

5 Port Smart Switch

User's Manual

V1.0

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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	<ul style="list-style-type: none">• IEEE 802.3 10BASE-T• IEEE 802.3u 100BASE-TX• IEEE 802.3x Flow Control for Full-Duplex operation
Ports	<ul style="list-style-type: none">• 5 100BASE-TX/10BASE-T
Forwarding/Filtering Rate	<ul style="list-style-type: none">• 14,880 packets/second per port @ 10Mbps, max.• 148,800 packets/second per port @ 100Mbps, max.
Configuration Interface	<ul style="list-style-type: none">• IE Web browser
Auto-MDI	<ul style="list-style-type: none">• All TP ports support Auto-MDI/MDIX Function
Reset Button	<ul style="list-style-type: none">• Reload IP, User Name and Password to default value
LED Indicators	<ul style="list-style-type: none">• One (1) for Power

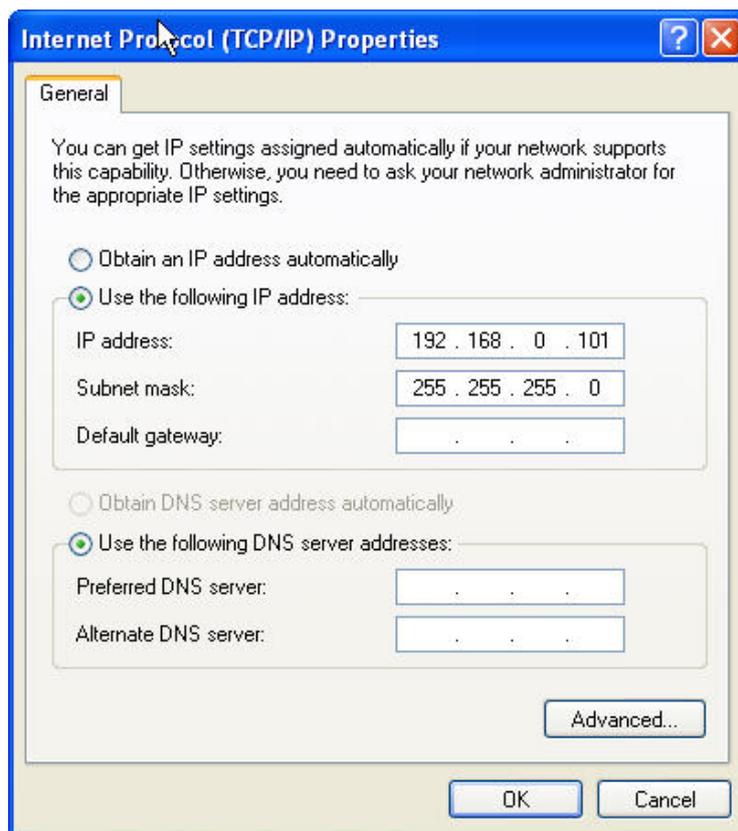
	<ul style="list-style-type: none"> • One (1) per port for Link/ACT
Environment	<ul style="list-style-type: none"> • Operating Temperature: 0° ~ 45° C (32° ~ 113° F) • Storage Temperature: -20° ~ 70° C (-4° ~ 158° F) • Humidity: 10% ~ 90% Non-condensing
Power Supply	<ul style="list-style-type: none"> • External Power 5V DC/600mA
Certifications	<ul style="list-style-type: none"> • CE, FCC
Dimensions(L x W x H)	<ul style="list-style-type: none"> • 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

5 Ports Smart Switch Login

Site **192.168.0.100**

User Name

Password

1. Authentication Configuration

Authentication Configuration

Username	<input type="text" value="admin"/>	max:15 (valid value:"A~Z";"a~z";"0~9")
Password	<input type="password" value="••••"/> <input type="password" value="••••"/>	max:15 (valid value:"A~Z";"a~z";"0~9")
<input type="button" value="Update"/>		

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

2. System IP Configuration

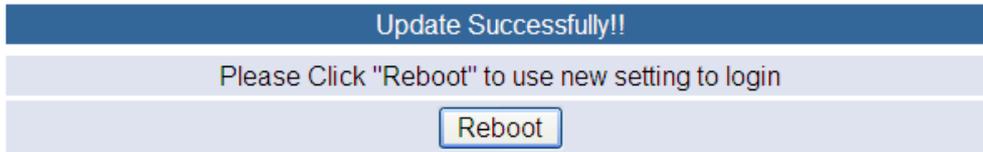
Default IP : 192.168.0.100

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

System IP Configuration

IP Address	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="2"/>	<input type="text" value="5"/>
Subnet Mask	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="255"/>	<input type="text" value="0"/>
Gateway	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="0"/>	<input type="text" value="254"/>
DNS	<input type="text" value="192"/>	<input type="text" value="168"/>	<input type="text" value="2"/>	<input type="text" value="253"/>
IP Configure	<input checked="" type="radio"/> Static <input type="radio"/> DHCP			
<input type="button" value="Update"/>				

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

5 Ports Smart Switch Login

Site **192.168.2.5**

User name

Password

OK cancel

3. System Status

Display Switch MAC address, software version.

System Status

MAC Address	50:50:13:F0:13:F0
Number of Ports	5
Comment	<input type="text" value="Switch"/> valid value:"a-z","A-Z","_","+","-","=","0-9"
System Version	ICPlus_IP175D_v111
<input checked="" type="checkbox"/> Idle Time Security	Idle Time: <input type="text" value="5"/> (1~30 Minutes) <input type="radio"/> Auto Logout(Default). <input type="radio"/> Back to the last display.
Update	

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

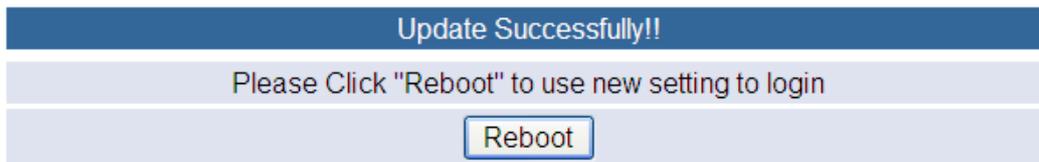
Load Default Setting to EEPROM.

Load default setting to eeprom



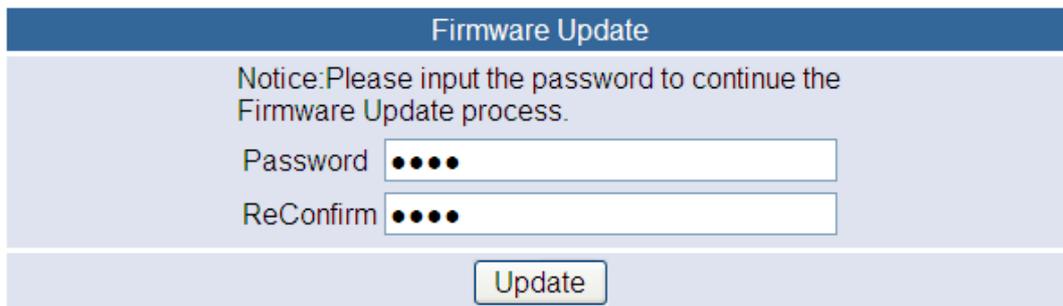
Note: this change only concerns the switch behavior, excluding the change for user name, password and IP configuration.

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



5. Firmware update

Enter Password & Reconfirm.

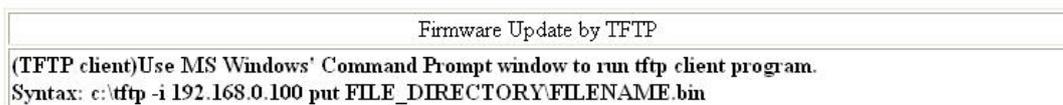


Click Update button, and then the old web code will be erased.

Erase Flash In Progress (69/128)

If this webpage doesn't refresh smoothly, please connect to <http://192.168.0.100> to continue.

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

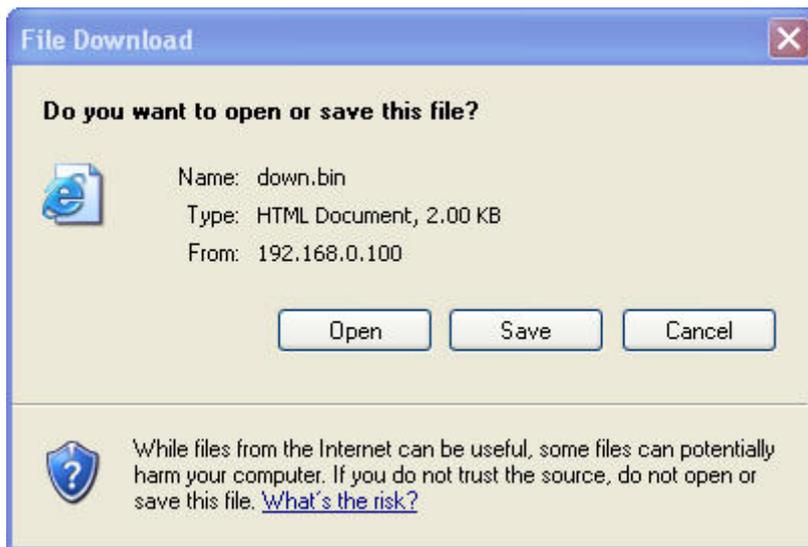
This function can save the switch configuration on your computer or restore the switch configuration by uploading the ".bin" file which is previously save on your computer. Follow the following steps to verify.

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

Configuration Backup/Recovery

Backup(Switch→PC)
Please check "Download" to download EEPROM contents.
<input type="button" value="Download"/>

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.

Recovery(PC→Switch)	
Select the image file	G:\Documents and Settings\ASUS TEST\Desktop\down.bin <input type="button" value="Browse..."/>
Password: ●●●●	<input type="button" value="Update"/>

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

Update Successfully!!

Please Click "Reboot" to use new setting to login

Reboot

7. Reset Device

Click "Confirm" to Reboot the Device.

Reset Device

Click "Confirm" to Reset the Device

Confirm

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 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>				
<input type="button" value="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 ▾
<input type="button" value="Submit"/>	

Backpressure	IEEE 802.3x Flow Control
Enable	Enable

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

Flow Control Setting

Backpressure	IEEE 802.3x Flow Control
Disable <input type="button" value="v"/>	Disable <input type="button" value="v"/>
<input type="button" value="Submit"/>	

Backpressure	IEEE 802.3x Flow Control
Disable	Disable

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.

Port Mirroring

Mirror Port	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input checked="" type="radio"/>	5 <input type="radio"/>
Mirror Mode	Rx <input type="button" value="v"/>				
Source Port	1 <input type="radio"/>	2 <input checked="" type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
<input type="button" value="Update"/>					

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) <input type="text"/> x32Kbps 0 for 100Mbps
<input type="button" value="Update"/> <input type="button" value="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) <input type="text"/> x32Kbps 0 for 100Mbps	(0~3124) <input type="text"/> x32Kbps 0 for 100Mbps
<input type="button" value="Update"/> <input type="button" value="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.

Broadcast Storm Protection

Port No.	Broadcast Storm	Include Multicast	Threshold(1~255)
2	Enable	Disable	8
<input type="button" value="Submit"/>			
<p>Note 1: Broadcast Storm = Enable, drop the incoming packet if the number of queued broadcast packet is over the threshold.</p> <p>Note 2: Include Multicast = Enable, "broadcast storm protection" includes multicast packets, 0xFFFFFFFF or multi-cast address. Include Multicast = Disable, "broadcast storm protection" does not include multicast packets.</p>			

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

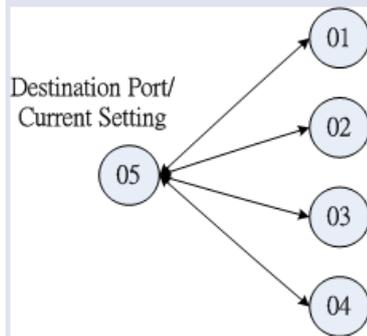
Enabling Multi to 1 setting will force both Tag Based VLAN and Port Based VLAN function to be ineffective.

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
<input type="button" value="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

Port Base VLAN	Tag Mode		
Port 1	<input type="radio"/> Add Tag	<input type="radio"/> Don't Care	<input type="radio"/> Remove Tag
Port 2	<input type="radio"/> Add Tag	<input type="radio"/> Don't Care	<input type="radio"/> Remove Tag
Port 3	<input type="radio"/> Add Tag	<input type="radio"/> Don't Care	<input type="radio"/> Remove Tag
Port 4	<input type="radio"/> Add Tag	<input type="radio"/> Don't Care	<input type="radio"/> Remove Tag
Port 5	<input type="radio"/> Add Tag	<input type="radio"/> Don't Care	<input type="radio"/> Remove Tag
<input type="button" value="Update"/>		<input type="button" value="LoadDefault"/>	

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

Port NO	VLAN Member
1 ▾	Port 1 <input checked="" type="checkbox"/> Port 2 <input checked="" type="checkbox"/> Port 3 <input checked="" type="checkbox"/> Port 4 <input checked="" type="checkbox"/> Port 5 <input checked="" type="checkbox"/>
<input type="button" value="Update"/>	
<input type="button" value="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.

Tag Base VLAN

VLAN Mode : Port Base

VLAN No	Enable	VID (1~4093)	FID (0~15)	Add Tag	Remove Tag	VLAN Member
1	Enable			P1 <input checked="" type="checkbox"/> P2 <input type="checkbox"/> P3 <input type="checkbox"/> P4 <input checked="" type="checkbox"/> P5 <input checked="" type="checkbox"/>	P1 <input type="checkbox"/> P2 <input type="checkbox"/> P3 <input type="checkbox"/> P4 <input type="checkbox"/> P5 <input type="checkbox"/>	P1 <input type="checkbox"/> P2 <input type="checkbox"/> P3 <input type="checkbox"/> P4 <input type="checkbox"/> P5 <input type="checkbox"/>

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.

Priority Classification

Priority Classification

- Disable
- Port based priority
- VLAN Tag priority
- TOS/DSCP Priority
- TCP/UDP Priority

2. Queue Scheduling Mode

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

Priority Mode

Priority Mode					
Mode	<input type="radio"/> Strictly Priority (Q3>Q2>Q1>Q0)	Q3 SP	Q2 SP	Q1 SP	Q0 SP
	<input checked="" type="radio"/> Weight-Round-Robin.	Q3 weight 8	Q2 weight 4	Q1 weight 2	Q0 weight 1
<input type="button" value="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
<input type="button" value="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
<input type="button" value="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.

Firewall

Change to Range mode

Entry	Action	Bandwidth(0~3124) 0 for 100Mbps	Source IP	Destination IP	TCP/UDP	Port num
1	none	x32kbps		0-65535

Submit

Clear entry 1 Clear

Entry	Action	Bandwidth	Source/Start IP	Destination/End IP	TCP/UDP	Source/Start logical Port num
1		100Mbps	---	---
2		100Mbps	---	---
3		100Mbps	---	---

IGMP

1. IGMP Setting

Users can setup IGMP on this page.

IGMP Setting

Hardware IGMP Snooping	Disable
Fast Leave	Enable
Hardware IGMP Snooping	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
Router Port Timeout	0 (0~2000) seconds (0 for no timeout)
IGMP Timeout	0 (0~2000) seconds (0 for no timeout)

Update

2. IGMP Table

Users can see the table of IGMP.

IGMP Table

MAC Address	Port Member				
	P1	P2	P3	P4	P5

Miscellaneous

1. CRC Counter

CRC Counter

Port 1~5	CRC Counter (Packet)
	0
<input type="button" value="Clear"/> <input type="button" value="Refresh"/>	
PS. The max value is 255.	

Logout

Choose Logout

- Port-Based Priority
- VLAN Tag Priority
- TOS/DSCP Priority
- TCP/UDP Priority
- Security Filter**
- MAC Filter
- Firewall
- IGMP**
- IGMP Settings
- IGMP Table
- Miscellaneous**
- CRC Counter
- Logout**

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

exit
are you sure?
<input type="button" value="Yes"/> <input type="button" value="No"/>