



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.

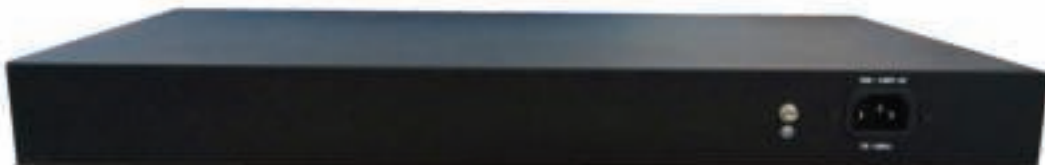


Figure 2 - Rear Panel

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.

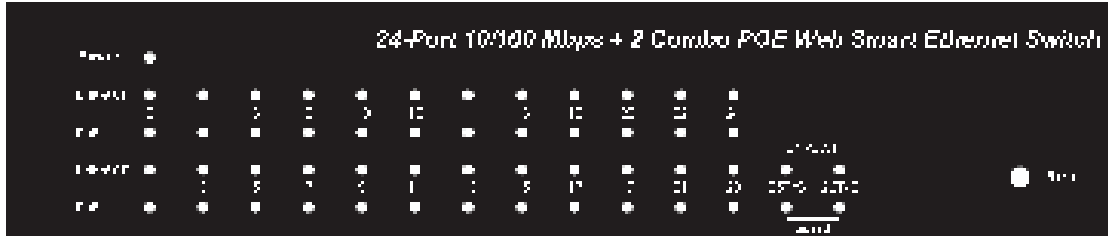


Figure 3 - LED Indicators

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.

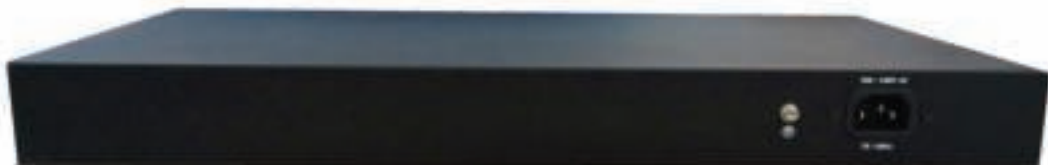


Figure 2 - Rear Panel

AC Power Connector:

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

Grounding Terminal:

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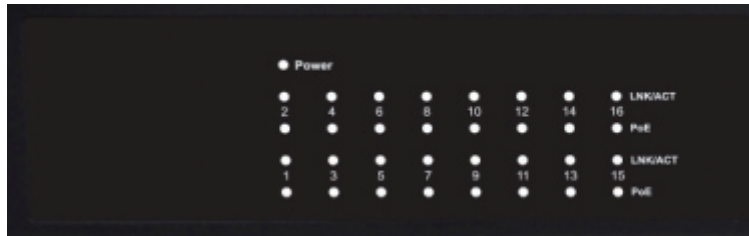


Figure 3 - LED Indicators

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
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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.

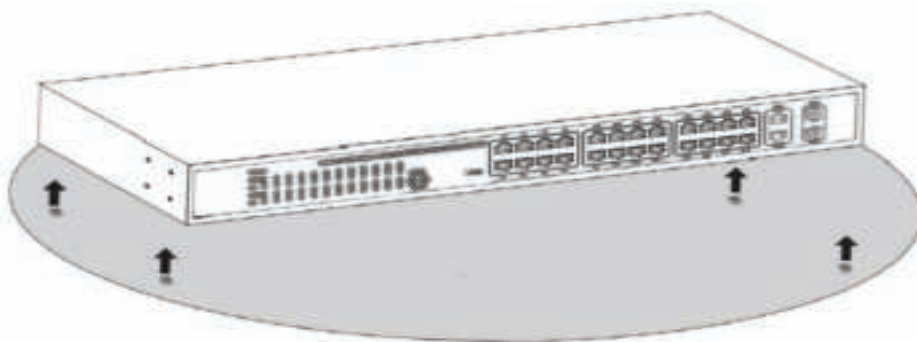


Figure 4 - Desktop Installation

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.

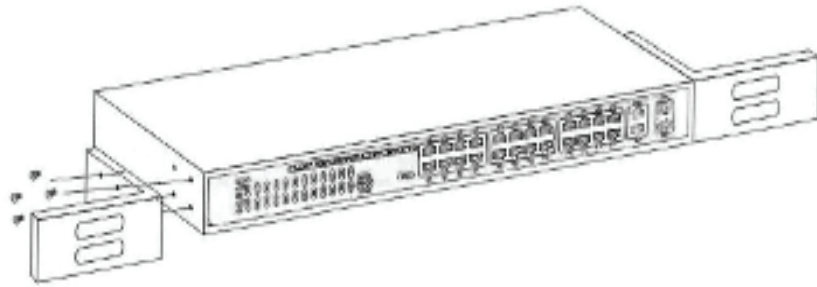


Figure 5 - Bracket Installation

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

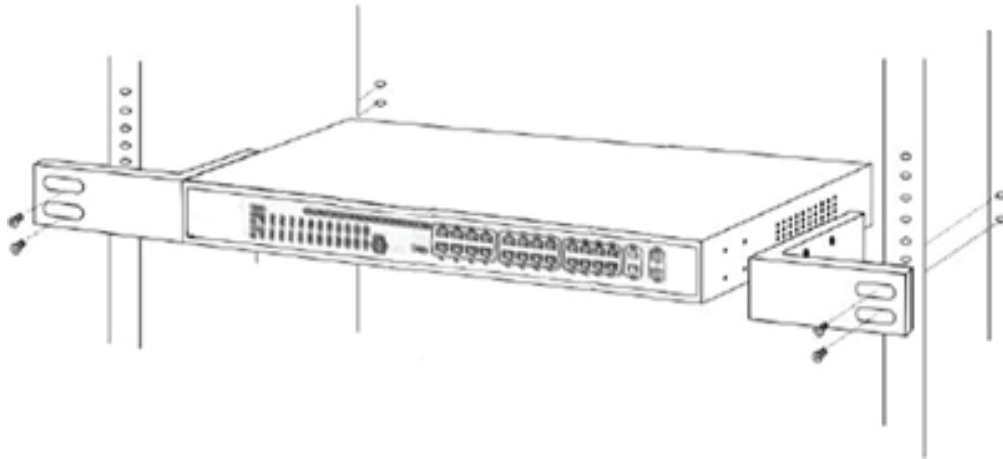


Figure 6 - Rack Installation

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.

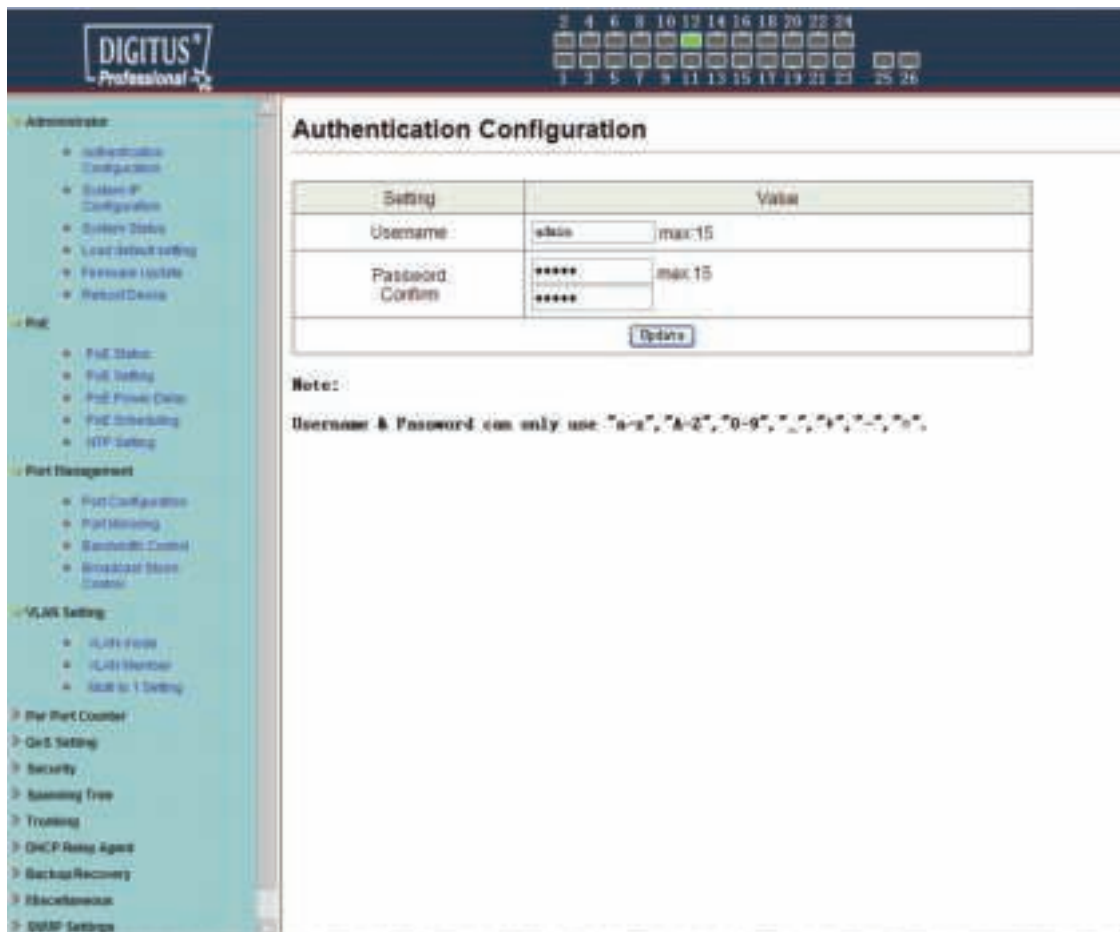
Parameter	Default Value
Default IP address	192.168.2.1
Default user name	admin
Default password	admin

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.

Setting	Value
Username	admin max 15
Password Confirm	***** max 15

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.

Setting	Value
IP Address	192 . 168 . 2 . 1
Subnet Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 2 . 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.



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.



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.

OK

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:



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.



Notice:
After clicking the "UPDATE" button, if the firmware update webpage is not refreshed 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.



Uploading>>>>>>



OK!

Continue

4.1.6 Reboot device

This page is used to reboot device.

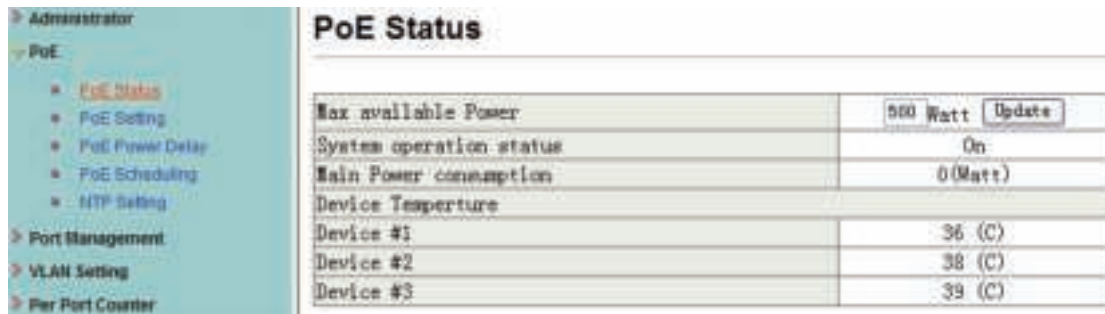
Press "Confirm" button to take effect for rebooting device.



4.2 POE

4.2.1 POE Status

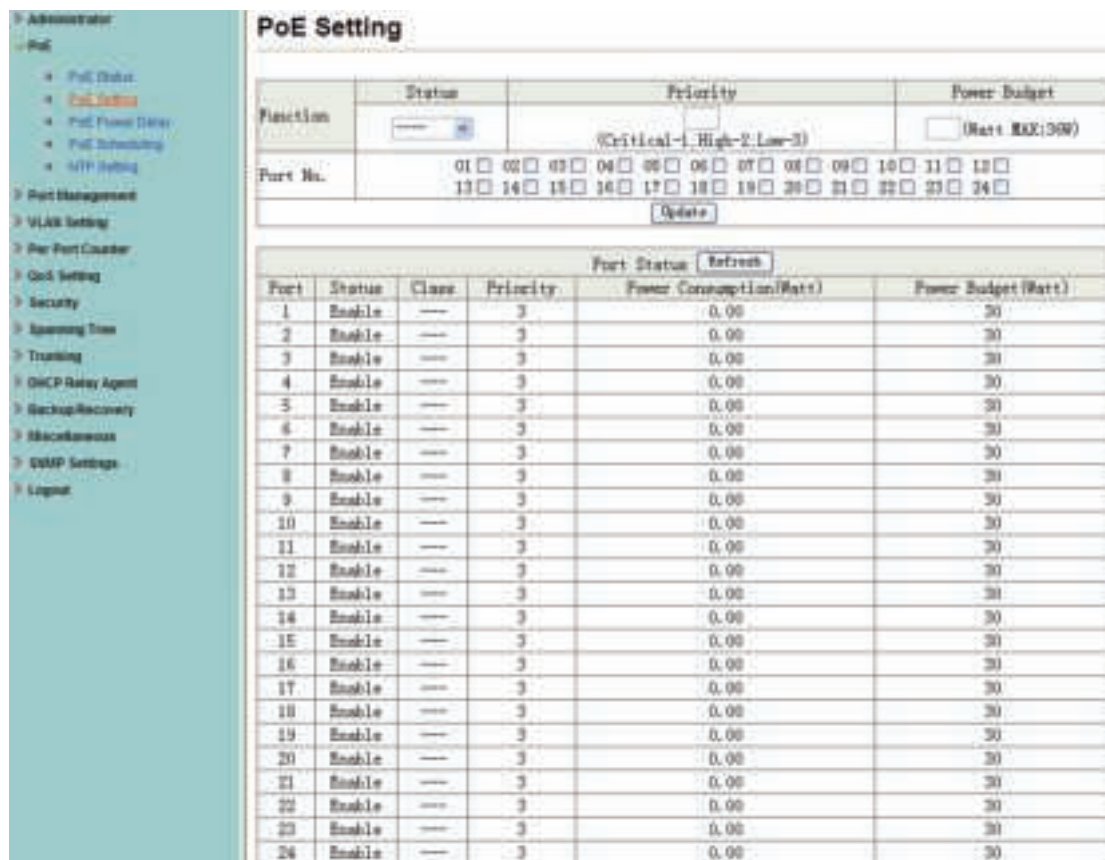
This page is used to check POE Status, you can set Max Available Power here.



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.



Function	Status	Priority	Power Budget		
Function	<input type="checkbox"/>	(Critical-1, High-2, Low-3)	(Max: 500W)		
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="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.

PoE Power Delay

Function	Delay Mode	Delay Time (second)
PoE Power Delay	Disable	0

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.

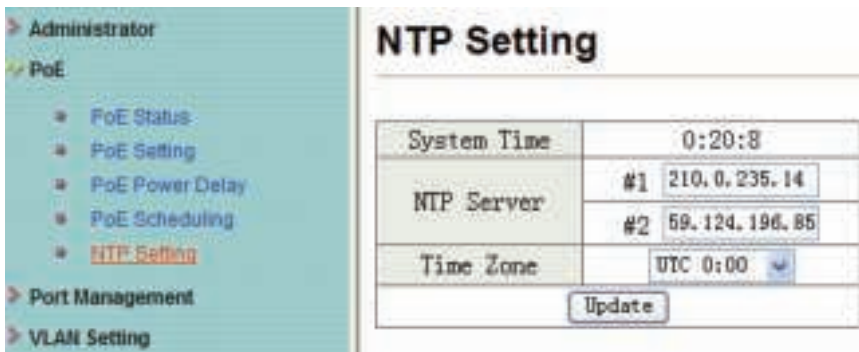
PoE Scheduling

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

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

4.2.5 NTP Setting

This page is for NTP setting.



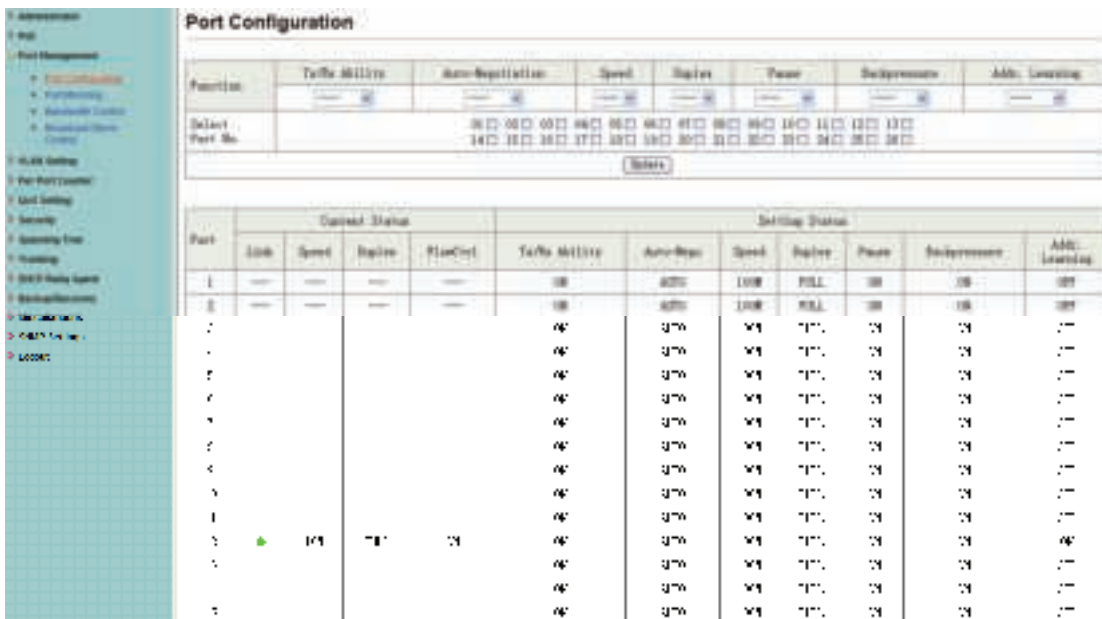
NTP Server: This is the IP address of the NTP information will be taken from.

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.



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.

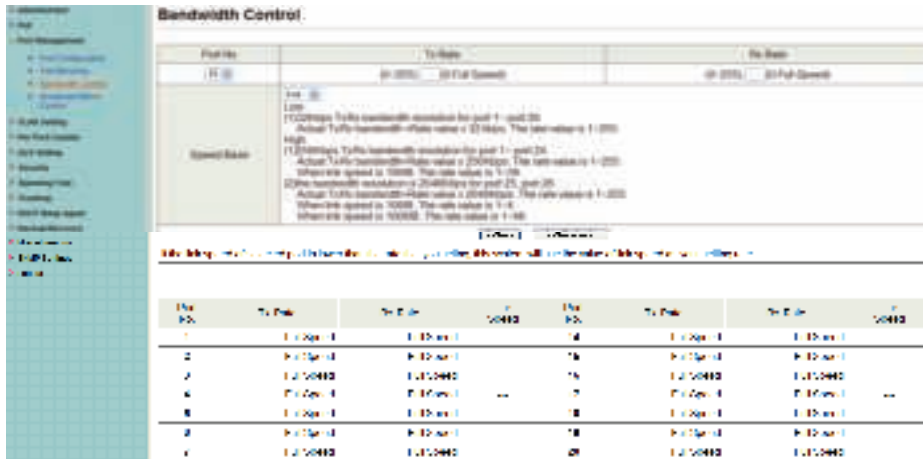
(c) Source port: The traffic source that will be copied to the destination port.



(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.



4.3.4 Broadcast Storm Control

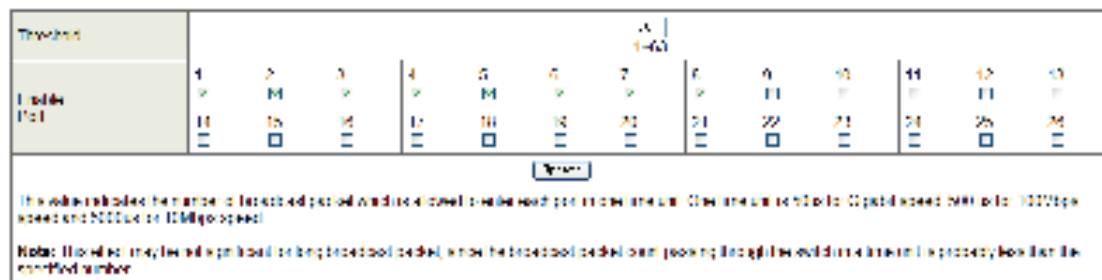
The broadcast storm control is used to block the excessive broadcast packets, the number ranging from 1 to 63.



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



4-port version view

4.4 VLAN Setting

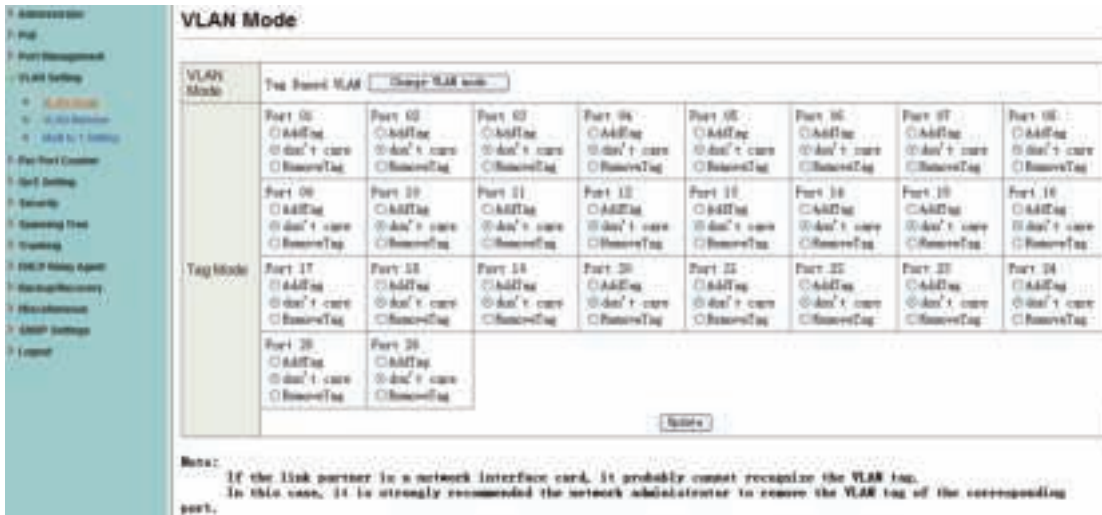
4.4.1 VLAN mode

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.



Notes:
 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.

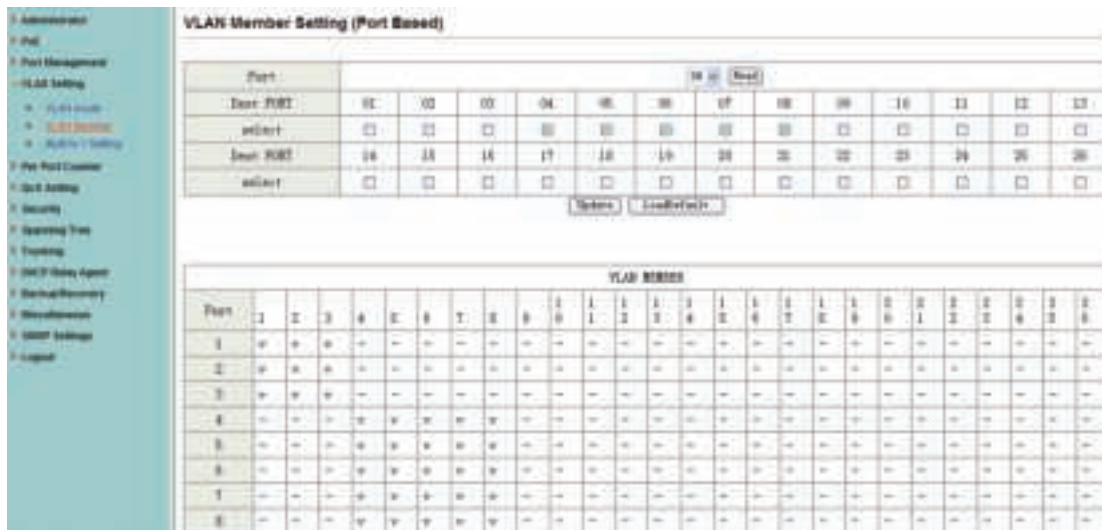
The egress packets of the output port will be added tag if add tag option is selected. The egress packets of the output will be stripped tag if remove tag option is selected. Don't care means the egress packets of the output port only forward to destination without adding or removing tag.

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

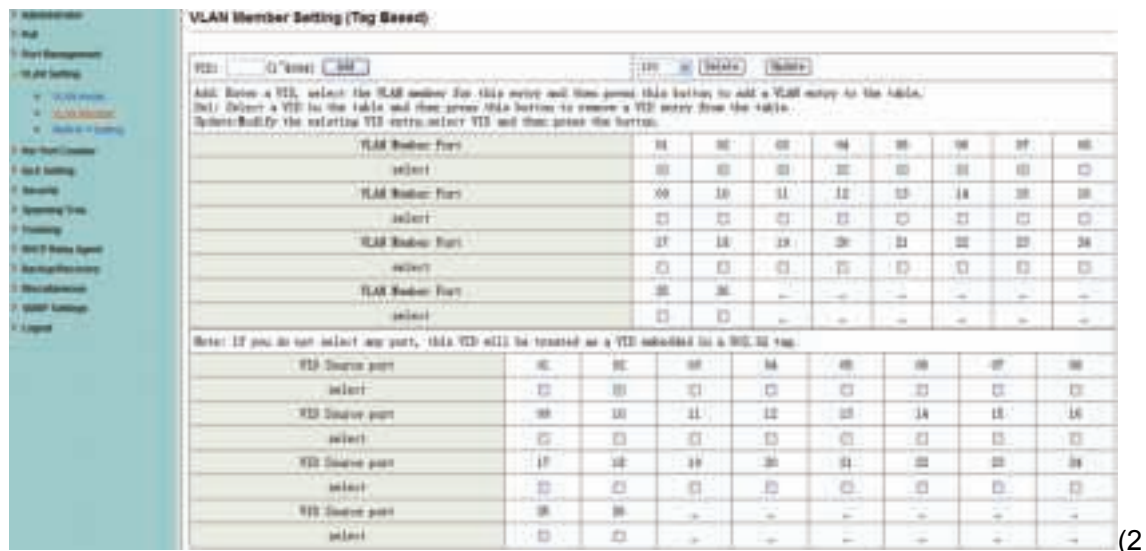
Port1~3 is set to same VLAN group and port4~8 is set to another VLAN group.



4-port version view)

Tag based VLAN

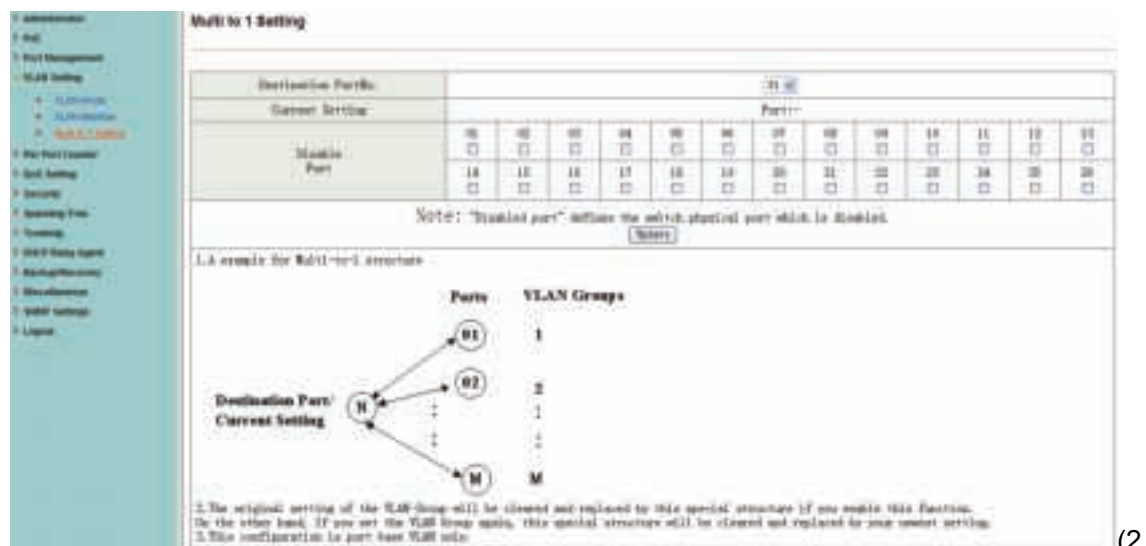
The following figure shows: 1, 2, 3, 4, 5, 6, 7 port in the same VLAN group. The 2 port tag VID number is 123.



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 port is excluded in this setting.



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.



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.

Counter Category			
Counter Value Selection: Transmit Packet & Receive Packet <input type="button" value="Apply"/>			
Port	Transmit Packet		Receive Packet
01	0	0	0
02	0	0	0
03	0	0	0
04	0	0	0
05	0	0	0
06	0	0	0
07	0	0	0
08	0	0	0
09	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	19999	0	20001
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
20	0	0	0

4-port version view)

(2

4.6 QoS Setting

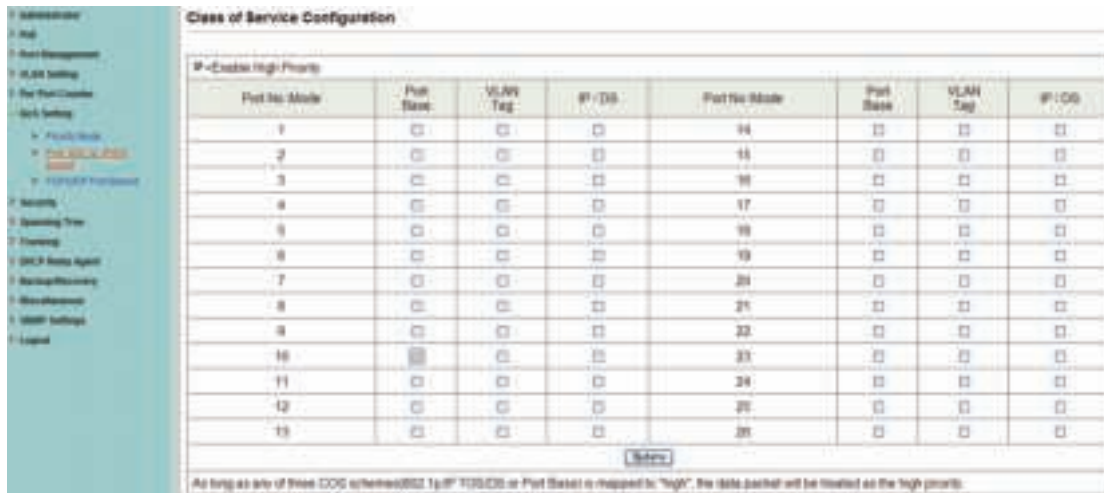
4.6.1 Priority mode

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.



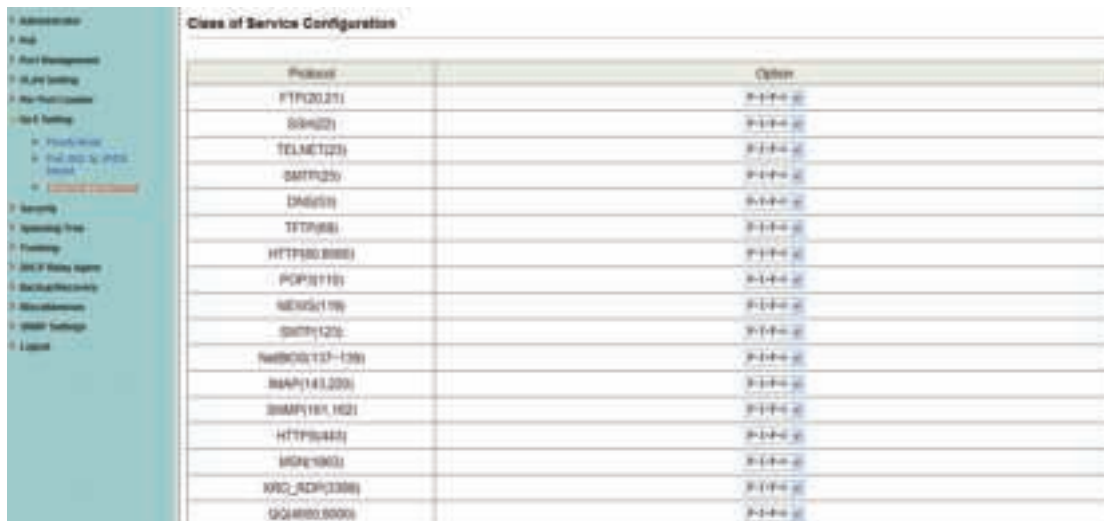
4.6.2 Port, 802.1p, IP/DS based

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



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.



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.

MAC Address Binding

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	17	Disable
3	Disable	18	Disable
4	Disable	19	Disable
5	Disable	20	Disable
6	Disable	23	Disable
7	Disable	24	Disable
8	Disable	25	Disable
9	Disable	26	Disable
10	Disable	27	Disable
11	Disable	28	Disable
12	Disable	29	Disable
13	Disable	30	Disable

Note: The MAC address of current management connection is 00:0C:29:00:00:00 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.

TCP_UDP Filter Configuration

Port Filtering Rule

Note: These pre-defined TCP/UDP settings are the same port number settings as the pre-defined LAN/Port number settings in the Class of Service settings.

Secure WAN port

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

```

    graph LR
        A[Traffic from WAN port] --> B[Check TCP/UDP Filter Settings]
        B --> C[Allow/Deny]
        C --> D[Forward to LAN port]
    
```

The packets in this direction (WAN to LAN) will be able to pass.

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.

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.



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

STP Port Settings

Port No.	Priority	RPC
01240	0	200000000

Submit

Priority should be a multiple of 16

STP Port Status

Port No.	RPC	Priority	State	Status	Designated Bridge	Designated Port
1	Auto:0	0x00	--	Disable	--	--
2	Auto:0	0x00	--	Disable	--	--
3	Auto:0	0x00	--	Disable	--	--
4	Auto:0	0x00	--	Disable	--	--
5	Auto:0	0x00	--	Disable	--	--
6	Auto:0	0x00	--	Disable	--	--
7	Auto:0	0x00	--	Disable	--	--
8	Auto:0	0x00	--	Disable	--	--
9	Auto:0	0x00	--	Disable	--	--
10	Auto:0	0x00	--	Disable	--	--
11	Auto:0	0x00	--	Disable	--	--
12	Auto:20000000	0x00	Designated Port	Forwarding	--	--
13	Auto:0	0x00	--	Disable	--	--
14	Auto:0	0x00	--	Disable	--	--
15	Auto:0	0x00	--	Disable	--	--
16	Auto:0	0x00	--	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.



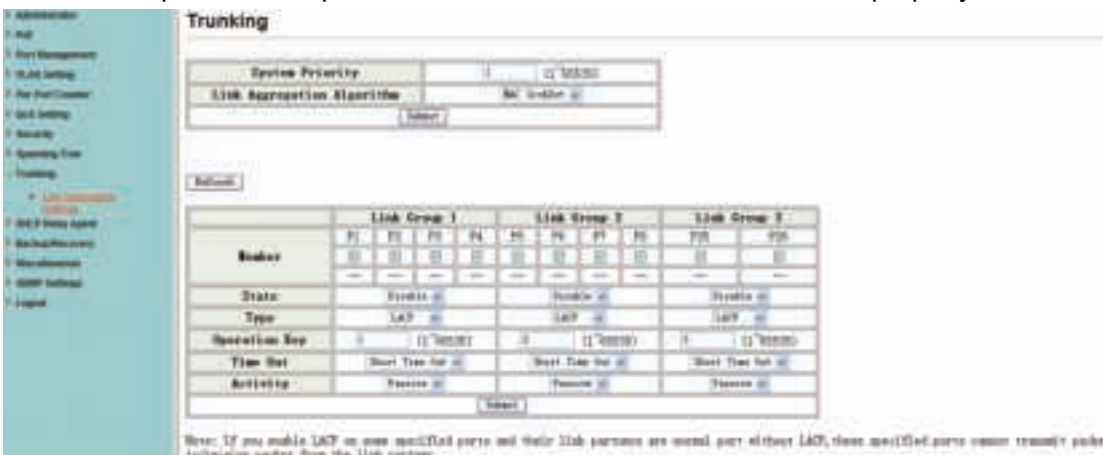
(2)

4-port version view)

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.



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 Enable	Disable
DHCP Relay Relay Agent List (1-16)	0
DHCP Relay Option ID State	Disable

4.10.2 Relay Server

Set the DHCP server IP.

DHCP Relay Agent	
DHCP Server IP	0.0.0.0
DHCP Server IP List	

4.10.3 VLAN MAP Relay Agent

Enter the VLAN ID value within 1-4094.

DHCP Relay Agent		
VLAN ID	0-4094	
Relay Server IP	0.0.0.0	
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.



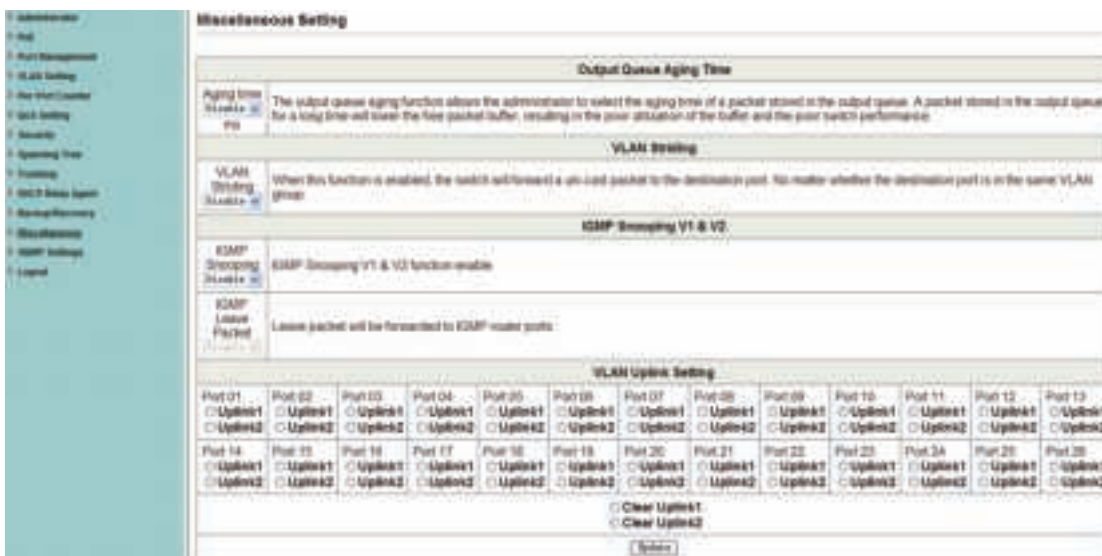
The contents of the EEPROM can be saved to specific path, and the default name is down.bin.

Configuration Backup/Recovery



4.12 Miscellaneous

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



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.

SNMP Settings

Community Settings

Community Name	Access Right
public	Read Only
	Read Write

[Save]

SNMP Settings

System Description	11111
System Contact	11111
System Location	11111

[Save]

SNMP Trap Settings

Trap State	Enable
Enable Trap Server	Enable
Trap Server Address	
Trap Server Status	--

[Save] [Reset]

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