



SNMP-GSH2004L

**20-Port Gigabit + 4-Port UTP/SFP
Combo Web Smart Switch**

User's Manual



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These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
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- Consult the dealer or an experienced radio/TV technician for help.

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This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

IMPORTANT NOTE

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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1

Introduction

1.1 Overview



The **SNMP-GSH2004L** Web Smart Switch is a standard switch that meets all IEEE 802.3/u/x/z Gigabit, Fast Ethernet specifications. The switch has 20 10/100/1000Mbps TP ports and 4 Gigabit TP/SFP transceiver slots; it supports http and SNMP interface for switch management. The network administrator can logon the switch to monitor, configure and control each port's activity. In addition, the switch implements the QoS (Quality of Service), VLAN, and Trunking. It is suitable for office application.

Others the switch increase support the Power saving for reduce the power consumption with "ActiPHY Power Management" and "PerfectReach Power Management" two technique. It could efficient saving the switch power with auto detect the client idle and cable length to provide different power.

In this switch, Port 21, 22, 23, 24 includes two types of media --- TP and SFP Fiber (LC); these ports supports 10/100/1000Mbps TP or 100/1000Mbps SFP Fiber with auto-detected function. 1000Mbps SFP Fiber transceiver is used for high speed connection expansion.

- 1000Mbps LC, Multi-Mode, SFP Fiber transceiver
- 1000Mbps LC, Single-Mode, SFP Fiber transceiver, 10km
- 1000Mbps LC, Single-Mode, SFP Fiber transceiver, 30km
- 1000Mbps LC, Single-Mode, SFP Fiber transceiver, 50km
- 100Mbps LC, Multi-Mode, SFP Fiber transceiver, 2km
- 100Mbps LC, Single-Mode, SFP Fiber transceiver, 30km

This user's manual will help you to uncover most functions of the **SNMP-GSH2004L** with step-by-step instructions presented by high quality illustrations. Thank you for choosing OvisLink's product.

1.2 Guide to the Chapters

- **Chapter 1:** Introduction and Quick Setup guide. All the essential information including IP Address and Password information are in the Quick Setup section.
- **Chapter 2:** Detail installation instruction.
- **Chapter 3:** LED indicators
- **Chapter 4:** Detail information on Web management including how to setup remote management.

1.3 Quick Setup

This section provides the essential information for experienced users to operate the switch immediately. For detailed installation instruction, please see chapter 2 for more information.

Power-On the switch

- The **SNMP-GSH2004L** has a built-in power supply to operate with 100 ~ 240V AC, 50 ~ 60Hz power source.
- The AC power cord connector is located at the rear of the unit and the On/Off switch is next to the connector.
- After the Switch is powered on, it will perform "**self-diagnostic**" test. This process takes about 5 seconds to complete.

Important Information

The default IP address: 192.168.2.1
The default password is **airlive**

LED Table

LED	Color/Status	Description
Power	Green	Power on
10/100/1000Ethernet TP Port 1 to 24 LED		
Link/ ACT	Green On	Link Up
	Green Blinking	Data activating
SPD	Green On	Link 1000Mbps
	Yellow On	Link 10/100Mbps
1000SX/LX Gigabit Fiber Port 21,22,23,24 LED		
Link/ ACT	Green On	Link Up
	Green Blinking	Data activating
SPD	Green On	Link 1000Mbps
	Yellow On	Link 100Mbps

1.4 Installation Steps

This section lists the installation procedures in steps. Each step's instruction is thoroughly explained in the subsequent sections of following chapter.

- Step1.** Connect your PC to the switch.
- Step2.** Set your PC's IP address to 192.168.2.50.
- Step3.** Open your web browser and enter "**192.168.2.1**" to get into the switch's web management.
- Step4.** Enter "**admin**" for username and "**airlive**" for password.
- Step5.** If you want to install the switch on the 19" rack, please install the mounting kit.
- Step6.** Please see the following chapters for further configurations.

2

Installation of the Switch

This chapter provides the detailed instructions for installation of the switch. For concise installation instruction, the previous chapter's "Quick Setup" section provides all the important information including IP address, password, and LED table for user's reference.

2.1 Unpack the Package

Before you begin the installation of **SNMP-GSH2004L** Web smart Switch, make sure that you have all the necessary accessories that come with your package. Follow the steps below to unpack your package contents:

1. Clear out an adequate space to unpack the package carton.
2. Open the package carton and take out the contents carefully.
3. Put back all the shipping materials such as plastic bag, padding and linings into the package carton and save them for future transport need.

After unpacking and taking out the entire package contents, you should check whether you have got the following items:

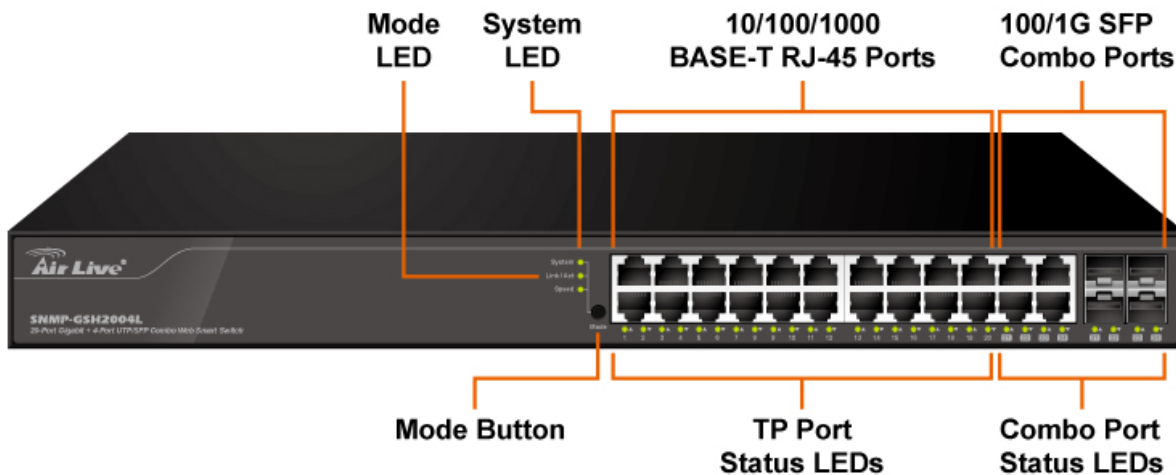
- SNMP-GSH2004L
- One AC Power Cord
- Quick Installation Guide
- Support CD-ROM (The PDF version of this User's Manual can be found within CD)
- One Pair Rack-mount Kit + 8 Screws

If any of these above items is missing or damaged, please contact your local dealer for replacement.

2.2 Hardware Overview

2.2.1 Front Panel

The front panel of the web smart switch consists of 24 10/100/1000M Base-TX RJ-45 ports and 4 100/1000M Combo SFP ports. The LED Indicators are also located on the front panel.



➤ **LED Indicators:**

Comprehensive LED indicators display the status of the switch and the network (see the LED Indicators chapter below).

➤ **1000BASE-T Gigabit Ethernet Ports (Port 1~24)**

The Switch four Gigabit twisted pair ports, supported auto negotiable 10/100/1000Mbps and auto MDI/MDIX crossover detection function, this function gives true “plug and play” capability, just need to plug-in the network cable to the hub directly and don’t care if the end node is NIC (Network Interface Card) or switch and hub. These ports can operate in half-duplex mode for 10/100Mbps and full- duplex mode for 10/100/1000Mbps.

➤ **Combo SFP Ports (Port 21~24)**

The Switch is equipped with four combo SFP ports, supported optional 1000BASE-SX/LX SFP module. The 1000BASE-T port 21~24 are the same ports with the SFP port 21~24, when plug in the SFP module, the device will activate SFP, and the RJ45 port will be disabled.

* **Note:** When the port was set to “Forced Mode”, the Auto MDI/MDIX will be disabled.

➤ **Mode button:**

The Mode button is to change the LED’s status to Link/Act or Speed, and reset all the setting back to the factory default by pressing the mode button for 10 seconds.

* **Note:** Be sure that you recorded the setting of your device; else all the setting will be erased when pressing the “**Mode**” (reset) button 10 seconds.

2.2.2 Rear Panel

The 3-pronged power plug and on/off switch are placed at the rear panel of the switch right side shown as below.



2.3 Installation Site Preparation

You can mount **SNMP-GSH2004L** either on desktop or on a 19-inch rack. If you plan to mount the switch on desktop, please choose a steady, level surface in a well-ventilated area that is free from excessive dust. In any case, the installation site chosen for your switch has to comply with the following requirements:

- The surface where you want to mount the switch must be able to sustain at least 2.4kg.
- Do not place heavy objects (more than 3kg) on top of the switch.
- The location must preferably be free from excessive dust, away from heat vent, hot-air exhaust and direct sunlight.
- The switch should not be placed near large electric motors or other strong electromagnetic sources. As a reference, the strength of the electromagnetic field on site should not exceed the (RFC) standards for IEC 801-3, Level 2(3V/M) field strength.
- The air temperature in the location should be within a range of 32 to 122 °F (0 to 50°C).
- The relative humidity in the location should not exceed 90% non-condensing humidity.
- The distance between the RJ-45 port and the standard network interface should not exceed 100 meters.
- Adequate space should be allowed in front of all the ports, so that each port is easily accessible for cable connections.
- Leave at least 10cm(4 inch) of space around the switch to allow heating dissipation

2.4 Rack Mounting

The **SNMP-GSH2004L** can be mounted on a standard size 19-inch rack, which can in turn be placed in a wiring closet with other equipments.

Before you can mount the switch on the rack, first you must attach the mounting brackets on both sides of the switch with screws, and then mount it as a unit on the rack.

To mount the unit on a rack, please follow the steps below:

- Step 1.** First, align the holes on the bracket with the holes on both side of the switch.
- Step 2.** Insert screws into the holes and then fasten the bracket on one side of the switch with a screwdriver.
- Step 3.** Repeat Step 1 and 2 to fasten the bracket on the other side of the switch.
- Step 4.** Mount the unit on the rack and align the notches on both brackets with mounting holes on the rack, and then secure the unit with suitable screws.



Fastening the brackets on the switch



Attaching the Switch to a 19-inch rack

2.5 Desktop Installation

The **SNMP-GSH2004L** has four rubber pads attached on each corner of its underside. These pads serve as cushioning against vibration and prevent the switch from sliding off its position. They also allow adequate ventilation space when you place the switch on top of another device.



Desktop installation

- The location you choose to install your switch and the way you configure your network may greatly affect its performance. Please see the previous section for “installation site” preparation.
- Do not place more than 1.5kg (6.6lbs) of weight on the top of the switch.
- Leave at least 10cm of space around the switch to allow proper heating dissipation.

2.6 Cabling Requirements

For 100BASE-TX and 1000Base-T ports

The 24 RJ-45 station ports and the 1000Base-T ports of the optional Gigabit-Copper module require Cat. 5 twisted-pair UTP/STP cable for connection. When configuring within the 10/100/1000BASE-T cabling architecture, the cable distance should be within 100m. The following table summarizes the cable requirement for 10/100/1000BASE-TX connection:

10BASE-T	100 ohm Category 3, 4, 5 UTP/STP cable
100BASE-TX	100 ohm Category 5 UTP/STP cable
1000BASE-T	100 ohm Category 5 UTP/STP cable or better (CAT 5E recommended)

Auto MDI/MDI-X function

The **SNMP-GSH2004L** is equipped with Auto-MDI/MDI-X function, which allows you to use straight-through cable even when connecting to another switch/hub. Simply use the straight-through cable for all types of 10/100BASE-TX connections, either to a PC or to a networking device such as other hub or switch.

Connection Specification	10 /100Base-TX and 1000Base-TPorts
Interface	RJ-45
Cable to Use	
<i>To an end station</i>	Straight-through twisted-pair cable
<i>To a hub/switch</i>	Straight-through twisted-pair cable
Maximum Distance	100 meters

Cabling type for 10/100BASE-TX and 1000Base-T

2.7 Connecting to Power

SNMP-GSH2004L features a universal auto-select power supply unit, which allows a power connection to a wide range of input voltages from 100 to 240VAC @ 50 ~ 60Hz.

To establish its power connection, simply plug the female end of the power cord into the power connector on the rear of the switch and the male end of the power cord into a suitable power outlet. Once you have correctly plugged in the power, you can then turn on the Power Switch to activate the switch.

2.8 Reset to Default

When you forgot your IP or password, please use the mode (reset) button for the factory default setting. Please take the following steps to reset the Web Smart Switch back to the original default:

- Step 1.** Turn on the **SNMP-GSH2004L**.
- Step 2.** Press and hold the mode (reset) button continuously for 10 seconds and release the mode (reset) button.
- Step 3.** The switch will reboot for 30 seconds and the configuration of switch will back to the default setting.

Please enter password to login

Password:

Apply

Key in the user ID and the password to pass the authentication; the default ID and Password is as below,

IP Address: 192.168.2.1

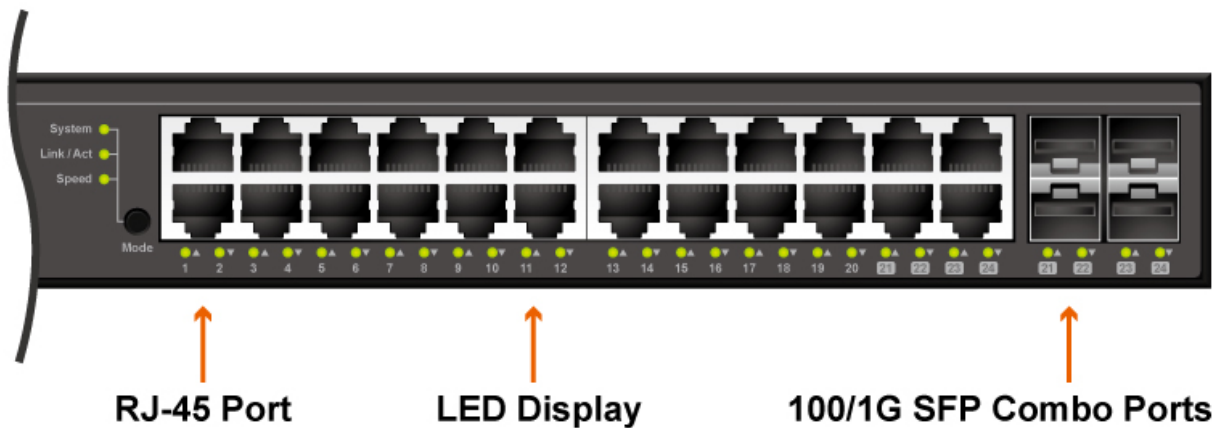
Password: **airlive**

3

LED Indicators

Before connecting any network device to **SNMP-GSH2004L**, you should take a few minutes to look over this chapter and get familiar with the front panel LED indicators of your Switch.

3.1 Comprehensive LEDs



3.2 LED Table

LED	Color/Status	Description
System	Green	Power on
10/100/1000Ethernet TP Port 1 to 24 LED		
Link/ ACT	Green On	Link Up
	Green Blinking	Data activating
SPD	Green On	Link 1000Mbps
	Yellow On	Link 10/100Mbps
1000SX/LX Gigabit Fiber Port 21,22,23,24 LED		
Link/ ACT	Green On	Link Up
	Green Blinking	Data activating
SPD	Green On	Link 1000Mbps
	Yellow On	Link 100Mbps

4

Web Management

The **SNMP-GSH2004L** can be configured by web based interface, including System Information, Ports Configuration, VLAN setting, Aggregation, QoS setting, IGMP Snooping, Mirroring, SNMP, Loop Detection, Broadcast Storm, configuration/ backup/recovery, log out, and so on. The device based smart switch supports main stream browsers, such as IE, Firefox and Chrome...etc to configure the device function. All functions are illustrated below.

4.1 Setup your computer for Web management

The Concept of Subnet

Under the TCP/IP environment, network devices must be on the same subnet in order to see each other. This means before you can configure the switch through web browser, you must set your computer to the same subnet as the switch. For two network devices to be on the same subnet, they must have the following 2 criteria:

- Their IP address must be on the same subnet. For example, if one IP address is 192.168.2.1. The other's IP address must be 192.168.2.x (x is any number between 2 and 254) for Class C subnet. To find out the IP address information for your computer. Under WinXP/Vista/Win7/Win8, please open Command Line window and type "ipconfig".
- They must have the same subnet mask. For example, if one machine is 255.255.255.0. The other machine must also set to the same 255.255.255.0 mask.

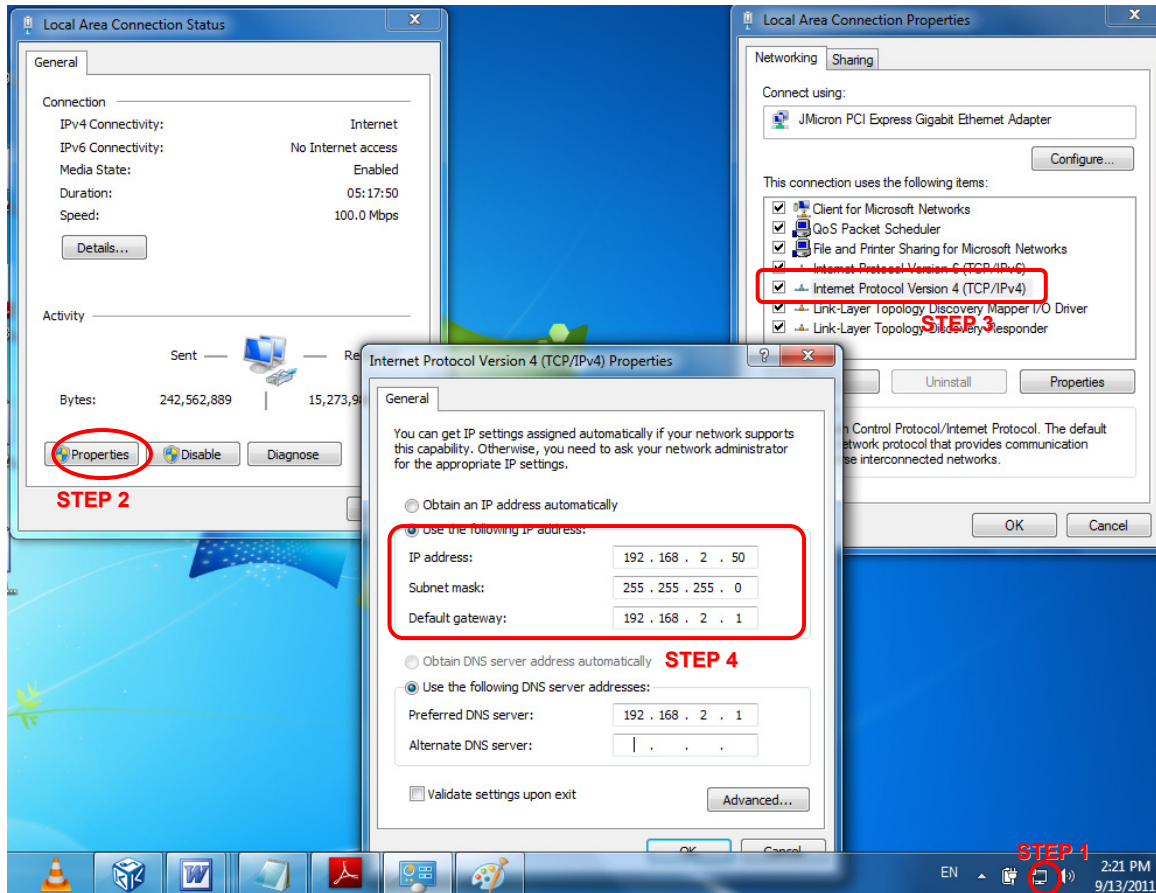
Configure your computer's IP

Before accessing the switch through web browser, please follow the instruction below to configure your computer's IP to the same subnet as the switch. If your switch's IP has not been changed, it should have the following factory default value:

The switch's Default IP

IP Address: 192.168.2.1
Subnet Mask: 255.255.255.0

Now if your computer's IP is not in the same subnet as the switch, please follow the steps below to change the computer's IP:



Manual IP setting

- Step 1.** Double click on the network connection status icon on the task bar. This should bring up a window showing the status of the current network connection. If there is no network status icon on the task bar, please go to the “**Start -> Settings -> Network -> Local Connection**” of the task bar’s Start menu.
- Step 2.** Click on the “**property**” icon.
- Step 3.** Double click on the “Internet Protocol (TCP/IP)”
- Step 4.** Click on “**Use the following IP address**” button and enter the computer’s address manually. This IP address must be on the same subnet as the switch but different from the switch’s IP. Please make sure the IP is not used by other network device. If the switch’s IP address is of factory’s default value. We recommend enter the following for computer’s IP:

IP Address: 192.168.2.50
Subnet Mask: 255.255.255.0
Gateway: 192.168.2.1

Click “Ok” after finish entering the IP.

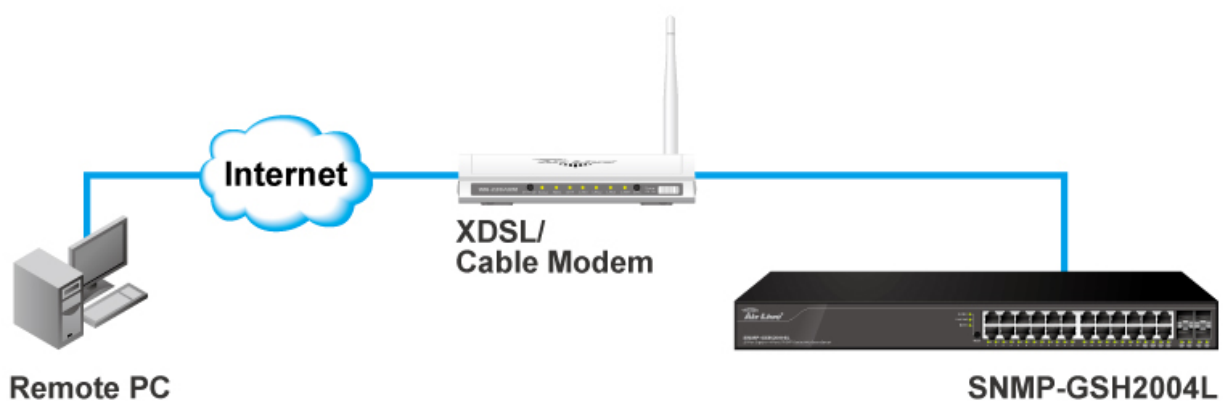
* **Note:** The **SNMP-GSH2004L** has DHCP client ability. This allows DHCP server (or router) to assign IP automatically. However, we do not recommend turning on the DHCP client because the DHCP server assign the IP randomly. The DHCP client should be used only when connecting directly to Cable Modem (for remote management) whose service provider uses DHCP for IP assignment.

Now, you will be able to access the switch by typing in the switch’s IP address on the web browser.

4.2 Remote Management

In this section, you will learn how to setup your computer and the router for remote web management. Remote management allows MIS to manage a switch from outside of the switch’s IP domain or from Internet. Depending on the type of Internet connection you have, there are two ways to setup the switch to be available through Internet.

Direct Connection to Internet

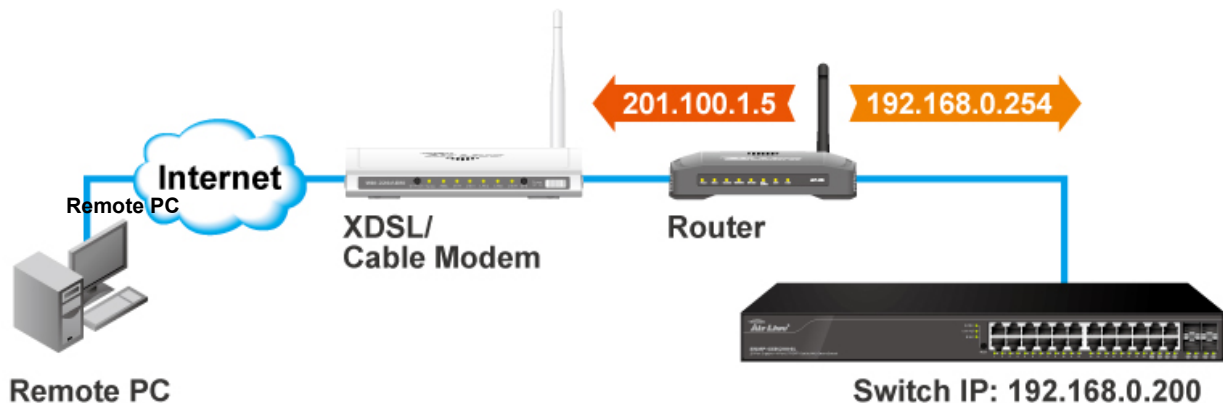


If you have a fixed IP xDSL account or cable modem account, and there is no router in the network, you can connect your switch directly to Internet via xDSL modem/Cable Modem. However, this method is not recommended as the LAN will be directly exposed to the Internet.

- **Fixed IP:** If your ISP has assigned you a fixed IP. Please go to the Switch's IP configuration and enter the IP address, Subnet Mask, and Gateway information offered by your ISP. If your ADSL connection is PPPoE or PPTP type, you have to connect through a router for remote management.
- **Cable Modem:** If your Cable service provider uses DHCP for IP assignment, please turn on the DHCP function under IP configuration. Make sure there is no DHCP server in the network. Then the Cable provider will assign the switch with a IP and Gateway. Go to the console port management to find out what IP has been assigned to the switch.

When the configuration is finished, the Remote PC can access the switch by typing the switch's IP address on the web browser.

Connect through Broadband Router



If you have an IP sharing router in the network, you can open a virtual server on the router to allow the switch to be managed through Internet. This method is more recommended as the broadband router provides natural firewall protector from hackers.

In the diagram above, the router has the WAN (given by the ISP) port IP address "201.100.1.5" and LAN port address "192.168.0.254". The switch's IP is "192.168.0.200". Please follow the instruction below to setup the router and switch for remote access:

On the Switch

- On the IP setting, set the gateway to Router's LAN port address 192.168.0.254.
- Please make sure the subnet mask is the same as the router's.

On the Router

- Go to router's Virtual Server setting and open the Web port (TCP Port 80) to the switch's IP address 192.168.0.200.
- If your router require enter the beginning and ending Port (from PortX to PortX), enter 80 for both.

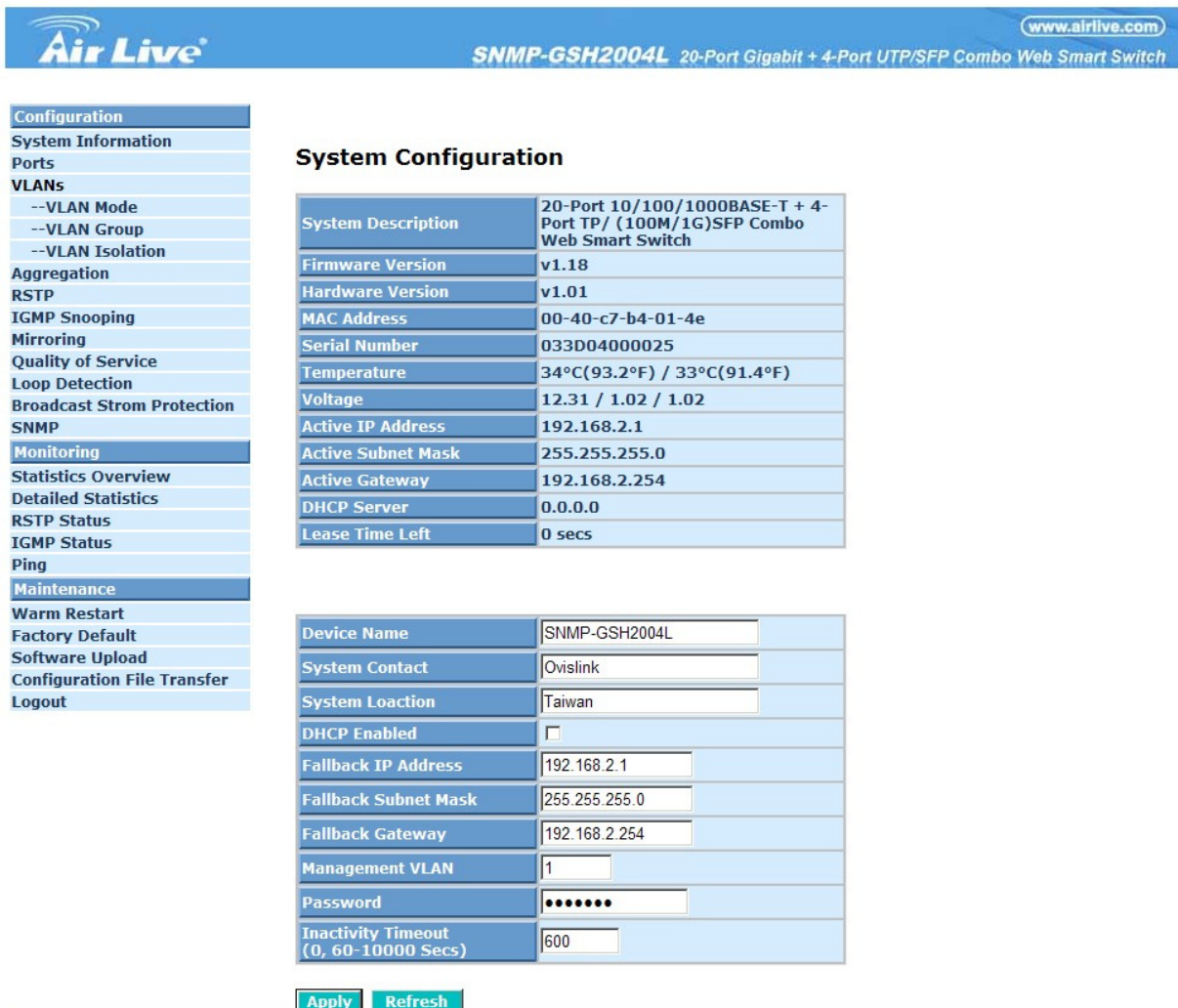
Now the Remote PC will be able to access your switch by entering "201.100.1.5" in the Web browser's address field.

4.3 Get Into the Web management

After you have properly configured the computer and switch's IP, you can get into the web management by the following steps:

- Step 1.** Open the Internet Explorer
- Step 2.** Enter the switch's IP address in the Address field and press enter.
- Step 3.** When prompt for and Password, enter the following information:
 - Password: **airlive**

You should see the following welcome screen after the process is completed:



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SNMP-GSH2004L 20-Port Gigabit + 4-Port UTP/SFP Combo Web Smart Switch

Configuration	
System Information	
Ports	
VLANs	
--VLAN Mode	
--VLAN Group	
--VLAN Isolation	
Aggregation	
RSTP	
IGMP Snooping	
Mirroring	
Quality of Service	
Loop Detection	
Broadcast Storm Protection	
SNMP	
Monitoring	
Statistics Overview	
Detailed Statistics	
RSTP Status	
IGMP Status	
Ping	
Maintenance	
Warm Restart	
Factory Default	
Software Upload	
Configuration File Transfer	
Logout	

System Configuration

System Description	20-Port 10/100/1000BASE-T + 4-Port TP/ (100M/1G)SFP Combo Web Smart Switch
Firmware Version	v1.18
Hardware Version	v1.01
MAC Address	00-40-c7-b4-01-4e
Serial Number	033D04000025
Temperature	34°C(93.2°F) / 33°C(91.4°F)
Voltage	12.31 / 1.02 / 1.02
Active IP Address	192.168.2.1
Active Subnet Mask	255.255.255.0
Active Gateway	192.168.2.254
DHCP Server	0.0.0.0
Lease Time Left	0 secs

Device Name	SNMP-GSH2004L
System Contact	Ovislink
System Location	Taiwan
DHCP Enabled	<input type="checkbox"/>
Fallback IP Address	192.168.2.1
Fallback Subnet Mask	255.255.255.0
Fallback Gateway	192.168.2.254
Management VLAN	1
Password	••••••
Inactivity Timeout (0, 60-10000 Secs)	600

Menu Bar

On the left side, the main menu tree for web is listed in the page. According to the function name in boldface, all functions can be divided into three parts, including “Configuration”, “Monitoring” and “Maintenance”. The functions of each folder are described in its corresponded section respectively. As to the function names in normal type are the sub-functions. When clicking it, the function is performed. The following list is the main function tree for web user interface.

Top Switch Image

The switch’s image on the upper portion of the screen gives the quick overview of the port connection status. When a port is plugged in, the switch’s image will show a “**plug**” on the corresponding port.

4.4 Configuration

Configuration includes the following functions:

- System Information
- Ports Configuration
- VLAN Mode Configuration
- VLAN Group Configuration
- VLAN Isolation
- Aggregation
- RSTP
- IGMP Snooping
- Mirroring
- QoS
- Loop Detection
- Broadcast Storm Protection
- SNMP

In the following sessions, we will talk in detail about the management functions under the Configuration menu.

4.4.1 System Information

System configuration is one of the most important functions. Without a proper setting, network administrator would not be able to manage the device. The switch supports manual IP address setting.

System Configuration

System Description	20-Port 10/100/1000BASE-T + 4-Port TP/ (100M/1G)SFP Combo Web Smart Switch
Firmware Version	v1.18
Hardware Version	v1.01
MAC Address	00-40-c7-b4-01-4e
Serial Number	033D04000025
Temperature	34°C(93.2°F) / 33°C(91.4°F)
Voltage	12.31 / 1.02 / 1.02
Active IP Address	192.168.2.1
Active Subnet Mask	255.255.255.0
Active Gateway	192.168.2.254
DHCP Server	0.0.0.0
Lease Time Left	0 secs

Device Name	SNMP-GSH2004L
System Contact	Ovislink
System Location	Taiwan
DHCP Enabled	<input type="checkbox"/>
Fallback IP Address	192.168.2.1
Fallback Subnet Mask	255.255.255.0
Fallback Gateway	192.168.2.254
Management VLAN	1
Password	••••••
Inactivity Timeout (0, 60-10000 Secs)	600

■ System Description:

The simple description of this switch.

■ Firmware Version:

The firmware version of this switch.

■ Hardware Version:

The hardware version of this switch.

■ MAC Address:

It is the Ethernet MAC address of the management agent in this switch.

■ **Serial Number:**

The serial number is assigned by the manufacturer.

■ **Temperature:**

Show the Temperature of this switch.

■ **Voltage:**

Show the Voltage of this switch.

■ **Active IP Address:**

Show the active IP address of this switch.

■ **Active Subnet Mask:**

Show the active subnet mask of this switch.

■ **Active Gateway:**

Show the active gateway of this switch.

■ **DHCP Server:**

Show the IP address of the DHCP server.

Default: 0.0.0.0

■ **Lease Time Left:**

Show the lease time left of DHCP client.

■ **Device Name:**

Set a special name for this switch. Up to 16 characters are allowed in this parameter. Any alphanumeric character and null are acceptable.

Default: SNMP-GSH2004L

■ **System Contact:**

Set a special System Contact name for this switch. Any alphanumeric character and null are acceptable.

Default: Ovislink

■ **System Location:**

Set a special System Location name for this switch. Any alphanumeric character and null are acceptable.

Default: Taiwan

■ DHCP Enabled:

Enable DHCP snooping, Just tick the check box () to enable it.

Default: disable

■ Fallback IP Address:

Manually assign the IP address that the network is using.

Default: 192.168.2.1

■ Fallback Subnet Mask:

Assign the subnet mask to the IP address.

Default: 255.255.255.0

■ Fallback Gateway:

Assign the network gateway for industrial switch.

Default: 192.168.2.254

■ Management VLAN:

Show the management VLAN number.

■ Password:

Set a password for this switch. Up to 16 characters are allowed in this parameter. Any alphanumeric character is acceptable.

Default: airlive

■ Inactivity Timeout(secs):

Set the auto-logout timer. The valid value is 0, 60 ~ 10000 in the unit of minute and a decimal point is not allowed. The value 0 means auto-logout timer is disabled.

Default: 600

4.4.2 Ports Configuration

Port Configuration is applied for the settings of the ports on the switch. By this function, you can set or reset the values for Mode and Flow Control. Others you could set the power saving mode for switch power consumption.

Port Configuration

Enable Jumbo Frames
 (Jumbo Frame support up to 9600 bytes.)

Power Saving

TP Ports

Port	Link	Mode	Flow Control
1	Down	1000 Full	<input type="checkbox"/>
2	Down	Auto Speed	<input type="checkbox"/>
3	Down	10 Half	<input type="checkbox"/>
4	Down	10 Full	<input type="checkbox"/>
5	Down	100 Half	<input type="checkbox"/>
6	Down	100 Full	<input type="checkbox"/>
7	Down	1000 Full	<input type="checkbox"/>
8	Down	Disabled	<input type="checkbox"/>
9	Down	Auto Speed	<input type="checkbox"/>
10	Down	Auto Speed	<input type="checkbox"/>
11	Down	Auto Speed	<input type="checkbox"/>
12	Down	Auto Speed	<input type="checkbox"/>
13	Down	Auto Speed	<input type="checkbox"/>
14	Down	Auto Speed	<input type="checkbox"/>
15	Down	Auto Speed	<input type="checkbox"/>
16	Down	Auto Speed	<input type="checkbox"/>
17	Down	Auto Speed	<input type="checkbox"/>
18	Down	Auto Speed	<input type="checkbox"/>
19	Down	Auto Speed	<input type="checkbox"/>
20	Down	Auto Speed	<input type="checkbox"/>
21	Down	Auto Speed	<input type="checkbox"/>
22	Down	Auto Speed	<input type="checkbox"/>
23	Down	Auto Speed	<input type="checkbox"/>
24	Down	Auto Speed	<input type="checkbox"/>

Fiber Ports

Port	Link	Mode	Flow Control
21	Down	Auto Speed	<input type="checkbox"/>
22	Down	Auto Speed	<input type="checkbox"/>
23	Down	1000 Full	<input type="checkbox"/>
24	Down	100 Full	<input type="checkbox"/>
		Disabled	

Drop frames after excessive collisions
 (Use in Half Duplex flow control environment.)

[Apply](#) [Refresh](#)

■ Enable Jumbo Frames:

This function support jumbo frames of up to 9600 bytes, Just tick the check box () to enable it.

Default: disable

■ Perfect Reach/Power Saving Mode:

This function supports Power Saving and perfect Reach, Just select with the Full/ Link-up/ Link-down/ Disable

Default: disable

■ Link:

Show link status of this port.

■ Mode:

Set the speed and duplex of the port. If the media is 1Gbps fiber, there are three modes to choose: Auto Speed, 1000 Full and Disable. If the media is TP, the Speed/Duplex is comprised of the combination of speed mode, 10/100/1000Mbps, and duplex mode, full duplex and half duplex.

In Auto Speed mode, no default value. In Forced mode, default value depends on your setting.

■ Flow Control:

You can Just tick the check box () to enable flow control. If flow control is set Enable, both parties can send PAUSE frame to the transmitting device(s) if the receiving port is too busy to handle. When it is set Disable, there will be no flow control in the port. It drops the packet if too much to handle.

Default: Disable

4.4.3 VLAN Mode Configuration

Web Smart Switch supports Port-based VLAN and Tag-based VLAN (802.1q). Its VLAN mode supports 10 active VLANs and the available VLAN ID range is from 1~4094. VLAN configuration is used to divide a LAN into smaller ones. With proper configuration, you can gain not only improved security and increased performance, but also save a lot of VLAN management effort.

The VLAN Mode Selection function includes two modes: Port-based, Tag-based.

VLAN Mode

VLAN Mode Port-based

Port-based
Tag-based
Port-based

VLAN mode:

■ Port-based:

Port-based VLAN is defined by port. Any packet coming in or outgoing from any one port of a port-based VLAN will be accepted. No filtering criterion applies in port-based VLAN. The only criterion is the physical port you connect to. For example, for a port-based VLAN named PVLAN-1 contains port members Port 1&2&3&4. If you are on the port 1, you can communicate with port 2&3&4. If you are on the port 5, then you cannot talk to them. Each port-based VLAN you built up must be assigned a group name. This switch can support up to maximal 10 port-based VLAN groups.

■ Tag-based:

Tag-based VLAN identifies its member by VID. This is quite different from port-based VLAN. If there are any more rules in ingress filtering list or egress filtering list, the packet will be screened with more filtering criteria to determine if it can be forwarded. The switch supports supplement of 802.1q. For more details, please see the section VLAN in Chapter 3. Each tag-based VLAN you built up must be assigned VLAN name and VLAN ID. Valid VLAN ID is 1-4094. User can create total up to 10 Tag VLAN groups.

4.4.4 VLAN Group Configuration

■ Tag based VLAN mode

The VLAN membership configuration for the selected switch can be monitored and modified here. Up to 4094 VLANs are supported. This page allows for adding and deleting VLANs as well as adding and deleting port members of each VLAN.

Tag-Based VLAN Configuration

Add a VLAN

VLAN ID

VLAN Configuration List

	VID	Member
<input type="radio"/>	1	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24
<input type="radio"/>	5	8,9,
<input checked="" type="radio"/>	9	16,17,

VLAN Port Configuration

Port	VLAN aware Enabled	Packet Type	Pvid
Port 1	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 2	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 3	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 4	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 5	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 6	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 7	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 8	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 9	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 10	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 11	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 12	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 13	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 14	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 15	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 16	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 17	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 18	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 19	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 20	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 21	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 22	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 23	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1
Port 24	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1

■ **VID:**

VLAN identifier. Each tag-based VLAN group has a unique VID. It appears only in tag-based mode.

■ **Member:**

In modify function this is used to enable or disable if a port is a member of the new added VLAN, “Enable” means it is a member of the VLAN.

Just tick the check box () beside the port x to enable it.

■ **Port:**

Port number.

■ **VLAN aware Enabled:**

Discard other VLAN group packets, only forward this port joined VLAN group packets.

■ **Packet Type:**

All: Forward all tagged and untagged packets.

Tagged Only: Forward tagged packets only and discard untagged packets.

■ **Pvid:**

This PVID range will be 1-4094. Before you set a number x as PVID, you have to create a Tag-based VLAN with VID x. For example, if port x receives an untagged packet, the switch will apply the PVID(assume as VID y) of port x to tag this packet, the packet then will be forwarded as the tagged packet with VID

■ **Port-based VLAN mode**

Port-Based VLAN Configuration

Add a VLAN

ID

Add

VLAN Configuration List

ID	Member
<input checked="" type="radio"/> 1	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24

Modify **Delete** **Refresh**

Port-based Vlan Setup

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

Select All **Apply** **Refresh**

■ **ID (Group ID):**

When you want to edit a VLAN group, you must select the Group ID field. Then, you will enter Tag Base VLAN Group Setting or Port Base VLAN Group Setting page, which depends on your VLAN mode selection.

■ Member:

In modify function this is used to enable or disable if a port is a member of the new added VLAN, “Enable” means it is a member of the VLAN. Just tick the check box () beside the port x to enable it.

■ Add Group:

Create a new port-based VLAN or tag-based VLAN, which depends on the VLAN mode you choose in VLAN mode function.

■ Delete Group:

Just tick the check box () beside the ID, then press the **<Delete>** button to delete the group.

4.4.5 VLAN Isolation

Port Isolation provides for an apparatus and method to isolate ports on layer 2 switches on the same VLAN to restrict traffic flow. The apparatus comprises a switch having said plurality of ports, each port configured as a protected port or a non-protected port. An address table memory stores an address table having a destination address and port number pair. A forwarding map generator generates a forwarding map which is responsive to a destination address of a data packet. The method for isolating ports on a layer 2 switch comprises configuring each of the ports on the layer 2 switch as a protected port or a non-protected port. A destination address on an data packet is matched with a physical address on said layer 2 switch and a forwarding map is generated for the data packet based upon the destination address on the data packet. The data packet is then sent to the plurality of ports pursuant to the forwarding map generated based upon whether the ingress port was configured as a protected or non-protected port.

This page is used for enabling or disabling port isolation on ports in a Private VLAN. A port member of a VLAN can be isolated to other isolated ports on the same VLAN and Private VLAN.

Port Isolation Configuration

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

■ **Port Members:**

A check box is provided for each port of a private VLAN. When checked, port isolation is enabled on that port. When unchecked, port isolation is disabled on that port. By default, port isolation is disabled on all ports.

4.4.6 Aggregation

The Aggregation (Port Trunking) Configuration is used to configure the settings of Link Aggregation. You can bundle ports by same speed, MAC, and full duplex to be a single logical port, thus the logical port can aggregate the bandwidth of these ports. This means you can apply your current Ethernet equipment to build the bandwidth aggregation. For example, if three Fast Ethernet ports are aggregated into a logical port, then this logical port's bandwidth would be as three times high as a single Fast Ethernet ports.

■ **Normal:**

Set up the ports that do not join any aggregation trunking group.

■ **Group 1~8:**

Group the ports you choose together. Up to 12 ports can be selected for each group.

Aggregation/Trunking Configuration

Group\Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Normal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Group 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Group 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.4.7 RSTP

The switch supports IEEE 802.1D-2004 RSTP protocol, the RSTP protocol can backward compatible to legacy Spanning Tree Protocol (STP) and 802.1w Rapid Spanning Tree Protocol (RSTP).

- Force version: STP and RSTP. Select the STP version you want to enabled.

- **System Priority:** This parameter configures the spanning tree priority globally for this switch. The device with the highest priority becomes the STP root device. However, if all devices have the same priority, the device with the lowest MAC address will then become the root device. Number between 0 - 61440 in increments of 4096. Therefore, there are 16 distinct values.
- **Hello Time:** Interval (in seconds) at which the root device transmits a configuration message (BPDU frame). Number between 1-10 (default is 2).
- **Max Age –** The maximum time (in seconds) a device can wait without receiving a configuration message before attempting to reconfigure. That also means the maximum life time for a BPDU frame. Number between 6-40 (default is 20).
- **Forward Delay:** The maximum time (in seconds) the root device will wait before changing states (i.e., discarding to learning to forwarding). Number between 4–30 (default is 15)

RSTP System Configuration

System Priority	32768
Hello Time	2
Max Age	20
Forward Delay	15
Force version	RSTP

RSTP Port Configuration

Port	Protocol Enabled	Edge	Path Cost (1~200000000)
Aggregations	<input type="checkbox"/>		
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
12	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
13	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
14	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
15	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
16	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
17	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
18	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
19	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
20	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
21	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
22	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
23	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
24	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto

[Apply](#) [Refresh](#)

4.4.8 IGMP Snooping

IGMP Snooping lets administrators configure a switch to constrain multicast traffic by listening to Internet Group Management Protocol (IGMP).

IGMP Configuration

IGMP Enabled	<input type="checkbox"/>
Router Ports	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/> 17 <input type="checkbox"/> 18 <input type="checkbox"/> 19 <input type="checkbox"/> 20 <input type="checkbox"/> 21 <input type="checkbox"/> 22 <input type="checkbox"/> 23 <input type="checkbox"/> 24
Fast Leave	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16 <input type="checkbox"/> 17 <input type="checkbox"/> 18 <input type="checkbox"/> 19 <input type="checkbox"/> 20 <input type="checkbox"/> 21 <input type="checkbox"/> 22 <input type="checkbox"/> 23 <input type="checkbox"/> 24
Unregistered IPMC Flooding enabled	<input checked="" type="checkbox"/>

VLAN ID	IGMP Snooping Enable	IGMP Querying Enable
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

■ **IGMP Enabled:**

Just tick the check box () to enable this function.
Default: disable

■ **Router Ports:**

Just tick the check box () beside the port x to enable router ports, then press the **<Apply>** button to start up.
Default: none

■ **Unregistered IGMP Flooding enabled:**

Just tick the check box () to enable this function.
Default: enable

■ **VLAN ID:**

At the IGMP Enable mode being selected, it will list the VLAN ID number.

■ **IGMP Snooping Enabled:**

After IGMP Enabled function start up then user can tick the check box () to enable this function.
Default: enable

■ **IGMP Querying Enabled:**

After IGMP Enabled function start up then user can tick the check box () to enable this function.
Default: enable

4.4.9 Mirroring

Mirror Configuration is provided to monitor the traffic in the network. This switch supports one-port mirror multi-ports. For example, we assume that Port A and Port B are Source Ports, and Port C is Mirror Port respectively, thus, the traffic passing through Port A and Port B will be copied to Port C for monitor purpose.

Mirroring Configuration

Port	Mirror Source
1	<input type="checkbox"/>
2	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>
8	<input type="checkbox"/>
9	<input type="checkbox"/>
10	<input type="checkbox"/>
11	<input type="checkbox"/>
12	<input type="checkbox"/>
13	<input type="checkbox"/>
14	<input type="checkbox"/>
15	<input type="checkbox"/>
16	<input type="checkbox"/>
17	<input type="checkbox"/>
18	<input type="checkbox"/>
19	<input type="checkbox"/>
20	<input type="checkbox"/>
21	<input type="checkbox"/>
22	<input type="checkbox"/>
23	<input type="checkbox"/>
24	<input type="checkbox"/>

Mirror Port

[Apply](#) [Refresh](#)

■ **Source Port:**

Set up the port for being monitored. Just tick the check box (☐) beside the port x and valid port is Port 1~24.

■ **Mirror Port:**

Use the drop-down menu to select a mirror port.

4.4.10 QoS

The switch offers powerful QoS function. This function supports VLAN-tagged priority that can make precedence of 8 priorities, and DSCP (Differentiated Services Code Point) on Layer 3 of network framework.

QoS Configuration



While setting QoS function, please select QoS Mode in drop-down menu at first. Then you can use 802.1p Priority and DSCP Priority functions. In this function, you can enable/disable QoS Mode and set Priority Control, such as: 802.1p and DSCP. The switch only supports Strict Priority. High priority queue is always passed first.

■ 802.1p QoS Mode

This function will affect the priority of VLAN tag. Based on priority of VLAN tag, it can arrange 0~7 priorities, priorities can map to 4 queues of the switch (low, normal, medium, high) and possess different bandwidth distribution according to your weight setting.

QoS Configuration



802.1p Configuration							
802.1p Value	Priority	802.1p Value	Priority	802.1p Value	Priority	802.1p Value	Priority
0	normal	1	low	2	low	3	normal
4	medium	5	medium	6	high	7	high

Apply Cancel

➤ Prioritize Traffic:

Five Prioritize Traffic values are provided: Custom, All Low Priority, All Normal Priority, All Medium Priority, and All High Priority. The QoS setting would apply to all ports on the switch if one of the following values is selected: All Low Priority, All Normal Priority, All Medium Priority, or All High Priority.

➤ Port Number:

When Custom is selected for Prioritize Traffic, you may assign specific Port Number for 802.1p Configuration.

➤ **802.1p Configuration:**

Each Priority can select any of Queue. In Default, Priority 0 is mapping to Queue normal, Priority 1 is mapping to Queue low, Priority 2 is mapping to Queue low, Priority 3 is mapping to Queue normal, Priority 4 is mapping to Queue medium, Priority 5 is mapping to Queue medium, Priority 6 is mapping to Queue high, and Priority 0 is mapping to Queue high.

■ **DSCP QoS Mode**

In the late 1990s, the IETF redefined the meaning of the 8-bit SERVICE TYPE field to accommodate a set of differentiated services (DS). Under the differentiated services interpretation, the first six bits comprise a codepoint, which is sometimes abbreviated DSCP, and the last two bits are left unused.

DSCP can form total 64 (0~63) kinds of Traffic Class based on the arrangement of 6-bit field in DSCP of the IP packet. In the switch, user is allowed to set up these 64 kinds of Class that belong to any of queue (low, normal, medium, high).

QoS Configuration

QoS Mode	DSCP
Prioritise Traffic	All High Priority

DSCP Configuration	
DSCP Value(0..63)	Priority
	high
	high
	high
	high
	high
	high
	high
	high
All others	high

Apply Cancel

➤ **Prioritize Traffic:**

Five Prioritize Traffic values are provided: Custom, All Low Priority, All Normal Priority, All Medium Priority, and All High Priority.

The QoS setting would apply to all ports on the switch if one of the following values is

selected: All Low Priority, All Normal Priority, All Medium Priority, or All High Priority.

➤ **Port Number:**

When Custom is selected for Prioritize Traffic, you may assign specific Port Number for DSCP Configuration.

➤ **DSCP Configuration:**

64 kinds of priority traffic as mentioned above, user can set up any of Queue (low, normal, medium and high). In default, Priority 0~63 are mapping to Queue high.

4.4.11 Loop Detection

The loop detection is used to detect the presence of traffic. When switch receives packet's (looping detection frame) MAC address the same as oneself from port, show Loop detection happens. The port will be locked when it received the looping detection frames. If you want to resume the locked port, please find out the looping path and take off the looping path, then select "Unlock port" and click on "Apply" to turn on the locked ports.

Loop Detection Configuration

Mode	Disabled ▼
Unlock Time	300

Port	State	Protocol Enabled	Unlock port
1	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
2	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
3	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
4	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
5	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
6	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
7	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
8	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
9	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
10	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
11	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
12	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
13	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
14	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
15	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
16	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
17	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
18	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
19	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
20	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
21	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
22	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
23	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
24	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>

- **Port:**
Local port number

■ **State:**

Show the status on the port.

■ **Protocol Enabled:**

Controls whether Loop Detection is enabled on this switch port.

When Port No is chosen and enable port' s Loop detection, the port can detect loop happens and port will be Locked. If Loop did not happen, port maintains Unlocked.

■ **Unlock port:**

When ticking the port, port locked will be opened and turned into unlocked. If not ticking the port, Port maintains locked.

4.4.12 Broadcast Storm Protection

When the broadcast packets received by the switch exceed the threshold configured, the port will be blocked for a period of time which can be set. After a configured time, the switch

will detect whether the broadcast packets received on the port still exceed the threshold. If the broadcast traffic is still higher than, the port will be closed for a period of time again. If the broadcast traffic is under the threshold, the port will re-open and forward the packets normally.

Broadcast Storm Protection

Mode	Enabled ▾
Packet Per Second	1000000
Unlock Time	300

Port	State	Protocol Enabled	Unlock port
1	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
2	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
3	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
4	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
5	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
6	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
7	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
8	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
9	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
10	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
11	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
12	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
13	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
14	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
15	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
16	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
17	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
18	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
19	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
20	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
21	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
22	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
23	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>
24	Forwarding	<input type="checkbox"/>	<input type="checkbox"/>

[Apply](#) [Refresh](#)

■ **Mode:**

Controls whether Broadcast Storm Protection is enabled (as a whole).

■ Packet Per Second:

It is a threshold. When the broadcast packet traffic in a second is higher than the threshold configured, the Broadcast Storm Protection enable

■ Unlock Time:

The period (in seconds) for which a port will be kept disabled in the event of a loop is detected (and the port action is to shut down the port).

■ State:

Show the status on the port.

■ Protocol Enabled:

Controls whether Broadcast Storm Protection is enabled on this switch port.

■ Unlock port:

When ticking the port, port locked will be opened and turned into unlocked. If not ticking the port, Port maintains locked.

4.4.13 SNMP

Any Network Management System (NMS) running the Simple Network Management Protocol (SNMP) can manage the Managed devices equipped with SNMP agent, provided that the Management Information Base (MIB) is installed correctly on the managed devices. It is a protocol used to govern the transfer of information between SNMP manager and agent and traverses the Object Identity (OID) of the management Information Base (MIB), described in the form of SMI syntax. SNMP agent is running on the switch to response the request issued by SNMP manager.

Basically, it is passive except issuing the trap information. The switch supports a switch to turn on or off the SNMP agent. If you set the field SNMP "Enable", SNMP agent will be started up. If the field SNMP is set "Disable", SNMP agent will be de-activated, the related Community Name, Trap Host IP Address, Trap and all MIB counters will be ignored.

SNMP Configuration

SNMP enabled	<input checked="" type="checkbox"/>
SNMP Trap destination	0.0.0.0
SNMP Read Community	public
SNMP Write Community	private
SNMP Trap Community	public

Trap Configuration

System Event	<input checked="" type="checkbox"/> Cold Start	<input checked="" type="checkbox"/> Warm Start
Port Event	<input checked="" type="checkbox"/> Link Down	<input checked="" type="checkbox"/> Link Up
Other Event	<input checked="" type="checkbox"/> Authentication Failure	

This function is used to configure SNMP settings, community name, trap host and public traps as well as the throttle of SNMP. A SNMP manager must pass the authentication by identifying both community names, then it can access the MIB information of the target device. So, both parties must have the same community name. Once completing the setting, click **<Apply>** button, the setting takes effect.

■ **SNMP enable:**

The term SNMP enable here is used for the activation or de-activation of SNMP. Default is "Disable".

■ **Get/Set/Trap Community:**

Community name is used as password for authenticating if the requesting network management unit belongs to the same community group. If they both don't have the same community name, they don't belong to the same group. Hence, the requesting network management unit cannot access the device with different community name via SNMP protocol; If they both have the same community name, they can talk each other. Community name is user-definable with a maximum length of 15 characters and is case sensitive. There is not allowed to put any blank in the community name string. Any printable character is allowable.

The community name for each function works independently. Each function has its own community name. Say, the community name for Read only works for Read function and can't be applied to other function such as Write and Trap.

Default SNMP function: Disable
 Default community name for Get: public
 Default community name for Set: private
 Default community name for Trap: public

■ **System Event:**

The System Event trap enable here is used for the “Cold Boot” or “Warm Boot” of system Event. Default is “Disable”.

■ **TP and Fiber Port Event:**

The TP and Fiber Port Event trap enable here is used for the “Link Up” or “Link Down” of system Event. Default is “Disable”.

4.5 Monitoring

Monitoring includes the following functions:

- Statistics Overview
- Detailed Statistics
- RSTP Status
- IGMP Status
- Ping

4.5.1 Statistics Overview

The section describes to the Port statistics information and provides overview of general traffic statistics for all switch ports.

Statistics Overview for all ports

Clear Refresh

Port	Tx Bytes	Tx Frames	Rx Bytes	Rx Frames	Tx Errors	Rx Errors
1	12346567	95607	20702103	143249	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0

■ **Tx/Rx Bytes:**

The number of received and transmitted bytes per port.

■ **Tx/Rx Frames:**

The number of received and transmitted frames per port.

■ **Tx/Rx Errors:**

The number of frames received in error and the number of incomplete transmissions per port.

4.5.2 Detailed Statistics

Display the detailed counting number of each port's traffic. In the Fig. 4-20, the window can show all counter information each port at one time.

Statistics for Port 1

Receive Total		Transmit Total	
Rx Packets	143722	Tx Packets	95923
Rx Octets	20767316	Tx Octets	12387330
Rx High Priority Packets	-	Tx High Priority Packets	-
Rx Low Priority Packets	-	Tx Low Priority Packets	-
Rx Broadcast	14443	Tx Broadcast	3
Rx Multicast	2099	Tx Multicast	0
Rx Broad- and Multicast	-	Tx Broad- and Multicast	-
Rx Error Packets	0	Tx Error Packets	0
Receive Size Counters		Transmit Size Counters	
Rx 64 Bytes	105355	Tx 64 Bytes	71762
Rx 65-127 Bytes	24694	Tx 65-127 Bytes	11859
Rx 128-255 Bytes	5170	Tx 128-255 Bytes	1
Rx 256-511 Bytes	12219	Tx 256-511 Bytes	16
Rx 512-1023 Bytes	12826	Tx 512-1023 Bytes	11967
Rx 1024- Bytes	0	Tx 1024- Bytes	321
Receive Error Counters		Transmit Error Counters	
Rx CRC/Alignment	0	Tx Collisions	0
Rx Undersize	0	Tx Drops	0
Rx Oversize	0	Tx Overflow	-
Rx Fragments	0		
Rx Jabber	0		
Rx Drops	0		

■ **Rx Packets:**

The counting number of the packet received.

■ **RX Octets:**

Total received bytes.

■ **Rx High Priority Packets:**

Number of Rx packets classified as high priority.

■ **Rx Low Priority Packets:**

Number of Rx packets classified as low priority.

■ **Rx Broadcast:**

Show the counting number of the received broadcast packet.

■ **Rx Multicast:**

Show the counting number of the received multicast packet.

■ **Rx Broad- and Multicast:**

Show the counting number of the received broadcast with multicast packet.

■ **Rx Error Packets:**

Show the counting number of the received error packets.

■ **Tx Packets:**

The counting number of the packet transmitted.

■ **Tx Octets:**

Total transmitted bytes.

■ **Tx High Priority Packets:**

Number of Tx packets classified as high priority.

■ **Tx Low Priority Packets:**

Number of Tx packets classified as low priority.

■ **Tx Broadcast:**

Show the counting number of the transmitted broadcast packet.

■ **Tx Multicast:**

Show the counting number of the transmitted multicast packet.

■ **Tx Broad- and Multicast:**

Show the counting number of the transmitted broadcast with multicast packet.

■ **Tx Error Packets:**

Show the counting number of the received error packets.

■ **Rx 64 Bytes:**

Number of 64-byte frames in good and bad packets received.

■ **Rx 65-127 Bytes:**

Number of 65 ~ 126-byte frames in good and bad packets received.

■ **Rx 128-255 Bytes:**

Number of 127 ~ 255-byte frames in good and bad packets received.

■ **Rx 256-511 Bytes:**

Number of 256 ~ 511-byte frames in good and bad packets received.

■ **Rx 512-1023 Bytes:**

Number of 512 ~ 1023-byte frames in good and bad packets received.

■ **Rx 1024-Bytes:**

Number of 1024-max_length-byte frames in good and bad packets received.

■ **Tx 64 Bytes:**

Number of 64-byte frames in good and bad packets transmitted.

■ **Tx 65-127 Bytes:**

Number of 65 ~ 126-byte frames in good and bad packets transmitted.

■ **Tx 128-255 Bytes:**

Number of 127 ~ 255-byte frames in good and bad packets transmitted.

■ **Tx 256-511 Bytes:**

Number of 256 ~ 511-byte frames in good and bad packets transmitted.

■ **Tx 512-1023 Bytes:**

Number of 512 ~ 1023-byte frames in good and bad packets transmitted.

■ **Tx 1024-Bytes:**

Number of 1024-max_length-byte frames in good and bad packets transmitted.

■ **Rx CRC/Alignment:**

Number of Alignment errors and CRC error packets received.

■ **Rx Undersize:**

Number of short frames (<64 Bytes) with valid CRC.

■ **Rx Oversize:**

Number of long frames(according to max_length register) with valid CRC.

■ **Rx Fragments:**

Number of short frames (< 64 bytes) with invalid CRC.

■ **Rx Jabber:**

Number of long frames(according to max_length register) with invalid CRC.

■ **Rx Drops:**

Frames dropped due to the lack of receiving buffer.

■ **Tx Collisions:**

Number of collisions transmitting frames experienced.

■ **Tx Drops:**

Number of frames dropped due to excessive collision, late collision, or frame aging.

■ **Tx Overflow:**

Number of frames dropped due to the lack of transmitting buffer.

4.5.3 RSTP Status

RSTP VLAN Bridge Overview

Bridge Id	00-40-c7-b4-01-4e
Bridge Priority	32768
Root Id	00-40-c7-b4-01-4e
Root Priority	32768
Root Port	0
Hello Time	2
Max Age	20
Fwd Delay	15
Topology	Steady

[Refresh](#)

RSTP Port Status

Port/Group	Path Cost	Edge Port	P2p Port	Protocol	Port State
Port 1	20000	no	yes	RSTP	Forwarding
Port 2					Non-STP
Port 3					Non-STP
Port 4					Non-STP
Port 5					Non-STP

➤ **RSTP VLAN Bridge Overview**

■ **Bridge ID:**

Show this switch's current bridge priority setting and bridge ID which stands for the MAC address of this switch.

■ **Bridge Priority:**

This parameter configures the spanning tree priority globally for this bridge. The device with the highest priority becomes the STP root device. However, if all devices have the same priority, the device with the lowest MAC address will then become the root device. Number between 0 - 61440 in increments of 4096. Therefore, there are 16 distinct values.

■ **Root ID:**

Show root bridge ID of this network segment. If this switch is a root bridge, the "This switch is Root" will show this switch's bridge ID.

■ **Root Priority:**

This parameter configures the spanning tree priority globally for this Root. The device with the highest priority becomes the STP root device. However, if all devices have the same priority, the device with the lowest MAC address will then become the root device. Number between 0 - 61440 in increments of 4096. Therefore, there are 16 distinct values.

■ **Root Port:**

A forwarding port that is the closest to the root bridge in terms of path cost

■ **Hello Time:**

Interval (in seconds) at which the root device transmits a configuration message (BPDU frame). Number between 1-10 (default is 2).

■ **Max Age:**

Show the root bridge's current max age time.

■ **Forward Delay:**

Show the root bridge's forward delay time.

■ **Topology:**

Show the root bridge's spanning tree topology.

➤ **RSTP Port Status**

■ **Path Cost:**

It is the contribution value of the path through this port to Root Bridge. STP algorithm determines a best path to Root Bridge by calculating the sum of path cost contributed by all ports on this path. A port with a smaller path cost value would become the Root Port more possibly.

■ **Edge Port:**

If user selects "Yes", this port will be an edge port. An Edge Port is a port connected to a device that knows nothing about STP or RSTP. Usually, the connected device is an end station. Edge Ports will immediately transit to forwarding state and skip the listening and learning state because the edge ports cannot create bridging loops in the network. This will expedite the convergence. When the link on the edge port toggles, the STP topology keeps unchanged. Unlike the designate port or root port though, an edge port will transit to a normal spanning-tree port immediately if it receives a BPDU.

■ **P2P Port:**

We say a port is a point-to-point link, from RSTP's view, if it is in full-duplex mode but is shared link if it is in half-duplex mode. RSTP fast convergence can only happen on point-to-point links and on edge ports. This can expedite the convergence because this will have the port fast transited to forwarding state. There are three parameters, Auto, True and False, used to configure the type of the point-to-point link. If configure this parameter to be Auto, it means RSTP will use the duplex mode resulted from the auto-negotiation. In today's switched networks, most links are running in full-duplex mode. For sure, the result may be half-duplex, in this case, the port will not fast transit to Forwarding state. If it is set as True, the port is treated as point-to-point link by RSTP and unconditionally transited to Forwarding state. If it is set as False, fast transition to Forwarding state will not happen on this port. Default: Auto

■ **Protocol:**

Show the root bridge's spanning tree topology

■ **Port State:**

Show the current port state.

4.5.4 IGMP Status

Display IGMP status. In Fig. 4-21, the window shows VLAN ID for each multicast group.

IGMP Status

VLAN ID	Querier	Queries transmitted	Queries received	v1 Reports	v2 Reports	v3 Reports	v2 Leaves
1	Idle	0	0	0	0	0	0

Pages: 1

VLAN ID	Group Address	Port Member
None of Multicast Group		

Refresh << >>

- **VLAN Id:**

Show VLAN Id for each multicast group.

- **Querier:**

Show the group membership queries status.

- **Queries transmitted:**

To count the group membership queries transmitted.

- **Queries received:**

To count the group membership queries received.

- **V1 Reports:**

When a host receives a group membership query, it identifies the groups associated with the query and determines to which groups it belongs. The host then sets a timer, with a value less than the *Max Response Time* field in the query, for each group to which it belongs. It Calculate the number of times of IGMPV1 report.

- **V2 Reports:**

When a host receives a group membership query, it identifies the groups associated with the query and determines to which groups it belongs. The host then sets a timer, with a value less than the *Max Response Time* field in the query, for each group to which it belongs. It Calculate the number of times of IGMPV2 report.

■ **V3 Reports:**

When a host receives a group membership query, it identifies the groups associated with the query and determines to which groups it belongs. The host then sets a timer, with a value less than the *Max Response Time* field in the query, for each group to which it belongs. It Calculate the number of times of IGMPV3 report.

■ **V2 Leaves:**

When a host leaves a group, it sends a leave group membership message to multicast routers on the network, it show the leaves number.

4.5.5 Ping

To set up target IP address for ping function and display ping status. In Fig. 4-22, the window shows the ping information.

Ping Parameters

Target IP address	<input type="text"/>
Count	1 ▾
Time Out (in secs)	1 ▾

Apply

Ping Results	
Target IP address	0.0.0.0
Status	Test complete
Received replies	0
Request timeouts	0
Average Response Time (in ms)	0

Refresh

■ **Ping Parameters:**

➤ **Target IP address:**

Set up a Target IP address to ping.

➤ **Count:**

Use drop-down menu to set number of echo requests to send.

Four type of number can choose, there are 1, 5, 10 and 20.

Default: 1

➤ **Time Out (in secs):**

Use drop-down menu to set number of echo requests time out in second. Four type numbers can choose, there are 1,5,10 and 20.

Default: 1

NOTE: All the functions should press **<Apply>** button to start up after you set up the parameters.

■ **Ping Results:**

➤ **Target IP address:**

Show the active target IP address.

➤ **Status:**

Show the result of the ping status.

➤ **Received replies:**

Show the received replies number of times.

➤ **Request timeouts:**

Show the timeout of request.

➤ **Average Response times (In ms):**

Show the average response time in milliseconds.

4.6 Maintenance

Maintenance includes the following functions:

- Warm Restart
- Factory Default
- Software Upgrade
- Configuration File Transfer
- Logout

4.6.1 Warm Restart

Reboot the switch. Reboot takes the same effect as the RESET (mode) button on the front panel of the switch. Press **<Yes>** button to confirm warm restart function and it will take around thirty (30) seconds to complete the system boot.

Warm Restart

Are you sure you want to perform a Warm Restart?

4.6.2 Factory Default

Factory Default provides the function to retrieve default settings and replace current configuration. Except the IP address setting, all settings will be restored to the factory default values when “Factory Default” function is performed. If you want to restore all configurations including the IP address setting to the factory default, please press the “RESET” (mode) button on the front panel.

➤ Note for “RESET” (mode) button:

You must press the “RESET” (mode) button over 10 seconds to restore the factory default setting.

Factory Default

Are you sure you want to perform a Factory Default?

4.6.3 Software Upload

You can just click Browse button to retrieve the file you want in your system to upgrade your switch.

Software Upload

4.6.4 Configuration File Transfer

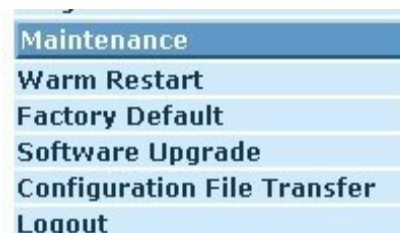
You can backup your switch's configuration file into your computer folder in case accident happens. In addition, uploading backup configuration file into a new or a crashed switch can save much time and avoid mistakes.

Configuration Upload

Configuration Download

4.6.5 Logout

The switch allows you to logout the system to prevent other users from the system without the permission. If you do not logout and exit the browser, the switch will automatically have you logout. Besides this manually logout and implicit logout, you can set up the parameter of Auto Logout Timer in system configuration function to explicitly ON/OFF this logout function.



- Auto/Manual Logout:

If no action and no key is stroke as well in any function screen more than the minutes you set up in Auto Logout Timer, the switch will have you logout automatically. Or press the **<Logout>** button in Logout function to exit the system manually.

A

Appendix A: Product Specifications

Standards	IEEE 802.3 10BaseT IEEE 802.3u 100BaseTX IEEE 802.3ab 1000BASE-T IEEE 802.3z 1000BASE-X IEEE 802.3x Flow Control IEEE 802.3az Energy Efficient Ethernet IEEE 802.1q VLAN (Port Based and Tag Based) IEEE 802.1p Class of Service, Priority Protocols IEEE 802.1d Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol
Hardware	Number of Ports: 24 MAC Address: 8K Buffer Memory: Embedded 512 K Bytes frame buffer Jumbo frames: 9KB Transmission Method: Store and Forward
Features	<ul style="list-style-type: none"> • Trunking: <ul style="list-style-type: none"> Static trunk (Link Aggregation) Up to 12 groups Up to 24 ports per group • Spanning Tree Protocol (STP): <ul style="list-style-type: none"> Standard Spanning Tree 802.1d Rapid Spanning Tree (RSTP) 802.1w • VLAN: <ul style="list-style-type: none"> Support up to 16 VLANs simultaneously (out of 4096 VLAN IDs) 802.1Q tag-based VLAN Port-based VLAN Port Isolation Management VLAN • IGMP v1/v2 Snooping: <ul style="list-style-type: none"> Supports 64 multicast groups (source-specific multicasting is also supported) • Port mirroring

	<ul style="list-style-type: none"> • Loop detection • Broadcast Storm protection • Quality of Service (QoS) 8 hardware queues Scheduling Strict priority Queue assignment based on DSCP and class of service (802.1p/ CoS) Classification: Port based; 802.1p VLAN priority based; DSCP based; Differentiated Services (DiffServ) <ul style="list-style-type: none"> • Management • Web GUI • SNMP SNMP version1, 2c with support for traps <ul style="list-style-type: none"> • Reset Button
Filtering/Forwarding Rates	1000Mbps port - 1,488,000pps 100Mbps port - 148,800pps 10Mbps port - 14,880pps
Transmission Media	10BaseT Cat. 3, 4, 5, 6 UTP/STP 100BaseTX Cat. 5, 6 UTP/STP 1000BaseT Cat. 5, 6 UTP/STP 1000BASE-X SX/LX SFP
Led Indicators	Per Port UTP: Link/Act, Speed Per Port SFP: Link/Act, Speed Per Unit: Power
Power Input	100-240 VAC 50~60 Hz, internal , universal
Power Consumption	System=17.41W (Full loading)
Dimensions	442 (W)x 44 (H) x 170.3 (D) mm
Weight	2.4 Kg



B

Appendix B: Troubleshooting

This appendix contains specific information to help you identify and solve problems. If your switch does not function properly, please make sure it is set up according to the instructions on the manual.

Q: If you suspect your switch is not connected correctly to your network, check the following points before you contact your local dealer for support.

A:

- Make sure the Power is ON (Check the Power LED).
- Make sure the cable is connected properly on both ends.
- Make sure that the maximum cable length between switch and end node does not exceed 100 meters (for 10/100/1000BASE-TX connection).
- Make sure that the maximum switch-to-hub/switch cable distance does not exceed 100 meters (for 10/100 BASE-TX connection).
- Verify that the cabling type used is correct.
- Check the corresponding Link/Act, FDX/Col, and 100M for signs of faulty connection. Check the status of the cable attachment. If the problem persists, try a different cable.
- Try another port on the Switch.
- Turn off power supply to the Switch. After a while, turn it on again to see if it resumes to its normal function.
- If you find out where the problem is but cannot solve it by yourself, or you simply cannot locate what is at fault, please contact your local dealer for technical support.

Q: When you forgot your IP or password, please use the reset button for the factory default setting? Please take the following steps to reset the Web Smart Switch back to the original default:

A:

Step1: Turn on the Switch

Step2: Press and hold the reset button continuously for 10 seconds and release the reset button.

Step3: The switch will reboot for 30 seconds and the configuration of switch will back to the default setting



Please enter password to login

Password:

Key in the user ID and the password to pass the authentication as following,

IP: 192.168.2.1

Password: **airlive**