5 Port Smart Switch

User's Manual

V1.0

FCC Caution i			
CE State	CE Statement of Conformityi		
Introdu	Introduction 1		
1.	Main Features1		
2.	The LED label		
3.	Hardware Specification1		
Adminis	trator 2		
1.	Authentication Configuration		
2.	System IP Configuration		
3.	System Status		
4.	Load default setting4		
5.	Firmware update		
6.	Configuration Backup/Recovery		
7.	Reset Device7		
Port Ma	nagement		
1.	Port configuration		
2.	Flow control setting		
3.	Port Mirroring9		
4.	Bandwidth Control		
5.	Broadcast Storm Control		
VLAN Se	etting 11		
1.	Multi to 1 Setting11		
2.	Port Based VLAN		
3.	Tag Based VLAN		
QoS Set	ting 13		
1.	Priority Classification		
2.	Queue Scheduling Mode14		
Security	Security Filter		
1.	MAC ID filter		
2.	Firewall		
IGMP			
1.	IGMP Setting		
2.	IGMP Table		
Miscellaneous			
1.	1. CRC Counter 16		
Logout.			

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.

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

2. The LED label

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	• 14,880 packets/second per port @ 10Mbps, max.	
Rate	• 148,800 packets/second per port @ 100Mbps, max.	
Configuration	IE Web browser	
Interface		
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

Internet Proceed (TCP/IP) Pro	perties 🛛 🛛 🔀
General	
You can get IP settings assigned au this capability. Otherwise, you need the appropriate IP settings.	utomatically if your network supports to ask your network administrator for
🚫 Obtain an IP address automati	cally
Our of the following IP address:	
IP address:	192.168.0.101
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	
Obtain DNS server address au	itomatically
• Use the following DNS server	addresses:
Preferred DNS server:	· · · · · · · · · · · · · · · · · · ·
Alternate DNS server:	
	Advanced
	OK Cancel

B . Login

Default IP : 192.168.0.100 Login ID : admin (Lowercase) Password : 1234

5 Ports Smart Switch Login		
Site	<u>192.168.0.100</u>	
User Name		
Password		
OK	cancel	

1. Authentication Configuration

Authentication	Configuration

Username	admin	max:15 (valid value:"A~Z";"a~z";"0~9")
Password	••••	max:15 (valid value:"A~Z";"a~z";"0~9")
. accircita	••••	
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	192 168 2	. 5
Subnet Mask	255 255 25	55 . 0
Gateway	192 . 168 . 0	. 254
DNS	192 168 2	. 253
IP Configure	⊙ Static ○ DHCP	
	Update	е

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.

Update Successfully!!
Please Click "Reboot" to use new setting to login
Reboot

Login in new IP address 192.168.2.5

Site	5 Ports Smart Switch Login 192.168.2.5
User name	
Password	
0	< 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	Switch valid value:"a-z","A-Z","_","+","-","=","0-9"	
System Version	ICPlus_IP175D_v111	
Idle Time Security	Idle Time: <mark>5 (</mark> 1∼30 Minutes) ⊙ Auto Logout(Default). ○ 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



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

Update Successfully!!
Please Click "Reboot" to use new setting to login
Reboot

5. Firmware update

Enter Password & Reconfirm.

Firmware Update				
Notice:Plea Firmware U	se input the password to continue the process.			
Password	••••			
ReConfirm	••••			
	Update			

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 <u>http://192.168.0.100</u> to continue.

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

	Firmware Update by Web	
Select the image file:	G\Documents and Settings\ASUS TEST\Desktop\down.bin	Browse UPDATE
If the update process possible, reset device	somehow goes wrong(Ex: power failure), please connect to \underline{h} first.)	ttp://192.168.0.100 to restart.(I

Firmware Update by TFTP (TFTP client)Use MS Windows' Command Prompt window to run tftp client program. Syntax: c:\tftp -i 192.168.0.100 put FILE_DIRECTORY\FILENAME.bin

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.
Download

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

File Download	×
Do you want to open or save this file? Name: down.bin	
Type: HTML Document, 2.00 KB	
Open Save Cancel	
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. <u>What's the risk?</u>	(

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	Browse
Password:	•••• 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

- "	Auto Negotiation	Speed	Duplex	Frame Forwarding	Learning Capability
Function	Enable 🛩	100M 🛩	Full 🖌	Enable 🖌	Enable 💌
Select Port NO.	1 🗆 2 🗆 3 🗆 4 🗖 5 🗖				
Submit					

Dort No	C	Current St	tatus			Set	ting Status	
POIL NO.	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.

Flow Control Setting

Backpressure	IEEE 802.3x Flow Control
Disable 💌	Disable 💌
	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

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	(0~3124) x32Kbps				
	0 for 100Mbps	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

TOTENO	Ix Kate	Rx Rate			
1 🗸	(0~3124) x32Kbps	(0~3124) x32Kbps			
	0 for 100Mbps	0 for 100Mbps			

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 💌	Enable 💌 Disable 💌				
Submit						
Note 1: Broadcast Storm = Enable, drop the incoming packet if the number of queued broadcast packet is over the threshold.						
Note 2: Include Multicast = Enable, "broadcast storm protection" includes multicast packets, 0xFFFFFFF or multi-cast address. Include Multicast = Disable, " broadcast storm protection" does not include multicast packets.						

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



2. Port Based VLAN

Port Based VLAN

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

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.

	Enable				VLA	N Me	mber			Α	dd Ta	ıg			Rer	nove	Tag	
VLAN NO	Enable	VID	FID	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5
0	0	1	0	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-
1	0	2	0	-	-	-	-	-	V	-	-	V	V	-	-	-	-	-
2	Х	3	0	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-
3	Х	4	0	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-
4	Х	5	0	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-

QoS Setting

1. Priority Classification

This page provides priority classification for QoS.

Priority Classification



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 💌	00:00:00:00:01	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.

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 ent	ry 1 🗸 Clear					

Entry	Action	Bandwidth	Source/Start IP	Destination/End IP	TCP/UDP	Source/Star logical Port nu
1		100Mbps	,,	,,		
2		100Mbps	,,	,,		
3		100Mbps	,,	,,		

IGMP

1. IGMP Setting

Users can setup IGMP on this page.

IGMP Setting



2. IGMP Table

Users can see the table of IGMP.

IGMP Table

Refresh

Testi						
	Port Member					
MAC Address	P1	P2	P3	P4	P5	

Miscellaneous

1. CRC Counter

CRC Counter

Dort 1-5	CRC Counter (Packet)		
FULL FO	0		
Clear Refresh			
F	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.

