



16-PORT 10/100MBPS PoE WEB SMART ETHERNET SWITCH



24-PORT 10/100MBPS + 2G COMBO PoE WEB SMART ETHERNET SWITCH



Manual

DN-95312 • DN-95313

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Chapter 1 Product Introduction

Congratulations on your purchasing of DIGITUS PoE Web Smart Ethernet Switch. Before you install and use this product, please read this manual carefully for full exploiting the functions of this product.

1.1 Product Overview

The 10/100Mbps PoE Web Smart Ethernet Switch provides the seamless network connection. It integrates 100Mbps Fast Ethernet and 10Mbps Ethernet network capabilities.

These POE ports can automatically detect and supply power with those IEEE 802.3at compliant Powered Devices (PD). In this situation, the electrical power is transmitted along with data in one single cable allowing you to expand your network where there are no power lines or outlets, where you wish to fix devices such as AP, IP Cameras or IP Phones, etc.

The Switch may carry on the management and the condition monitoring through the network management software to the POE power supply function, may demand opens or the closure port POE power supply function willfully, provides the port power supply priority management, the 10/100M POE Switch is a great selection for expanding your home or office network.

1.2 Features

- 1-16/24port support POE
- Supports PoE power up to 30W for each PoE port
- Supports power up to 260W/330W
- Supports PoE IEEE802.3at compliant PDs
- Supports IEEE802.3x flow control for Full-duplex Mode and backpressure for Half-duplex Mode
- 4K entry MAC address table with auto-learning and auto-aging
- LED indicators for monitoring power, link, activity and speed
- Internal power supply

1.3 External Component Description

1.3.1 Front Panel

The front panel of the Switch consists of series of LED indicators, 24 10/100Mbps RJ-45 ports, 2 10/100/1000Mbps RJ-45 ports and 2 SFP ports a shown as below.



Figure 1 - Front Panel

10/100Mbps RJ-45 ports (1~24):

Designed to connect to the device with a bandwidth of 10Mbps or 100Mbps. Each has a corresponding 10/100Mbps LED.

10/100/1000Mbps RJ-45 ports (25T, 26T):

Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps or 1000Mbps. Each shares a corresponding LED with an associated SFP port.

SFP ports (25S, 26S):

Designed to install the SFP module. The Switch features two SFP transceiver slots that are shared with two associated RJ45 ports. A SFP port and an associated RJ45 port are referred to as “Combo” port, which means they cannot be used simultaneously, and only SFP port work or only RJ45 port work at the same time.

Reset:

Keep the device powered on and push a paper clip into the hole. Press down the button for about 2 seconds. The system restores the factory default settings.

1.3.2 Rear Panel

The rear panel of the Switch contains AC power connector shown as below.



Figure 2 - Rear Panel

AC Power Connector:

Power is supplied through an external AC power adapter. It supports AC 100 ~ 240V, 50 / 60Hz.

Grounding Terminal:

The Switch already comes with Lightning Protection Mechanism. You can also ground the Switch through the PE (Protecting Earth) cable of AC cord or with Ground Cable.

1.3.3 LED Indicator Specification

The LED indicators of the Switch contain one Power, 26 LINK/ACT, 24 PoE status and 2 Speed. The LED Indicators will allow you to monitor, diagnose and troubleshoot any potential problem with the Switch, connection or attached devices.

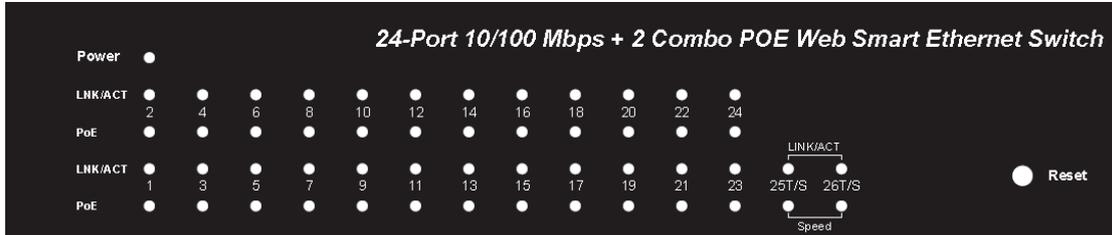


Figure 3 - LED Indicators

The following chart shows the LED indicators of the Switch along with explanation of each indicator.

LED	COLOR	STATUS	STATUS DESCRIPTION
Power	Green	On	Power On
		Off	Power Off
LINK/ACT (1~24)	Green	On	A device is connected to the port
		Off	A device is disconnected to the port
		Flashing	Sending or receiving data
25, 26T/S	LINK/ACT Green	On	A device is connected to the port
		Off	A device is disconnected to the port
		Flashing	Sending or receiving data
	Speed Green	On	A 1000Mbps device is connected to the port
		Off	A 10Mbps device is connected to the port
		Flashing	A 100Mbps device is connected to the port
POE	Orange	On	A Powered Device is connected to the port, which supply power successfully.
		Off	No Powered Device connected to the port, or no power is supplied according to the power limits of the port.
		Flashing	The POE power circuit may be in short or the power current may be overloaded.

1.3.4 Front Panel

The front panel of the Switch consists of series of LED indicators and 16 10/100Mbps RJ-45 ports.



Figure 1 - Front Panel

10/100Mbps RJ-45 ports (1~16):

Designed to connect to the device with a bandwidth of 10Mbps or 100Mbps. Each has a corresponding 10/100Mbps LED.

Reset:

Keep the device powered on and push a paper clip into the hole. Press down the button for about 2 seconds. The system restores the factory default settings.

1.3.5 Rear Panel

The rear panel of the Switch contains AC power connector shown as below.



Figure 2 - Rear Panel

AC Power Connector:

Power is supplied through an external AC power adapter. It supports AC 100 ~ 240V, 50 / 60Hz.

Grounding Terminal:

The Switch already comes with Lightning Protection Mechanism. You can also ground the Switch through the PE (Protecting Earth) cable of AC cord or with Ground Cable.

1.3.6 LED Indicator Specification

The LED indicators of the Switch contain one Power, 26 LINK/ACT, 24 PoE status and 2 Speed. The LED Indicators will allow you to monitor, diagnose and troubleshoot any potential problem with the Switch, connection or attached devices.

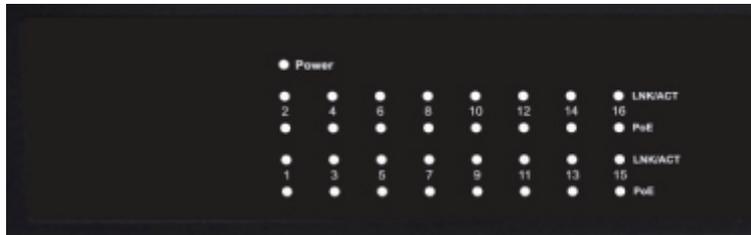


Figure 3 - LED Indicators

The following chart shows the LED indicators of the Switch along with explanation of each indicator.

LED	COLOR	STATUS	STATUS DESCRIPTION
Power	Green	On	Power On
		Off	Power Off
LINK/ACT (1~16)	Green	On	A device is connected to the port
		Off	A device is disconnected to the port
		Flashing	Sending or receiving data
POE	Orange	On	A Powered Device is connected to the port, which supply power successfully.
		Off	No Powered Device connected to the port, or no power is supplied according to the power limits of the port.
		Flashing	The POE power circuit may be in short or the power current may be overloaded.

1.4 Environment

- Operating Temperature: 0°C~40°C
- Storage Temperature: -10°C~70°C
- Operating Humidity: 10%~90% non-condensing
- Storage humidity: 5%~90% non-condensing

1.5 Package Contents

- One POE Web Smart Ethernet Switch
- Four rubber feet, two mounting ears and eights screws
- One AC power cord
- One User Manual

Chapter 2 Installing and Connecting the Switch

This part describes how to install your Ethernet Switch and make connections to it. Please read the following topics and perform the procedures in the order being presented.

2.1 Installation

Please follow the following instructions in avoid of incorrect installation causing device damage and security threat.

- Put the Switch on stable place or desktop in case of falling damage.
- Make sure the Switch works in the proper AC input range and matches the voltage labeled on the Switch.
- To keep the Switch free from lightning, do not open the Switch's shell even in power failure.
- Make sure that there is proper heat dissipation from and adequate ventilation around the Switch.
- Make sure the cabinet to enough back up the weight of the Switch and its accessories.

2.1.1 Desktop Installation

Sometimes users are not equipped with the 19-inch standard cabinet. So when installing the Switch on a desktop, please attach these cushioning rubber feet provided on the bottom at each corner of the Switch in case of the external vibration. Allow adequate space for ventilation between the device and the objects around it.

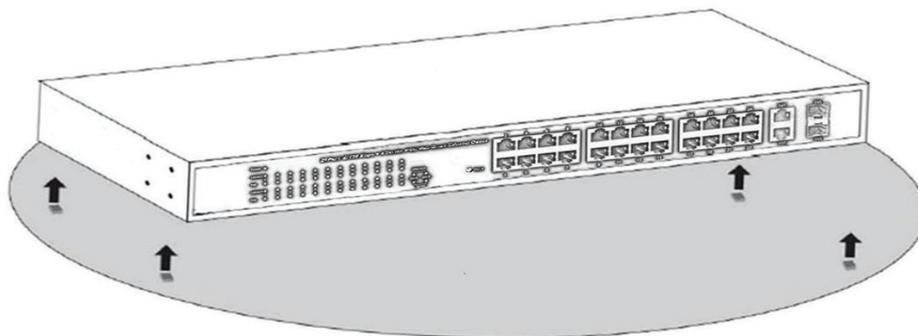


Figure 4 - Desktop Installation

2.1.2 Rack-mountable Installation in 19-inch Cabinet

The Switch can be mounted in an EIA standard-sized, 19-inch rack, which can be placed in a wiring closet with other equipment. To install the Switch, please follow these steps:

1. Attach the mounting brackets on the Switch's side panels (one on each side) and secure them with the screws provided.

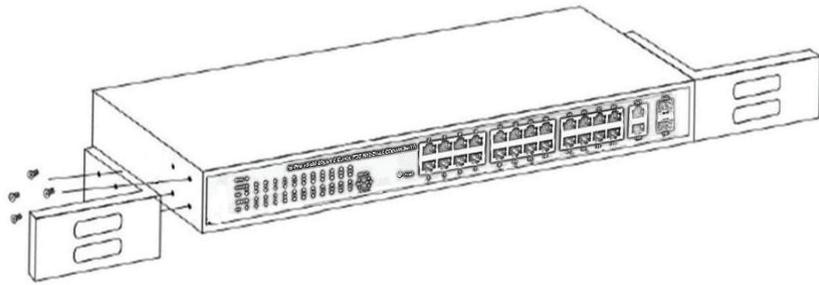


Figure 5 - Bracket Installation

2. Use the screws provided with the equipment rack to mount the Switch on the rack and tighten it.

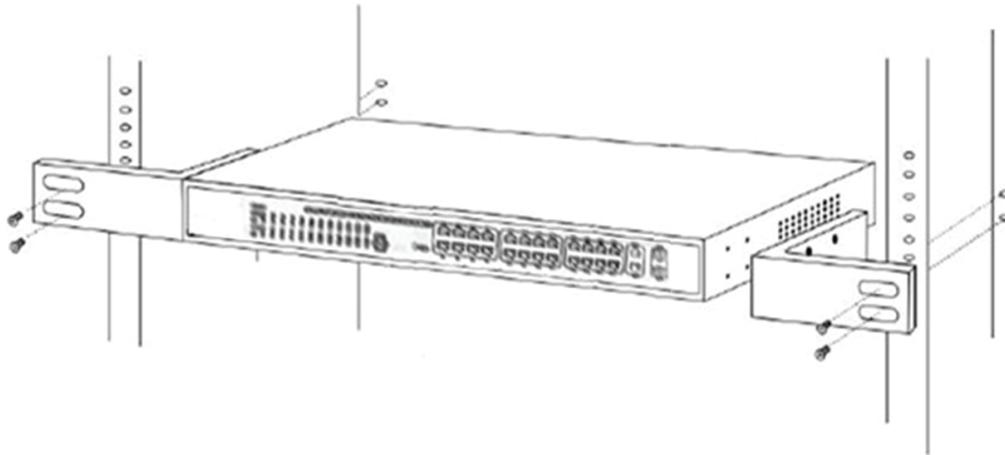


Figure 6 - Rack Installation

2.1.3 Power on the Switch

The Switch is powered on by the AC 100 ~ 240V 50 / 60Hz internal high-performance power supply. Please follow the next tips to connect:

AC Electrical Outlet:

It is recommended to use single-phase three-wire receptacle with neutral outlet or multifunctional computer professional receptacle. Please make sure to connect the metal ground connector to the grounding source on the outlet.

AC Power Cord Connection:

Connect the AC power connector in the back panel of the Switch to external receptacle with the included power cord, and check the power indicator is ON or not. When it is ON, it indicates the power connection is OK.

2.2 Connect Computer (NIC) to the Switch

Please insert the NIC into the computer, after installing network card driver, please connect one end of the twisted pair to RJ-45 jack of your computer, the other end will be connected to any RJ-45 port of the Switch, the distance between Switch and computer is around 100 meters. Once the connection is OK and the devices are power on normally, the LINK/ACT status indicator lights corresponding ports of the Switch.

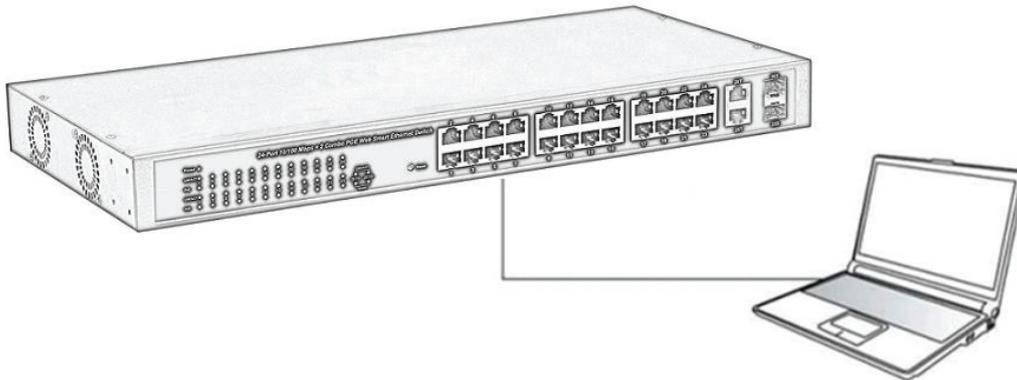
2.3 Switch connection to the PD

1-16/24 ports of the Switch have POE power supply function, the maximum output power up to 30W each port, it can make PD devices, such as internet phone, network camera, wireless access point work. You only need to connect the Switch POE port directly connected to the PD port by network cable.

Chapter 3 How to Login the Switch

3.1 Switch to End Node

Use standard Cat.5/5e Ethernet cable (UTP/STP) to connect the Switch to end nodes as described below. Switch ports will automatically adjust to the characteristics (MDI/MDI-X, speed, duplex) of the device to which is connected.



Please refer to the [LED Indicator Specification](#). The LINK/ACT LEDs for each port lights green when the link is available.

3.2 How to Login the Switch

As the Switch provides Web-based management login, you can configure your computer's IP address manually to log on to the Switch. The default settings of the Switch are shown below.

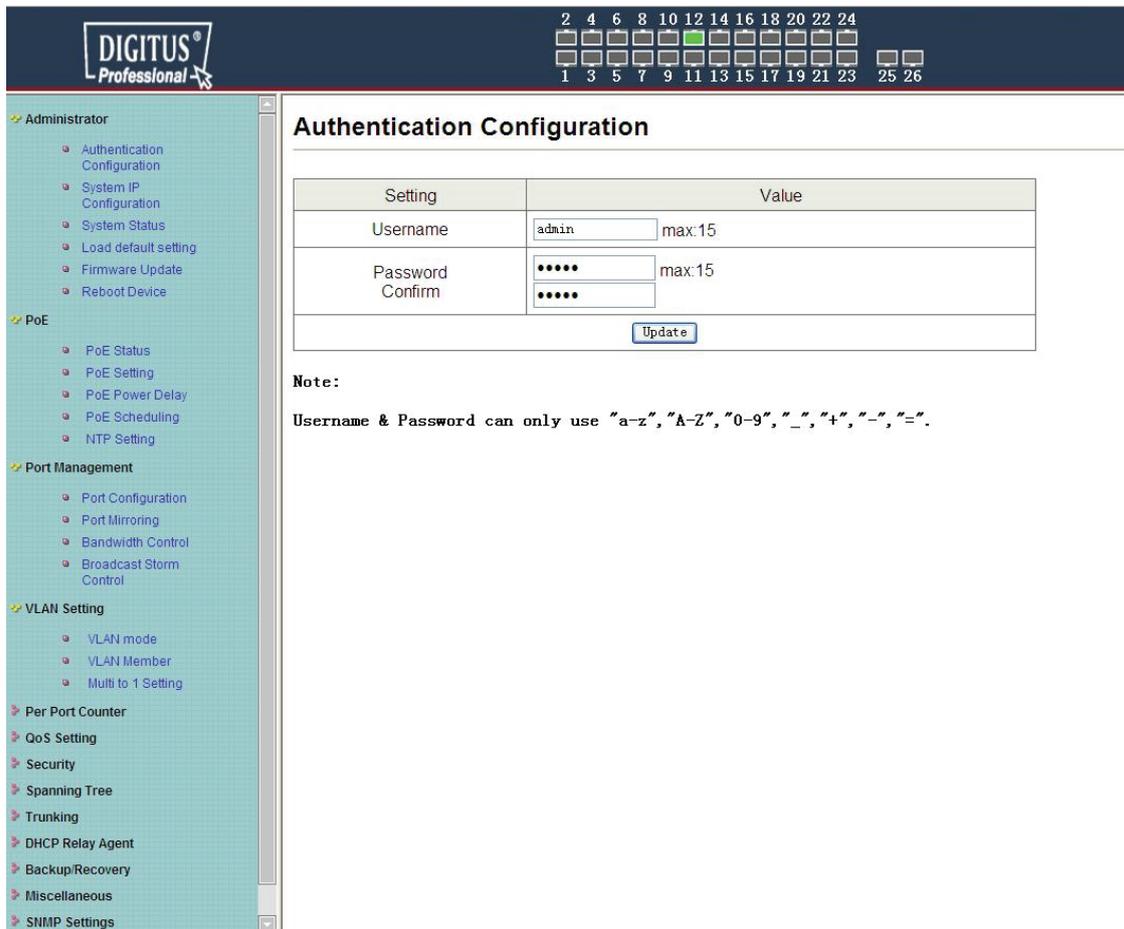
Parameter	Default Value
Default IP address	192.168.2.1
Default user name	admin
Default password	admin

You can log on to the configuration window of the Switch through following steps:

1. Connect the Switch with the computer NIC interface.
2. Power on the Switch.
3. Check whether the IP address of the computer is within this network segment: 192.168.2.xxx ("xxx" ranges 2~254), for example, 192.168.2.100.
4. Open the browser, and enter <http://192.168.2.1> and then press "Enter". The Switch login window appears, as shown below.



5. Enter the ID and Password (The factory default login ID is **admin** and Password is **admin**), and then click “OK” to log in to the Switch configuration window as below.



(24-port version view)

In the Web GUI, the left column shows the configuration menu and the rest of the screen area displays the configuration settings.

Chapter 4 Switch Configuration

4.1 Administrator

4.1.1 Authentication configuration

Authentication Configuration diagram box allows user to modify Username and Password, and then enter new username and password. After completing, press "Update" button to take effect.

Administrator

- Authentication Configuration
- System IP Configuration
- System Status
- Load default setting
- Firmware Update
- Reboot Device

PoE

Port Management

VLAN Setting

Per Port Counter

QoS Setting

Authentication Configuration

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

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

4.1.2 System IP Configuration

This page shows system configuration including the current IP Address and Subnet Mask, Gateway, and IP Configure.

Administrator

- Authentication Configuration
- System IP Configuration
- System Status
- Load default setting
- Firmware Update
- Reboot Device

PoE

Port Management

VLAN Setting

Per Port Counter

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

IP Address, Subnet Mask, and Gateway at system IP Configuration diagram box can be configured by user. The Switch also supports DHCP methods to get IP address from DHCP server.

4.1.3 System status

This page is used to check the status of the Switch, including the switch MAC address and software version.

System Status

MAC Address	10:10:13:f0:18:26
Number of Ports	24+2
Comment	switch MAX:15
System Version	20131123_vIP1826D_PoEPD69100_1086.01
Idle Time Security	<input type="checkbox"/> Idle Time Security Idle Time: 0 (1~30 Minutes) <input type="radio"/> Auto Logout(Default). <input type="radio"/> Back to the last display. <input type="button" value="Update"/>

Note:
Comment name only can use "a-z","A-Z","_"," ","+","-","=","0-9"

The MAC address and version of the Switch will be shown at system status diagram box. Comment field can accept "a-z", "A-Z", "0-9", "_", "+", "-", "=", excluding special character.

4.1.4 Load default setting

Clicking the "Load" button will make the switch being set to the original configuration.

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

When Load Default is executed, the all settings will be restored to default setting. Press "Load" button at load default setting page, and then the process of the load default setting will be executed. Press "Reboot" button to take effect.

**Update
Successfully!!**

Please Click "Reboot" to use new setting to login

After completing load default procedure, IP address, user name and password will keep original setting.

4.1.5 Firmware update

After pressing "Update" button, the Switch will erase the older version flash code first. Then enter file name at specific path, and the update will be completed.

Using default IP to execute firmware update process:

Firmware Update
Please input the password to continue the Firmware Update process.
Password:
ReConfirm:

Notice:
After clicking the "UPDATE" button, IF the firmware update webpage is not redirected correctly or is shown as "Webpage not found". Please connect to http://192.168.2.1

Enter password to execute firmware update process. After pressing "Update" button, the old web code will be erased. After completing, select the image file and enter update button to take effect.

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

Notice:
After clicking the "UPDATE" button, IF the firmware update webpage is not redirected correctly or is shown as "Webpage not found". Please connect to <http://192.168.2.1>



Erase Flash (144/512)
If this webpage doesn't refresh smoothly, please connect to <http://192.168.2.1> to continue.



F/W	
Select the image file:	C:\Documents and Settings\Administrator\Desktop\FR-S2028PE <input type="button" value="Browse..."/> <input type="button" value="UPDATE"/>
http://192.168.2.1	



Uploading >>>>>>



OK!

4.1.6 Reboot device

This page is used to reboot device.

Press "Confirm" button to take effect for rebooting device.



Reboot Device:

Click "Confirm" to Reboot the Device

4.2 POE

4.2.1 POE Status

This page is used to check POE Status, you can set Max Available Power here.

- Administrator
- PoE
 - PoE Status
 - PoE Setting
 - PoE Power Delay
 - PoE Scheduling
 - NTP Setting
- Port Management
- VLAN Setting
- Per Port Counter

PoE Status

Max available Power	500 Watt <input type="button" value="Update"/>
System operation status	On
Main Power consumption	0 (Watt)
Device Temperature	
Device #1	36 (C)
Device #2	38 (C)
Device #3	39 (C)

4.2.2 POE Setting

This page is for PoE setting.

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

PoE Setting

Function	Status	Priority	Power Budget
	-----	[]	[] (Watt MAX:36W)
		(Critical-1;High-2;Low-3)	
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"/> 09 <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"/>		
	<input type="button" value="Update"/>		

Port Status <input type="button" value="Refresh"/>					
Port	Status	Class	Priority	Power Consumption(Watt)	Power Budget(Watt)
1	Enable	---	3	0.00	30
2	Enable	---	3	0.00	30
3	Enable	---	3	0.00	30
4	Enable	---	3	0.00	30
5	Enable	---	3	0.00	30
6	Enable	---	3	0.00	30
7	Enable	---	3	0.00	30
8	Enable	---	3	0.00	30
9	Enable	---	3	0.00	30
10	Enable	---	3	0.00	30
11	Enable	---	3	0.00	30
12	Enable	---	3	0.00	30
13	Enable	---	3	0.00	30
14	Enable	---	3	0.00	30
15	Enable	---	3	0.00	30
16	Enable	---	3	0.00	30
17	Enable	---	3	0.00	30
18	Enable	---	3	0.00	30
19	Enable	---	3	0.00	30
20	Enable	---	3	0.00	30
21	Enable	---	3	0.00	30
22	Enable	---	3	0.00	30
23	Enable	---	3	0.00	30
24	Enable	---	3	0.00	30

Status: Enable or disable the specified function.

Priority: Setting the priority of POE.

4.2.3 PoE Power Delay

This page is for setting PoE Power Delay.

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

PoE Power Delay

Function	Delay Mode	Delay Time (0~300)
	-----	second
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"/> 09 <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"/>	
<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
9	Disable	0
10	Disable	0
11	Disable	0
12	Disable	0
13	Disable	0
14	Disable	0
15	Disable	0
16	Disable	0
17	Disable	0
18	Disable	0
19	Disable	0
20	Disable	0
21	Disable	0
22	Disable	0
23	Disable	0
24	Disable	0

4.2.4 PoE Scheduling

This page is for setting PoE Scheduling, it starts POE function at a specified time.

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

PoE Scheduling

Schedule on Port	01
Schedule Mode	Disable
Schedule AM/PM	A. M.

Select all

Hour	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
00	<input checked="" type="checkbox"/>						
01	<input checked="" type="checkbox"/>						
02	<input checked="" type="checkbox"/>						
03	<input checked="" type="checkbox"/>						
04	<input checked="" type="checkbox"/>						
05	<input checked="" type="checkbox"/>						
06	<input checked="" type="checkbox"/>						
07	<input checked="" type="checkbox"/>						
08	<input checked="" type="checkbox"/>						
09	<input checked="" type="checkbox"/>						
10	<input checked="" type="checkbox"/>						
11	<input checked="" type="checkbox"/>						

4.2.5 NTP Setting

This page is for NTP setting.

Administrator

PoE

- PoE Status
- PoE Setting
- PoE Power Delay
- PoE Scheduling
- NTP Setting

Port Management

VLAN Setting

NTP Setting

System Time	0:20:8
NTP Server	#1 <input type="text" value="210.0.235.14"/>
	#2 <input type="text" value="59.124.196.85"/>
Time Zone	UTC 0:00 ▼
<input type="button" value="Update"/>	

NTP Server: This is the IP address of the NTP information will be taken from.

Time Zone: Select your local time zone from this pull down list.

4.3 Port Management

4.3.1 Port configuration

This page allows the user to configure operating mode of the physical port.

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

Backup/Recovery

Miscellaneous

SNMP Settings

Logout

Port Configuration

Function	Tx/Rx Ability	Auto-Negotiation	Speed	Duplex	Pause	Backpressure	Addr. Learning
Select Port No.	▼	▼	▼	▼	▼	▼	▼
	<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"/> 09 <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"/> 25 <input type="checkbox"/> 26						
<input type="button" value="Update"/>							

Port	Current Status				Setting Status						
	Link	Speed	Duplex	FlowCtrl	Tx/Rx Ability	Auto-Nego	Speed	Duplex	Pause	Backpressure	Addr. Learning
1	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
2	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
3	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
4	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
5	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
6	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
7	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
8	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
9	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
10	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
11	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
12	●	10M	FULL	ON	ON	AUTO	100M	FULL	ON	ON	ON
13	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
14	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF
15	----	----	----	----	ON	AUTO	100M	FULL	ON	ON	OFF

Tx/Rx Ability: Allow choosing all or one port of Switch for further management, the available options is ALL & 01 to 16/24.

Auto-Negotiation: Enable and Disable. Being set as Auto, the speed and duplex mode are negotiated automatically. When you set it as Disable, you have to set the speed and duplex mode manually.

Speed: It is available for selecting when the Negotiation column is set as Force. When the Negotiation column is set as Auto, this column is read-only.

Duplex: It is available for selecting when the Negotiation column is set as Force. When the Negotiation column is set as Auto, this column is read-only.

Pause: Flow Control for Full Duplex. When Flow Control is enabled, the switch can synchronize the speed with its peer to avoid the packet loss caused by congestion.

Backpressure: Flow Control for Half Duplex. A condition wherein a switch causes a transmitting device to hold off on sending data packets until the switch bottleneck has been eliminated.

Addr.Learning: Address learning is a service that characterizes a learning bridge, in which the source MAC address of each received packet is stored so that future packets destined for that address can be forwarded only to the bridge interface on which that address is located.

After completing the settings, press “Update” button to take effect. The setting will be reflected at current status window.

4.3.2 Port mirroring

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

(a) Destination port: Theoretically it’s possible to set more than one destination port in a network. Actually the port mirroring function will lower the network throughput, and therefore it’s recommended to set "only one" destination port in a network.

(b) 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)Tx & Rx: means the combination of Tx and Rx.

(c) Source port: The traffic source that will be copied to the destination port.

The screenshot shows the 'Port Mirroring' configuration page. On the left is a navigation menu with options like Administrator, PoE, Port Management, VLAN Setting, etc. The main content area is titled 'Port Mirroring' and contains the following elements:

- Dest Port:** A 2x13 grid of checkboxes. The first row contains ports 1 through 13, and the second row contains ports 14 through 26.
- Monitored Packets:** A dropdown menu currently set to 'Disable'.
- Source Port:** A 2x13 grid of checkboxes. The first row contains ports 1 through 13, and the second row contains ports 14 through 26.
- Update:** A button located below the source port grid.
- Multi to Multi Sniffer function:** A checkbox at the bottom of the configuration area.

(24-port version view)

4.3.3 Bandwidth Control

This page allows the setting of the bandwidth for each port. The TX rate and Rx rate can be filled with the number ranging 1 to 255. This number will be multiplied by the selected bandwidth resolution and the result is the real bandwidth.

Bandwidth Control

Port No.	Tx Rate	Rx Rate
01	(0-255) (0 Full Speed)	(0-255) (0 Full Speed)

Speed Base:

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	Rx Rate	Link Speed	Port No.	Tx Rate	Rx Rate	Link Speed
1	Full Speed	Full Speed	---	14	Full Speed	Full Speed	---
2	Full Speed	Full Speed	---	15	Full Speed	Full Speed	---
3	Full Speed	Full Speed	---	16	Full Speed	Full Speed	---
4	Full Speed	Full Speed	---	17	Full Speed	Full Speed	---
5	Full Speed	Full Speed	---	18	Full Speed	Full Speed	---
6	Full Speed	Full Speed	---	19	Full Speed	Full Speed	---
7	Full Speed	Full Speed	---	20	Full Speed	Full Speed	---

4.3.4 Broadcast Storm Control

The broadcast storm control is used to block the excessive broadcast packets, the number ranging from 1 to 63.

Broadcast Storm Control

Threshold: (1-63)

Enable Port	<input type="checkbox"/>													
	<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 50us for Gigabit speed, 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.

4-port version view)

For example: The broadcast storm of the port1~8 are enabled and threshold is set to 10. The broadcast packets will be dropped when broadcast packets are more than threshold setting (packet length is 64 bytes).

Broadcast Storm Control

Threshold: (1-63)

Enable Port	<input checked="" type="checkbox"/>	<input type="checkbox"/>											
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

This value indicates the number of broadcast packet which is allowed to enter each port in one time unit. One time unit is 50us for Gigabit speed, 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.

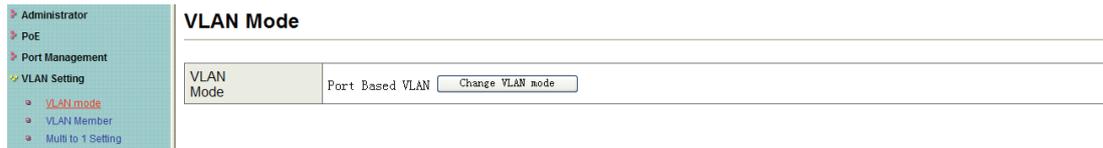
4-port version view)

4.4 VLAN Setting

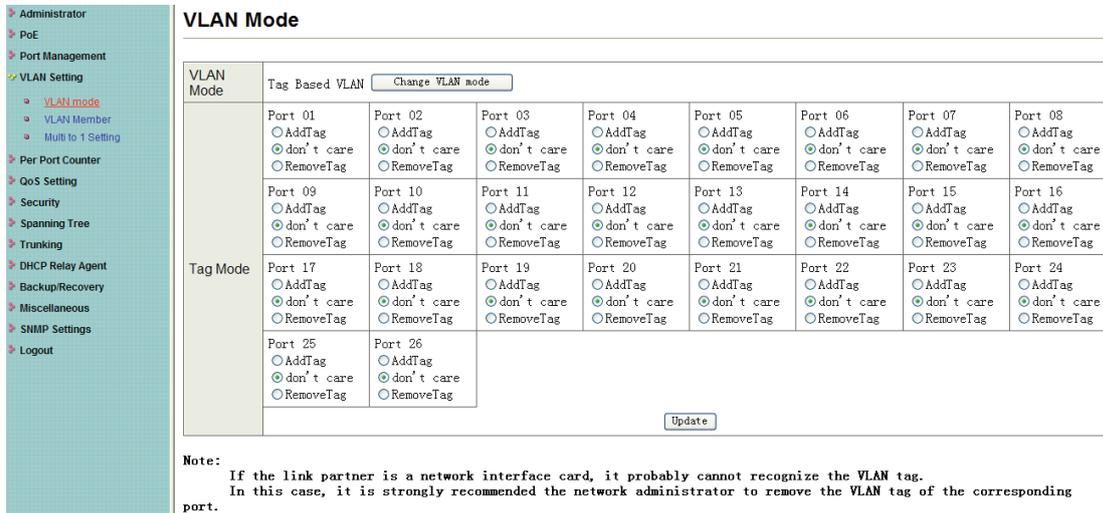
4.4.1 VLAN mode

The Switch supports two VLAN modes, tag based and port based. When the port based VLAN is selected, the tag setting will be useless. When the tag based VLAN is selected, the user can define the handling method of a VLAN tag to the specified port, including "add a

VLAN tag", " remove a VLAN tag" or "don't care" about VLAN tag.



When click the "Change VLAN mode" button, the mode will change to Tag Base VLAN.



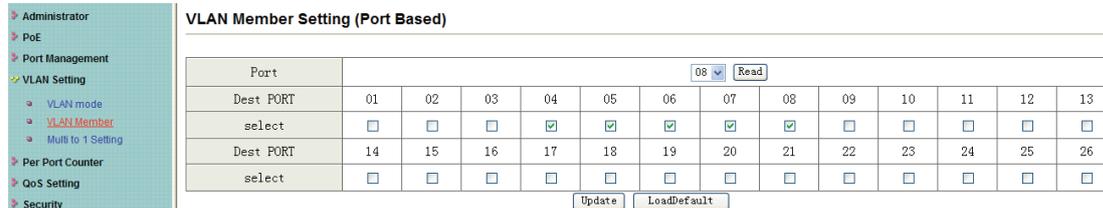
The egress packets of the output port will be added tag if add tag option is selected. The egress packets of the output will be stripped tag if remove tag option is selected. Don't care means the egress packets of the output port only forward to destination without adding or removing tag.

4.4.2 VLAN Member Setting

This page is used to set the VLAN ID. The VLAN ID is valid only when the tag based VLAN is enabled. In port based VLAN mode, the VLAN ID is useless.

Port based VLAN

Port1~3 is set to same VLAN group and port4~8 is set to another VLAN group.



		VLAN MEMBER																									
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	25	26
1	v	v	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	v	v	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	v	v	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	v	v	v	v	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	v	v	v	v	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	v	v	v	v	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	v	v	v	v	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	v	v	v	v	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

4-port version view)

Tag based VLAN

The following figure shows: 1, 2, 3, 4, 5, 6, 7 port in the same VLAN group. The 2 port tag VID number is 123.

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

VLAN Member Setting (Tag Based)

VID:

Add: Enter a VID, select the VLAN member for this entry and then press this button to add a VLAN entry to the table.
 Del: Select a VID in the table and then press this button to remove a VID entry from the table.
 Update: Modify the existing VID entry, select VID and then press the button.

VLAN Member Port	01	02	03	04	05	06	07	08
select	<input checked="" type="checkbox"/>	<input type="checkbox"/>						
VLAN Member Port	09	10	11	12	13	14	15	16
select	<input type="checkbox"/>	<input type="checkbox"/>						
VLAN Member Port	17	18	19	20	21	22	23	24
select	<input type="checkbox"/>	<input type="checkbox"/>						
VLAN Member Port	25	26	-	-	-	-	-	-
select	<input type="checkbox"/>	<input type="checkbox"/>						

Note: If you do not select any port, this VID will be treated as a VID embedded in a 802.1Q tag.

VID Source port	01	02	03	04	05	06	07	08
select	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
VID Source port	09	10	11	12	13	14	15	16
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"/>
VID Source port	17	18	19	20	21	22	23	24
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"/>
VID Source port	25	26	-	-	-	-	-	-
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"/>

4-port version view)

4.4.3 Multi-to-1 Setting

This setting is exclusive to VLAN setting on "VLAN member setting". When VLAN member setting is updated, multi-to-1 setting will be void and vice versa. The "Disable Port" means the SNMP port is excluded in this setting.

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

Multi to 1 Setting

Destination PortNo.

Current Setting

Disable Port	Port:-												
	01	02	03	04	05	06	07	08	09	10	11	12	13
<input type="checkbox"/>													
<input type="checkbox"/>													

Note: "Disabled port" defines the switch physical port which is disabled.

1. A example for Multi-to-1 structure

Ports

01

02

⋮

M

VLAN Groups

1

2

⋮

M

Destination Port/
Current Setting

N

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.
 3. This configuration is port base VLAN only.

4-port version view)

Note: If the VLAN mode changes from port base to tag base, the setting of the port base will be cleared. Similarly, if the VLAN mode changes from tag base to port base, the setting of the tag base will be cleared.

WARNING!

Current Port-base VLAN Setting will be reset to default setting,
if you click on "Continue" button to change to Tag-base VLAN mode.
Otherwise, click on "Back" button to cancel.

In tag base mode, adding or removing tag doesn't affect the source port connected with the web.

4.5 Per Port Counter

This page provides port counter for each port. There are 4 groups of statistics in total.

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

Counter Category

Counter Mode Selection: Transmit Packet & Receive Packet

Port	Transmit Packet	Receive Packet
01	0	0
02	0	0
03	0	0
04	0	0
05	0	0
06	0	0
07	0	0
08	0	0
09	0	0
10	0	0
11	0	0
12	10990	5377
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0

4-port version view)

4.6 QoS Setting

4.6.1 Priority mode

This page allows the user to set the scheduling mode for the TX packets priority. When the queue weight is set to "0", it will be treated as "8". The "low weight" and "high weight" means the ratio of the packet in the transmit queue. For example, If "low weight" and "high weight" are set to "3" and "5", the ratio of the transmit packet for the low priority to high priority is 3/5.

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
 - Priority Mode
 - Port 802.1p IPIDS based
 - TCP/UDP Port Based
- Security
- Spanning Tree
- Trunking

Priority Mode

Priority Mode

Mode	<input checked="" type="radio"/> First-In-First-Out <input type="radio"/> All-High-before-Low <input type="radio"/> Weight-Round-Robin.
	Low weight: <input type="text" value="0"/> High weight: <input type="text" value="0"/>
<input type="button" value="Update"/>	

Note: When the queue weight is set to "0", it will be treated as "8".
The "low weight" and "high weight" means the ratio of the packet in the transmit queue. For example,
If "low weight" and "high weight" are set to "3" and "5", the ratio of the transmit packet for the low priority to high priority is 3/5.

4.6.2 Port, 802.1p, IP/DS based

There are three COS types for this setting. The user can select more than one item for each port.

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
 - Priority Mode
 - Port, 802.1p, IP/DS based
 - TCP/UDP Port Based
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Class of Service Configuration

Enable High Priority

Port No.	Mode	Port Base	VLAN Tag	IP / DS	Port No.	Mode	Port Base	VLAN Tag	IP / DS
1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

As long as any of three CoS schemes(802.1p,IP TOS/DS or Port Base) is mapped to "high", the data packet will be treated as the high priority.

As long as any of three CoS schemes(802.1p, IP TOS/DS or Port Base) is mapped to "high", the data packet will be treated as the high priority.

4.6.3 TCP/UDP Port Based

This page allows the network administrator to assign the specific application to a priority queue. When the TCP/UDP port QoS function "override" item is selected, the Port_based, Tag_based, IP TOS_based, CoS listed above will be ignored.

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
 - Priority Mode
 - Port, 802.1p, IP/DS based
 - TCP/UDP Port Based
- Security
- Spanning Tree
- Trunking
- DHCP Relay Agent
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

Class of Service Configuration

Protocol	Option
FTP(20,21)	F-I-F-0
SSH(22)	F-I-F-0
TELNET(23)	F-I-F-0
SMTP(25)	F-I-F-0
DNS(53)	F-I-F-0
TFTP(69)	F-I-F-0
HTTP(80,8080)	F-I-F-0
POP3(110)	F-I-F-0
NEWS(119)	F-I-F-0
SNTP(123)	F-I-F-0
NetBIOS(137-139)	F-I-F-0
IMAP(143,220)	F-I-F-0
SNMP(161,162)	F-I-F-0
HTTPS(443)	F-I-F-0
MSN(1863)	F-I-F-0
XRD_RDP(3389)	F-I-F-0
QQ(4000,8000)	F-I-F-0

4.7 Security

4.7.1 MAC Address Binding

This is a port binding feature. This function provides a method for the administrator to specify the relationship between the physical port and the MAC address. By specifying the MAC address to each port, the switch can only forward the packets with source specified in

the table. Each port can correspond to up to 3 MAC addresses.

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
 - MAC Address Binding
 - TCP/UDP Filter
- Spanning Tree
- Trunking
- DHCP Relay Agent
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

MAC Address Binding

Port No.	MAC Address
8	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px;">[]</div> </div> <div style="text-align: center; margin-top: 5px;"> <input type="button" value="Read"/> </div>
Select Port: <input type="text" value="08"/> Binding: <input type="text" value="Disable"/> <input type="button" value="Update"/>	

Note: If you enable the MAC address binding function, the address learning function will be disabled automatically.

Port No.	Binding Status	Port No.	Binding Status
1	Disable	14	Disable
2	Disable	15	Disable
3	Disable	16	Disable
4	Disable	17	Disable
5	Disable	18	Disable
6	Disable	19	Disable
7	Disable	20	Disable
8	Disable	21	Disable
9	Disable	22	Disable
10	Disable	23	Disable
11	Disable	24	Disable
12	Disable	25	Disable
13	Disable	26	Disable

Note: The MAC address of current management connection is 94:de:80:31:e6:bd at port 12.

4.7.2 TCP/UDP Filter

By selecting the TCP/UDP port, the user can optionally block some specific applications. There are two kinds of protocol lists. The positive list makes the switch to forward the selected protocol and drop other protocols. The negative list makes the switch drop the selected protocol and forward other protocol. The protocol is checked at the selected secure WAN port.

- Administrator
- PoE
- Port Management
- VLAN Setting
- Per Port Counter
- QoS Setting
- Security
 - MAC Address Binding
 - TCP/UDP Filter
- Spanning Tree
- Trunking
- DHCP Relay Agent
- Backup/Recovery
- Miscellaneous
- SNMP Settings
- Logout

TCP_UDP Filter Configuration

Function Enable:

Port Filtering Rule:

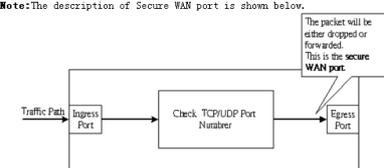
Note:
 (1) The outgoing packet with selected protocol will be either forwarded or dropped at secure WAN port as the figure shown below.
 (2) "negative" means the selected protocol will be dropped and other protocols will be forwarded.
 "positive" means the selected protocol will be forwarded and other protocol will be dropped.

<input type="checkbox"/> FTP (20, 21)	<input type="checkbox"/> SSH (22)	<input type="checkbox"/> TELNET (23)	<input type="checkbox"/> SMTP (25)	<input type="checkbox"/> DNS (53)	<input type="checkbox"/> TFTP (69)	<input type="checkbox"/> HTTP (80, 8080)	<input type="checkbox"/> POP3 (110)
<input type="checkbox"/> NEWS (119)	<input type="checkbox"/> SNMP (123)	<input type="checkbox"/> NetBIOS (137~139)	<input type="checkbox"/> IMAP (143, 220)	<input type="checkbox"/> SNMP (161, 162)	<input type="checkbox"/> HTTPS (443)	<input type="checkbox"/> XRD_RDP (3389)	<input type="checkbox"/> BOOTP_DHCP (67, 68)
<input type="checkbox"/> User_Define_a <input type="checkbox"/> User_Define_b <input type="checkbox"/> User_Define_c <input type="checkbox"/> User_Define_d							

Note: These User-defined A/B/C TCP/UDP settings use the snae port number settings as the Users-defined A/B/C Port number settings in Qos's Class of Service webpage.

<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
<input type="checkbox"/> Port09	<input type="checkbox"/> Port10	<input type="checkbox"/> Port11	<input type="checkbox"/> Port12	<input type="checkbox"/> Port13	<input type="checkbox"/> Port14	<input type="checkbox"/> Port15	<input type="checkbox"/> Port16
<input type="checkbox"/> Port17	<input type="checkbox"/> Port18	<input type="checkbox"/> Port19	<input type="checkbox"/> Port20	<input type="checkbox"/> Port21	<input type="checkbox"/> Port22	<input type="checkbox"/> Port23	<input type="checkbox"/> Port24
<input type="checkbox"/> Port25	<input type="checkbox"/> Port26						

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



```

graph LR
    Ingress[Ingress Port] --> Check[Check TCP/UDP Port Number]
    Check --> Egress[Egress Port]
    
```

The Switch supports two methods to filter TCP/UDP protocol. Allow means that when the port number of the selected port matches the port number of the filter setting, the packets will be forwarded to destination port. Deny means that when the port number of the selected port doesn't match port number of the filter setting, the packets will be forwarded to destination port.

25

4.8 Spanning Tree

4.8.1 STP Bridge Settings

STP (Spanning Tree Protocol) is the acronym for spanning tree protocol, the protocol can be applied to loop network, the algorithm by a certain path redundancy, while loop network loop-free tree pruning into the network in order to avoid reporting Man in the loop network hyperplasia and infinite loop. STP protocol will continue to 50s, this is the PC is turned on and some 50s before they can access, for data transfer. RSTP STP improved algorithm, within the agreement time to 1s.

STP Bridge Settings

Spanning Tree Settings				
STP Mode	Bridge Priority	Hello Time	Max Age	Forward Delay
	(0~61440)	(1~10 Sec)	(6~40 Sec)	(4~30 Sec)
Submit				

Note: $2 * (\text{Forward Delay} - 1) \geq \text{Max Age}$
 $\text{Max Age} \geq 2 * (\text{Hello Time} + 1)$
 Bridge Priority must be multiplies of 4096

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	32768:10 F0 13 F0 18 26	2	20	15

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

4.8.2 STP Port Settings

This feature is available to you to switch the priority of each port and RPC set, usually set according to the following priority rules, and RPC can remain the default.

RPC: Root Path Cost. The value range is 0 ~ 200000000, used to determine the port to the root path cost, often with the speed, so when set to Auto, its value is inversely proportional to speed.

Election root port, in accordance with the following principles. COST - Port ID, compare the COST value, that is, the cost of the port to the root bridge. COST lower the value the more the priority.

【COST VALUE】

Bandwidth	COST
10Gps	2
1Gps	4
100M	19
10M	100

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 - STP Bridge Settings
 - **STP Port Settings**
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STP Port Settings

STP Port Settings		
Port No.	Priority (0~240)	RPC (1~200000000) 0=AUTO
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Submit"/>		
Priority should be a multiple of 16		

STP Port Status						
Port No.	RPC	Priority	State	Status	Designated Bridge	Designated Port
1	Auto:0	0x80	--	Disable	--	--
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	--	--
9	Auto:0	0x80	--	Disable	--	--
10	Auto:0	0x80	--	Disable	--	--
11	Auto:0	0x80	--	Disable	--	--
12	Auto:2000000	0x80	Designated Port	Forwarding	--	--
13	Auto:0	0x80	--	Disable	--	--
14	Auto:0	0x80	--	Disable	--	--
15	Auto:0	0x80	--	Disable	--	--
16	Auto:0	0x80	--	Disable	--	--

4.8.3 Loopback Detection

The features available to you under the loop test set, the "Loopback Detect Function", set to "Enable". When you produce the lower loop switch when the switch will automatically block out the port connecting to ensure other ports work.

When you set the "Auto Wake Up" and "Wake-Up Time Interval" option, and the network loop appears when the intervals, the switch port will wake up trying to loop until the fault discharged.

Reset All Ports: This button provides a key to force you to reset the port function.

Status: Display the current status of all ports.

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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	--
9	--
10	--
11	--
12	--
13	--
14	--
15	--
16	--
17	--
18	--
19	--
20	--

4-port version view)

(2)

4.9 Trunking

Port aggregation is to bring together multiple ports together to form a group to achieve entry / exit load in the aggregation group, all members of the port-sharing, while also providing a higher connection reliability.

Note: According to LACP specifications, the same group for each Member port Trunk connection speed and Duplex must be consistent, otherwise not work properly.

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- Spanning Tree
- Trunking
 - Link Aggregation Settings
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- SNMP Settings
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Trunking

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

Member	Link Group 1				Link Group 2				Link Group 3	
	P1	P2	P3	P4	P5	P6	P7	P8	P25	P26
	<input checked="" type="checkbox"/>									
State	Disable				Disable				Disable	
Type	LACP				LACP				LACP	
Operation Key	1 (1~65535)				2 (1~65535)				3 (1~65535)	
Time Out	Short Time Out				Short Time Out				Short Time Out	
Activity	Passive				Passive				Passive	
<input type="button" value="Submit"/>										

Note: If you enable LACP on some specified ports and their link partners are normal port without LACP, these specified ports cannot transmit packet to/receive packet from the link partner.

System Priority: Set the Switch System Priority, a value of 1 to 65535.

Link Aggregation Algorithm: MAC Src on behalf of Source MAC address. MAC Dst on behalf of Destination MAC address.

4.10 DHCP Relay Agent

4.10.1 DHCP Relay Agent

DHCP provides a transparent transmission to DHCP broadcast packet. It can transmitted broadcast packet in one DHCP client(or server) to another segments of the DHCP server(or client) transparently. Client in subnet can communicate with other subnet DHCP server through DHCP Relay.

DHCP Relay Agent	
DHCP Relay State :	Disable
DHCP Relay Hops Count Limit (1-16):	16
DHCP Relay Option 82 State :	Disable
<input type="button" value="Update"/>	

4.10.2 Relay Server

Set the DHCP server IP.

DHCP Relay Agent	
DHCP Server IP	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="button" value="Add"/>
DHCP Server IP List	

4.10.3 VLAN MAP Relay Agent

Enter the VLAN ID value within 1-4094.

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

4.11 Backup/Recovery

This function provides the user with a method to backup/recovery the switch configuration. The user can save configuration file to specified path. If the user wants to recover the original configuration, which is saved at the specified path, entering the password and then pressing the "Update" button could recover the original configuration.

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Configuration Backup/Recovery

Backup(Switch→PC)

Please check "Download" to download EEPROM contents.

Recovery(PC→Switch)

Password :

Select the image file :

The contents of the EEPROM can be saved to specific path, and the default name is down.bin.

Configuration Backup/Recovery

Backup(Switch→PC)

Please check "Download" to download EEPROM contents.

Recovery(PC→Switch)

Password :

Select the image file :

4.12 Miscellaneous

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

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Miscellaneous Setting

Output Queue Aging Time

Aging time 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

VLAN Striding 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

IGMP Snooping IGMP Snooping V1 & V2 function enable

IGMP Leave Packet Leave packet will be forwarded to IGMP router ports.

VLAN Uplink Setting

Port 01	Port 02	Port 03	Port 04	Port 05	Port 06	Port 07	Port 08	Port 09	Port 10	Port 11	Port 12	Port 13
<input type="radio"/> Uplink1 <input type="radio"/> Uplink2												
Port 14	Port 15	Port 16	Port 17	Port 18	Port 19	Port 20	Port 21	Port 22	Port 23	Port 24	Port 25	Port 26
<input type="radio"/> Uplink1 <input type="radio"/> Uplink2												

Clear Uplink1
 Clear Uplink2

Output Queue Aging Time

This function is enabled for avoiding poor utilization of switch while pause packets is received, The normal packets from transmitted port (port1) can be forwarded to other port if port2 continues to assert pause frame.

VLAN Striding

By selecting this function, switch will forward unicast packets to destination port, no matter whether destination port is in the same VLAN.

IGMP Snooping V1 & V2

This function is enabled for supporting IGMPv1, IPMPv2 protocol to create IGMP group.

Uplink port

This function allows different VLAN use their individual uplink port to forward packets. In a normal application, "only one" uplink port can be selected in a switch.

4.13 SNMP Settings

SNMP(Simple Network Management Protocol), used to manage the communication line. You can Enable or Disable SNMP Settings here.

4.14 Logout

Press "Logout" button to logout web page.



Appendix: Technical Specifications

Model	DN-95312	DN-95313
Number of Ports	16 x 10/100Mbps Auto-Negotiation ports	24 x 10/100Mbps Auto-Negotiation ports, 2 x 1000Mbps Combo
LED Indicators	10/100M	Link/Act
	PoE	PoE
	Power	Power
PoE Power	Power-: pin 4 & pin 5	Power+: pin 4 & pin 5
	Power+: pin 7 & pin 8	Power -: pin 7 & pin 8
Transfer Method	Store-and-Forward	
Switching Capacity	3.2G	8.8G
MAC Address Learning	Automatically learning, automatically Update 4K	
Standards	IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, IEEE802.3af, IEEE802.3at	
Network Media (RJ-45)	10BASE-T: UTP category 5 cable (maximum 100m)	
	100BASE-T: UTP category 5,5e cable (maximum 100m)	
	1000Base-T: UTP category 5e, 6 cable (maximum 100m)	
Dimensions (L × W × H)	440*208*44 mm	
Environment	Operating Temperature: 0°C~40°C	
	Operating Humidity: 10%~90% non-condensing	
	Storage Temperature: -10°C~70°C	
	Storage humidity: 5%~90% non-condensing	
AC Input	AC: 100V~240V 50/60HZ	
Power consumption	260 W	330 W