b>	tacacs-server key <line1-63>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	line1-63	

### 3.3.48 tacacs-server timeout

<b>Description</b>	Time to wait for a TACACS+ server to reply	
<b>Syntax</b>	tacacs-server timeout <1-1000>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	1-1000	Wait time in seconds

### 3.3.49 traps

<b>Description</b>	trap event configuration	
<b>Syntax</b>	traps [ aaa authentication ] [ system [ coldstart ] [ warmstart ] ] [ switch [ stp ] [ rmon ] ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	aaa authentication	AAA authentication fail event
	coldstart	Cold start event
	warmstart	Warm start event
	stp	STP event

---

	rmon	RMON event
--	------	------------

### 3.3.50 upnp

<b>Description</b>	Set UPnP's configurations
<b>Syntax</b>	upnp
<b>Parameter</b>	

### 3.3.51 upnp advertising-duration

<b>Description</b>	Set UPnP's advertising duration	
<b>Syntax</b>	upnp advertising-duration <100-86400>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	100-86400	advertising duration

### 3.3.52 upnp ttl

<b>Description</b>	Set UPnP's TTL value	
<b>Syntax</b>	upnp ttl <1-255>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	1-255	TTL value



### 3.3.53 flow-control {enable|disable}

<b>Description</b>	Enable/Disable flow-control.	
<b>Syntax</b>	flow-control {enable disable}	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	enable	Enable flow-control.
	disable	Disable flow-control.

### 3.3.54 speed

<b>Description</b>	Configure gigabit Ethernet speed and Copper/SFP for gigabit port 7~8. (port1~6 Only support copper, no SFP) (port 9, 10 only support auto)	
<b>Syntax</b>	speed {auto full-1000mbps full-100mbps full-10mbps half-100mbps half-10mbps}	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	auto	Auto negotiation.
	full-1000mbps	Set 1000Mbps full duplexing.
	full-100mbps	Set 100Mbps full duplexing.
	full-10mbps	Set 10Mbps full duplexing.
	half-100mbps	Set 100Mbps half duplexing.
	half-10mbps	Set 10Mbps half duplexing.

### 3.3.55 port {enable/disable}

<b>Description</b>	Set interface gigabit port enable or disable.	
<b>Syntax</b>	port {enable/disable}	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	disable	Turn off gigabit port.
	enable	Turn on gigabit port.

## 3.4 VLAN Mode Commands

### 3.4.1 vlan

<b>Description</b>	VLAN commands	
<b>Syntax</b>	vlan <vlan_list>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_list	ISL VLAN IDs 1~4095

### 3.4.2 vlan ether-type s-custom-port

<b>Description</b>	Vlan Ether type for custom S-ports configuration	
<b>Syntax</b>	vlan ether-type s-custom-port <0x0600-0xffff>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	0x0600-0xffff	Ether-type (Range: 0x0600-0xffff)

### 3.4.3 vlan protocol

<b>Description</b>	
<b>Syntax</b>	vlan protocol { { eth2 { <0x600-0xffff>   arp   ip   ipx   at } }   { snap

	{ <0x0-0xffff>   rfc_1042   snap_8021h } <0x0-0xffff> }   { llc <0x0-0xff> <0x0-0xff> } } group <word16>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	0x600-0xffff	Ether Type(Range: 0x600 - 0xFFFF)
	arp	Ether Type is ARP
	ip	Ether Type is IP
	ipx	Ether Type is IPX
	at	Ether Type is AppleTalk
	0x0-0xfffff	SNAP OUI (Range 0x000000 - 0FFFFFFF)
	rfc_1042	SNAP OUI is rfc_1042
	snap_8021h	SNAP OUI is 8021h
	0x0-0xffff	PID (Range: 0x0 - 0xFFFF)
	0x0-0xff	DSAP (Range: 0x00 - 0xFF)
	0x0-0xff	SSAP (Range: 0x00 - 0xFF)
	word16	Group Name (Range: 1 - 16 characters)

#### 3.4.4 vlan-trunking

<b>Description</b>	Change whether trunking of unknown VLANs is enabled
<b>Syntax</b>	vlan-trunking
<b>Parameter</b>	

#### 3.4.5 switchport access vlan

<b>Description</b>	Set switch access mode of the interface	
<b>Syntax</b>	switchport access vlan <vlan_id>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_id	VLAN ID of the VLAN when this port is in access mode

#### 3.4.6 switchport forbidden vlan

<b>Description</b>	Adds or removes forbidden VLANs from the current list of forbidden VLANs	
<b>Syntax</b>	switchport forbidden vlan { add   remove } <vlan_list>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	add	Add to existing list.
	remove	Remove from existing list.
	vlan_list	VLAN IDs

#### 3.4.7 switchport hybrid acceptable-frame-type

<b>Description</b>	Set acceptable frame type on a port	
<b>Syntax</b>	switchport hybrid acceptable-frame-type { all   tagged   untagged }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	all	Allow all frames
	tagged	Allow only tagged frames
	untagged	Allow only untagged frames

#### 3.4.8 switchport hybrid allowed vlan

<b>Description</b>	Set allowed VLAN characteristics when interface is in hybrid mode	
<b>Syntax</b>	switchport hybrid allowed vlan { all   none   [ add   remove   except ] <vlan_list> }	

Parameter	Name	Description
	all	All VLANs
	none	No VLANs
	add	Add VLANs to the current list
	remove	Remove VLANs from the current list
	except	All VLANs except the following
	vlan_list	VLAN IDs of the allowed VLANs when this port is in hybrid mode

### 3.4.9 switchport hybrid egress-tag

<b>Description</b>	Egress VLAN tagging configuration	
<b>Syntax</b>	switchport hybrid egress-tag { none   all [ except-native ] }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	none	No egress tagging
	all	Tag all frames
	except-native	Tag all frames except frames classified to native VLAN of the hybrid port

### 3.4.10 switchport hybrid ingress-filtering

<b>Description</b>	VLAN Ingress filter configuration
<b>Syntax</b>	switchport hybrid ingress-filtering
<b>Parameter</b>	

### 3.4.11 switchport mode

<b>Description</b>	Set switching mode	
<b>Syntax</b>	switchport mode { access   trunk   hybrid }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	access	Set mode to ACCESS unconditionally
	trunk	Set mode to TRUNK unconditionally
	hybrid	Set mode to HYBRID unconditionally

### 3.4.12 switchport trunk allowed vlan

<b>Description</b>	Set allowed VLAN characteristics when interface is in trunk mode	
<b>Syntax</b>	switchport trunk allowed vlan { all   none   [ add   remove   except ] <vlan_list> }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	all	All VLANs
	none	No VLANs
	add	Add VLANs to the current list
	remove	Remove VLANs from the current list
	except	All VLANs except the following
	vlan_list	VLAN IDs of the allowed VLANs when this port is in trunk mode

### 3.4.13 switchport vlan protocol group

<b>Description</b>	Protocol-based VLAN group commands	
<b>Syntax</b>	switchport vlan protocol group <word16> vlan <vlan_id>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	word16	Group Name (Range: 1 - 16 characters)
	vlan_id	VLAN ID required for the group to VLAN mapping (Range: 1-4095)

## 3.5 Interface VLAN Mode Commands

### 3.5.1 interface

<b>Description</b>	Interface configuration	
<b>Syntax</b>	interface <port_type> [ <port_type_list> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	port_type	Port type in Fast, Giga or Tengigaethernet
	port_type_list	List of Port ID, ex, 1/1,3-5;2/2-4,6

### 3.5.2 interface vlan

<b>Description</b>	VLAN interface configurations	
<b>Syntax</b>	interface vlan<vlan_list>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_list	List of VLAN interface numbers, 1~4095

### 3.5.3 ip address

<b>Description</b>	IPv4 address configurations	
<b>Syntax</b>	ip address { { <ipv4_addr><ipv4_netmask> }   { dhcp [ fallback <ipv4_addr><ipv4_netmask> [ timeout <uint> ] ] } }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	ipv4_addr	IP address
	ipv4_netmask	IP netmask
	dhcp	Enable DHCP
	fallback	DHCP fallback settings
	ipv4_addr	DHCP fallback address
	ipv4_netmask	DHCP fallback netmask
	timeout	DHCP fallback timeout
	uint	DHCP fallback timeout in seconds

### 3.5.4 ip name-server

<b>Description</b>	Interface Internet Protocol config commands Domain Name System	
<b>Syntax</b>	ip name-server { <ipv4_ucast>   dhcp [ interface vlan<vlan_id> ] }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	ipv4_ucast	A valid IPv4 unicast address
	vlan_id	VLAN identifier(s): VID

### 3.5.5 ipdhcp relay

<b>Description</b>	DHCP relay agent configuration	
<b>Syntax</b>	ipdhcp relay	
<b>Parameter</b>		

### 3.5.6 ipdhcp relay information option

<b>Description</b>	IP DHCP relay information option(Option 82)	
<b>Syntax</b>	ipdhcp relay information option	
<b>Parameter</b>		

### 3.5.7 ipdhcp retry interface vlan

<b>Description</b>	Restart the DHCP query process	
<b>Syntax</b>	ipdhcp retry interface vlan<vlan_id>	

Parameter		
	Name	Description
	vlan_id	Vlan ID

### 3.5.8 ipdhcp snooping

<b>Description</b>	IP DHCP snooping	
<b>Syntax</b>	ipdhcp snooping	
<b>Parameter</b>		

### 3.5.9 ipv6 address

<b>Description</b>	Configure the IPv6 address of an interface	
<b>Syntax</b>	ipv6 address <ipv6_subnet>	
<b>Parameter</b>		
	Name	Description
	ipv6_subnet	IPv6 prefix x:x::y/z

### 3.5.10 ipv6mtu

<b>Description</b>	IPv6 Maximum transmission unit	
<b>Syntax</b>	ipv6 mtu<1280-1510G>	
<b>Parameter</b>		
	Name	Description
	1280-1510G	MTU value in bytes

## 3.6 Ring Group Mode Commands

### 3.6.1 ring-protect {enable|disable}

<b>Description</b>	Enable/disable ring protection.
<b>Syntax</b>	ring-protect {enable disable}
<b>Parameter</b>	None

### 3.6.2 ring-protect {node1|node2} <portNo>

<b>Description</b>	Set node1/node2 for ring protection.	
<b>Syntax</b>	ring-protect {node1 node2} <portNo>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<portNo>	Port number. <b>Valid values:</b> 1~10 <b>Type:</b> Mandatory

### 3.6.3 ring-protect role {master| slave}

<b>Description</b>	Set role to ring protection.
<b>Syntax</b>	ring-protect role {master  slave}
<b>Parameter</b>	None

### 3.6.4 ring-protect <ring-id>

<b>Description</b>	Set ring protection ID.	
<b>Syntax</b>	ring-protect <ring-id>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<ring-id>	Ring ID. <b>Valid values:</b> 0~255 <b>Type:</b> Mandatory

### 3.6.5 ring-protect {enable|disable}

<b>Description</b>	Enable / disable ring-protection.
<b>Syntax</b>	ring-protect enable ring-protect disable
<b>Parameter</b>	None

### 3.6.6 ring-protect {node1|node2} <portNo>

<b>Description</b>	Set ring-protection node.	
<b>Syntax</b>	ring-protect node1 <portNo> ring-protect node2 <portNo>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<portNo>	<b>Valid values:</b> 1~10. <b>Type:</b> Mandatory

### 3.6.7 ring-guardtime <time>

<b>Description</b>	Set ring guard time	
<b>Syntax</b>	ring-guardtime <time>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<time>	Guard time, unit :second <b>Valid values:</b> 0~3600 <b>Type:</b> Mandatory

### 3.6.8 ring-group <number>

<b>Description</b>	Entry ring group interface	
<b>Syntax</b>	ring-group <number>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<number>	Ring group index <b>Valid values:</b> 1~2 <b>Type:</b> Mandatory

## 3.7 Spanning Tree

### 3.7.1 spanning-tree

<b>Description</b>	Enable/disable STP on this interface	
<b>Syntax</b>	spanning-tree	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.7.2 spanning-tree aggregation

<b>Description</b>	Spanning Tree protocol	
<b>Syntax</b>	spanning-tree aggregation	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.7.3 spanning-tree auto-edge

<b>Description</b>	Auto detect edge status	
<b>Syntax</b>	<b>3.7.4 spanning-tree auto-edge</b>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.7.5 spanning-tree bpdu-guard

<b>Description</b>	Enable/disable BPDU guard	
<b>Syntax</b>	spanning-tree bpdu-guard	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.7.6 spanning-tree edge

<b>Description</b>	Edge port  spanning-tree  STP Bridge	
<b>Syntax</b>	spanning-tree edge	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.7.7 spanning-tree edge bpdu-filter

<b>Description</b>	Enable BPDU filter (stop BPDU tx/rx)	
<b>Syntax</b>	spanning-tree edge bpdu-filter	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.7.8 spanning-tree mode

<b>Description</b>	mode  STP protocol mode  stp  802.1D Spanning Tree  rstp  Rapid Spanning Tree (802.1w)  mstp  Multiple Spanning Tree (802.1s)	
<b>Syntax</b>	spanning-tree mode { stp   rstp   mstp }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	stp	802.1D Spanning Tree
	rstp	Rapid Spanning Tree (802.1w)
	mstp	Multiple Spanning Tree (802.1s)

### 3.7.9 spanning-tree mst cost

<b>Description</b>	STP bridge instance STP Cost of this port	
<b>Syntax</b>	spanning-tree mst <0-7> cost { <1-200000000>   auto }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0-7>	instance 0-7 (CIST=0, MST2=1...)
	<1-200000000>	STP Cost of this port

### 3.7.10 spanning-tree mst port-priority

<b>Description</b>	port-priority	
<b>Syntax</b>	spanning-tree mst <0-7> port-priority <0-240>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0-7>	instance 0-7 (CIST=0, MST2=1...)
	<0-240>	STP priority of this port

### 3.7.11 spanning-tree mst priority

<b>Description</b>	Priority of the instance  Range in seconds	
<b>Syntax</b>	spanning-tree mst <0-7> priority <0-61440>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0-7>	instance 0-7 (CIST=0, MST2=1...)
	<0-61440>	Priority of the instance

### 3.7.12 spanning-tree mst vlan

<b>Description</b>	VLAN keyword	
<b>Syntax</b>	spanning-tree mst <0-7> vlan <vlan_list>	
<b>Parameter</b>		



	Name	Description
	<0-7>	instance 0-7 (CIST=0, MST2=1...)
	<vlan_list>	Range of VLANs

### 3.7.13 spanning-tree mst forward-time

<b>Description</b>	forward-time Delay between port states	
<b>Syntax</b>	spanning-tree mst forward-time <4-30>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<4-30>	Delay between port states

### 3.7.14 spanning-tree mst max-age

<b>Description</b>	Max bridge age before timeout.	
<b>Syntax</b>	spanning-tree mst max-age <6-40> [ forward-time <4-30> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<6-40>	Max bridge age before timeout
	<4-30>	forward-time

### 3.7.15 spanning-tree mst max-hops

<b>Description</b>	MSTP bridge max hop count	
<b>Syntax</b>	spanning-tree mst max-hops <6-40>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<6-40>	MSTP bridge max hop count

### 3.7.16 spanning-tree mst name

<b>Description</b>	Name of the bridge Revision Revision keyword	
<b>Syntax</b>	spanning-tree mst name <word32> revision <0-65535>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<word32>	Name of the bridge
	<0-65535>	Revision keyword

## 3.8 sFlow Configure Command

### 3.8.1 sflow

<b>Description</b>	Enables/disables flow sampling on this port.	
<b>Syntax</b>	sflow [ <range_list> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< range_list >	Sampler instance

### 3.8.2 sflow agent-ip

<b>Description</b>	The agent IP address used as agent-address in UDP datagrams. Defaults to IPv4 loopback address.	
<b>Syntax</b>	sflow agent-ip { ipv4 <ipv4_addr>   ipv6 <ipv6_addr> }	
<b>Parameter</b>		

	Name	Description
	< ipv4_addr >	Ipv4 address
	< ipv6_addr >	ipv6 address

### 3.8.3 sflow collector-address

<b>Description</b>	Sflow runtime, see sflow_ici_functions	
<b>Syntax</b>	<b>3.8.4 sflow collector-address [ receiver &lt;range_list&gt; ] [ &lt;word&gt; ]</b>	
<b>Parameter</b>		
	Name	Description
	< range_list >	Sampler instance

### 3.8.5 sflow max-datagram-size

<b>Description</b>	Statistics flow Maximum datagram size.	
<b>Syntax</b>	sflow max-datagram-size [ receiver <range_list> ] <200-1468>	
<b>Parameter</b>		
	Name	Description
	<range_list>	receiver list
	<200-1468>	packet byte

### 3.8.6 sflow max-sampling-size

<b>Description</b>	Specifies the maximum number of bytes to transmit per flow sample.	
<b>Syntax</b>	sflow max-sampling-size [ sampler <range_list> ] [ <14-200> ]	
<b>Parameter</b>		
	Name	Description
	< range_list >	Sampler instance
	<200-1468>	packet byte

### 3.8.7 sflow sampling-rate

<b>Description</b>	Specifies the statistical sampling rate. The sample rate is specified as N to sample 1/Nth of the packets in the monitored flows. There are no restrictions on the value, but the switch will adjust it to the closest possible sampling rate.	
<b>Syntax</b>	sflow sampling-rate [ sampler <range_list> ] [ <1-4294967295> ]	
<b>Parameter</b>		
	Name	Description
	< range_list >	Sampler instance
	<1-4294967295>	Sampling rate

### 3.8.8 sflow timeout

<b>Description</b>	Receiver timeout measured in seconds. The switch decrements the timeout once per second, and as long as it is non-zero, the receiver receives samples. Once the timeout reaches 0, the receiver and all its configuration is reset to defaults.	
<b>Syntax</b>	sflow timeout [ receiver <range_list> ] <0-2147483647>	
<b>Parameter</b>		
	Name	Description
	< range_list >	Sampler instance
	<0-2147483647>	Number of seconds.

## 3.9 SNMP Configure Command

### 3.9.1 snmp-server

<b>Description</b>	Enable SNMP server	
<b>Syntax</b>	snmp-server	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.9.2 snmp-server access

<b>Description</b>	snmp-server access configuration	
<b>Syntax</b>	snmp-server access < group name > model { v1   v2c   v3   any } level { auth   noauth   priv } [ read <word255> ] [ write <word255> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< group name >	32 words
	< v1   v2c   v3   any >	V1~v3 security model
	< level >	security level
	{ auth   noauth   priv }	authNoPriv Security Level
		noAuthNoPriv Security Level
		authPriv Security Level
	read	specify a read view for the group
	<word255>	read view name

### 3.9.3 snmp-server community v2c

<b>Description</b>	Set the SNMP v2c community	
<b>Syntax</b>	snmp-server community v2c <word127> [ ro   rw ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< word127 >	Community word
	< ro >	Read only
	<rw>	Read write

### 3.9.4 snmp-server community v3

<b>Description</b>	S Set the SNMP v3 community	
<b>Syntax</b>	snmp-server community v3 <word127> [ <ipv4_addr> <ipv4_netmask> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< word127 >	Community word
	< ipv4_addr >	IPv4 address
	<ipv4_netmask>	IPv4 netmask

### 3.9.5 snmp-server host

<b>Description</b>	Set SNMP server's configurations	
<b>Syntax</b>	snmp-server host <word32>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< word32 >	Name of the host configuration

### 3.9.6 snmp-server host traps

<b>Description</b>	Set SNMP host's configurations	
<b>Syntax</b>	snmp-server host < Name of the host configuration > traps [ linkup ] [ linkdown ] [ lldp ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< Name of the host	Name of the host configuration

	configuration >	
	<200-1468>	packet byte
	[ linkup ]	Link up event
	[ linkdown ]	Link down event
	[ lldp ]	LLDP event

### 3.9.7 snmp-server trap

<b>Description</b>	Set SNMP server's configurations	
<b>Syntax</b>	snmp-server trap	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.9.8 snmp-server user

<b>Description</b>	Set the SNMPv3 user's configurations	
<b>Syntax</b>	snmp-server user <Username> engine-id <Engine ID octet string> [ { md5 <word8-32>   sha <word8-40> } [ priv { des   aes } <word8-32> ] ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<Username >	32 words
	<Engine ID octet string>	word10-32
	MD5	Set MD5 protocol
	sha	Set SHA protocol
	<word8-40>	SHA password
	priv	Set Privacy
	{ des   aes }	Set DES/AES protocol
	<word8-32>	Set privacy password

### 3.9.9 snmp-server version

<b>Description</b>	Set the SNMP server's version	
<b>Syntax</b>	snmp-server version { v1   v2c   v3 }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	{ v1   v2c   v3 }	SNMP v1,v2c,v3

### 3.9.10 snmp-server view

<b>Description</b>	Snmp MIB view configuration	
<b>Syntax</b>	snmp-server view <word32> <word255> { include   exclude }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< word32 >	MIB view name
	< word255>	MIB view OID
	{ include   exclude }	Included/Excluded type from the view

### 3.9.11 SNMP trap receive ipv6 host

<b>Description</b>	host configuration	
<b>Syntax</b>	host <ipv6_ucast> [ <1-65535> ] [ traps   informs ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	ipv6_ucast	IP address of SNMP trap host
	1-65535	UDP port of the trap messges
	traps	Send Trap messages to this host
	informs	Send Inform messages to this host

### 3.9.12 SNMP trap receive ipv4 host

<b>Description</b>	host configuration	
<b>Syntax</b>	host { <ipv4_ucast>   <hostname> } [ <1-65535> ] [ traps   informs ]	
<b>Parameter</b>		

	Name	Description
	ipv4_ucast	IP address of SNMP trap host
	hostname	hostname of SNMP trap host
	1-65535	UDP port of the trap messages
	traps	Send Trap messages to this host
	informs	Send Inform messages to this host

### 3.10 Qos Function Command

#### 3.10.1 qos cos

<b>Description</b>	Class of service configuration	
<b>Syntax</b>	qos cos <0-7>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0-7>	Specific class of service

#### 3.10.2 qos dscp-classify

<b>Description</b>	Set qos dscp-classify.	
<b>Syntax</b>	qos dscp-classify { zero   selected   any }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

#### 3.10.3 qos dscp-remark

<b>Description</b>	Set qos dscp-remark	
<b>Syntax</b>	qos dscp-remark { rewrite   remap   remap-dp }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

#### 3.10.4 qos dscp-translate

<b>Description</b>	Enable qos dscp-translate mode	
<b>Syntax</b>	qos dscp-translate	

#### 3.10.5 qos map cos-dscp

<b>Description</b>	Configure cos mapping to dscptable	
<b>Syntax</b>	qos map cos-dscp <0~7> dpl <0~1> dscp { <0-63>   { be   af11   af12   af13   af21   af22   af23   af31   af32   af33   af41   af42   af43   cs1   cs2   cs3   cs4   cs5   cs6   cs7   ef   va } }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0~7>	Cos level
	<0~1>	Specific drop precedence level
	<0-63>	Dscp level
	be	Default PHB(DSCP 0) for best effort traffic
	af11~13	Assured Forwarding PHB 11~13(DSCP 10,12,14)
	af22~23	Assured Forwarding PHB 22~23(DSCP 20,22)
	af31~33	Assured Forwarding PHB 31~33(DSCP 26,28,30)
	Af41~43	Assured Forwarding PHB 41~43(DSCP 34,36,38)
	cs1~7	Class Selector PHB CS1~7 precedence 1~7(DSCP 8*(cs value))
	ef	Expedited Forwarding PHB(DSCP 46)
	va	Voice Admit PHB(DSCP 44)

#### 3.10.6 qos map cos-dscp

<b>Description</b>	Configure dscp mapping to cos table	
--------------------	-------------------------------------	--

<b>Syntax</b>	qos map dscp-cos { <0~63>   { be   af11   af12   af13   af21   af22   af23   af31   af32   af33   af41   af42   af43   cs1   cs2   cs3   cs4   cs5   cs6   cs7   ef   va } } cos <0-7> dpl <dpl>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0~7>	Cos level
	<0-63>	Dscp level
	be	Default PHB(DSCP 0) for best effort traffic
	af11~13	Assured Forwarding PHB 11~13(DSCP 10,12,14)
	af22~23	Assured Forwarding PHB 22~23(DSCP 20,22)
	af31~33	Assured Forwarding PHB 31~33(DSCP 26,28,30)
	Af41~43	Assured Forwarding PHB 41~43(DSCP 34,36,38)
	cs1~7	Class Selector PHB CS1~7 precedence 1~7(DSCP 8*(cs value))
	ef	Expedited Forwarding PHB(DSCP 46)
	va	Voice Admit PHB(DSCP 44)
	<0~1>	Specific drop precedence level

### 3.10.7 qos map dscp-egress-translation

<b>Description</b>	Configure dscp egress-translation	
<b>Syntax</b>	qos map dscp-egress-translation { <0~63>   { be   af11   af12   af13   af21   af22   af23   af31   af32   af33   af41   af42   af43   cs1   cs2   cs3   cs4   cs5   cs6   cs7   ef   va } } <0~1> to { <0-63>   { be   af11   af12   af13   af21   af22   af23   af31   af32   af33   af41   af42   af43   cs1   cs2   cs3   cs4   cs5   cs6   cs7   ef   va } }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0~7>	Cos level
	<0-63>	Dscp level
	be	Default PHB(DSCP 0) for best effort traffic
	af11~13	Assured Forwarding PHB 11~13(DSCP 10,12,14)
	af22~23	Assured Forwarding PHB 22~23(DSCP 20,22)
	af31~33	Assured Forwarding PHB 31~33(DSCP 26,28,30)
	Af41~43	Assured Forwarding PHB 41~43(DSCP 34,36,38)
	cs1~7	Class Selector PHB CS1~7 precedence 1~7(DSCP 8*(cs value))
	ef	Expedited Forwarding PHB(DSCP 46)
	va	Voice Admit PHB(DSCP 44)
	<0~1>	Specific drop precedence level

### 3.10.8 qos map dscp-ingress-translation

<b>Description</b>	Configure dscp ingress-translation	
<b>Syntax</b>	qos map dscp-ingress-translation { <0~63>   { be   af11   af12   af13   af21   af22   af23   af31   af32   af33   af41   af42   af43   cs1   cs2   cs3   cs4   cs5   cs6   cs7   ef   va } } to { <0-63>   { be   af11   af12   af13   af21   af22   af23   af31   af32   af33   af41   af42   af43   cs1   cs2   cs3   cs4	

	cs5   cs6   cs7   ef   va } }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0~7>	Cos level
	<0-63>	Dscp level
	be	Default PHB(DSCP 0) for best effort traffic
	af11~13	Assured Forwarding PHB 11~13(DSCP 10,12,14)
	af22~23	Assured Forwarding PHB 22~23(DSCP 20,22)
	af31~33	Assured Forwarding PHB 31~33(DSCP 26,28,30)
	Af41~43	Assured Forwarding PHB 41~43(DSCP 34,36,38)
	cs1~7	Class Selector PHB CS1~7 precedence 1~7(DSCP 8*(cs value))
	ef	Expedited Forwarding PHB(DSCP 46)
	va	Voice Admit PHB(DSCP 44)
	<0~1>	Specific drop precedence level

### 3.10.9 qos policer

<b>Description</b>	Configure qos policer	
<b>Syntax</b>	qos policer <unit> [ fps ] [ flowcontrol ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< unit >	Traffic meter
	< fps >	Frame rate
	[ flowcontrol ]	Enable flowcontrol mode

### 3.10.10 qos wrr

<b>Description</b>	Specifies qos wrr mode	
<b>Syntax</b>	qos wrr <1-100> <1-100> <1-100> <1-100> <1-100> <1-100>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<1-100>	every level proportion

### 3.10.11 qos queue-shaper

<b>Description</b>	Configure queue-shaper command	
<b>Syntax</b>	qos queue-shaper queue <0~7> <uint> [ excess ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<1-100>	every level proportion
	<unit>	Traffic meter
	[ excess ]	Agree the shaper could be excess or not

### 3.10.12 qos queue-policer

<b>Description</b>	Configure queue-policer command	
<b>Syntax</b>	qos queue-policer queue <0~7> <uint>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<0~7>	Queue number
	<uint>	Traffic meter

### 3.10.13 qos shaper <unit>

<b>Description</b>	Configure qos shaper command	
<b>Syntax</b>	qos shaper <uint>	
<b>Parameter</b>		

	Name	Description
	<1-100>	every level proportion
	<unit>	Traffic meter

### 3.11 IGMP Functional Commands

#### 3.11.1 ip igmp host-proxy [ leave-proxy ]

<b>Description</b>	IGMP proxy for leave configuration	
<b>Syntax</b>	ipigmp host-proxy [ leave-proxy ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	leave-proxy	IGMP proxy for leave

#### 3.11.2 ip igmp snooping

<b>Description</b>	Snooping igmp
<b>Syntax</b>	ipigmp snooping
<b>Parameter</b>	

#### 3.11.3 ip igmp snooping immediate-leave

<b>Description</b>	IP IGMP snooping immediate leave configuration
<b>Syntax</b>	ipigmp snooping immediate-leave
<b>Parameter</b>	

#### 3.11.4 ip igmp snooping last-member-query-interval

<b>Description</b>	IP IGMP snooping Last Member Query Interval in tenths of seconds	
<b>Syntax</b>	ipigmp snooping last-member-query-interval <0-31744>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	0-31744	0 - 31744 tenths of seconds

#### 3.11.5 ip igmp snooping max-groups

<b>Description</b>	IGMP group throttling configuration	
<b>Syntax</b>	ipigmp snooping max-groups <1-10>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	1-10	Maximun number of IGMP group registration

#### 3.11.6 ip igmp snooping mrouter

<b>Description</b>	IPIGMP snooping Multicast router port configuration
<b>Syntax</b>	ipigmp snooping mrouter
<b>Parameter</b>	

#### 3.11.7 ip igmp snooping querier

<b>Description</b>	IP IGMP querier configuration	
<b>Syntax</b>	ipigmp snooping querier { election   address <ipv4_ucast> }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	election	Act as an IGMP Querier to join Querier-Election
	address	IGMP Querier address configuration
	ipv4_ucast	A valid IPv4 unicast address

#### 3.11.8 ip igmp snooping query-interval

<b>Description</b>	IP IGMP snooping Query-Interval in seconds
<b>Syntax</b>	ip igmp snooping query-interval <1-31744>



Parameter	Name	Description
	1-317	1 - 31744 seconds

### 3.11.9 ip igmp snooping vlan

<b>Description</b>	ipigmp snooping vlan IDs	
<b>Syntax</b>	ipigmp snooping vlan<vlan_list>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_list	VLAN identifier(s): VID

### 3.11.10 ip igmp unknown-flooding

<b>Description</b>	IP IGMP flooding unregistered IPv4 multicast traffic
<b>Syntax</b>	ipigmp unknown-flooding
<b>Parameter</b>	

### 3.11.11 clear ip igmp snooping statistics

<b>Description</b>	clear ip igmp snooping statisti	
<b>Syntax</b>	clear ip igmp snooping [ vlan<vlan_list> ] statistics	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_list	VLAN list.

## 3.12 MVR Functional Commands

### 3.12.1 mvr

<b>Description</b>	Multicast VLAN Registration configuration	
<b>Syntax</b>	mvr	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.12.2 mvr immediate-leave

<b>Description</b>	mvr immediate leave configuration	
<b>Syntax</b>	mvr immediate-leave	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>

### 3.12.3 mvr name channel

<b>Description</b>	Multicast VLAN name and channel configuration	
<b>Syntax</b>	mvr name <word16> channel <word16>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	name <word16>	MVR multicast VLAN name
	channel <word16>	Profile name in 16 char's

### 3.12.4 mvr frame priority

<b>Description</b>	Multicast VLAN interface CoS priority	
<b>Syntax</b>	mvr name <word16> frame priority <0-7>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	name <word16>	MVR multicast VLAN name
	priority <0-7>	CoS priority ranges from 0 to 7

### 3.12.5 mvr name <word16> frame tagged

<b>Description</b>	MVR control frame in TX, Tagged IGMP/MLD frames will be sent
<b>Syntax</b>	mvr name <word16> frame tagged

Parameter	Name	Description
	name <word16>	MVR multicast VLAN name

### 3.12.6 mvr name <word16> igmp-address <ipv4\_ucast>

<b>Description</b>	MVR address configuration used in IGMP	
<b>Syntax</b>	mvr name <word16> igmp-address <ipv4_ucast>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	name <word16>	MVR multicast VLAN name
	<ipv4_ucast>	A valid IPv4 unicast address

### 3.12.7 mvr name <word16> last-member-query-interval <0-31744>

<b>Description</b>	Configure last Member Query Interval in tenths of seconds	
<b>Syntax</b>	mvr name <word16> last-member-query-interval <0-31744>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	name <word16>	MVR multicast VLAN name
	<0-31744>	0 - 31744 tenths of seconds

### 3.12.8 mvr name <word16> mode

<b>Description</b>	Dynamic MVR operation mode	
<b>Syntax</b>	mvr name <word16> mode { dynamic   compatible }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	dynamic	Dynamic MVR operation mode
	compatible	Compatible MVR operation mode

### 3.12.9 mvr name <word16> type

<b>Description</b>	MVR port role configuration	
<b>Syntax</b>	mvr name <word16> type { source   receiver }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	source	MVR source port
	receiver	MVR receiver port

### 3.12.10 mvr vlan

<b>Description</b>	Multicast VLAN Registration configuration	
<b>Syntax</b>	mvr vlan <vlan_list> [ name <word16> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< vlan_list >	MVR multicast VLAN list
	name <word16>	MVR multicast VLAN name in 16 char's

### 3.12.11 mvr vlan <vlan\_list> channel

<b>Description</b>	MVR channel configuration	
<b>Syntax</b>	mvr vlan <vlan_list> channel <word16>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< vlan_list >	MVR multicast VLAN list
	channel <word16>	MVR multicast channel name in 16 char's

### 3.12.12 mvr vlan <vlan\_list> frame priority

<b>Description</b>	Interface CoS priority	
<b>Syntax</b>	mvr vlan <vlan_list> frame priority <0-7>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< vlan_list >	MVR multicast VLAN list
	<0-7>	CoS priority ranges from 0 to 7

### 3.12.13 mvr vlan <vlan\_list> frame tagged

<b>Description</b>	Set tagged IGMP/MLD frames will be sent	
<b>Syntax</b>	mvr vlan <vlan_list> frame tagged	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< vlan_list >	MVR multicast VLAN list

### 3.12.14 mvr vlan <vlan\_list> igmp-address

<b>Description</b>	Set tagged IGMP/MLD frames will be sent	
<b>Syntax</b>	mvr vlan <vlan_list> igmp-address <ipv4_ucast>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< vlan_list >	MVR multicast VLAN list
	<ipv4_ucast>	A valid IPv4 unicast address for IGMP

### 3.12.15 mvr vlan <vlan\_list> mode

<b>Description</b>	Dynamic MVR vlan operation mode	
<b>Syntax</b>	mvr vlan <vlan_list> mode { dynamic   compatible }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< vlan_list >	MVR multicast VLAN list
	dynamic	Dynamic MVR operation mode
	compatible	Compatible MVR operation mode

### 3.12.16 mvr vlan <vlan\_list> type

<b>Description</b>	MVR vlan role configuration	
<b>Syntax</b>	mvr vlan <vlan_list> type { source   receiver }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< vlan_list >	MVR multicast VLAN list
	source	MVR source port
	receiver	MVR receiver port

## 3.13 MLD Functional Commands

### 3.13.1 ipv6mld host-proxy

<b>Description</b>	IPv6 MLD proxy configuration	
<b>Syntax</b>	ipv6 mld host-proxy [ leave-proxy ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	leave-proxy	MLD proxy for leave configuration

### 3.13.2 ipv6mld snooping

<b>Description</b>	ipv6 mld snooping	
<b>Syntax</b>	ipv6 mld snooping	
<b>Parameter</b>		

### 3.13.3 ipv6mld snooping compatibility

<b>Description</b>	IPv6 MLD snooping compatibility configuration	
<b>Syntax</b>	ipv6 mld snooping compatibility { auto   v1   v2 }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	auto	Compatible with MLDv1/MLDv2
	v1	Forced MLDv1
	v2	Forced MLDv2

#### 3.13.4 ipv6mld snooping immediate-leave

<b>Description</b>	IPv6 MLD snooping immediate-leave configuration
<b>Syntax</b>	ipv6 mld snooping immediate-leave
<b>Parameter</b>	

#### 3.13.5 ipv6mld snooping last-member-query-interval

<b>Description</b>	ipv6 mld snooping last member query interval in tenths of seconds	
<b>Syntax</b>	ipv6 mld snooping last-member-query-interval <0-31744>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	0-31744	0 - 31744 tenths of seconds

#### 3.13.6 ipv6mld snooping max-groups

<b>Description</b>	IPv6 MLD group throttling configuration	
<b>Syntax</b>	ipv6 mld snooping max-groups <1-10>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	1-10	Maximun number of MLD group registration

#### 3.13.7 ipv6mld snooping mrouter

<b>Description</b>	ipv6 mld snooping multicast router port configuration
<b>Syntax</b>	ipv6 mld snooping mrouter
<b>Parameter</b>	

#### 3.13.8 ipv6mld snooping query-interval

<b>Description</b>	IPv6 MLD snooping query interval in seconds	
<b>Syntax</b>	ipv6 mld snooping query-interval <1-31744>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	1-31744	1 - 31744 seconds

#### 3.13.9 ipv6mld snooping query-max-response-time

<b>Description</b>	IPv6 MLD snooping querymaxresponse interval in tenths of seconds	
<b>Syntax</b>	ipv6 mld snooping query-max-response-time <0-31744>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	0-31744	0 - 31744 tenths of seconds

#### 3.13.10 ipv6mld snooping vlan

<b>Description</b>	ipv6 mld snooping vlan	
<b>Syntax</b>	ipv6 mld snooping vlan<vlan_list>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_list	VLAN identifier(s): VID

#### 3.13.11 ipv6mld unknown-flooding

<b>Description</b>	Flooding unregistered IPv6 multicast traffic
<b>Syntax</b>	ipv6 mld unknown-flooding
<b>Parameter</b>	

## 3.14 Authenticate Mode Commands

### 3.14.1 radius-server attribute 4

<b>Description</b>	Configure radius-server attribute	
<b>Syntax</b>	radius-server attribute 4 <ipv4_ucast>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<ipv4_ucast>	ipv4_ucast address

### 3.14.2 radius-server attribute 95

<b>Description</b>	Configure radius-server attribute	
<b>Syntax</b>	radius-server attribute 95 <ipv6_ucast>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<ipv6_ucast>	Ipv6_ucast address

### 3.14.3 radius-server deadtime

<b>Description</b>	Configure radius-server deadtime	
<b>Syntax</b>	radius-server deadtime <1-1440>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<1-1440>	Time in minutes

### 3.14.4 radius-server host [ auth-port ] [ acct-port ] [ timeout ] [ retransmit ] [ key ]

<b>Description</b>	Configure radius-server host behavior	
<b>Syntax</b>	radius-server host <word1-255> [ auth-port <0-65535> ] [ acct-port <0-65535> ] [ timeout <1-1000> ] [ retransmit <1-1000> ] [ key <line1-63> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<word1-255>	Hostname or IP address
	auth-port <0-65535>	UDP port number for RADIUS authentication server
	acct-port <0-65535>	UDP port number for RADIUS accounting server
	timeout <1-1000>	Wait time in seconds for this RADIUS server to reply (overrides default)
	retransmit <1-1000>	

### 3.14.5 tacacs-server deadtime <1-1440>

<b>Description</b>	Time to stop using a TACACS+ server that doesn't respond	
<b>Syntax</b>	tacacs-server deadtime <1-1440>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< <1-1440>	Time in minutes

### 3.14.6 tacacs-server host [ auth-port ] [ timeout ] [ key ]

<b>Description</b>	Configure tacacs-server host behavior	
<b>Syntax</b>	tacacs-server host <word1-255> [ port <0-65535> ] [ timeout <1-1000> ] [ key <line1-63> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< <1-1440>	TCP port number

### 3.14.7 tacacs-server deadline <1-1440>

<b>Description</b>	Time to stop using a TACACS+ server that doesn't respond	
<b>Syntax</b>	tacacs-server deadline <1-1440>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< <1-1440>	Time in minutes

### 3.14.8 tacacs-server deadline <1-1440>

<b>Description</b>	Time to stop using a TACACS+ server that doesn't respond	
<b>Syntax</b>	tacacs-server deadline <1-1440>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< <1-1440>	Time in minutes

### 3.14.9 tacacs-server deadline <1-1440>

<b>Description</b>	Time to stop using a TACACS+ server that doesn't respond	
<b>Syntax</b>	tacacs-server deadline <1-1440>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	< <1-1440>	Time in minutes

### 3.14.10 dot1x feature

<b>Description</b>	Globally enables/disables a dot1x feature functionality	
<b>Syntax</b>	dot1x feature { [ guest-vlan ] [ radius-qos ] [ radius-vlan ] }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	guest-vlan	Globally enables/disables state of guest-vlan
	radius-qos	Globally enables/disables state of RADIUS-assigned QoS.
	radius-vlan	Globally enables/disables state of RADIUS-assigned VLAN.

### 3.14.11 dot1x guest-vlan

<b>Description</b>	G Enables/disables Guest VLAN globally or on one or more ports	
<b>Syntax</b>	dot1x guest-vlan dot1x guest-vlan<1-4095>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<1-4095>	Guest VLAN ID used when entering the Guest VLAN.

### 3.14.12 dot1x initialize

<b>Description</b>	Forces a reinitialization of the clients on the port and thereby a reauthentication immediately.	
<b>Syntax</b>	dot1x initialize [ interface <port_type> [ <port_type_list> ] ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<port_type>	Port type in Fast, Giga or Tengigaethernet
	<port_type_list>	List of Port ID, ex, 1/1,3-5;2/2-4,6

### 3.14.13 dot1x port-control

<b>Description</b>	Sets the port security state.	
<b>Syntax</b>	dot1x port-control { force-authorized   force-unauthorized   auto   single	

	multi   mac-based }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	force-authorized	Port access is allowed
	force-unauthorized	Port access is not allowed
	auto	Port-based 802.1X Authentication
	single	Single Host 802.1X Authentication
	multi	Multiple Host 802.1X Authentication
	mac-based	Switch authenticates on behalf of the client

### 3.14.14 dot1x radius-vlan

<b>Description</b>	Enables/disables per-port state of RADIUS-assigned VLAN.
<b>Syntax</b>	dot1x radius-vlan
<b>Parameter</b>	

### 3.14.15 show radius-server [ statistics ]

<b>Description</b>	show radius-server statistics	
<b>Syntax</b>	show radius-server [ statistics ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	[ statistics ]	Count radius packet statistics

## 3.15 Loop-Protection Configure commands

### 3.15.1 loop-protect

<b>Description</b>	Loop protection configuration on port
<b>Syntax</b>	loop-protect
<b>Parameter</b>	

### 3.15.2 loop-protect action

<b>Description</b>	Loop protection configuration on port	
<b>Syntax</b>	loop-protect action { [ shutdown ] [ log ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	shutdown	Shutdown port
	log	Generate log

### 3.15.3 loop-protect shutdown-time

<b>Description</b>	Loop protection shutdown time interval	
<b>Syntax</b>	loop-protect shutdown-time <0-604800>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	0-604800	Shutdown time in second

### 3.15.4 loop-protect transmit-time

<b>Description</b>	Loop protection transmit time interval	
<b>Syntax</b>	loop-protect transmit-time <1-10>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	1-10	Transmit time in second

### 3.15.5 loop-protect tx-mode

<b>Description</b>	Loop protection actively generate PDUs
<b>Syntax</b>	loop-protect tx-mode
<b>Parameter</b>	

## 3.16 LLDP Configure commands

### 3.16.1 lldp holdtime

<b>Description</b>	Sets LLDP hold time (The neighbor switch will discarded the LLDP information after \"hold time\" multiplied with \"timer\" seconds ).	
<b>Syntax</b>	lldp holdtime <2-10>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<2-10>	Holdtime 2-10 seconds

### 3.16.2 lldp receive

<b>Description</b>	Enable/Disable decoding of received LLDP frames.
<b>Syntax</b>	lldp receive

### 3.16.3 lldp reinit <1-10>

<b>Description</b>	LLDP tx reinitialization delay in seconds.	
<b>Syntax</b>	lldp reinit <1-10>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<1-10>	Reinitialization delay time

### 3.16.4 lldp timer <5-32768>

<b>Description</b>	Sets LLDP TX interval (The time between each LLDP frame transmitted in seconds).	
<b>Syntax</b>	lldp timer <5-32768>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<5-32768>	5-32768 seconds.

### 3.16.5 lldp tlv-select

<b>Description</b>	Which optional TLVs to transmit.	
<b>Syntax</b>	lldp tlv-select { management-address   port-description   system-capabilities   system-description   system-name }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	management-address	Enable/Disable transmission of management address
	port-description	Enable/Disable transmission of port description
	system-capabilities	Enable/Disable transmission of system capabilities
	system-description	Enable/Disable transmission of system description
	system-name	Enable/Disable transmission of system name.



**3.16.6 lldp transmission-delay**

<b>Description</b>	Sets LLDP transmission-delay. LLDP transmission delay (the amount of time that the transmission of LLDP frames will be delayed after LLDP configuration has changed) in seconds.)	
<b>Syntax</b>	lldp transmission-delay <1-8192>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<1-8192>	transmission-delay seconds

**3.16.7 lldp transmit**

<b>Description</b>	Enable/Disabled transmission of LLDP frames.
<b>Syntax</b>	lldp transmit
<b>Parameter</b>	

**3.17 RFC2544 Testing Configure Commands****3.17.1 rfc2544 profile <word32>**

<b>Description</b>	RFC2544 profile configuration	
<b>Syntax</b>	rfc2544 profile <word32>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<word32>	Profile name up to 32 characters long

**3.17.2 rfc2544 rename profile**

<b>Description</b>	Rename an existing profile	
<b>Syntax</b>	rfc2544 rename profile <word32> <word32>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	profile <word32>	Old profile name
	<word32>	New profile name

**3.17.3 rfc2544 save <word32> <word>**

<b>Description</b>	Save a report to a file on a TFTP server	
<b>Syntax</b>	rfc2544 save <word32> <word>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<word32>	Name of existing report to save
	<word>	TFTP server URL on the form tftp://server[:port]/path-to-file

**3.17.4 rfc2544 start <word32> profile <word32> [ desc <line128> ]**

<b>Description</b>	Start execution of a pre-configured profile	
<b>Syntax</b>	rfc2544 start <word32> profile <word32> [ desc <line128> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	start <word32>	Unique name of resulting report
	profile <word32>	Name of existing profile to execute
	desc <line128>	Description that will appear in the report

### 3.17.5 rfc2544 stop <word32>

<b>Description</b>	Stop execution of an ongoing test	
<b>Syntax</b>	rfc2544 stop <word32>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<word32>	Report name to stop execution of

### 3.17.6 show rfc2544 profile [ <word32> ]

<b>Description</b>	show rfc2544 profile name	
<b>Syntax</b>	show rfc2544 profile [ <word32> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<word32>	rfc2544 profile name

## 3.18 GVRP Configure Commands

### 3.18.1 gvrp

<b>Description</b>	Enable GVRP on port(s)	
<b>Syntax</b>	gvrp	
<b>Parameter</b>		

### 3.18.2 gvrpjoin request vlan

<b>Description</b>	Emit a Join-Request for test purpose	
<b>Syntax</b>	gvrp join-request vlan<vlan_list>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_list	List of VLANs

### 3.18.3 gvrpleave request vlan

<b>Description</b>	Emit a leave-Request for test purpose	
<b>Syntax</b>	gvrp leave-request vlan<vlan_list>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	vlan_list	List of VLANs

### 3.18.4 gvrp max-vlans

<b>Description</b>	gvrpmaximum number of VLANs	
<b>Syntax</b>	gvrp max-vlans<1-4095>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<1-4095>	A valid range is from 1-4095.

### 3.18.5 gvrp time { [ join-time <1-20> ] [ leave-time <60-300> ] [ leave-all-time <1000-50> ] }

<b>Description</b>	Set gvrp time	
<b>Syntax</b>	gvrp time { [ join-time <1-20> ] [ leave-time <60-300> ] [ leave-all-time <1000-510G0> ] }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	1-20	join timer, available from 1 to 20
	60-300	leave timer, available from 60 to 300
	1000-510G0	leaveall timer, available from 1000 to 510G0

## 3.19 Voice VLAN Configure Commands

### 3.19.1 voice vlan

<b>Description</b>	Vlan for Voice appliance attributes
<b>Syntax</b>	voice vlan
<b>Parameter</b>	

### 3.19.2 voice vlan aging-time

<b>Description</b>	Set secure learning aging time for voice traffic	
<b>Syntax</b>	voice vlan aging-time <10-10000000>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	10-10000000	Aging time, 10-10000000 seconds

### 3.19.3 voice vlan class

<b>Description</b>	Set voice traffic class	
<b>Syntax</b>	voice vlan class { <0-7>   low   normal   medium   high }	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	0-7	Traffic class value
	low	Traffic class low (0)
	normal	Traffic class normal (1)
	medium	Traffic class medium (2)
	high	Traffic class high (3)

### 3.19.4 voice vlan oui

<b>Description</b>	Set voice traffic OUI configuration	
<b>Syntax</b>	voice vlan oui <oui> [ description <line32> ]	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	oui	OUI value
	description	Set description for the OUI
	line32	Description line

### 3.19.5 voice vlan vid

<b>Description</b>	Set voice VLAN ID	
<b>Syntax</b>	voice vlan vid <vlan_id>	
<b>Parameter</b>		
	<b>Name</b>	<b>Description</b>
	<vlan_id>	VLAN ID, 1-4095

