Allied Telesis

AT-FS750/24-41
L2 Managed Switch

Web GUI Manual

RevA

Contents

Chapter 1
Preface

About This Guide

This guide provides instructions to install and how to configure the AT-FS750/24-41 Managed Switch.

This guide is mainly divided into four parts:
1. Hardware Installation: Step-by-step hardware installation procedures.
2. Using Web User Interface: A startup guide to for the command line interface.
3. Command Reference: Information about the function descriptions and configuration settings.

Terms/Usage

In this guide, the term “Switch” (first letter capitalized) refers to this Switch, and “switch” (first letter lower case) refers to other Ethernet switches. Some technologies refer to terms “switch”, “bridge” and “switching hubs” interchangeably, and both are commonly accepted for Ethernet switches.

Note Alerts you to supplementary information.

Caution Indicates potential property damage or personal injury.

Copyright and Trademarks

Chapter 2
Product Introduction

Product Introduction

AT-FS750/24-41 is a L2 managed switch with 24-Port 10/100Mpbs ports , 2 10/100/1000Mbps ports and 2 Combo 10/100/1000Mbps/SFP ports. See below for the introduction of switch outlook.

Front Panel

Console Port	Providing a out-of-band connection to the Switch for management traffic.
Reset Button	By pressing the Reset button the Switch will change back to the default configuration and all changes will be lost.
Power LED	The Power LED lights up when the Switch is connected to a power source.
Status LED	The Status LED lights up when the Switch works normally, and blinking indicates the Switch is performing a system self-test
Port Link/Act/Speed LED (1-24)	The Link/Act/Speed LED flashes which indicates a network link through the corresponding port. Blinking indicates that the Switch is either sending or receiving data to the port. When a port has amber light indicates that port is running on 10M. When it has a green light it is running on 100M.
Port Link/Act/Speed LED (25F, 26F, 25T, 26T, 27, 28)	The Link/Act/Speed LED flashes which indicates a network link through the corresponding port. Blinking indicates that the Switch is either sending or receiving data to the port. When a port has amber light indicates that port is running on 10M or 100M. When it has a green light it is running on 1000M.
10/100M Port (1-24)	10/100M auto MDI/MDIX ports providing a FE connection for the Switch.
10/100/1000M Port (25T, 26T, 27, 28)	10/100/1000M auto MDI/MDIX ports providing a GE connection for the Switch.
MiniGBIC Port (25F, 26F)	Installing the MiniGBIC module providing Gigabit fiber connection for the Switch.
Note	MiniGBIC ports are shared with normal RJ-45 ports 25 and 26. When MiniGBIC port is used, the RJ-45 port cannot be used.

Rear Panel

Power Connector The power port is where to connect the AC power cord.

Chapter 3
Hardware Installation

This chapter provides unpacking and installation information for AT-FS750/24-41

Unpacking

Open the shipping carton and carefully unpack its contents. Please consult the packing list located in the User Manual to make sure all items are present and undamaged. If any item is missing or damaged, please contact your local reseller for replacement.

- **One AT-FS750/24-41**
- **One AC power cord**
- **One RS-232 cable**
- **Four rubber feet**
- **Screws and two mounting brackets**

If any item is found missing or damaged, please contact the local reseller for replacement.

Switch Installation

For safe switch installation and operation, it is recommended that you:

- **Visually inspect the power cord to see that it is secured fully to the AC power connector.**
- **Make sure that there is proper heat dissipation and adequate ventilation around the switch.**
- **Do not place heavy objects on the switch.**

Desktop or Shelf Installation

When installing the switch on a desktop or shelf, the rubber feet included with the device must be attached on the bottom at each corner of the device's base. Allow enough ventilation space between the device and the objects around it.

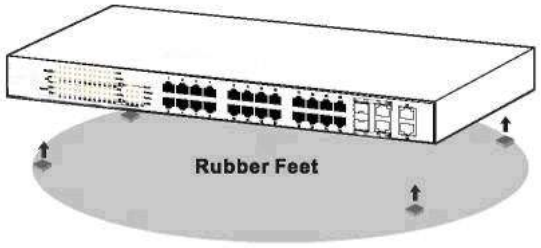


Figure 1 – Attach the adhesive rubber pads to the bottom

Rack Installation

The switch can be mounted in an EIA standard size 19-inch rack, which can be placed in a wiring closet with other equipment. To install, attach the mounting brackets to the switch's side panels (one on each side) and secure them with the screws provided.

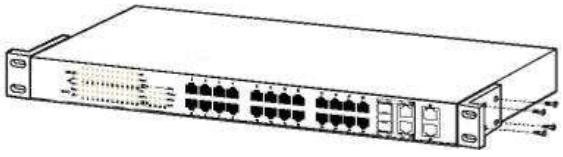


Figure 2 – Attach the mounting brackets to the Switch

Then, use the screws provided with the equipment rack to mount the switch in the rack.

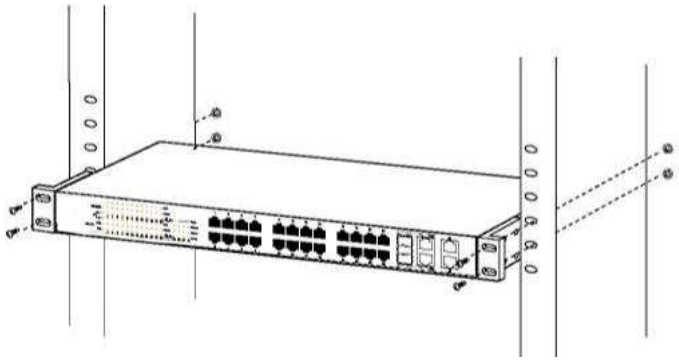


Figure 3 – Mount the Switch in the rack or chassis

Caution

Safety Instructions

A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Plugging in the AC Power Cord

Users may now connect the AC power cord into the rear of the switch and to an electrical outlet (preferably one that is grounded and surge protected).

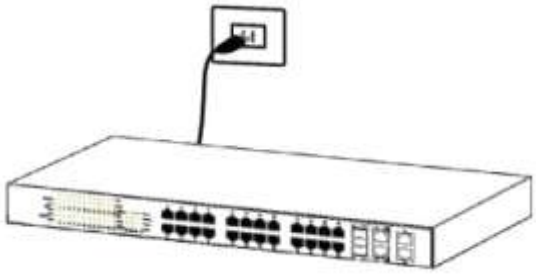


Figure 4 – Plugging the switch into an outlet

Power Failure

As a precaution, the switch should be unplugged in case of power failure. When power is resumed, plug the switch back in.

Chapter 4
Using the Web User Interface

After a successful physical installation, you can configure the Switch, monitor the network status, and display statistics using a web browser.

Supported Web Browsers

The embedded Web-based Management currently supports the following web browsers:

A) Internet Explorer 6 or higher
B) Netscape 8 or higher
C) Mozilla
D) Firefox 1.5/2.0 or higher

Connecting to the Switch

You will need the following equipment to begin the web configuration of your device:

1. A PC with a RJ-45 Ethernet connection
2. A standard Ethernet cable

Connect the Ethernet cable to any of the ports on the front panel of the switch and to the Ethernet port on the PC.

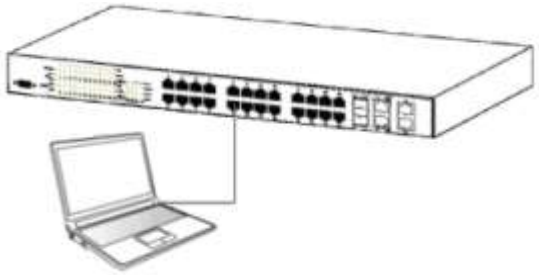


Figure 5 – Connected to an end node via Ethernet cable

Login Web-based Management

In order to login and configure the switch via an Ethernet connection, the PC must have an IP address in the same subnet as the switch. For example, if the switch has an IP address of **192.168.0.1**, the PC should have an IP address of **192.168.0.x** (where x is a number between 1 ~ 254), and a subnet mask of **255.255.255.0**.

Open the web browser and enter **192.168.0.1** (the factory-default IP address) in the address bar. Then press <Enter>.

Figure 6 – Enter the IP address 192.168.0.1 in the web browser

When the following page appears, enter the user name and password then click **Login**.

Figure 7 – Enter the IP address 10.90.90.90 in the web browser

Note

The default user name and password are:

User Name	Password	Priviledge
root	password	15
guset	guest123	1

After login successfully, following page will appear.

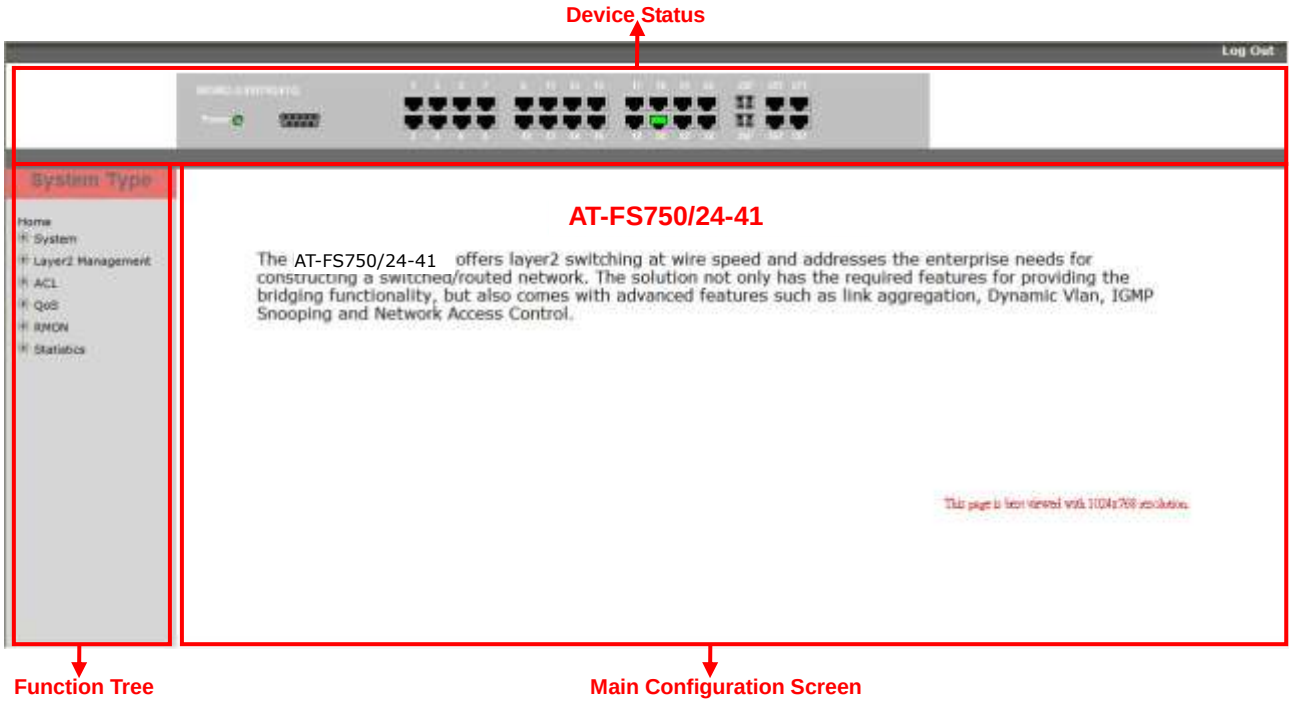


Figure 8 – Web User Interface

The three main areas are the **Device Status** on top, the **Function Tree**, and the **Main Configuration Screen**.

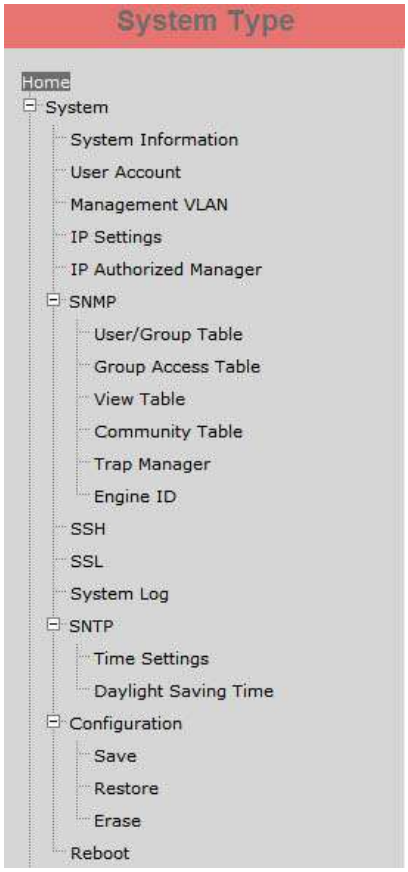
The **Device Status** provides a real-time switch port link status.

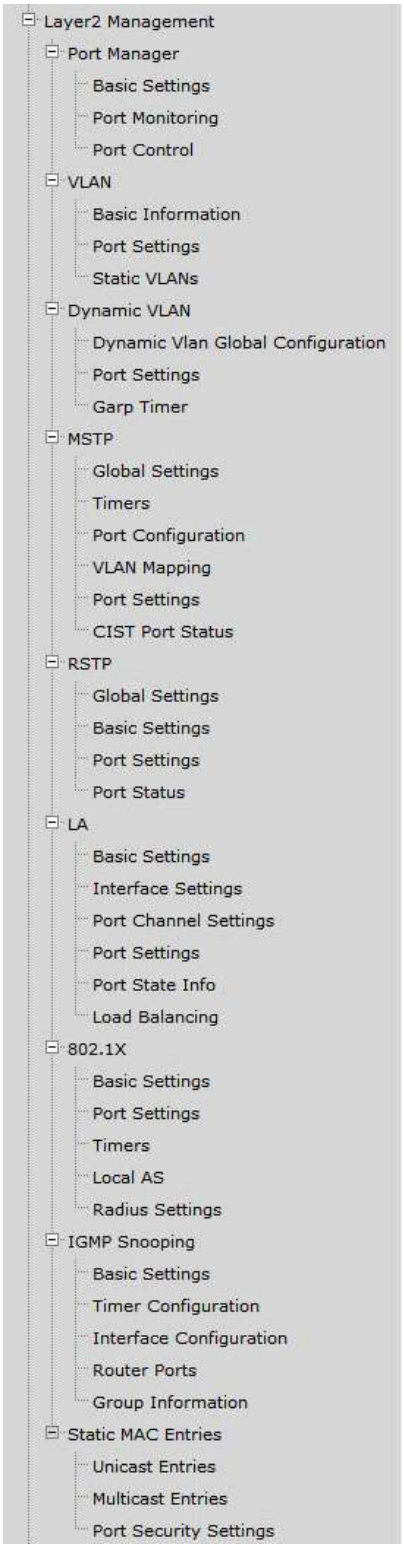
By choosing different functions in the **Function Tree**, you can change all the settings in the **Main Configuration Screen**. The main configuration screen will show the current status of your Switch by clicking the model name on top of the

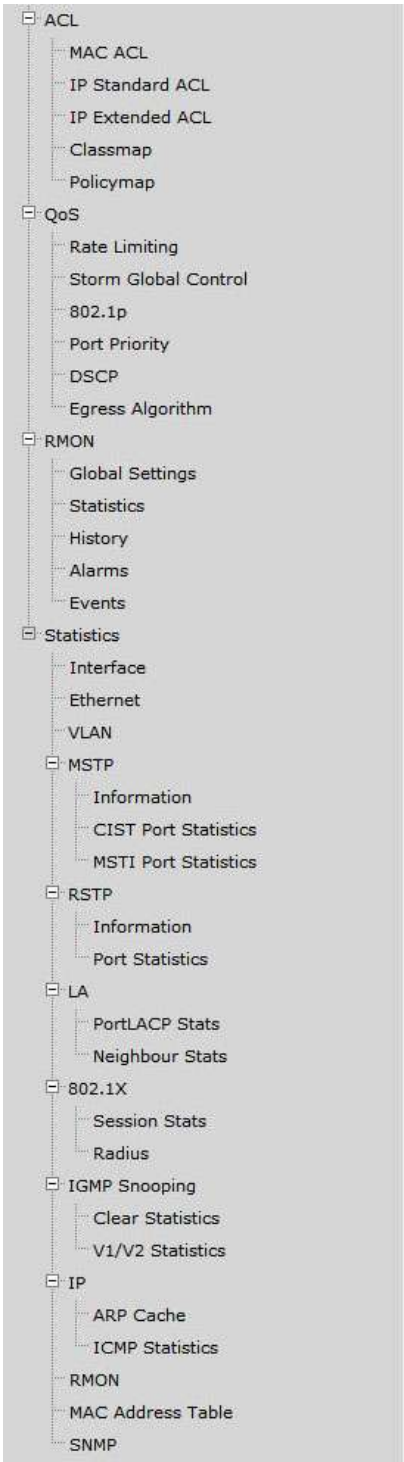
function tree.

To terminate the web management session, click **Log Out** in the up-left coner.

Function Tree







Chapter 5
Configuring System Basic Functions

System Basic Function List

- **System Information**
- **User Account**
- **Management VLAN**
- **Management IP Settings**
- **IP Authorized Manager**
- **SNMP**
  - SNMP User/Group Table Configuration
  - SNMP Group Access Table Configuration
  - SNMP View Table Configuration
  - SNMP Community Settings
  - SNMP Host Table
  - SNMP Engine ID Configuration
- **SSH Configuration**
- **SSL Configuration**
- **System Log Configuration**
- **SNTP**
  - SNTP and Current Time Settings
  - SNTP Daylight Saving Time
- **Configuration**
  - Save Configuration
  - Restore Configuration
  - Erase Configuration
- **Reboot**

System Information

This page is to display and edit relevant system information.

Figure 9 – System > System Information

Parameter	Description

Hardware Version	The hardware version of this device.
Firmware Version	The firmware verision of the device.
Device Name	The name of the device. Default is *SysName*.
Device Contact	The dentification information of a contact person. Deafult is *SysContact*.
Device Location	Entering the device location description. Maximum of 50 characters is allowed and a null string is not accepted. Default is *SysLocation*.
Device Up Time	The time duration since the system has been up and running.
Switch MAC Address	The MAC address of the device.
Web Aut0 Timeout (180-3600 secs)	The duration that the device times out when no user activity occurs on the web interface. Default is *600* seconds.
CLI Auto Timeout (1-18000 secs)	The duration that the device times out when no user activity occurs on the web interface. Default is *1800* seconds.

Click **Apply** to submit the changes.

User Account

This page is to create and display user account information.

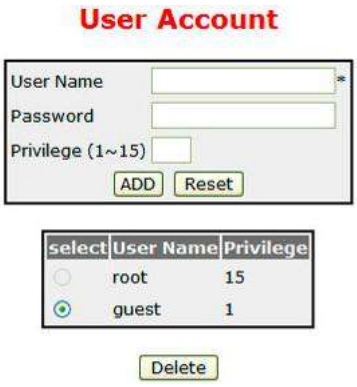


Figure 10 – System > User Account

Parameter	Description
User Name	Username of an account.
Password	Password of an account.
Priviledge (1-15)	Privilege level that ranges from 1 to 15. 15 are the highest level.

Click **ADD** to submit the changes and the **Reset** button will clear the information inputed. Select and click **Delete** to remove an existed account. The default accounts are *root* (priviledge 15) and *guest* (priviledge 1).

Management VLAN

This page is to edit the management VLAN information.

Figure 11 – System > Management VLAN

Parameter	Description
Management VLAN	The VLAN ID of management VLAN. It can be a single VLAN ID from 1 to 4094, a range of VLAN IDs separated by a hyphen (-) ,or a series of non-continuous numbers divided by a comma (,)

Click **ADD** to submit the changes and the **Remove** button will remove an existed VLAN ID.

Note There has to be at least one management VLAN ID exists.

Management IP Settings

This page is to edit the management IP settings.

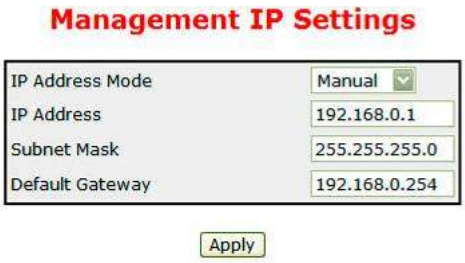


Figure 12 – System > IP Settings

Parameter	Description
IP Address Mode	To configure the mode that the IP address of default interface is assigned. You can choose **Manual** or **Dynamic**. Default is *Manual.*
IP Address	IP address of the management interface. Default is *192.168.0.1*.
Subnet Mask	Subnet mask of the management interface. Default is *255.255.255.0*.
Default Gateway	IP address of default gateway. Default is *192.168.0.254*.

Click **Apply** to submit the changes.

IP Authorized Manager

This page is to set an authorized administrator source IP address, and the services, interfaces, or VLANs that it is allowed to visit.

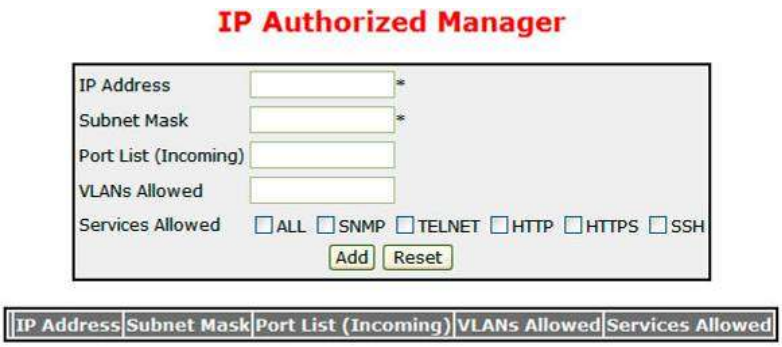


Figure 13 – System > IP Authorized Manager

Parameter	Description
IP Address	IP address of authorized manager
Subnet Mask	Subnet mask of the authorized IP address
Port List (Incoming)	Interface of the authorized administrator is allowed to connect to
VLANs Allowed	VLAN ID of the authorized administrator is allowed to connect to. It can be a single VLAN ID from 1 to 4094, a range of VLAN IDs separated by a hyphen (-) ,or a series of non-continuous numbers divided by a comma (,)
Service Allowed	Services that authorized administrator are allowed to access. It includes **SNMP**, **TELNET**, **HTTP** (Web), **HTTPS** (SSL), **SSH** services. Select **ALL** will cover all services.

Click **ADD** to submit the changes and the **Reset** button will clear the information inputed. Select and click **Delete** to remove an existed account.

SNMP

SNMP User/Group Table Configuration

This page is to configure the SNMP user and group information.

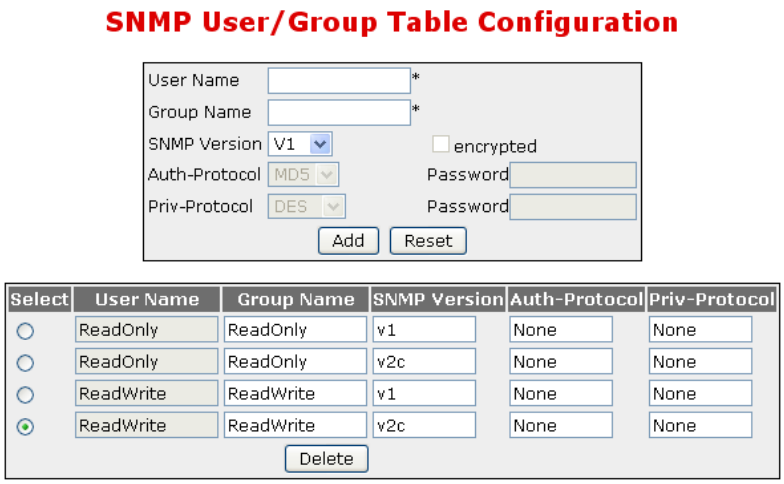


Figure 14 – System > SNMP > User/Group Table

Parameter	Description
User Name	SNMP user name
Group Name	SNMP group name
SNMP Version	Specify the SNMP version to be used, which can be **v1**, **v2c**, or **v3**. Select '**encrypted'** if the encryption for user authentication is needed. Once the encryption is enabled, then can set the authentication and privilege algorithm and passwords.
Auth-Protocol	Specify the authenticaion algrotithm from **MD5** or **SHA** algorithem, and the password.
Priv-Protocol	Specify the priviledge encrption algrotithm from **DES** or **none**, and the password.

Click **ADD** to submit the changes and the **Reset** button will clear the information inputed. Select and click **Delete** to remove an existed entry.

SNMP Group Access Table Configuration

This page is to configure the access settings of a SNMP group.

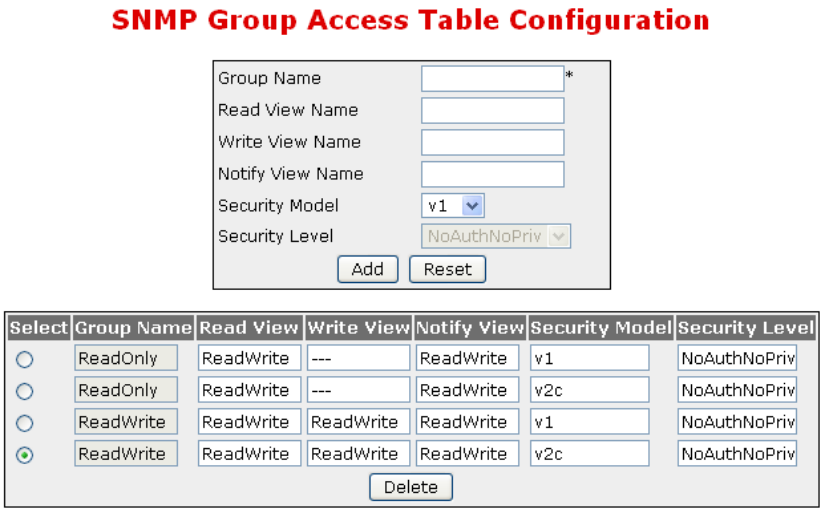


Figure 15 – System > SNMP > Group Access Table

Parameter	Description
Group Name	SNMP group name
Read View Name	The name of group (view) has read privilege and is allowed to access the specified MIB object groups.
Write View Name	The name of group (view) has write privilege and is allowed to access the specified MIB object groups.
Notify View Name	The name of group (view) can receive SNMP Trap messages and is allowed to access the specified MIB object groups.
Security Model	Specify the SNMP version to be used, which can be **v1**, **v2c**, or **v3**.
Security Level	Specify if authentication and encryption are needed for SNMP messages. **NoAuthNoPriv** – Neither authentication or encryption is needed. It is the default setting. **AuthNoPriv** - Authentication is required for the SNMP messages. It is selectable only when SNMPv3 is specified. **AuthPriv** – Both authentication and encryption are required for the SNMP messages. It is selectable only when SNMPv3 is specified.

Click **ADD** to submit the changes and the **Reset** button will clear the information inputed. Select and click **Delete** to remove an existed entry.

SNMP View Table Configuration

This page is to create a SNMP view, which limits the range of MIB objects that a SNMP administrator can access to.

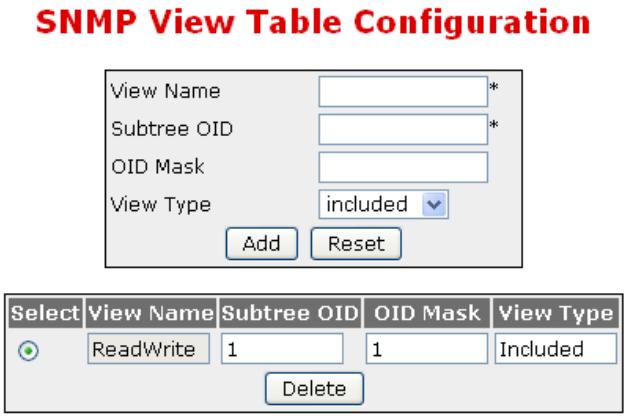


Figure 16 – System > SNMP > View Table

Parameter	Description
View Name	SNMP view name
Subtree OID	The object ID of MIB tree
OID Mask	The mask of OID
View Type	**included** – Includes the object in the list that the SNMP administrator can access. **excluded** – Excludes the object from the list that the SNMP administrator can access.

Click **ADD** to submit the changes and the **Reset** button will clear the information inputed. Select and click **Delete** to remove an existed entry.

SNMP Community Settings

This page is to create and edit a SNMP community information.

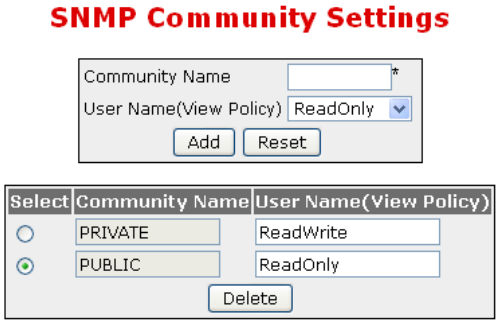


Figure 17 – System > SNMP > Community Table

Parameter	Description
Community Name	SNMP community name
User Name (View Policy)	ReadOnly – The community has readonly priviledge. ReadWrite - The community has readwrite priviledge.

Click **ADD** to submit the changes and the **Reset** button will clear the information inputed. Select and click **Delete** to remove an existed entry.

SNMP Host Table

This page is to create a host that can access the device by SNMP protocol.

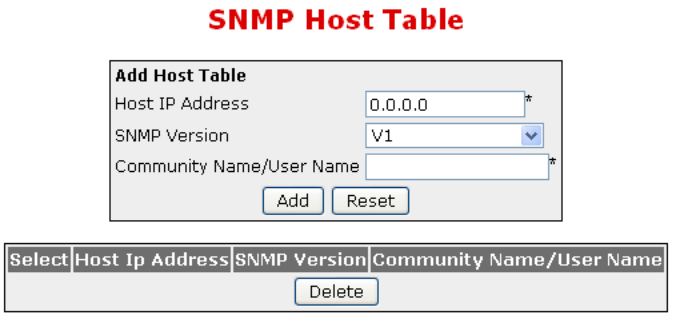


Figure 18 – System > SNMP > Trap Manager

Parameter	Description
Host IP Address	The IP address of a host that can access to the device by SNMP.
SNMP version	Specify the SNMP version to be used, which can be **v1**, **v2c**, or **v3**.
Community Name/User Name	The name of SNMP community/user that the host belongs to.

Click **ADD** to submit the changes and the **Reset** button will clear the information inputed. Select and click **Delete** to remove an existed entry.

SNMP Engine ID Configuration

This page is to configure the SNMP engine identifier of the device.

Figure 19 – System > SNMP > Engine ID

Parameter	Description
Engine ID	A string of between 5 and 32 octets expressed in hexadecimal. The default is *8000081c044653*.

Click **ADD** to submit the changes and the **Reset** button will clear the information inputed.

SSH Configuration

This page is to configure the SSH server function on the device.

Figure 20 – System > SSH

Parameter	Description
SSH Status	Select **Enable** or **Disable** to turn on or off the SSH server function. Default is enabled.

Version	Specify the SSH version supported. **V2** – SSH v2 is supported. This is the default value. **V1 & V2** – Both SSH v1 and V2 are supported.
Cipher	To specify SSH Cipher algorithm. **3DES-CBC** - 3DES (Triple_Data Encryption Standard) encryption algorithm in CBC (Cipher Blocking Chain). This is the default value. **DES-CBC** - DES (Data Encryption Standard) in CBC (Cipher Blocking Chain). **Both** – Both 3DES-CBC and DES-CBC are supported.
Authentication	To specify authentication encryption algorithm. **HMAC-SHA1** – Hash-based Message Authentication Codes (HMAC) and SHA1 (Secure Hash Algorithm). **HMAC-MD5** – Hash-based Message Authentication Codes (HMAC) and MD5 (Message-Digest algorithm 5). **Both** – Both HMAC-SHA1 and HMAC-MD5 are supported.

Click **Apply** to submit the changes.

SSL Configuration

This page is to configure the SSL server function on the device.

Figure 21 – System > SSL

Parameter	Description
SSL Status	Select **Enable** or **Disable** to turn on or off the SSH server function. Default is disabled. The cipher suite includes RSA-DES-SHA1, RSA-3DES-SHA1, and RSA-EXP1024-DES-SHA1 cipher algorithm.

Click **Apply** to submit the changes.

System Log Configuration

This page is to configure system log isettings.

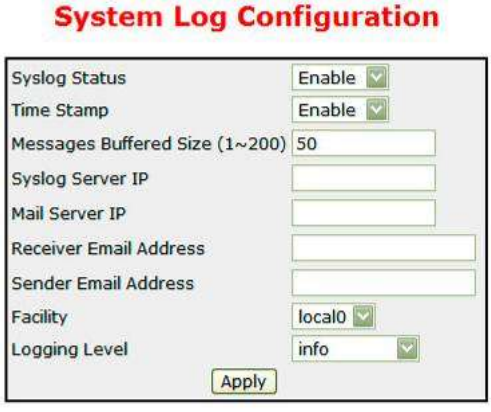


Figure 22 – System > System Log

Parameter	Description
Syslog Status	The status of syslog server function. Default is *enabled*.
Time Stamp	Specifies if time stamp is attached with syslog messages. Default is *enabled*.
Messages Buffered Size (1-200)	The size of internal logging buffer. Default is *50*.
Syslog Server IP	IP address of the external syslog server
Mail Server IP	Specify the IP address of mail server to be used for sending the email alerts messages.
Receiver Email Address	The email address of receiver that receives the alert messages.
Serder Email Address	The email address of sender that sends out the alert messages.
Facility	Specifies the facility that is indicated in the message. Possible values: **local0**, **local1**, **local2**, **local3**, **local4**, **local5**, **local6**, and **local7**. Default is *Local0*.
Logging Level	Specifies the severity level of messages. Possible values are: **Alert** level: action must be taken immediately. **Critical** level: Critical conditions. **Debug** level: Debug messages. **Emergency** level: System is unusable. **Error** level: Error conditions. **Informational** level: Informational messages. **Notification** level: Normal but significant condition. **Warning** level: Warning conditions. Default is *info*.

Click **Apply** to submit the changes.

SNTP

SNTP and Current Time Settings

This page is to configure SNTP and time settings.

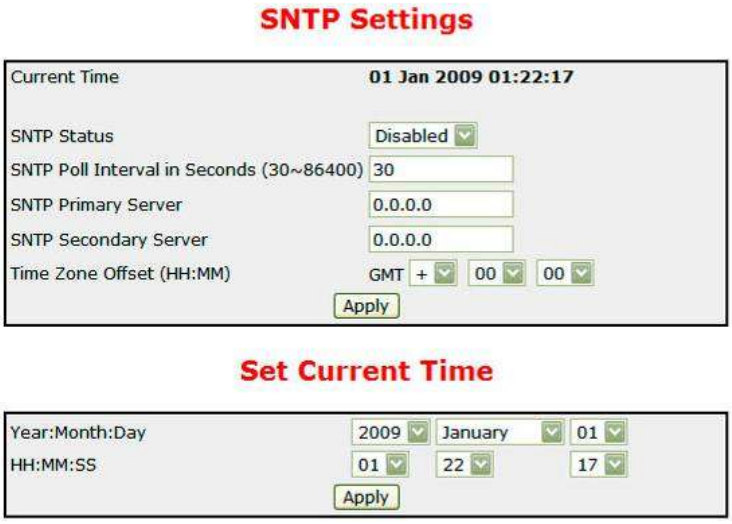


Figure 23 – System > SNTP > Time Settings

Parameter	Description
Current Time	Current system time.
SNTP Status	To enable/disable the Simple Network Time Protocol (SNTP) function. Defualt

	is *disabled*.
SNTP Poll Interval in Seconds (30-86400)	To set the time interval that SNTP synchronizes the time on SNTP server, and the range is from 30 to 86400 seconds. Default is *30*.
SNTP Primary Server	To set the primary SNTP server IP address.
SNTP Secondary Server	To set the secondary SNTP server IP address.
Time Zone Offset (HH:MM)	To specify the difference of current time zone relative to GMT.
Year:Month:Day	Specify current date
HH:MM:SS	Specify current system time.

Click **Apply** to submit the changes.

SNTP Daylight Saving Time

This page is to configure the dayling saving time function of system time setting.

Figure 24 – System > SNTP > Daylight Saving Time

Parameter	Description
Daylight Saving Time Status	To enable/disable the DST function. Default is *disabled*.
Daylight Saving Time: From (Month:Day:HH:MM) To (Month:Day:HH:MM)	Specify the DST period in month:day:hour:minute.

Click **Apply** to submit the changes.

Configuration

Save Configuration

This page is to save the running configuration.

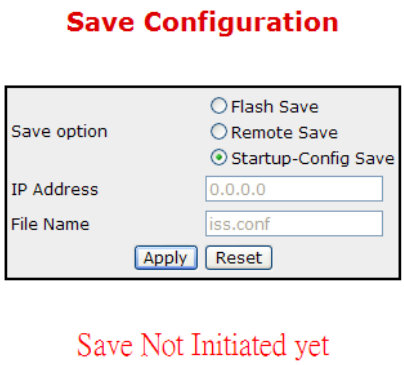


Figure 25 – System > Configuration > Save

Parameter	Description
Save option	Options to save the running configuration: **Flash Save**: Save to flash drive with designated file name. **Remote Save**: Save to the remote tftp server with designated IP address and file name. **Startup-Config Save**: Save to the startup configuration.
IP Address	IP address of remote tftp server.
File Name	Specfigy the file name of the configuration to be saved.

Click **Apply** to submit the changes and the **Reset** button will clear the information inputed.

Restore Configuration

This page is to restore startup configuration by another configuration file in flash drive.

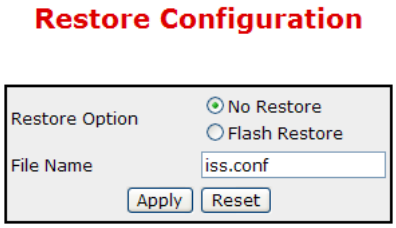


Figure 26 – System > Configuration > Restore

Parameter	Description
Restore Option	Options to restore the startup configuration: **No Restore**: **Flash Restore**: Restore from the configuration in flash.
File Name	Specify the file name of the configuration to be restored.

Click **Apply** to submit the changes and the **Reset** button will clear the information inputed.

Erase Configuration

This page is to reset reset the startup configuration, NV-RAM or the configuration file in flash to default value.

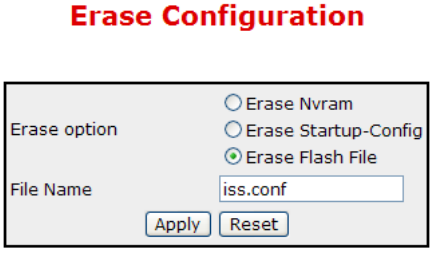


Figure 27 – System > Configuration > Erase

Parameter	Description
Erase option	Specify the configuration to be reseted: **Erase Nvram**: To reset the NV-RAM to default. **Erase Startup-Config**: To reset startup configuration to default. **Erase Flash File**: To reset the configutation file in flash to default.
File Name	Specify the file name of the local configuration file.

Click **Apply** to submit the changes and the **Reset** button will clear the information inputed.

Reboot

This page is to rebooth the system.

Figure 28 – System > Reboot

Click **Reboot** to warm start the device.

Note If the Switch reboots without write the running configurations, the last configuration wrote in NV-RAM will be loaded.

Chapter 6

Configuring Layer 2 Management Functions

Layer 2 Management Function List

- **Port Manager**
  - Port Basic Settings
  - Port Monitoring
  - Port Control
- **VLAN**
  - VLAN Basic Information
  - VLAN Port Settings
  - Static VLAN Configuration
- **Dynamic VLAN**
  - Dynamic VLAN Global Configuration
  - Dynamic VLAN Port Configuration
  - GARP Timers Configuration
- **MSTP**
  - MSTP Global Configuration
  - MSTP Timers Configuration
  - CIST Settings
  - MSTP VLAN Mapping
  - MSTP Port Settings
  - MSTP CIST Port Status
- **RSTP**
  - RSTP Global Configuration
  - RSTP Configuration
  - RSTP Port Status Configuration
  - RSTP Port Status
- **LA**
  - LA Basic Settings
  - PortChannel Interface Basic Settings
  - LA Port Channel Settings
  - LA Port Settings
  - LA Port StateMachine Information
  - LA Load Balancing Policy
- **802.1X**
  - 802.1X Basic Settings
  - 802.1X Port Settings
  - 802.1X Timer Configuration
  - 802.1X Local Authentication Server Configuration
  - RADIUS Server Configuration
- **IGMP Snooping**
  - IGMP Snooping Configuration
  - IGMP Snooping Timer Configuration
  - IGMP Snooping Interface Configuration
  - IGMP Snooping VLAN Router Ports
  - MAC Based Multicast Forwarding Table
- **Static MAC Entries**
  - Static MAC Address Configuration
  - Static Multicast Address Configuration
  - Port Security Settings

Port Manager

Port Basic Settings

This page is to configure basic settings of switch ports.

Figure 29 – Layer2 Management > Port Manager > Basic Settings

Parameter	Description
Port	Specify the switch port to be configured.
Link State	Display the physical connection statis of the port.
Admin State	Specify the administrative status of the port. Default is *enabled*.
MTU (90-1522) bytes	To setup the Maximum Transmission Unit (MTU) frame size of the interface, and the range is from 90 to 1522 bytes. Default is *1500*.
Link Up/Down Trap	To enable/disable the link up/down trap information delivery. Default is *enabled*.

Click **Apply** to submit the changes.

Port Monitoring

This page is to configure the port monitoring function on the device.

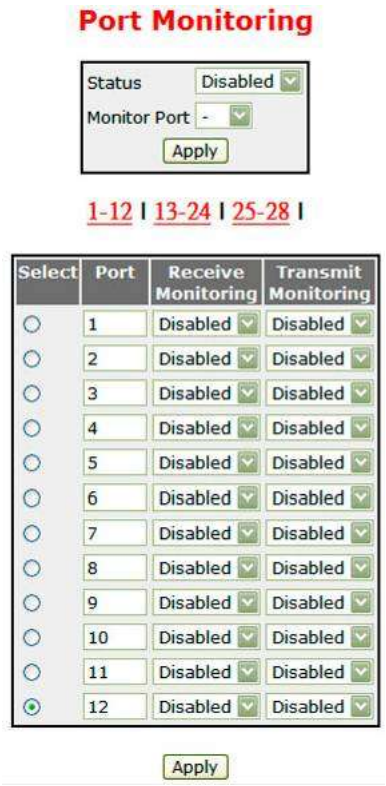


Figure 30 – Layer2 Management > Port Manager > Port Monitoring

Parameter	Description
Status	To enable/disable the port monitoring session on the device. Default is *disabled*.
Monitoring Port	Specify the source port of the mirror session.
Port	Specify the destination port of the mirror session.
Receive Monitoring	Monitoring the traffic received from the source port.
Transmit Monitoring	Monitoring the traffic transmitted from the source port.

Click **Apply** to submit the changes.

Port Control

This page is to configure the control parameters of interface.

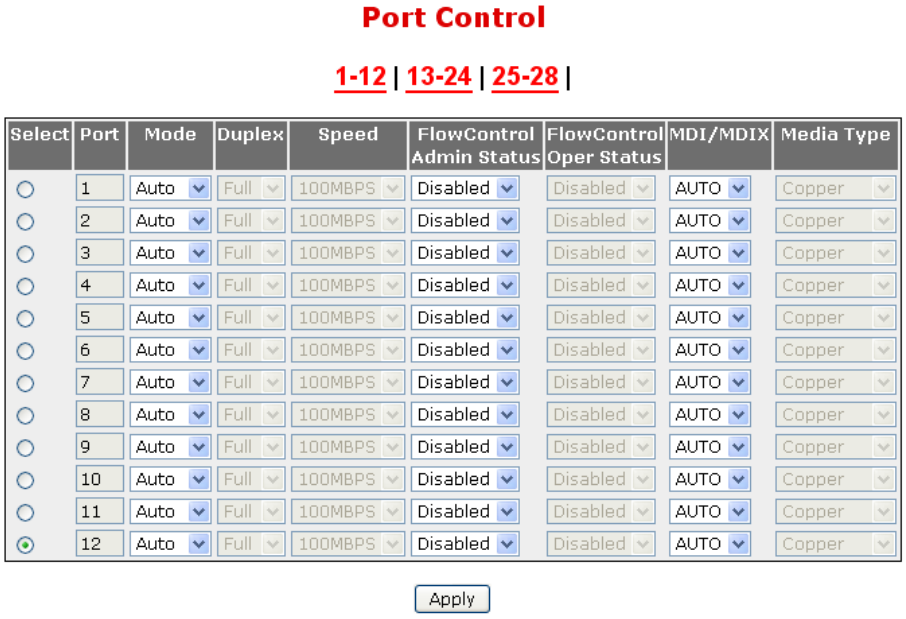


Figure 31 – Layer2 Management > Port Manager > Port Control

Parameter	Description
Port	Specify the switch port to be configured.
Mode	To enable/diable auto-negotiation function on ports. Default is *Auto*.
Duplex	To set the port duplex mode. Possible values are: **Full**: Port runs at full duplex mode. **Half**: Port runs at half duplex mode.
Speed	To set the port speed. Possible values are: **10MBPS**: Port runs at 10Mbps. **100MBPS**: Port runs at 100Mbps. **1000MBPS**: Port runs at 1000Mbps. Only port 25-28 can run at 1000Mbps.
FlowControl Admin Status	To enable/disable 802.3x flow control on ports. Default is *Disabled*.
FlowControl Oper Status	To display the flow control operation status.
MDI/MDIX	To set MDI or MDIX mode for ports. Possible values are: **Auto**: Port performs the auto MDI/MDIX function. **MDI**: Port fixed at MDI mode. **MDIXB:** Port fixed at MDIX mode. Default is *Auto*.

Click **Apply** to submit the changes.

Note The port speed and duplex settings can only be configured when auto-negotiation disabled.

VLAN

VLAN Basic Information

This page is to configure the basic settings of virtual local area network (VLAN) on the device.

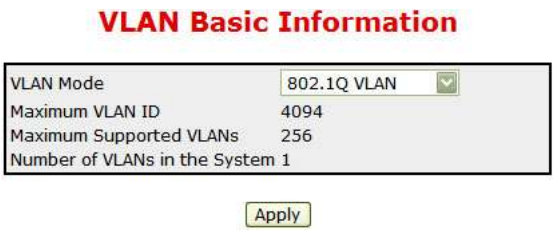


Figure 32 – Layer2 Management > VLAN > Basic Information

Parameter	Description
VLAN Mode	Choose from **802.1Q VLAN** or **Asymmetric VLAN** modes. Default is *802.1Q VLAN*.
Maximum VLAN ID	Display the maximum VLAN ID can be configured. Default is *4095*.
Maximum Supported VLANs	Display the maximum VLANs can be supported. Default is *256*.
Number of VLANs in the System	Display the current VLAN number in the system. Default is *1*.

Click **Apply** to submit the changes.

VLAN Port Settings

This page is to configure VLAN setting on physical port interfaces.

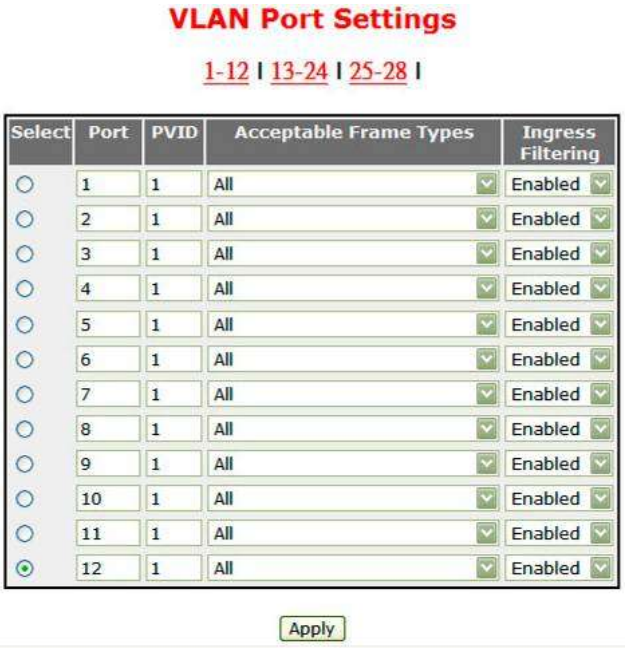


Figure 33 – Layer2 Management > VLAN > Port Settings

Parameter	Description
Port	Specify the switch port to be configured.
PVID	To set the port VLAN ID of the port, all ingress untagged or priority tagged packet from this port will be assign to this VLAN. The range is from 1 to 4094.
Accepable Frame Types	To configure the acceptable frame type of a port. **All**: Accepts all kinds of frames. **Tagged**: Accepts only tagged frames **UnTagged and Priority Tagged**: Accepts only untagged frames and frames with priority tag.

	Default is *All*.
Ingress Filtering	To enable/disable the filter of ingress packets not with the same VLAN tag as the VLAN membership of the port. Default is *Enabled*.

Click **Apply** to submit the changes.

Static VLAN Configuration

This page is to set up the static VLAN configuration.

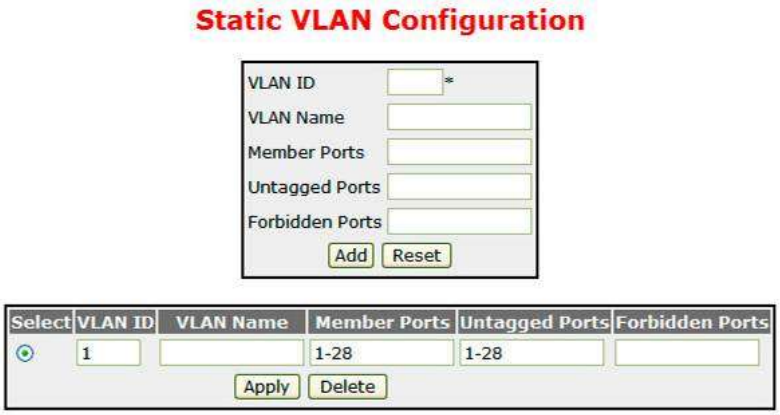


Figure 34 – Layer2 Management > VLAN > Static VLANs

Parameter	Description
VLAN ID	Specify the VLAN ID to be created.
VLAN Name	Specify the name of VLAN.
Member Ports	Specify the ports to apply the VLAN membership.
Untagged Ports	Specify the ports to be untagged interfaces.
Forbidden Ports	Specify the ports to be forbidden interfaces.

Click **Apply** to submit the changes and the **Reset** button will clear the information inputed. Click **Delete** will remove an existed VLAN.

Note There has to be at least one VLAN in the system.

Dynamic VLAN

Dynamic VLAN Global Configuration

This page is to set the global dynamic VLAN configuration.

Figure 35 – Layer2 Management > Dynamic VLAN > Dynamic VLAN Global Configuration

Parameter	Description
Garp System Control	Choose **Start** to enable GARP function, and **Shutdown** to disable it. It is needed for using dynamic VLAN function. Defualt is *Start*.
Dynamic VLAN Status	To set the status of dynamic VLAN function from **Enabled** or **Disabled**. Default is *Disabled*.

Click **Apply** to submit the changes.

Dynamic VLAN Port Configuration

This page is to configure dynamic VLAN settings on switch ports.

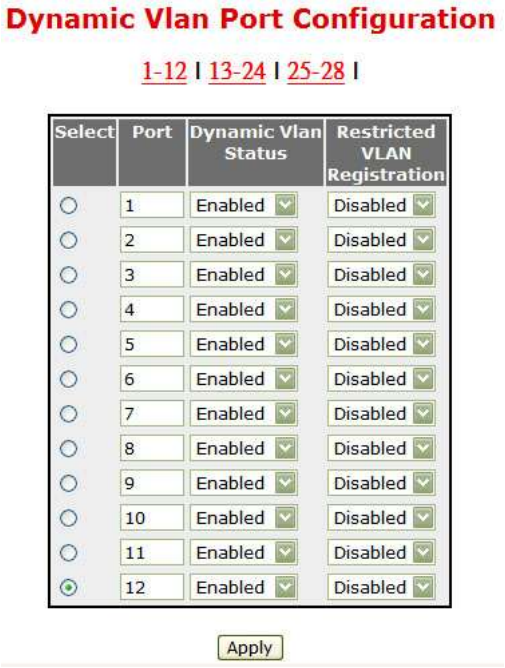


Figure 36 – Layer2 Management > Dynamic VLAN > Port Settings

Parameter	Description
Port	Specify the switch port to be configured.
Dynamic VLAN Status	To set the status of dynamic VLAN function from **Enabled** or **Disabled**.
Restricted VLAN Registration	To enable/disable the restricted VLAN on an interface.

Click **Apply** to submit the changes.

GARP Timers Configuration

This page is to set the GARP timers on an interface.

Figure 37 – Layer2 Management > Dynamic VLAN > Port Settings

Parameter	Description
Port No	Specify the switch port to be configured.
GarpJoinTime (10 ~ 2^30-14)(msecs)	Specify the join time of GARP. Deafult is *20* milli-seconds.
GarpLeaveTime (30 ~ 2^31-18)(msecs)	Specify the leave time of GARP. Deafult is *60* milli-seconds.
GarpLeaveAllTime (40 ~ 2^31-8)(msecs)	Specify the leaveall time of GARP. Deafult is *100* milli-seconds.

Click **Apply** to submit the changes.

MSTP

MSTP Global Configuration

This page is to configure the MSTP global settings of the Switch.

Figure 38 – Layer2 Management > MSTP > Global Configuration

Parameter	Description
System Control	To activate or shutdown the MSTP function. Select **Start** to activate the MSTP function, **Shutdown** to shutdown MSTP function.
MSTP Status	To enable or disable the MSTP. Select **Enabled t**o enable the MSTP function, **Disabled** to disable the MSTP function.
Maximum MSTP Instances	Specify the maximum number of MSTP instance allowed. The possible number is 1-64. Default is 64.
Bridge Priority	Specify the bridge priority of spanning tree. Default is 32768.
Protocol Version	Select the spanning tree compatibility version. The possible options are **STP**, **RSTP** and **MSTP**. Default is RSTP.
Region Name	Specify the region name of MST.
Region Version	Specify the MST reigon revision. The possible numbers are 0~65535, default is 0.
Dynamic Path Cost Calculation	Select the path cost calculation mode of spanning tree. Select **True** to enable dynamic pathcost according to the port speed, **False** to disable it. Default if **False**.

Click **Apply** to submit the changes.

Note
1. RSTP function must be shutdown before activate MSTP.
2. MSTP status must be enabled before configure other MSTP details.

MSTP Timers Configuration

This page is to configure the MSTP timers of the Switch.

Figure 39 – Layer2 Management > MSTP > Timers Configuration

Parameter	Description
Maximum Hop Count	Specify the maximum hops permitted in MST. Possible value is 6-40. Defalut is 20.
Max Age	Specify the maximum age in second for STP information learned from the network on any port before it is discarded. The possible value is 6-40. Default is 20.
Forward Delay	Specify the time period in second that a port changes the STP state from blocking to forwarding. The possible value is 4-30. Default is 15.
Transmit Hold Count	Specify the hold counter to limit maximum transmission rate of the Switch. Default is 3.
Hello Time	Specify the time interval in second for a root bridge broadcasts the hello packets to other switches. Possible value is 1-2. Default is 2.

CIST Settings

This page is to configure the port related MSTP settings.

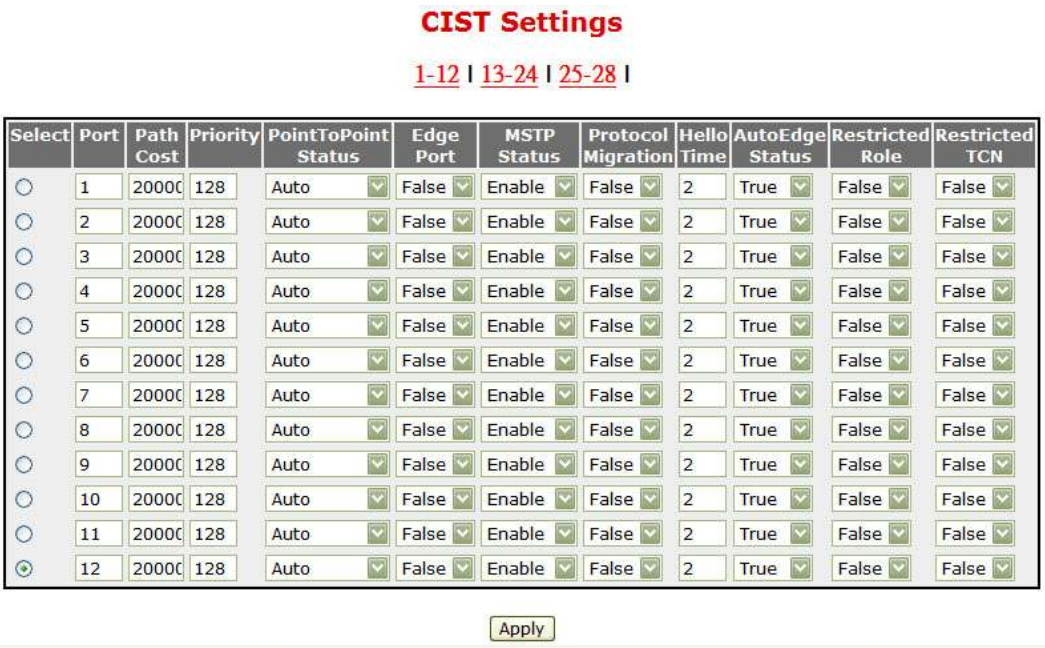


Figure 40 – Layer2 Management > MSTP > Port Configuration

Parameter	Description
Select	Select a port to apply the configuration changes.
Port	Port ID.
Path Cost	Specify the path cost of the port. Possible value is 0-200000000. Default 200000000
Priority	Specify the spannping tree port priority. Possible value is 0-240. Default is 128.
Point to Point Status	Specify the link type of this port. **ForceTure** means link type is point to point; **ForceFalse** means it is shared; **Auto** means the decision will made automatically. Default is auto.
Edge Port	Specify if this port is edge port or not. Select **True** to enable the portfast function, **False** to disable it. Default is false.
MSTP Status	To enable or disable the MSTP on this port. Select **Enable** to enable MSTP on this port, **Disable** to disable it. Default is enabled.
Protocol Migration	To control if the port will migrate among MSTP, RSTP and STP automatically if another switch runs different protocol. Select **True** to enable the protocol migration function, **Fales** to disable it. Defalue is False.
Hello Time	Specify the hello time of this port. Possible value is 1-2. Default is 2.
AutoEdge Status	To enable or disable the autoedge detection of this port. Select **True** to enable the autoedge function, **False** to disable it. Default true.
Restricted Role	To enable or disable the root guard function to prevent the port becoming a root port. Select **Ture** to enable the root guard function, **False** to disable it. Default is false.
Restricted TCN	To enable the topology change guard function to prevent the topology change caused by this port. Select **Ture** to enable the topology change guard function, **False** to disable it.Default is false.

Click **Apply** to submit the changes.

MSTP VLAN Mapping

This page is to configure the MST Instance and VLAN mapping.

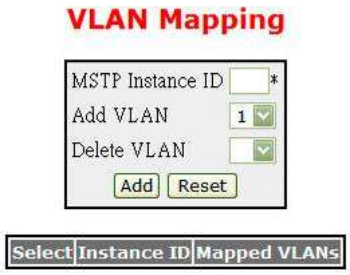


Figure 41 – Layer2 Management > MSTP > VLAN Mapping

Parameter	Description
MSTP Instance ID	Specify which MST instance to be mapped.
Add VLAN	Add a VLAN to the map list of this MST instance.
Delete VLAN	Delete a VLAN from the map list of this MST instance.

Click **Add** to submit the changes, **Reset** to clear the value just inputed.

MSTP Port Settings

This page is to configure the port related MSTP settings.

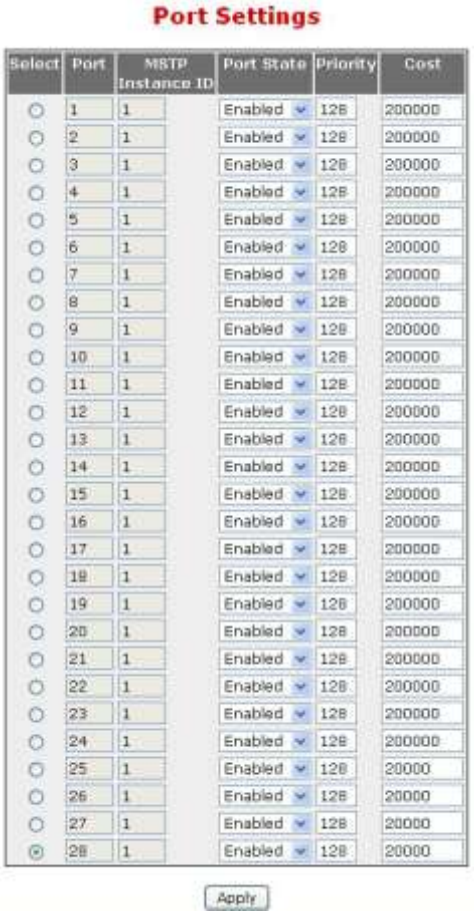


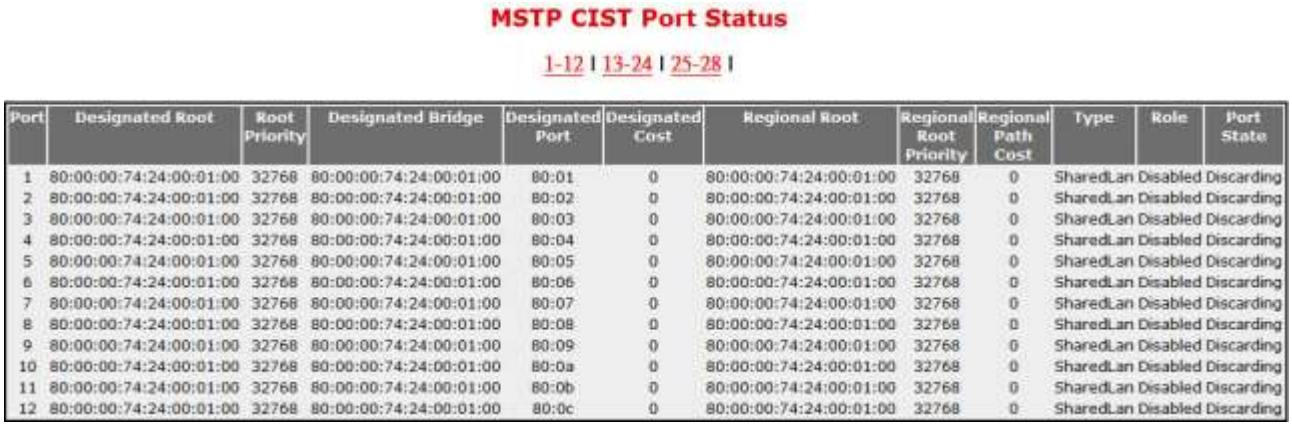
Figure 42 – Layer2 Management > MSTP > Port Settings

Parameter	Description
Select	Select a port to apply the changes.
Port	Port ID.
MSTP Instance ID	Specify the MST instance IP of this port.

Port State	Specify the current state of this port.
Priority	Specify the spannping tree port priority. Possible value is 0-240. Default is 128.
Cost	Specify the path cost of the port. Possible value is 0-200000000. Default 200000000

MSTP CIST Port Status

To display the current MSTP CIST port status.



Port	Designated Root	Root Priority	Designated Bridge	Designated Port	Designated Cost	Regional Root	Regional Root Priority	Regional Path Cost	Type	Role	Port State
1	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:01	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
2	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:02	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
3	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:03	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
4	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:04	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
5	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:05	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
6	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:06	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
7	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:07	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
8	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:08	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
9	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:09	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
10	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:0a	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
11	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:0b	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding
12	80:00:00:74:24:00:01:00	32768	80:00:00:74:24:00:01:00	80:0c	0	80:00:00:74:24:00:01:00	32768	0	SharedLan	Disabled	Discarding

Figure 43 – Layer2 Management > MSTP > CIST Port Status

Click **1-12, 13-24, 25-28** to display the statistics for corresponding ports.

RSTP

RSTP Global Configuration

This page is to configure the RSTP global settings.

Figure 44 – Layer2 Management > RSTP > Global Stettings

Parameter	Description
System Control	To activate or shutdown the RSTP function. Select **Start** to activate the MSTP function, **Shutdown** to shutdown MSTP function.
Status	To enable or disable the MSTP. Select **Enabled** to enable the MSTP function, **Disabled** to disable it. Default is disabled.
Dynamic Path Cost Calculation	Select the path cost calculation mode of spanning tree. Select **True** to enable dynamic pathcost according to the port speed, **False** to disable it. Default if **False**.

Click **Apply** to submit the changes.

Note

1. MSTP function must be shutdown before activate RSTP.
2. RSTP status must be enabled before configure other RSTP details.

RSTP Configuration

This page is to configure the timers and other details of RSTP functions.

Figure 45 – Layer2 Management > RSTP > Basic Stettings

Parameter	Description
Priority	Specify the bridge priority of spanning tree. Default is 32768.
Version	Select the spanning tree compatibility version. The possible options are **STP Compatible or RSTP Compatible**. Default is **RSTP Compatible**.
Tx Hold Count	Specify the hold counter to limit maximum transmission rate of the Switch. Default is 6.
Max Age	Specify the maximum age in second for STP information learned from the network on any port before it is discarded. The possible value is 6-40. Default is 20.
Hellp Time	Specify the time interval in second for a root bridge broadcasts the hello packets to other switches. Possible value is 1-2. Default is 2.
Forward Delay	Specify the time period in second that a port changes the STP state from blocking to forwarding. The possible value is 4-30. Default is 15.

Click **Apply** to submit the changes.

RSTP Port Status Configuration

This page is to configure the port related RSTP settings

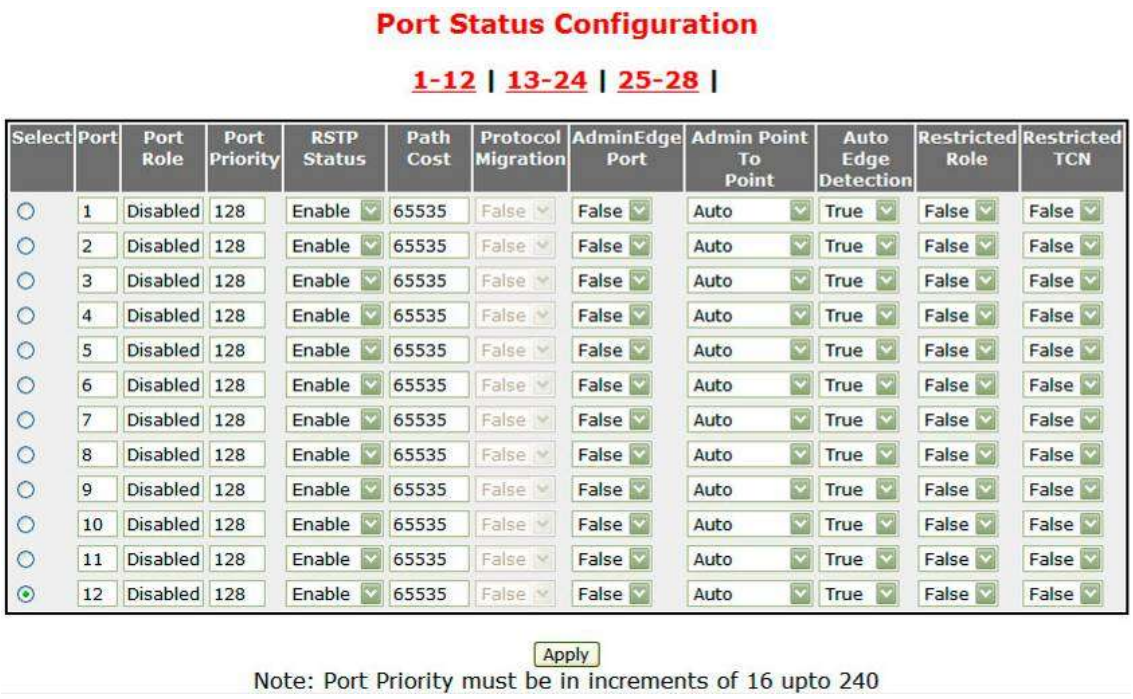


Figure 46 – Layer2 Management > RSTP > Port Stettings

Parameter	Description
Select	Select a port to apply the changes.
Port	Port ID.
Port Role	Specify the current role of the port.
Port Priority	Specify the spannping tree port priority. Possible value is 0-240. Default is 128.
RSTP Status	To enable or disable the RSTP on this port. Select **Enable** to enable RSTP on this port, **Disable** to disable it. Default is enabled.
Path Cost	Specify the path cost of the port. Possible value is 0-200000000. Default 65535
Protocol Migration	To control if the port will migrate among MSTP, RSTP and STP automatically if another switch runs different protocol. Select **True** to enable the protocol migration function, **Fales** to disable it. Defalue is False.
Admin Edge Port	Specify if this port is edge port or not. Select **True** to enable the portfast function, **False** to disable it. Default is False.
Adlim Point To Point	Specify the link type of this port. **ForceTure** means link type is point to point; **ForceFalse** means it is shared; **Auto** means the decision will made automatically. Default is Auto.
AutoEdge Detection	To enable or disable the autoedge detection of this port. Select **True** to enable the autoedge function, **False** to disable it. Default True.
Restricted Role	To enable or disable the root guard function to prevent the port becoming a root port. Select **Ture** to enable the root guard function, **False** to disable it. Default is False.
Restricted TCN	To enable the topology change guard function to prevent the topology change caused by this port. Select **Ture** to enable the topology change guard function, **False** to disable it.Default is False.

RSTP Port Status

To display the current RSTP port status.

RSTP Port Status

1-12 | 13-24 | 25-28 |

Port	Designated Root	Designated Cost	Designated Bridge	Designated Port	Type	Role	Port State
1	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
2	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
3	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
4	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
5	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
6	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
7	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
8	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
9	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
10	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
11	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled
12	00:00:00:00:00:00:00:00	0	00:00:00:00:00:00:00:00	00:00	SharedLan	Disabled	Disabled

Figure 47 – Layer2 Management > RSTP > Port Status

Click **1-12, 13-24, 25-28** to display the statistics for corresponding ports.

LA

LA Basic Settings

This page is to configure the link aggregation basic settings.

Figure 48 – Layer2 Management > LA > Basic Settings

Parameter	Description
System Control	To activate or shutdown link aggregation function of the Switch. Select **Start** to activate link aggregation function, **Shutdown** to shutdown it. Default is Start.
LA Status	To enable or disable the link aggregation function of the Switch. Select **Enabled** to enable the LA function, **Disabled** to disable it. Default is Disabled.
System Priority	To set the LACP priority of the Switch. Possible value is 0-65535. Default is 32768.
System ID	Specify the link aggregation system ID of the Switch.

Click **Apply** to submit the changes.

PortChannel Interface Basic Settings

This page is to configure details of a port channel.

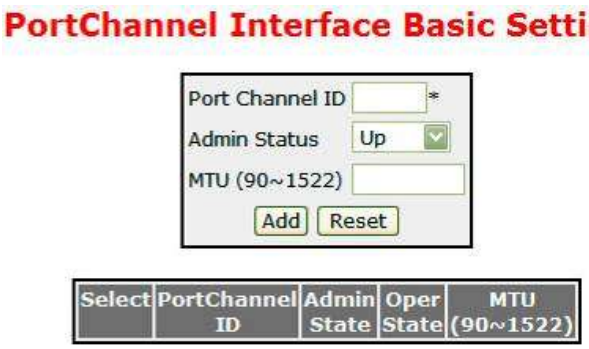


Figure 49 – Layer2 Management > LA > Interface Settings

Parameter	Description
Port Channel ID	Specify the ID of port channel that will apply the changes.
Adlin Status	To activate or shutdown a port channel interface. Select **Up** to activate it, **Down** to shutdown it. Default is UP
MTU	Specify the the Maximum Transmission Unit (MTU) frame size of the interface.

Click **Add** to submit the changes, **Reset** to clear the value just inputed.

LA Port Channel Settings

This page is to configure the details of a port channel.

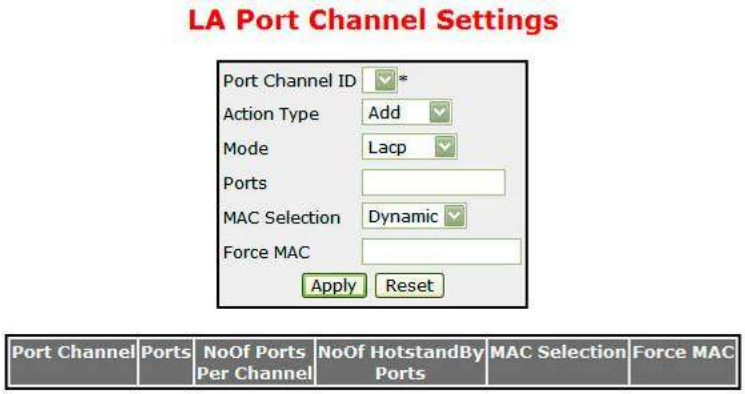


Figure 50 – Layer2 Management > LA > Port Channel Settings

Parameter	Description
Port Channel ID	Select a configured port channel group to submit the changes.
Action Type	To add or delete ports from/to a port channel. Select **Add** add ports, **Delete** to delete one.
Mode	Specify the mode of this port channel. Possible options are **Lacp** and **Manual**. Default is Lacp
Ports	Specify which port to be included in this port channel.
MAC Selection	Specify the MAC address of the port channel. Select **Dynamic** to let system assign the MAC address to the port channel automatically, or select **Manual** to use a manual configured MAC address.
Force MAC	Specify the manual configured MAC address of this port channel.

Click **Apply** to submit the configurations, **Reset** to clear the value just inputed.

LA Port Settings

This page is to configure port related link aggregation settings.

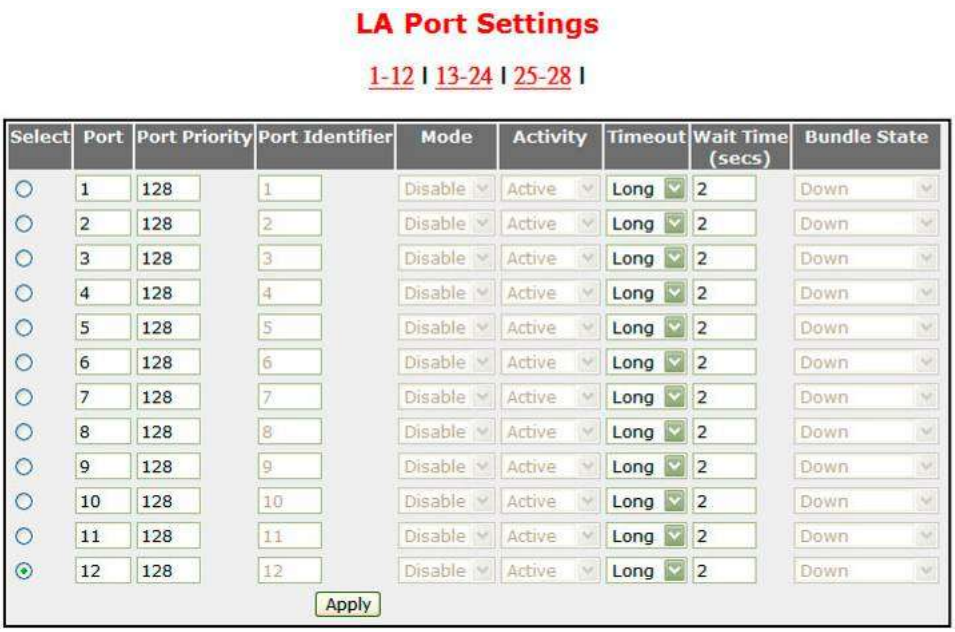


Figure 51 – Layer2 Management > LA > Port Settings

Parameter	Description
Select	Select a port to submit the changes.
Port	Port ID.
Port Priority	Specify the link aggregation port priority of this port. Possible value are 0-65535. Default is 128.
Port Identifier	Port ID.
Mode	Specify the mode of this port channel. Possible options are **Lacp**, **Manual** and **Disable**.
Activity	Specify the LACP mode of the port. Select **Active** to activate the LACP negotiation; select **Passive** that LACP negotiation starts only when LACP packet is received. Default is Active.
Timeout	To choose the LACP timeout period when no packet receive from peer. **Long** specifies a long time out value. LACP PDU will be sent every 30 seconds and LACP timeout value is 90 seconds. **Short** specifies a short time out value. LACP PDU will be sent every 1 seconds and LACP timeout value is 3 seconds
Wait Time (secs)	Specify the period that ports get aggregated after receiving LACP PDU. Possible value is 0-10 seconds. Default is 2.
Bundle State	Specify the current LA state of this port. And the states descriptions are: **Up in Bundle** - This port is an active member of a port channel. **Up Individual** - This port is not a member of any port channel but its operation state is Up. **Standby** - This port is a standby member of a port channel. **Down - T**his port operation state is down.

Click **Apply** to submit the changes.
Click **1-12, 13-24, 25-28** to configure LA port settings for corresponding ports.

LA Port StateMachine Information

This page is to display the LA state of each port.

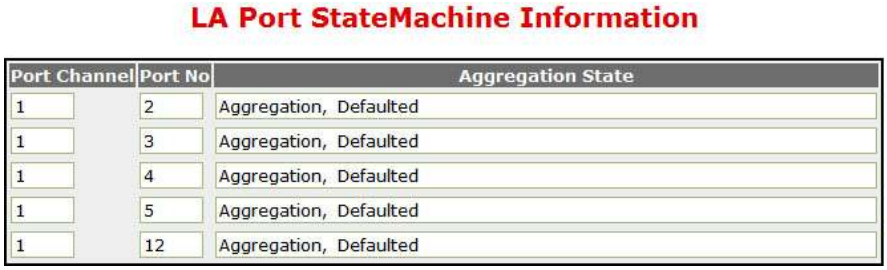


Figure 52 – Layer2 Management > LA > Port State Infor

LA Load Balancing Policy

Figure 53 – Layer2 Management > LA > Load Balancing

Parameter	Description
Select	Select a port channel to apply the configuration change.
Port Channel	Port Channel ID.
Selection Policy	Select a load balancing argorithm for the port channel. The traffic will hash between the member port of a port channel based on the rule selected. The options are **MAC Source**, **MAC Destination**, **MAC Source and Destination**, **IP Source**, **IP Destination**, **IP Source and Destination**. Default is MAC Source and Destination.

Click **Apply** to submit the changes.

802.1X

802.1X Basic Settings

This page is the configure the 802.1X authentication global settings.

Figure 54 – Layer2 Management > 802.1X > Basic Settings

Parameter	Description
System Control	To activate or shutdown 802.1X function of the Switch. Select **Start** to activate the function, **Shutdown** to shutdown it. Default is Start.
802.1X Authentication	To enable or disable the 802.1X authentication of the Switch. Select **Enabled** to enable the function, **Disabled** to disable it. Default is Disabled.
Authentication Mode	Select the authentication database for 802.1X. **Remote** is to use the RADIUS

	server; **Local** will use the local database. Default is Local.
Network Access Server ID	Specify the remote RADIUS server authenticator ID.
Protocol Version	Specify the protocol version of 802.1X.

Click **Apply** to submit the changes.

802.1X Port Settings

This page is to configure the port related setting of 802.1X.

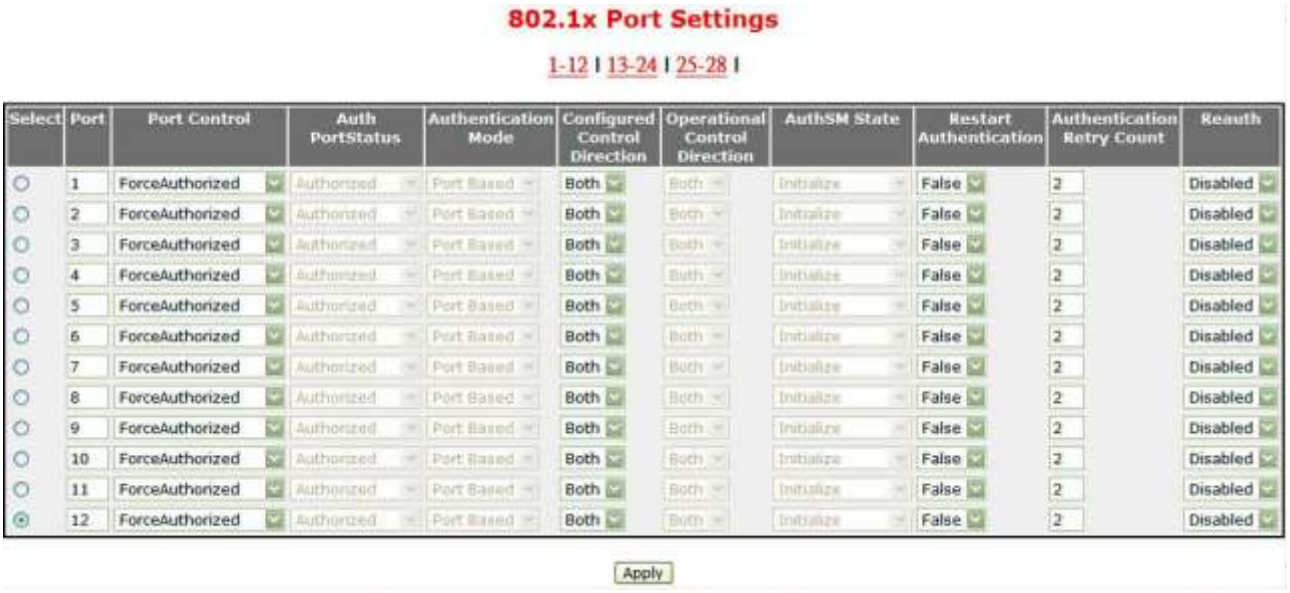


Figure 55 – Layer2 Management > 802.1X > Port Settings

Parameter	Description
Select	Select a port to apply the configuration changes.
Port	Port ID.
Port Control	To set the authenticator control on this port. The possible options are: **ForceUnauthorized** - All traffic is blocked to the port. **Auto** - Enable the 802.1X authentication on this port, and the port authorized or unauthorized will based on the 802.1X authentication result. **ForceAuthorized** - All traffic is transparent to the port. Default is ForceAuthorized.
Auth PortStatus	Current authentication status of this port.
Authentication Mode	The authentication mode of this port. Only Port-based mode is supported currently.
Configured Control Direction	To choose the authentication control direction on this port. **In** - Authentication control is only for ingress packets. **Both** - Authentication control is for both ingress and egress packets. Default is Both.
Operational Control Direction	The current authentication direction on this port.
AuthSM State	The current authentication state of this port.
Restart Authentication	To enable periodic re-authentication on this port.
Authentication Retry Count	To set the maximum 802.1X Extensible Authentication Protocol (EAP) retries of the client before restarting authentication process.
Reauth	To enable or disable the authentication retry function. Default is Disabled.

Click **Apply** to submit the changes.
Click **1-12, 13-24, 25-28** to configure 802.1X port settings for corresponding ports.

802.1X Timer Configuration

This page is to configure the 802.1X timers of the device.

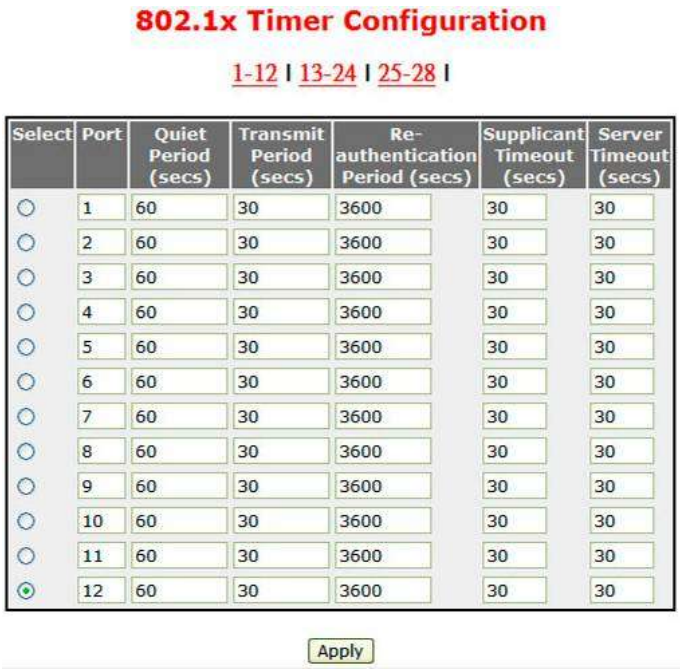


Figure 56 – Layer2 Management > 802.1X > Timers

Parameter	Description
Select	Select a port to apply the configuration changes.
Port	Port ID.
Quiet Period (secs)	The period that Switch will not do anything after a failed authentication. Possible value is 0-65535 seconds. Default is 60.
Transmit Period (secs)	The period that Switch waits for a response to an EAP-request/identity frame from the client before retransmitting the request. Possible vales is 1-65535 seconds. Default is 30.
Re-authentication Period (secs)	The period between re-authentication attempts. Possible value is 1-65535 seconds. Default is 3600.
Supplicant Timeout (secs)	The period that Switch waits for the re-transmission to the client. Possible value is 1-65535 seconds. Default is 30.
Server Timeout (secs)	The period that Switch waits for the re-transmission to the RADIUS server. Possible value is 1-65535 seconds. Default is 30.

Click **Apply** to submit the changes.
Click **1-12, 13-24, 25-28** to configure 802.1X timer settings for corresponding ports.

802.1X Local Authentication Server Configuration

This page is to configure the 802.1X local user database.

Figure 57 – Layer2 Management > 802.1X > Local AS

Parameter	Description
User Name	Specify the user name of the new user entry.
Password	Specify the password of the new user entry.
Permission	Specify if the new user is allowed to access the network.
Auth-TimeOut	Specify the authentication timeout for the new user.
Port List	Specify which port that the new user is allowed to access.

Click **Add** to add a new user entry, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select an existing user entry to apply new settings.
User Name	The user ID.
Permission	Specify if the user is allowed to access the network.
Auth-TimeOut	Specify the authentication timeout for the user.
Port List	Specify which port that the user is allowed to access.

Click **Apply** to submit the changes to existing user account, **Delete** to delete one.

RADIUS Server Configuration

This page is to configure the details of RADIUS server.

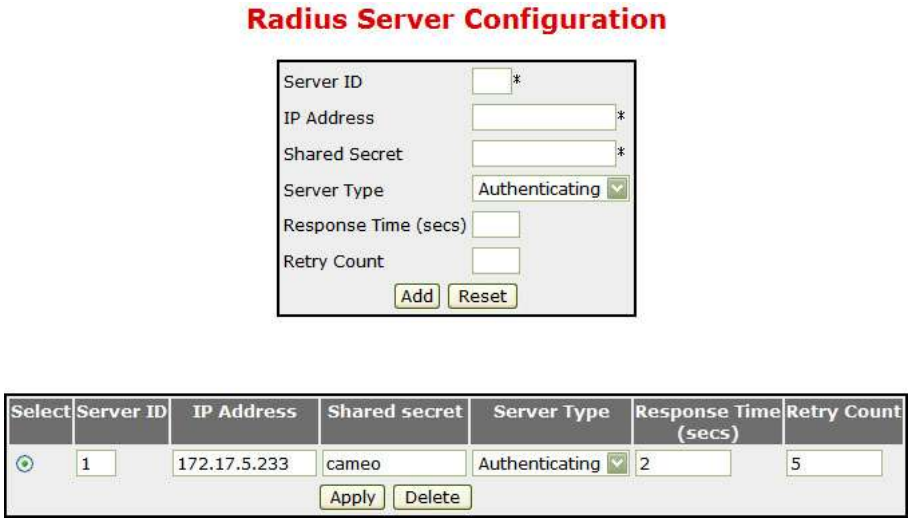


Figure 58 – Layer2 Management > 802.1X > Radius Settings

Parameter	Description

Server ID	Specify the new RADIUS server ID. The possible ID is 1-10.
IP Address	Specify the IP address of the new RADIUS server.
Shared Secret	Specify the encryption key between RADIUS server and clients.
Server Type	Specify the server type of the RADIUS server. The options are: **Authenticating** – This server is only for RADIUS authentication. **Accounting** - This server is only for RADIUS accounting. **Both** - This RADIUS server support both authentication and accounting.
Response Time (secs)	Specify the time period that a client waits for the response from the RADIUS server before re-sending the request. The possible number is 1-120 seconds.
Retry Count	The maximum number that a client re-sends the request when there is no response from RADIUS server. The possible number is 1-254 times.

Click **Add** to add a new RADIUS server, **Reset** to clear the value just inputed.

Parameter	Description
Select	
Server ID	The RADIUS server ID.
IP Address	Specify the IP address of the RADIUS server.
Shared Secret	Specify the encryption key between RADIUS server and clients.
Server Type	Specify the server type of the RADIUS server. The options are: **Authenticating** – This server is only for RADIUS authentication. **Accounting** - This server is only for RADIUS accounting. **Both** - This RADIUS server support both authentication and accounting.
Response Time (secs)	Specify the time period that a client waits for the response from the RADIUS server before re-sending the request. The possible number is 1-120 seconds.
Retry Count	The maximum number that a client re-sends the request when there is no response from RADIUS server. The possible number is 1-254 times.

Click **Apply** to submit the changes the setting of an existing RADIUS server, **Delete** to delete one.

IGMP Snooping

IGMP Snooping Configuration

This page is to configure the IGMP Snooping global settings.

Figure 59 – Layer2 Management > IGMP Snooping > Basic Settings

Parameter	Description
System Control	To activate or shutdown IGMP snooping of the Switch. Select **Start** to activate the function, **Shutdown** to shutdown it. Default is Start.

Click **Start** to start or shutdown the IGMP Snooing globally.

Parameter	Description
Select	Select a line to change the configuration.
IGMP Snooping Status	To enable or disable IGMP Snooping globally. Default is enabled.
Operational Status	Specify the operational status of IGMP snooping function.
Snooping Mode	Speficy the Snooping mode of IGMP snooping function.
Report Forwarding	Specify which port to forward the IGMP report. Select **All Ports** to forward the report to all ports, **Router Ports** to forward the reports to IGMP router ports only. Default is Router Ports.
Retry Count (1~5)	To set the maximum retries for group specific queries which sent to a port received a IGMPv2 leave message. The possible number is 1-5 times. Default is 2.
Query Transmit On TC	Specify if the IGMP queries will still be sent when STP topology change happens. Select **Enable** to transmit the queriers, **Disable**d not to transmit. Default is Disabled.

Click **Apply** to submit the changes.

IGMP Snooping Timer Configuration

This page is to configure the IGMP Snooing timers.

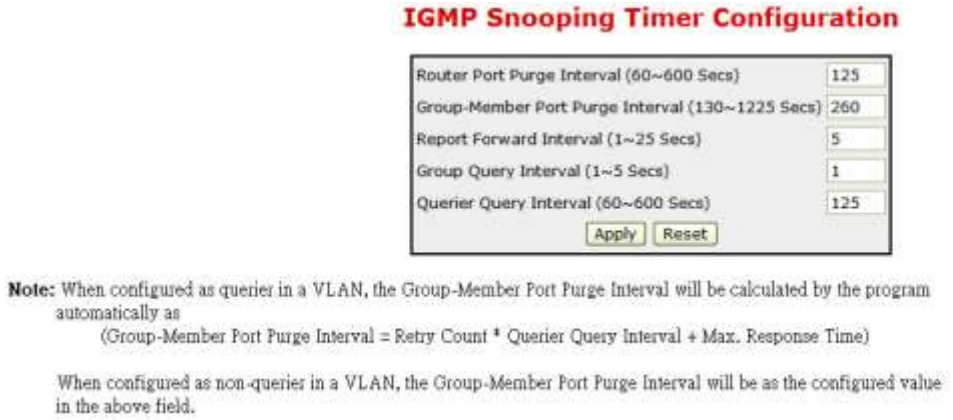


Figure 60 – Layer2 Management > IGMP Snooping > Timer Configuration

Parameter	Description
Router Port Purge Interval (60~600 Secs)	To set the time-out period that an IGMP multicast router port hasn't received IGMP router control packet, it will be deleted. Default is 125 seconds.
Group-Member Port Purge Interval (130~2335 Secs)	To set the purge interval that an IGMP member port hasn't' received IGMP report packet, it will be deleted. Default is 260 seconds.
Report Forward Interval (1~25 Secs)	To set the time interval that IGMPv2 report of the same group will not be forwarded to the router ports. Default is 5 seconds.
Group Query Interval (1~5 Secs)	To set up the time interval to send the group specific query. Default is 2 seconds.
Querier Query Intercal (60~600 Secs)	To set up the time interval to send the IGMP general query. Default is 125 seconds.

Click **Apply** to submit the changes, **Reset** to clear the values just inputed.

IGMP Snooping Interface Configuration

This page is to cunfigure the VLAN bassis IGMP snooping settings.

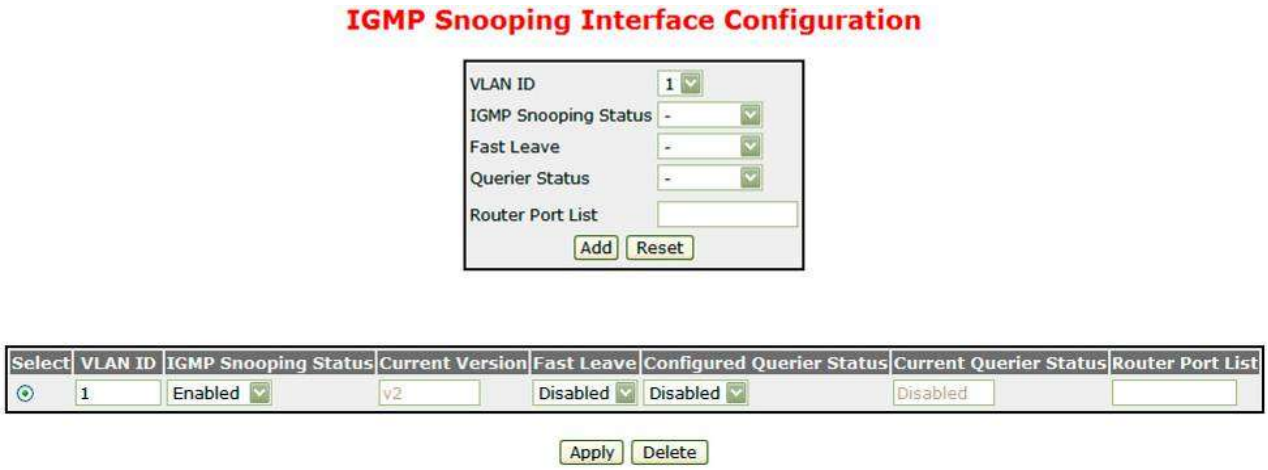


Figure 61 – Layer2 Management > IGMP Snooping > Interface Configuration

Parameter	Description
VLAN ID	Specify which VLAN to add to the IGMP snooping interface list below.
IGMP Snooping Status	Enable or disable the IGMP Snooping on this VLAN.
Fast Leave	Enable or disable the fast leave function on this VLAN.
Querier Status	Enable or disable the IGMP querier function on this VLAN.
Router Port List	Specify the IGMP router ports of this VLAN.

Click **Add** to add a new VLAN to the list, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select which VLAN to apply the configuration changes.
VLAN ID	VLAN ID of this VLAN.
IGMP Snooping Status	Enable or disable the IGMP Snooping on this VLAN.
Current Version	Specify the IGMP version of this VLAN.
Fast Leave	Enable or disable the fast leave function on this VLAN.
Querier Status	Enable or disable the IGMP querier function on this VLAN.
Router Port List	Specify the IGMP router ports of this VLAN.

Click **Apply** to submit the changes the IGMP snooping setting of an existing VLAN, **Delete** to delete one VLAN from the list.

IGMP Snooping VLAN Router Ports

This page is to display the static and dynamic learned IGMP router ports of each VLAN.

Figure 62 – Layer2 Management > IGMP Snooping > Router Ports

MAC Based Multicast Forwarding Table

This page is to display the IGMP group MAC address was learned.

Figure 63 – Layer2 Management > IGMP Snooping > Group Imformation

Static MAC Entries

Static MAC Address Configuration

This page is to create or configure static unicast MAC address in the L2 forwarding database.

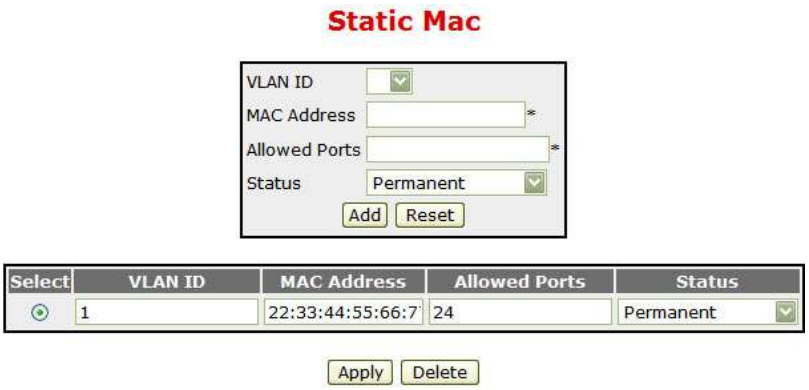


Figure 64 – Layer2 Management > Static MAC Entries > Unicast Entries

Parameter	Description
VLAN ID	Specify the VLAN ID of the new MAC address entry.
MAC Address	Specify the MAC address if this new entry.
Allowed Port	Specify the port allowed to forward the MAC address.
Status	Specify the attribute of this static MAC. The options are: **Permanent** - The static multicast will keep alive. **DeleteOnReset** - The static multicast will be deleted after switch reset. **DeleteOnTimeout** - The static multicast will be deleted when aging time out. Default is Permanent.

Click **Add** to create a new static MAC, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select which MAC address to apply the configuration changes.
VLAN ID	VLAN ID of this MAC address belongs to.
MAC Address	The MAC address.
Allowed Port	Specify the port allowed to forward the MAC address.
Status	Specify the attribute of this static MAC. The options are: **Permanent** - The static multicast will keep alive. **DeleteOnReset** - The static multicast will be deleted after switch reset. **DeleteOnTimeout** - The static multicast will be deleted when aging time out. Default is Permanent.

Click **Apply** to submit the changes the static MAC, **Delete** to delete it from the FDB.

Static Multicast Address Configuration

This page is to create/configure a static multicast MAC address in the L2 forwarding database.

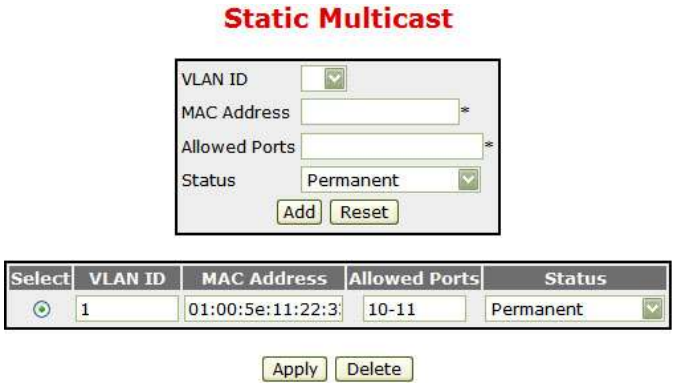


Figure 65 – Layer2 Management > Static MAC Entries > Multicast Entries

Parameter	Description
VLAN ID	Specify the VLAN ID of the new MAC address entry.
MAC Address	Specify the MAC address if this new entry.
Allowed Ports	Specify the port allowed to forward the MAC address.
Status	Specify the attribute of this static MAC. The options are: **Permanent** - The static multicast will keep alive. **DeleteOnReset** - The static multicast will be deleted after switch reset. **DeleteOnTimeout** - The static multicast will be deleted when aging time out. Default is Permanent.

Click **Add** to create a new static MAC, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select which MAC address to apply the configuration changes.
VLAN ID	VLAN ID of this MAC address belongs to.
MAC Address	The MAC address.
Allowed Ports	Specify the port allowed to forward the MAC address.
Status	Specify the attribute of this static MAC. The options are: **Permanent** - The static multicast will keep alive. **DeleteOnReset** - The static multicast will be deleted after switch reset. **DeleteOnTimeout** - The static multicast will be deleted when aging time out. Default is Permanent.

Click **Apply** to submit the changes the static MAC, **Delete** to delete it from the FDB.

Port Security Settings

This page is to configure the port security function for each port.

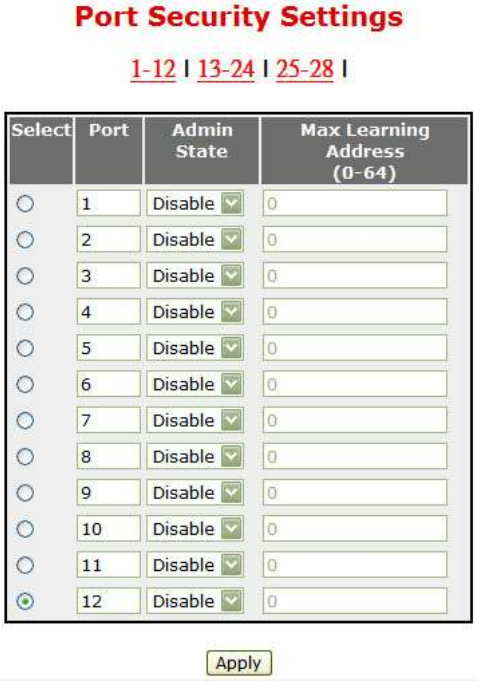


Figure 66 – Layer2 Management > Static MAC Entries > Port Security Settings

Parameter	Description
Select	Select a port to apply the configuration changes.
Port	Port ID.
Admin State	To enable or disable the port security function. Default is disable.
Max Learning Address (0-64)	Specify the maximum MAC address number of this port.

Click **Apply** to submit the changes.
Click **1-12, 13-24, 25-28** to configure port security function for corresponding ports.

Chapter 7
Configuring ACL Functions

ACL Function List

- **MAC ACL Configuration**
- **IP Standard ACL Configuration**
- **IP Extended ACL Configuration**
- **Classmap Settings**
- **Policymap Settings**

MAC ACL Configuration

This page is to create/configure a rule to MAC Access Control List.

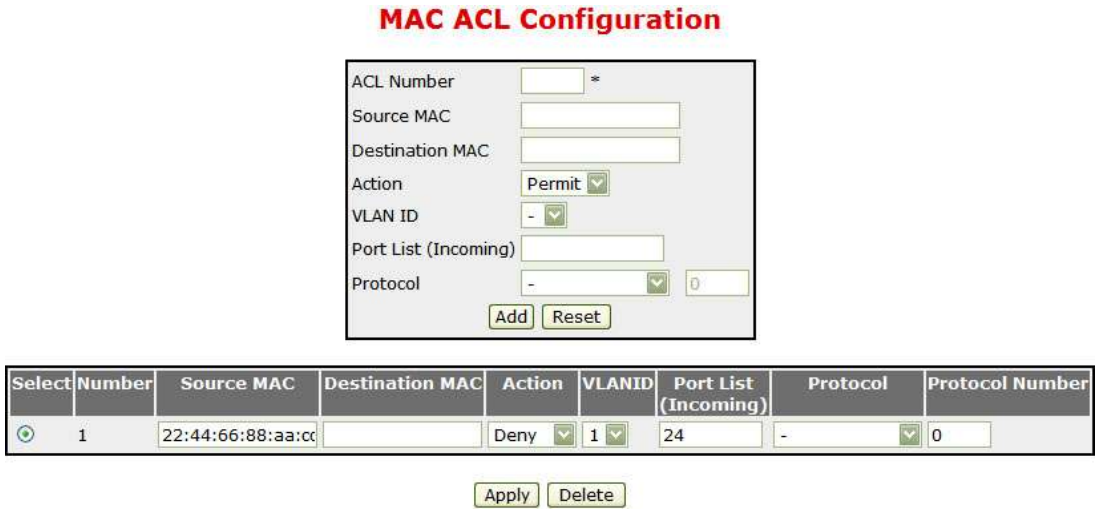


Figure 67 – ACL > MAC ACL

Parameter	Description
ACL Number	Specify the ACL ID of this rule. The possible ID of MAC ACL is 1-65535.
Source MAC	Matching packets with a specific source MAC address.
Destination MAC	Matching packets with a specific destication MAC address.
Action	Specify the action for packet matched. Select **Permit** to process the packets, **Deny** to discard them.
VLAN ID	Matching packets with a specific VLAN ID.
Port List (Incoming)	Specify the ports to apply this ACL rule.
Protocol	Matching packet with specific protocol (Ether type). The options are: **Protocol** — **Ether Type** **aarp** — 0x80F3(33011). **amber** — 0x6008(24584). **dec-spanning** — 0x8138(33080). **decnet**-iv — 0x6003(24579). **diagnostic** — 0x6005(24581). **dsm** — 0x8309(32825). **etype-6000** — 0x6000(24576). **etype-8042** — 0x8042(32834).

lat	0x6004(24580).
lavc-sca	0x6007(24583).
mop-console	0x6002(24578).
mop-dump	0x6001(24577).
msdos	0x8041(32833).
mumps	0x6009(24585).
netbios	0x8040(32832).
vines-echo	0x0BAF(2991).
vines-ip	0x0BAD(2989).
xns-id	0x0807(2055).
others	Insert a custom Ether type (0-65535) to the right column.

Click **Add** to create a new ACL rule, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select an ACL rule to apply the configuration changes.
ACL Number	Specify the ACL ID of this rule.
Source MAC	Matching packets with a specific source MAC address.
Destination MAC	Matching packets with a specific destication MAC address.
Action	Specify the action for packet matched. Select **Permit** to process the packets, **Deny** to discard them.
VLAN ID	Matching packets with a specific VLAN ID.
Port List (Incoming)	Specify the ports to apply this ACL rule.
Protocol	Matching packet with specific protocol (Ether type). The options are: **Protocol** — **Ether Type** **aarp** — 0x80F3(33011). **amber** — 0x6008(24584). **dec-spanning** — 0x8138(33080). **decnet**-iv — 0x6003(24579). **diagnostic** — 0x6005(24581). **dsm** — 0x8309(32825). **etype-6000** — 0x6000(24576). **etype-8042** — 0x8042(32834). **lat** — 0x6004(24580). **lavc-sca** — 0x6007(24583). **mop-console** — 0x6002(24578). **mop-dump** — 0x6001(24577). **msdos** — 0x8041(32833). **mumps** — 0x6009(24585). **netbios** — 0x8040(32832). **vines-echo** — 0x0BAF(2991). **vines-ip** — 0x0BAD(2989). **xns-id** — 0x0807(2055). **others**
Protocol Number	Specify the Ether type for the protocol.

Click **Apply** to submit the changes to the ACL rule, **Delete** to delete it.

IP Standard ACL Configuration

This page is to create/configure a rule to IP standard Access Control List.

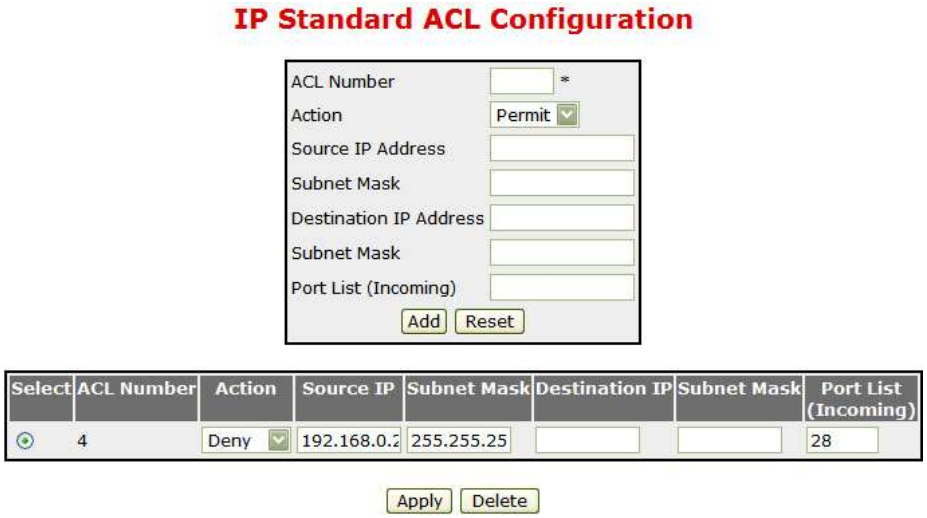


Figure 68 – ACL > IP Standard ACL

Parameter	Description
ACL Number	Specify the ACL ID of this rule. The possible ID of IP Standard ACL is 1-1000.
Action	Specify the action for packet matched. Select **Permit** to process the packets, **Deny** to discard them.
Source IP Address	Matching packet with a specific source IP address.
Subnet Mask	Matching packet with a range of source IP address. For example 172.17.5.1 with mask 255.255.255.0 means 172.15.5.0~255.
Destination IP Address	Matching packet with a specific destination IP address.
Subnet Mask	Matching packet with a range of destination IP address. For example 172.17.5.1 with mask 255.255.255.0 means 172.15.5.0~255.
Port List (Incoming)	Specify the ports to apply this ACL rule.

Click **Add** to create a new ACL rule, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select an ACL rule to apply the configuration changes.
ACL Number	Specify the ACL ID of this rule.
Action	Specify the action for packet matched. Select **Permit** to process the packets, **Deny** to discard them.
Source IP Address	Matching packet with a specific source IP address.
Subnet Mask	Matching packet with a range of source IP address. For example 172.17.5.1 with mask 255.255.255.0 means 172.15.5.0~255.
Destination IP Address	Matching packet with a specific destination IP address.
Subnet Mask	Matching packet with a range of destination IP address. For example 172.17.5.1 with mask 255.255.255.0 means 172.15.5.0~255.
Port List (Incoming)	Specify the ports to apply this ACL rule.

Click **Apply** to submit the changes to the ACL rule, **Delete** to delete it.

IP Extended ACL Configuration

This page is to create/configure a rule to IP Extended Access Control List.

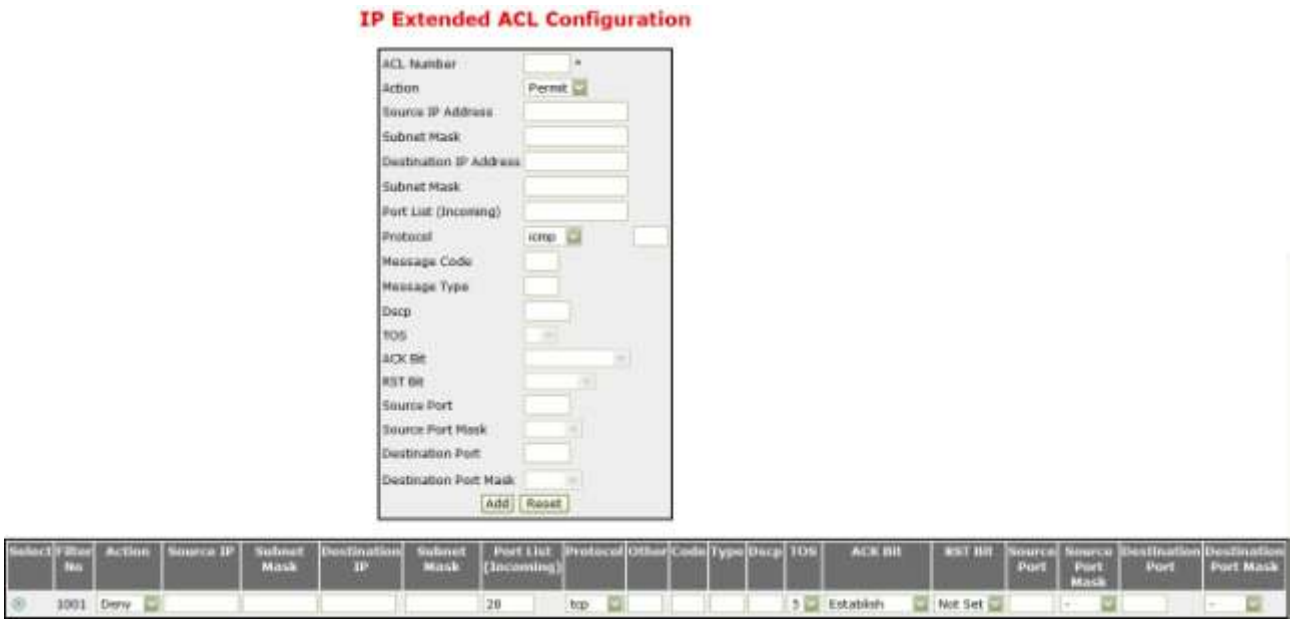


Figure 69 – ACL > IP Extended ACL

Parameter	Description
ACL Number	Specify the ACL ID of this rule. The possible ID of IP Standard ACL is 1001-65535.
Action	Specify the action for packet matched. Select **Permit** to process the packets, **Deny** to discard them.
Source IP Address	Matching packet with a specific source IP address.
Subnet Mask	Matching packet with a range of source IP address. For example 172.17.5.1 with mask 255.255.255.0 means 172.15.5.0~255.
Destination IP Address	Matching packet with a specific destination IP address.
Subnet Mask	Matching packet with a range of destination IP address. For example 172.17.5.1 with mask 255.255.255.0 means 172.15.5.0~255.
Port List (Incoming)	Specify the ports to apply this ACL rule.
Protocol	Matching the L4 protocol type of the packet. The options are: **icmp**, **ip**, **tcp**, **udp**, **ospf**, **pim** and **other**. When selecting others, insert the protocol ID in the right column.
Message Code	Matching ICMP packets with specific message type. The possible code is 0-255.
Message Type	Matching ICMP packets with specific message code. The possible type is 0-255.
Dscp	Matching packets with specific DSCP type. The possible value is 0-63.
TOS	Matching packets with specific ToS value. The possible value is 0-7
ACK Bit	Macthing packets with a specific TCP acknowledge flag. The options are: **Establish** – TCK ack packet. **Not Establish** - TCP ack-not packet. **Any** - Any kind of TCP acknowledge packet.
RST Bit	Macthing packets with a specific TCP reset flag. The options are: **Set** - TSP reset packet. **Not Set** - TCP reset-not packet. **Any** - Any kind of TCP reset packet.
Source Port	Matching packets with a specific L4 source port.
Source Port Mask	Matching packet with a range of source port. For example source port 23 with mask FFFE means 22~23. The mask options are: **8000**, **C000**, **E000**, **F000**, **F800**, **FC00**, **FE00**, **FF00**, **FF80**, **FFC0**, **FFE0**, **FFF0**, **FFF8**, **FFFC**, **FFFE**, **FFFF**.
Destination Port	Matching packets with a specific L4 destination port.

Destination Port Mask	Matching packet with a range of destination port. For example source port 23 with mask FFFE means 22~23. The mask options are: **8000**, **C000**, **E000**, **F000**, **F800**, **FC00**, **FE00**, **FF00**, **FF80**, **FFC0**, **FFE0**, **FFF0**, **FFF8**, **FFFC**, **FFFE**, **FFFF**.

Click **Add** to create a new ACL rule, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select an ACL rule to apply the configuration changes.
ACL Number	Specify the ACL ID of this rule.
Action	Specify the action for packet matched. Select **Permit** to process the packets, **Deny** to discard them.
Source IP Address	Matching packet with a specific source IP address.
Subnet Mask	Matching packet with a range of source IP address. For example 172.17.5.1 with mask 255.255.255.0 means 172.15.5.0~255.
Destination IP Address	Matching packet with a specific destination IP address.
Subnet Mask	Matching packet with a range of destination IP address. For example 172.17.5.1 with mask 255.255.255.0 means 172.15.5.0~255.
Port List (Incoming)	Specify the ports to apply this ACL rule.
Protocol	Matching the L4 protocol type of the packet. The options are: **icmp**, **ip**, **tcp**, **udp**, **ospf**, **pim** and **other**. When selecting others, insert the protocol ID in the right column.
Message Code	Matching ICMP packets with specific message type. The possible code is 0-255.
Message Type	Matching ICMP packets with specific message code. The possible type is 0-255.
Dscp	Matching packets with specific DSCP type. The possible value is 0-63.
TOS	Matching packets with specific ToS value. The possible value is 0-7
ACK Bit	Macthing packets with a specific TCP acknowledge flag. The options are: **Establish** – TCK ack packet. **Not Establish** - TCP ack-not packet. **Any** - Any kind of TCP acknowledge packet.
RST Bit	Macthing packets with a specific TCP reset flag. The options are: **Set** - TSP reset packet. **Not Set** - TCP reset-not packet. **Any** - Any kind of TCP reset packet.
Source Port	Matching packets with a specific L4 source port.
Source Port Mask	Matching packet with a range of source port. For example source port 23 with mask FFFE means 22~23. The mask options are: **8000**, **C000**, **E000**, **F000**, **F800**, **FC00**, **FE00**, **FF00**, **FF80**, **FFC0**, **FFE0**, **FFF0**, **FFF8**, **FFFC**, **FFFE**, **FFFF**.
Destination Port	Matching packets with a specific L4 destination port.
Destination Port Mask	Matching packet with a range of destination port. For example source port 23 with mask FFFE means 22~23. The mask options are: **8000**, **C000**, **E000**, **F000**, **F800**, **FC00**, **FE00**, **FF00**, **FF80**, **FFC0**, **FFE0**, **FFF0**, **FFF8**, **FFFC**, **FFFE**, **FFFF**.

Click **Apply** to submit the changes to the ACL rule, **Delete** to delete it.

Classmap Settings

This page is to create/configure a Classmap.

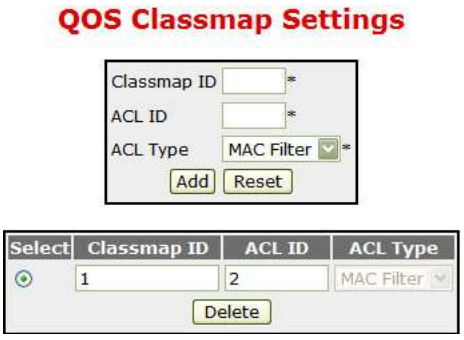


Figure 70 – ACL > Classmap

Parameter	Description
Classmap ID	Specify the classmap ID. The possible value is 1-65535.
ACL ID	Specify the ACL rule ID to bind.
ACL Type	Specify the type of the ACL rule.

Click **Add** to create a new classmap, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select a classmap to delete
Classmap ID	The classmap ID.
ACL ID	The ID of binding ACL rule.
ACL Type	The type of binding ACL rule.

Click **Delete** to delete selected classmap.

Policymap Settings

This page is to create/configure a policymap.

Figure 71 – ACL > Pokicymap

Parameter	Description
Policy Map ID	Specify the policymap ID. The possible value is 1-65535.
Classmap ID	Specify which classmap to bind.
Traffic Rate	Set the traffic rate threshold in Kbps for the class map.
In-Profile Action	Specify the action to packets do not exceed the rate threshold. The options are:

	Policed-DSCP - Assign a new DSCP value to the packets. **Policed-Priority** - Assign a new 802.1p priority to the packets.
In-Profile Action Value	Specify the new value of above. When rewritng DSCP tag, the possible value is 0-63; when rewriting the 802.1p priority, the possible value is 0-7.
Out-Profile Action	Specify the action to packets exceed the rate threshold. The options are: **Drop** - Drop the packets. **Policy DSCP** - Assign a new DSCP value to the packets.
Out-Profile Action Value	Specify the new value of DSCP tag. The possible value is 0-63.

Click **Add** to create a new policymap, **Reset** to clear the value just inputed.

Parameter	Description
Policy Map ID	Specify the policymap ID. The possible value is 1-65535.
Classmap ID	Specify which classmap to bind.
Traffic Rate	Set the traffic rate threshold in Kbps for the class map.
In-Profile Action	Specify the action to packets do not exceed the rate threshold. The options are: **Policed-DSCP** - Assign a new DSCP value to the packets. **Policed-Priority** - Assign a new 802.1p priority to the packets.
In-Profile Action Value	Specify the new value of above. When rewritng DSCP tag, the possible value is 0-63; when rewriting the 802.1p priority, the possible value is 0-7.
Out-Profile Action	Specify the action to packets exceed the rate threshold. The options are: **Drop** - Drop the packets. **Policy DSCP** - Assign a new DSCP value to the packets.
Out-Profile Action Value	Specify the new value of DSCP tag. The possible value is 0-63.

Click **Apply** to submit the changes to the policymap, **Delete** to delete it.

Chapter 8
Configuring QoS Functions

QoS Function List

- **Rate Limiting**
- **Storm Control Settings**
- **802.1p Queue Mapping**
- **802.1p Port Priority**
- **DSCP Queue Mapping**
- **Egress Queue Scheduling Settings**

Rate Limiting

This page is to configure the rate limiting function on each port.

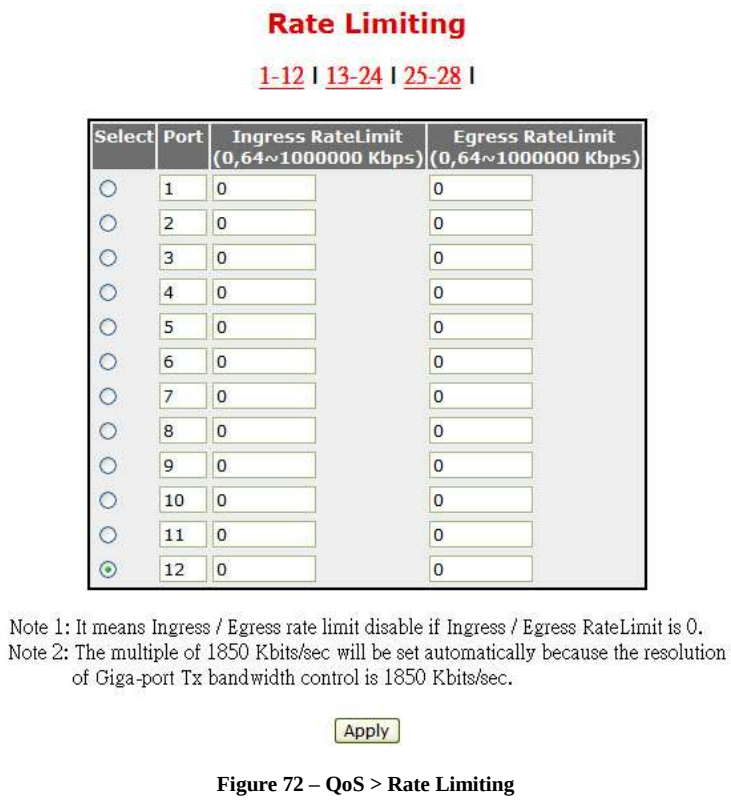


Figure 72 – QoS > Rate Limiting

Parameter	Description
Select	Select a port to configure rate limiting function.
Port	Port ID.
Ingress RateLimit (0,64~1000000 Kbps)	Specify the traffic Kbit per second is allowed to be transmitted for an ingress port. 0 means no limit.
Egress RateLimit (0,64~1000000 Kbps)	Specify the traffic Kbit per second is allowed to be transmitted for an egress port. 0 means no limit.

Click **Apply** to submit the changes.
Click **1-12, 13-24, 25-28** to configure rate limiting for corresponding ports.

Storm Control Settings

This page is to configure the storm control function of the device.

Figure 73 – QoS > Storm Glocal Settings

Parameter	Description
System Control	To activate or shutdown storm control function of the Switch. Select **Enable** to activate link aggregation function, **Disabled** to shutdown it. Default is Start.
Packet Type	Specify which kind of packets to be controlled. The options are: **Broadcast only** - Control broadcast packets only. **Multicast and Broadcast** - Control both multicast and broadcast packets. **DLF and Multicast and Broadcast** - Control Destination Lookup Failed unicast, multicast and broadcast packets.
Rate Limit	Specify the maximum packet rate is allowed per second.

802.1p Queue Mapping

This page is to configure the 802.1p priority and queue mapping.

Figure 74 – QoS > 802.1p

Parameter	Description
Priority 0~7	Specify which switch queue to map. The options are **Class-0**, **Class-1**, **Class-2** and **Class-3**.

Click **Apply** to submit the changes.

802.1p Port Priority

This page is to configure the 802.1p priority for untagged packets receive from each port.

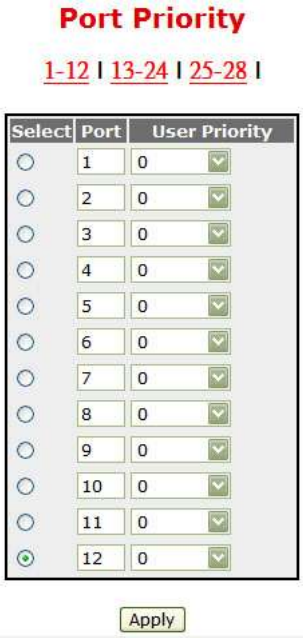


Figure 75 – QoS > Port Priority

Parameter	Description
Select	Select a port to submit the configuration changes.
Port	Port ID.
User Priority	Specify 802.1p priority of untagged packets.

Click **Apply** to submit the changes.
Click **1-12, 13-24, 25-28** to configure port priority for corresponding ports.

DSCP Queue Mapping

This page is to enable/configure the DSCP and queue mapping.

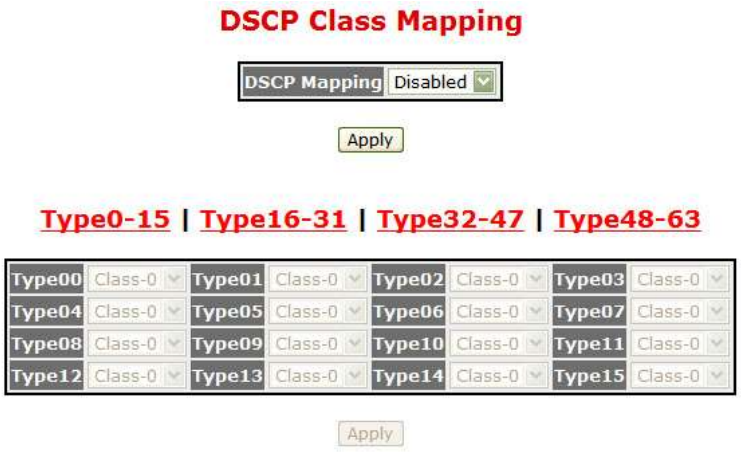


Figure 76 – QoS > DSCP

Parameter	Description

DSCP Mapping	To enable the DSCP queue mapping. When disabled, Switch will map queue with 802.1p priority.

Click **Apply** to submit the changes.

Parameter	Description
Type00~63	Specify which switch queue to map. The options are **Class-0**, **Class-1**, **Class-2** and **Class-3**.

Click **Type0-15, 16-31, 32-47, 48-63** to configure queue mapping for corresponding DSCP levels.
Click **Apply** to submit the changes.

Egress Queue Scheduling Settings

This page is to configure the scheduling algorithm for switch queues.

Figure 77 – QoS > Egress Algorithm

Parameter	Description
Scheduling Algorithm	Select the algorithm of queue scheduling. The options are: **Strict Priority** - The traffic in highest queue always process first. **Weighted RoundRobin** - Using weighted round-robin algorithm to handle packets in priority queues. Defualt is Strict Priority.

Click **Apply** to submit the changes.

Chapter 9
Configuring RMON Functions

RMON Function List

- **RMON Basic Settings**
- **RMON Statistics Configuration**
- **RMON History Configuration**
- **RMON Alarms Configuration**
- **RMON Events Configuration**

RMON Basic Settings

This page is to enable or disable RMON function

Figure 78 – RMON > Global Settings

Parameter	Description
RMON Status	To enable or disable RMON function. Default is Disabled.

Click **Apply** to submit the changes.

RMON Statistics Configuration

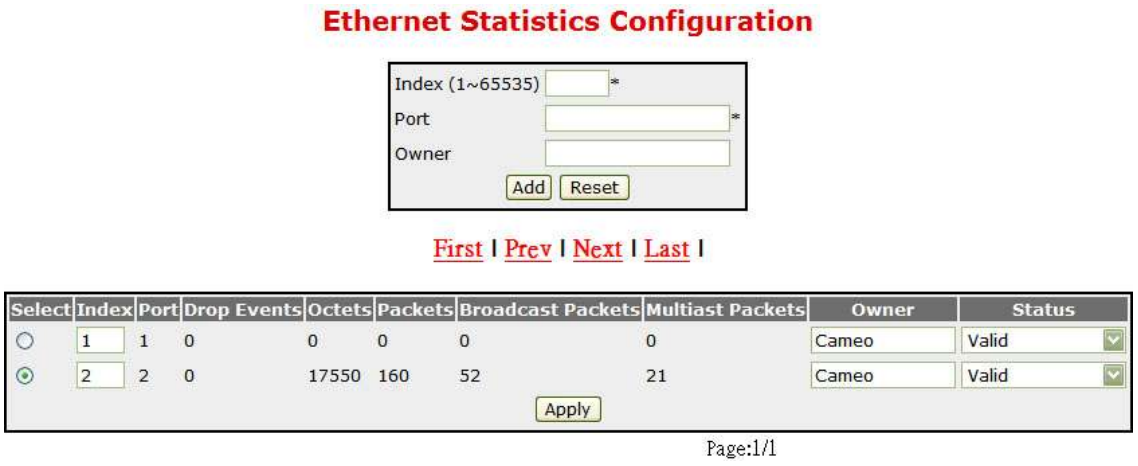


Figure 79 – RMON > Statistics

Parameter	Description
Index (1~65535)	Specify the index of the RMON statistics collection.

Port	Specify which port to enable the RMON statistics collection.
Owner	Specify the owner of the statistics entry.

Click **Add** to create a new statistics entry, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select a RMON statistics entry to apply the
Index	The index of the RMON statistics collection.
Port	The port of the RMON statistics collection.
Drop Events	The number of events was dropped due to lack of resources.
Octects	The total number of octets received from this port.
Packets	The total number of packets received from this port.
Broadcast Packets	The total number of broadcast packets received from this port.
Multicast Packets	The total number of multicast packets received from this port.
Owner	Specify the owner of the statistics.
Status	Specify the status of this statistics entry. The options are: **Valid** - The statistics entry is valid. **Under Creation** - **Invalid** - The statistics entry is invalid and will be deleted.

Click **Apply** to submit the changes.

RMON History Configuration

This page is to configure the RMON history settings on ports.

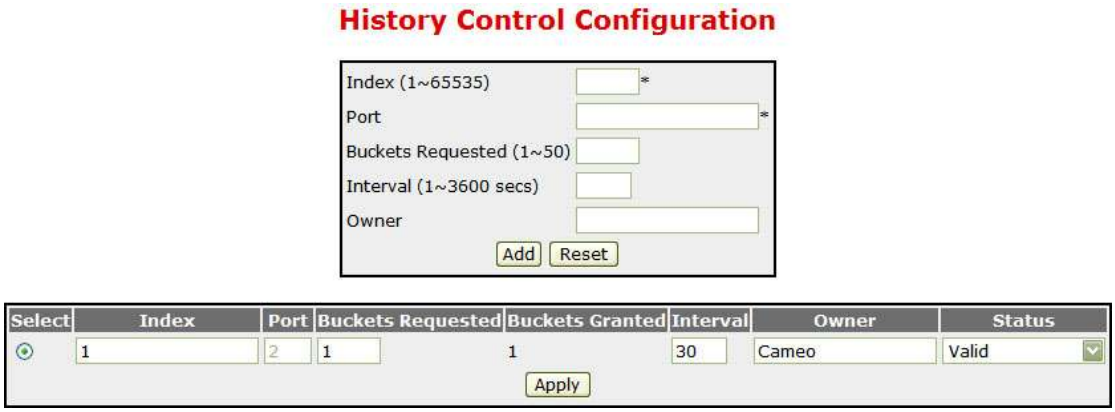


Figure 80 – RMON > History

Parameter	Description
Index (1~65535)	Specify the index of the RMON history collection.
Port	Specify which port to enable the RMON history collection.
Buckets Requested (1~50)	Specify the maximum number of RMON history collection.
Interval (1~3600 secs)	Specify the time interval for the history collection.
Owner	Specify the owner of the history entry.

Click **Add** to create a new history entry, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select a RMON history entry to apply the
Index	The index of the RMON history collection.

Port	The port of the RMON history collection.
Buckets Requested	Specify the maximum number of RMON history collection.
Buckets Granted	The number of bucket granted for collecting the RMON history.
Interval	Specify the time interval for the history collection.
Owner	Specify the owner of the history entry.
Status	Specify the status of this history entry. The options are: **Valid** - The history entry is valid. **Under Creation** - **Invalid** - The history entry is invalid and will be deleted.

Click **Apply** to submit the changes.

RMON Alarms Configuration

To set a RMON alarm to a MIB object.

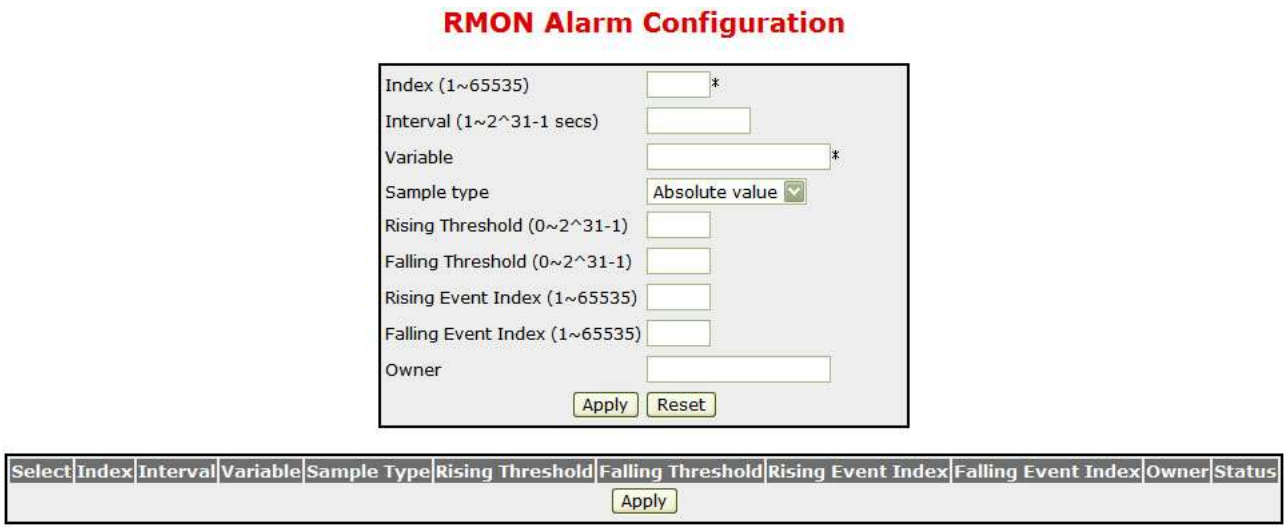


Figure 81 – RMON > Alarms

Parameter	Description
Index (1~65535)	Specify the index of the RMON alarm.
Interval (1~2^31-1 secs)	The time interval in seconds that alarm monitors the MIB variable.
Variable	The MIB OID to set alarm.
Sample type	The type of the alarm sampling. The options are: **Absolute value** - To test the MIB variable directly. **Delta value** - To test the change between samples of a MIB variable.
Rising Threshold (0~2^31-1)	The threshold value to trigger alarm when the number of sample exceeds.
Falling Threshold (0~2^31-1)	The threshold value to reset alarm when the number of sample exceeds.
Rising Event Index (1~65535)	The number of event to trigger when rising threshold is exceeded.
Falling Event Index (1~65535)	The number of event to trigger when falling threshold is exceeded.
Owner	Specify the owner of the alarm entry.

Click **Add** to create a new RMON alarm, **Reset** to clear the value just inputed.

Parameter	Description
Select	Select a RMON alarm entry to apply the configuration changes.
Index	Specify the index of the RMON alarm.
Interval	The time interval in seconds that alarm monitors the MIB variable.
Variable	The MIB OID of this alarm entry.
Sample type	The type of the alarm sampling. The options are: **Absolute value** - To test the MIB variable directly. **Delta value** - To test the change between samples of a MIB variable.
Rising Threshold	The threshold value to trigger alarm when the number of sample exceeds.
Falling Threshold	The threshold value to reset alarm when the number of sample exceeds.
Rising Event Index	The number of event to trigger when rising threshold is exceeded.
Falling Event Index	The number of event to trigger when falling threshold is exceeded.
Owner	Specify the owner of the alarm entry.
Status	Specify the status of this alarm entry. The options are: Valid - The alarm entry is valid. Under Creation - Invalid - The alarm entry is invalid and will be deleted.

Click **Apply** to submit the changes.

RMON Events Configuration

This page is to add an event to RMON event table.

Figure 82 – RMON > Events

Parameter	Description
Index (1~65535)	Specify the index of the RMON event.
Description	Specify the description of the event.
Type	Specify the action type of the event. The options are: **Log** - Generating syslog when event is triggered. **SNMP Trap** - Generating a trap message when event is triggered. **Log and Trap** - Generating both log and trap message when event is triggered.
Community	Specify the SNMP community string used for the traps.
Owner	Specify the owner of the event entry.

Click **Add** to create a new RMON event, **Reset** to clear the value just inputed.

Parameter	Description
Index	Specify the index of the RMON event.

Description	Specify the description of the event.
Type	Specify the action type of the event. The options are: **Log** - Generating syslog when event is triggered. **SNMP Trap** - Generating a trap message when event is triggered. **Log and Trap** - Generating both log and trap message when event is triggered.
Community	Specify the SNMP community string used for the traps.
Owner	Specify the owner of the alarm entry.
Status	Specify the status of this event entry. The options are: **Valid** - The event entry is valid. **Under Creation** - **Invalid** - The events entry is invalid and will be deleted.

Click **Apply** to submit the changes.

Chapter 10

Switch Statistics

Switch Statistics List

- **Interface Statistics**
- **Ethernet Statistics**
- **VLAN Statistics**
- **MSTP**
  - MSTP Information
  - MSTP CIST Port Statistics
  - MSTP MSTI Port Statistics
- **RSTP**
  - RSTP Information
  - RSTP Port Statistics
- **LA**
  - LA Port Statistics
  - LA Neighbour Statistics Information
- **802.1X**
  - 802.1X Session Statistics
  - RADIUS Server Statistics
- **IGMP Snooping**
  - IGMP Snooping Clear Statistics
  - IGMP Snooping V1/V2 Statistics
- **IP**
  - ARP Cache
  - ICMP Statistics
- **RMON**
- **MAC Address Table**
- **SNMP**

Interface Statistics

This page is to display the traffic statistics of each port.

Interface Statistics

1-12 | 13-24 | 25-28 |

Index	MTU	Speed (Bits Per Second)	Received Octets	Received Unicast Packets	Received Nunicast Packets	Received Discards	Received Errors	Received Unknown Protocols	Transmitted Octets	Transmitted Unicast Packets	Transmitted Nunicast Packets	Transmitted Discards	Transmitted Errors
1	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
2	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
3	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
4	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
5	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
6	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
7	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
8	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
9	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
10	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
11	1522	100000000	0	0	0	0	0	0	0	0	0	0	0
12	1522	100000000	0	0	0	0	0	0	0	0	0	0	0

Figure 83 – Statistics > Interface

Click **1-12, 13-24, 25-28** to display the Ethernet related statistics of corresponding ports.

Ethernet Statistics

This page is to display the Ethernet related statistics of each port.

Ethernet Statistics

1-12 | 13-24 | 25-28 |

Index	Alignment Errors	FCS Errors	Single Collision Frames	Multiple Collision Frames	SQE Test Errors	Deferred Transmissions	Late Collisions	Excess Collisions	Transmitted Internal MAC Errors	Carrier Sense Errors	Frame Too Long	Received Internal MAC Errors	Ether ChipSet	Symbol Errors	Duplex Status
1	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
2	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
3	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
4	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
5	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
6	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
7	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
8	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
9	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
10	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
11	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex
12	0	0	0	0	1097390517	0	0	0	0	0	0	0	1	0	Half-Duplex

Figure 84 – Statistics > Ethernet

Click **1-12, 13-24, 25-28** to display the Ethernet related statistics of corresponding ports.

VLAN Statistics

This page is to display current VLAN and its member port information of the Switch.

VLAN Current Database

VLAN ID	VLAN FDB ID	Member Ports	Untagged Ports	Status
1	1	1-28	1-28	Permanent

Figure 85 – Statistics > VLAN

MSTP

MSTP Information

This page is to display current MSTP settings and states of the Switch.

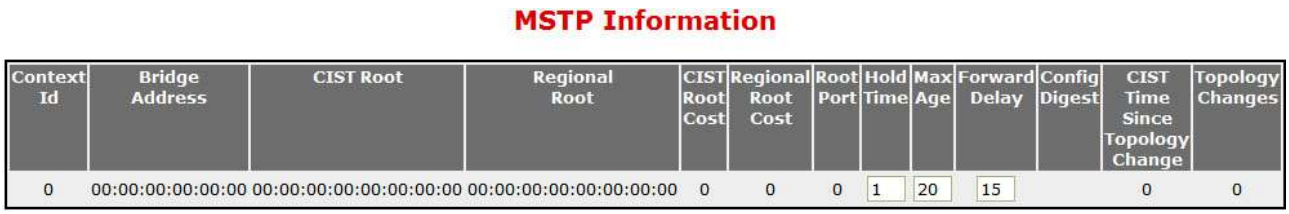


Figure 86 – Statistics > MSTP > MSTP Information

MSTP CIST Port Statistics

This page is to display the MSTP traffic statistics of ports.

Figure 87 – Statistics > MSTP > CIST Port Statistics

Parameter	Description
Clear Counters	**Update** – To display the latest statistics information. **Clear** – To reset all MSTP traffic counters.

Click **Apply** to update or clear the statistics of the Swtich.
Click **1-12, 13-24, 25-28** to display the MSTP traffic statistics of corresponding ports.

MSTP MSTI Port Statistics

This page is to display the MSTP traffic statistics of different instances in each port.

Figure 88 – Statistics > MSTP > MSTI Port Statistics

RSTP

RSTP Information

This page is to display current RSTP setting and states of the Switch.

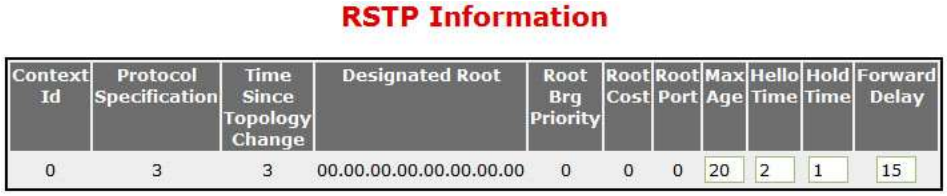


Figure 89 – Statistics > RSTP > RSTP Information

RSTP Port Statistics

This page is to display the RSTP traffic statistics of ports.

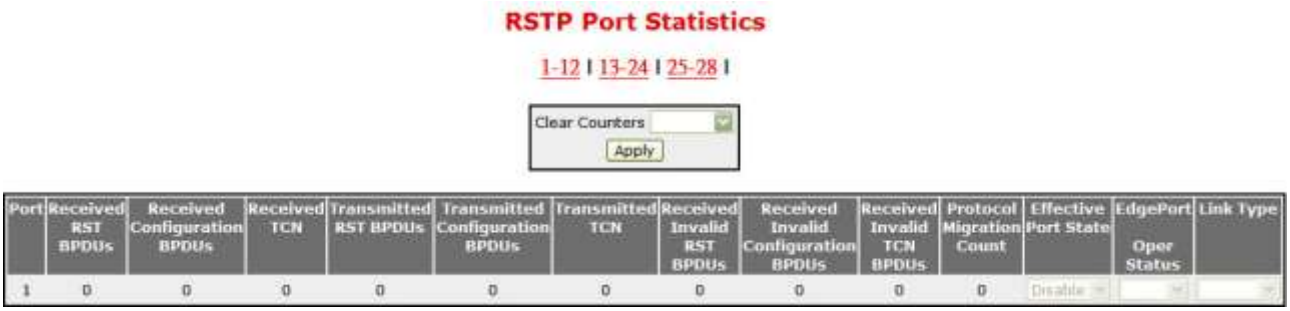


Figure 90 – Statistics > RSTP > Port Statistics

Parameter	Description
Clear Counters	**Update** – To display the latest statistics information. **Clear** – To reset all RSTP traffic counters.

Click **Apply** to update or clear the statistics of the Swtich.
Click **1-12, 13-24, 25-28** to display the Link Aggregation neighbours information of corresponding ports.

LA

LA Port Statistics

This page is to display the traffic statistics of Link Aggregation ports.

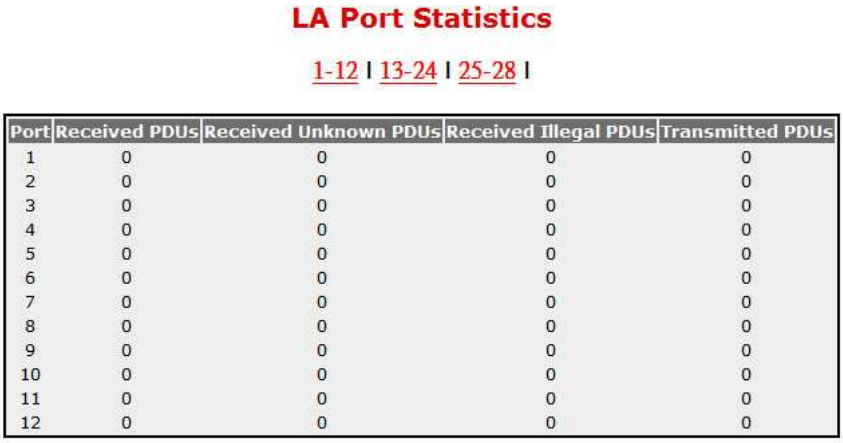


Figure 91 – Statistics > LA > Port LACP Stats

Click **1-12, 13-24, 25-28** to display the Link Aggregation neighbours information of corresponding ports.

LA Neighbour Statistics Information

This page is to disply the information of Link Aggregation neibubours.

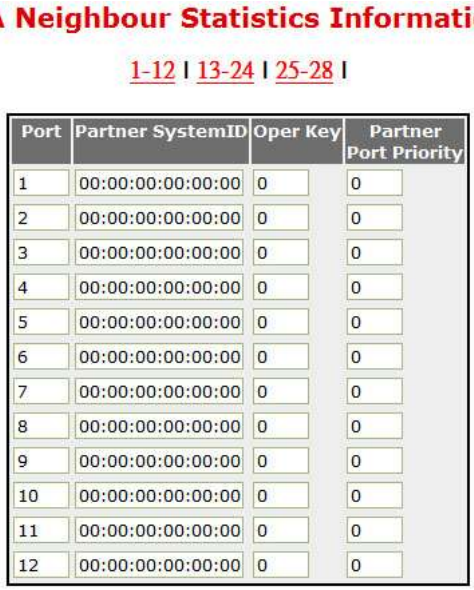


Figure 92 – Statistics > LA > Neighbour Stats

Click **1-12, 13-24, 25-28** to display the Link Aggregation neighbours information of corresponding ports.

802.1X

802.1X Session Statistics

This page is to display the statistics and status of current authenticated users.

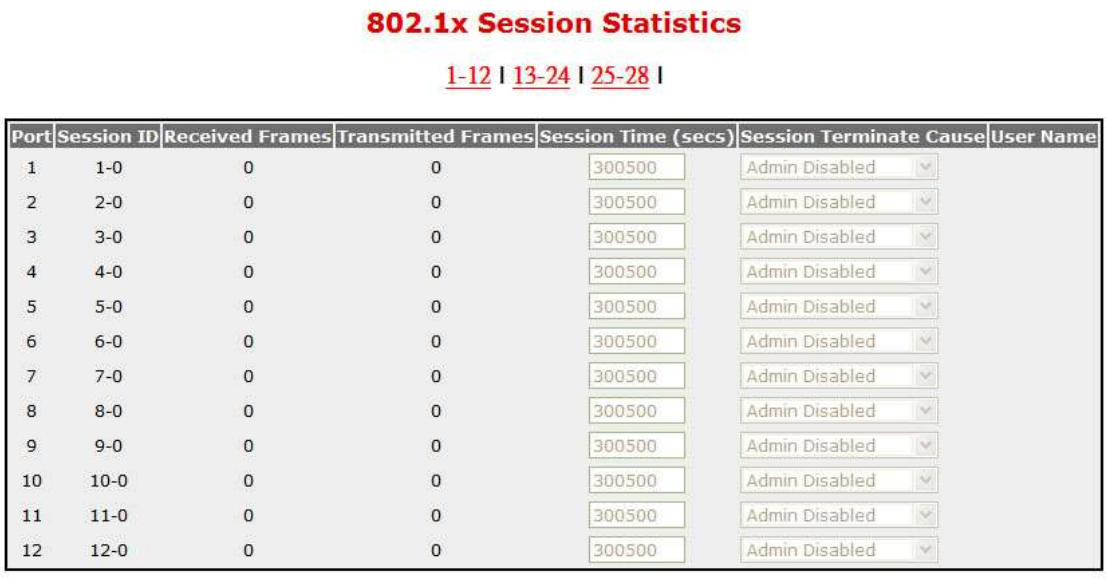


Figure 93 – Statistics > 802.1X > Session Stats

Click **1-12, 13-24, 25-28** to display the statistics for corresponding ports.

RADIUS Server Statistics

This page is to display the traffic statistics to RADIUS server.

Figure 94 – Statistics > 802.1X > Radius

IGMP Snooping

IGMP Snooping Clear Statistics

This page is to reset the IGMP Snooping traffic counters.

Figure 95 – Statistics > IGMP Snooping > Clear Statistics

Parameter	Description
Clear Vlan Counters	**All** – Reset all IGMP Snooping traffic counters. **VLAN ID** – Reset the IGMP Snooping traffic counter of a VLAN.
Vlan ID	Choose a VLAN to reset the IGMP Snooping Counters.

Click **Apply** to clear the counters.

IGMP Snooping V1/V2 Statistics

This page is to display the IGMP traffic statistics snooped by the Switch.

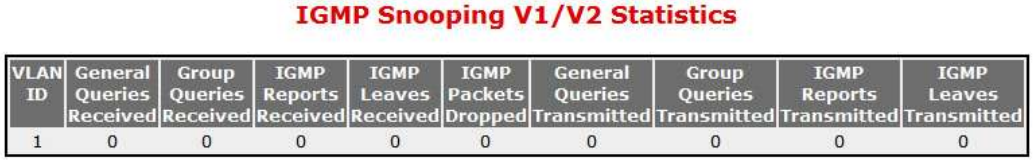


Figure 96 – Statistics > IGMP Snooping > V1/V2 Statistics

IP

ARP Cache

This page is to display the ARP information of direct connected hosts learned by the Swtich.

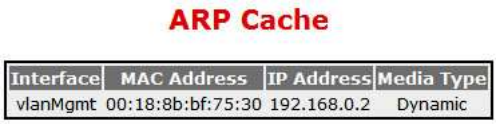


Figure 97 – Statistics > IP > ARP Cache

ICMP Statistics

This page is to display the ICMP traffic statistics of the Switch.

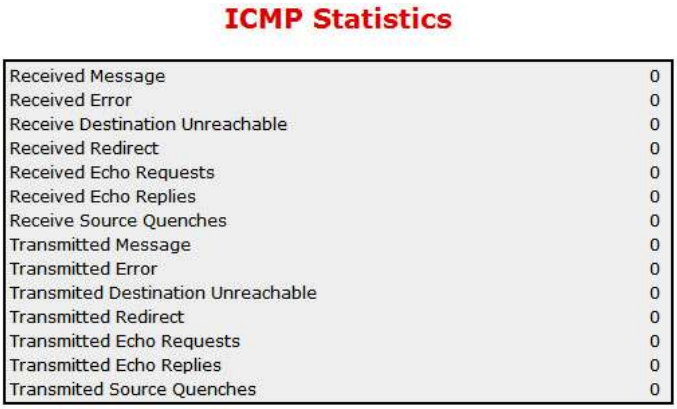


Figure 98 – Statistics > IP > ICMP Statistics

RMON

This page is to display the RMON Statistics of the Switch.

Figure 99 – Statistics > RMON

Click **First, Prev, Next, Last** to see the first, previous, next or last page of the RMON Statistics.

MAC Address Table

This page is to show the MAC addresses learned in L2 forwarding database.

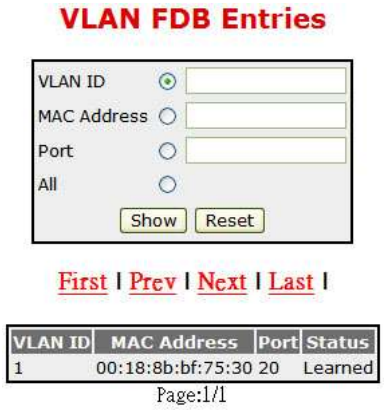


Figure 100 – Statistics > MAC Address Table

Parameter	Description
VLAN ID	Display the MAC addresses under a given VLAN.
MAC Address	Display a specific MAC address in FDB.
Port	Display the MAC addresses learned under a given port.
All	Display all MAC addresses in FDB.

Click **Show** to display the MAC addresses in FDB with given parameter and click **Reset** to reset the parameter input.
Click **First, Prev, Next, Last** to see the first, previous, next or last page of the MAC addresses list discovered.

SNMP

This page is to show the SNMP traffic statistics of the Switch.

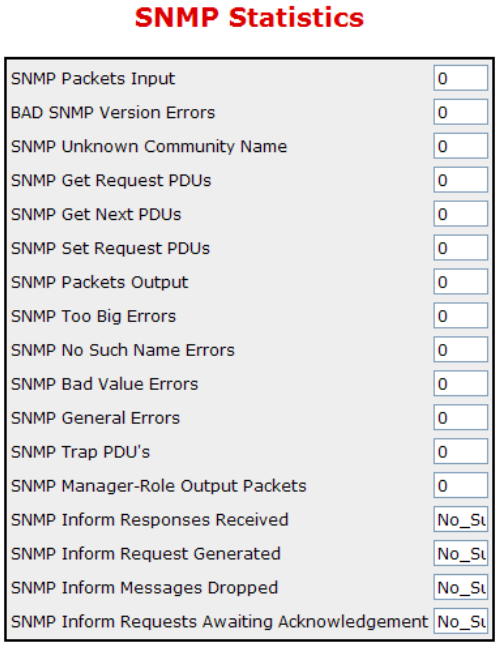


Figure 101 – Statistics > SNMP