



FEP-0840

8-Port Web Smart PoE Switch

Quick Guide

&

User Manual

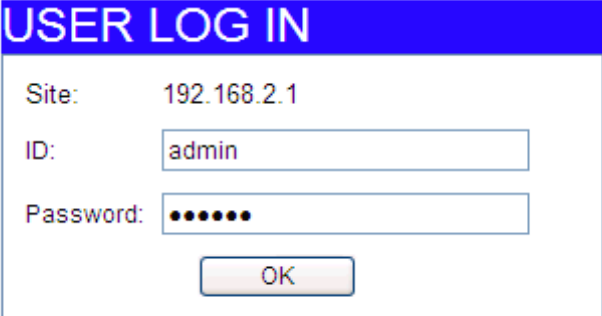
V1.0

Digital Data Communications Asia Co., Ltd.

<http://www.level1.com>

Quick Guide

- Step1.** Connect POE SWITCH with AC power cord to 100~240VAC.
- Step2.** Connect the PoE AP device to LAN port 1, and your PC to LAN port 8 as the following connection.
- Step3.** Turn on the power switch, it will light on the PWR LED, and perform self-diagnostic test. It takes about 10 seconds to complete the process.
- Step4.** Set your PC IP address to **192.168.2.100** (same subnet **192.168.2.x** as the web management).
- Step5.** Enter "**192.168.2.1**" (default IP address of Web management) from PC web browser. The web management will display the following login page



USER LOG IN

Site: 192.168.2.1

ID: admin

Password: ●●●●●●

OK

Enter "**admin**" for user ID, "**system**" for password, and click the **OK** button to login to the Web management.

Note: the user ID and password fields are case-sensitive.

Step6. Click the icon “**PoE**”, and then select “**PoE Setting**”.

Step7. Select “**Enable**” and click on Port No.1 and **Update** to power on the connected PoE AP device for Port 1. You may also click “**PoE Scheduling**” to select time schedule for Power on/off scheduling control.

PoE Setting

Function	Status	Select All
	Enable	<input type="checkbox"/>
Port No.	<input checked="" 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	

Update

Port	Status
1	Enable
2	Disable
3	Disable
4	Disable
5	Disable
6	Disable
7	Disable
8	Disable

Step8. Refer to Chapter 4 for further networking configurations.

**** Note:**

**Problems in setting up the web smart PoE switch?
Please refer to the last chapter for troubleshooting.**

Table of Contents

1	Introduction	7
2	Features	8
	2.1 Power on Switch	8
	2.2 LED Indicators	8
3	Switch Installations	9
	3.1 Package Contents	9
	3.2 Hardware Overview	9
	3.3 Preparations for Site Installation	11
	3.4 Desktop Installation	11
	3.5 Cabling Requirements	12
	3.6 Power Connection	13
	3.7 Installation Steps	13
	3.8 Reset to Default	14
4	Web Management	16
	4.1 Setup your computer for Web management	16
	4.2 Web management	19
	4.3 Administrator	20
	4.3.1 Authentication Configuration	20
	4.3.2 System IP Configuration	21
	4.3.3 System Status	21
	4.3.4 Load Default Setting	22
	4.3.5 Firmware Update	22
	4.4 PoE	23
	4.4.1 PoE Setting	23
	4.4.2 PoE Power Delay	24
	4.4.3 PoE Scheduling	25

4.5	Port Management	26
4.5.1	Port Configuration	26
4.5.2	Port Mirroring	27
4.5.3	Bandwidth Control	28
4.5.4	Broadcast Storm Control	34
4.6	VLAN Setting	35
4.6.1	VLAN Mode	35
4.6.2	VLAN Member	36
4.7	Per Port Counter	39
4.8	QoS Setting	40
4.8.1	Priority Mode	40
4.8.2	Class of Service Configuration	41
4.9	Security	43
4.9.1	MAC Address Binding	43
4.9.2	MAC Address Scan	44
4.9.3	TCP/UDP Filter	44
4.9.4	Web Management Filter	45
4.10	Spanning Tree	45
4.10.1	STP Bridge Settings	46
4.10.2	STP Port Settings	46
4.10.3	Loopback Detection Settings	46
4.11	Trunk Setting	48
4.12	DHCP Relay Agent	49
4.13	NTP Setting	49
4.14	Backup/Recovery	50
4.15	Miscellaneous	51
4.16	Logout	51
	Appendix A: Product Specifications	52

Appendix B: Troubleshooting..... 54

B.1 Can NOT Access Web Page?..... 54

B.2 Forget IP Address, User ID, and Password? 54

1 Introduction

The **POE SWITCH** is an 8-Port Web-Smart Midspan PoE Switch with power on/off scheduling control. The web smart features are designed to deliver high levels of performance that are commensurate with Fast Ethernet networking, and to provide simple and easy installation in an environment where the power over Ethernet (PoE) are required for remote PoE devices.

The web smart switch provide 10/100Mbps Fast Ethernet connections with many networking capabilities per port basis including Security, QoS service, Bandwidth Control, Spanning Tree Protocol, VLAN, SNMP settings, and PoE functions.

The power over the Ethernet ports are all turned off initially, and can be turned on per port basis through the web management to power on the corresponding remote PoE device. The powered PoE device can be any equipment of IEEE 802.3af and 802.3at PoE device, such as WiFi AP, IP camera, IP Phone, etc.

Each port can deliver up to 15 Watt (or optional 30Watt) to the corresponding remote PoE device. Request of more power from remote PoE device may result in a power failure due to activation of Over-Current-Protection (OCP) circuit.

The POE SWITCH can be installed in a rack mount chassis where space is limited. The optional rack mount kit can be purchased separately from you local dealer for rack mount installation.

The rest of this user manual will help you to uncover most of the web smart features with step-by-step instructions illustrated on web pages.

2 Features

The POE SWITCH web smart PoE switch is equipped with an 8-port RJ45 connector for Fast Ethernet, and the corresponding LED indicators for each port. In addition, a built-in push button is provided for default reset, which is useful to reset back to the default IP address, user ID, and password. The features are as the following

- RJ45 x 8 for WAN and LAN ports with PoE capability
- Max. 15Watt (optional 30Watt) per port basis
- Passive power compatible with IEEE802.3af and 802.3at PoE devices
- Networking configurations by Web Management
- 16+1 LED Indicators: LAN, PoE (for 8 ports) + PWR (for system power)
- Built-in push button for default reset
- AC power on/off switch
- OVP, OCP, OTP protections

2.1 Power on Switch

The POE SWITCH is equipped with an internal power supply to operate with 100~240 VAC, 50 ~ 60 Hz. The AC power cord connector is at the rear panel next to the power on/off switch. Turning on the power switch, it will first perform “**self-diagnostic**” test, and take about 10 seconds to complete the process.

2.2 LED Indicators

LED Status Table

LED	Status	Descriptions
PoE	ON	The PoE function is enabled.
	OFF	The PoE function is disabled.
Power	ON	System power is on.
	OFF	System power is off.
10/100M	ON	LAN Port is in connection.
	OFF	No Ethernet connection.
	Flashing	Data is transmitting or receiving

3 Switch Installations

This chapter lists the package contents, and describes the hardware and detailed procedures for installation of the web management switch. For a quick setup, please refer to the quick guide at the beginning of this manual.

3.1 Package Contents

Make sure that you have all the necessary accessories that come with your package, before you start the installation of the web management switch.

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

- ✓ POE SWITCH Unit
- ✓ One AC Power Cord
- ✓ One CD-ROM for Quick Guide & User's Manual

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

3.2 Hardware Overview

Front Panel

The 8 ports of RJ-45 connector are on the front panel of the web smart switch with the corresponding LED indicators. The built-in push button for default reset is next to the PWR LED indicator, and can be easily accessed by a pencil or a ball pen.



LED Indicators:

LED indicators display the network connection and PoE status of the switch.

100BASE-TX Fast Ethernet with PoE Ports (Port 1~8):

These ports are with passive PoE capabilities, and will supply power to the connected PoE device under the control of the web management. This feature allows users to freely and safely mix legacy and PoE compatible devices on their network.

All the 8 ports support network speeds of either 10Mbps or 100Mbps, and can operate in half- and full- duplex transfer modes. These ports also support the automatic MDI/MDIX crossover detection function to provide “**plug and play**” capability.

Reset Button

The Reset button is used to reset all the setting back to the factory default values. Make sure that all the settings of the switch are taken down, or all the previous settings will be erased after pressing the “**Reset**” button.

The Rear Panel

The 3-pronged power plug is placed at the rear panel of the switch shown as below.



3.3 Preparations for Site Installation

You can mount POE SWITCH 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 1.5kg.
- 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 0 to 60°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

Rack Mounting

The POE SWITCH can be mounted on a standard size 19-inch rack, and 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.

3.4 Desktop Installation

The POE SWITCH 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.

The location you choose to install your switch and the way you configure your network may greatly affect its performance.

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.

3.5 Cabling Requirements

For 100BASE-TX ports

The 8 RJ-45 station ports require standard Cat.5 twisted-pair UTP/STP cable for connection. When configuring within the 10/100 BASE-T cabling architecture, the cable distance should be within 100m. The cable requirement for 10/100BASE-TX connection is listed in table as follows:

10BASE-T	100 ohm Category 3, 4, 5 UTP/STP cable
100BASE-TX	100 ohm Category 5 UTP/STP cable

Auto MDI/MDI-X function

The POE SWITCH is equipped with Auto-MDI/MDI-X function, which allows you to use straight-thru cable to connect another switch/hub. Simply use the straight-through cable for all types of 10/100BASE-TX connections to either a PC or other switch.

Connection	10 /100Base-TX
Spec.	
Interface	RJ-45
Cable to Use	Standard Cat.5
To an end station	Straight-through twisted-pair cable
To a hub/switch	Straight-through twisted-pair cable
Maximum Distance	100 meters

3.6 Power Connection

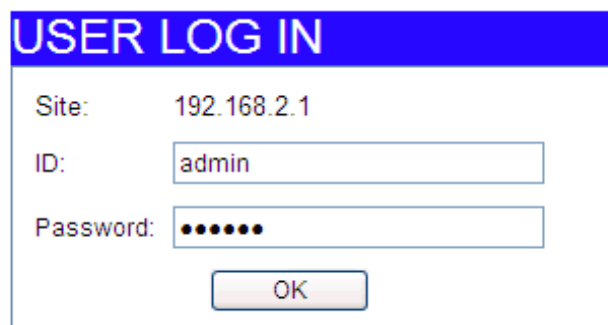
The POE SWITCH is equipped with an internal power supply unit, which allows a power connection to a wide range of input voltages from 100 to 240 VAC with 50 ~ 60Hz.

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.

3.7 Installation Steps

This section describes the step-by-step procedures for PoE setup.

- Step1.** Connect the PoE AP device to LAN port **1**, and your PC to LAN port **8** of the POE SWITCH as the above connection.
- Step2.** Set your PC IP address to **192.168.2.100**
(This PC IP address must be in the same subnet **192.168.2.x** as the web management. Should you have problem in setting PC IP address, please refer to Section 4.1 for setting up your PC IP address.)
- Step3.** Enter "**192.168.2.1**" from PC web browser to connect to web management page as the following;



USER LOG IN

Site: 192.168.2.1

ID:

Password:

- Step4.** Enter "**admin**" for username and "**system**" for password.
- Step5.** Go to "**PoE**", and then select "**PoE Setting**".
- Step6.** Click on Port No.**1** and **Update** to power on the connected PoE AP device for Port 1.

PoE Setting

Function	Status	Select All
Enable		<input type="checkbox"/>
Port No.	<input checked="" type="checkbox"/> 01 <input type="checkbox"/> 02 <input type="checkbox"/> 03 <input type="checkbox"/> 04 <input type="checkbox"/> 05 <input type="checkbox"/> 06 <input type="checkbox"/> 07 <input type="checkbox"/> 08	
<input type="button" value="Update"/>		

Port	Status
1	Enable
2	Disable
3	Disable
4	Disable
5	Disable
6	Disable
7	Disable
8	Disable

Step7. Install the rack mount kit on the 19" rack if needed.

Step8. Refer to Chapter 4 for further networking configurations.

3.8 Reset to Default

When forgot the web management IP address, user ID, or password, you may use the reset button for the factory default settings. Please follow the steps to reset the Web Smart Switch back to the original default values;

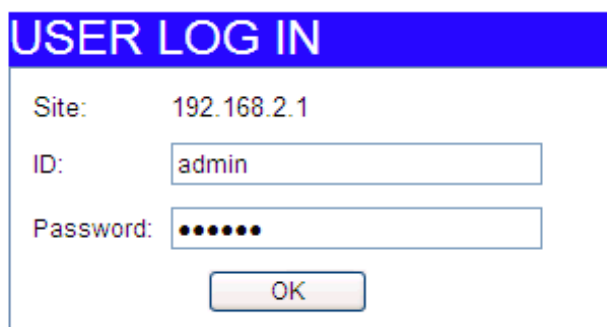
Step1. Turn on the web smart switch.

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

Step3. The switch will reboot for 5 seconds and the configuration of switch will reset back to the default setting.

Step4. Set your PC IP address to **192.168.2.100**

Step5. Enter "**192.168.2.1**" from PC web browser to connect to web management.



A dialog box titled "USER LOG IN" with a blue header. It contains three input fields: "Site:" with the value "192.168.2.1", "ID:" with the value "admin", and "Password:" with six black dots. Below the fields is an "OK" button.

Step6. Enter "**admin**" for username and "**system**" for password, and click OK button to login to web management.

4 Web Management

The POE SWITCH can be configured on web page, including administrator, bandwidth management, VLAN setting, per port counter, trunk setting, QoS setting, security filter configuration, backup/recovery, miscellaneous, logout, etc. The web browsers, such as IE 6.0~7.0, Firefox 2.0~3.0, can be used to configure the web smart switch. All the web management functions will be illustrated in this chapter.

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 connect to each other. This means that your computer must set to the same subnet and subnet mask as the switch in order to configure the switch through PC web browser.

To find out the IP address information for your computer, please run Command Line window in WinNT/2000/XP, and enter “**ipconfig**”. (or enter “**winipcfg**” in Win9x).

For example, if one IP address is **192.168.2.1**, and the other IP address must be **192.168.2.x** (x can be any number between 2 and 254) for same Class C subnet.

For the same subnet mask, usually **255.255.255.0** is used for all Class C subnet.

Configure you computer’s IP address

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 the web smart switch IP address has not been changed, it should have the following factory default value:

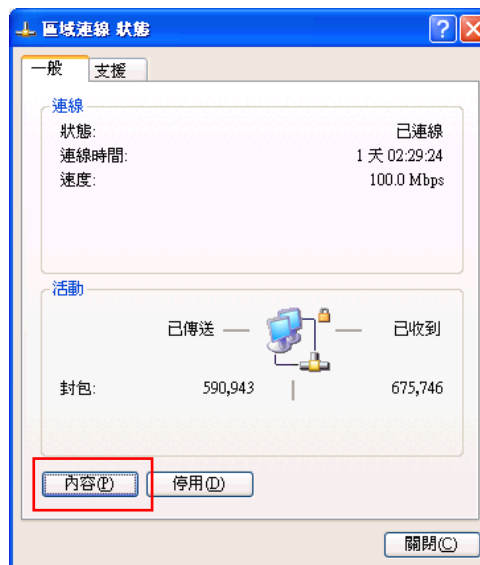
Default IP Address:

IP Address: **192.168.2.1**

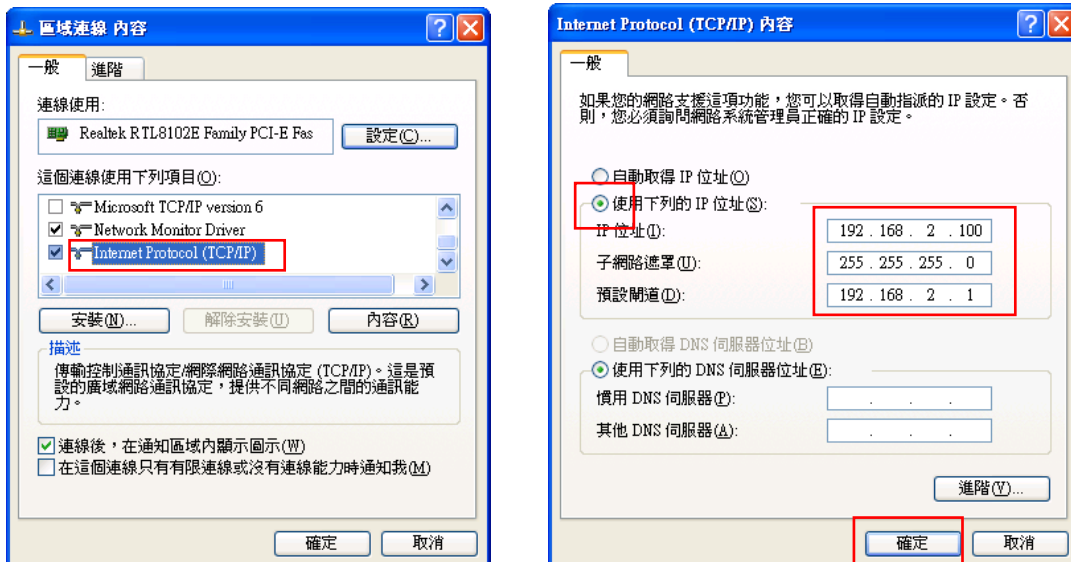
Subnet Mask: **255.255.255.0**

To set your computer IP address in the same subnet as the switch, please follow the steps to change the computer IP address:

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 Area Connection**” of the Window task bar’s Start menu.



Step 2. Click on the “property” icon.



Step 3. Double click on the “Internet Protocol (TCP/IP)” icon.

Step 4. Click on “**Use the following IP address**” button and enter the computer’s IP 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 with factory’s default value, please enter the following for computer’s IP:

IP Address: 192.168.2.100

Subnet Mask: 255.255.255.0

Gateway: 192.168.2.1

Click “**Ok**” after finish entering the IP.

***Note1:** An alternative configuration is to change the switch IP address into the same subnet as the computer. This can be done in the Section 4.3 Administrator for setting new switch IP address.

***Note2:** The POE SWITCH 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 entering the switch’s IP address on the web browser.

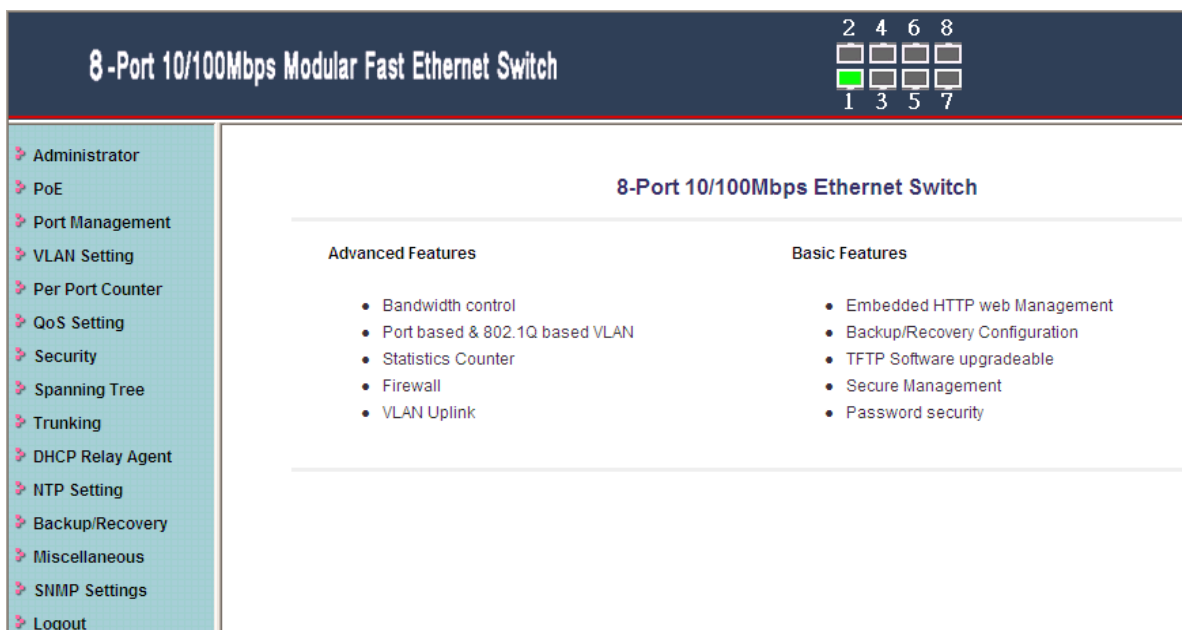
4.2 Web management

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

Step 1. Run the Internet Explorer

Step 2. Enter “**192.168.2.1**” for the web management IP address.

Step 3. Enter “**admin**” for ID and “**system**” for password, and click the OK button to login to the web management page as follows.



Menu Bar

The Menu bar is on the left side of the screen where you may click to configure management functions. Most configurations for administration services are under the “**Administrator**” menu.

Port Connection Status

The on/off status on the top 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. Click on a port will show the quick port status.

4.3 Administrator

The Administrator section includes the management functions as the following:

Authentication Configuration

System IP Configuration

System Status

Load Default Setting

Firmware Update

Reboot Device

4.3.1 Authentication Configuration

This page shows the information for authentication configuration. User can set new Username and Password in this page.

Authentication Configuration

Setting	Value
Username	<input type="text" value="admin"/> max:15
Password Confirm	<input type="password" value="••••••"/> max:15 <input type="password" value="••••••"/>
<input type="button" value="Update"/>	

Note:

Username & Password can only use "a-z","A-Z","0-9","_","+","-","=".

4.3.2 System IP Configuration

This page shows system configuration including the current IP address, Subnet mask, and Gateway.

System IP Configuration

Setting	Value
IP Address	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="2"/> . <input type="text" value="1"/>
Subnet Mask	<input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/>
Gateway	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="2"/> . <input type="text" value="254"/>
IP Configure	<input checked="" type="radio"/> Static <input type="radio"/> DHCP
<input type="button" value="Update"/>	

User can configure the IP settings, Subnet Mask, Gateway as below:

IP address: The default IP is 192.168.2.1

Subnet Mask: The default is 255.255.255.0.

Gateway: Assign the network gateway for the web smart switch.

If you change the IP address of this switch and then press Update. It will show “**update successfully**” then press Reboot button. It will enter user login screen automatically.

4.3.3 System Status

This page shows the status of switch, including MAC address and software version. The comment field allows the network administrator to input an easy-to-remember nickname for this switch.

System Status

MAC Address	00:55:55:55:17:17
Number of Ports	8
Comment	<input type="text" value="switch"/>
System Version	Yoda_IP1717_8P_WebCtrl_IP210L3.95_v138.6_PoE
<input type="checkbox"/> Idle Time Security	Idle Time: <input type="text" value="0"/> (1~30 Minutes) <input type="radio"/> Auto Logout(Default). <input type="radio"/> Back to the last display.
<input type="button" value="Update"/>	

Number of Ports: Displays number of ports in the switch.

Comment: Comment note for the switch.

System Version: Displays the switch's firmware version.

Click **Update** button for exit.

4.3.4 Load Default Setting

The switch can be set to the default values by clicking the “**Load**” button.

***Note:** This will NOT change the user ID, password, and IP configurations. It only restore all default settings related to switch behavior.

Load Default Setting

recover switch default setting excluding the IP address, User name and Password

Load

4.3.5 Firmware Update

User need to enter the password twice and press **Update** button to update the firmware. The smart switch will erase the flash memory. There is a self-protection mechanism in the boot loader, so the boot loader will keep intact. The boot loader will restore the code to firmware update page, even though the power is turned off or the cable link fails during the firmware update procedure.

Firmware Update	
Please input the password to continue the Firm ware Update process.	
Password	<input type="text"/>
ReConfirm	<input type="text"/>
<input type="button" value="Update"/>	

Notice:

After clicking the "UPDATE" button, if the firmware update webpage is not redirected correctly or is shown as "Webpagenot found".

Please connect to <http://192.168.2.1>

After pressing Update button, the old web code will be erased. Then you can select the new image file and press “**Update**” button to update the firmware you need.

4.3.6 Reboot Device

Click “**Confirm**” button to reboot the device.

Reboot Device:

Click "Confirm" to Reboot the Device

***Note:** The reboot is for software base instead of hardware base

4.4 PoE

This PoE section describes the PoE functions, and display the power on/off status of each port.

4.4.1 PoE Setting

8-Port 10/100Mbps Modular Fast Ethernet Switch

2 4 6 8
1 3 5 7

- Administrator
- PoE
 - PoE Setting
 - PoE Power Delay
 - PoE Scheduling
- Port Management
 - Port Configuration
 - Port Mirroring
 - Bandwidth Control
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- NTP Setting

PoE Setting

Function	Status	Select All
	-----	<input type="checkbox"/>
Port No.	01 <input type="checkbox"/> 02 <input type="checkbox"/> 03 <input type="checkbox"/> 04 <input type="checkbox"/> 05 <input type="checkbox"/> 06 <input type="checkbox"/> 07 <input type="checkbox"/> 08 <input type="checkbox"/>	
<input type="button" value="Update"/>		

Port	Status
1	Enable
2	Enable
3	Enable
4	Enable
5	Enable
6	Enable
7	Enable
8	Enable

4.4.2 PoE Power Delay

This PoE power on/off will be delayed in accord with the delay mode.

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
1	3	5	7

- Administrator
- PoE
 - PoE Setting
 - **PoE Power Delay**
 - PoE Scheduling
- Port Management
 - Port Configuration
 - Port Mirroring
 - Bandwidth Control
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent

PoE Power Delay

Function	Delay Mode	Delay Time(0~300)	Select All
	----- ▾	<input type="text"/> second	<input type="checkbox"/>
Port No.	01 <input type="checkbox"/> 02 <input type="checkbox"/> 03 <input type="checkbox"/> 04 <input type="checkbox"/> 05 <input type="checkbox"/> 06 <input type="checkbox"/> 07 <input type="checkbox"/> 08 <input type="checkbox"/>		
<input type="button" value="Update"/>			

Port	Delay Mode	Delay Time (second)
1	Disable	0
2	Disable	0
3	Disable	0
4	Disable	0
5	Disable	0
6	Disable	0
7	Disable	0
8	Disable	0

4.4.3 PoE Scheduling

The PoE on/off control will be scheduling in accord with the schedule mode.

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
1	3	5	7

- Administrator
- PoE
 - PoE Setting
 - PoE Power Delay
 - PoE Scheduling
- Port Management
 - Port Configuration
 - Port Mirroring
 - Bandwidth Control
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

PoE Scheduling

Schedule on Port

Schedule Mode

Select all

Hour	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
00	<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"/>
01	<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"/>
02	<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"/>
03	<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"/>
04	<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"/>
05	<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"/>
06	<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"/>
07	<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"/>
08	<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"/>
09	<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"/>
10	<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"/>
11	<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"/>
12	<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"/>
13	<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"/>
14	<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"/>
15	<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"/>
16	<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"/>
17	<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"/>
18	<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"/>
19	<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"/>
20	<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"/>
21	<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"/>
22	<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"/>
23	<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"/>

4.5 Port Management

The Port Management section includes the management functions as the following: Port Configuration, Port Mirroring, Bandwidth Control, Broadcast Storm Control, POE.

4.5.1 Port Configuration

In Port Configuration, you can set and view the operation mode for each port.

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
●			
1	3	5	7

Port Configuration

- Administrator
- PoE
- Port Management
 - [Port Configuration](#)
 - Port Mirroring
 - Bandwidth Control
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Function	Auto	Speed	Duplex	Pause	Backpressure	Tx/Rx Capability	Addr. Learning
	----	----	----	----	----	----	----
Select Port No.	01 <input type="checkbox"/> 02 <input type="checkbox"/> 03 <input type="checkbox"/> 04 <input type="checkbox"/> 05 <input type="checkbox"/> 06 <input type="checkbox"/> 07 <input type="checkbox"/> 08 <input type="checkbox"/>						
<input type="button" value="Update"/>							

Port	Current Status				Setting Status						
	Link	Speed	Duplex	FlowCtrl	Auto-Nego	Speed	Duplex	Pause	Backpressure	Tx/Rx Cap.	Addr. Learning
1	●	10M	Half	ON	Auto	100M	full	on	on	on	on
2	---	---	---	---	Auto	100M	full	on	on	on	on
3	---	---	---	---	Auto	100M	full	on	on	on	on
4	---	---	---	---	Auto	100M	full	on	on	on	on
5	---	---	---	---	Auto	100M	full	on	on	on	on
6	---	---	---	---	Auto	100M	full	on	on	on	on
7	---	---	---	---	Auto	100M	full	on	on	on	on
8	---	---	---	---	Auto	100M	full	on	on	on	on

Auto: Enable and Disable.

For 'Enable', the Speed, Duplex mode, Pause, Backpressure, TX Capability, and Address Learning are negotiated automatically.

For 'Disable', you have to assign those items manually.

Speed: When the Auto-Negotiation column is set as Disable, users have to set the connection speed to the ports ticked.

Duplex: When the Auto-Negotiation column is set as Disable, users have to set the connection mode in Half/Full to the ports ticked.

Pause: Flow Control for connection at speed of 10/100Mbps in Full-duplex mode.

Backpressure: Flow Control for connection at speed of 10/100Mbps in Half-duplex mode.

TX Capability: When the Auto-Negotiation column is set as Disable, users have to set this column as Enable or Disable.

Address Learning: When the Auto-Negotiation column is set as Disable, users have to set this column as Enable or Disable.

Select Port No.: Tick the check boxes beside the port numbers being set.

Click "**Update**" to make the configuration effective.

Current Status: Displays current port status.

Setting Status: Displays current status.

Click "**Update**" to make the configuration effective

4.5.2 Port Mirroring

The port mirroring function is accomplished by setting the following items.

8-Port 10/100Mbps Modular Fast Ethernet Switch

Dest Port	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"/>
Monitored Packets	Disable							
Source Port	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"/>

Update

Multi to Multi Sniffer function

Destination port: The port mirroring function will lower the network throughput, and it's recommended to set "**only one**" destination port in a network.

Monitored packets:

- (1) **Disable:** means this function is disabled.
- (2) **RX:** means copy the incoming packets of the selected source port to the selected destination port.
- (3) **TX:** means copy the outgoing packets of the selected source port to the selected destination port.
- (4) **RX & TX:** means the combination of Rx and Tx.

Source port: the traffic source that will be copied to the destination port.

Example:

- (a) **Source port:** Port 1 ~ Port 4.
- (b) **Destination Port:** Port 5 ~Port 8.
- (c) **Mirrored packet:** Rx.

This means all packets received at port 1 ~ port 4 will be copied to port 5, port 6, port 7 and port 8. Note that the more source ports and destination ports is set, the lower network throughput is available for normal traffic.

4.5.3 Bandwidth Control

This page allows the bandwidth setting for each port. The TX rate and Rx rate can be filled with the number ranging from 1 to 255. This number should be multiplied by the selected bandwidth resolution to get the actual bandwidth.

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
1	3	5	7

- Administrator
- PoE
- **Port Management**
 - Port Configuration
 - Port Mirroring
 - **Bandwidth Control**
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Bandwidth Control

Port No	Tx Rate	Rx Rate
01	<input type="text" value="0-255 (0:full speed)"/>	<input type="text" value="0-255 (0:full speed)"/>
Speed Base	<div style="border: 1px solid #ccc; padding: 2px;"> Low Low:32Kbps High:512Kbps (1).When link speed is 10M. The Rate value is 1~19. (2).When link speed is 100M. The Rate value is 1~195. all ports use the same speed base </div>	
<input type="button" value="Update"/> <input type="button" value="LoadDefault"/>		
If the link speed of selected port is lower than the rate that you setting, this system will use the value of link speed as your setting rate.		

Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed	Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed
1	Full Speed	Full Speed	10M	5	Full Speed	Full Speed	---
2	Full Speed	Full Speed	---	6	Full Speed	Full Speed	---
3	Full Speed	Full Speed	---	7	Full Speed	Full Speed	---
4	Full Speed	Full Speed	---	8	Full Speed	Full Speed	---

(a) Low bandwidth for TX

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
1	3	5	7

- Administrator
- PoE
- Port Management
 - Port Configuration
 - Port Mirroring
 - Bandwidth Control
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Bandwidth Control

Port No	Tx Rate	Rx Rate
01 ▾	<input type="text" value="0~255 (0:full speed)"/>	<input type="text" value="0~255 (0:full speed)"/>

Speed Base	<div style="display: flex; align-items: flex-start;"> <div style="margin-right: 5px;">Low ▾</div> <div> <p>Low:32Kbps High:512Kbps</p> <p>(1).When link speed is 10M. The Rate value is 1~19. (2).When link speed is 100M. The Rate value is 1~195. all ports use the same speed base</p> </div> </div>
------------	---

If the link speed of selected port is lower than the rate that you setting, this system will use the value of link speed as your setting rate.

Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed	Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed
1	320	Full Speed	10M	5	Full Speed	Full Speed	---
2	640	Full Speed	---	6	Full Speed	Full Speed	---
3	960	Full Speed	---	7	Full Speed	Full Speed	---
4	1280	Full Speed	---	8	Full Speed	Full Speed	---

Example 1:

The TX number of the port1~4 is set to 10, 20, 30, 40 respectively, and Speed base is set to “low”. The real bandwidth comes from the formula of 32Kbps*10, 32Kbps*20, 32Kbps*30 and 32Kbps*40 respectively. After the “update” button is executed, the real bandwidth will show up in TX fields.

(b) High bandwidth for TX

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
1	3	5	7

- Administrator
- PoE
- Port Management
 - Port Configuration
 - Port Mirroring
 - Bandwidth Control
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Bandwidth Control

Port No	Tx Rate	Rx Rate
01	<input type="text" value="0~255 (0:full speed)"/>	<input type="text" value="0~255 (0:full speed)"/>
Speed Base	<div style="border: 1px solid #ccc; padding: 2px;"> High <ul style="list-style-type: none"> Low:32Kbps High:512Kbps (1).When link speed is 10M. The Rate value is 1~19. (2).When link speed is 100M. The Rate value is 1~195. all ports use the same speed base </div>	
<input type="button" value="Update"/> <input type="button" value="LoadDefault"/>		
If the link speed of selected port is lower than the rate that you setting, this system will use the value of link speed as your setting rate.		

Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed	Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed
1	5120	Full Speed	10M	5	Full Speed	Full Speed	---
2	10240	Full Speed	---	6	Full Speed	Full Speed	---
3	15360	Full Speed	---	7	Full Speed	Full Speed	---
4	20480	Full Speed	---	8	Full Speed	Full Speed	---

Example 2:

The TX number of the port1~4 is set to 10, 20, 30, 40 respectively, and Speed base is set to “**High**”. The real bandwidth comes from the formula of 512Kbps*10, 512Kbps*20, 512Kbps*30, and 512Kbps*40 respectively. After the “**update**” button is executed, the real bandwidth will show up in TX fields.

(c) Low bandwidth for RX

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
1	3	5	7

- Administrator
- PoE
- Port Management
 - Port Configuration
 - Port Mirroring
 - Bandwidth Control
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Bandwidth Control

Port No	Tx Rate	Rx Rate
01 ▾	<input type="text" value="0~255 (0:full speed)"/>	<input type="text" value="0~255 (0:full speed)"/>
Speed Base	<div style="border: 1px solid #ccc; padding: 2px;"> Low ▾ Low:32Kbps High:512Kbps (1).When link speed is 10M. The Rate value is 1~19. (2).When link speed is 100M. The Rate value is 1~195. all ports use the same speed base </div>	
<input type="button" value="Update"/> <input type="button" value="LoadDefault"/>		

If the link speed of selected port is lower than the rate that you setting, this system will use the value of link speed as your setting rate.

Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed	Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed
1	Full Speed	Full Speed	10M	5	Full Speed	1600	---
2	Full Speed	Full Speed	---	6	Full Speed	1920	---
3	Full Speed	Full Speed	---	7	Full Speed	2240	---
4	Full Speed	Full Speed	---	8	Full Speed	2560	---

Example 3:

The RX bandwidth number of the port 5~ port 8 is set to 50, 60, 70, 80 respectively, and Speed base is set to “**low**”. The real bandwidth comes from the formula of 32Kbps*50, 32Kbps*60, 32Kbps*70, and 32Kbps*80 respectively after the “**update**” button is executed, the real bandwidth will show up in RX fields.

(d) High bandwidth for RX

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	3	5	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Administrator
- PoE
- Port Management
 - Port Configuration
 - Port Mirroring
 - Bandwidth Control
 - Broadcast Storm Control
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Bandwidth Control

Port No	Tx Rate	Rx Rate
01 ▾	<input type="text" value="0~255 (0:full speed)"/>	<input type="text" value="0~255 (0:full speed)"/>
Speed Base	<div style="border: 1px solid #ccc; padding: 2px;"> High ▾ Low:32Kbps High:512Kbps (1).When link speed is 10M. The Rate value is 1~19. (2).When link speed is 100M. The Rate value is 1~195. all ports use the same speed base </div>	
<input type="button" value="Update"/> <input type="button" value="LoadDefault"/>		

If the link speed of selected port is lower than the rate that you setting, this system will use the value of link speed as your setting rate.

Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed	Port No	Tx Rate(Kbps)	Rx Rate(Kbps)	Link Speed
1	Full Speed	Full Speed	10M	5	Full Speed	25600	---
2	Full Speed	Full Speed	---	6	Full Speed	30720	---
3	Full Speed	Full Speed	---	7	Full Speed	35840	---
4	Full Speed	Full Speed	---	8	Full Speed	40960	---

Example 4:

The RX bandwidth number of the port 5~ port 8 is set to 50, 60, 70, 80 respectively, and Speed base is set to “high”. The real bandwidth comes from the formula of 512Kbps*50, 512Kbps*60, 512Kbps*70 and 512Kbps*80 respectively. After the “**update**” button is executed, the real bandwidth will show up in RX fields.

Limitation of the bandwidth control

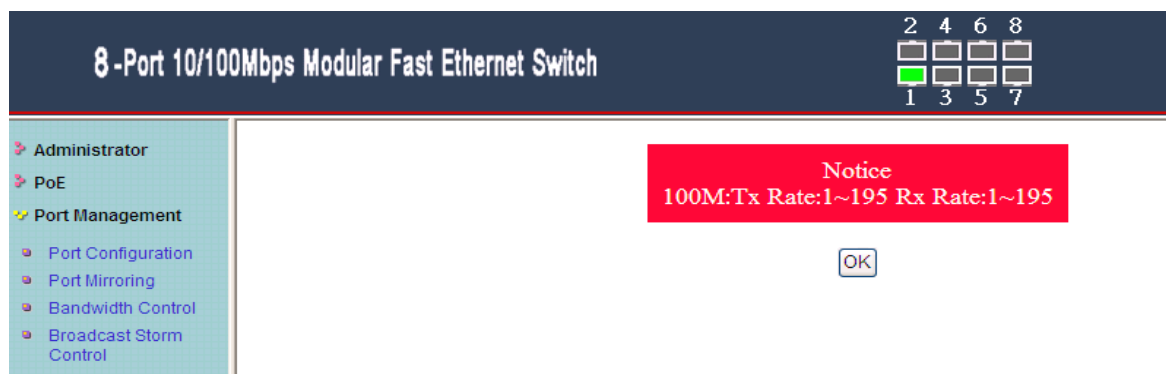
The actual bandwidth should be less than the cable link speed.

For 100Mbps link speed, the bandwidth setting should be less than 196 if the bandwidth is set to “**high**”.

For 10Mbps link speed, the bandwidth setting should be less than 20 if the bandwidth base is set to “**high**”.

Setting the bandwidth to “0” will make the switch running at the full speed.

The warning message will show up if bandwidth setting is higher than maximum rate (100Mbps).



The screenshot displays the configuration page for an 8-Port 10/100Mbps Modular Fast Ethernet Switch. The interface includes a navigation menu on the left with options like Administrator, PoE, Port Management, Port Configuration, Port Mirroring, Bandwidth Control, and Broadcast Storm Control. A red warning box is prominently displayed in the center, containing the text: "Notice 100M:Tx Rate:1~195 Rx Rate:1~195". An "OK" button is located below the warning box. In the top right corner, there is a status indicator for ports 1 through 8, with port 1 showing a green light.

4.5.4 Broadcast Storm Control

The switch implements a broadcast storm control mechanism. Tick the check boxes to have them beginning to drop incoming broadcast packets if the received broadcast packet counts reach the threshold defined. Each port's broadcast storm protection function can be enabled individually by ticking the check boxes.

The screenshot shows the configuration page for an 8-Port 10/100Mbps Modular Fast Ethernet Switch. The page title is "Broadcast Storm Control". On the left is a navigation menu with options: Administrator, PoE, Port Management (expanded), Port Configuration, Port Mirroring, Bandwidth Control, Broadcast Storm Control (selected), VLAN Setting, Per Port Counter, QoS Setting, Security, Spanning Tree, Trunking, and DHCP Relay Agent. The main configuration area includes a "Threshold" field set to 63 (range 1-63), an "Enable Port" section with checkboxes for ports 1 through 8, and an "Update" button. A note explains that the threshold value indicates the number of broadcast packets allowed per time unit (500 us for 100Mbps, 5000 us for 10Mbps) and that the effect may not be significant for long broadcast packets.

Threshold	63 1~63							
Enable Port	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"/>

This value indicates the number of broadcast packet which is allowed to enter each port in one time unit. One time unit is 500 us for 100Mbps speed and 5000us for 10Mbps speed

Note: This effect may be not significant for long broadcast packet, since the broadcast packet count passing through the switch in a time unit is probably less than the specified number.

The broadcast packet is only checked at the selected port and the number of broadcast packets is counted in every time unit. One time unit is 500 us for 10Mbps speed and 5ms for 100Mbps. The excessive broadcast packet will be discarded. For those broadcast packets incoming from the un-selected port, the switch treats it as the normal traffic.

Threshold: Type in the threshold in the range between 1 and 63 to limit the maximum byte counts, which a port can send or receive in a period of time.

Enable Port: Having ticked the boxes, the port will stop transmitting or receiving data when their sending byte counts or receiving byte counts reach the defined threshold.

Click **Update** to make the configuration effective.

4.6 VLAN Setting

A Virtual LAN (VLAN) is a logical network grouping that limits the broadcast domain, which would allow you to isolate network traffic, so only the members of the same VLAN will receive traffic from the ones of the same VLAN.

Basically, creating a VLAN from a switch is logically equivalent of reconnecting a group of network devices to another Layer 2 switch. However, all the network devices are still plugged into the same switch physically.

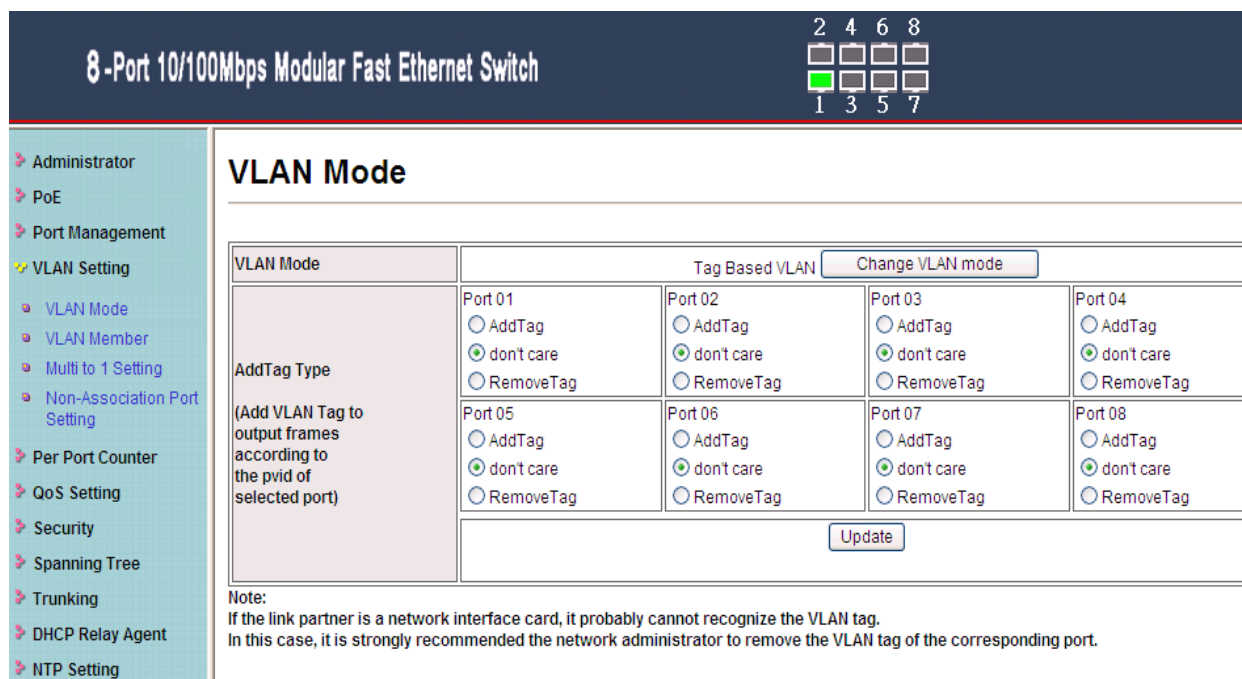
The VLAN Setting section includes the management functions as the following: VLAN Mode, VLAN Member, Multi to 1 Setting.

4.6.1 VLAN Mode

Two VLAN modes; tag based and port based are supported. Only one VLAN mode can be enabled at one time. Port Based VLAN is the default mode.

The Port-based VLAN is for separating traffic only in this web smart switch, and there is no handover of network traffic within VLAN groups to other switches. Tag Based VLAN is used for the handover to other switches.

After switched to Tag Based VLAN Mode, the screen will change. On this screen you can now define and configure your Uplink/Downlink ports. These are important due that the handover between the switches of your network takes place.



8-Port 10/100Mbps Modular Fast Ethernet Switch

2 4 6 8
1 3 5 7

VLAN Mode

VLAN Mode: Tag Based VLAN

VLAN Mode	Port 01	Port 02	Port 03	Port 04
AddTag Type (Add VLAN Tag to output frames according to the pvid of selected port)	<input type="radio"/> AddTag	<input type="radio"/> AddTag	<input type="radio"/> AddTag	<input type="radio"/> AddTag
	<input checked="" type="radio"/> don't care	<input checked="" type="radio"/> don't care	<input checked="" type="radio"/> don't care	<input checked="" type="radio"/> don't care
	<input type="radio"/> RemoveTag	<input type="radio"/> RemoveTag	<input type="radio"/> RemoveTag	<input type="radio"/> RemoveTag
	Port 05	Port 06	Port 07	Port 08
	<input type="radio"/> AddTag	<input type="radio"/> AddTag	<input type="radio"/> AddTag	<input type="radio"/> AddTag
	<input checked="" type="radio"/> don't care	<input checked="" type="radio"/> don't care	<input checked="" type="radio"/> don't care	<input checked="" type="radio"/> don't care
	<input type="radio"/> RemoveTag	<input type="radio"/> RemoveTag	<input type="radio"/> RemoveTag	<input type="radio"/> RemoveTag

Note:
If the link partner is a network interface card, it probably cannot recognize the VLAN tag.
In this case, it is strongly recommended the network administrator to remove the VLAN tag of the corresponding port.

VLAN Mode: Port based/Tag based VLAN mode can be switched back and forth.

Add tag means the outgoing packet of the selected port will be inserted a 802.1Q tag.

Use this setting for your Uplink/Downlink Ports in your VLAN Tagged Network.

Original means the outgoing packet of the selected port keep the original packet received at the source port. This is the default setting when starting VLAN configuration. You should change to either Add or Remove Tag.

Remove tag means the 802.1Q tag of the outgoing packet of the selected port will not be sent. Use this setting for your Network Connections to PCs. The packet will send to the Port of VLAN Group member only.

4.6.2 VLAN Member

The ports need to be set as a member of your VLAN groups. This is for Tag Based and Port Based VLAN Mode. The screen of Tag Based Mode is different from that of Port Based Mode.

VLAN Member in Port Based Mode

VLAN Member Setting (Port Based)

Name(max 10 characters):

Add: Edit Name, select Member for a new entry, press "Add" to add this entry into the table.
Delete: Select a Group in the table, press "Delete" to remove a Group entry from the table.
Update: Select a Group in the table, edit Name/Member, press "Update" to modify the existing Group entry.

Port	01	02	03	04	05	06	07	08
Member select	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VLAN MEMBER								
Group Name	01	02	03	04	05	06	07	08
	-	-	-	-	-	-	-	-

In Port Based Mode there is a matrix of 8 Ports. Simply select the port on the top screen you want to configure, click on **Read**, and then select or deselect the ports that are on the same VLAN group. In this configuration mode you do not need to worry about defining VLAN groups and VLAN IDs.

VLAN Member in Tag Based Mode

VLAN Member Setting (Tag Based)

1 | VID(1~4094): 1 | Name(Max 10 characters): CPU_CTRL | Add | Delete | Update | LoadDefault

Add: Edit VID/NAME, select Member/PVID for a new entry, press "Add" to add this entry into the table.
 Delete: Select a VID in the table, press "Delete" to remove a VID entry from the table.
 Update: Select a VID in the table, edit VID/NAME/Member/PVID, press "Update" to modify the existing VID entry.

Port	01	02	03	04	05	06	07	08
Member select	<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"/>
PVID select	<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"/>

Port VID Map								
Port	01	02	03	04	05	06	07	08
PVID	1	1	1	1	1	1	1	1

VLAN MEMBER								
Name(VID)	01	02	03	04	05	06	07	08
CPU_CTRL(1)	v	v	v	v	v	v	v	v

In Tag Based Mode you need to define and configure your VLAN groups. Since you want the handover to other switches take place smoothly, the VLAN IDs (Numbers) need to be alike on the rest of your network. On other switches you may have the chance to configure names for your reference, but only the numbers are meaningful.

Firstly, you need to add VLAN Groups (identified throughout your network by unique and constant numbers). Start with IDs from 100 and up. Keep in mind that some switches use “1” as the default, while others use “4095” or “4096” as default. Starting with 100 gives you enough free room and less compatibility issues.

Enter “100” in the field right of VID Setting, and select or deselect which ports are member of that group. Set your uplink/downlink ports as a member of every existing group. Then click on **Add**. The group with new setting will be displayed at the bottom of the screen.

For the PVID Setting, you define VLAN group to which incoming traffic belongs. For example, Port 1 is a member of Group 100 and 101. With PVID, you may define if the data sending out from port 1 are for Group 100 or 101.

4.6.3 Multi to 1 Setting

Multi-to-1 VLAN is used in CPE side of Ethernet-to-the-Home and is exclusive from **VLAN member setting** for VLAN setting. When VLAN member setting is updated, multi-to-1 setting will be void and vice versa. The “**Disable port**” means the port will be excluded in this setting. All the ports excluded in this setting are treated as the same VLAN group.

The port 5~port 7 of switch only forward packets to port 8. The port 8 is set to home. The VLAN and port 5~ port 8 are the member of the VLAN group for multi-to-2 setting.

8 -Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	3	5	7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Multi to 1 Setting

Enable	Disable <input type="button" value="v"/>								
Destination PortNo	Port: 01 <input type="button" value="v"/>								
Current Setting									
Port :-									
Disable Port	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>01 <input type="checkbox"/></td> <td>02 <input type="checkbox"/></td> <td>03 <input type="checkbox"/></td> <td>04 <input type="checkbox"/></td> <td>05 <input type="checkbox"/></td> <td>06 <input type="checkbox"/></td> <td>07 <input type="checkbox"/></td> <td>08 <input type="checkbox"/></td> </tr> </table> <input type="button" value="Update"/>	01 <input type="checkbox"/>	02 <input type="checkbox"/>	03 <input type="checkbox"/>	04 <input type="checkbox"/>	05 <input type="checkbox"/>	06 <input type="checkbox"/>	07 <input type="checkbox"/>	08 <input type="checkbox"/>
01 <input type="checkbox"/>	02 <input type="checkbox"/>	03 <input type="checkbox"/>	04 <input type="checkbox"/>	05 <input type="checkbox"/>	06 <input type="checkbox"/>	07 <input type="checkbox"/>	08 <input type="checkbox"/>		

1.A example for Multi-to-1 structure

	Ports	VLAN Groups					
		<table border="0" style="margin: auto;"> <tr><td style="text-align: center;">1</td></tr> <tr><td style="text-align: center;">2</td></tr> <tr><td style="text-align: center;">⋮</td></tr> <tr><td style="text-align: center;">⋮</td></tr> <tr><td style="text-align: center;">M</td></tr> </table>	1	2	⋮	⋮	M
1							
2							
⋮							
⋮							
M							

2.The original setting of the VLAN Group will be cleared and replaced by this special structure if you enable this function. On the other hand, If you set the VLAN Group again, this special structure will be cleared and replaced by your newest setting.

Non-Association Port Setting

8 -Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	3	5	7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Non-Association Port Setting

Select Port No.	<table border="0" style="margin: auto;"> <tr> <td>01 <input type="checkbox"/></td> <td>02 <input type="checkbox"/></td> <td>03 <input type="checkbox"/></td> <td>04 <input type="checkbox"/></td> <td>05 <input type="checkbox"/></td> <td>06 <input type="checkbox"/></td> <td>07 <input type="checkbox"/></td> <td>08 <input type="checkbox"/></td> </tr> </table>	01 <input type="checkbox"/>	02 <input type="checkbox"/>	03 <input type="checkbox"/>	04 <input type="checkbox"/>	05 <input type="checkbox"/>	06 <input type="checkbox"/>	07 <input type="checkbox"/>	08 <input type="checkbox"/>
01 <input type="checkbox"/>	02 <input type="checkbox"/>	03 <input type="checkbox"/>	04 <input type="checkbox"/>	05 <input type="checkbox"/>	06 <input type="checkbox"/>	07 <input type="checkbox"/>	08 <input type="checkbox"/>		
<input type="button" value="Update"/>									

Note:
If a port is the non-association port, it will not send packet to other non-association ports.

4.7 Per Port Counter

This page provides port counter for each port. There are 4 groups of statistics in total. These 4 categories cannot work simultaneously. Once you change the counter category, the counter will be cleared automatically.

8-Port 10/100Mbps Modular Fast Ethernet Switch

2 4 6 8
1 3 5 7

Administrator
PoE
Port Management
VLAN Setting
VLAN Mode
VLAN Member
Multi to 1 Setting
Non-Association Port Setting
Per Port Counter
Port Counter
QoS Setting
Security
Spanning Tree
Trunking
DHCP Relay Agent
NTP Setting
Backup/Recovery
Miscellaneous
SNMP Settings
Logout

Counter Category

Counter Mode Selection: Receive Packet & Transmit Packet

Note: The counter will be cleared when you change the counter mode.

Port	Receive Packet Transmit Packet	
	Receive Packet	Transmit Packet
01	47073	56486
02	0	0
03	0	0
04	0	0
05	0	0
06	0	0
07	0	0
08	0	0

Refresh Clear

Transmit packet & collision: This category shows the packets outgoing from the switch and the count of collision.

Receive packet & Transmit packet: This category shows both the received packet count (excluding the incorrect packet) and the transmitted packet count.

Receive packet & Drop packet: This category shows the number of received valid packet and the number of dropped packet.

Receive packet & CRC packet: This category shows the received correct packet and received CRC error.

Refresh: Press the button will aggregate the number of the counter for all ports.

Clear: Press this button will clear all counters.

4.8 QoS Setting

The Quality of Service(QoS) Setting includes Priority Mode and Class of Service (CoS) Configuration. QoS refers to mechanisms in the network software that make the actual determination of which packets have priority. CoS refers to feature sets, or groups of services, that are assigned to users based on company policy. If a feature set includes priority transmission, then CoS is implemented in QoS functions within the routers and switches in the network. In an enterprise network, class of service (CoS) differentiates high-priority traffic from lower-priority traffic. Tags may be added to the packets to identify such classes, but without delivery guarantee like the quality of service (QoS) functions, which are implemented in the network devices.

4.8.1 Priority Mode

There are three priority modes available to specify the priority of packets being serviced. These include First-In-First-Out, All-High-Before-Low, and Weight-Round-Robin.

The screenshot shows the configuration interface for an 8-Port 10/100Mbps Modular Fast Ethernet Switch. The page title is "8-Port 10/100Mbps Modular Fast Ethernet Switch". In the top right corner, there is a status indicator showing a grid of 8 ports (2, 4, 6, 8 in the top row; 1, 3, 5, 7 in the bottom row) with the first port (1) highlighted in green. The main content area is titled "Priority Mode". On the left, there is a navigation menu with options: Administrator, PoE, Port Management, VLAN Setting, Per Port Counter, QoS Setting (selected), Priority Mode, Class of Service, Security, and Spanning Tree. The "Priority Mode" section contains three radio button options: "First-In-First-Out" (selected), "All-High-before-Low(Strict Priority): All packets will be assigned to either Q2(high) priority queue or Q1(low) priority queue.", and "4 Queue WRR => Q1: 8 Q2: 8 Q3: 8 Q4: 8". Below the WRR option, there are four dropdown menus for Q1, Q2, Q3, and Q4, each set to the value 8. An "Update" button is located at the bottom right of the configuration area.

First-In-First-Out: Packets are placed into the queue and serviced in the order they were received.

All-high-before-Low(Strict priority) : All packets will be assigned to either high priority queue (Queue 2) or low priority queue (Queue 1). The packet on the low priority queue will not be forwarded until the high priority queue is empty.

WRR mode: There are 4 priority queues for Weighted-and-round-robin (WRR) mode.

When this mode is selected, the traffic will be forwarded according to the number set in each queue.

4.8.2 Class of Service Configuration

There are 4 types of CoS for this setting; TCP/UDP port, TOS/DS, 802.1p, and physical port. The user can select more than one item for each port.

Note that if more than one type of CoS is selected, the switch will arrange the packet to the assigned queue according the following priority: TCP/UDP port the first, ToS/DS the second, 802.1p the third, and physical port the last.

Class of Service

The switch treats TCP/UDP, IP TOS/DS, 802.1p and physical port CoS scheme in the following priority.
 TCP/UDP > IP TOS/DS > 802.1p > Physical port.
 This means TCP/UDP CoS will override all other settings.

(1) TCP/UDP port

Protocol	Note: (1) Q1 ~ Q4 options are effective for the selected physical port only. (2) "Drop" option is the global setting for all physical ports.						
FTP	Q1	▼					
SSH	Q1	▼					
TELNET	Q1	▼					
SMTP	Q1	▼					
DNS	Q1	▼					
TFTP	Q1	▼					
HTTP	Q1	▼					
POP3	Q1	▼					
NEWS	Q1	▼					
SNTP	Q1	▼					
NetBIOS	Q1	▼					
IMAP	Q1	▼					
SNMP	Q1	▼					
HTTPS	Q1	▼					
MSN	Q1	▼					
XRD_RDP	Q1	▼					
QQ	Q1	▼					
ICQ	Q1	▼					
Yahoo	Q1	▼					
BOOTP/DHCP	Q1	▼					
User-defined A TCP/UDP	Q1	▼					
User-defined B TCP/UDP	Q1	▼					
User-defined C TCP/UDP	Q1	▼					
Note: These user-defined TCP/UDP port are the same as that used in TCP/UDP filter							
User-defined Port range (65535~1)	User-defined A Port [] ~ Port []	User-defined B Port [] ~ Port []	User-defined C Port [] ~ Port []				
The TCP/UDP port will be checked on the following physical port							
01	02	03	04	05	06	07	08
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TCP/UDP port number QoS function <input type="button" value="Disable"/>							
<input type="button" value="Update"/>							
The Class of Service for TCP/UDP port number allows the network administrator to assign the specific application to a priority queue.							

(2) IP TOS/DS

IP TOS/DS Priority Setting	6'b001010: <input type="button" value="Q1"/>	6'b010010: <input type="button" value="Q1"/>	6'b011010: <input type="button" value="Q1"/>	6'b100010: <input type="button" value="Q1"/>	6'b101110: <input type="button" value="Q1"/>	6'b110000: <input type="button" value="Q1"/>	6'b111000: <input type="button" value="Q1"/>	Other Values: Q1
IP TOS/DS Port Setting	01	02	03	04	05	06	07	08
	<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="button" value="Update"/>								

(3) 802.1p

For 802.1p priority field, the switch utilizes the following priority mapping table.

6 and 7 are mapped to the "Q4" priority queue.
 4 and 5 are mapped to the "Q3" priority queue.
 0 and 3 are mapped to the "Q2" priority queue.
 1 and 2 are mapped to the "Q1" priority queue.

Port No.	1	2	3	4
Mode:802.1p	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Port No.	5	6	7	8
Mode:802.1p	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="button" value="Update"/>				

(4) Physical port

Port 1	Port 2	Port 3	Port 4
<input type="button" value="Q1"/>	<input type="button" value="Q1"/>	<input type="button" value="Q1"/>	<input type="button" value="Q1"/>
Port 5	Port 6	Port 7	Port 8
<input type="button" value="Q1"/>	<input type="button" value="Q1"/>	<input type="button" value="Q1"/>	<input type="button" value="Q1"/>
<input type="button" value="Update"/>			

4.9 Security

The Security section describes the functions of MAC Address Binding, MAC Address Scan, TCP/UDP Filter, and Web Security.

4.9.1 MAC Address Binding

This function specifies the relationship between the physical port and the MAC address. Only the packet with specified source MAC address can be forwarded.

By assigning the MAC address to each port, the network administrator can prevent the unauthorized user from accessing the switch. Each port can be assigned up to 3 MAC addresses.

To activate the port binding function, you may enter the assigned MAC address, select the port number, and set the port binding to “enable” and then press “update”.

8-Port 10/100Mbps Modular Fast Ethernet Switch

2 4 6 8
1 3 5 7

MAC Address Binding

Port No.	MAC Address
1	<input type="text"/> : <input type="text"/> : <input type="text"/> : <input type="text"/> : <input type="text"/> : <input type="text"/>

Select Port Binding

Note: If you enable the MAC address binding function, the address learning function will be disabled automatically. Then both RSTP/STP and address learning will be affected.

Port No.	Filter Status	Port No.	Filter Status
1	Disable	5	Disable
2	Disable	6	Disable
3	Disable	7	Disable
4	Disable	8	Disable

Port No: Displays the port number being assigned the MAC addresses.

MAC Address: Users can assign up to 3 MAC addresses to the port.

Read: Pull down the selection bar to choose a port number and click the read button to show the MAC addresses bound with the port or modify the MAC addresses.

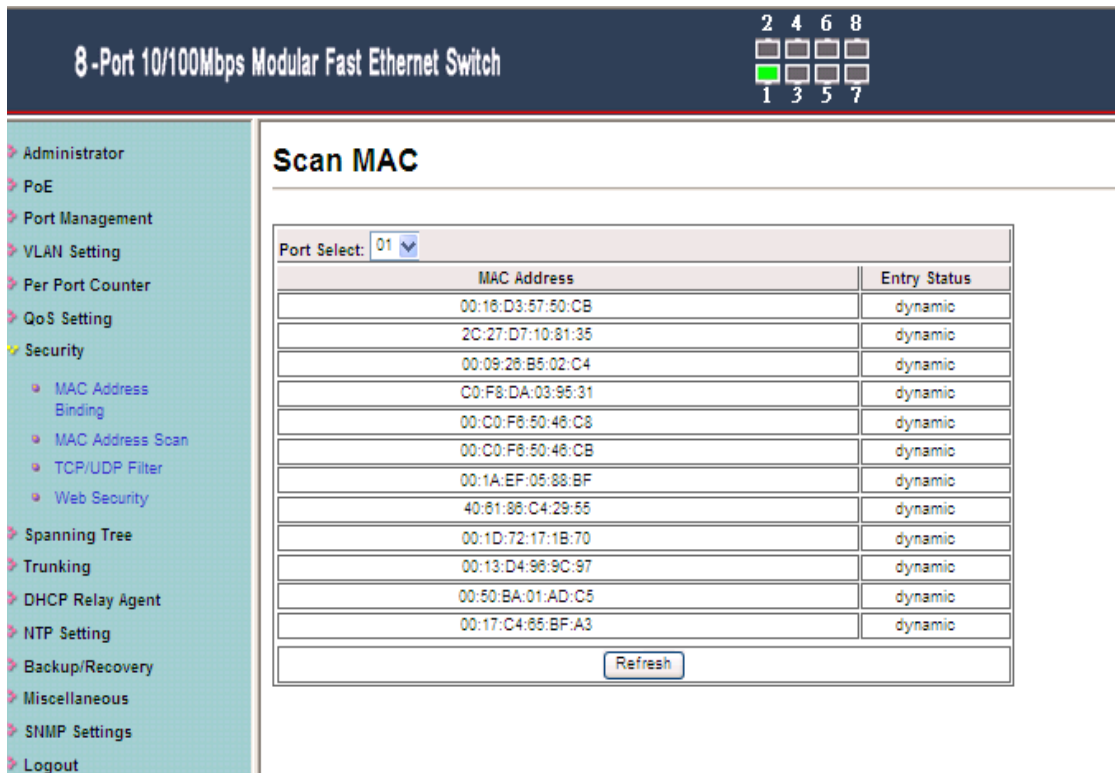
Select Port: Pull down the selection menu bar to choose a port number to be set.

Binding: Enable or disable the binding function. Click Update to have the configuration take effect.

Note: Setting the multicast address to these fields is not allowed. A warning message will show up if you do so.

4.9.2 MAC Address Scan

This shows the MAC addresses for packets through the selected port.



The screenshot displays the configuration page for an 8-Port 10/100Mbps Modular Fast Ethernet Switch. The page title is "8-Port 10/100Mbps Modular Fast Ethernet Switch". In the top right corner, there is a status indicator for ports 1 through 8, with port 1 highlighted in green. The left sidebar contains a navigation menu with the following items: Administrator, PoE, Port Management, VLAN Setting, Per Port Counter, QoS Setting, Security (expanded), Spanning Tree, Trunking, DHCP Relay Agent, NTP Setting, Backup/Recovery, Miscellaneous, SNMP Settings, and Logout. The Security menu is expanded to show: MAC Address Binding, MAC Address Scan (selected), TCP/UDP Filter, and Web Security. The main content area is titled "Scan MAC". It features a "Port Select:" dropdown menu set to "01". Below this is a table with two columns: "MAC Address" and "Entry Status". The table contains 12 rows of dynamic MAC addresses. A "Refresh" button is located at the bottom of the table.

MAC Address	Entry Status
00:16:D3:57:50:CB	dynamic
2C:27:D7:10:81:35	dynamic
00:09:26:B5:02:C4	dynamic
C0:F8:DA:03:95:31	dynamic
00:C0:F8:50:48:C8	dynamic
00:C0:F8:50:48:CB	dynamic
00:1A:EF:05:88:BF	dynamic
40:61:86:C4:29:55	dynamic
00:1D:72:17:1B:70	dynamic
00:13:D4:96:9C:97	dynamic
00:50:BA:01:AD:C5	dynamic
00:17:C4:65:BF:A3	dynamic

4.9.3 TCP/UDP Filter

By selecting the TCP/UDP port, the network administrator can optionally block some specific functions. There are two kinds of protocol filter functions. The **Forward** function forwards packets of the selected protocol and drops other protocols. The **Deny** function drops the selected protocol and forward other protocols. The protocol is checked at the selected secure WAN port. And it should be set at the server side.

8-Port 10/100Mbps Modular Fast Ethernet Switch

2 4 6 8
1 3 5 7

Administrator
PoE
Port Management
VLAN Setting
Per Port Counter
QoS Setting
Security
Spanning Tree
Trunking
DHCP Relay Agent
NTP Setting
Backup/Recovery
Miscellaneous
SNMP Settings
Logout

TCP_UDP Filter Configuration

Function Enable:

Port Filtering Rule:

"Deny" means the outgoing packets to the selected port with selected protocol will be dropped and other protocols will be forwarded.
"Allow" means the selected protocol will be forwarded and other protocol will be dropped.

Note:
1. The secure WAN port should be set at the physical port which is connected to the server.
2. Once this function is enabled, the switch will check the destination TCP/UDP port number at the outgoing direction of the secure WAN port. If the condition matches, this packet will be dropped or forwarded.

Secure Port	<input type="checkbox"/> Port01	<input type="checkbox"/> Port02	<input type="checkbox"/> Port03	<input type="checkbox"/> Port04
	<input type="checkbox"/> Port05	<input type="checkbox"/> Port06	<input type="checkbox"/> Port07	<input type="checkbox"/> Port08

Protocol	<input type="checkbox"/> FTP	<input type="checkbox"/> SSH	<input type="checkbox"/> TELNET	<input type="checkbox"/> SMTP
	<input type="checkbox"/> DNS	<input type="checkbox"/> TFTP	<input type="checkbox"/> HTTP	<input type="checkbox"/> POP3
	<input type="checkbox"/> NEWS	<input type="checkbox"/> SNMP	<input type="checkbox"/> NetBIOS	<input type="checkbox"/> IMAP
	<input type="checkbox"/> SNMP	<input type="checkbox"/> HTTPS	<input type="checkbox"/> XRD_RDP	<input type="checkbox"/> BOOTP/DHCP
	<input type="checkbox"/> User-defined A TCP/UDP	<input type="checkbox"/> User-defined B TCP/UDP	<input type="checkbox"/> User-defined C TCP/UDP	

Note: The description of Secure WAN port is shown below.

Example: Set the secure WAN port at P5

4.9.4 Web Management Filter

8-Port 10/100Mbps Modular Fast Ethernet Switch

2 4 6 8
1 3 5 7

Administrator
PoE
Port Management
VLAN Setting
Per Port Counter
QoS Setting
Security
Spanning Tree
Trunking
DHCP Relay Agent
NTP Setting
Backup/Recovery
Miscellaneous
SNMP Settings
Logout

Web Management Filter

State:

Access Port:	01	02	03	04	05	06	07	08
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

User select port which enable to access web management, unselect port can not access web management

4.10 Spanning Tree

4.10.1 STP Bridge Settings

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	3	5	7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

STP Bridge Settings

Spanning Tree Settings

STP Mode	Bridge Priority (0~61440)	Hello Time (1~10 Sec)	Max Age (6~40 Sec)	Forward Delay (4~30 Sec)
▼	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Submit"/>				

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

Note: If you enable the MAC address binding function, the address learning function will be disabled automatically. Then both RSTP/STP and address learning will be affected.

Bridge Status

STP Mode	Bridge ID	Hello Time	Max Age	Forward Delay
RSTP	32768:00 55 55 55 17 17	2	20	15

Root Status

Root ID	Hello Time	Max Age	Forward Delay
I'm the root bridge!	2	20	15

- ▶ Administrator
- ▶ PoE
- ▶ Port Management
- ▶ VLAN Setting
- ▶ Per Port Counter
- ▶ QoS Setting
- ▶ Security
 - ▶ MAC Address Binding
 - ▶ MAC Address Scan
 - ▶ TCP/UDP Filter
 - ▶ Web Security
- ▶ Spanning Tree
 - ▶ **STP Bridge Settings**
 - ▶ STP Port Settings
 - ▶ Loopback Detection
- ▶ Trunking
- ▶ DHCP Relay Agent
- ▶ NTP Setting
- ▶ Backup/Recovery
- ▶ Miscellaneous
- ▶ SNMP Settings
- ▶ Logout

4.10.2 STP Port Settings

8-Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	3	5	7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

STP Port Settings

STP Port Settings

Port No.	Priority (0~240)	RPC (1~200000000) 0=AUTO
▼	<input type="text"/>	<input type="text"/>
<input type="button" value="Submit"/>		

STP Port Status

Port No.	RPC	Priority	State	Status	Designated Bridge	Designated Port
1	Auto:2000000	0x80	Designated Port	Forwarding	--	--
2	Auto:0	0x80	--	Disable	--	--
3	Auto:0	0x80	--	Disable	--	--
4	Auto:0	0x80	--	Disable	--	--
5	Auto:0	0x80	--	Disable	--	--
6	Auto:0	0x80	--	Disable	--	--
7	Auto:0	0x80	--	Disable	--	--
8	Auto:0	0x80	--	Disable	--	--

- ▶ Administrator
- ▶ PoE
- ▶ Port Management
- ▶ VLAN Setting
- ▶ Per Port Counter
- ▶ QoS Setting
- ▶ Security
- ▶ Spanning Tree
 - ▶ STP Bridge Settings
 - ▶ **STP Port Settings**
 - ▶ Loopback Detection
- ▶ Trunking
- ▶ DHCP Relay Agent
- ▶ NTP Setting
- ▶ Backup/Recovery
- ▶ Miscellaneous
- ▶ SNMP Settings
- ▶ Logout

4.10.3 Loopback Detection Settings



- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
 - STP Bridge Settings
 - STP Port Settings
 - Loopback Detection
- Trunking
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Loopback Detection Settings

Loopback Detect Function	Disable ▾
Auto Wake Up	Disable ▾
Wake-Up Time Interval	10 sec ▾
<input type="button" value="Submit"/>	

Port No.	Status
1	--
2	--
3	--
4	--
5	--
6	--
7	--
8	--

4.11 Trunk Setting

Trunk setting is used to set trunk group for load balance and auto-backup. The switch supports two trunk group, and each trunk consists of 2~4 ports. Trunk hash algorithm can be selected according to 4 different options.

8 -Port 10/100Mbps Modular Fast Ethernet Switch

2	4	6	8
1	3	5	7

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
 - ▢ Link Aggregation Settings
- DHCP Relay Agent
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Trunking

System Priority	<input type="text" value="1"/> (1~65535)
Link Aggregation Algorithm	MAC Src&Dst ▼
<input type="button" value="Submit"/>	

Member	Link Group 1				Link Group 2			
	P1	P2	P3	P4	P5	P6	P7	P8
✔	✔	✔	✔	✔	✔	✔	✔	✔
--	--	--	--	--	--	--	--	--
State	Disable ▼				Disable ▼			
Type	LACP ▼				LACP ▼			
Operation Key	<input type="text" value="1"/> (1~65535)				<input type="text" value="2"/> (1~65535)			
Time Out	Short Time Out ▼				Short Time Out ▼			
Activity	Passive ▼				Passive ▼			
<input type="button" value="Submit"/>								

Notice: If any trunk group is set to LACP type, each port in the trunk group will not be enabled(can't Forward/Receive) until the port can finish LACP procedure with its link partner port.

Port ID: Among the trunk member ports, the packet will be distributed based on the port ID.

SA: Among the trunk member ports, the packet will be distributed based on the source MAC address.

DA: Among the trunk member ports, the packet will be distributed based on the destination MAC address.


DA&SA: Among the trunk member ports, the packet will be distributed based on the XOR result of the source MAC address and the destination MAC address.

<http://www.level1.com>

48

4.12 DHCP Relay Agent

8-Port 10/100Mbps Modular Fast Ethernet Switch

2 4 6 8

 1 3 5 7

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
 - DHCP Relay Agent
 - Relay Server
 - **VLAN MAP Relay Agent**
- NTP Setting
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

DHCP Relay Agent


VLAN ID	<input type="text" value="1.4094"/>	Map Server IP	<input type="button" value="Add"/>
---------	-------------------------------------	---------------	------------------------------------

MAP List

VLAN ID	Server IP	Action

4.13 NTP Setting

8-Port 10/100Mbps Modular Fast Ethernet Switch

2 4 6 8

 1 3 5 7

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- **NTP Setting**
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

NTP Setting

NTP Server	#1	<input type="text" value="210.0.235.14"/>
	#2	<input type="text" value="59.124.196.85"/>
Time Zone	<input type="text" value="UTC+8:00"/> <input type="button" value="v"/>	
System Time	<input type="text" value="Sat, 1 Jan 2011 16:57:53"/>	
<input type="button" value="Update"/>		

4.14 Backup/Recovery

This function is used to backup/recovery the switch configuration. The user can save the configuration file to a specified file name. If the user wants to recover the original configuration, which is saved at the specified path, just enter the password and then press the “Update” button. The original configuration of the switch will be recovered.

The screenshot shows the web interface for an 8-Port 10/100Mbps Modular Fast Ethernet Switch. The top header displays the device name and a status indicator for ports 1 through 8, with port 1 highlighted in green. A left sidebar contains a navigation menu with the following items: Administrator, PoE, Port Management, VLAN Setting, Per Port Counter, QoS Setting, Security, Spanning Tree, Trunking, DHCP Relay Agent, NTP Setting, Backup/Recovery (highlighted), and Miscellaneous. The main content area is titled "Configuration Backup/Recovery" and is divided into two sections:

- Backup(Switch→PC)**: A text box containing the instruction "Please check 'Download' to download EEPROM contents." followed by a "Download" button.
- Recovery(PC→Switch)**: A section with a "Select the image file :" label, a text input field, and a "瀏覽..." (Browse...) button. Below this is a "Password:" label, a text input field, and an "Update" button.

4.15 Miscellaneous

Miscellaneous setting is used to configure output queue aging time, VLAN stride and IGMP snooping.

The screenshot shows the web interface for an 8-Port 10/100Mbps Modular Fast Ethernet Switch. The top header displays the device name and a status indicator for ports 1 through 8. The left sidebar contains a navigation menu with the following items: Administrator, PoE, Port Management, VLAN Setting, Per Port Counter, QoS Setting, Security, Spanning Tree, Trunking, DHCP Relay Agent, NTP Setting, Backup/Recovery, Miscellaneous, SNMP Settings, and Logout. The main content area is titled "Miscellaneous Setting" and contains the following sections:

- Output Queue Aging Time:** A dropdown menu is set to "Disable". The description states: "The output queue aging function allows the administrator to select the aging time of a packet stored in the output queue. A packet stored in the output queue for a long time will lower the free packet buffer, resulting in the poor utilization of the buffer and the poor switch performance."
- VLAN Striding:** A dropdown menu is set to "Disable". The description states: "When this function is enabled, the switch will forward a uni-cast packet to the destination port. No matter whether the destination port is in the same VLAN group."
- IGMP Snooping V1 & V2:** A dropdown menu is set to "Disable". The description states: "IGMP Snooping V1 & V2 function enable". Below this, another dropdown menu is set to "Disable" with the description: "Leave packet will be forwarded to IGMP router ports."
- VLAN Uplink Setting:** A row of checkboxes for ports P01 through P08, all of which are currently unchecked. Below this row is an "Update" button.

Output queue aging: This function is used to avoid the poor utilization of the switch. When a packet is stored in a switch for a long time, it will expire from the allowable time defined by the protocol and become a useless packet. To prevent these packets from wasting the bandwidth, this switch provide an option for the administrator to enable the queue aging function.

VLAN Striding: By selecting this function, the switch will forward uni-cast packets to the destination port, no matter whether destination port is in the same VLAN.

IGMP Snooping: When this function is enabled, the switch will execute IGMP snooping version 1 and version 2 without the intervention of CPU. The IGMP report and leave packets are automatically handled by the switch.

4.16 Logout

The administrator has accessed for all parameters governing the onboard agent. User should therefore re-assign a new administrator password as soon as possible, and store it in a safe place.

Appendix A: Product Specifications

IEEE Standards	IEEE 802.3 10BaseT IEEE 802.3u 100BaseTX IEEE 802.3x Flow Control
Hardware	Interface: 8 port x 10/100BaseT(X) Switch with PoE Control MAC Address: 1K Buffer Memory: 512K bits
Transmission Packet	Store and Forward
Transmission Media	10BaseT Cat. 3, 4, 5 UTP/STP 100BaseTX Cat. 5 UTP/STP
Filtering Forwarding Rates	100Mbps port - 148,800pps 10Mbps port - 14,880pps
LED Indicators	Per Port: LAN, PoE Per Unit: PWR
Power Input	100~240V/AC, 50~60Hz
Web Management Features	VLAN Settings, Bandwidth Control QoS Setting, Network Security, Packet Filtering Spanning Tree Protocol, Network Timing Protocol, Trunk Setting, DHCP Relay, SNMP, IGMP Snooping Version 1 & 2.
Power Output	48VDC Output Per Port Max 15Watts (optional 30Watts) Per Port Power Pin: 4, 5, 7, 8 Data Pin: 1, 2, 3, 6
Power Consumptions	Max 130Watts (optional 250Watts)

Dimensions	266 × 160 × 44 mm (L x W x H)
Humidity	10 to 90% RH (non-condensing)
Weight	1.6 kg
Temperature	Operating: 0 to 60°C Storage: -20 to 90°C

Appendix B: Troubleshooting

This appendix is to help identify and solve the problems. If the web smart switch is not working correctly with your network, check the items as the following;

- ✓ Make sure the Power is ON (Check the Power LED).
- ✓ Make sure the cable is connected properly on both ends.
- ✓ Make sure that the standard CAT.5 cable is used.
- ✓ Verify that the cable length does not exceed 100 meters.
- ✓ Check the LED indicators are working properly.
- ✓ Check the status of the cable attachment, or try a different cable.
- ✓ Try another port on the Switch.
- ✓ Turn off the power, and on again after a while and check if it resumes normally.

Contact your local dealer for technical support, if you find no way out.

B.1 Can NOT Access Web Page?

Web Browser is a useful tool to configure the web smart PoE switch. When you have problems in accessing the default IP address <http://192.168.2.1> of web page, one of the most possibility is that the PC might have different subnet IP settings from **192.168.2.x**. In this case, you must change PC IP address to the same subnet as the web page.

Please refer to Section 4.1 to configure your PC address to the same subnet as the web management.

B.2 Forget IP Address, User ID, and Password?

The default reset button can be used when the user forgot the IP address, user ID, and password, and can NOT login to the web page.

Please follow the steps to reset the Web Smart Switch back to the default values.

Step 1. Turn on the PoE Switch.

Step 2. Press and hold the reset button continuously for 5 seconds and release the reset button.

Step 3. The switch will reboot for 20 seconds and the configuration of switch will back to the default setting.