5 Port Smart Switch

User's Manual

V1.0

FCC Caution i
CE Statement of Conformity i
Introduction 1
1. Main Features 1
2. The LED label 1
3. Hardware Specification 1
Administrator 2
1. Authentication Configuration 3
2. System IP Configuration 3
3. System Status 4
4. Load default setting 4
5. Firmware update 5
6. Configuration Backup / Recovery 6
7. Reset Device 7
Port Management 8
1. Port configuration 8
2. Flow control setting 8
3. Port Mirroring 9
4. Bandwidth Control 10
5. Broadcast Storm Control 10
VLAN Setting 11
1. Multi to 1 Setting 11
2. Port Based VLAN 12
3. Tag Based VLAN 13
QoS Setting 13
1. Priority Classification 13
2. Queue Scheduling Mode 14
Security Filter 14
1. MAC ID filter 14
2. Firewall 15
IGMP 15
1. IGMP Setting 15
2. IGMP Table 15
Miscellaneous 16
1. CRC Counter 16
Logout 16

FCC Caution

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

CE Statement of Conformity

Our product has been tested in typical configuration comply with the essential requirement of “Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility” (89/336/EEC; 92/31/EEC; 93/68/EEC)

Introduction

1. Main Features

Most network administrators prefer to manage the networks with the easy-to-use Web Browser instead of the complicated Hyper-Terminal. Not only that it's easy to use, the administrators are able to access and manage the network anytime, anywhere, no need to stand by those switches and configure them via the console port anymore.

By 5 port smart switch's exclusively browsing utility, MIS staffs don't need to keep notes and pencils, to have a clearly picture between IP address and real switch location. And just with one Real gateway IP address, now you can access and manage your switches with assigned Private IP from WAN side.

2. The LED label

LED	State	Description
Ethernet Port LED	**On**	Connected at 10/100 Mbps
	Blinking	10/100 Mbps Tx/Rx Activity
	Off	No internet line link
Power LED	**On**	Switch is powered on.
	Off	Switch is powered off.

3. Hardware Specification

SPECIFICATIONS	
Standards	• IEEE 802.3 10BASE-T • IEEE 802.3u 100BASE-TX • IEEE 802.3x Flow Control for Full-Duplex operation
Ports	• 5 100BASE-TX/10BASE-T
Forwarding/Filtering Rate	• 14,880 packets/second per port @ 10Mbps, max. • 148,800 packets/second per port @ 100Mbps, max.
Configuration Interface	• IE Web browser
Auto-MDI	• All TP ports support Auto-MDI/MDIX Function
Reset Button	• Reload IP, User Name and Password to default value
LED Indicators	• One (1) for Power

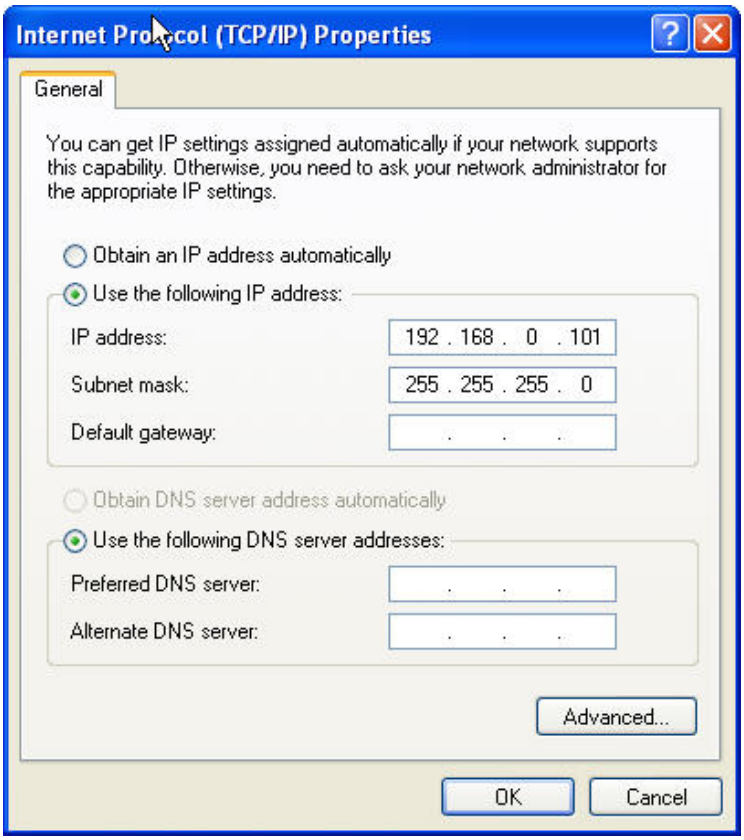
	• One (1) per port for Link/ACT
Environment	• Operating Temperature:0° ~45° C (32° ~ 113° F) • Storage Temperature:-20° ~70° C (-4° ~ 158° F) • Humidity: 10% ~ 90% Non-condensing
Power Supply	• External Power 5V DC/600mA
Certifications	• CE, FCC
Dimensions(L x W x H)	• 118 x 75 x 25mm (4.64 x 2.75 x 0.98inches)

Administrator

A、PC NIC setting

IP address：192.168.0.X (X：1~254)

Subnet mask：255.255.255.0

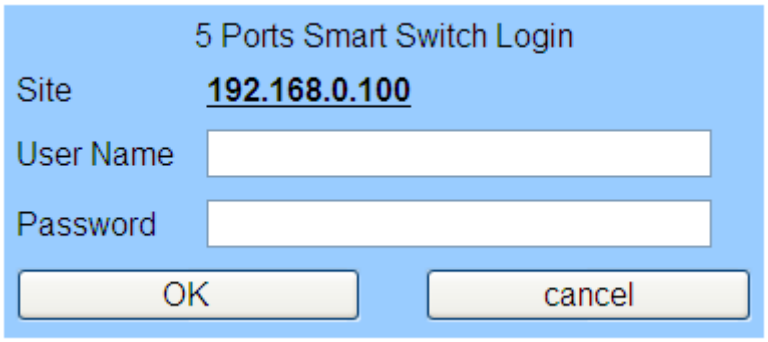


B、Login

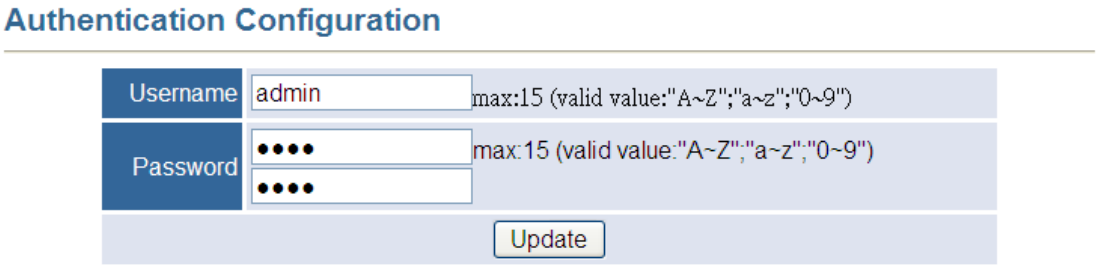
Default IP：192.168.0.100

Login ID：admin (Lowercase)

Password：1234



1. Authentication Configuration

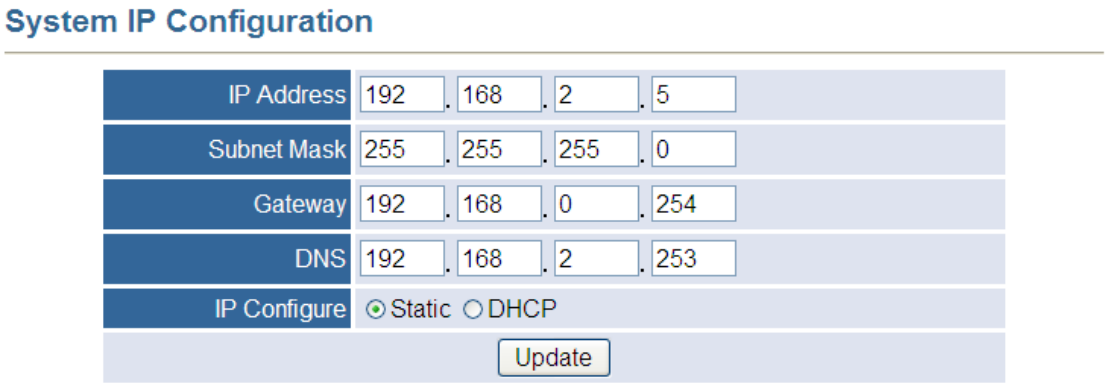


(Username & Password max:15 & can only allows "a-z","A-Z","0-9","_","+","-","=".)

2. System IP Configuration

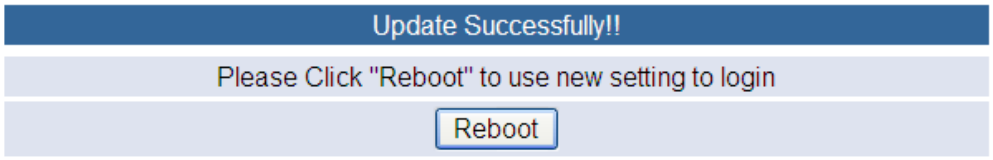
Default IP：192.168.0.100

The following screen is the example of changing the IP address to 192.168.2.5.

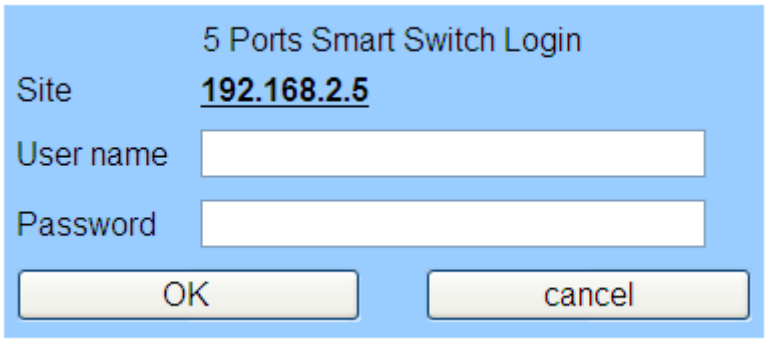


IP address, Subnet Mask, and Gateway at system IP Configuration box can be configured by user. 5 port smart switch also supports DHCP methods to get IP address from DHCP server.

After clicking “update”, you will see the system is re-booted.

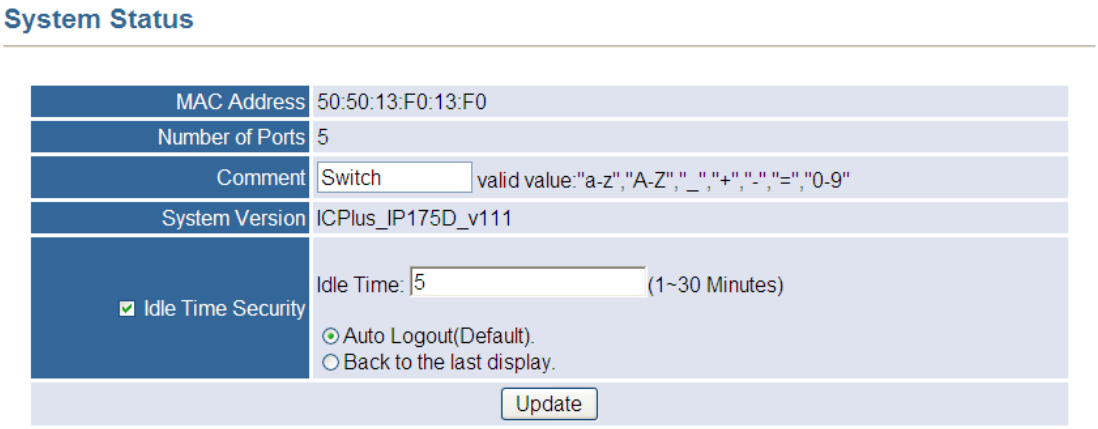


Login in new IP address 192.168.2.5



3. System Status

Display Switch MAC address, software version.

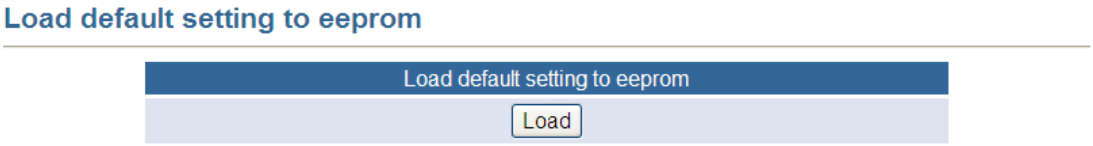


A. Comment: It is a nickname of the management switch you can set.

B. Idle Time Security: It is an AUTO logout timer and the idle time range is 1~30 Minutes. If select Auto Logout and click update without filling in the idle time blank, then the idle time will be the default value.

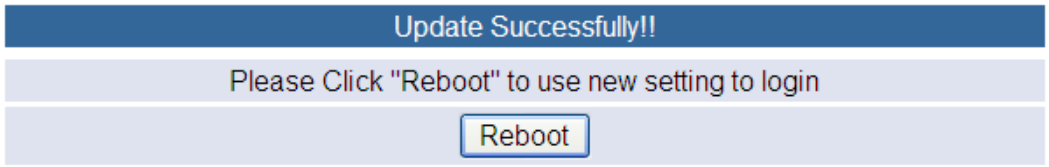
4. Load default setting

Load Default Setting to EEPROM.



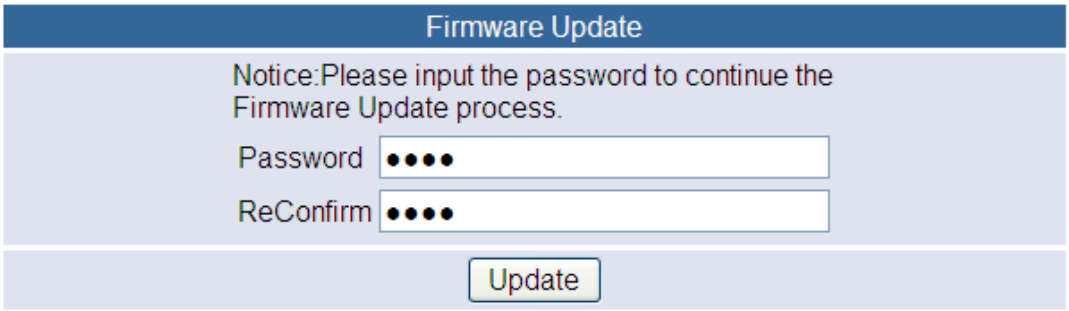
Note: this change only concerns the switch behavior, excluding the change for user name, password and IP configuration.

System Update Successfully! Please Click **Reboot** to use new setting to login.

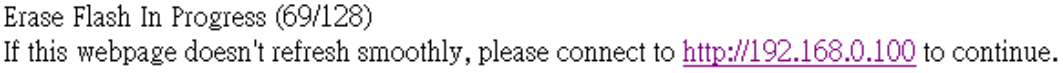


5. Firmware update

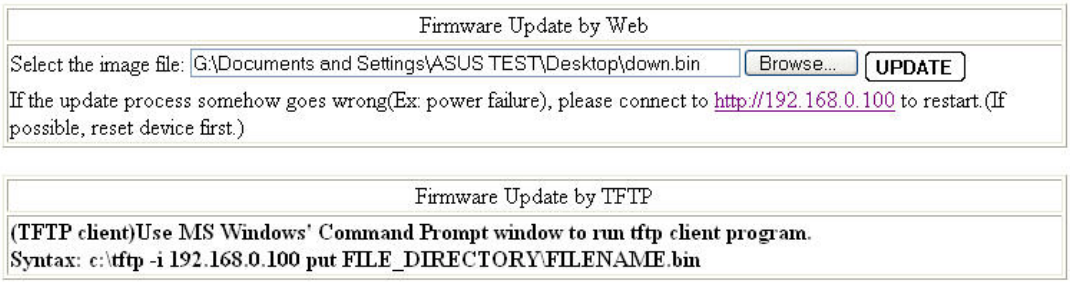
Enter Password & Reconfirm.



Click Update button, and then the old web code will be erased.



Select the image file (should be ".bin" file) and click UPDATE.

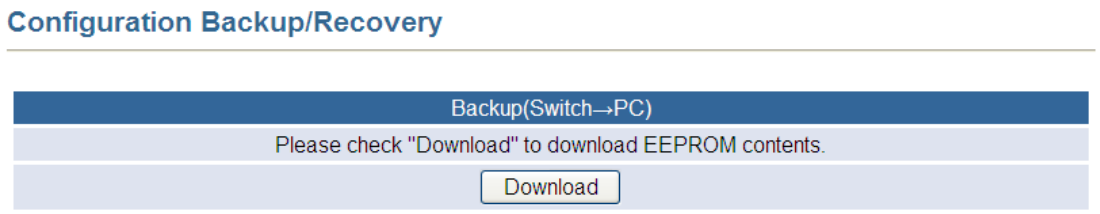


Note : You should use the IP address which you previously set; otherwise the firmware update process cannot be completed.

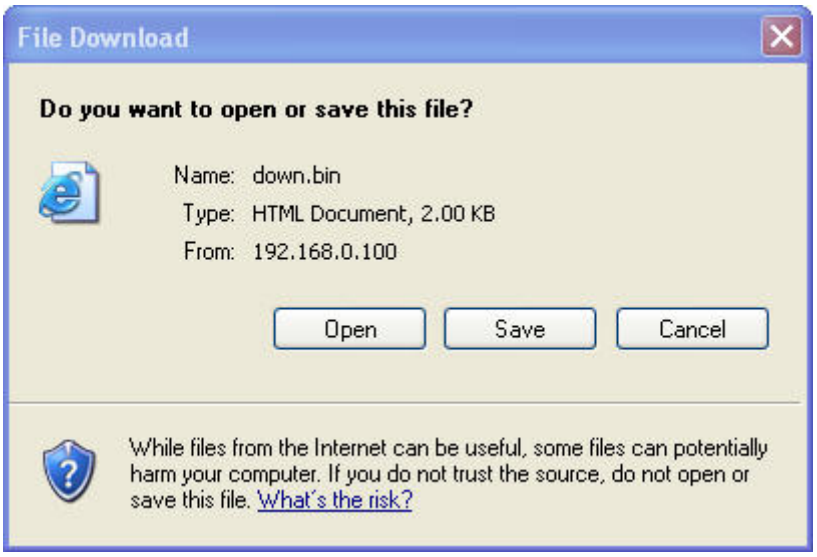
6. Configuration Backup / Recovery

This function can save the switch configuration on your computer or restore the switch configuration by uploading the ".bin" file which is previously save on your computer. Follow the following steps to verify.

Enter Configuration Backup/Recovery web page, and then choose Download in Backup(Switch->PC) column for saving this setting.



Save the setting and the file name is down.bin.



Choose the image file, enter password, and click Update shown in Recovery(PC->Switch) column for reading EEPROM.

Click **Reboot** to use new setting to login.

7. Reset Device

Click “Confirm” to Reboot the Device.

Port Management

1. Port configuration

User can modify the Name、Link Capability、Duplex and TX,RX ability for each port.

Port Configuration

Function	Auto Negotiation	Speed	Duplex	Frame Forwarding	Learning Capability
	Enable	100M	Full	Enable	Enable
Select Port NO.	1☐ 2☐ 3☐ 4☐ 5☐				
	Submit				

Port No.	Current Status			Setting Status				
	Link	Speed	Duplex	Auto Negotiation	Speed	Duplex	Frame Forwarding	Learning Capability
1	--	--	--	Enable	100	Full	Enable	Enable
2	--	--	--	Enable	100	Full	Enable	Enable
3	--	--	--	Enable	100	Full	Enable	Enable
4	●	100	Full	Enable	100	Full	Enable	Enable
5	--	--	--	Enable	100	Full	Enable	Enable

After completing the settings, click update button to take effect. The setting will be reflected at current status window.

2. Flow control setting

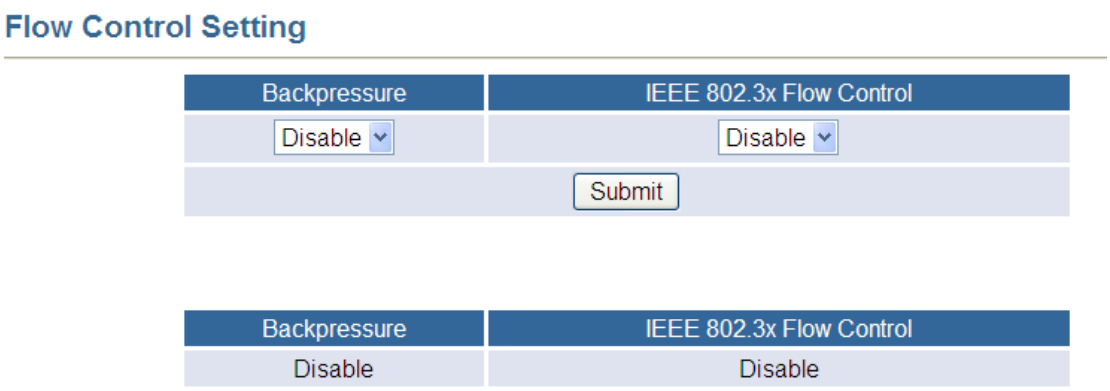
This page allows the user to enable or disable flow control function.

Flow Control Setting

Backpressure	IEEE 802.3x Flow Control
Disable	Disable
Submit	

Backpressure	IEEE 802.3x Flow Control
Enable	Enable

Change backpressure and IEEE 802.3x flow control into disabling. Then press “Submit” button.



The setting will be reflected at current status window.

3. Port Mirroring

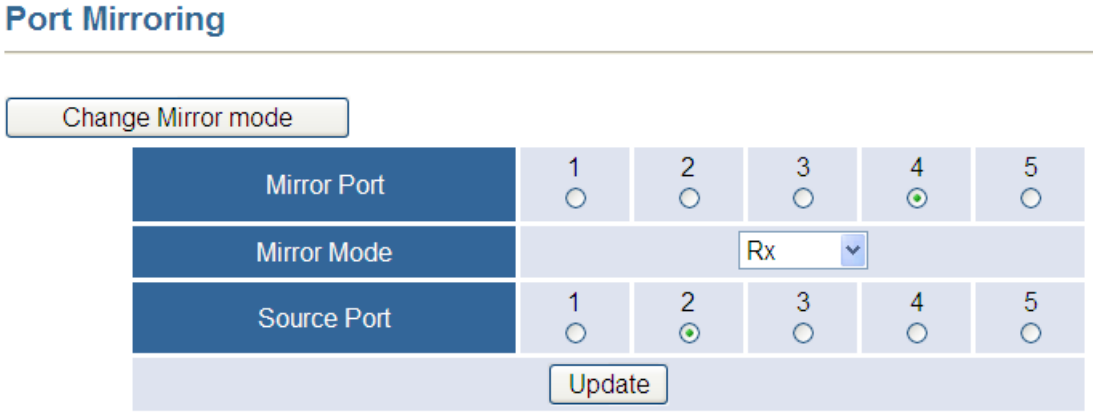
The port mirroring function is accomplished by setting the following items.

(a) Mirror port: Select a mirror port to monitor the traffic source.

(b) Mirror mode: (1)Disable: means this function is disabled. (2)RX: means copy the incoming packets of the selected source port to the selected mirror port. (3)TX: means copy the outgoing packets of the selected source port to the selected mirror port. (4)RX & TX: one port of TX & RX must be the same.

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

(d) Mirror source-destination pair (press “Change mirror mode” button): one port of TX & RX must be the different.



Set port2 as source port and port4 as mirror port.

4. 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 0 to 3124 (0 for 100Mbps).

Example :

Bandwidth Control

Port No	Tx Rate	Rx Rate
5	(0~3124) 1000 x32Kbps 0 for 100Mbps	(0~3124) x32Kbps 0 for 100Mbps
Update LoadDefault		

Port No	Tx Rate	Rx Rate
1	100Mbps	100Mbps
2	100Mbps	100Mbps
3	100Mbps	100Mbps
4	100Mbps	100Mbps
5	100Mbps	100Mbps

Fill in the blank of TX rate of port5 with 1000(x32Kbps) and press “Update” button.

Bandwidth Control

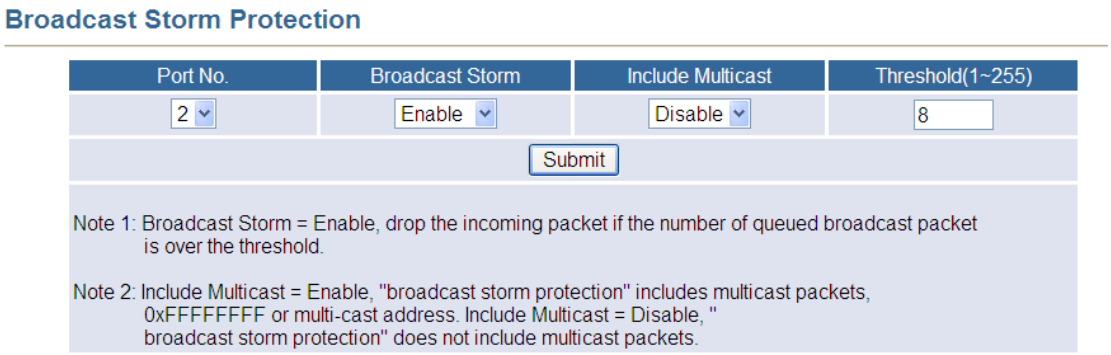
Port No	Tx Rate	Rx Rate
1	(0~3124) x32Kbps 0 for 100Mbps	(0~3124) x32Kbps 0 for 100Mbps
Update LoadDefault		

Port No	Tx Rate	Rx Rate
1	100Mbps	100Mbps
2	100Mbps	100Mbps
3	100Mbps	100Mbps
4	100Mbps	100Mbps
5	32.000Mbps	100Mbps

After updating, 32Mbps is displayed in the TX rate of port5.

5. Broadcast Storm Control

The broadcast storm control is used to block the excessive broadcast packets, the threshold ranging from 1 to 255.



The broadcast storm of the port2 is enabled and threshold is set to 8. The broadcast packets will be dropped when broadcast packets are more than threshold setting (packet length is 64 bytes).

VLAN Setting

1. Multi to 1 Setting

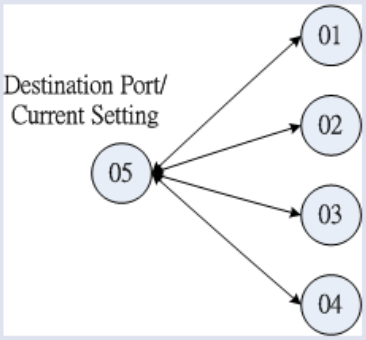
Enabling Multi to 1 setting will force both Tag Based VLAN and Port Based VLAN function to be ineffective.

Set a specific port as a mirroring destination port. All other ports can transmit and receive packets to the mirroring destination port, but they can't communicate with each other.

VLAN Multi to 1 Mode

Destination PortNo	None
Current Setting	Port: None
Update	

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.

2. Port Based VLAN

If the port Based VLAN function is enabled, Multi to 1 setting and tag Based VLAN will be disabled automatically.

Port Based VLAN

VLAN Mode : Port Base [Change Mode]

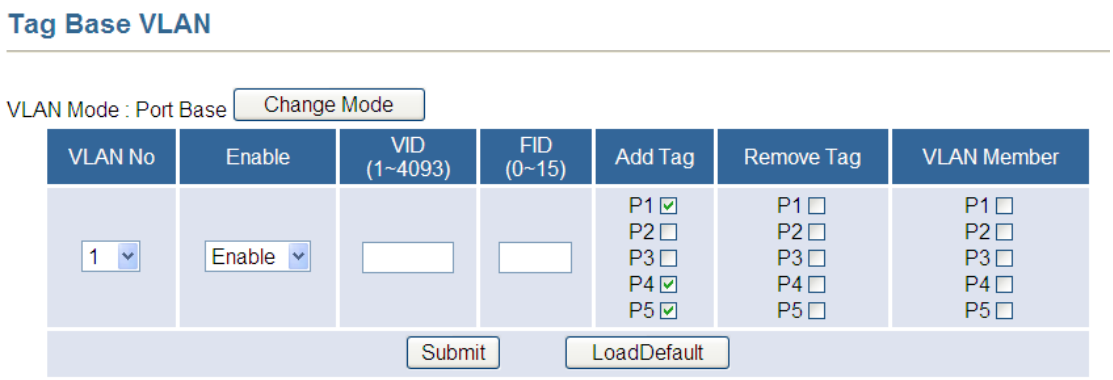
Port Base VLAN	Tag Mode		
Port 1	○ Add Tag	○ Don't Care	○ Remove Tag
Port 2	○ Add Tag	○ Don't Care	○ Remove Tag
Port 3	○ Add Tag	○ Don't Care	○ Remove Tag
Port 4	○ Add Tag	○ Don't Care	○ Remove Tag
Port 5	○ Add Tag	○ Don't Care	○ Remove Tag
	Update	LoadDefault	

Note: Port4 can't be set to "Add Tag" because it's the Control Port

Port NO	VLAN Member
1	Port 1 ☑ Port 2 ☑ Port 3 ☑ Port 4 ☑ Port 5 ☑
	Update LoadDefault

3. Tag Based VLAN

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.



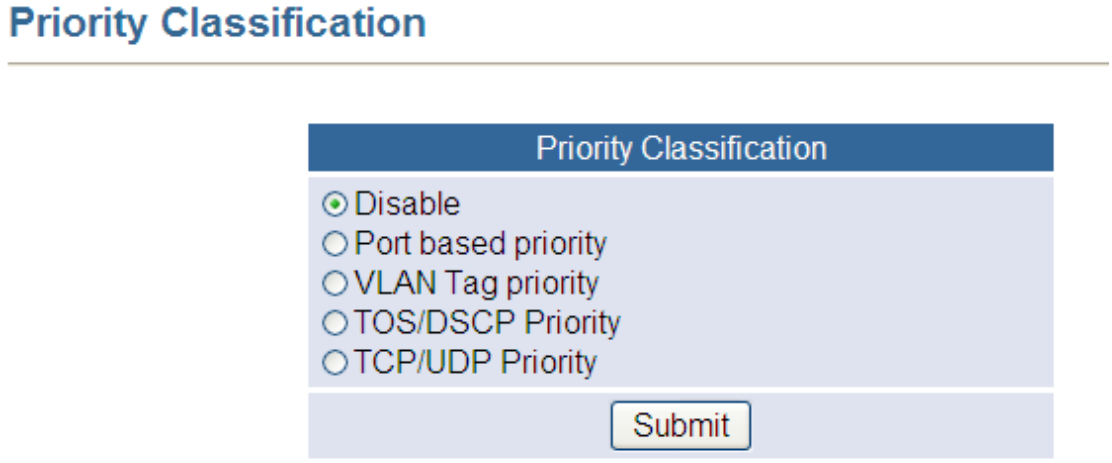
Enable VLAN 0, and p1, p4, and p5 are selected. Then press “Update” button.

VLAN NO	Enable	VID	FID	VLAN Member					Add Tag					Remove Tag				
				P1	P2	P3	P4	P5	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5
0	O	1	0	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-
1	O	2	0	-	-	-	-	-	V	-	-	V	V	-	-	-	-	-
2	X	3	0	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-
3	X	4	0	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-
4	X	5	0	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-

QoS Setting

1. Priority Classification

This page provides priority classification for QoS.



2. Queue Scheduling Mode

This page provides a option of queue scheduling including strictly priority and weight-round-robin.

Priority Mode

Priority Mode					
Mode	○ Strictly Priority (Q3>Q2>Q1>Q0)	Q3 SP	Q2 SP	Q1 SP	Q0 SP
	⊙ Weight-Round-Robin.	Q3 weight 8	Q2 weight 4	Q1 weight 2	Q0 weight 1
Update					

Security Filter

1. MAC ID filter

This page is used to drop packets with specific SMAC or DMAC address. The MAC ID filter is only for unicast MAC address.

MAC Filter

NO.	Enable	MAC Address	Binding Port
0	Enable	00 : 00 : 00 : 00 : 00 : 01	Port1
Update			

Fill in the blanks with “00:00:00:00:00:01” and select “enable”.

MAC Filter

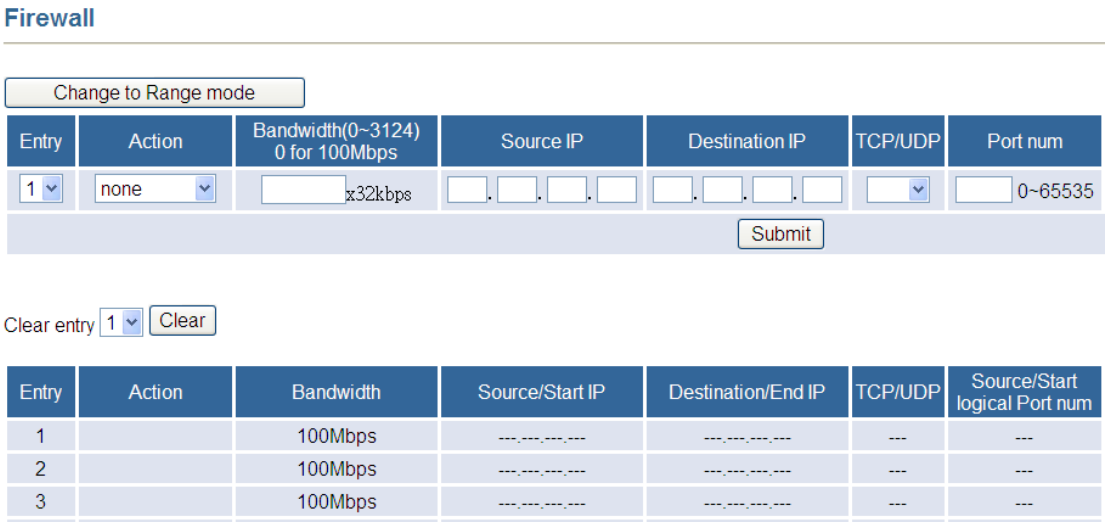
NO.	Enable	MAC Address	Binding Port
0	Enable	: : : : :	Port1
Update			

NO.	Enable	MAC Address	Binding Port
1	Disable	00:00:00:00:00:01	Port1

Press “Update” button to take effect.

2. Firewall

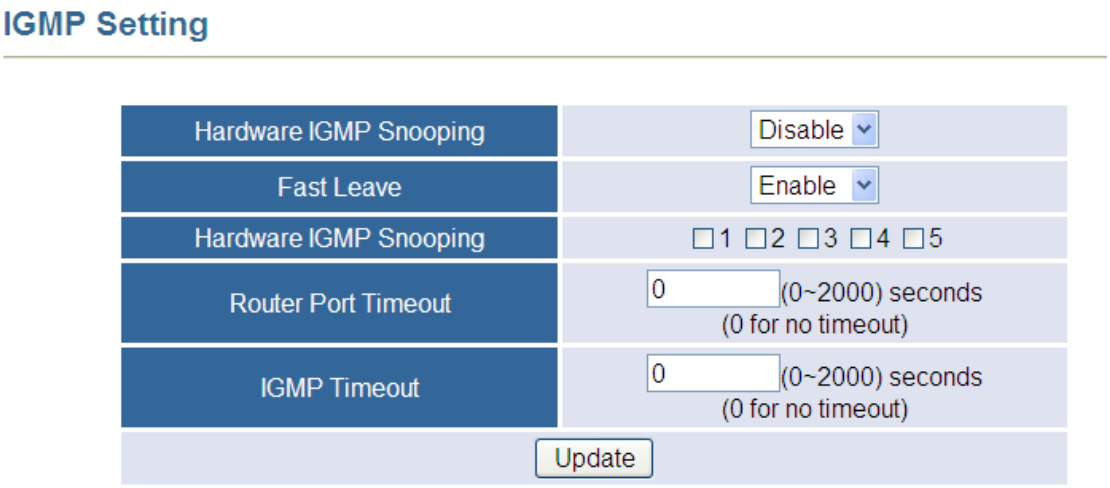
This page provides the user to filter specific traffic or forward packets by bandwidth control. If incoming packets match a predefined entry, the corresponding action is performed. It is possible to match multiple entries for an incoming packet and then the first matching entry is effective.



IGMP

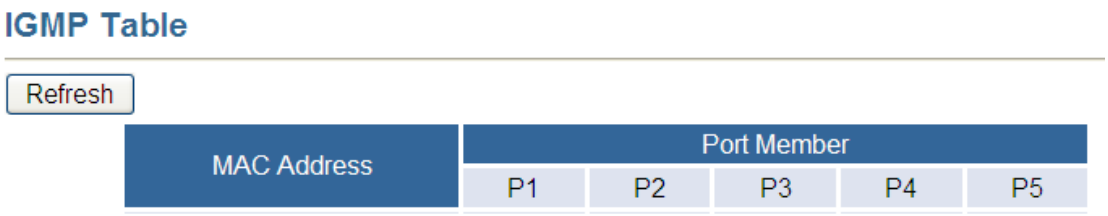
1. IGMP Setting

Users can setup IGMP on this page.



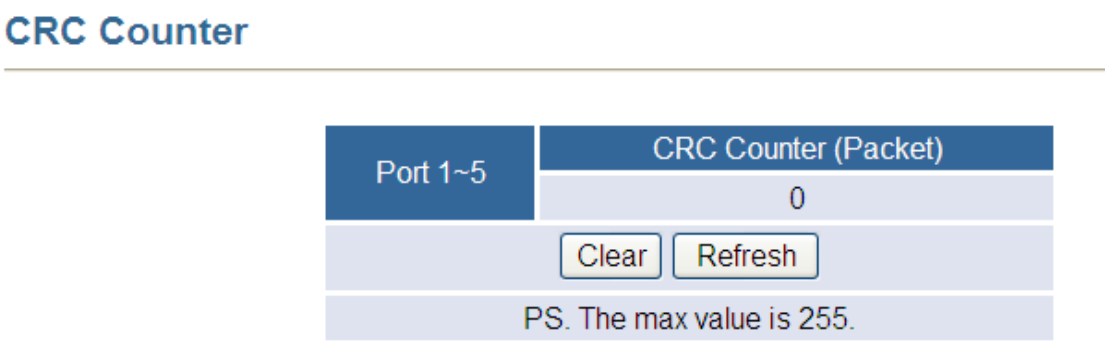
2. IGMP Table

Users can see the table of IGMP.



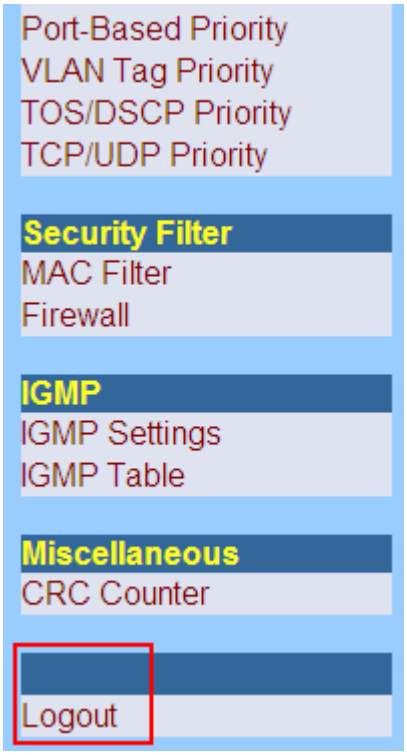
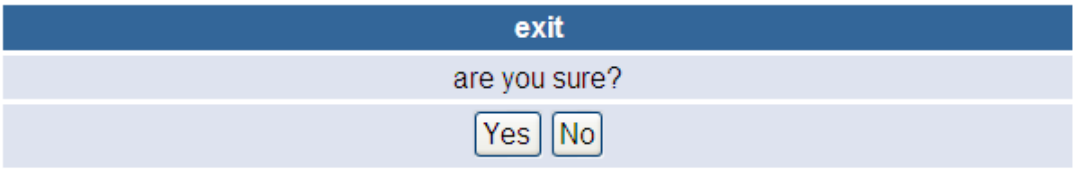
Miscellaneous

1. CRC Counter



Logout

Choose Logout



Exit web page will appear for further confirmation. Click **YES** will leave this system. Click **NO** will back to this system.