



QTECH
МИР ДОСТУПНЕЕ

FAST ETHERNET SWITCH

QSW-2500-A+ V1.2

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РУКОВОДСТВО ПОЛЬЗОВАТЕЛЯ

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1. PREFACE

1.1. INTRODUCTION

This manual introduces QTECH QSW-2500-A+(F) Fast Ethernet switch in details. This manual can help users to understand our product and also guide users to install, configure, manage and maintain it.

1.2. AUDIENCE

This manual is for the networking professional who has experience working with the concepts and terminology of the Ethernet and local area networking and is also familiar with the switch software features.

1.3. CONVENTIONS



Table 1 - General conventions.

Convention	Description
Black	Headings are in black
Times New Roman	Normal paragraphs are in Times New Roman
Arial	Cautions and notes are in Ariel

Table 2 - Command conventions.

Convention	Description
Boldface	The keywords of command lines are in boldface.
Italic	Command arguments are in italic
[]	Items (keywords or arguments) in square brackets [] are optional
{X Y ...}	Alternative items are grouped in braces and separated by vertical bars. One is selected.
[X] Y ...]	Optional alternative items are grouped in square brackets and separated by vertical bars. One or none is selected.
!	A line starting with "!" sign is comments.

Table 3 – Symbols.

Symbol	Caution	Description
	Note, comment, tip, know-how, thought	A complementary description
	Caution, warning, danger	Reader must be extremely careful during the operation

1.4. TECHNICAL ASSISTANCE

The QTECH website provides online documents and tools for product and software updating, manual revising, and technical serving etc.

URL: www.qtech.ru, e-mail: support@qtech.ru

2. ACCESSING DEVICE

2.1. ACCESSING MODE

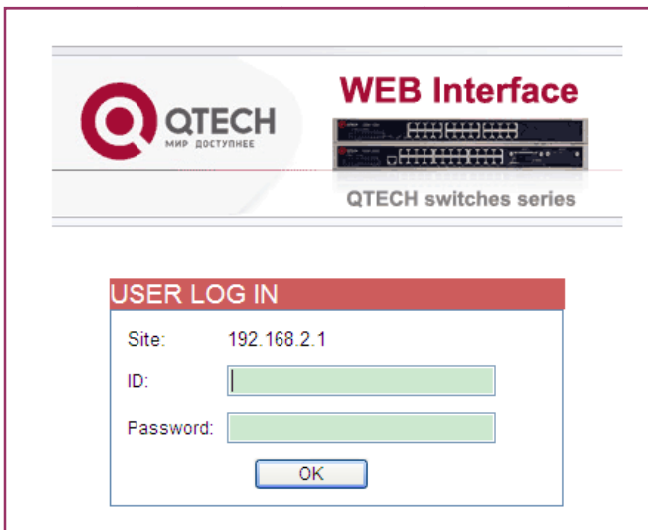
Configure the device through web configuration page, including: switch management, port configuration and vlan configuration. Use your web browser (internet explorer 5.0 or later is recommended) to configuring the switch.

2.2. WEB CONFIGURATION

Each network interface supports web management, default administrative ip is 192.168.2.1, mask is 255.255.255.0 and default gateway is 192.168.2.254. Pc of the administrator should connect to the device for administration.

2.3. LOG IN

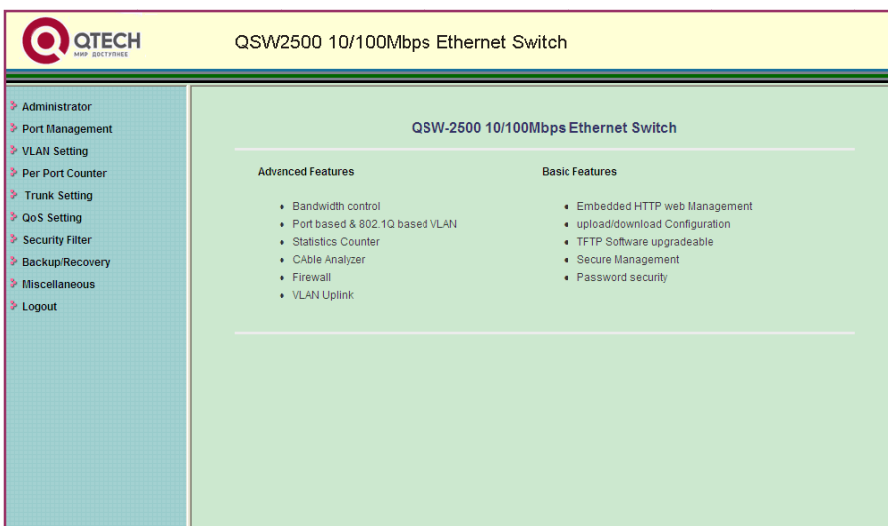
Type the IP address http://192.168.2.1 in the location box (PC of the administrator should connect to the device for administration) and press enter or return:



Type username in [ID] and password in [Password] before click [OK]. The setup wizard page appears as following:



Note: Default username is **admin** and password is **123456**, which can be modified in [Authentication Configuration].



The left is index of each function options and right is the description of [Advanced Features] and [Basic Features].

3. MANAGEMENT

3.1. PASSWORD CONFIGURATION

Click [authentication configuration] under [administrator] on the left

Authentication Configuration

Setting	Value
Username	<input type="text" value="admin"/> max:15 Characters
Password	<input type="password" value="•••••"/> max:15 Characters
Confirm Password	<input type="password" value="•••••"/>

Modify current username and password on this page.

Click [Update] to affirm configuration. Successfully modification will show as following:

Update Successfully!!

Please Click "Relogin" to use new setting to login

Click [Relogin] to login in again using new username and password.



Note:Username and password can only use numbers and letters.

3.2. IP CONFIGURATION

Click [System IP Configuration] under [Administrator] on the left:

System IP Configuration

Setting	Value
IP Address	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="2"/> <input type="text" value="1"/>
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="2"/> <input type="text" value="254"/>
IP Configure	<input checked="" type="radio"/> Static <input type="radio"/> DHCP

Modify [IP Address], [Subnet Mask], [Gateway] and [IP Configure] on this page. IP address cannot be all 0, all F and multicast address. Click [Update] to affirm configuration and it needs rebooting the device.

3.3. SYSTEM STATUS

System status includes: [MAC Address], [Number of Ports], [Comment] and [System Version] as following:

System Status	
MAC Address	00:1f:ce:11:8e:b9
Number of Ports	8Tx + 1Fx (QSW-2500-A8+-AC)
Comment	QSW2500 <input type="button" value="Update"/>
System Version	QSW2500 V100R001B01D001P004SP1 2008-11-21
Set MAC Address	Password: <input type="text"/> <input type="button" value="Confirm"/>

QSW-2500-A+ Series switch is divided into: 15Tx+1Fx, 16Tx, 8Tx+1Fx and 8Tx.

Input device name in [Comment] and click [Update] to modify it. Successfully modification will show device name on the page.

Input password "setmac" in [Set MAC Address] and click [Confirm] to turn to following pages:

SET MAC	
<input type="button" value="Read"/>	
MAC Address	<input type="text" value="00"/> : <input type="text" value="1f"/> : <input type="text" value="ce"/> : <input type="text" value="00"/> : <input type="text" value="01"/> : <input type="text" value="01"/> <input type="button" value="Write"/>
PHY Address	PHY_ID <input type="text" value="00"/> MII_ID <input type="text" value="00"/> REG_VAL <input type="text" value="ffff"/> <input type="button" value="Write"/>
IP1717 REG	Addr <input type="text" value="00"/> Val <input type="text" value="0000"/> <input type="button" value="Write"/>
EEPROM	Addr <input type="text" value="0000"/> Val <input type="text" value="17"/> <input type="button" value="Write"/>

3.4. RESTORE TO DEFAULT CONFIGURATION

Restoring to default configuration means to restore to factory status, not including IP address, username and password.

Click [Load Default Setting] under [Administrator] on the left to turn to following page.

Load Default Setting

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

Click [load]. Reboot the device after modification.

Update Successfully!!

Please Click "Reboot" to reboot the device!

Click [Reboot] to reboot device.

3.5. FIRMWARE UPDATE

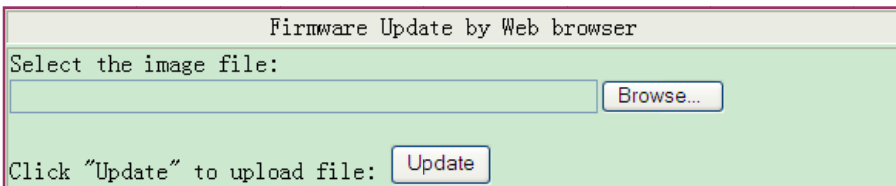
It supports following update methods:

1. Through web browser

Click [Firmware Update] under [Administrator] on the left to turn to following page:

http://192.168.2.1'" data-bbox="95 204 659 356"/>

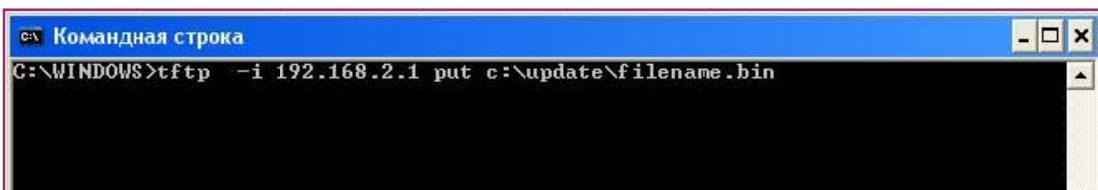
Enter password and confirm (the password is the same as the login in password) and then click [Update] to enter flash to erase the page. Following page will appear after that.



Click [Browse] to select update file before click [Update] to update. It will last about 40 seconds. After successfully update, it will turn to login page

2. Through TFTP

Run tftp client in Microsoft command line. Suppose device IP address is 192.168.2.1. Type: `c:\tftp -i 192.168.2.1 put filepath\filename.bin` and then press enter:



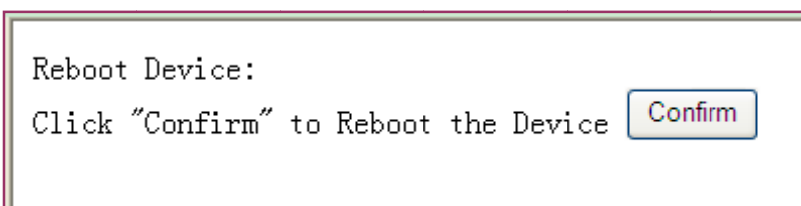
Relogin in the system after update.



Caution: Default update password is **123456**. If it shows error on the page or the update period is too long, please relogin in according to the prompt. Make sure the power is on.

3.6. REBOOT THE DEVICE

Click [Remote Device] under [Administrator] to turns to following page:



Click [Confirm] and reboot device.

4. PORT CONFIGURATION

4.1. PORT CONFIGURATION

On this page, port configuration include: Auto-N-Way, Speed, Duplex, 802.3x/backpressure, Tx Capability and Addr.Learning.

Port Configuration

Function	Auto-N-Way	Speed	Duplex	Pause	Backpressure	Tx Capability	Addr. Learning
	---	---	---	---	---	---	---
Select Port No.	<input type="checkbox"/> 01 <input type="checkbox"/> 02 <input type="checkbox"/> 03 <input type="checkbox"/> 04 <input type="checkbox"/> 05 <input type="checkbox"/> 06 <input type="checkbox"/> 07 <input type="checkbox"/> 08 <input type="checkbox"/> 9(Fx) <input type="checkbox"/>						
<input type="button" value="Update"/>							

Select “configure port” in [Port Configuration] and choose corresponded ports, and then click [Update].

Port	Current Status				Setting Status						
	Link	Speed	Duplex	FlowCtrl	Nway	Speed	Duplex	Pause	Backpressure	Tx Cap	Addr. Learning
1	---	---	---	---	Auto	100M	full	on	on	on	on
2	---	---	---	---	Auto	100M	full	on	on	on	on
3	---	---	---	---	Auto	100M	full	on	on	on	on
4	---	---	---	---	Auto	100M	full	on	on	on	on
5	---	---	---	---	Auto	100M	full	on	on	on	on
6	---	---	---	---	Auto	100M	full	on	on	on	on
7	---	---	---	---	Auto	100M	full	on	on	on	on
8	●	100M	Full	off	Auto	100M	full	on	on	on	on
9(Fx)	●	100M	Full	on	Auto	100M	full	on	on	on	on

[Current Status] is the real status after port link negotiation.

4.2. PORT MIRROR

System provides port mirror, that is, copy the packets in specific or more ports to monitoring port for packet analysis and monitor. As following picture, select monitor port in [Dest Port] and monitored port in [Source Port]. [Monitored Packets] includes: disable, Rx, Tx and Rx&Tx. Choose needed configuration and click [Update] .

Port Mirroring

Dest Port	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9(Fx)
Monitored Packets	<input type="button" value="Disable"/>								
Source Port	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9(Fx)
<input type="button" value="Update"/>									
Multi to Multi Sniffer function									



Caution: One-to-one port monitor is not supported.

4.3. BANDWIDTH CONTROL

In this function, user can configure the max sending and receiving rate. The speed granularity is: Low 32Kbps and High 512Kbps.

Formula: Max sending and receiving rate

- = Rate control (0~255) x 32 kbps (low bandwidth)
- = Rate control (0~255) x 512 kbps (high bandwidth)

Click [update] to submit configuration. Click [LoadDefault] to restore to default configuration. After that, the speed rate is connecting speed as following:

Bandwidth Control

Port No	Tx Rate	Rx Rate
01	0~255 (0.full speed)	0~255 (0.full speed)
Speed Base	Low: 32Kbps High: 512Kbps all ports use the same speed base	

If the link speed of selected port is lower than the rate that you setting, this system will use the value of link speed as your setting rate.



Note: If the connecting speed rate is smaller than the bandwidth control rate, the connecting speed rate will be bandwidth control rate.

4.4. BROADCAST SUPPRESSION

As following, select port in [Enable Port] and input 0~63 in threshold which means the max broadcast number permitting in certain in the port. Port rate 10Mbps equals to 5000us time unit, and port rate 100Mbps equals to 500us time unit time.

Broadcast Storm Control

Threshold									
	63 0~63								
Enable Port	1	2	3	4	5	6	7	8	9(Fx)
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This value indicates the number of broadcast packet which is allowed to enter each port in one time unit. One time unit is 500 us for 100Mbps speed and 5000us for 10Mbps speed

4.5. PACKET ACCOUNTING

Port accounting mode includes: Receive Packet & Transmit Packet, Transmit Packet & Collision Count, Receive Packet & Drop packet and Receive Packet & CRC error packet. Click[refresh] to refresh it. Click[Update] to clear the accounting number.

Counter Category

Counter Mode Selection: Receive Packet & Transmit Packet

Port	Receive Packet	Transmit Packet
01	0	0
02	0	0
03	0	0
04	0	0
05	0	0
06	0	0
07	0	0
08	751	466
09(Fx)	242	209



Note: Click[refresh] to refresh it manually.

4.6. PORT TRUNK CONFIGURATION

Trunk can be divided into: port ID, SA, DA and SA&DA. Port ID is default one.

Trunk Configuration

Trunk Hash Algorithm Selection	<input checked="" type="radio"/> Port ID <input type="radio"/> SA <input type="radio"/> DA <input type="radio"/> SA & DA								
Trunk0	<table style="width: 100%; text-align: center;"> <tr> <td>Port1</td><td>Port2</td><td>Port3</td><td>Port4</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </table>	Port1	Port2	Port3	Port4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Port1	Port2	Port3	Port4						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
Trunk1	<table style="width: 100%; text-align: center;"> <tr> <td>Port5</td><td>Port6</td><td>Port7</td><td>Port8</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> </table>	Port5	Port6	Port7	Port8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Port5	Port6	Port7	Port8						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

1. Selecting one port for a trunk will be treated as a void setting.
 2. Don't connect both trunk channels to a single switch, this will cause an unlimited traffic loop once a broadcast packet is coming to any port of the switch.



Note: Select a port to be Trunk separately is an invalid configuration. Do not connect 2 Trunk channels to a switch. Once the broadcast is sent, the ring cannot be restricted.

5. VLAN CONFIGURATION

5.1. VLAN mode

VLAN mode is divided into Port Based VLAN and Tag Based VLAN. It is defaulted to be Port Based VLAN mode as following:

VLAN Mode

VLAN Mode	Port Based VLAN <input type="button" value="Change VLAN mode"/>			
Tag Mode	Port 01	Port 02	Port 03	Port 04
	Port 05	Port 06	Port 07	Port 08
	Port 09			

Note: The option of "Tag Mode" is ineffective in port based vlan mode.

Click [Change VLAN mode] to shift VLAN mode. On Tag Based VLAN mode page, user can configure Tag attribution, including Tag, Unmodify and Untag as following:

VLAN Mode	Tag Based VLAN <input type="button" value="Change VLAN mode"/>			
Tag Mode	Port 01	Port 02	Port 03	Port 04
	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag
	Port 05	Port 06	Port 07	Port 08
	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag
	Port 09			
	<input type="radio"/> Tag <input checked="" type="radio"/> Unmodify <input type="radio"/> Untag			

Note:

If the link partner is a network interface card, it probably cannot recognize the VLAN tag. In this case, it is strongly recommended the network administrator to remove the VLAN tag of the corresponding port.

5.2. VLAN MEMBER

It can be divided according to VLAN mode:

1. Port Based VLAN member configuration

VLAN Member Setting (Port Based)

Port	02 <input type="button" value="Read"/>								
Dest PORT	01	02	03	04	05	06	07	08	09 (Fx)
select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Port] is uplink port configuration and [Dest PORT] is downlink port configuration. [LoadDefault] is default configuration. For example: configure e0/1 to be uplink port and e0/1~16 to be downlink port to make e0/1 transmit packet to e0/2~16 as following:

VLAN MEMBER									
Port	1	2	3	4	5	6	7	8	9 (Fx)
1	v	v	v	v	v	v	v	v	v
2	v	v	v	v	v	v	v	v	v
3	v	v	v	v	v	v	v	v	v
4	v	v	v	v	v	v	v	v	v
5	v	v	v	v	v	v	v	v	v
6	v	v	v	v	v	v	v	v	v
7	v	v	v	v	v	v	v	v	v
8	v	v	v	v	v	v	v	v	v
9	v	v	v	v	v	v	v	v	v
Port	1	2	3	4	5	6	7	8	9 (Fx)

VLAN MEMBER

Click [LoadDefault] to restore to default value, that is, all [Port] contains all [Dest PORT].



Note: Configured downlink port must contain uplink port, such as [Dest PORT] must contain e0/1.

2. Tag Base VLAN member configuration

VLAN Member Setting (Tag Based)

VLAN No.	Index NO. 01 VID: 2 (1~4094) <input type="button" value="Read"/>								
Dest PORT	01	02	03	04	05	06	07	08	09 (Fx)
select	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PVID index	PVID index value is 1~20								
Port/ PVID Index	01 01	02 02	03 03	04 04	05 05	06 06	07 07	08 08	09 (Fx) 16

Divide 20 groups of VLAN (1~20) in Tag Base VLAN mode, which cannot delete and create. We suggest user click [Read] to load corresponded VID of configured VLAN and enter VID (1-4094). Select VLAN member in [Dest PORT] and enter pvid corresponded VLAN Index No. in [PVID Index] and click [Update].

VLAN MEMBER										
VLAN No.	VID	1	2	3	4	5	6	7	8	9 (F _x)
1	1	v	v	v	v	v	v	v	v	v
2	2	v	v	v	v	v	v	v	v	v
3	3	v	v	v	v	v	v	v	v	v
4	4	v	v	v	v	v	v	v	v	v
5	5	v	v	v	v	v	v	v	v	v
6	6	v	v	v	v	v	v	v	v	v
7	7	v	v	v	v	v	v	v	v	v
8	8	v	v	v	v	v	v	v	v	v
9	9	v	v	v	v	v	v	v	v	v
10	10	v	v	v	v	v	v	v	v	v
11	11	v	v	v	v	v	v	v	v	v
12	12	v	v	v	v	v	v	v	v	v
13	13	v	v	v	v	v	v	v	v	v
14	14	v	v	v	v	v	v	v	v	v
15	15	v	v	v	v	v	v	v	v	v
16	16	v	v	v	v	v	v	v	v	v
VLAN No.	-	1	2	3	4	5	6	7	8	9 (F _x)

VLAN MEMBER

Click [LoadDefault] to restore to default configuration. VID of VLAN1~20 is 1~20 and each VLAN contains all member port.



Note: VLAN which configured port PVID should contain this port, or the configuration failed.

5.3. VLAN Multi to 1 Configuration

Configure port isolation in Port Based mode. [Destination PortNo] is for uplink port and [Disable Port] in this option, non-selected port is considered to be downlink with isolation to each other and selected port is disabled downlink port.

Multi to 1 Setting										
Destination PortNo	01									
Current Setting	Port:-									
Disable Port	01	02	03	04	05	06	07	08	09 (F _x)	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Update										

For example, uplink port is e0/1 and disabled port is e0/2. Click [Update] to configure. After successfully configuration, e0/1 can transmit packet to all other downlink port but not to e0/2. VLAN members are as following:

VLAN MEMBER																
Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16 (Fxx)
1	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	v	-	v	-	-	-	-	-	-	-	-	-	-	-	-	-
4	v	-	-	v	-	-	-	-	-	-	-	-	-	-	-	-
5	v	-	-	-	v	-	-	-	-	-	-	-	-	-	-	-
6	v	-	-	-	-	v	-	-	-	-	-	-	-	-	-	-
7	v	-	-	-	-	-	v	-	-	-	-	-	-	-	-	-
8	v	-	-	-	-	-	-	v	-	-	-	-	-	-	-	-
9	v	-	-	-	-	-	-	-	v	-	-	-	-	-	-	-
10	v	-	-	-	-	-	-	-	-	v	-	-	-	-	-	-
11	v	-	-	-	-	-	-	-	-	-	v	-	-	-	-	-
12	v	-	-	-	-	-	-	-	-	-	-	v	-	-	-	-
13	v	-	-	-	-	-	-	-	-	-	-	-	v	-	-	-
14	v	-	-	-	-	-	-	-	-	-	-	-	-	v	-	-
15	v	-	-	-	-	-	-	-	-	-	-	-	-	-	v	-
16	v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	v
Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16 (Fxx)

6. QOS CONFIGURATION

6.1. PRIORITY MODE

Priority mode includes:

1. FIFO (First-in first-out)

When queue scheduling, switch will handle packet with time order (the default mode).

2. PQ (Strict-Priority Queue)

When queue scheduling, PQ precedently transmits the packets in superior priority according to the priority level. Transmit packet in inferior priority when the superior one is empty. Put the key service in the superior one, and non-key service (such as email) in inferior one to guarantee the packets in superior group can be first transmitted and non-key service can be transmitted in the spare time.

3. WRR (Weighted Round Robin)

WRR queue scheduler divides a port into 4 or 8 outputting queues (QSW-2900 has 4 queues, that is, 3, 2, 1, 0) and each scheduler is in turn to guarantee the service time for each queue. WRR can configure a weighted value (that is, w3, w2, w1, w0 in turn) which means the percentage of obtaining the resources. For example: There is a port of 100M. Configure its WRR queue scheduler value to be 50, 30, 10, 10 (corresponding w3, w2, w1, w0 in turn) to guarantee the inferior priority queue to gain at least 10Mbit/s bandwidth, to avoid the shortage of PQ queue scheduler in which packets may not gain the service.

Priority Mode

Mode	<input checked="" type="radio"/> First-In-First-Service <input type="radio"/> All-High-before-Low <input type="radio"/> 4 Queue WRR
WRR	Q1: <input type="text" value="0"/> Q2: <input type="text" value="0"/> Q3: <input type="text" value="0"/> Q4: <input type="text" value="0"/>

When the queue weight is set to "0", it will be treated as "8".



Note: When the queue weight is set to "0", it will be treated as "8".

6.2. PRIORITY TYPE

As following, the priority type can be configured:

1. Port Base priority
2. 2.802.1Q VLAN Tag priority
3. IP/DS priority

Class of Service Configuration			
<input checked="" type="checkbox"/> =Enable High Priority			
Port No./Mode	Port Base	VLAN Tag	IP / DS
1	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
2	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
3	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
4	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
5	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
6	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
7	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
8	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
9(Fx)	Low Priority	<input type="checkbox"/>	<input type="checkbox"/>
TOS Priority Setting	6'b001010: Low	6'b010010: Low	6'b011010: Low
	6'b100010: Low	6'b101110: Low	6'b110000: Low
	6'b111000: Low		
<input type="button" value="Update"/>			
As long as any of three COS schemes(802.1Q VLAN Tag,IP TOS/DS or Port Base) is mapped to "high", the data packet will be treated as the high priority.			

Configure Port Base priority: Low, Middle Low, Middle high and High. Enable VLAN Tag and IP/DS priority.

[TOS Priority] definition includes: IP/DS as 6'b001010, 6'b010010, 6'b011010, 6'b100010, 6'b101110, 6'b110000 and 6'b111000. Click [Update] to configure it.



Note:After configuring VLAN Tag, IP/DS and QoS based on TCP/UDP, Port Base priority will invalid. When configuring VLAN Tag, IP/DS and TCP/UDP at the same time, use superior one to handle packet.

6.3. QOS BASED ON TCP/UDP

Protocol	Option
FTP	Low
SSH	Low
TELNET	Middle Low
	Middle High
	High
	drop
SMTP	Low

Priority scheduling based on TCP/UDP can be applied to specified uses. As following, priority that can be configured includes:Low, Middle Low, Middle high, High and drop. 20 network protocols and user defined port protocol and TOS can also be configured.

User Define Port range (1~65535)	Define_A	Define_B	Define_C
	Port: 0 ~	Port: 0 ~	Port: 0 ~
	Port: 0	Port: 0	Port: 0

[User Define Port range] includes 1~65535, the range of Define_a, Define_b and Define_c cannot be overlapped.

Enable Port							
01 <input type="checkbox"/>	02 <input type="checkbox"/>	03 <input type="checkbox"/>	04 <input type="checkbox"/>	05 <input type="checkbox"/>	06 <input type="checkbox"/>	07 <input type="checkbox"/>	08 <input type="checkbox"/>
09(Fx) <input type="checkbox"/>							
<input type="button" value="Update"/>							

Select port and click [Update].

7. PACKET SECURITY FILTRATION

7.1. MAC ADDRESS BINDING

As following picture, [Select Port] means selecting port; [Filter] means enabling effected; [Read] means reading port bounded MAC. Each port can bind 3 groups of MAC address. Packet whose MAC has not bound will not be transmitted.

MAC Address Binding																			
Port No	MAC Address																		
2	<table border="1"> <tr> <td>ff</td><td>ff</td><td>ff</td><td>ff</td><td>ff</td><td>ff</td> </tr> <tr> <td>ff</td><td>ff</td><td>ff</td><td>ff</td><td>ff</td><td>ff</td> </tr> <tr> <td>ff</td><td>ff</td><td>ff</td><td>ff</td><td>ff</td><td>ff</td> </tr> </table> <p style="text-align: center;"><input type="button" value="Read"/></p>	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff
ff	ff	ff	ff	ff	ff														
ff	ff	ff	ff	ff	ff														
ff	ff	ff	ff	ff	ff														
Select Port <input type="text" value="02"/> Filter <input type="text" value="Disable"/> <input type="button" value="Update"/>																			

For example, configure [Select Port] e0/1, select enables in[Filter] and bind MAC address 00:1f:ce:01:01:01. After successful configuration, e0/1 will only transmit packet whose source address is 00:1f:ce:01:01:01.



Note:By default, [Filter] of each port is disabled.

7.2. TCP/UDP FILTRATION

TCP_UDP Filter Configuration								
Function Enable	<input type="text" value="Disable"/>							
Port Filtering Rule	<input type="text" value="negative"/>							
	<small>"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.</small>							
Secure WAN Port	<input type="checkbox"/> Port01	<input type="checkbox"/> Port02	<input type="checkbox"/> Port03	<input type="checkbox"/> Port04	<input type="checkbox"/> Port05	<input type="checkbox"/> Port06	<input type="checkbox"/> Port07	<input type="checkbox"/> Port08
	<input type="checkbox"/> Port09 (Fx)							
Protocol	<input type="checkbox"/> FTP	<input type="checkbox"/> SSH	<input type="checkbox"/> TELNET	<input type="checkbox"/> SMTP	<input type="checkbox"/> DNS	<input type="checkbox"/> TFTP	<input type="checkbox"/> HTTP (80/8080)	<input type="checkbox"/> POP3
	<input type="checkbox"/> NEWS	<input type="checkbox"/> SNTP	<input type="checkbox"/> NetBIOS	<input type="checkbox"/> IMAP (143/222)	<input type="checkbox"/> SNMP (161/162)	<input type="checkbox"/> HTTPS	<input type="checkbox"/> MSN	<input type="checkbox"/> XRD_RDP
	<input type="checkbox"/> QQ (4000/8000)	<input type="checkbox"/> ICQ	<input type="checkbox"/> Yahoo	<input type="checkbox"/> BOOTP/DHCP	<input type="checkbox"/> UserDEF_a	<input type="checkbox"/> UserDEF_b	<input type="checkbox"/> UserDEF_c	-
<input type="button" value="Update"/>								

When [Function Enable] is enable, it means this function is efficient.

Negative in [Port Filtering Rule] means port packet of selected protocol is dropped and packet of other protocol can be transmitted. Positive means port packet of selected protocol is transmitted and packet of other protocol can be dropped.

[Secure WAN Port] means configuring WAN interface of TCP/UDP filtration.

[Protocol] includes 20 different network protocol. In addition, UserDEF_a, UserDEF_b and UserDEF_c are user defined port protocol (these three protocols need configuring on QoS page of TCP/UDP).

Such as to enable this function, configure port filtration to be negative, select secure WAN port01, and then select Protocol FTP. After successful configuration, port01 will drop FTP packet.

8. BACKUP AND RECOVERY CONFIGURATION

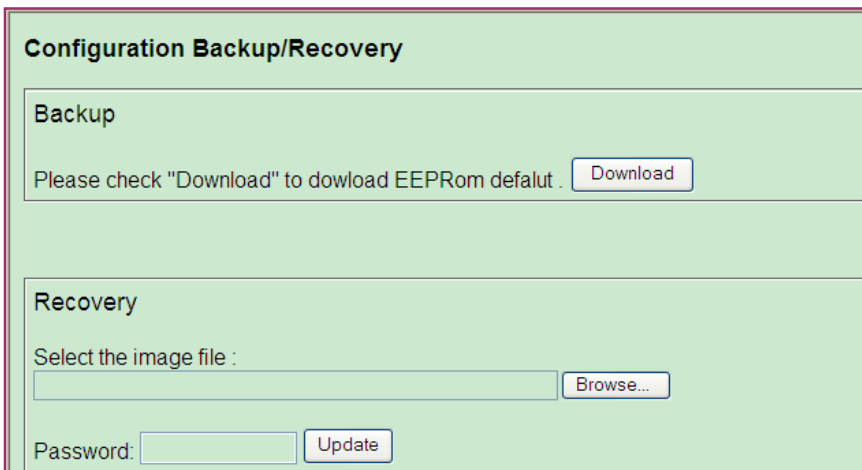
1. Configure backup

Click [Download] to get download box. Select path to save Bin file to local disk.

2. Configure recovery

Click [Browse] to get file selection box. Select corresponded path to open configuration file.

Enter password. The default password is 123456 and click[Update] . Reboot device after successful configuration.



The screenshot shows a web interface titled "Configuration Backup/Recovery". It is divided into two main sections: "Backup" and "Recovery".

Backup Section: Contains the text "Please check 'Download' to download EEPROM default." followed by a "Download" button.

Recovery Section: Contains the text "Select the image file:" followed by a text input field and a "Browse..." button. Below this is a "Password:" label, a text input field, and an "Update" button.

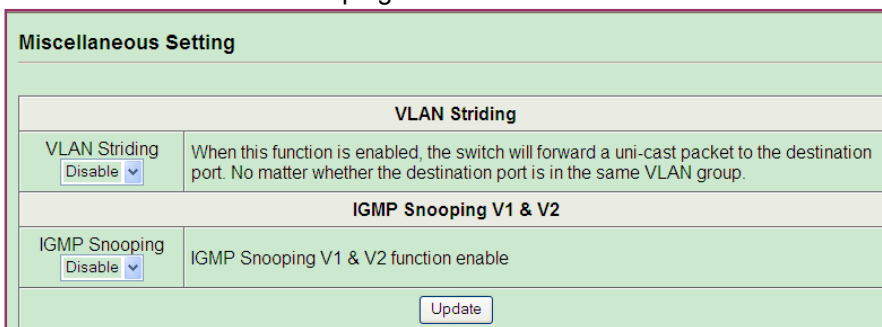
9. OTHER FUNCTIONS

Other functions include:

1. VLAN transparent transmit:

After enabling this function, though the two ports are not in the same VLAN, the unicast packet whose destination MAC is known will be transmitted to destination port.

2. Enable IGMP snooping:



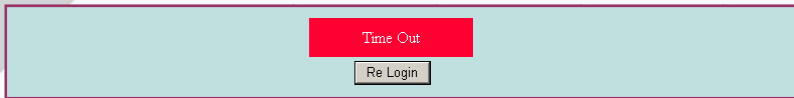
The screenshot shows a web interface titled "Miscellaneous Setting". It contains two main configuration sections:

- VLAN Striding:** A dropdown menu is set to "Disable". To its right is the text: "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:** A dropdown menu is set to "Disable". To its right is the text: "IGMP Snooping V1 & V2 function enable".

At the bottom of the interface is an "Update" button.

10. OVERTIME EXIT

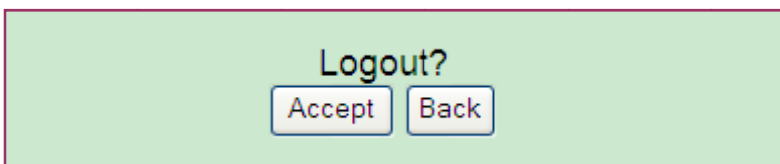
10.1. OVERTIME



It is defaulted to be overtime in 10 minutes and it is required to re-login as following:
 Click [ReLogin] to relogin.

10.2. EXIT

Click [logout] to exit and page will turn to following:



Click [accept] to close system page and click [back] to return to previous page.

11. RESTORE TO DEFAULT HARDWARE CONFIGURATION

Before using the switch for the first time, it is suggested to restore to default hardware configuration. Press "Default" button until 5 seconds after the electric power is on. The switch will restore to the default hardware configuration automatically and the system indicator will flicker. Relogin the switch until the system indicator restore to normal flicker frequency (normal flicker frequency is 1Hz).



Caution: Restoring to default hardware can restore default software parameter and also IP address, username and password, except MAC address.

12. APPENDIX

12.1. DIAGNOSIS OF THE COMMON FAULTS

Faults	Possible cause	Solutions
All indicators are not on when the electric power is on	Power connection error or abnormal power supply	Check power wire and electrical outlet
Link/Active indicator is off	Cable damaged; use wrong type of cable; cable is beyond permitted length; poor contacted cable; the other end of the connection work abnormally	Change cable; reconnect cable; check the working of the other end
Link/Active indicator is on but the network is unreachable	Working mode of switch and ethernet terminal does not matched; network configuration error	Change working mode of Ethernet interface to match each other of to be auto-negotiation; check network configuration, including configuration of switch and the other end
All Link/Active indicators are on but network deamplificational speed or unreachable	Broadcast storm	Check if there is the ring and reasonably allocate the network; check if there is plenty broadcast packets
Stop working after normally working for a certain time	Power error; overheat; program works abnormal	Check the power connection and the voltage; check the environment and air ventilator is unblocked; reboot the switch after the electric power is on

