

ES-5208P



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Chapter 1 Product Introduction

Thank you for purchasing an Edimax PoE Web Smart Ethernet Switch. Before you install and use the product, please read this manual carefully to make the best use of the product's functions.

1.1 Product Overview

The Edimax ES-5208P is a web-smart switch with 8 Fast Ethernet PoE+ ports and 2 Gigabit Combo ports. Designed for small or medium network environments to strengthen the network connection, its standard 13-inch rack-mount brackets allow for integration with the most widely used mounting systems on the market.

1.2 Features

- Supports 8 10/100Mbps Fast Ethernet PoE+ ports and 2 10/100/1000Mbps combo ports
- Support IEEE 802.3af/at PoE compliant to simplify deployment and installation
- Support PoE up to 30W per port With 160W total power budget
- Automatically detects power devices(PD) and power consumption levels
- IEEE 802.1Q VLAN allows network segmentation to enhance performance and security
- Switch capacity: 2.8Gbps, Forwarding rate: 35.7Mbps
- Support IGMP Snooping V1 / V2
- Support 4K MAC address table
- 13-inch rack-mountable metal case

1.3 Hardware Description

1.3.1 Front Panel



Front Panel

The following table describes the interface of the ES-5208P.

Interface/Button	Description
1~8	8 x RJ-45 Ethernet interfaces, 10 M/100 M self-adaptive.
9, 10	Two groups of fiber-copper combo ports. The copper ports are 10 M/100 M/1000 M self-adaptive Ethernet ports and the fiber ports are SFP optical module ports. If the combo ports are preferred to serve as fiber ports, that is, if the ports connect to a fiber port, the copper port is disabled.
Reset	Keep the device powered on and push a paper clip into the hole. Press down the button for about 5 seconds. The system restores the factory default settings.

The following table describes the <u>twenty-seven LED</u> indicators of the PF108C.



Power: Green LED

- Off: power off or fail
- On: power on

10/100Mbps port LED: 2 LEDs per port, on RJ45 jack

Link/Activity: Amber LED

- Off: port disconnected or link fail
- On: port connected
- Blinking: sending or receiving data

PoE status: Green LED

- Off: PoE power off
- On: PoE power on

10/100/1000Mbps copper port: 2 LEDs, on RJ45 jack

- Off: port disconnected or link fail
- Green on: 1000Mbps connected
- Amber on: 10/100Mbps connected
- Blinking : sending or receiving data
- _

SFP: Green LED

- Off: port disconnected or link fail
- on: 1000FX connected
- Blinking : sending or receiving data

1.3.2 Rear Panel

_

The rear panel of the switch features the AC power connector:





Interface	Description	
	The power interface.	
100-240VAC 50/60Hz	The power input is 100 V $^{\sim}$ 240 V AC, 50 Hz $^{\sim}$	
	60Hz.	

AC Power Connector:

Power is supplied through an external AC power adapter. Supports AC 100 - 240V, 50-60Hz

1.4 Package Contents Preparation Before Installation

1.4.1 Package Contents

Before you start using this product, please check if there is anything missing in the package, and contact your dealer to claim the missing item(s):

- ES-5208P POE Web Smart Switch
- Quick Installation Guide
- CD
- Power Cord
- Rack-Mount Kit

1.4.2 Optional Accessories and Tools

- Screwdriver
- ESD straps
- Ethernet crimping pliers, 8P8C crystal heads
- Ethernet (either crossover or straight through) cable

1.4.3 Choosing the Installation Location

The ES-5208P can be installed in either of the following ways as required:

- On the work platform
- on a rack

1.4.3.1 Installing the ES-5208P on the Work Platform

The common way is to install the ES-5208P on a clean work platform. Pay attention to the following precautions:

- Ensure that the work platform is flat and stable.
- Ensure good ventilation of air ports on both sides of the device.
- Do not put heavy objects on the device.

1.4.3.2 Installing the ES-5208P on a Rack

Before installing the ES-5208P on a rack, you need to install the provided L- Clamps on both sides of the ES-5208P

1.5 Electrical Setup

1.5.1 Setting Up the Power Interface

After placing the ES-5208P to a flat and stable surface, insert the supplied power cable to the power socket, and connect the other end of the cable to the power interface of ES-5208P.

1.5.2 Setting Up the Ethernet Interfaces

The ES-5208P provides twenty-four auto-MDI/MDI-X Ethernet service interfaces of standard RJ45 connectors. You can use either the crossover or straight through cable to connect an interface.

<u>Note</u>: To ensure good quality of the data signal, the length of the network cable connected to the Ethernet interface should be shorter than 100m.

1.6 Device Startup

1.6.1 Check Before Power-On

Before powering on the device, check the following:

- Whether the voltage of the power supply is consistent with the power requirement of the device.
- Whether the power cable is correctly connected.
- Whether the device is correctly connected to the ground on the rear side.

1.6.2 Powering On the Device

After connecting the power cable, turn on the power switch. When the Power indicator turns on, the system starts to initialize. When other indicators blink three times and the Power indicator is always on in green, the power works normally.

1.7 Device Upgrade

You can upgrade software through any Ethernet port for ES-5208P. After software upgrade is complete, the system reboots automatically.

Chapter 2 Web Configuration and Management

The system does not support the CLI and telnet management. It supports the web management only. This section describes the web configuration and management.

2.1 Preparation Before Login

Before accessing the switch, ensure the communication between PC and switch is normal. Check the communication as follows.

- 1. Set the IP address of the PC to 192.168.2.X
- 2. (1~254) and the subnet mask to 255.255.255.0.
- 3. Enter arp -d or arp -d 192.168.2.1 in the DOS window. See the following figure.



4. Ping the maintenance IP address (192.168.2.1 by default) of the switch. See the following figure.

C:\VINDOVS\system32\cmd.exe			- 🗆 ×
C:\Documents and Settings>			^
C:\Documents and Settings>			
C:\Documents and Settings>			
C:\Documents and Settings>ping 192	2.168.2.1	L —t	
Pinging 192.168.2.1 with 32 bytes	of data	:	
Reply from 192.168.2.1: bytes=32 t	:ime=2ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	ime=1ms;	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	ime=1ms;	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	ime=1ms;	TTL=128	
Reply from 192.168.2.1: bytes=32 t	ime=1ms;	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Reply from 192.168.2.1: bytes=32 t	;ime=1ms	TTL=128	
Ping statistics for 192 168 2 1.			
1 119 Statistics 10F 172.108.2.1.			

If the PC can read the MAC address of the switch and can ping through the maintenance IP address of the switch, that means the communication of the PC and the switch is normal.

2.2 Logging In to the Switch

To login to the web management interface and configure the switch's settings, connect a computer to the switch using an Ethernet cable. Open a web browser and go to the switch's IP address. The default IP address is **192.168.2.1.** Your computer's IP address must be in the same subnet as the switch. For the default IP address this is any IP address in the range **192.168.2.x** (x = 2 - 254). You can modify the IP address of your computer if you need.

Default IP address	192.168.2.1
Default user name(ID)	admin
Default password	1234

- 1. Enter the switch's IP address (**192.168.2.1**) in the URL bar of a web browser. IE 7 or above is recommended.
- 2. At the following screen login with the default username "admin" and password "1234".

USER LOG IN			
Site:	192.168.2.1		
ID:			
Password:			
	OK		

After logging in to the switch successfully, the following page appears.

	ES-5208P		
 Administrator PoE Port Management 	8-Port Fast Ethernet	PoE+ with 2 Gigabit Combo Ports Web Smart Switch	
VLAN Setting	Advanced Features	Basic Features	
 Per Port Counter QoS Setting Security Spanning Tree Trunking DHCP Relay Agent Backup/Recovery 	 Bandwidth control Port based & Tag based VLAN Statistics Counter Firewall VLAN Uplink L2 ~ L4 Class of Service 	Embedded HTTP web Management Configuration Backup/Recovery TFTP Firmware upgradeable Secure Management User name/Password security	
 Miscellaneous SNMP Settings Logout 			

2.3 System Management

Choose Administrator, and the sub-menus of Administrator are shown as below.



2.3.1 Authentication Configuration

Choose **Administrator > Authentication Configuration**, and the following page appears. Read the **Note** in the page, and change the user name and password. After proper configuration, click **Update** to apply the settings and then **Reboot** the device for the changes to take effect.

Authentication Configuration

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

Note:

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

2.3.2 System IP Configuration

Choose **Administrator > System IP Configuration**, and the following page appears. In this page, you can set the maintenance IP address of the switch, subnet mask, and gateway. After proper configuration, click **Update** to apply the settings and then **Reboot** the device for the changes to take effect.

System IP Configuration

Setting	Value	
IP Address	192 . 168 . 2 . 1	
Subnet T ask	255 . 255 . 0	
Gateway	192 . 168 . 2 . 254	
IP Configure	⊙ Static ○ DHCP	
Update		

2.3.3 System Status

Choose **Administrator > System Status**, and the following page appears. In this page, you can view the MAC address, number of ports, and system version. You can also set a comment.

System Status

MAC Address	10:f0:13:f0:18:26	
Number of Ports	8+2	
Comment	switch MAX:15	
System Version	IP1826D_WebCtrl_IP210L3.95_PoEPD69100_v108.19	
☐ Idle Time Security	Idle Time:[0 (1~30 Minutes) © Auto Logout(Default). © Back to the last display.	
Update		

Note:

Comment name only can use "a-z","A-Z","_","+","-","0-9"

2.3.4 Loading Default Settings

Choose **Administrator > Load default setting** and the following page appears. In this page, click **Load** to load the default settings that do not include IP address, user name, and password.

Load Default Setting

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

Load

2.3.5 Firmware Update

Choose **Administrator > Firmware Update**, and the following page appears. In this page, enter the login password. Then click **Update**. A pop up page will appear asking you to select new file for updating the firmware.

Firmware Update			
Please input the password to continue the Firmware Update process.			
Password			
ReConfirm			
Update			

Notice:

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

<u>Caution</u> : When firmware update is in progress, do not shut down the switch.

2.3.6 Reboot the Device

Choose **Administrator > Reboot Device**, and the following page appears. In this page, click **Confirm** to reboot the device.

Reboot Device:			
Click "Confirm"	to Reboot	the Device	Confirm

2.4 POE

Choose **POE**, and the submenus of **POE** are shown as below.



2.4.1 PoE Status

Choose **PoE**> **PoE Status** and the following page appears.

PoE Status

Max available Power	130 Watt Update
System operation status	On
Main Power consumption	0(Watt)
Device Temperture	
Device #1	47 (C)

2.4.2 PoE Setting

Choose PoE > **PoE Setting** and the following page appears.

PoE Setting								
		<u></u>		D • • •				
		Status		Priority	Power Budget			
Functi	on	🔻	I ((Critical-1;High-2;Low-3)				
Port N	o.		01	02 03 04 05 06 07	08			
				Update				
Port Status Refresh								
Port	Status	Class	Priority	Power Consumption(Watt)	Power Budget(Watt)			
1	Disable		3	0.00	30			
2	Enable		3	0.00	30			
3	Enable		3	0.00	30			
4	Enable		3	3 0.00 30				
5	Enable		3	0.00	30			
6	Enable		3	0.00	30			
7	Enable		3	0.00	30			
8	Enable		3	0.00	30			

2.4.3 PoE Power Delay

Choose PoE > **PoE Power Delay** and the following page appears.

PoE Power Delay

	Delay Mode	Delay Time(0~300)				
Function		second				
Port No.	01 🗆 02 🗖 03 🗖 04 🗖 05 🗖 06 🗖 07 🗖 08 🗖					
Update						

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

2.4.4 PoE Scheduling

Choose PoE > **PoE Scheduling** and the following page appears.

PoE Scheduling

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

Select all

Hour	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.		
00 🗖	~	~	~	~	~	~	~		
01 🗖	~	~	~	~	~	~	~		
02 🗆	~	~	~	~	~	~	~		
03 🗖	•	~	~	~	•	~	~		
04 🗆	~	~	~	~	~	~	~		
05 🗖	~	~	~	~	~	~	~		
06 🗆	~	~	~	~	~	~	~		
07 🗖	~	~	~	~	~	~	~		
08 🗖	~	~	~	~	~	~	~		
09 🗖	~	~	~	~	~	~	~		
10 🗆	~	~	~	~	~	~	~		
11 🗖	~	~	~	~	~	~	~		
	Update								

2.4.5 NTP Setting

Choose PoE > **NT**P Setting and the following page appears

NTP Setting

	-					
System Time	17:18:44					
NTP Server	#1 210. 0. 235. 14					
MIF Server	#2 59.124.196.85					
Time Zone	UTC 0:00 🔽					
Update						

2.5 Port Management

Choose Port Management, and the submenus of Port Management are shown as below.

🐶 Port Management						
•	Port Configuration					
•	Port Mirroring					
•	Bandwidth Control					
•	Broadcast Storm Control					

2.5.1 Port Configuration

Choose **Port Management > Port Configuration**, and the following page appears. In this page, you can set **Tx/Rx Ability**, **Auto-Negotiation**, **Speed**, **Duplex**, **Pause**, **Backpressure**, and **Addr. Learning** of port.

12 --- --- ON AUTO 100M FULL ON ON OFF

Port Configuration

		Tx/Rx	Ability	Auto-Ne	gotiation	Speed	Duplex	Pa	use	Backpressure		Addr. Learning	
Func	tion		💌								•	· · ·	
Sele Port	ect 01 02 03 04 05 06 07 08 09 10												
Update													
22				0.N	AUTO	100M 1	ULL ON	0	N	OFF			
		Curr	ent Statu	s				Sett	ing Statu	us			
Port	Link	Speed	Duplex	FlowCtrl	Tx/Rx Abili	ty Au	to-Nego	Speed	Duplex	Pause	Backpi	ressure	Addr. Learning
1					ON		AUTO	100M	FULL	ON	(DN	ON
2					ON		AUTO	100M	FULL	ON	(DN	ON
3					ON		AUTO	100M	FULL	ON	(DN	ON
4					ON		AUTO	100M	FULL	ON	(ON	ON
5					ON		AUTO	100M	FULL	ON	(ON	ON
6					ON		AUTO	100M	FULL	ON	(ON	ON
7					ON		AUTO	100M	FULL	ON	(ON	ON
8	٠	100M	FULL	ON	ON		AUTO	100M	FULL	ON	(DN	ON
9					ON		AUTO	1G	FULL	ON	(DN	ON
10					ON		AUTO	1G	FULL	ON	(ON	ON

2.5.2 Port Mirroring

Choose **Port Management** > **Port Mirroring**, and the following page appears. In this page, you can enable port mirroring service. The packets from source port transmit to destination port.

Port Mirroring										
Dest Port	1	2	3	4	5	6	7	8	9 □	10
Monitored Packets	Disable 💌	Disable 💌								
Source	1	2	3	4 □	5 □	6	7	8	9 □	10
FOIL	Update									
Multi to Multi Sniffer function										

2.5.3 Bandwidth Control

Choose Port Management > Bandwidth Control and the following page appears.

Bandwidth Control

Port No	Tx Rate	Rx Rate				
01 💌	(0~255) (0:Full Speed)	(0~255) (0:Full Speed)				
Speed Base	 Low: Low: Low: (1)32Kbps Tx/Rx bandwidth resolution for port 1~ port 10. Actual Tx/Rx bandwidth =Rate value x 32 kbps. The rate value is 1~255. High: (1)256Kbps Tx/Rx bandwidth=Rate value for port 1~ port 8. 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=Rate value X 2048Kbps for port 9, port 10. 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 10MB. The rate value is 1~48. 					
Update LoadDefault						

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		6	Full Speed	Full Speed	
2	Full Speed	Full Speed		7	Full Speed	Full Speed	
3	Full Speed	Full Speed		8	Full Speed	Full Speed	100M
4	Full Speed	Full Speed		9	Full Speed	Full Speed	
5	Full Speed	Full Speed		10	Full Speed	Full Speed	

After proper configuration, click **Update** to apply the settings. Click **Load Default** to restore the default settings.

2.5.4 Broadcast Storm Control

Choose **Port Management > Broadcast Storm Control** and the following page appears.

Broadcast Storm Control											
Threshold						63 1~63					
Enable	1	2	3	4	5	6 □	7	8 I	9	10 □	
Port						Update					
This value indicates the n speed, 500 us for 100Mb	umber of l ps speed	proadcast p and 5000us	acket whicl for 10Mbp	h is allowed os speed	d to enter e	ach port in	one time un	it. One tim	e unit is 50u	is for Gigabit	

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

2.6 VLAN Setting

In large networks, routers are used to isolate broadcast traffic for each subnet into separate domains. This switch provides a similar service at Layer 2 by using VLANs to organize any group of network nodes into separate broadcast domains. VLANs confine broadcast traffic to the originating group, and can eliminate broadcast storms in large networks. This also provides a more secure and cleaner network environment.

The system supports VLAN based on port and VLAN based on tag. You can change the VLAN mode in the **VLAN Mode** page.

Choose VLAN Setting, and the sub-menus of VLAN Setting are shown as below.



2.6.1 VLAN Mode

2.6.1.1 VLAN Based on Port

Choose VLAN Setting > VLAN Mode, and the following page appears. The default mode is Port Based VLAN. Click Change VLAN mode to change the VLAN mode.

VLAN Mode

VLAN Mode	Port Based VLAN	Change VLAN mode)	
--------------	-----------------	------------------	---	--

Once "Change VLAN mode" is selected, a warning message will appear. Select "Continue" to change the mode or select "Back" to keep the existing vlan mode.

2.6.2 VLAN Member

2.6.2.1 VLAN Based on Port

Choose VLAN Setting > VLAN Member, and the following page appears.

VLAN Member Setting (Tag Based)										
VID: (1~4094) Add			selec	te 🔻 D	elete	Jpdate				
Add: Enter a VID, select the VLAN member Del: Select a VID in the table and then p Update:Modify the existing VID entry, sele	for this e press this ect VID and	entry an button i then p	nd the to re press	en press emove a the but	this butto /ID entry f	on to add from the t	a VLAN able.	entry 1	to the t	able.
VLAN Member Port			01	02	03	04	05	06	07	08
select			~	~	~	~	~	~	~	~
VLAN Member Port			09	10	_	_	-	-	-	-
select			~	~	_	-	_	_	_	_
Note: If you do not select any port, this	VID will	be trea	ated a	us a VID	embedded i	in a 802.1	Q tag.			
VID Source port	01	02		03	04	05	06		07	08
select										
VID Source port	09	10		_	-	_	-		-	_
select				-	-	-	-		-	-

			Р	ort VID Map.				
Port	01	02	03	04	05	06	07	08
VID								
Port	09	10	_	-	_	_	-	-
VID			-	-	-	-	-	-

	VLAN MEMBER											
VID \ Port	1	2	3	4	5	6	7	8	9	1 0		

2.6.2.2 VLAN Based on Tag

When the VLAN mode is tag, the VLAN Member Setting page is shown as the following figure.

VLAN Member Setting (Tag Based)

VID: (1~4094) Add			selec	te 💌 🛛 D	elete	U	pdate				
Add: Enter a VID, select the VLAN member Del: Select a VID in the table and then p Update:Modify the existing VID entry, sele	for this e press this ect VID and	entry ar button l then p	nd the to re press	n press move a the but	this b /ID ent :on.	utto ry f	n to add rom the	a VLAN table.	entry	to the	table.
VLAN Member Port			01	02	()3	04	05	06	0	7 08
select			~	~		~	~	~		F	
VLAN Member Port			09	10		_	-	-	-	-	
select			~	~		_	-	-	_	-	
Note: If you do not select any port, this	VID will	be trea	ated a	s a VID	embedd	ed i	n a 802.	1Q tag.			
VID Source port	01	02		03	04		05	06		07	08
select											
VID Source port	09	10		-	-		-	-		-	-
select				-	-		-	-		-	-

VLAN Member Setting (Tag Based)

VID: (1~4094) Add				• D	elete	Upda	ate				
Add: Enter a VID, select the VLAN member for Del: Select a VID in the table and then press this Update:Modify the existing VID entry,select VID	this entry and button to rem and then pre	l then press ti ove a VID e ss the button	iis button itry from	to add the tal	d a V ble.	'LAN enti	ry to the table				
VLAN Member Port			01	0	2	03	04	05	06	07	08
select				v	1	V				V	
VLAN Member Port			09	10	0	11	12	13	14	15	16
select			V	V	1	V		V	•	V	
VLAN Member Port			17	18	8	19	20	21	22	23	24
select			V	V	1	4		V		V	
VLAN Member Port			25	20	5	_	-	-	-	-	-
select			V		1	-	_	-	-	-	-
Note: If you do not select any port, this VID will	be treated as	a VID embe	dded in a	802.1	Q ta	g.					
VID Source port	01	02	0	3		04	05	06		07	08
select			E	1							
VID Source port	09	10	1	1		12	13	14		15	16
select			E	1							
VID Source port	17	18	1	9		20	21	22		23	24
select			E								
VID Source port	25	26	-			_	_	_		-	-
select			-			_	-	-		-	-

The following figure displays the VLAN configuration in the tag mode

			Р	ort VID Map.				
Port	01	02	03	04	05	06	07	08
VID								
Port	09	10	_	_	-	-	_	_
VID			_	_	_	_	_	_

	VLAN MEMBER											
VID \ Port 1 2 3 4 5 6 7 8 9 1												

Field	Description
VID	Select the Vlan ID to be assigned to the VLAN and click on Add to enter the VID. Once the VID is added it will appear in the drop down list.
VLAN Member Port	Select the VID from the Dropdown list and then select the desired member ports from the Table.
Port VID MAP	Port VID map shows the Port number corresponding to the VID to which the same is assigned.

When the port receives the packets without tag, the system can check the VLAN table according to the port VID. The system can add the tag according to the VID found in the VLAN table.

To add vlan, enter a VID and select vlan member for this entry from vlan member list. Now select "**Add**" button to add vlan entry to the table. Vlan entry can be modified by selecting VID from the list and then select "**Update**" button.

To delete an entry from the vlan table, select VID from the drop-down list and select "**Delete**" to remove the corresponding entry from the table.

2.6.3 Multi to 1 Setting Configuration

Choose VLAN Setting > Multi to 1 setting, and the following page appears. This feature can disable communication between ports in order to improve the security.

• After setting the multi to 1 setting, the VLAN original setting will be cleared. If the VLAN is configured again, the multi to 1 setting will be cleared.

• Multi to 1 Settings take effect only when "VLAN based on port" mode is selected.

In this page, select the current port from the drop-down list. Then select the port from the check box to isolate from the current port.

Multi to 1 Setting

Destination PortNo.		01 💌										
Current Setting		Port:-										
Disable	01	02	03	04	05	06	07	08	09	10		
Port	Note: "Disabled port" defines the switch physical port which is disabled.											

1. A example for Multi-to-1 structure



function. On the other hand, If you set the VLAN Group again, this special structure will be cleared and replaced by your newest setting. 3. This configuration is port base VLAN only.

2.7 Per Port Counter

Choose Per Port Counter, and the Port Counter submenu is shown as below.



Choose **Per Port Counter** > **Port Counter** and the following page appears. In this page, you can view the packet quantity.

Counter Category

Counter Mode Selection: Transmit Packet & Receive Packet 💌 Update					
Port	Transmit Packet Receive Packet				
01	0	0			
02	0	0			
03	0	0			
04	0	0			
05	0	0			
06	0	0			
07	0	0			
08	14096	19229			
09	0	0			
10	0	0			
Clear Refresh					

Field	Description		
Counter Mode Selection	Select it from the drop-down list: Transmit Packet & Receive Packet Transmit Packet & Receive Packet Collision Count & Transmit Packet Drop packet & Receive Packet CRC error packet & Receive Packet Click Update to view the corresponding packet quantity.		
Refresh	Click the button to refresh the counter information.		
Clear	Click the button to clear the counter information.		

2.8 QoS Configuration

All switches or routers that access the Internet, rely on class information to provide the same forwarding treatment to packets in the same class. Class information can be assigned by end hosts, or switches or routers along the path. Priority can then be assigned based on a general policy, or a detailed examination of the packet. However, note that detailed examination of packets should take place close to the network edge so that core switches and routers are not overloaded.

Switches and routers along the path can use class information to prioritize the resources allocated to different traffic classes. The manner in which an individual device handles traffic is called per-hop behavior. All devices along a path should be configured in a consistent manner to construct a consistent end-to-end Quality of Service (QoS) solution.



Choose QoS Setting, and the sub-menus of QoS Setting are shown as below.

2.8.1 Priority Mode

Choose **QoS Setting** > **Priority Mode**, and the following page appears. In this page, you can set the priority mode.

Priority Mode

Priority Mode					
Mode	 First-In-First-Out All-High-before-Low Weight-Round-Robin. Low weight High weight: 				
Update					
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.					

The system supports the following three priority modes.

- First-In-First-Out
- All-High-before-Low

Weight-Round-Robin

Low weight: You can select $0 \sim 7$ from the drop-down list.

High weight: You can select $0 \sim 7$ from the drop-down list.

2.8.2 Class of Service Configuration - 1

Choose QoS Setting > Port, 802.1p, IP/DS based, and the following page appears.

nable High Priority							
Port No.\Mode	Port Base	VLAN Tag	IP / DS	Port No.\Mode	Port Base	VLAN Tag	IP / DS
1				6			
2				7			
3				8			
4				9			
5				10			

priority.

The COS of port supports the following mode.

- Based on port
- Based on 802.1p: The priority is determined according to the value of 802.1p (bit [15:13]) in the ٠ VLAN Tag. Packets in which values of 802.1p (bit [15:13]) are 000-011 map to lower priority. Packets in which values of 802.1p (bit [15:13]) are 100-111 map to higher priority.
- Based on IP / DS: • For IPv4 packets, the priority is determined according to the value of **TOS** [5:0] in the header. Packets in which values of TOS [5:0] are 101110, 001010, 010010, 011010, and 11x000 map to higher priority. Packets in which TOS [5:0] are other values map to lower priority.

2.8.3 Class of Service Configuration - 2

Choose QoS Setting > TCP/UDP Port Based and the following page appears. COS based on TCP/UDP port specifies the priority queues of packets or discards designated protocol packets according to the application layer protocols of packets received at the port. COS supports classifying packets into corresponding priority queues or discards packets according to the port in the range of ports 1-65535, besides certain known protocols, such as FTP, telnet, and SNMP.

Class of Service Configuration

Protocol		Opt	tion	
FTP(20,21)	F-I-F-0 🗸			
SSH(22)		F-I-F	-0 🗸	
TELNET(23)		F-I-F	-0 💌	
SMTP(25)		F-I-F	-0	
DNS(53)		F-I-F	-0	
TFTP(69)		F-I-F	-0 🐱	13
HTTP(80,8080)		F-I-F	-0 🗸	1
POP3(110)		F-I-F	-0 🗸	8
NEWS(119)		F-I-F	-0 🗸	10
SNTP(123)		F-I-F	-0 🗸	
NetBIOS(137~139)	F-I-F-0 V			
IMAP(143,220)	F-I-F-O V			
SNMP(161,162)	F-I-F-O V			
HTTPS(443)	F-I-F-O V			
MSN(1863)	F-I-F-0 V			
XRD_RDP(3389)		F-I-F	-0 🗸	
QQ(4000,8000)		F-I-F	-0 🗸	
ICQ(5190)		F-I-F	-0 🗸	
Yahoo(5050)		F-I-F	-0 🗸	
BOOTP_DHCP(67,68)		Low	*	12
User_Define_a	50	F-I-F	-0 🗸	
User_Define_b	F-I-F-0 V			
User_Define_c		F-I-F	-0 🗸	
User_Define_d		F-I-F	7-0	
User_Define Port number (1~65535) Mask(0~255)	User_Define_a User_Define_b User_Define_c User_Define_d Port: Port: Port: Port: Port: Mask: 0 Mask: 0 Mask: 0			User_Define_d Port: Mask: 0

Note: The mask defines which bit is ignored within the IP address bit 0 ~ bit 7. For example, UDP/TCP port = 65535 and mask = 5,this means 65530, 65531, 65534 and 65535 are all taken into

Account. UDP/TCP port =65535 and mask=0, this means only 65535 is taken into account. TCP/UDP port QoS function Not Override V Note:When the "override" item is selected, the Port_based, Tag_based, IP TOS_based, CoS listed above will be

Update

The Class of Service for TCP/UDP port number allows the network administrator to assign the specific application to a priotity queue. F-I-F-O: The incoming packet will be forwared in first-in-first-out scheme. Discard: The incoming packet will be discarded at the source port. High: The incoming packet will be forwareded with the high priority. Low: The incoming packet will be forwareded with the Low priority.

Field	Description			
Option	You can select it from the drop-down list: F-I-F-0 Discard Low High			
User_Define	 Port: The valid range is 1 ~ 65535. Mask: The valid range is 0 ~ 255. 			
TCP/UDP port QoS function	 Override: When the "override" item is selected, the Port_based, Tag based, IP TOS_based, CoS listed previous will be ignored. Not Override 			

2.9 Security

Choose Security, and the sub-menus of Security are shown as below.



2.9.1 MAC Address Binding

Choose **Security** > **MAC Address Binding** and the following page appears. After MAC address binding is enabled at a port, only devices whose MAC addresses are consistent with the bound MAC address can communicate through the port. A port can be bound to a maximum of three MAC addresses.

If MAC address binding is enabled, address learning is automatically disabled and RSTP/STP is affected. It is recommended to disable STP on the port.

Port No.	MAC Address		
1	: : : : : : : : : : : : : : : : : : : : : : : : : Read : : : :		
Select Port 1 I Binding Disable Jupdate			

MAC Address Binding

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	6	Disable
2	Disable	7	Disable
3	Disable	8	Disable
4	Disable	9	Disable
5	Disable	10	Disable

Note: The MAC address of current management connection is 70:5a:b6:b3:df:05 at port 8.

The configuration procedure:

- Step 1 Enter the MAC address.
- Step 2 Select the port that you want to bind MAC address.
- Step 3 Select Enable from the drop-down list to enable the binding service.
- Step 4 Click **Update** to apply the service of MAC address binding.

2.9.2 TCP/UDP Filter

Choose **Security** > **TCP/UDP Filter** and the following page appears. TCP/UDP port filter discards the set protocol packets at the secure WAN port. All ports can be set to secure WAN ports, and the available protocols include FTP, HTTP, and TELNET.

TCP_UDP Filter Configuration

Function Enable	Disable 💌					
Port Filtering Rule	<pre>negative Note: (1) The outgoing packet with selected protocol will be either forwarded or dropped at secure WAN port as (2) "negative" means the selected protocol will be dropped and other protocols will be forwarded.</pre>					
	□ FTP (20, 21)	□ SSH(22)	TELNET (23)	□ SMTP (25)	🗖 DNS (53)	TFTP (69)
Protocol	□ NEWS (119)	□ SNTP (123)	□ NetBIOS (137~139)	□ IMAP(143, 220)	SNMP (161, 162)	HTTPS (4-
	□User_Define_a	□User_Define_b	□User_Define_c	□User_Define_d		
Note: These User-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 set					
	Port01	Port02	□ Port03	□ Port04	Port05	□ Port06
Secure WAN port	Port9	Port10		- -	•	

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



The configuration procedure:

- 1. Select **Enable** from the drop-down list to enable the TCP/UDP filter service.
- 2. Select port filtering rule. 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.
- 3. Select the protocol from the check box in the right area.
- 4. Select the secure WAN port.
- 5. Click **Update** to apply the settings.

2.10 Spanning Tree

Choose Spanning Tree, and the sub-menus of Spanning Tree are shown as below.

😵 Spanning Tree				
•	STP Bridge Settings			
۰	STP Port Settings			
۰	Loopback Detection			

2.10.1 STP Bridge Settings

Choose Spanning Tree > STP Bridge Settings, and the following page appears.

STP Bridge Settings

Spanning Tree Settings					
	Bridge Priority	Hello Time	Max Age	Forward Delay	
STP Mode	(0~61440)	(1~10 Sec)	(6~40 Sec)	(4~30 Sec)	
•					
Submit					
Note: 2*(Forward Delay-1)>= Max Age,					
Max Age >= 2*(Hello Time+1)					
Bridge Priority	must be multipe o	f4096			

Note: If you enable the MAC address binding function, the address leaning function will be disabled automatically. Then both RSTP/STP and address learning will be affe

Bridge Status						
STP Mode Bridge ID Hello Time Max Age Forward D						
RSTP	32768:00 17 7C 0C 84 59	2	20	15		

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

Field	Description		
STP Mode	You can select it from the drop-down list: Disable STP RSTP		
Bridge Priority	The valid range is $0 \sim 61440$. The lower integer value for precedence indicates the higher priority. And the integer should be a multiple of 4096.		
Hello Time	The valid range is 1 ~ 10. The unit is second. The hello time indicates the interval of transmitting BPDU.		
Max Age	The valid range is $6 \sim 40$. The unit is second. It is the longest waiting time of the blocking state turning into listening state. Max Age >= 2*(Hello Time+1)		
Forward Delay	The valid range is 4 ~ 30. The unit is second. It is the longest waiting time of the listening state turning into learning state or the learning state turning into forwarding state. 2*(Forward Delay-1) >= Max Age		

After proper configuration, click **Submit** to apply the settings. In the mean time, you can view the STP bridge status.

2.10.2 STP Port Settings

STP Port Status Designated Port No. RPC Priority State Status Designated Bridge Port _ 0x80 Auto:0 Disable 1 ____ 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

Choose **Spanning Tree** > **STP Port Settings**, and the following page appears.

Field	Description
Port No.	Select it from the drop-down list.
Priority	The valid range is 0 ~ 240. It should be a multiple of 16.
RPC	Root Path Cost. The valid range is 1 ~ 200000000. 0 indicates Auto.

RPC determines the path cost that is from per port to root bridge. It is related with speed. The following table lists the recommended value. You can modify it during actual using.

Speed	IEEE Recommended Value	Recommended Range
10Mbps	100	50~600
100Mbps	19	10~60
1000Mbp	4	3~10
S		
10GMbps	2	1~5

After proper configuration, click **Submit** to apply the settings. In the mean time, you can view the STP port status.

2.10.3 Loopback Detection:

Choose **Spanning Tree > Loopback Detection** to configure loopback detection on an interface. When loopback detection is enabled and a port receives it's own BPDU, the detection agent drops the loopback BPDU and places the interface in discarding mode. This loopback state can be released automatically.

Loopback Detection Settings

Loopback Detect Function	Disable 💌
Auto Wake Up	Disable 🔽
Wake-Up Time Interval	10 sec 💌
Su	bmit

Reset All Ports

Port No.	Status
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	

These parameters are displayed:

Field	Description			
Loopback Detection Function	Enables/Disables (Default: disable)			
Auto Wake Up	Configures the interface for automatic loopback release.			
Wake-Up Time interval	Defines the time interval for the port that will be released from the discarding state.			

Interface status displays a list of ports with loopback detection status. Select "Reset All Ports" option for manual release.

2.11 Trunking

This section describes how to configure static and dynamic trunks.

You can create multiple links between devices that work as one virtual aggregate link. A port trunk offers a dramatic increase in bandwidth for network segments where bottlenecks exist, as well as providing a fault tolerant link between two devices.

The switch supports both static trunking and dynamic Link Aggregation Control Protocol (LACP). Static trunks have to be manually configured at both ends of the link. On the other hand, LACP configured ports can automatically negotiate a trunked link with LACP-configured ports on another device.

Choose Trunking, and the Link Aggregation Settings sub-menu is shown as below.



Choose **Trunking** > Link Aggregation Settings, and the following page appears.

	Link Group 1			Link Group 2			:	Link Group 3		
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Member	~	~	~	~	~	~		~	~	~
State	Disable 💌			Disable 💌				Disable 💌		
Туре	LACP 🔽			LACP				LACP		
Operation Key	1 (1~65535)			2 (1 [~] 65535)			35)	3 (1 [~] 65535)		
Time Out	Short Time Out 💌			Short Time Out 💌			·	Short Time Out 💌		
Activity	Passive 💌			Passive 💌				Passive 💌		
Submit										

Note: If you enable LACP on some specified ports and their link partners are normal port without LACP, these specified ports cannot transmit packet to/receive packet from the link partner.

Field	Description
System Priority	The valid range is 1 ~ 65535.
Link Aggregation Algorithm	You can select it from the drop-down list: MAC Src&Dst MAC Source MAC Src&Dst
Member	 The system supports three link groups. Link Group 1: It includes the following ports: 1, 2, 3, 4. Link Group 2: It includes the following ports: 5, 6, 7, 8. Link Group 3: It includes the following ports: 9, 10.
State	You can select Disable or Enable .
Туре	You can select it from the drop-down list: LACP Static LACP
Operation Key	When the type is LACP, there are some protocol parameters. Such as operation key, transmitting LACP packets interactively or not.
Time Out	You can select it from the drop-down list: Short Time Out Long Time Out Short Time Out It is the time out of trunking, when the link port does not receive the corresponding LACPDU.
Activity	You can select it from the drop-down list: Passive Passive Active One switch should be set to Active between two switches.

Note: When you configure trunking service, you need to disable the Pause and Backpressure of corresponding port in the Port Configuration page in the Port management navigation.

Ш

After proper configuration, click Submit to apply the settings. Click Refresh to refresh the state of link group. When the "--" in **Member configuration** turns into "**A**", that indicates the trunking service has established between the system and the corresponding end.

2.12 DHCP Relay Agent

Choose **DHCP Relay Agent** and the submenu shown as below appears.



2.12.1 DHCP Relay Agent

DHCP Relay Agent

DHCP Relay State :	Disable 🗸
DHCP Relay Hops Count Limit (1-16):	Lnable
DHCP Relay Option 82 State :	Disable 💌
Update	

Field		Description
DHCP	relay	Select Enable or Disable to start or Stop the DHCP
State		relay agent respectively.
DHCP	relay	Sets the maximum allowed number in the hops field
Hop count limit		of the BOOTP/DHCP header.
DHCP	relay	Select Enable or Disable to start or Stop the DHCP
option 82 State		relay option 82 respectively.

2.12.2 Relay Server

Choose **Relay Server** and the following page appears.

DHCP Relay Agent

DHCP Server IP		Add			
DHCP Server IP List					

2.12.3 VLAN MAP Relay Agent

Choose VLAN MAP Relay Agent

DHCP Relay Agent

VLAN ID 1-4094 Map Server IP 🔽	
--------------------------------	--

MAP List

VLAN ID Server IP Action

After proper configuration, click **Submit** to apply the settings. Click **Refresh** to refresh the state of link group.

2.13 Configuration Backup and Recovery

Choose Backup/Recovery, and the following page appears. In this page, you can download the switch configuration to PC, or upload the configuration file to switch according to the page attention.

Configuration Backup/Recovery

Backup(Switch→PC)	
Please check "Download" to download EEPROM contents. Download	

Recovery(PC→Switch)	
Select the image file :	Browse
Password: Update	

2.14 Miscellaneous Configuration

Choose **Miscellaneous**, and the following page appears. In this page, you can enable Aging, VLAN striding and set VLAN uplink.

Miscellaneous Setting

Output Queue Aging Time					
Aging time Disable 💌 ms	The output queue aging function allows the administrator to select the aging time of a packet stored in the output queue. A packet stored in the output queue for a long time will lower the free packet buffer, resulting in the poor 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 packet to the destination port. No matter whether the 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 ○ Uplink1 ○ Uplink2	Port 02 C Uplink1 C Uplink2	Port 03 C Uplink1 C Uplink2	Port 04 C Uplink1 C Uplink2	Port 05 C Uplink1 C Uplink2	Port 06 C Uplink1 C Uplink2	Port 07 ○ Uplink1 ○ Uplink2	Port 08 C Uplink1 C Uplink2	Port 09 ○ Uplink1 ○ Uplink2
Port 10 C Uplink1 C Uplink2								
⊂ Clear Uplink1 ⊂ Clear Uplink2								
Update								

2.15 SNMP Settings

Choose **SNMP Settings**, and the following page appears. In this page, you can configure SNMP related parameters.

SNMP Settings

Community Settings					
ommunity Name		Access Right			
public					
	Update				
CMMD Cattings					
Puster Descrition					
aysient Deschuon	IDG-FS1526				
System Contact	DIGISOL				
System Location	DIGISOL				
Update					
SNMP Trap Settings					
Trap State	tate Enable				
Upadte					

Field	Description		
Community Name.	The community name used by SNMP.		
Access Right	The right of community name.		
System Description			
System Contact	System related information.		
System Location			
Trap State	Enable/disable SNMP trap.		

2.16 Logout

Choose **Logout**, and the following page appears.



In this page, the system asks you whether to logout. Click **Accept** to logout. Click **Back** to return to the previous page.

Chapter 3 Troubleshooting

If a fault occurs, refer to the following table for troubleshooting:

Symptom	Suggested Solution
The Power indicator is not ON after the system is started	 Check whether the power is correctly connected. Check whether the power switch is turned on.
The Power indicator is ON but the Ethernet indicator is off	 Check whether the network cable is correctly connected. Check whether the configuration is correct.

Chapter 4 Glossary

<u>Auto-negotiation</u>: Auto-negotiation is an Ethernet procedure by which two connected devices choose common transmission parameters, such as speed, duplex mode, and flow control. In this process, the connected devices first share their capabilities as for these parameters and then choose the highest performance transmission mode they both support.

Backpressure: The build-up of data behind an I/O switch if the buffers are full and incapable of receiving any more data; the transmitting device halts the sending of data packets until the buffers have been emptied and are once more capable of storing information.

Flow-control: Flow control is the process of managing the pacing of data transmission between two nodes to prevent a fast sender from outrunning a slow receiver. It provides a mechanism for the receiver to control the transmission speed, so that the receiving node is not overwhelmed with data from transmitting node.

<u>Address Learning</u>: Address learning is a service that characterizes a learning bridge, in which the source MAC address of each received packet is stored so that future packets destined for that address can be forwarded only to the bridge interface on which that address is located.

TCP: The Transmission Control Protocol (TCP) is one of the core protocols of the Internet Protocol Suite. TCP is one of the two original components of the suite, complementing the Internet Protocol (IP), and therefore the entire suite is commonly referred to as TCP/IP. TCP provides reliable, ordered delivery of a stream of bytes from a program on one computer to another program on another computer.

<u>UDP</u>: User Datagram Protocol. UDP provides a datagram mode for packet-switched communications. It uses IP as the underlying transport mechanism to provide access to IP-like services. UDP packets are delivered just like IP packets – connection-less datagrams that may be discarded before reaching their targets. UDP is useful when TCP would be too complex, too slow, or just unnecessary.

FTP: File Transfer Protocol (FTP) is a standard network protocol used to copy a file from one host to another over a TCP-based network, such as the Internet. FTP is built on client-server architecture and utilizes separate control and data connections between the client and server.

<u>Http:</u> The Hypertext Transfer Protocol (HTTP) is a networking protocol for distributed, collaborative, hypermedia information systems.

TELNET: Telnet defines a remote communication facility for interfacing to a terminal device over TCP/IP.

ToS: Type of Service level, which processes the precedence part of the IP packet ToS (3 bits) as an index to the eight QoS Class values.

Link-Aggregation: Link aggregation is a term which describes using multiple network cables/ports in parallel to

increase the link speed beyond the limits of any one single cable or port, and to increase the redundancy for higher availability.

<u>COS</u>: Class of Service is supported by prioritizing packets based on the required level of service, and then placing them in the appropriate output queue. Data is transmitted from the queues using weighted round-robin service to enforce priority service and prevent blockage of lower-level queues. Priority may be set according to the port default, the packet's priority bit

(in the VLAN tag), TCP/UDP port number, IP Precedence bit, or DSCP priority bit.

<u>SNMP</u>: Simple Network Management Protocol. The application protocol in the Internet suite of protocols which offers network management services.

QOS: Quality of Service. QoS refers to the capability of a network to provide better service to selected traffic flows using features such as data prioritization, queuing, congestion avoidance and traffic shaping. These features effectively provide preferential treatment to specific flows either by raising the priority of one flow or limiting the priority of another flow.

DHCP: Dynamic Host Control Protocol. Provides a framework for passing configuration information to hosts on a TCP/IP network. DHCP is based on the Bootstrap Protocol (BOOTP), adding the capability of automatic allocation of reusable network addresses and additional configuration options.

DHCP OPTION 82: A relay option for sending information about the requesting client (or an intermediate relay agent) in the DHCP request packets forwarded by the switch and in reply packets sent back from the DHCP server. This

information can be used by DHCP servers to assign fixed IP addresses, or set other services or policies for clients.



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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 1. Reorient or relocate the receiving antenna.
- 2. Increase the separation between the equipment and receiver.
- 3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4. Consult the dealer or an experienced radio technician for help.

FCC Caution

This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. 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. Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.

Federal Communications Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 2.5cm (1 inch) during normal operation.

Federal Communications Commission (FCC) RF Exposure Requirements

SAR compliance has been established in the laptop computer(s) configurations with PCMCIA slot on the side near the center, as tested in the application for certification, and can be used in laptop computer(s) with substantially similar physical dimensions, construction, and electrical and RF characteristics. Use in other devices such as PDAs or lap pads is not authorized. This transmitter is restricted for use with the specific antenna tested in the application for certification. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

R&TTE Compliance Statement

This equipment complies with all the requirements of DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of March 9, 1999 on radio equipment and telecommunication terminal equipment and the mutual recognition of their conformity (R&TTE). The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

EU Countries Intended for Use

The ETSI version of this device is intended for home and office use in Austria, Belgium, Bulgaria, Cyprus, Czech, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, and United Kingdom. The ETSI version of this device is also authorized for use in EFTA member states: Iceland, Liechtenstein, Norway, and Switzerland.

EU Countries Not Intended for Use

None

EU Declaration of Conformity

Directive 1995/5/EC, 2009/125/EC, 2006/95/EC, 2011/65/EC.

This equipment is in compliance with the essential requirements and other relevant provisions of

Français: Cet équipement est conforme aux exigences essentielles et autres dispositions de la directive 1995/5/CE, 2009/125/CE, 2006/95/CE, 2011/65/CE. Čeština: Toto zařízení je v souladu se základními požadavky a ostatními příslušnými ustanoveními směrnic 1995/5/ES, 2009/125/ES, 2006/95/ES, 2011/65/ES. Polski: Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi warunkami określonymi Dyrektywą UE 1995/5/EC, 2009/125/EC, 2006/95/EC, 2011/65/EC.. Română: Acest echipament este în conformitate cu cerințele esențiale și alte prevederi relevante ale Directivei 1995/5/CE, 2009/125/CE, 2006/95/CE, 2011/65/CE. Русский: Это оборудование соответствует основным требованиям и положениям Директивы 1995/5/ЕС, 2009/125/EC, 2006/95/EC, 2011/65/EC. Magyar: Ez a berendezés megfelel az alapvető követelményeknek és más vonatkozó irányelveknek (1995/5/EK, 2009/125/EK, 2006/95/EK, 2011/65/EK). Türkçe: Bu cihaz 1995/5/EC, 2009/125/EC, 2006/95/EC, 2011/65/EC direktifleri zorunlu istekler ve diğer hükümlerle ile uyumludur. Українська: Обладнання відповідає вимогам і умовам директиви 1995/5/ЕС, 2009/125/ЕС, 2006/95/ЕС, 2011/65/EC. Slovenčina: Toto zariadenie spĺňa základné požiadavky a ďalšie príslušné ustanovenia smerníc 1995/5/ES, 2009/125/ES, 2006/95/ES, 2011/65/ES. Dieses Gerät erfüllt die Voraussetzungen gemäß den Richtlinien 1995/5/EC, 2009/125/EC, 2006/95/EC, Deutsch: 2011/65/EC. **Español:** El presente equipo cumple los requisitos esenciales de la Directiva 1995/5/EC, 2009/125/EC, 2006/95/EC, 2011/65/EC. Italiano: Questo apparecchio è conforme ai requisiti essenziali e alle altre disposizioni applicabili della Direttiva 1995/5/CE, 2009/125/CE, 2006/95/CE, 2011/65/CE. Nederlands: Dit apparaat voldoet aan de essentiële eisen en andere van toepassing zijnde bepalingen van richtlijn 1995/5/EC, 2009/125/EC, 2006/95/EC, 2011/65/EC.. **Português:** Este equipamento cumpre os requesitos essênciais da Directiva 1995/5/EC, 2009/125/EC, 2006/95/EC, 2011/65/EC. Norsk: Dette utstyret er i samsvar med de viktigste kravene og andre relevante regler i Direktiv 1995/5/EC, 2009/125/EC, 2006/95/EC, 2011/65/EC. Svenska: Denna utrustning är i överensstämmelse med de väsentliga kraven och övriga relevanta bestämmelser i direktiv 1995/5/EG, 2009/125/EG, 2006/95/EG, 2011/65/EG.

- **Dansk:** Dette udstyr er i overensstemmelse med de væsentligste krav og andre relevante forordninger i direktiv 1995/5/EC, 2009/125/EC, 2006/95/EC, 2011/65/EC.
- suomen kieli: Tämä laite täyttää direktiivien 1995/5/EY, 2009/125/EY, 2006/95/EY, 2011/65/EY oleelliset vaatimukset ja muut asiaankuuluvat määräykset.

WEEE Directive & Product Disposal



English:

At the end of its serviceable life, this product should not be treated as household or general waste. It should be handed over to the applicable collection point for the recycling of electrical and electronic equipment, or returned to the supplier for disposal.

Declaration of Conformity

We, Edimax Technology Co., Ltd., declare under our sole responsibility, that the equipment described below complies with the requirements of the European R&TTE directives.

Equipment:	PoE Web Smart Switch		
Model No.:	ES-5208P,	ES-5216P,	ES-5224P

The following European standards for essential requirements have been followed:

Directives 1999/5/EC						
EMC :	EN55022:2010+AC:201	11 Class A				
	EN55024:2010					
	EN61000-3-2:2014 Clas	ss A				
	EN61000-3-3:2013					
	IEC 61000-4-2:2008	IEC 61000-4-2:2008				
	IEC 61000-4-3:2006+A	1:2007+A2:2010				
	IEC 61000-4-4:2012					
	IEC 61000-4-5:2014					
	IEC 61000-4-6:2013					
	IEC 61000-4-8:2009					
	IEC 61000-4-11:2004					
Safety (LVD) :	EN 60950-1:2006 + A1	1:2009 + A1:2010 + A12:2011+A2:2013				
	Edimax Technolo	gy Co., Ltd.				
	No. 3, Wu Chuar	i 3rd Road,				
	Wu-Ku Industr	ial Park,				
	New Taipei City	<i>ı,</i> Taiwan				
	Date of Signature:	Oct., 2015				
CE	Signature:	Althe				
	Printed Name:	Albert Chang				
	Title:	Director				
		Edimax Technology Co., Ltd.				

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