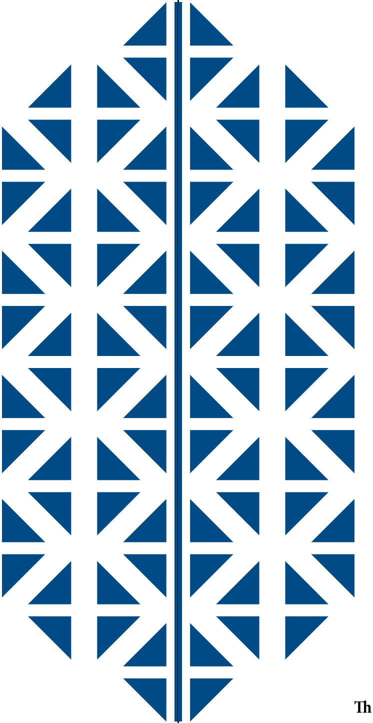
SMART SWITCH

USER GUIDE



SMART

U

Thank you for using our pro
manual carefully before use
of products, please downloa

SWITCH

SER GUIDE

24FE POE+2GE

V6.1.43.1

ducts, please read this
.Related tools and documents
d from *www.herospeed.net.*

CATALOG

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[INTRODUCTION]

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss.

1.1 /SAFETY SYMBOLS

☛	Notes for the instuction
⚠	Follow these precautions to prevent potential injury or material damage.

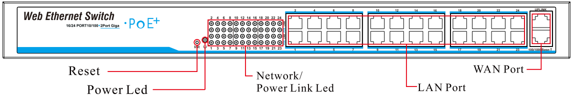
1.2 /ITEM LIST

ITEM	NAME	QTY
1	Power Cable	1
2	Device	1
3	User Manual	1
4	Screw	1
5	Ear hanging	2

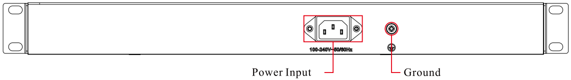
1.3 /PRODUCT APPEARANCE INTRODUCTION

⚠	The appearance of products, including buttons, interfaces and layout, are for reference only, and the actual delivered goods shall prevail

FRONT PANEL:



REAR PANEL:



1.4 /SPECIFICATIONS

ITEM		DESCRIPTION
Power	Power Adapter Voltage	Input100-230V/AC 50-60Hz
	Consumption	270W
Network Connector	Network Port	1~24 port: 10/100Mbps POE Ethernet port 25~26 port: 10/100/1000Mbps
	Transmission Distance	1~24 port: The transmission distance is 100m
	Transmission Medium	Cat5/5e/6 standard network cable
Network Switch	Network Standard	IEEE802.3/10BASE-T
		IEEE802.3u/100BASE-TX
		IEEE802.3ab 1000BASE-T
	Maximum Frame Size	1536 Bytes
Network Switch	MAC address list	2K
	PoE Standard	IEEE802.3af、IEEE802.3at
Power Over Ethernet	PoE Power Supply Type	End-Span(1/2+;3/6-)
	PoE Power Consumption	at , (every port)
LED Status Indicator	POE Ethernet	POE: 24 green light indicates that the POE is power on;
		Ethernet: 24 yellow light indicates that the Ethernet Link and Act;
Environ mental	Working temperature	0℃~55℃
	Storage Humidity	0-95%
	Storage temperature	-40℃~85℃
Mechanical	Dimension (L x W x H) mm	442*207*44
	Material	SECC
	Color	Dark gray
Stability	MTBF	>30000h

Product specifications are subject to change without notice.

2.1 /INSTALLATION NOTES

To avoid equipment damage or personal injury caused by improper use, obser
following precautions.

☛ This is a class a product and may cause radio interference in a liv
in this case, it may be necessary for the user to take practical mea
with it.

★Please do not install equipment at moist place or place with dust or soot.

★Please do not use in the environment with crrosive gass, which will destroy

★Please keep a clean working enviroment for the switch, the overmuch dust
and lead the life span shorten and communication failure easy.

★Do unplug the power cable before cleaning the switch. Do not use the mois
liquid to clean it.

2.2 /REQUIREMENTS FOR INSTALLATION PLACE

★Set up the product in an open and well-ventilated area. Allow at least 15cm
the product and at least 5cm of clearance on either side of the product

★A good cooling system is required for the cabinet or table.

★The cabinet or table must be solid enough, available to bear the switch and
accessories.

★There must be a good grounding for the cabinet or the table.

2.3 /ELECTRO MAGNETIC ENVIRONMENT REQUIREME

Some interference may happen during in use, which will have the effect on th
please pay your attention to these issues:

★If AC power supply system is TN system, the AC power socket should be t
three-wire power socket with PE.

★Do not set up the product in an area that is exposed or susceptible to strong
waves, and/or impact and avoid setting up the product in the vicinity of wirel
devices such as a radio or a television.

★If necessary, shield the electro magnetic, for example, use the shiled cable

★Interface cable goes indoor wiring, no outdoor wiring, in case that the sign
by the overvoltage or overcurrent caused by thunder and lightning.

rve the

e environment.
sures to interfere

v the equipment.
will absorb static

t cloth or any

of clearance behind

the installation

NTS

e devices, so

he single-phase

magnetism, radio
ess transmission

for interface cable.
al port is destroyed

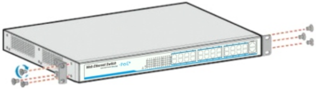
2.4 /INSTALLATION TYPE

Three installation types: Install on the cabinet, Install on the table,or hang on the wall.

⚠ Do unplug the power cable during installation or moving. the system must be grounded before use. please use the 20# grounding wire.

☛ The diagrams in this manual only for reference perpose, detailed information is in accordana with the final product.

2.4.1 /INSTALL ON THE CABINET:



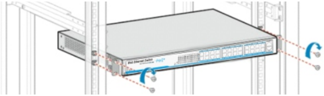
(Figure. 2-1)

[1]Chect out the grounding and stability of the cabinet.

[2]Fix the ear hanging on two sides of the device.

[3]Lay the device on one cabinet’s mounting bracket, slide the device on sliding slot to appropriate position.

[4]Fix the ear hangings on the fixed guide slot, make sure the device installed on cabinet’s mounting bracket solidly.



(Figure. 2-2)

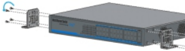
☛ The ear hanging as a fixed role, can not be used for bearing, theremust be a mounting bracket under the device to bear the switch.

2.4.2 /INSTALL ON THE TABLE

Lay the device on the table, make sure the table clean, solid and with good grounding:
[1]Make the device upside down, clean the groove of the bottom pannel with a soft cloth, make sure no oil stain and dust absorbed on the device.
[2]Remove the sticker paper of the foot pad, stick the foot pad on the bottom pannel’s groove.
[3]Make the device upside, put it on the table.

2.4.3 /HANG ON THE WALL

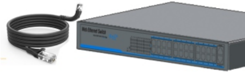
[1]Hang the device on the vertical wall, make sure the wall
[2]Drill out the holes in the wall to put the rubber plugs in.
[3]Lay the device to the rack, aiming the rubber plug holes



(Figure. 2-3)

3.1 /CONNECT WITH THE EQUIPMENTS

Power Cable Connecting
Connect POE switch and power socket with the AC power su
Power the POE switch, power indicator on front pannel is on
Lock the AC power cable with the power cord buckle enclose



(Figure. 3-1)

Establish a network connection

Product Notes:

[1]LAN port 1-24 channel, the 1-24 port, with POE function,

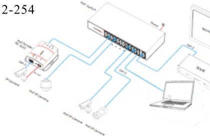
[2]WAN port 2 channels, the 25-26 port, without POE, 10/10

[3]Without computer connected, it can be used as normal PO
IP address of you PC.

[4]With computer connected, it can be used as a WebSwitch,

Informations:

- •Default IP address of the switch: 192.168.2.1
- •User: admin passwords: system
- •The connected PC requires the same network segment as t
- •Network segment: 192.168.2.2-250
- •Gateway: 192.168.2.2-254

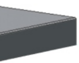


(Figure. 3-2)

clean and solid.

, screw in and fix the equipment.

pply enclosed.
means the device is powered correctly.
d.



, 10/100Mbps
0/1000Mbps
E switch,no need to set up

please refer these

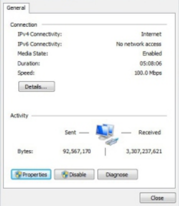
he switch’s.

3.2 /ESTABLISH A NETWORK CONNECTION

Sets the IP of the management computer:The operation steps as follow (operation under Windows XP system)

⇛ Click “**Start** ”→ **Control Pannel** → **Network and Internet** → **Local Connect** → Interface“Local Connect Status”pop up as picture shown:(Figure. 3-3)

⇛ Click “**Properties**” → “**Internet Protocol Version 4(TCP/Ipv4)**”, IP configuration interface pop up as picture shown(Figure. 3-4). Select “Use Below IP address”, input IP address (between 192.168.2.2 and 192.168.2.250) and Subnet Mask (255.255.255.0), then click confirm to finish the operation.

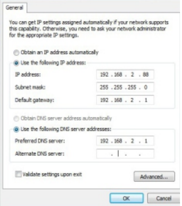


General

Connection
IPv4 Connectivity: Internet
IPv6 Connectivity: No network access
Media State: Enabled
Duration: 05:08:06
Speed: 100.0 Mbps

Activity
Sent — — Received
Bytes: 92,567,170 | 3,307,237,621

(Figure. 3-3)



General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
● Use the following IP address:
IP address: 192 . 168 . 2 . 88
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 2 . 1

○ Obtain DNS server address automatically
● Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 2 . 1
Alternate DNS server: . . .

☐ Validate settings upon exit

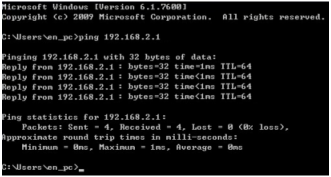
(Figure. 3-4)

NTP and EMALL will use the DNS service, if the application of the service, be sure to fill in the correct DNS address.

Use the ping command to confirm network connectivity the steps are as follows:

⇛ Click “**Start** ”→ **Run**, a runing interface pop up.

⇛ Enter "ping 192.168.2.1" and click the "Enter" button. If the response of the device is displayed in the dialog box that is displayed, it indicates that the network is connected. Otherwise, check whether the network connection is correct.



```
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\en_pc>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:
Reply from 192.168.2.1 : bytes=32 time=1ms TTL=64
Reply from 192.168.2.1 : bytes=32 time<1ms TTL=64
Reply from 192.168.2.1 : bytes=32 time<1ms TTL=64
Reply from 192.168.2.1 : bytes=32 time<1ms TTL=64

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\en_pc>_
```

(Figure. 3-5)

---

4 /WEB

Recomr

4.1 /STA

Enter th

•Defaul

•Defaul

•Defaul

•Press “

•If you i
will sho

•On the
Per Port
Backup

CONFIGURE GUIDE

mended browser version：IE7 and above, Firefox, Chrome, (IE7 and above).

RTUP AND LOGIN

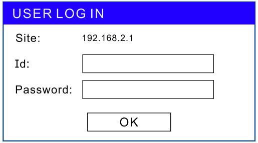
e correct administrator name and password after the login page shows up.

t IP address: 192.168.2.1

t administrator name: admin

t password: system

'OK" to login.



USER LOG IN

Site: 192.168.2.1

Id:

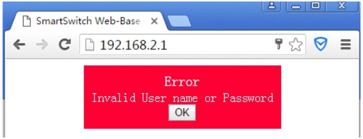
Password:

(Figure. 4-1)

The administrator name and password fields are case-sensitive. The higher case characters will be recognized as different characters. For example: "ADMIN" will be recognized as the different character from "admin".

nput the incorrect administrator name or password, the following warning message w up and you must click "ok" to go back to the login page.

Web side, you can configure the Administrator、POE、Port Management、VLAN Setting、Counter、QoS Setting、Security、Spanning Tree、Trunking、DHCP Relay Agent、/Recovery、Miscellaneous、SNMO Settings、Logout function of the switch.



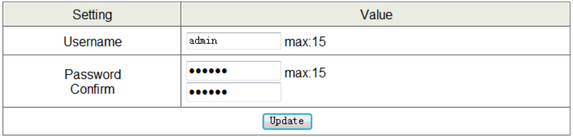
Error
Invalid User name or Password

(Figure. 4-2)

4.2 /ADMINISTRATOR

4.2.1 /AUTHENTICATION CONFIGURATION

This page allows the administrator to change the administrator name and the password. You can input up to 15 characters for each field.



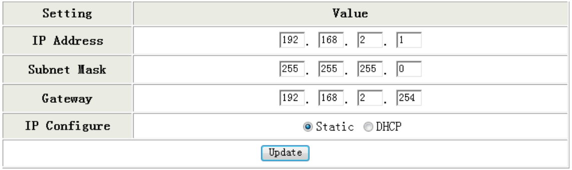
Setting	Value
Username	admin max:15
Password Confirm	•••••• max:15 ••••••

(Figure. 4-3)

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

4.2.2 /SYSTEM IP CONFIGURATION

This page shows system configuration including the current IP address and sub-net mask and Gateway. IP address, Subnet Mask, and Gateway at system IP Configurationcan be configured by the administrator. The smart switch also supports DHCP method to allow the dynamic IP address allocated by DHCP server.

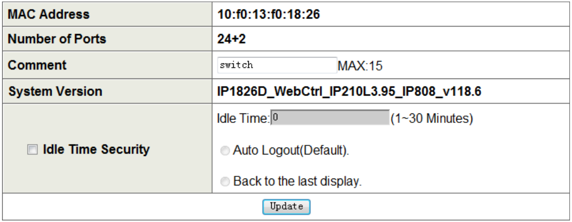


Setting	Value
IP Address	192 . 168 . 2 . 1
Subnet Mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 2 . 254
IP Configure	● Static ○ DHCP

(Figure. 4-4)

4.2.3 /SYSTEM STATUS

This page allows the administrator to check the status of switch, including switch MAC address and software version.



MAC Address	10:f0:13:f0:18:26
Number of Ports	24+2
Comment	switch MAX:15
System Version	IP1826D_WebCtrl_IP210L3.95_IP808_v118.6
☐ **Idle Time Security**	Idle Time: 0 (1~30 Minutes) ○ Auto Logout(Default). ○ Back to the last display.

(Figure. 4-5)

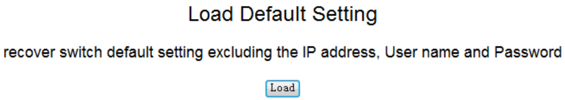
•The comment field allows the network administrator to input an easy-to-remember nickname for this switch. The legal characters are “a~z”, “A~Z”, “0~9”, “_“, “+”, “-”, “=”, excluding special character.

•The Idle time field allows the administrator to set a timer for auto logout. When the system detects no web page activity for a pre-defined time, the system will auto-logout.

4.2.4 /LOAD DEFAULT SETTING

Clicking the “Load” button will make the switch go back to the original configuration.

> This change only concerns the switch behavior, excluding the change forIP Address, User Name and password.
> After Load Default is executed, the all settings will be restored to default setting.



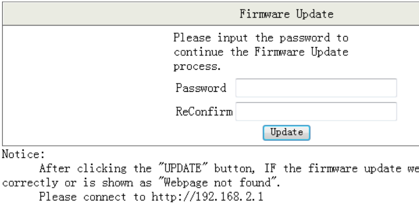
Load Default Setting

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

(Figure. 4-6)

4.2.5 /FIRMWARE UPDATE

Before the firmware update procedure is executed, you should enter and then press “Update” button. There is a self-protection mechanis theBootLoader will keep intact. Even though the power is turned off during the firmware update procedure, the BootLoader will restore t update page.



Firmware Update

Please input the password to continue the Firmware Update process.

Password

ReConfirm

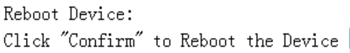
Notice:
After clicking the "UPDATE" button, IF the firmware update we correctly or is shown as "Webpage not found".
Please connect to http://192.168.2.1

(Figure. 4-7)

After you press “Update” button, the old web code will be erased. Af should select the image file and press “Update” button to take effect.

4.2.6 /REBOOT DEVICE

This page is used to reboot device. No hardware reset is executed by “Reboot Device”(As shown (Pic.15)).



Reboot Device:
Click "Confirm" to Reboot the Device

(Figure. 4-8)

the login password twice
m in the BootLoader, so
for the cable link fails
he code to firmware

ebpage is not redirected

fter completing, you

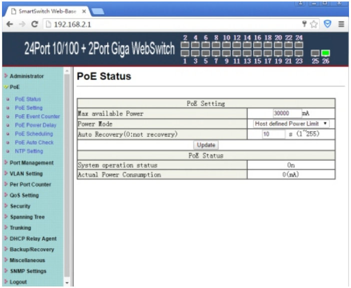
means of executing

Confirm

4.3 /POE

4.3.1 /POE STATUS

This page allows the administrator to check PoE status of this Switch, including Max available Power, System operation status, Main Power consumption and all Device Temperture.



PoE Status

PoE Setting	
Max available Power	30000 mA
Power Mode	Host defined Power Limit
Auto Recovery(0:not recovery)	10 s (1~255)
PoE Status	
System operation status	On
Actual Power Consumption	0(mA)

(Figure. 4-9)

Total power consumption of the POE switch: 300W

PoE Setting under the PoE Status:

•Max available Power:30000MA

•Power mode:host defined power limit

(Under this mode, you can configure a max power consumption to 1-24CH each port, in case of IPC non-working or offline because of the overlarge power consumption. The max power consumption of each port is 30W.)

•Auto Recovery:10S.

PoE Status under the PoE Status:

•System operation status:(ON means poe is on, the ipc with poe will be activated automatically.)

•Actual power consumption:(The total current working power consumption of the POE. The max power consumption of our power supply is 5A.)

4.3.2 /POE SE

This page allows
the settings, you
Status window.

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

FIE
Sta
Mo
Availab

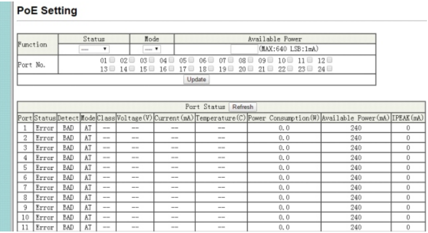
⇒ In this page, you
⇒ Under option "A
⇒ PORT NO.: 1-24
under option "Av
This value can be
consumption is 1
IPC's, which wil
switch's total po

Default setting

•Port 1-12: 240M
•Port 13-24: 220
•Total is, 52V*0.
•The max power

TTING

the administrator to configure PoE setting of the physical port. After selecting should press “Update” button to take effect. The setting will be reflected at Port



PoE Setting

Function	Status	Mode	Available Power
	---- ▾	---- ▾	(MAX:640 LSB:1mA)

Port No.
01 ☐ 02 ☐ 03 ☐ 04 ☐ 05 ☐ 06 ☐ 07 ☐ 08 ☐ 09 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☐ 24 ☐

Port Status

Port	Status	Detect	Mode	Class	Voltage(V)	Current(mA)	Temperature(C)	Power Consumption(W)	Available Power(mA)	IPEAK(mA)
1	Error	BAD	AT	--	--	--	--	0.0	240	0
2	Error	BAD	AT	--	--	--	--	0.0	240	0
3	Error	BAD	AT	--	--	--	--	0.0	240	0
4	Error	BAD	AT	--	--	--	--	0.0	240	0
5	Error	BAD	AT	--	--	--	--	0.0	240	0
6	Error	BAD	AT	--	--	--	--	0.0	240	0
7	Error	BAD	AT	--	--	--	--	0.0	240	0
8	Error	BAD	AT	--	--	--	--	0.0	240	0
9	Error	BAD	AT	--	--	--	--	0.0	240	0
10	Error	BAD	AT	--	--	--	--	0.0	240	0
11	Error	BAD	AT	--	--	--	--	0.0	240	0

(Figure. 4-10)

ELD	DESCRIPTION
atus	Set all ports enable or disable PoE feature
ode	Supports both 802.3at and 802.3af
le power	Set all ports power supplies watts, the maximum watt is "30w"

can set up the max power of POE for 1-24CH each port.
vailable power”, 1-640MA for selection.
Port, tick the channel you want to set up, input the power consumption value
vailable Power”, this value means the max power consumption for this port.
e set according to IPC’s power consumption. (For example,IPC power
0.4W, we can set it 240MA. Because 52*0.24 = 12.48W,a little higher than
l promise IPC with stable working, on the other hand, make no waste of the
wer consumption.)

of the Available Power:

MA

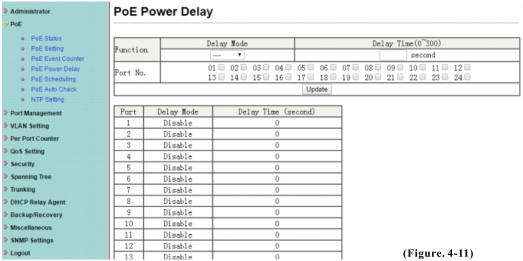
MA

.24A*12+52*0.22A*12=149.76W+137.28=274.56W

consumption is 300W, larger than 274.56W, meets this setting request.

4.3.3 /POE POWER DELAY

This page allows the administrator to configure the PoE power delay time for all physical ports in the Switch boot. After selecting the settings, you should press “Update” button to take effect. The setting will be reflected at the following window.



PoE Power Delay

Function	Delay Mode	Delay Time(0~300)
	---- ▾	second

Port No.
01 ☐ 02 ☐ 03 ☐ 04 ☐ 05 ☐ 06 ☐ 07 ☐ 08 ☐ 09 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☐ 24 ☐

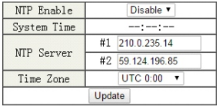
Port	Delay Mode	Delay Time (second)
1	Disable	0
2	Disable	0
3	Disable	0
4	Disable	0
5	Disable	0
6	Disable	0
7	Disable	0
8	Disable	0
9	Disable	0
10	Disable	0
11	Disable	0
12	Disable	0
13	Disable	0

(Figure. 4-11)

FIELD	DESCRIPTION
Delay Mode	Set all ports enable or disable power delay feature
Delay Time	Set all ports power supplies delay time.this delay time is counted starting from the switch boot. when the port is enabled this function and delay time is up,the psw will begin supplies power

4.3.4 /NTP SETTING

This page allows the administrator to configure NTP Server and Time Zone to get Universal Time Coordinate. After selecting the settings, you should press “Update” button to take effect. This time will be reflected at the System Time window.



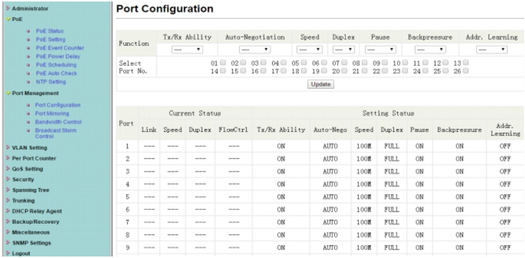
NTP Enable	Disable ▾	
System Time	--:--:--	
NTP Server	#1	210.0.235.14
	#2	59.124.196.85
Time Zone	UTC 0:00 ▾	

(Figure. 4-12)

4.4 /PORT MANAGEMENT

4.4.1 /PORT CONFIGURATION

This page allows the administrator to configure operating mode of the physical port. After selecting the settings, you should press "Update" button to take effect. The setting will be reflected at current status window.



Port Configuration

Function	Tx/Rx Ability	Auto-Negotiation	Speed	Duplex	Pause	Backpressure	Addr. Learning
	---	---	---	---	---	---	---

Select Port No.: 01 ☐ 02 ☐ 03 ☐ 04 ☐ 05 ☐ 06 ☐ 07 ☐ 08 ☐ 09 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐
14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☐ 24 ☐ 25 ☐ 26 ☐

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

(Figure. 4-13)

FIELD	DESCRIPTION
Tx/Rx Ability	Enable: Set this port normal operating mode. Disable: Shut down this port.
Auto-Negotiation	Enable/Disable Auto-negotiation.
Speed	Select 1Gbps, 100Mbps or 10Mbps
Duplex	Select Half duplex or Full duplex
Pause	Enable/Disable symmetric pause ability
Backpressure	Enable/Disable backpressure flow control in half duplex mode
Addr. Learning	Enable/Disable MAC address learning ability

4.4.2 /PORT MIRRORING

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

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

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

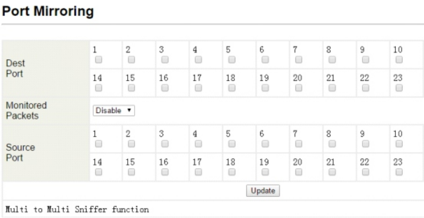
⇛ Monitored method:

•Disable: means this function is disabled.

•Rx: means copy the incoming packets of the selected source port to the sele

•Tx: means copy the outgoing packets of the selected source port to the selec

•Tx & Rx: means the combination of Tx and Rx.



Port Mirroring

Dest Port: 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐
14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☐

Monitored Packets: Disable

Source Port: 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐
14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☐

Multi to Multi Sniffer function

(Figure. 4-14)

⇛ Take the following configuration as an example.

•Destination Port: Port 9 ~Port 12

•Source port: Port 1 ~ Port 4

•Mirrored method: Rx

•This means all packets received at port 1 ~port 4 will be copied to port 9, p
port 12. Care should be taken that the more source ports and destination po
network throughput is available for normal traffic.

port in a network.
therefore it's

cted destination port.
cted destination port.

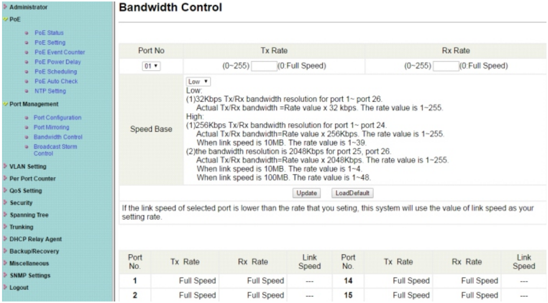
11 12 13
24 25 26
11 12 13
24 25 26

ort 10, port 11 and
rts is set, the lower

4.4.3 /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 from 1 to 255. This number should be multiplied by the selected bandwidth resolution to get the actual bandwidth.

⇛In the "Low" mode, the Tx/Rx bandwidth resolution is 32Kbps for port 1~ port 26. In the "High" mode, the Tx/Rx bandwidth resolution is 256Kbps for port 1 ~ port 24, and 2048Kbps for port 25, port 26.



Bandwidth Control

Port No	Tx Rate	Rx Rate
01 ▾	(0~255) ☐ (0:Full Speed)	(0~255) ☐ (0:Full Speed)

Speed Base: Low ▾

Low:
(1)32Kbps Tx/Rx bandwidth resolution for port 1~ port 26.
Actual Tx/Rx bandwidth =Rate value x 32 kbps. The rate value is 1~255.
High:
(1)256Kbps Tx/Rx bandwidth resolution for port 1~ port 24.
Actual Tx/Rx bandwidth=Rate value x 256Kbps. The rate value is 1~255.
When link speed is 10MB. The rate value is 1~39.
(2)the bandwidth resolution is 2048Kbps for port 25, port 26.
Actual Tx/Rx bandwidth=Rate value x 2048Kbps. The rate value is 1~255.
When link speed is 10MB. The rate value is 1~4.
When link speed is 100MB. The rate value is 1~48.

If the link speed of selected port is lower than the rate that you seting, 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	---

(Figure. 4-15)

Bandwidth control example reference sheet

- If low bandwidth speed base set to low if highbandwidth speed base set to high

FOX TX		
Port No.	Low Bandwidth	High Bandwidth
Port 1(10)	32 kbps 10	256 kbps 10
Port 2(20)	32 kbps 20	256 kbps 20
Port 3(30)	32 kbps 30	256 kbps 30
Port 4(40)	32 kbps 40	256 kbps 40

FOX RX		
Port No.	Low Bandwidth	High Bandwidth
Port 1(50)	32 kbps 50	256 kbps 50
Port 2(60)	32 kbps 60	256 kbps 60
Port 3(70)	32 kbps 70	256 kbps 70
Port 4(80)	32 kbps 80	256 kbps 80

4.4.3 /BANDWIDTH CONTROL

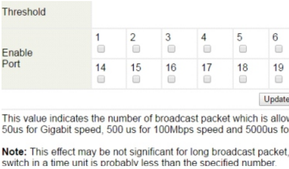
For 1000mbps ports(port 25-26)

Link Speed	Bandwidth
1000Mbps	<480Mbps
100Mbps	<48Mbps

- Speed base is set to high

4.4.4 /BROADCAST STORM CONTROL

- The broadcast storm control is used to block the e
during the specified time unit. The valid number ra
- The broadcast packet is only checked at the select
packets is counted in every time unit.



Threshold						
Enable Port	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
	14 ☐	15 ☐	16 ☐	17 ☐	18 ☐	19 ☐

This value indicates the number of broadcast packet which is allow
50us for Gigabit speed, 500 us for 100Mbps speed and 5000us fo

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

(Figure. 4-

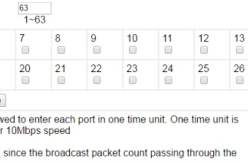
⇛There are 3 options for the selection of the time uni
the broadcast storm protection is enabled, the exce
those broadcast packets incoming from the un-sele

For 100mbps ports(port 1-24)

Link Speed	Bandwidth
100Mbps	<48Mbps
10Mbps	<4Mbps

•Speed base is set to high

xcessive broadcast packets received
nges from 1 to 63.
ed port and the number of broadcast



63
1~63

7	8	9	10	11	12	13
☐	☐	☐	☐	☐	☐	☐
20	21	22	23	24	25	26
☐	☐	☐	☐	☐	☐	☐

ved to enter each port in one time unit. One time unit is
r 10Mbps speed

since the broadcast packet count passing through the

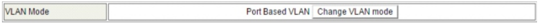
-16)

t, as the figure shown above (Figure. 4-16). Once
ssive broadcast packet will be discarded. For
cted port, the switch treats it as the normal traffic.

4.5 /VLAN SETTING

4.5.1 /VLAN MODE

The smart switch supports two VLAN modes, tag based and port based. Only one VLAN mode can be enabled at one time.



VLAN Mode: Port Based VLAN

(Figure. 4-17)

When the tag based VLAN is selected, the administrator can define the handling method of a VLAN tag to the specified port, including “Add Tag”, “don’t care” or “Remove Tag”. Add tag/Don’t Care/Remove tag definitions are as follows.

⇒“Add Tag” means the outgoing packet should contain a 802.1Q tag.

•The 802.1Q tag will be inserted to the outgoing packet of the selected port if the packet received at the source port does not contain 802.1Q tag.
The original 802.1Q tag will be kept if the source port received a packet with 802.1Q tag.

⇒“don’t care” means the outgoing packet of the selected port keep the original packet format of the source port.

⇒“Remove Tag” means the outgoing packet should not contain a 802.1Q tag.

•The 802.1Q tag of the outgoing packet of the selected port will be removed if the incoming packet received at the source packet contains 802.1Q tag.

•The packet format of the source port will be kept if the packet does not contain the 802.1Q tag.

In tag based VLAN mode, adding tag on the port which is used to configure this switch is not allowed, because some NICs can’t recognize 802.1Q tag.
Example:
Port 1: The 802.1Q tag of every packet outgoing from this port will be removed.
Port 4: The 802.1Q tag of every packet outgoing from this port should be included.
Other ports: keep every outgoing packet intact.

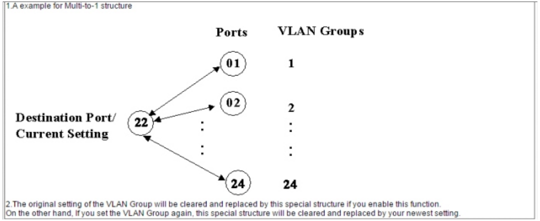
4.5.2 /MULTI-TO-1 SETTING

•Multi-to-1 VLAN is used in CPE side of Ethernet-to-the-Home and is exclusive to VLAN setting on ”VLAN member setting“. In the other words, once multi-to-1 is set, the previous VLAN setting will be overridden.

•The “disable port” means the port which will be excluded in this setting. All ports excluded in this setting are treated as the same VLAN group.

•In the following example, port 3, port 4, port 6, port 7, port 8 and port 9 are excluded in this VLAN Furthermore these ports are treated as the member of other VLAN. All ports which are not specified in this table only communicate with port 1.

4.5.2 /MULTI-TO-1 SETTING

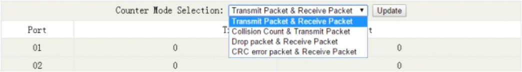

1.A example for Multi-to-1 structure

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.

(Figure. 4-18)

4.6 /PER PORT COUNTER

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


Counter Mode Selection: Transmit Packet & Receive Packet

▾
Update
Transmit Packet & Receive Packet
Collision Count & Transmit Packet
Drop packet & Receive Packet
CRC error packet & Receive Packet

Port	T	t
01	0	0
02	0	0

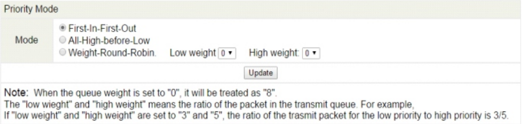
(Figure. 4-19)

FIELD	DESCRIPTION
Transmit Packet & Receive Packet	This category shows both the received packet count (excluding the incorrect packet) and the transmitted packet count
Collision Count & Transmit Packet	This category shows the packets outgoing from the switch and the count of collision
Drop Packet & Receive Packet	This category shows the number of received valid packet and the number of dropped packet
CRC error Packet & Receive Packet	This category shows the received correct packet and received CRC error
Refresh	Press “Refresh” button will aggregate the number of the counter for all ports
Clear	Press “Clear” button will clear all counters

4.7 /QOS SETTING

4.7.1 /PRIORITY MODE

This page allows the administrator to set the scheduling mode for the TX packets at each port


Priority Mode

Mode
- ● First-In-First-Out
- ○ All-High-before-Low
- ○ Weight-Round-Robin. Low weight 0 ▾ High weight: 0 ▾

Note: When the queue weight is set to "0", it will be treated as "8".
The "low wieght" 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 trasmit packet for the low priority to high priority is 3/5.

(Figure. 4-20)

FIELD	DESCRIPTION
First-In-First-Out (FIFO)	All output packet are queued to one queue, first comes first out
All-High-before-Low (Strict priority)	All packets will be assigned to either high priority queue or low priority queue. The low priority packet will not forwarded until the high priority queue is empty
Weight-Round-Robin (WRR)	There are 2 priority queues for Weighted-and-round-robin (WRR) mode. When this mode is selected, the traffic will be forwarded according to the number set in each queue. The queue ID has nothing to do with the priority

Example: If High, Low queue are set to 5, 3, then the traffic at the specific port will go out in t
following sequence. 5 packets stored in High queue, 3 packets stored in Low queue, 5 packets
stored in High queue, 3 packets stored in Low queue ……

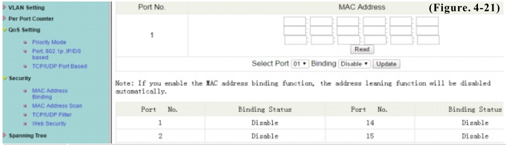
4.8 /SECURITY

4.8.1 /MAC ADDRESS BINDING

This function provides a method for the administrator to specify the relationship between the physical port and the MAC address. Only the packet with specified source MAC address can communicate with other port. By specifying the MAC address to each port, the network administrator can prevent the unauthorized administrator from accessing the switch. Each port can bind up to 3 MAC addresses.

To activate the port binding function, you should enter the correct MAC address, select the port number, and set the port binding to “Enable” and then press “Update”.

4.8.1 /MAC ADDRESS BINDING



Port No.	MAC Address
1	

Select Port 01 Binding Disable

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

Port No.	Binding Status	Port No.	Binding Status
1	Disable	14	Disable
2	Disable	15	Disable

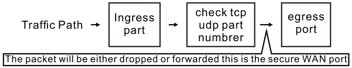
(Figure. 4-21)

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

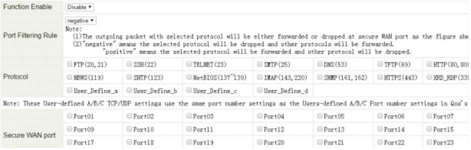
4.8.2 /TCP/UDP FILTER

By selecting the TCP/UDP port, the network administrator can optionally block some specific applications. There are two kinds of protocol filter functions. The ”positive” function makes the switch forward the selected protocol and drop other protocols.
The ”negative” function makes the switch drop the selected protocol and forward other protocols.
The protocol is checked at the secure WAN port. And it should be set at the server side.

Note:the description of secure WAN port is shown below


Traffic Path
Ingress part
check tcp udp part numbrer
egress port
The packet will be either dropped or forwarded this is the secure WAN port

The figure shown below illustrates how this function is applied to the real environment.
Example:
(a) Enable TCP/UDP Filter function.
(b) Select “positive” rule.
(c) Set port 5 as secure WAN port and select FTP and TELNET as the filtering protocol.
(d) Place the server of the selected protocol at the secure WAN port.



Function Enable	Disable
Port Filtering Rule	negative Note: (1)The outgoing packet with selected protocol will be either forwarded or dropped at secure WAN port as the figure shw (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.

Protocol	☐ FTP(20,21)	☐ SSH(22)	☐ TELNET(23)	☐ SMTP(25)	☐ DNS(53)	☐ TFTP(69)	☐ HTTP(80,80
	☐ NEWS(119)	☐ SNTP(123)	☐ NetBIOS(137~139)	☐ IMAP(143,220)	☐ SNMP(161,162)	☐ HTTPS(443)	☐ XRD_RDP(33
	☐ User_Define_a	☐ User_Define_b	☐ User_Define_c	☐ User_Define_d			

Note: These User-defined A/B/C TCP/UDP settings use the smae port number settings as the Users-defined A/B/C Port number settings in Qos's

Secure WAN port	☐ Port01	☐ Port02	☐ Port03	☐ Port04	☐ Port05	☐ Port06	☐ Port07
	☐ Port09	☐ Port10	☐ Port11	☐ Port12	☐ Port13	☐ Port14	☐ Port15
	☐ Port17	☐ Port18	☐ Port19	☐ Port20	☐ Port21	☐ Port22	☐ Port23

(Figure. 4-22)

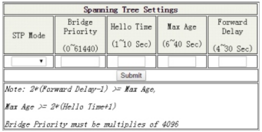
Result:

Physical	The Behavior of Switch
Port	TELNET and FTP will be forwarded.Other protocol will be discarded
Other ports	All protocol will be forwarded as the normal packet

4.9 /SPANNING TREE

4.9.1 /STP BRIDGE SETTINGS

The parameters concerning the configuration of RSTP/STP bridge are descri



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

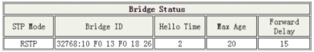
Note: 2(Forward Delay-1) >= Max Age,*

Max Age >= 2(Hello Time+1)*

Bridge Priority must be multiplies of 4096

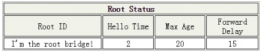
(Figure. 4-23)

Note: If you enable the MAC address binding function, the address leaning function will be disabled automatical
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

(Figure. 4-24)



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

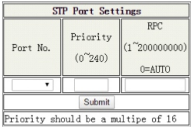
(Figure. 4-25)

Field	Description
STP Mode	• Disable: Disable RSTP/STP. • STP: Enable STP function. • RSTP: Enable RSTP function, includin
Bridge Priority	This field in conjunction with the MAC a the Bridge ID. The lowest number of the a Spanning Tree domain will be selected Enter a multiple of 4096 this field
Hello Time, Max Age and Forwarding Delay	These fields control how this device hand The relationship of these fields is listed b

2*(Forward Delay-1) >= Max Age, Max Age >= 2*(Hello Ti

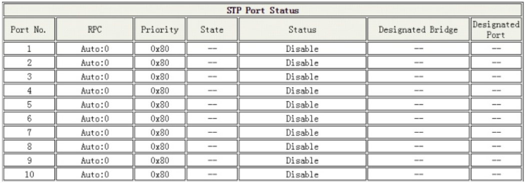
4.9.2 /STP PORT SETTINGS

This web page provides an interface for the administrator to set the STP/RSTP port configuration.



STP Port Settings		
Port No.	Priority (0~240)	RPC (1~200000000) 0=AUTO
▾		
Submit		
Priority should be a multipe of 16		

(Figure. 4-26)



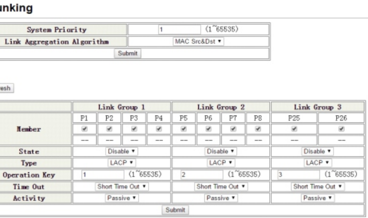
STP Port Status

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	--	--

(Figure. 4-27)

Field	Description
Port NO	To configure the parameters of RSTP/STP port, the administrator should select a physical port number, assign a priory number, enter the RPC and then press “Submit” button
Priority(0~240)	Priority field defines the priority of the RSTP/STP port. The lower the number is, the higher possibility it will become a root port. There is a default value for each port
RFC(0~200000000)	RPC stands for “Root Path Cost”. The higher the cost is, the lower possibility it become a root path. In the general case, the physical port with the higher bandwidth will be assigned a lowe cost

trunk group for load balance and cable link auto-backup. There are 2 methods and LACP. The meaning of each field shown in the following table is The smart switch supports three trunk groups, which can set port 1 ~ port 8, trunk 1 consists of port 1 ~ port 4, trunk 2 consists of port 5 ~ port 8, trunk 3 26. Trunk hash algorithm can be selected according to 2 different methods.


unking

System Priority	1 (1~65535)
Link Aggregation Algorithm	MAC Src&Dst

	Link Group 1				Link Group 2				Link Group 3	
Member	P1	P2	P3	P4	P5	P6	P7	P8	P25	P26
	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
	--	--	--	--	--	--	--	--	--	--
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	

(Figure. 4-28)

Algorithm	Description
	Among the trunk member ports, the packet will be distributed based on the source MAC address
A	Among the trunk member ports, the packet will be distributed based on the XOR calculation result of the source MAC address and the destination MAC address

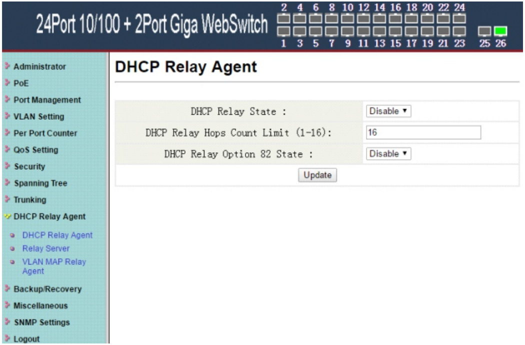
	Description
	There are three configurable trunk groups. “--“ means the trunk has not been built on the corresponding port. “A” means trunk has been built on the corresponding port
	Administrator can enable/disable the function of this trunk
	Static: Static setting by manual. LACP: Setting by ACP
	Assign an operation key for this device
	Short Time Out: Re-configure LACP trunk every 1 second. Long Time Out: Re-configure LACP trunk every 30 second
	You should set at least one side of each trunk to “Active” state. If both sides of a trunk are all set to “Passive”, LACP trunk will never be built up

---

4.11 /DHCP RELAY AGENT

4.11.1 /RELAY AGENT CONFIGURATION

This web page allows the administrator to enable/disable DHCP Relay Agent function. In addition, option 82 message is selectable by setting.



DHCP Relay Agent

DHCP Relay State :	Disable
DHCP Relay Hops Count Limit (1-16):	16
DHCP Relay Option 82 State :	Disable

(Figure. 4-29)

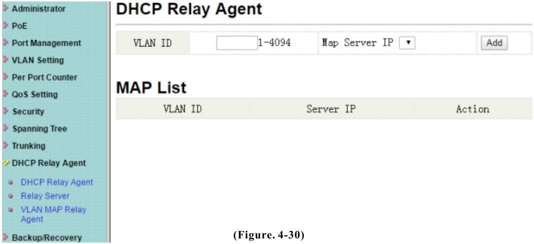
Field	Description
DHCP Relay State	Allow the administrator to enable/disable Relay Agent function
DHCP Relay Hops Count Limit	Specify the maximum number of Relay Agent traveling from DHCP agent to DHCP server
DHCP Relay Option 82 State	The pre-condition for enabling/disabling this function is that DHCP Relay State is set to “enable”. Once the Relay State is set to “enable”, the administrator can enable/disable Option 82, depending on whether the Option 82 information is required

4.11.2 /SERVER IP LIST

The IP address of DHCP server, which can be relayed by this Relay Agent, should be specified on this web page.

4.11.3 /VLAN TO SERVER IP MAP

This web page defines the relationship between the VLAN group and the serve IP address.



DHCP Relay Agent

VLAN ID 1-4094 Map Server IP

MAP List

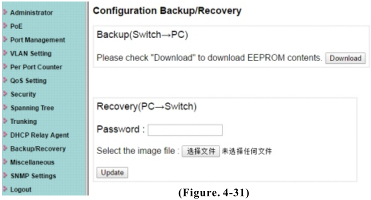
VLAN ID	Server IP	Action

(Figure. 4-30)

⚠ One server should belong to only one VLAN ID. If you set the same server IP address to different VLAN ID, the warning message will show up, as the figure shown below. You can set more than one server IP address in a VLAN ID.

4.12 /CONFIGURATION BACKUP/RECOVERY

This function provides the administrator with a method to backup/recovery the switch configuration. The administrator can save configuration file to a specified file. If the administrator wants to recover the original configuration, which is saved at the specified path, just enter the password and then press the "Upload" button. Finally the backup configuration of the switch will be recovered.



Configuration Backup/Recovery

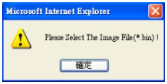
Backup(Switch→PC)

Please check "Download" to download EEPROM contents.

Recovery(PC→Switch)

Password :

Select the image file : 未选择任何文件



Please Select The Image File(*.bin) !

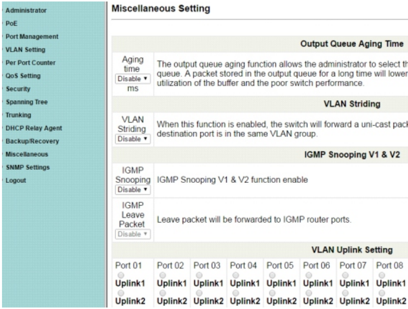
(Figure. 4-31) (Figure. 4-32)

The switch will check whether or not the uploaded file is correct. If the content of the uploaded file is incorrect, the switch will show a warning message.

4.13 /MISCELLANEOUS SETTINGS

Miscellaneous setting is used to configure Output Queue Aging Time, V

Snooping and VLAN Uplink.



Miscellaneous Setting

Output Queue Aging Time

Aging time Disable ms — The output queue aging function allows the administrator to select th queue. A packet stored in the output queue for a long time will lower utilization of the buffer and the poor switch performance.

VLAN Striding

VLAN Striding Disable — When this function is enabled, the switch will forward a uni-cast pack destination port is in the same VLAN group.

IGMP Snooping V1 & V2

IGMP Snooping Disable — IGMP Snooping V1 & V2 function enable

IGMP Leave Packet Disable — 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
○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1
○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2

(Figure. 4-33)

4.13.1 /OUTPUT QUEUE AGING TIME

This function is used to avoid the poor utilization of the switch. When a in a switch for a long time, the time slot defined by the protocol will exp becomes useless. To prevent these useless packets from wasting the ban switch provides an option to enable the queue aging function. Once enal will monitor the aging timer for each packet before it is sent out. The pa inside a queue for a long time will be discarded.

4.13.2 /VLAN STRIDING

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

LAN Striding, IGMP

e aging time of a packet stored in
the free packet buffer, resulting in

ket to the destination port. No mat

Port 09	Port 10	Port 11	Po
○ Uplink1	○ Uplink1	○ Uplink1	○ Up
○ Uplink2	○ Uplink2	○ Uplink2	○ Up

packet is stored
ire and this packet
dwidth, this
bled, the switch
cket which stays

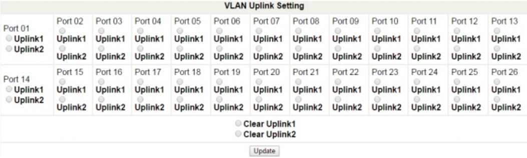
e destination

4.13.3 /IGMP SNOOPING

When this function is enabled, the switch will execute IGMP snooping version 1 and version 2 without the intervention of CPU. The IGMP report packets are automatically handled by the switch. When the user enable "Leave packet will be forwarded to IGMP router ports" function. If members want to leave this multicast group, the IGMP leave packet will be forwarded to the router ports.

4.13.4 /VLAN UPLINK

In the VLAN, the user can define the "Uplink port". This is normally the port that attached to the uplink router. This feature is similar to the "Router port". After that is set. Any frame transferred to the other VLAN member is forwarded only out the uplink port .



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
○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1
○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ 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
○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1	○ Uplink1
○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2	○ Uplink2

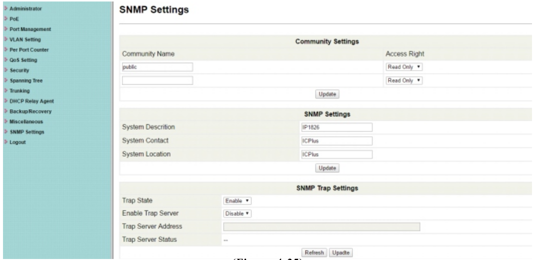
○ Clear Uplink1
○ Clear Uplink2

(Figure. 4-34)

For example:

- Step 1: set port 1, 2 and 3 are the same VLAN; set port 4, 5 and 6 are the same VLAN.
- Step 2: set port 1 is uplink port of Uplink 1, set port 4 is uplink port of Uplink 2, and press "Update" button.
- Step 3: If port 2 want to sent uni-case packet to port 5. The packet will be transferred to the port 1.

4.14 /SNMP SETTING



SNMP Settings

Community Settings

Community Name	Access Right
public	Read Only ▾
	Read Only ▾

SNMP Settings

System Descrition: IP1826
System Contact: ICPlus
System Location: ICPlus

SNMP Trap Settings

Trap State: Enable ▾
Enable Trap Server: Disable ▾
Trap Server Address:
Trap Server Status: --

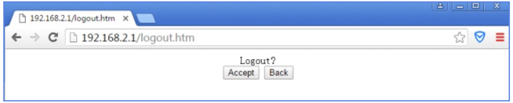
(Figure. 4-35)

4.14 /SNMP SETTING

Field	Description
Community Name	This field allows the administrator to enter the community name
Access Right	This filed defines the access attribute. "Read only" means the administrator can view this community only. "Read/Write" means the administrator can view and modify this community
System Description	The administrator can enter a device name for the identification in the network
System Contact	The contact person responsible for maintaining network
System Location	The location of this device
Trap state	Enable/Disable trapped event. The trapped event are: 1-Power up event. 2-Physical port status change event

4.15 /LOGOUT

The page provides the administrator to logout web page. Press "Accept" button to logout. Press "Back" button to browse the previous web page.



(Figure. 4-36)

4.16 /LOAD DEFAULT SETTING – HARDWARE BASED

The purpose of this function is to provide a method for the network administrator to restore all configurations to the default value.

⇒ To activate this function, the administrator should follow the following procedures. Press the "Load Default" button for 3 seconds until you see the LoadDefault LED blinking.

⇒ When LED starts blinking, it means the CPU is executing the "load default" procedure. You can release the button now.
After completing this procedure, all the factory default value will be restored. This includes the IP address, the administrator name, the password and all switch configurations.