

IPX-FSW

IPX-FSW-8 • IPX-FSW-12 • IPX-FSW-24

10G SFP+ Fiber Switch 8, 12, 24 Ports



Manual Number: 151220

SAFETY INSTRUCTIONS

Please review the following safety precautions. If this is the first time using this model, then read this manual before installing or using the product. If the product is not functioning properly, please contact your local dealer or Aurora for further instructions.



The lightning symbol in the triangle is used to alert you to the presence of dangerous voltage inside the product that may be sufficient to constitute a risk of electric shock to anyone opening the case. It is also used to indicate improper installation or handling of the product that could damage the electrical system in the product or in other equipment attached to the product.



The exclamation point in the triangle is used to alert you to important operating and maintenance instructions. Failure to follow these instructions could result in injury to you or damage to the product.



Be careful with electricity:

- **Power outlet:** To prevent electric shock, be sure the electrical plug used on the product power cord matches the electrical outlet used to supply power to the Aurora product. Use only the power adapter and power connection cables designed for this unit.
- **Power cord:** Be sure the power cord is routed so that it will not be stepped on or pinched by heavy items.
- **Lightning:** For protection from lightning or when the product is left unattended for a long period, disconnect it from the power source.



Also follow these precautions:

- **Ventilation:** Do not block the ventilation slots if applicable on the product or place any heavy object on top of it.
Blocking the air flow could cause damage. Arrange components so that air can flow freely. Ensure that there is adequate ventilation if the product is placed in a stand or cabinet. Put the product in a properly ventilated area, away from direct sunlight or any source of heat.
- **Overheating:** Avoid stacking the Aurora product on top of a hot component such as a power amplifier.
- **Risk of Fire:** Do not place unit on top of any easily combustible material, such as carpet or fabric.
- **Proper Connections:** Be sure all cables and equipment are connected to the unit as described in this manual.
- **Object Entry:** To avoid electric shock, never stick anything in the slots on the case or remove the cover.
- **Water Exposure:** To reduce the risk of fire or electric shock, do not expose to rain or moisture.
- **Cleaning:** Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- **ESD:** Handle this unit with proper ESD care. Failure to do so can result in failure.

FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.



Trademarks

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TABLE OF CONTENTS

PACKAGE CONTENTS	1
OPTIONAL ACCESSORIES	2
INTRODUCTION.....	3
About.....	3
IPX-FSW-8	3
IPX-FSW-12	3
IPX-FSW-24	4
IPX-FSW Rear	5
HARDWARE INSTALLATION.....	6
WEB SETUP PAGES.....	7
System	8
General.....	8
Switch.....	8
Time	9
Console	10
Telnet.....	10
User Manage.....	11
CPU Utilization	12
Memory Status	12
File.....	13
Reset.....	13
Interface	14
Port.....	14
General.....	14
Green Ethernet.....	15
Statistics	15
Chart.....	15
Trunk	16
Static	16
Mirror	17
Traffic Segmentation.....	18
VLAN.....	19
Static	19
Protocol	20
IP Subnet.....	20

MAC-Based	21
MAC Address	22
Static	22
Dynamic	23
Spanning Tree.....	24
Loopback Detection.....	24
STA.....	24
MSTP	25
Traffic	26
Rate Limit	26
Storm Control	27
Priority	28
Default Priority.....	28
Queue.....	28
PHB to Queue	29
VoIP.....	30
Security	31
ACL	31
ARP Inspection.....	32
Port Security.....	32
IP Source Guard.....	33
Port Configuration	33
Static Binding	33
Dynamic Binding	34
Administration	35
Log	35
Show logs.....	36
LLDP	36
SNMP	37
Cluster.....	37
IP 38	
General.....	38
Ping	38
IP.....	39
IP Service.....	40
DHCP detection.....	40
Multicast.....	41

IGMP Snooping	41
General.....	41
Multicast Router	42
IGMP Member	42
Interface	43
APPENDIX 1 Troubleshooting.....	44
APPENDIX 2 Firmware Update.....	45
APPENDIX 3 Technical Specifications.....	46
APPENDIX 4 Warranty	48

PACKAGE CONTENTS

Please make sure the following items are included within your package. Contact your dealer if any items are missing or damaged.

IPX-FSW-8

- 1 qty IPX-FSW-8
- 2 qty Mounting Ears and screws
- 1 qty RS-232 cable adaptor for console port
- 1 qty IEC Power Cord

IPX-FSW-12

- 1 qty IPX-FSW-12
- 2 qty Mounting Ears and screws
- 1 qty RS-232 cable adaptor for console port
- 1 qty IEC Power Cord

IPX-FSW-24

- 1 qty IPX-FSW-24
- 2 qty Mounting Ears and screws
- 1 qty RS-232 cable adaptor for console port
- 1 qty IEC Power Cord

Note: Go to www.auroram.com for latest user manual. Customer portal access is required for the latest firmware and CLI (Command Line Interface) manual.

OPTIONAL ACCESSORIES

- **IPX-SFP-10GMM-1**
10G SFP+ Multi-mode LC 50/125 Module (Generic)



- **IPX-SFP-OM3DXLC-1**
OM3 Fiber 50/125 Multi-mode LC Patch Cable 1M



- **IPX-SFP-PPC-1**
SFP+ 10G Passive Patch Cable 1M (3ft)



INTRODUCTION

About

IPX-FSW-8

The IPX-FSW-8 is a standard layer 3 non-blocking switch. Providing 260Gbps switching capacity, 191.36Mpps forwarding performance, and L2 / L3 full wire-speed forwarding. Flexible networking capability ensures the stability of the network and the balance of the load link. The modular design provides 8 10G SFP+ optical ports, 8 10/100/1000M RJ45 electrical ports, 1 Console port, and 1 OOB management port. This offers enough bandwidth for data aggregation and data exchange.



IPX-FSW-12

The IPX-FSW-12 is a standard layer 3 non-blocking switch. Providing 276Gbps switching capacity, 202.36Mpps forwarding performance, and L2 / L3 full wire-speed forwarding. Flexible networking capability ensures the stability of the network and the balance of the load link. The modular design provides 12 10G SFP+ optical ports, 8 10/100/1000M RJ45 electrical ports, 1 Console port, and 1 OOB management port. This offers enough bandwidth for data aggregation and data exchange.



IPX-FSW-24

The IPX-FSW-24 is a standard layer 3 non-blocking switch. Providing 490Gbps switching capacity, 510Mpps forwarding performance, and L2 / L3 full wire-speed forwarding. Flexible networking capability ensures the stability of the network and the balance of the load link. The modular design provides 24 10G SFP+ optical ports, 4 10/100/1000M RJ45 electrical ports, 1 Console port, and 1 OOB management port. This offers enough bandwidth for data aggregation and data exchange.



The IPX-FSW Series comes pre-configured for the IPX Series for quick and easy out of the box usage.

IPX-FSW Rear



Rear

- 3 Prong IEC 100v-240v AC power connector
- 2 future expansion slots.

HARDWARE INSTALLATION

1. If rack mounted install the 2 rack mount ears for 19" 1RU rack mounting.
2. Insert SFP+ module(s) into the IPX-FSW 10G network switch. Generic is the recommended type in single or multi-mode.
3. Connect fiber to each port accordingly as well as any RJ-45 1G port.
4. Connect power cable and unit is ready to go.
5. Don't forget to setup the IPX-FSW as required with the integrated web setup pages.

Note: Go to www.aurorammm.com for latest user manual. Customer portal access is required for the latest firmware and CLI (Command Line Interface) manual.

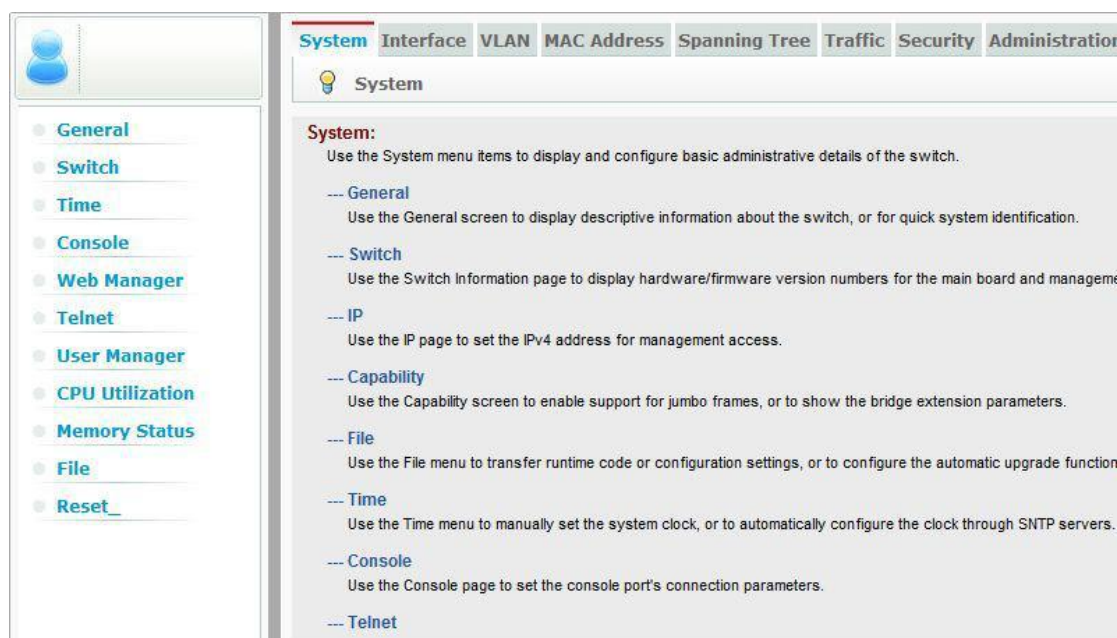
WEB SETUP PAGES

Ensure that your computer is connected to the switch in the network. If this is the first time to use switch, do not need to do any additional configuration switch, you can use web access the switch.

Proceed as follows to:

1. Modify the IP address of your computer for "192.168.0.2", Subnet Mask for "255.255.255.0"
2. Open a web browser and enter "192.168.0.10" in the address bar. 192.168.0.10 is the default management address of the switch.
3. Enter your username and password in the login authentication dialog, the initial user name is "admin" and password is empty. Note: case sensitivity
4. If authentication is successful, you can see the web page of the switch as below.

You can use this page for an overview of each function.

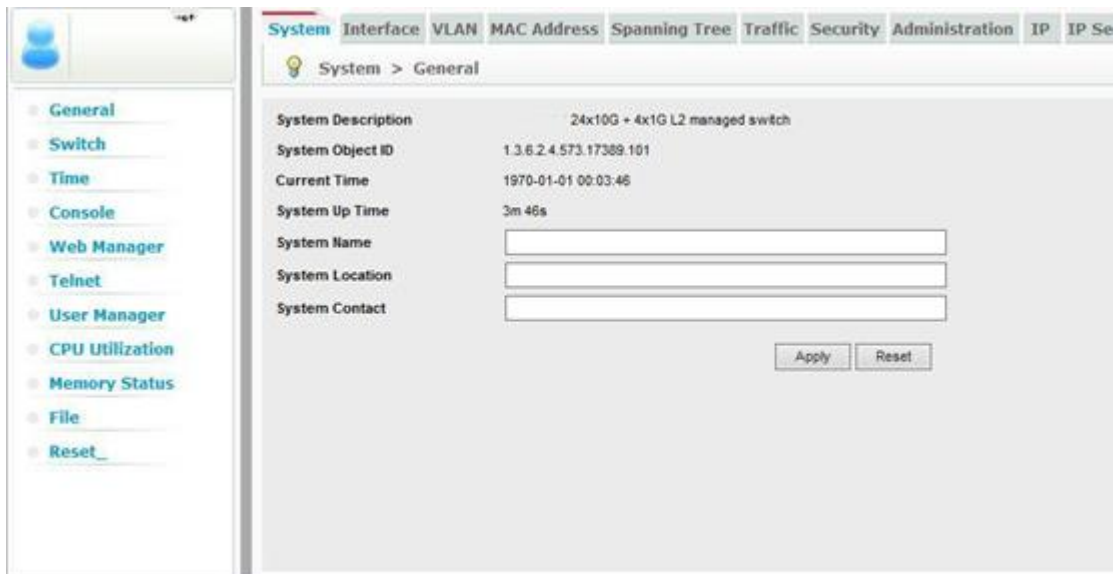


System

Use the System menu items to display and configure basic administrative details of the switch.

General

Use the General screen to display descriptive information about the switch, or for quick system identification.



Switch

Use the Switch Information page to display hardware/firmware version numbers for the main board and management software, as well as the power status of the system.



Time

Use the Time menu to manually set the system clock, or to automatically configure the clock through SNTP servers.

The screenshot shows the 'System > Time' configuration page. The 'Maintain Type' dropdown is set to 'Manually'. The 'Current Time' is displayed as 1970-01-01 00:04:54. Below this, there are input fields for Hours (00), Minutes (04), Seconds (54), Month (01), Day (01), and Year (1970). 'Apply' and 'Reset' buttons are at the bottom right.

The screenshot shows the 'System > Time' configuration page with 'Maintain Type' set to 'SNTP'. The 'Current Time' is 1970-01-01 00:05:18. Under 'SNTP Configuration', there is an 'Auto SNTP run' checkbox (unchecked) and an 'SNTP Polling Interval (0-86400)' field set to 0 seconds. Under 'SNTP Sever', there are three empty input fields for 'SNTP Server IP Address 0', 'SNTP Server IP Address 1', and 'SNTP Server IP Address 2'. Under 'Time Zone', the 'Predefined Configuration' dropdown is set to '(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi'. 'Apply' and 'Reset' buttons are at the bottom right.

Console

Using the console page to setup parameters of the console terminal.

The screenshot shows the 'Console' configuration page. The left sidebar contains a menu with options: General, Switch, Time, Console (selected), Web Manager, Telnet, User Manager, CPU Utilization, Memory Status, File, and Reset. The main content area has a breadcrumb 'System > Console' and a navigation bar with tabs: System, Interface, VLAN, MAC Address, Spanning Tree, Traffic, Security, Administration, IP, and IP Service. The configuration section is titled 'Switch console' and includes the following settings:

- Enable User Password checking: Enabled
- Login Timeout (0-300): sec (0: Disabled)
- Exec Timeout (0-65535): sec (0: Disabled)
- Password Threshold(0-30): (0: Disabled)
- Data Bits: (dropdown)
- Stop Bits: (dropdown)
- Parity: (dropdown)
- Speed: bps (dropdown)

Buttons for 'Apply' and 'Reset' are located at the bottom right of the configuration area.

Telnet

Use the Telnet page to set Telnet connection parameters.

The screenshot shows the 'Telnet' configuration page. The left sidebar contains a menu with options: General, Switch, Time, Console, Web Manager, Telnet (selected), User Manager, CPU Utilization, Memory Status, File, and Reset. The main content area has a breadcrumb 'System > Telnet' and a navigation bar with tabs: System, Interface, VLAN, MAC Address, Spanning Tree, Traffic, Security, Administration, IP, and IP Service. The configuration section is titled 'Telnet Status' and includes the following settings:

- Telnet Status: Enabled
- Enable User Password checking: Enabled
- TCP Port (1-65535):
- Login Timeout (30-120):
- Password Threshold (3-30): (0: Disabled)

Buttons for 'Apply' and 'Reset' are located at the bottom right of the configuration area.

User Manage

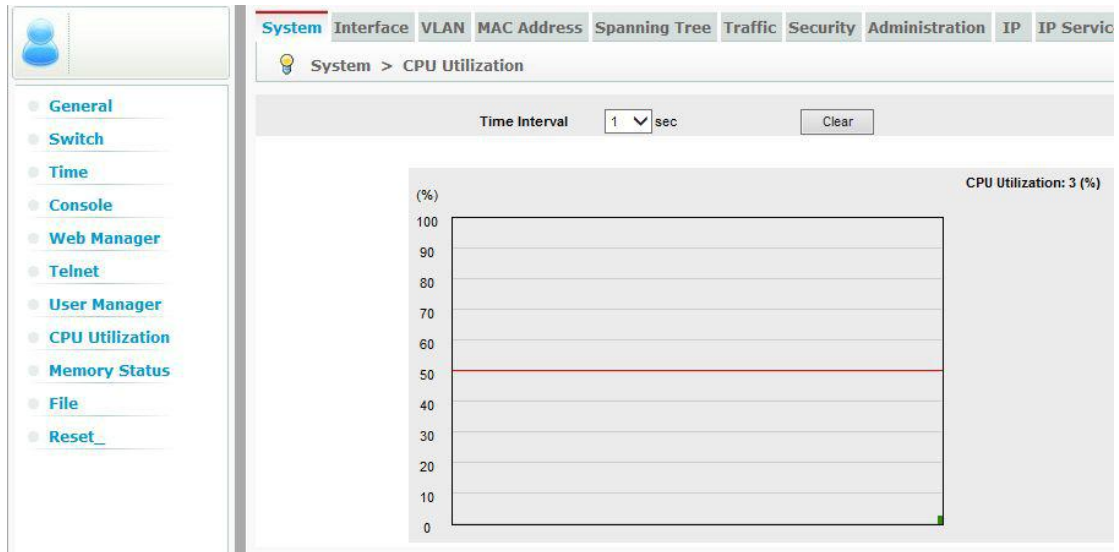
First, choose the type of the username:

1. Console User Manage: Modify the console username and password
2. Telnet User Manage: Modify the telnet username and password (Note: before use telnet connections, you must have configured username and password)
3. Web User Manage: Modify the web username and password
4. Privileged User Manage: Modify the privileged password.

The screenshot shows the configuration page for the User Manager. The breadcrumb navigation is "System > User Manager". The "Maintain Type" dropdown menu is open, showing options: "Console User Manage", "Telnet User Manage", "Web User Manage", and "Privileged Exec Password". The "Console User Manage" option is selected. Below the dropdown, there are three input fields: "New User Name" (with a "(Max 31 Charsets)" label), "New Password" (with a "(Max 31 Charsets)" label), and "Verify Password". At the bottom right of the form area are "Apply" and "Reset" buttons. The left sidebar contains a navigation menu with items: General, Switch, Time, Console, Web Manager, Telnet, User Manager (highlighted), CPU Utilization, Memory Status, File, and Reset.

CPU Utilization

Use the CPU Utilization page to display information on CPU utilization.



Memory Status

Use the Memory Status page to display memory utilization parameters

The screenshot shows the 'Memory Status' page. The navigation menu on the left includes: General, Switch, Time, Console, Web Manager, Telnet, User Manager, CPU Utilization, Memory Status (selected), File, and Reset_. The main content area has tabs for System, Interface, VLAN, MAC Address, Spanning Tree, Traffic, Security, and Administration. The 'System' tab is active, showing 'System > Memory Status'. Below the tabs, there is a table displaying memory utilization parameters.

Memory Status	
Free Size	913MB
Used Size	83MB
Total	997MB

File

Use the File menu to transfer runtime code or configuration settings, or to configure the automatic upgrade function.

The screenshot shows the 'File' page in the network device web UI. The breadcrumb path is 'System > File'. The 'Action' menu is open, showing 'Show' and 'Copy' options. Below the breadcrumb is a 'File List' section with 'Max: 10' and 'Total: 4' files. The file list is as follows:

Boot	File Name	File Type	Size (bytes)
<input checked="" type="radio"/>	PB1020PC_R1_2_20140630.bin	OS	6783137
<input type="radio"/>	run.conf	config	0
<input type="radio"/>	flash.log	log	0
<input type="radio"/>	ram.log	log	0

At the bottom of the file list, there are 'Apply' and 'Reset' buttons.

Reset

Use the Reset page to restarts the switch immediately, at a specified time, after a specified delay, or at a periodic interval.

The screenshot shows the 'Reset' page in the network device web UI. The breadcrumb path is 'System > Reset_'. The page contains three buttons with their respective functions:

- Reset.** Click this button to reset the switch.
- Save.** Click this button to save current settings.
- Factory Default Settings, Reboot** Click this button to return device to Factory Default Settings and reboot system.

Interface

Use the Interface menu to configure ports and trunks.

Port

Use the Port menu to configure connection settings, to mirror traffic to another port, to display statistics on traffic, or to test a cable.

General

Use the General page to configure connection setting per port or per port range, or to display current connection settings.

The screenshot shows the NMS interface with the 'Interface' menu selected. The breadcrumb trail is 'Interface > Port > General'. The 'Port List' table displays the following data:

Port	Type	Name	Admin	Oper Status	Media Type	Autonegotiation
1	1000Base-T/X Combo		Enable	Down	-	Enable
2	1000Base-T/X Combo		Enable	Down	-	Enable
3	1000Base-T/X Combo		Enable	Up	RJ45	Enable
4	1000Base-T/X Combo		Enable	Down	-	Enable
5	10G-X		Enable	Down	-	Enable
6	10G-X		Enable	Down	-	Enable
7	10G-X		Enable	Down	-	Enable
8	10G-X		Enable	Down	-	Enable
9	10G-X		Enable	Down	-	Enable
10	10G-X		Enable	Down	-	Enable
11	10G-X		Enable	Down	-	Enable
12	10G-X		Enable	Down	-	Enable
13	10G-X		Enable	Down	-	Enable
14	10G-X		Enable	Down	-	Enable
15	10G-X		Enable	Down	-	Enable

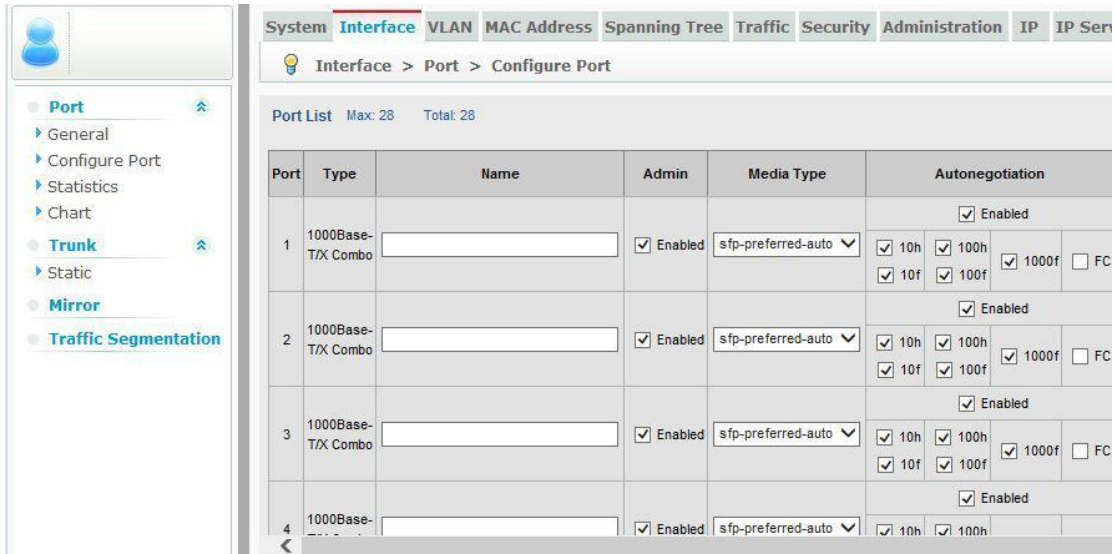
The screenshot shows the NMS interface with the 'Interface' menu selected. The breadcrumb trail is 'Interface > Port > Statistics'. The 'Mode' is set to 'Interface' and the 'Port' is set to '3'. The 'Interface Statistics' table displays the following data:

Received Octets	864786	Transmitted Octets	2127214
Received Errors	0	Transmitted Errors	0
Received Unicast Packets	1907	Transmitted Unicast Packets	2588
Received Discarded Packets	0	Transmitted Discarded Packets	0
Received Multicast Packets	1447	Transmitted Multicast Packets	0
Received Broadcast Packets	5797	Transmitted Broadcast Packets	0
Received Unknown Packets	0		

Buttons: Clear, Refresh

Green Ethernet

Use the Green Ethernet page to adjust the power provided to ports based on the length of the cable used to connect to other devices.

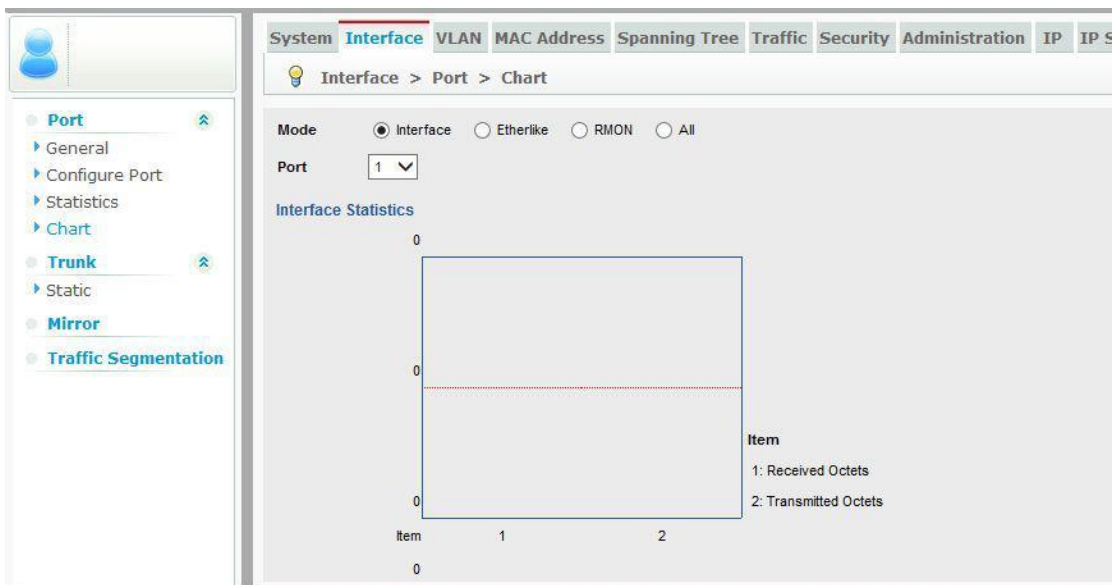


Statistics

Use the Statistics page to show Interface, Etherlike, and RMON port statistics.

Chart

Use the Chart page to show Interface, Etherlike, and RMON port statistics in graphic form.



Trunk

Use the Trunk menu to configure static or dynamic trunks, or to display statistics on network traffic.

Static

Use the Static page to create a trunk, add port members, and configure connection parameters.

System **Interface** VLAN MAC Address Spanning Tree Traffic Security Administration IP IP Servi

Interface > Trunk > Static

Trunk ID (1-18)

Trunk Member Port List Max: 18 Total: 2

Delete	Trunk ID	Hash	Port																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<input type="checkbox"/>	1	SRC-DST-IP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	2	SRC-DST-IP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

System **Interface** VLAN MAC Address Spanning Tree Traffic Security Administration IP IP

Interface > Trunk > Static

Trunk ID (1-18)

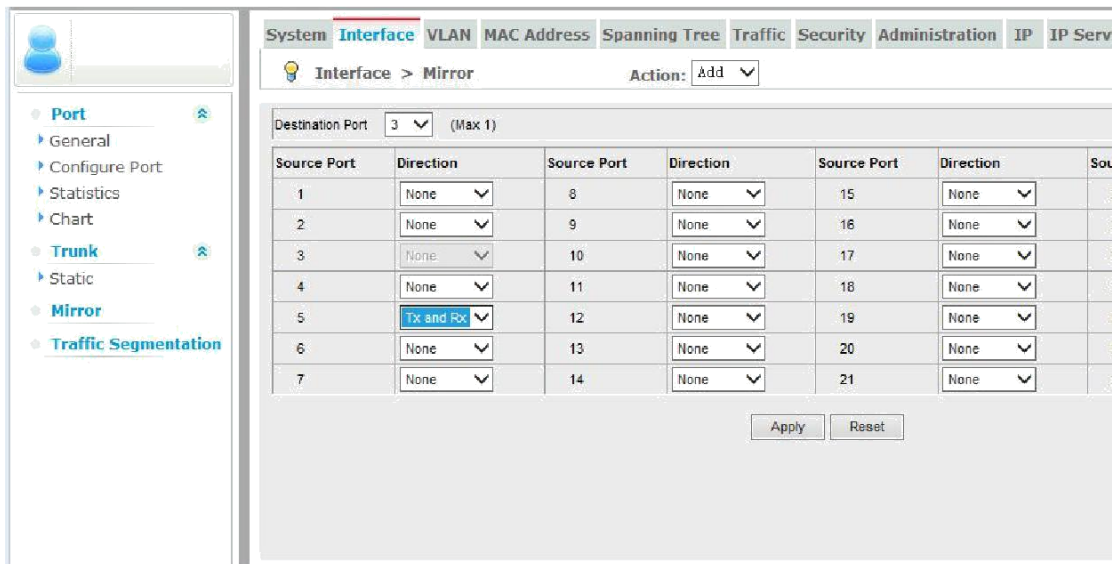
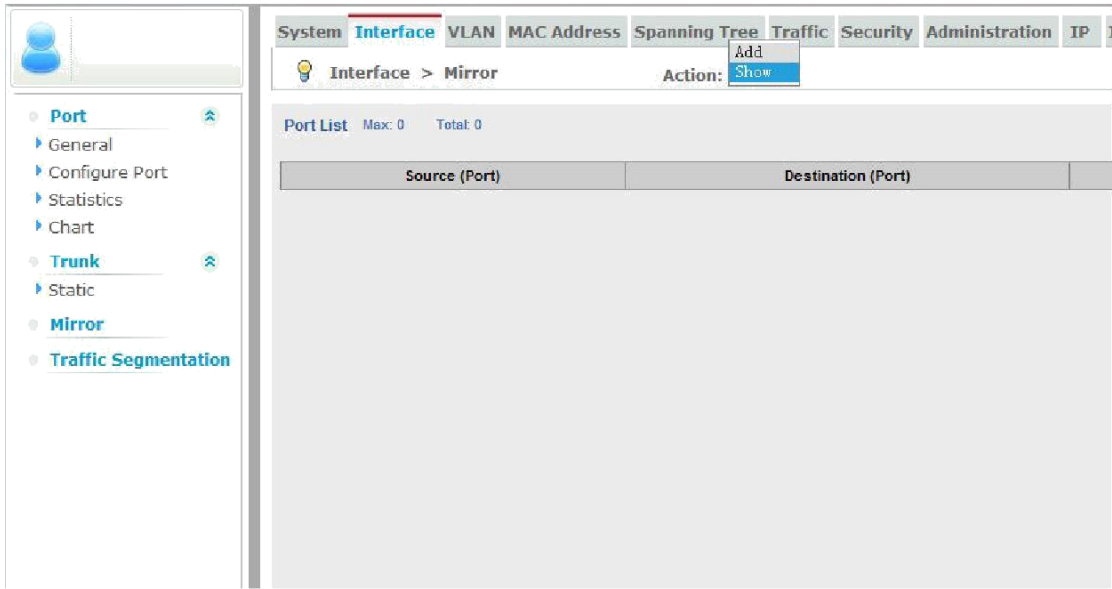
Trunk Member Port List Max: 18 Total: 3

Delete	Trunk ID	Hash	Port															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<input type="checkbox"/>	1	SRC-DST-IP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	2	SRC-DST-IP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	3	SRC-DST-IP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mirror

Use the Mirror screen to sets the source and target ports for mirroring. Note: the mirror support one-to-one and one-to-many.

For example: port 5 mirror to port 3. Select “Add” in the drop-down box of the label “Action”, and select port 3 in the destination port, select port 5 in the source port, select Tx and Rx in the mode, click apply.



Traffic Segmentation

Use the Traffic Segmentation page to enable traffic segmentation globally, and to configure the uplink and down-link ports for a segmented group of ports.

The screenshot displays the 'Interface > Traffic Segmentation' configuration page. The left sidebar contains a navigation menu with the following items: Port (expanded), General, Configure Port, Statistics, Chart, Trunk, Static, Mirror, and Traffic Segmentation (selected). The main content area has a breadcrumb trail 'Interface > Traffic Segmentation' and a sub-header 'Interface'. Below this is a 'Port Configuration List' with 'Max: 28' and 'Total: 28'. A table lists 10 ports, each with a 'Direction' dropdown menu. The dropdown for port 1 is open, showing options: None, Uplink, and Downlink. All other dropdowns are set to 'None'.

Port	Direction
1	None Uplink Downlink
2	None
3	None
4	None
5	None
6	None
7	None
8	None
9	None
10	None

VLAN

Use the VLAN menu items to configure VLAN-related functions.

Static

Use the Static screen to create VLAN groups, and to specify VLAN attributes per VLAN, interface, or interface range.

The screenshot shows the 'Configure VLAN' page. The breadcrumb is 'VLAN > Static'. The 'Action' dropdown is set to 'Configure VLAN'. A text field for 'VLAN ID (2 - 4094)' contains '2-3'. Below this is a table for the 'Static VLAN List' with 3 entries. Each entry has a checkbox, a 'VLAN ID' column, and 24 'Member Ports' columns. The ports are color-coded: green for Untag, yellow for Tagged, and red for Forbidden.

<input type="checkbox"/>	VLAN ID	Member Ports																							
		Untag Tagged Forbidden																							
<input type="checkbox"/>	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<input type="checkbox"/>	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<input type="checkbox"/>	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

The screenshot shows the 'Edit Member by Interface' page. The breadcrumb is 'VLAN > Static'. The 'Action' dropdown is set to 'Edit Member by Interface'. The 'Interface' dropdown is set to 'Port 2'. Other settings include Mode: Hybrid, PVID: 2, Acceptable Frame Type: All, and Ingress Filtering: Disabled. Below is a table for the 'Static VLAN Membership List' with 3 entries. Each entry has a 'VLAN' column and three 'Membership Type' columns: Tagged, Untagged, and None.

VLAN	Tagged	Untagged	None
1	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

The screenshot shows the 'Edit Member by Interface' page. The breadcrumb is 'VLAN > Static'. The 'Action' dropdown is set to 'Edit Member by Interface'. The 'Interface' dropdown is set to 'Port 1'. Other settings include Mode: Hybrid, PVID: 1, Acceptable Frame Type: All, and Ingress Filtering: Disabled. Below is a table for the 'Static VLAN Membership List' with 3 entries. Each entry has a 'VLAN' column and three 'Membership Type' columns: Tagged, Untagged, and None.

VLAN	Tagged	Untagged	None
1	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Protocol

Use the Protocol page to create a protocol group, and map a group to a VLAN.

The screenshot shows the 'Protocol' configuration page within a network management system. The top navigation bar includes tabs for System, Interface, VLAN (selected), MAC Address, Spanning Tree, Traffic, Security, Administration, IP, IP Service, and Multicast. Below the navigation bar, the breadcrumb path is 'VLAN > Protocol', and the step indicator shows 'Step: 1. Configure Protocol' with an 'Add' action button. The main configuration area contains the following fields:

- Frame Type: Ethernet (dropdown)
- Protocol Type: 08 00 (IP) (dropdown)
- Protocol Group ID (1-16): [Empty text input]

At the bottom right of the configuration area, there are 'Apply' and 'Reset' buttons.

IP Subnet

Use the IP Subnet page to map IP subnet traffic to a VLAN.

The screenshot shows the 'IP Subnet' configuration page within a network management system. The top navigation bar includes tabs for System, Interface, VLAN (selected), MAC Address, Spanning Tree, Traffic, Security, Administration, IP, and IP Ser. Below the navigation bar, the breadcrumb path is 'VLAN > IP Subnet', and the action button is 'Add'. The main configuration area contains the following fields:

- IP Address: [Empty text input]
- Subnet Mask: [Empty text input]
- VLAN (1-4094): [Empty text input]
- Priority (0-7): [Empty text input]

At the bottom right of the configuration area, there are 'Apply' and 'Reset' buttons.

MAC-Based

Use the MAC-Based page to map traffic with a specified source MAC address to a VLAN.

The screenshot shows a web-based configuration interface. On the left is a sidebar with a user profile icon and a menu containing 'Static', 'Protocol', 'IP Subnet', and 'MAC-Based'. The main content area has a breadcrumb trail: 'System > Interface > VLAN > MAC Address > Spanning Tree > Traffic > Security > Administration > I'. Below this, there is a sub-breadcrumb 'VLAN > MAC-Based' and an 'Action: Add' dropdown menu. The configuration area contains three input fields: 'MAC Address', 'VLAN (1-4094)', and 'Priority (0-7)'. At the bottom right of this area are 'Apply' and 'Reset' buttons.

MAC Address

Use the MAC Address menu to enable MAC address learning, configure static entries in the address table, and set the timeout for dynamically learned entries.

Static

Use the Static page to configure static entries in the address table.

The screenshot shows the configuration page for static MAC addresses. The navigation menu on the left includes 'Static' and 'Dynamic'. The main content area displays a table titled 'Static MAC Address to Interface Mapping Table' with the following data:

	MAC Address	VLAN	Interface	Type
<input type="checkbox"/>	00-01-C1-1B-2C-F7	1	CPU	
<input type="checkbox"/>	00-01-C1-1B-2C-F8	1	CPU	

Below the table are 'Delete' and 'Reset' buttons.

Dynamic

Use the Dynamic page to sets the timeout for dynamically learned entries, and display dynamic entries in the address table.

The screenshot displays the 'Dynamic' configuration page for MAC addresses. The interface includes a top navigation bar with tabs for System, Interface, VLAN, MAC Address (selected), Spanning Tree, Traffic, Security, Administration, IP, IP Service, and Multicast. Below the navigation, the page title is 'MAC Address > Dynamic'. An 'Action' menu is open, showing options: Show Dynamic MAC, Clear Dynamic MAC, Configure Aging, and Configure Learn Limit. The 'Sort Key' section has radio buttons for MAC Address (selected), VLAN, and Interface. The 'Query by' section includes checkboxes for MAC Address, VLAN, and Interface, with corresponding input fields and dropdown menus. A 'Query' button is located below these options. The 'Dynamic MAC Address List' section shows a maximum of 32768 entries and a total of 57 entries. Below this is a table with the following data:

MAC Address	VLAN	Interface	Type	Life Time
00-01-A9-00-53-3D	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-01-C1-09-40-00	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-01-EA-70-11-28	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-25-90-AA-6F-D2	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-25-90-AA-72-CE	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-3C-50-10-0A-30	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-E0-4C-F8-90-2A	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-E0-4C-F8-90-C8	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-E0-4C-F8-A8-96	1	Unit 1 / Port 27	Learn	Delete on Timeout
00-E0-4C-F8-A8-DA	1	Unit 1 / Port 27	Learn	Delete on Timeout

Spanning Tree

Use the Spanning Tree menu to configure the Spanning Tree Algorithm.

Loopback Detection

Use the Loopback Detection page to configure Loopback Detection parameters.

Port	Status	Trap	Release Mode
1	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
2	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
3	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
4	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
5	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
6	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
7	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
8	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
9	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
10	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
11	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto
12	<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Enabled	Auto

STA

Use the STA page to configure global and interface settings for STP, RSTP and MSTP.

Spanning Tree Status Enabled

Spanning Tree Type

Priority(0-61440, in steps of 4096)

Advanced:

Transmission Limit(1-10)

When the Switch Becomes Root:

Hello Time(1-10) sec

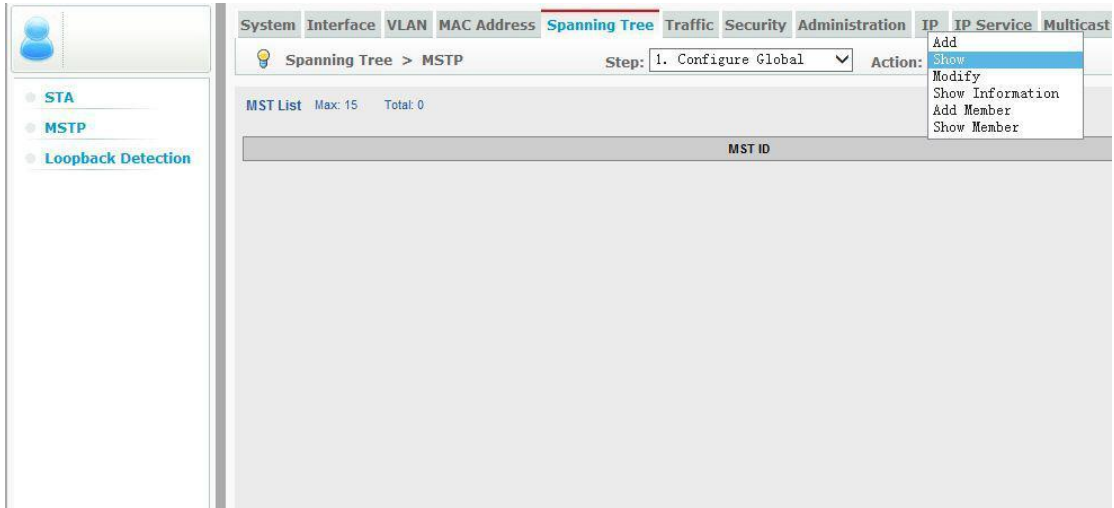
Maximum Age(6-40) sec

Forward Delay(4-30) sec

Note: $2 * (\text{Hello Time} + 1) \leq \text{Max Age} \leq 2 * (\text{Forward Delay} - 1)$

MSTP

Use the MSTP page to configure the VLAN and priority for an MST instance, add VLAN members for an MST instance, and to configure interface settings for an MST instance.



Traffic

Use the Traffic menu to configure various traffic control and handling functions.

Rate Limit

Use the Rate Limit page to sets the input and output rate limits for a port.

System Interface VLAN MAC Address Spanning Tree **Traffic** Security Administration IP IP Service Multicast

Traffic > Rate Limit

Port Rate Limit List Max: 28 Total: 28

Port	Type	Status	Input	
			Rate (kbits/sec)	
1	1000Base-T/X Combo	<input type="checkbox"/> Enabled	0	(64-1000000)
2	1000Base-T/X Combo	<input type="checkbox"/> Enabled	0	(64-1000000)
3	1000Base-T/X Combo	<input type="checkbox"/> Enabled	0	(64-1000000)
4	1000Base-T/X Combo	<input type="checkbox"/> Enabled	0	(64-1000000)
5	10G-X	<input type="checkbox"/> Enabled	0	(64-10000000)
6	10G-X	<input type="checkbox"/> Enabled	0	(64-10000000)
7	10G-X	<input type="checkbox"/> Enabled	0	(64-10000000)
8	10G-X	<input type="checkbox"/> Enabled	0	(64-10000000)
9	10G-X	<input type="checkbox"/> Enabled	0	(64-10000000)
10	10G-X	<input type="checkbox"/> Enabled	0	(64-10000000)
11	10G-X	<input type="checkbox"/> Enabled	0	(64-10000000)
12	10G-X	<input type="checkbox"/> Enabled	0	(64-10000000)

Storm Control

Use the Storm Control page to set the broadcast storm threshold for each interface.

System Interface VLAN MAC Address Spanning Tree **Traffic** Security Administration IP IP Service Multicast

Traffic > Storm Control

Port Storm Control List Max: 28 Total: 28

Port	Type	Mode	Unknown Unicast		Multicast		Broadcast Storm
			Status	Rate	Status	Rate	
1	1000Base-T/X Combo	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
2	1000Base-T/X Combo	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
3	1000Base-T/X Combo	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
4	1000Base-T/X Combo	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
5	10G-X	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
6	10G-X	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
7	10G-X	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
8	10G-X	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
9	10G-X	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
10	10G-X	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
11	10G-X	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled
12	10G-X	Packet-rate (64-100000000 packets/sec)	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled	0	<input type="checkbox"/> Enabled

Priority

Use the Priority menu to configure parameters for handling priority tags.

Default Priority

Use the Default Priority page to set the default priority for each port or trunk.

Port	CoS (0-7)
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0

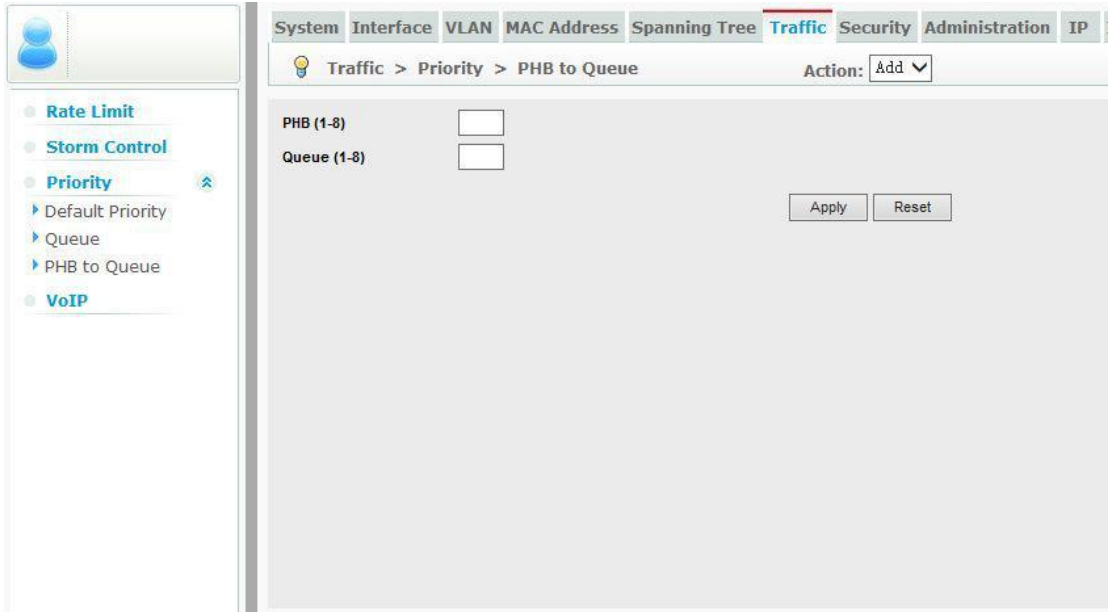
Queue

Use the Queue page to Set the queue mode for the switch; or to set the service weight for each queue that will use weighted or hybrid mode.

Queue ID	Weight (0-127) in ascending order
1	1
2	2
3	4
4	8
5	16
6	32
7	64
8	127

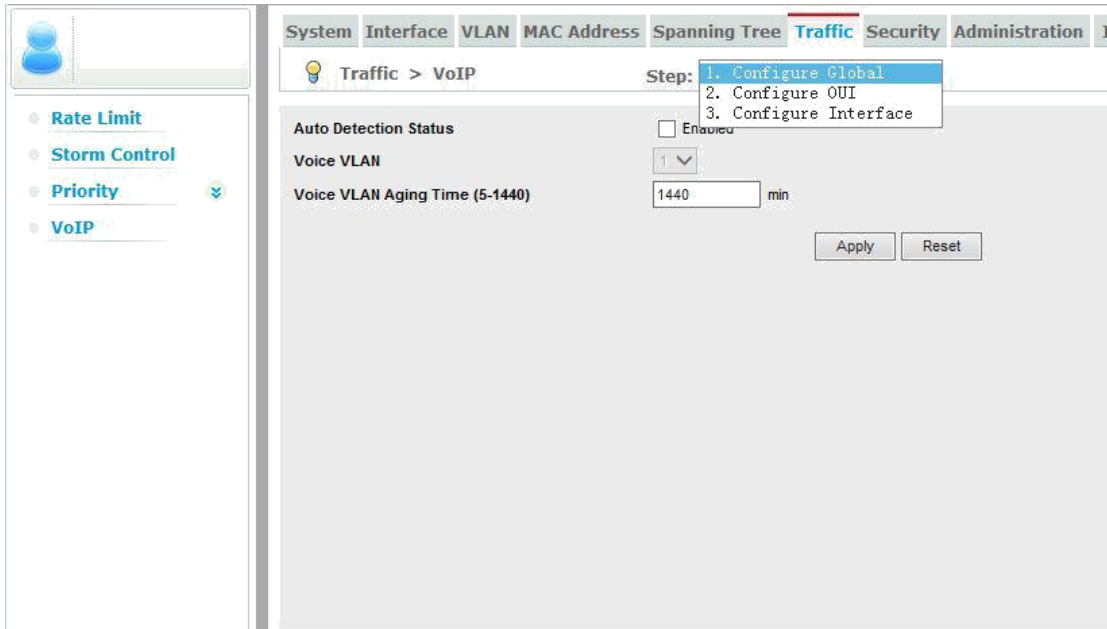
PHB to Queue

Use the PHB to Queue page to map internal per-hop behavior values to hardware queues.



VoIP

Use the VoIP page to configure auto-detection of VoIP traffic, set the Voice VLAN, and VLAN aging time; map the OUI in the source MAC address of ingress packets to the VoIP device manufacturer; and to configure VoIP traffic settings for ports, including the way in which a port is added to the Voice VLAN, filtering of non-VoIP packets, the method of detecting VoIP traffic, and the priority assigned to the voice traffic.



Security

Use the Security menu to control management access to the switch, access to connected users, or to restrict access to specific packet types of traffic flows.

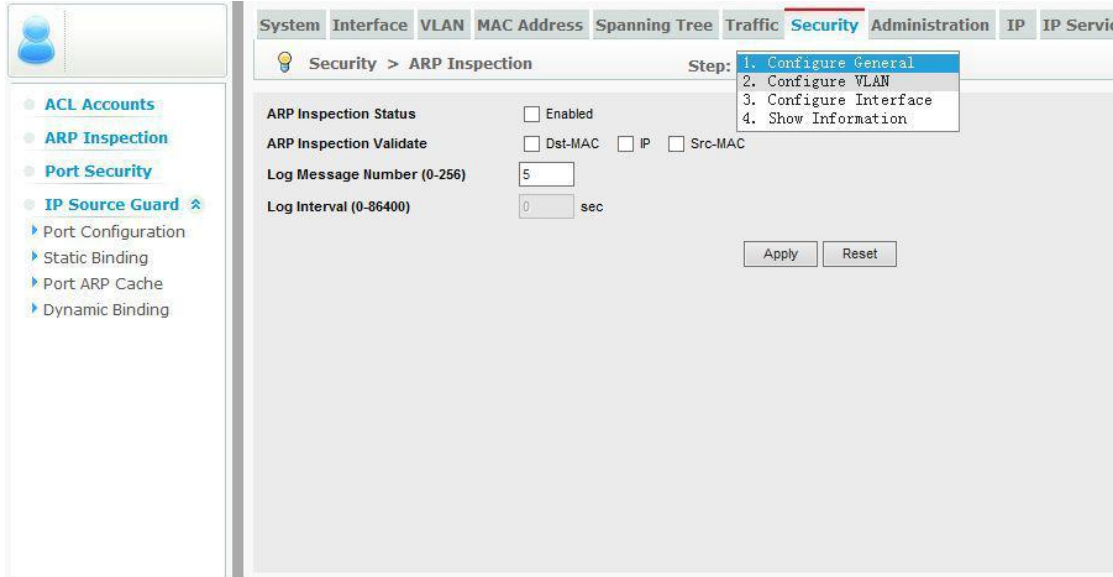
ACL

Use the ACL page to configure the time to apply an ACL, add an ACL based on IP or MAC address filtering, and bind a port to the specified ACL.

The screenshot shows a network management interface with a sidebar on the left and a main configuration area on the right. The sidebar contains a navigation menu with the following items: ACL Accounts, ARP Inspection, Port Security, and IP Source Guard (with a sub-menu expanded showing Port Configuration, Static Binding, Port ARP Cache, and Dynamic Binding). The main area has a breadcrumb trail: Security > ACL Accounts. The 'Security' tab is active, and the 'ACL Accounts' sub-tab is selected. The configuration form includes: a 'Step:' indicator showing '1. Configure ACL' and '2. Configure Interface'; an 'Action:' dropdown set to 'Add'; an 'ACL Name' text input field; a 'Type' dropdown menu currently set to 'IP Standard'; and 'Apply' and 'Reset' buttons at the bottom right.

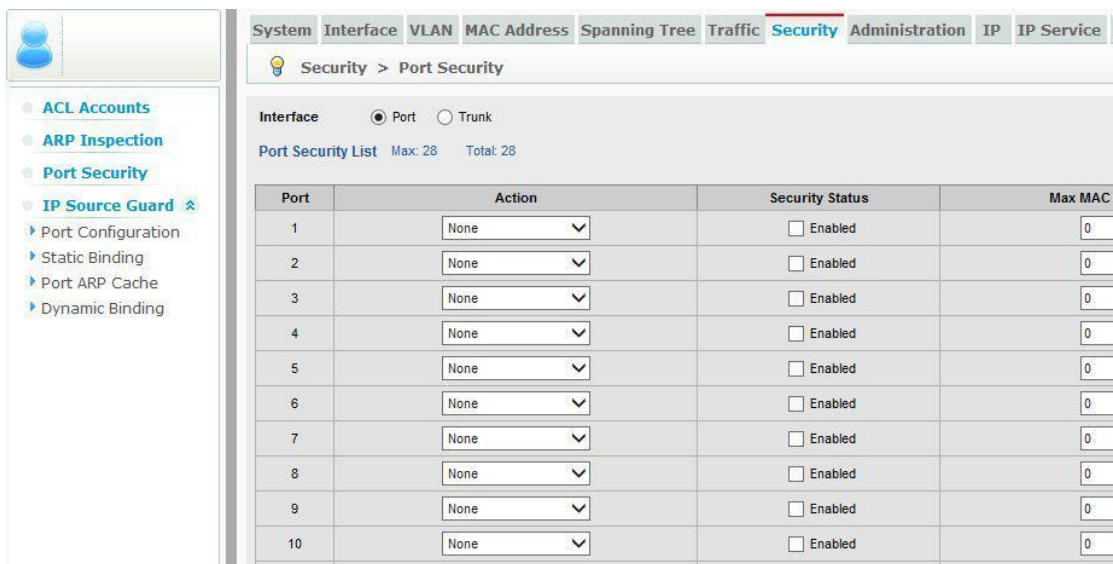
ARP Inspection

Use the ARP Inspection page to enable inspection globally, configure validation of additional address components, and set the log rate for packet inspection; to enable ARP inspection on specified VLANs; to set the trust mode for ports, and set the rate limit for packet inspection.



Port Security

Use the Port Security page to configure per port security, including status, response for a security breach, and the maximum allowed MAC addresses.



IP Source Guard

Use the IP Source Guard menu to filter IP traffic based on static entries in the IP Source Guard table, or dynamic entries in the DHCP Snooping table.

Port Configuration

Use the Port Configuration page to enable IP source guard and selects filter type per port.

The screenshot shows the 'Port Configuration' page within the 'IP Source Guard' menu. The breadcrumb trail is 'Security > IP Source Guard > Port Configuration'. The page title is 'Port Configuration List' with 'Max: 28' and 'Total: 28'. A table lists 12 ports, each with a 'Filter Type' dropdown menu set to 'None'.

Port	Filter Type
1	None
2	None
3	None
4	None
5	None
6	None
7	None
8	None
9	None
10	None
11	None
12	None

Static Binding

Use the Static Binding page to add a static address to the source-guard binding table.

The screenshot shows the 'Static Binding' page within the 'IP Source Guard' menu. The breadcrumb trail is 'Security > IP Source Guard > Static Binding'. The page title is 'Static Binding' with an 'Action: Add' dropdown. The form contains fields for 'Port' (dropdown set to 1), 'VLAN' (dropdown set to 1), 'MAC Address' (text input), and 'IP Address' (text input). 'Apply' and 'Reset' buttons are at the bottom right.

Dynamic Binding

Use the Dynamic Binding page to display the source-guard binding table for a selected interface.

The screenshot shows a web-based configuration interface for a network device. The top navigation bar includes tabs for System, Interface, VLAN, MAC Address, Spanning Tree, Traffic, Security (highlighted), Administration, IP, IP Service, and M. Below the navigation bar, the breadcrumb path is Security > IP Source Guard > Dynamic Binding. On the left side, there is a sidebar menu with categories: ACL Accounts, ARP Inspection, Port Security, and IP Source Guard (expanded). Under IP Source Guard, there are sub-items: Port Configuration, Static Binding, Port ARP Cache, and Dynamic Binding. The main content area is titled 'Dynamic Binding' and contains a 'Query by:' section with four options: Port (with a dropdown menu showing '1'), VLAN (with a dropdown menu showing '1'), MAC Address (with an empty text input field), and IP Address (with an empty text input field). A 'Query' button is located to the right of these options. Below the query section, it says 'Dynamic Binding List Max: 1024 Total: 0'. At the bottom, there is a table header with four columns: VLAN, MAC Address, Interface, and IP Address. The table body is currently empty.

Administration

Use the Administration menu to perform basic administration tasks including configuring logging of error messages, LLDP, SNMP, and configuring device management clusters.

Log

Use the Log menu to control the logging of error messages, including the type of events that are recorded in switch memory, logging to a remote System Log (syslog) server, and displays a list of recent event messages.

The screenshot displays the 'Administration > Log Configuration' page. The navigation tabs at the top include System, Interface, VLAN, MAC Address, Spanning Tree, Traffic, Security, Administration (selected), IP, IP Service, and Multi. The left sidebar contains a tree view with 'Log Configuration' selected, along with 'Show Logs', 'LLDP', 'SNMP', and 'Cluster'.

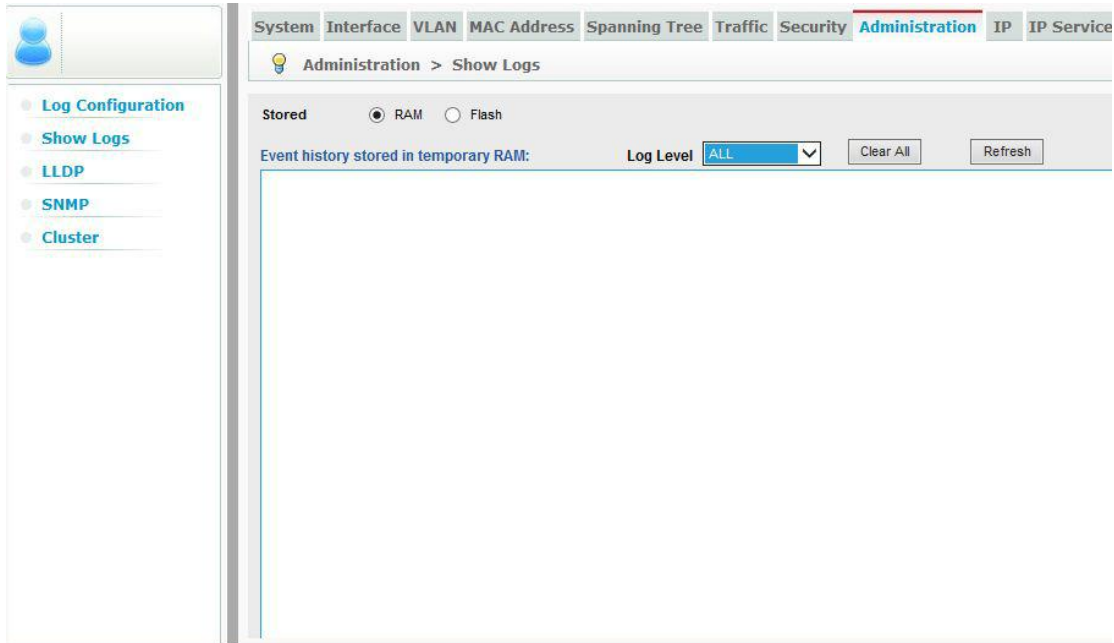
The main content area is titled 'Administration > Log Configuration' and is divided into two sections:

- System Log Configuration:**
 - System Log Status: Enabled
 - Flash Level: 3 - Error (dropdown)
 - RAM Level: 5 - Notice (dropdown)
 - Note: The Flash Level must be equal to or less than the RAM Level.
- Remote Log Configuration:**
 - Remote Log Status: Enabled
 - Logging Facility: 23 - Local use 7 (dropdown)
 - Logging Trap Level: 2 - Critical (dropdown)
 - Server IP Address 1: [text input]
 - Server IP Address 2: [text input]
 - Server IP Address 3: [text input]
 - Server IP Address 4: [text input]
 - Server IP Address 5: [text input]

At the bottom right, there are 'Apply' and 'Reset' buttons.

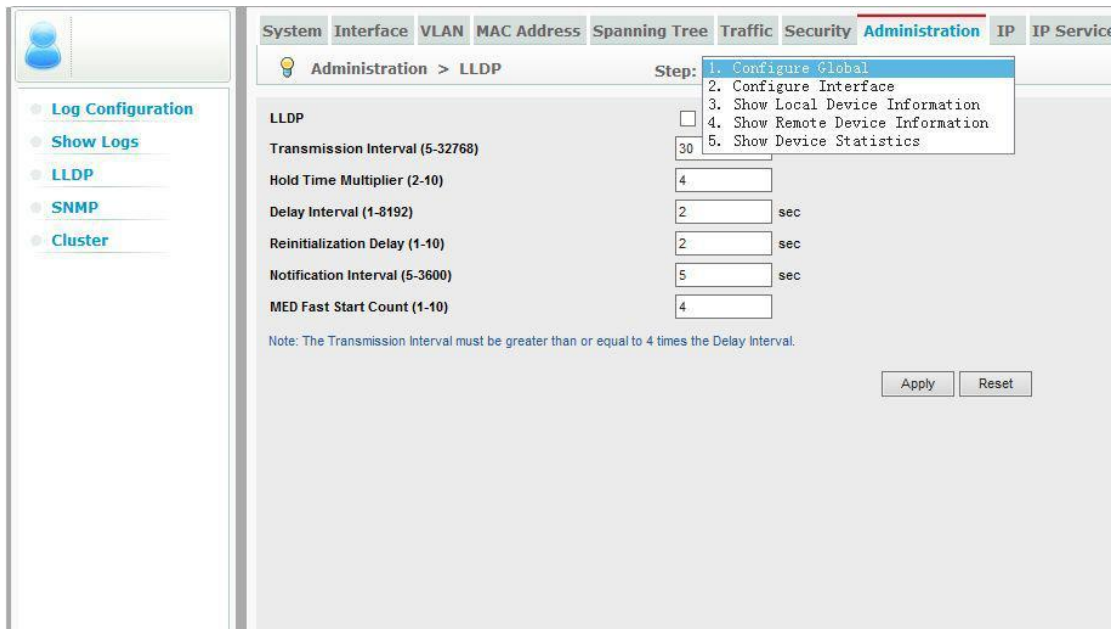
Show logs

Use the log display, display the local list of event messages.



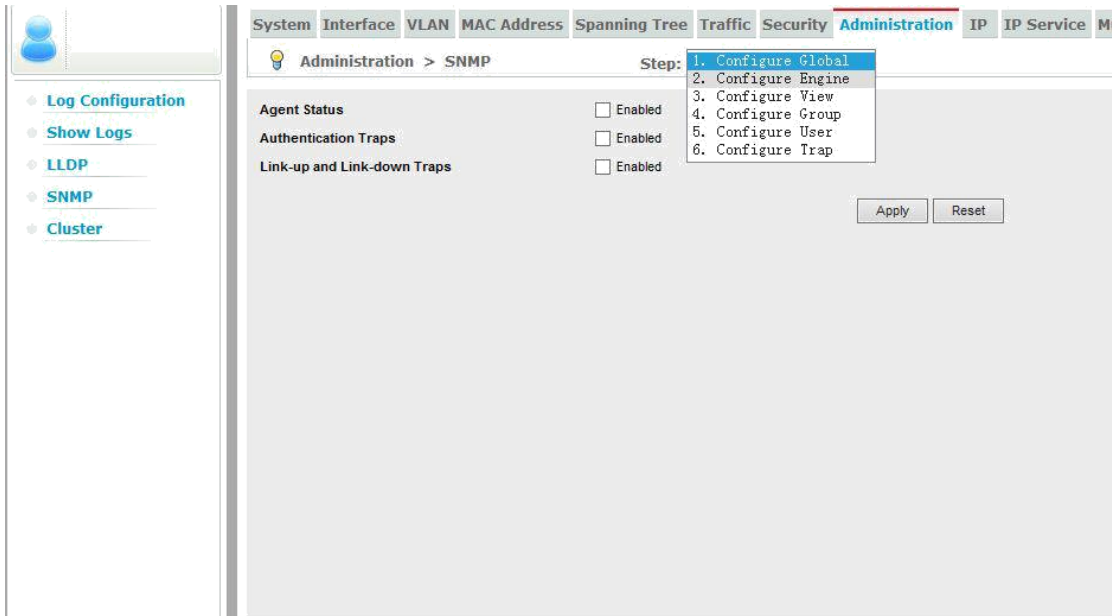
LLDP

Use the LLDP page to configure global LLDP timing parameters, set the message transmission mode, enable SNMP notification, set the LLDP attributes to advertise, display general information about the local device, or display information about a remote device connected to a port on this switch.



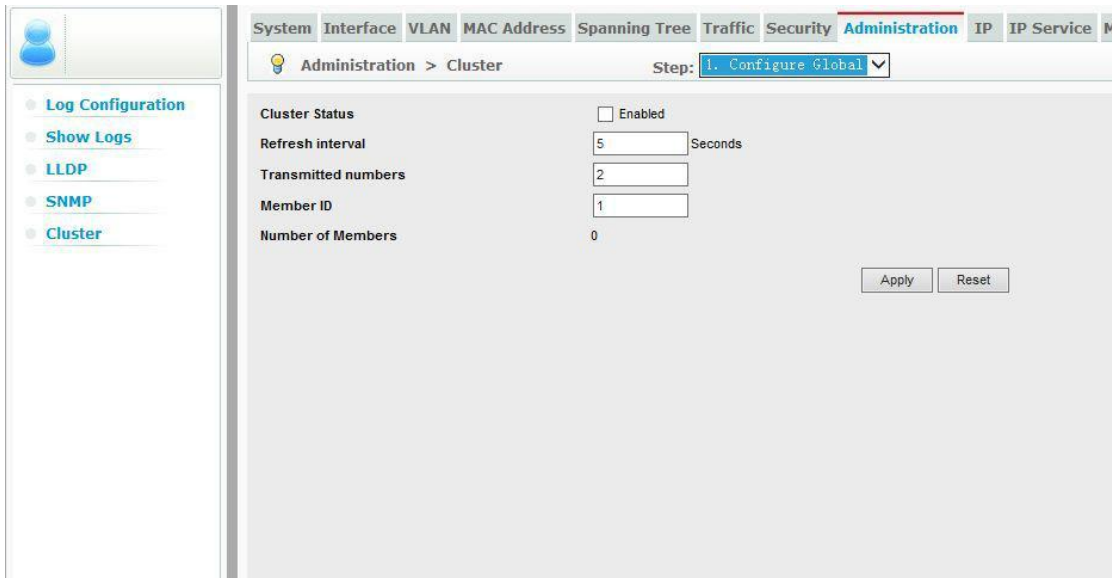
SNMP

Use the SNMP page to configure management access from SNMP clients, or to send trap messages to specified hosts.



Cluster

Use the Cluster page to group switches together to enable centralized management through a single unit.



IP

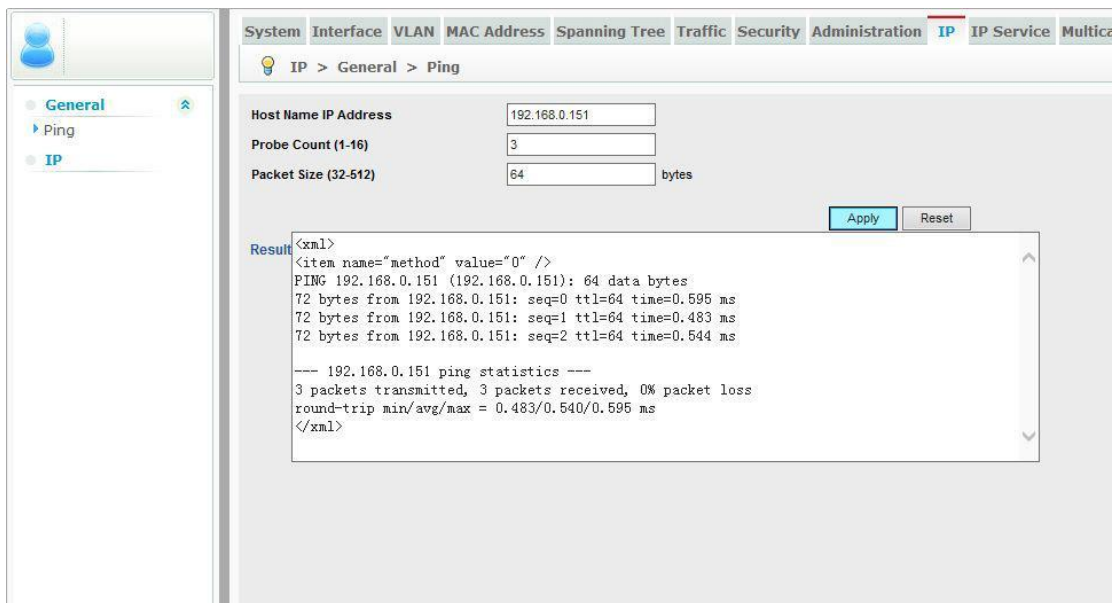
Use the IP menu to ping another network device, or to configure an IPv6 management address.

General

Use the General menu to access general IP functions.

Ping

Use the Ping page to ping another network device.



The screenshot displays the configuration page for the IP service, specifically the Ping configuration. The breadcrumb navigation shows the path: IP > General > Ping. The configuration fields are as follows:

- Host Name IP Address: 192.168.0.151
- Probe Count (1-16): 3
- Packet Size (32-512): 64 bytes

Buttons for 'Apply' and 'Reset' are visible. The 'Result' section shows the output of a ping command:

```
<xml>
<item name="method" value="0" />
PING 192.168.0.151 (192.168.0.151): 64 data bytes
72 bytes from 192.168.0.151: seq=0 ttl=64 time=0.595 ms
72 bytes from 192.168.0.151: seq=1 ttl=64 time=0.483 ms
72 bytes from 192.168.0.151: seq=2 ttl=64 time=0.544 ms

--- 192.168.0.151 ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss
round-trip min/avg/max = 0.483/0.540/0.595 ms
</xml>
```

IP

Use the IP page to set the IPv4 address management access.

The screenshot shows a network management interface with a top navigation bar containing tabs for System, Interface, VLAN, MAC Address, Spanning Tree, Traffic, Security, Administration, IP, and IP Service. The IP tab is selected. Below the navigation bar, a breadcrumb trail reads "IP > IP". On the left side, there is a sidebar menu with options for General, Ping, and IP. The main content area displays the following configuration fields:

Management VLAN	1
IP Address Mode	Static
IP Address	192.168.0.10
Subnet Mask	255.255.255.0
Gateway IP Address	0.0.0.0
DNS 1 Address	
DNS 2 Address	
MAC Address	00-01-C1-1B-2C-F7

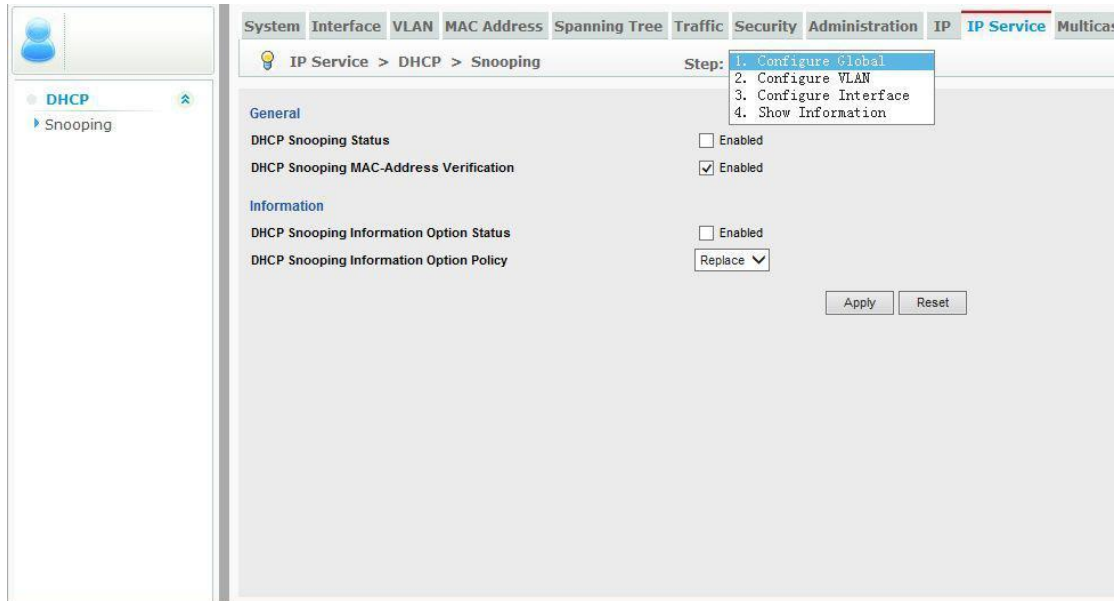
At the bottom right of the configuration area, there are two buttons: "Apply" and "Reset".

IP Service

Use the IP Service menu to configure DNS and DHCP snooping.

DHCP detection

The use of Snooping enabled DHCP snooping in the global scope, MAC address validation information option setting information policy; enable DHCP snooping a VLAN; set the trust model for an interface.



Multicast

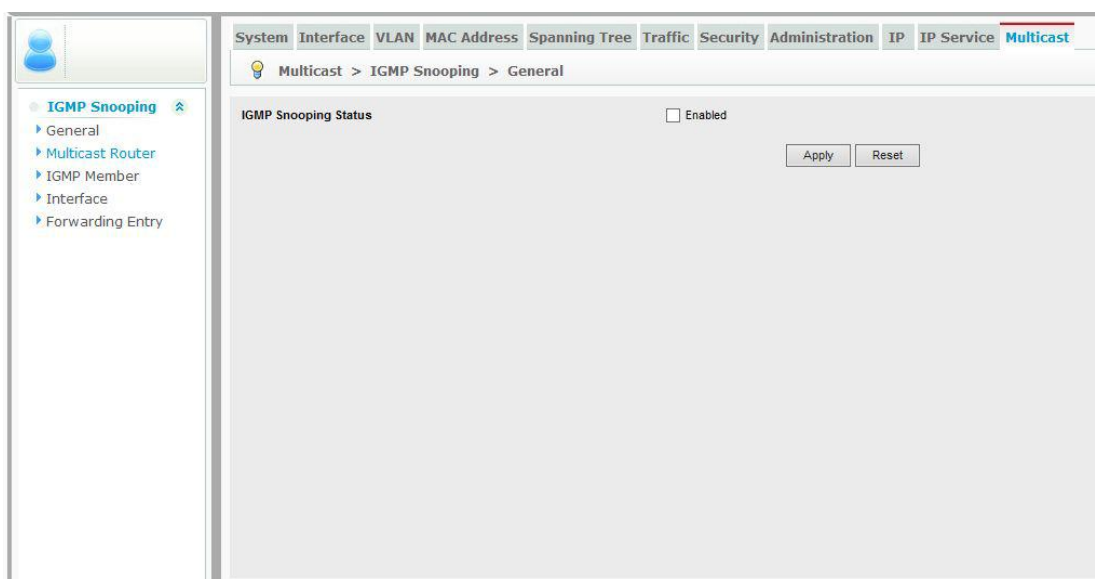
Use the Multicast menu to configure IGMP snooping and Multicast VLAN Registration.

IGMP Snooping

Use the IGMP Snooping menu to configure IGMP snooping and query parameters.

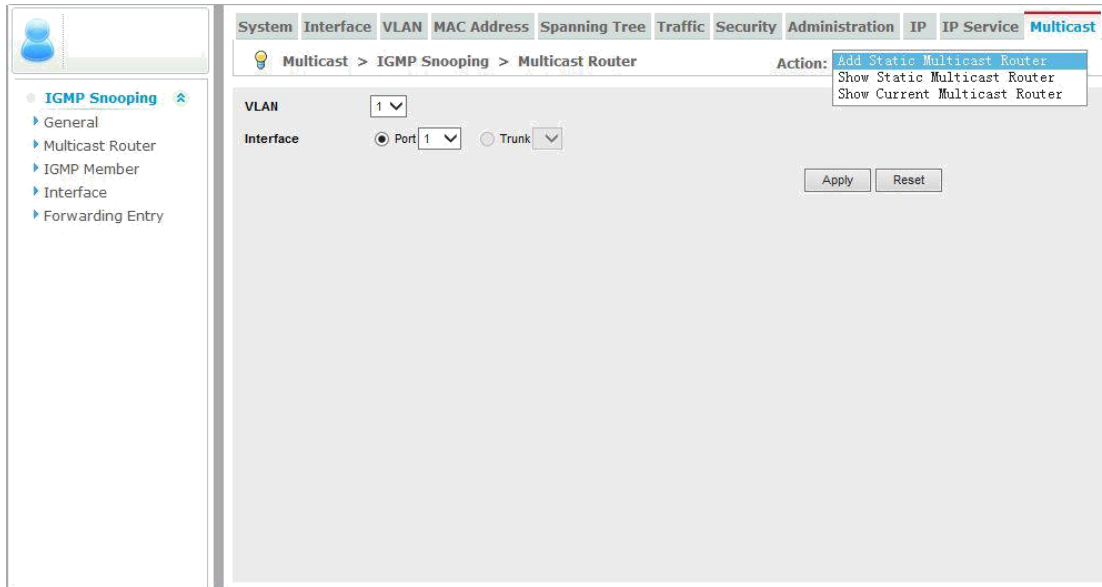
General

Use the General page to enable multicast filtering, and configure parameters for multicast snooping.



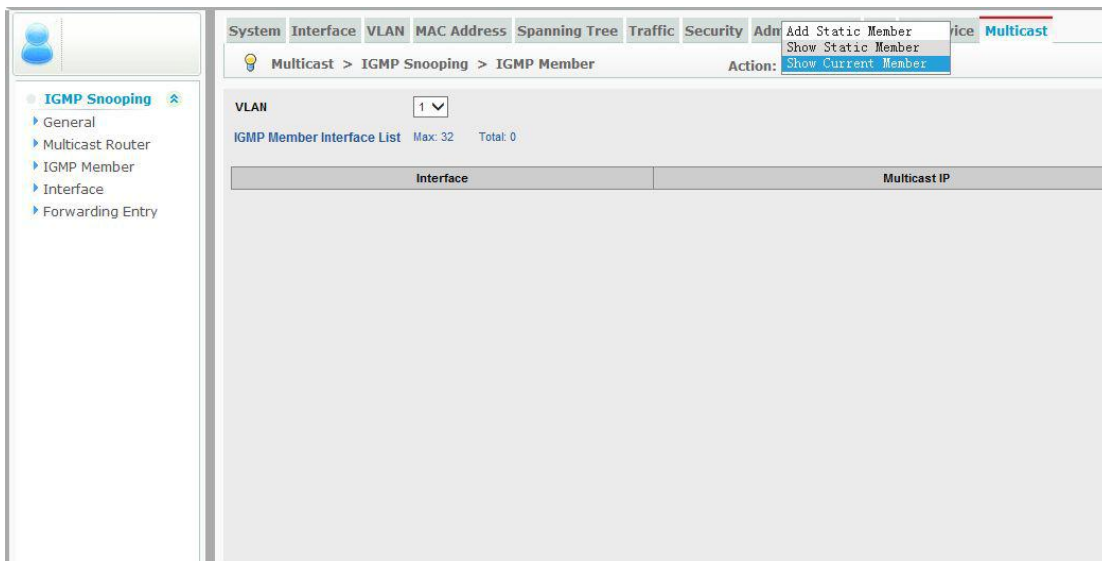
Multicast Router

Use the Multicast Router page to assign ports that are attached to a neighboring multicast router.



IGMP Member

Use the IGMP Member page to statically assign multicast addresses to the selected VLAN.



Interface

Use the Interface page to configure IGMP snooping per VLAN interface.

The screenshot shows a network management interface with a sidebar on the left and a main content area on the right. The sidebar contains a navigation menu with the following items: IGMP Snooping (selected), General, Multicast Router, IGMP Member, Interface, and Forwarding Entry. The main content area has a breadcrumb trail: Multicast > IGMP Snooping > Interface. Below the breadcrumb, there is a table titled "IGMP Snooping VLAN List" with the following data:

VLAN	IGMP Snooping Status	Immediate Leave Status	Fast Leave Timeout Interval	Group Membership Timeout
1	Disabled	Disabled	300	400
2	Disabled	Disabled	300	400
3	Disabled	Disabled	300	400

The table also includes a header for "IGMP Snooping VLAN List" with "Max: 256" and "Total: 3".

APPENDIX 1 Troubleshooting

Power LED not lit

- Check the main power cord is plugged in.
- Check power from outlet

Video Multicasting not working well

- Check IGMP settings and make certain it is turned on.

SFP+ module not working

- Check the type selected is generic
- Check the fiber type matches the connecting end. For example, multi-mode must be used on both ends. Check inner and outer diameter specs.
- Check cable for breaks
- Make certain fiber does not exceed the distance of the module specification.

APPENDIX 2 Firmware Update

For the latest firmware updates please go www.auroramm.com

You must be signed up to the Customer Portal in order to download firmware with instructions on how to update.

APPENDIX 3 Technical Specifications

Model Name	IPX-FSW-8	IPX-FSW-12	IPX-FSW-24
Technical			
Fixed Port	8 10G SFP+ optical 8 10/100/1000M RJ45	12 10G SFP+ optical 8 10/100/1000M RJ45	24 10G SFP+ optical 4 10/100/1000M RJ45
Console Port	1	1	1
OOB Management Port	1	1	1
Backplane Capacity	180Gbps	276Gbps	490Gbps
Packet Forwarding Rate	133.92Mpps	202.368Mpps	364.56Mpps
Jumbo Frames	16356bytes	16356bytes	9216bytes
Transfer Mode	Support store-forward mode and cut-through mode	Support store-forward mode and cut-through mode	Support store-forward mode and cut-through mode
IPv4/IPv6 Route	6k / 8k	6k / 8k	6k / 8k
MAC Address Table	96K	96K	128K
Packet Buffer	4MB	4MB	9MB
VLAN ID	4K	4K	4K
Flash Memory Capacity	8MB	8MB	32MB
Memory Capacity	512MB DDR3	512MB DDR3	1GB DDR3
Software Specifications			
Security Feature	IP+MAC+PORT+VLAN binding, ARP inspection, DOS prevention, Port protection, IP source port protection		
VLAN	Port based VLAN, 802.1Q VLAN, IP based VLAN, MAC based VLAN		
MAC Address Table	Static MAC address table, Dynamic MAC address table		
Storm Control	Broadcast suppression, Multicast suppression, DLF suppression, Limiting rate		
Flow Control	Half-duplex control based on the back pressure type Full-duplex control based on the PAUSE frame		
Port Mirroring	Support port mirroring		
Port Management	General setting, Port counting, Configuring port, Port trunking, Port-isolation		
QoS	IEEE 802.1Q Congestion mechanism Each port has 8 transmitting queues mapping 802.1p 8 priority		
IP Services	Ping detection, DHCP Snooping		
Spanning Tree	MSTP(802.1s)、STP、RSTP		
Multicast Management	IGMP Snooping multicasting packets detection		
System Management	Support SNMP v1/v2/v3, Support Console, Support TELNET, Support WEB interface		
Remote Upgrading	Support version upgrading via web Support version upgrading via local		

Mechanical	IPX-FSW-8	IPX-FSW-12	IPX-FSW-24
Housing	Black Metal Enclosure	Black Metal Enclosure	Black Metal Enclosure
Dimensions [L x W x H]	440 x 280 x 44mm 17.32" x 11.02" x 1.73"	440 x 280 x 44mm 17.32" x 11.02" x 1.73"	440 x 473 x 44mm 17.32" x 18.62" x 1.73"
Weight	7.67lbs (3.48KG)	7.85lbs (3.56KG)	16.42lbs (7.45KG)
Mounting	1RU Rack Mount 19"	1RU Rack Mount 19"	1RU Rack Mount 19"
Power supply	Internal 100-240VAC	Internal 100-240VAC	Internal 100-240VAC
Power consumption	<230 Watts	<230 Watts	<230 Watts
Operation temperature	0~50°C [32~100°F]	0~50°C [32~100°F]	0~50°C [32~100°F]
Storage temperature	-40~70°C [-4~140°F]	-40~70°C [-4~140°F]	-40~70°C [-4~140°F]
Relative humidity	5~95% RH [no condensation]	5~95% RH [no condensation]	5~95% RH [no condensation]
Package Contents	1x IPX-FSW-8 1x IEC Cord	1x IPX-FSW-12 1x IEC Cord	1x IPX-FSW-24 1x IEC Cord

Specifications subject to change without notice.

APPENDIX 4 Warranty

Limited 3 Year Warranty

Aurora Multimedia Corp. ("Manufacturer") warrants that this product is free of defects in both materials and workmanship for a period of 3 years as defined herein for parts and labor from date of purchase. This Limited Warranty covers products purchased in the year of 2009 and after. Motorized mechanical parts (Hard Drives, DVD, etc), mechanical parts (buttons, doors, etc), remotes and cables are covered for a period of 1 year. Touch screen displays are covered for 1 year; touch screen overlay components are covered for 90 days. Supplied batteries are not covered by this warranty. During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with same or similar model) at our option without charge for parts or labor for the specified product lifetime warranty period.

This warranty shall not apply if any of the following:

- A. The product has been damaged by negligence, accident, lightning, water, act-of-God or mishandling; or,
- B. The product has not been operated in accordance with procedures specified in operating instructions; or,
- C. The product has been repaired and or altered by other than manufacturer or authorized service center; or,
- D. The product's original serial number has been modified or removed; or,
- E. External equipment other than supplied by manufacturer, in determination of manufacturer, shall have affected the performance, safety or reliability of the product.
- F. Part(s) are no longer available for product.

In the event that the product needs repair or replacement during the specified warranty period, product should be shipped back to Manufacturer at Purchaser's expense. Repaired or replaced product shall be returned to Purchaser by standard shipping methods at Manufacturer's discretion. Express shipping will be at the expense of the Purchaser. If Purchaser resides outside the contiguous US, return shipping shall be at Purchaser's expense.

No other warranty, express or implied other than Manufacturer's shall apply.

Manufacturer does not assume any responsibility for consequential damages, expenses or loss of revenue or property, inconvenience or interruption in operation experienced by the customer due to a malfunction of the purchased equipment. No warranty service performed on any product shall extend the applicable warranty period. This warranty does not cover damage to the equipment during shipping and Manufacturer assumes no responsibility for such damage. This product warranty extends to the original purchaser only and will be null and void upon any assignment or transfer.

Aurora Multimedia Corp.

205 Commercial Court

Morganville, NJ 07751

Phone: 732-591-5800 Fax: 732-591-6801