



**INSTALLATION AND OPERATION MANUAL**

**CWFE8TX8MS**

**COMMERCIAL GRADE 8 PORT MANAGED  
ETHERNET SWITCH WITH (8) 10/100TX PORTS**

V1.0 – September 2010

The ComNet CWFE8TX8MS Managed Ethernet Switch provides transmission of 100 BASE-TX Ethernet data. These units are available for use with conventional CAT-5e copper transmission media. Eight electrical ports are available for easily implementing point-to-point, linear add-drop, drop-and-repeat, star or true self-healing ring and mesh network system architectures. The electrical ports support the 10/100 Mbps (100 BASE-TX) Ethernet IEEE 802.3 protocol, auto-negotiating and auto-MDI/MDIX features are provided for simplicity and ease of installation. Plug-and-play design ensures ease of installation, and no electrical adjustments are ever required. The CWFE8TX8MS incorporates LED indicators for monitoring the operating status of the managed switch and network.

# Introduction

---

The CWFE8TX8MS Managed Ethernet Switch is a compact size switch that is an ideal solution for industrial applications. It provides a Fast Ethernet switching function that allows for high-performance, low-cost network performance. The CWFE8TX8MS features a store-and-forward switching and can auto-learn and store source addresses on an 8K-entry MAC address table.

The CWFE8TX8MS provides 8 switched auto-sensing 10/100 Mbps RJ45 Ethernet ports. The switch will automatically detect the speed of the device that you plug into it to allow you to use both 10 and 100Mbps devices. The 10Mbps bandwidth will accommodate 10Mbps workgroup hubs while simultaneously providing the 100Mbps bandwidth needed to accommodate multimedia applications. In addition, each RJ45 port supports the Auto MDI/MDIX function.

With built-in web-based management, managing and configuring the CWFE8TX8MS becomes easier. The user can visually configure and manage the network via Web Browser. Just click the mouse instead of typing command strings. However, the CWFE8TX8MS can also be managed via Telnet, Console, or SNMP Management.

## Table of Contents

### Introduction 2

### Hardware Description 10

<i>Rear Panel</i> .....	12
<i>Desktop Installation</i> .....	13

### Network Application 15

### Network Configuration 17

### Console – Menu 19

<b>4.1 Main Menu</b> .....	20
<b>4.2 Status and Counters</b> .....	21
4.2.1 <i>Port Status</i> .....	21
4.2.2 <i>Port Counters</i> .....	23
4.2.3 <i>System Information</i> .....	24
<b>4.3 Switch Static Configuration</b> .....	24
4.3.1 <i>Administration Configuration</i> .....	25
4.3.2 <i>Port / Trunk Configuration</i> .....	28
4.3.3 <i>Port Mirroring Configuration</i> .....	29
4.3.4 <i>VLAN Configuration</i> .....	30
4.3.5 <i>Priority Configuration</i> .....	33
4.3.6 <i>MAC Address Configuration</i> .....	35
4.3.6.2 <i>Filtering MAC Address</i> .....	37
4.3.7 <i>Misc Configuration</i> .....	38
<b>4.4 Protocol Related Configuration</b> .....	43
4.4.1 <i>STP</i> .....	43
4.4.2 <i>SNMP</i> .....	45
4.4.3 <i>GVRP</i> .....	49
4.4.4 <i>LACP</i> .....	50
<b>4.5 Reboot Switch</b> .....	54
<b>Web-Based Management 57</b>	
<b>5.1 Web Management Home Overview</b> .....	58

<b>5.3 Port Statistics</b> .....	59
<b>5.4 Administrator</b> .....	60
5.4.1 IP Address .....	60
5.4.2 Switch Setting .....	61
5.4.3 Console Port Information.....	66
5.4.4 Port Controls .....	67
5.4.5 Trunking .....	67
5.4.6 Filter Database.....	71
5.4.7 VLAN configuration .....	74
5.4.8 Spanning Tree.....	78
5.4.9 Port Mirror .....	81
5.4.10 SNMP .....	82
5.4.11 Security Manager.....	83
5.4.12 TFTP Update Firmware.....	84
5.4.13 Configuration Backup .....	85
5.4.14 Reset System.....	86
5.4.15 Reboot.....	86

## Features

- Conforms to IEEE 802.3, 802.3u, and 802.3x Ethernet Standards
- Eight auto-sensing 10/100Mbps Ethernet RJ45 ports
- Automatic MDI/MDIX crossover for each 10Base-T/ 100Base-TX port
- One Console port on the rear side for port-based VLAN & Trunking Configuration
- Half-duplex mode for backpressure, and full-duplex for flow control
- Store-and-forward switching architecture
- Automatic address learning, address migration
- 8K-entry MAC address table
- 2Mbit memory buffer sharing
- Performs non-blocking full wire speed
- LED-indicators for Power, 100M, LK/ACT, FD/COL
- 10-inch Desktop size design

## Intelligent Management Features

- Web-based management
- SNMP network management
- Console and Telnet management
- Port Base VLAN and IEEE 802.1q Tag VLAN, and VLAN group up to 256, VLAN ID up to 4095.
- IEEE 802.3 ad LACP, Trunk group up to 4 and members up to 8 ports (8 10/100TX plus one uplink port model).
- IEEE 802.1d Spanning Tree
- MIB II (RFC1213) supported
- IP Multi-cast, IGMP Snooping
- IEEE802.1p for Global system, each port includes 2 queues for high or low priority.
- Port Mirror, Broadcast Filter, Static MAC Address, Port Security and GVRP supported.

# Package Contents

Each CWFE8TX8MS contains the following:

- CWFE8TX8MS Managed Switch
- Power Cord
- Four Rubber Feet
- RS-232 cable
- User Guide

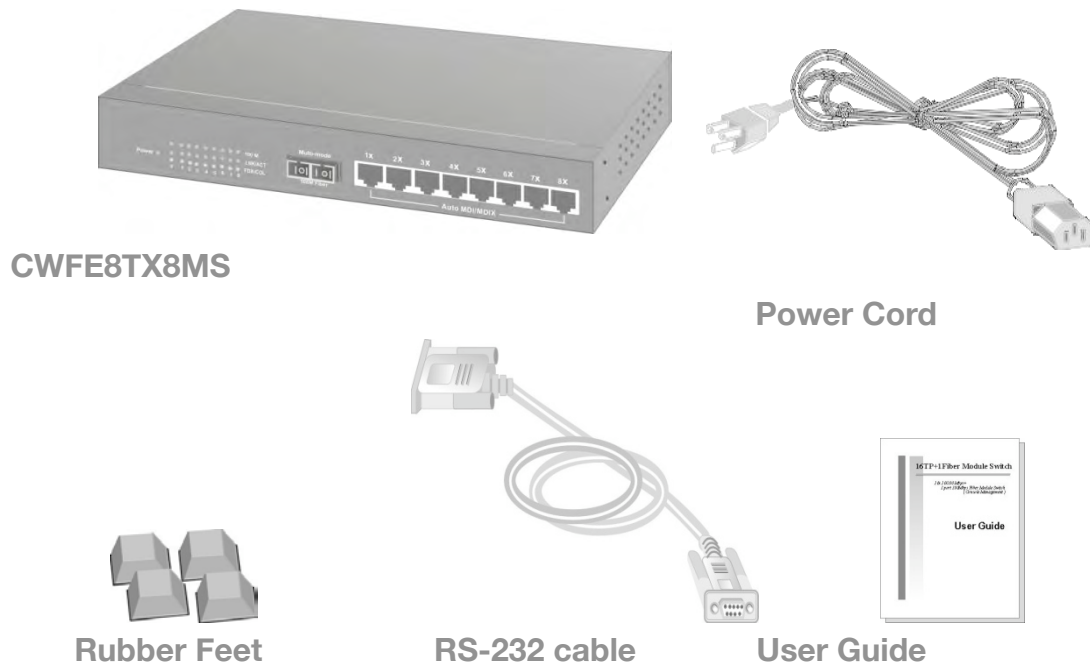


Figure 1-2. Package Contents

Compare the contents of your CWFE8TX8MS package with the standard checklist above. If any item is missing or damaged, please contact ComNet for assistance.

# Ethernet Switching Technology

Ethernet Switching Technology dramatically boosted the total bandwidth of a network, eliminated congestion problems inherent with Carrier Sense multiple access with Collision Detection (CSMA/CD) protocol, and greatly reduced unnecessary transmission.

This revolutionized networking. First, by allowing two-way, simultaneous transmissions over the same port (Full-duplex), which essentially doubled the bandwidth. Second, by reducing the collision domain to a single switch-port, which eliminated the need for carrier sensing. Third, by using the store-and-forward technology's approach of inspecting each packet to intercept corrupt or redundant data, switching eliminated unnecessary transmission that slow the network. By employing address-learning, it replaced the inefficient receiving port.

Auto-negotiation regulates the speed and duplex operation of each port, based on the capability of both devices. Flow-control allows transmission from a 100Mbps node to a 10Mbps node without loss of data.

Auto-negotiation and flow-control may require disablement for some networking operations that involve legacy equipment. Disabling the auto-negotiation is accomplished by adjusting the speed or duplex operation of a port.

Ethernet Switching Technology supplies higher performance at costs lower than other solutions. Wider bandwidth, no congestion, and the reduction in network traffic is why the use of an Ethernet switch is replacing expensive routers and inefficient hubs as the best network solution.



## **Management Methods**

The CWFE8TX8MS supports following management methods:

- Console and Telnet Management
- Web-based Management
- SNMP Network Management

### **Console and Telnet Management**

Console Management is done through the RS-232 Console Port. Managing the CWFE8TX8MS by this method requires a direct connection between PC and the CWFE8TX8MS Switch. While Telnet management is done over the network. Once the CWFE8TX8MS is on the network, you can use Telnet to Log in and change the configuration.

### **Web-based Management**

The switch provides an embedded HTML web site residing in flash memory. It offers advanced management features and allows users to manage the CWFE8TX8MS from anywhere on the network through a standard browser such as Microsoft Internet Explorer.

### **SNMP Network Management**

SNMP (Simple Network Management Protocol) provides a means to monitor and control network devices, and to manage configurations, statistic collection, performance, and security.

# Hardware Description

---

The CWFE8TX8MS is a compact switch (10 inches) with eight auto-sensing 10/100Mbps Ethernet RJ45 ports.

**The physical dimensions of the CWFE8TX8MS are: 250mmx 132mmx 37mm (Lx Wx H)**

## Front Panel

The Front Panel of the CWFE8TX8MS series consist of eight auto-sensing 10/100Mbps Ethernet RJ45 ports (automatic MDI/MDIX), and the LED indicators are also located on the front panel of the switch.



Figure 2-1. The Front Panel of the CWFE8TX8MS

- **RJ45 Ports (Auto MDI/MDIX):** Eight 10/100 auto-sensing for 10Base-T or 100Base-TX connections.  
[In general, MDI means connecting to another Hub or Switch while MDIX means connecting to a workstation or PC. Therefore, **Auto MDI/MDIX** means that you can connect to another Switch or workstation without changing to non-crossover or crossover cabling.]

# LED Indicators



Figure 2-6. LED Indicators

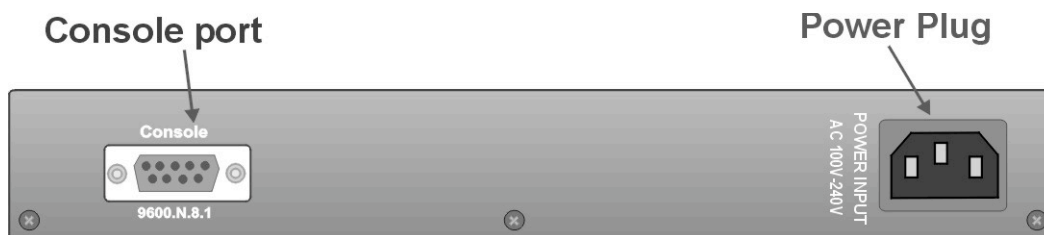
There are three LED-Indicators (100M, LNK/ACT, FDX/COL) for each UTP port. The following table provides descriptions of the LED statuses and meaning. They provide a real-time indication of systematic operation status.

LED	Status	Color	Description
<b>Power</b>	On	Green	Power On
<b>100M</b>	On	Green	The port is operating at the speed of 100Mbps.
	Off		In 10Mbps mode or no device attached
<b>LNK / ACT</b>	On	Green	The port is successfully connecting with the device.
	Blinks	Green	The port is receiving or transmitting data.
	Off		No device attached.
<b>FDX / COL</b>	On	Orange	The port is operating in Full-duplex mode.
	Blinks	Orange	Collision of Packets occurs in the port.
	Off		Half-duplex mode or no device attached.

Table 2-1. The description of LED Indicator

## Rear Panel

The Console port and 3-pronged power plug are located at the rear panel of the CWFE8TX8MS as shown in Figure 2-8. The CWFE8TX8MS will work with current in the range 100-240V AC, 50-60Hz.



*Figure 2-7 The Rear Panel of the 8TP Management Switch*

**Console Port:** Console management can be done through the Console Port. It requires a direct connection between the switch and an end station (PC) via a RS-232 cable.

## Desktop Installation

Set the switch on a sufficiently large flat space with a power outlet nearby. Make sure there is enough clearance around the switch to allow attachment of cables, power cord and air circulation.

### Attaching Rubber Feet

- A. Make sure mounting surface on the bottom of the Switch is grease and dust free.
- B. Remove adhesive backing from your rubber feet.
- C. Apply the rubber feet to each corner on the bottom of the switch. These footpads can prevent the switch from shock/vibration.

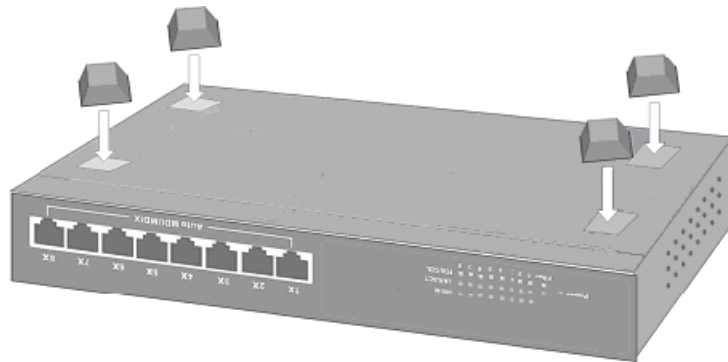


Figure 2-8. Attaching Rubber Feet to each corner on the bottom of the switch

## **Power On**

Connect the power cord to the power socket on the rear panel of the switch. The other side of power cord connects to the power outlet. The internal power supply in the switch works in the voltage range 100-240VAC, frequency 50~60Hz.

Check the power indicator on the front panel to see if power is properly supplied.

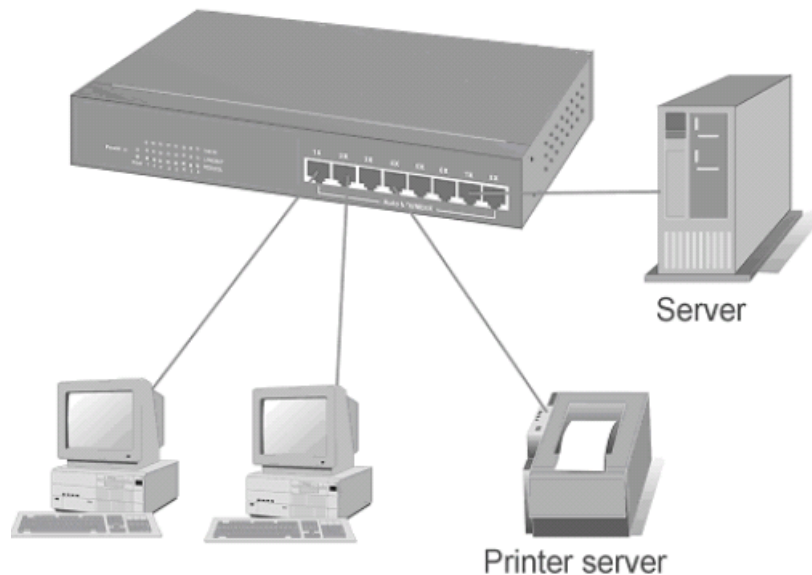
# Network Application

---

This section provides you a few samples of network topology in which the Switch is used. In general, the CWFE8TX8MS can be used as a desktop or segment switch.

## Desktop Application

The CWFE8TX8MS is designed to be a desktop-sized switch that is an ideal solution for small workgroup. The switch can be used as a standalone switch that computers, servers, print-servers are directly connected to form a small workgroup.



*Figure 3-1. Desktop Application*

## Segment Application

For enterprise networks where large data broadcasts are constantly processed, this switch is suitable for a department to connect to the corporate backbone.



*Figure 3-2 Segment Applications*



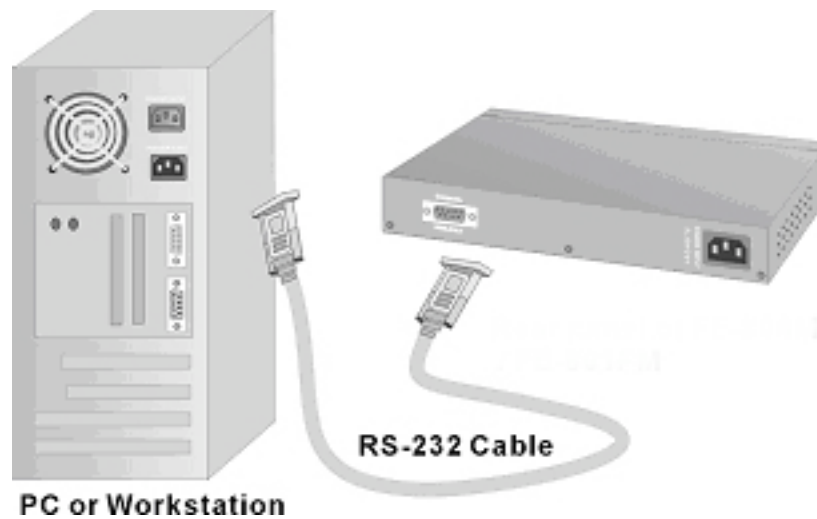
# Network Configuration

---

This section explains how to configure the console management via a direct connection to the console port of the CWFE8TX8MS.

Console management involves the administration of the switch via a direct connection to the RS-232 console port. This port is a female DB-9 connector. From the main menu of the console program, the user has access to manage the functions of the switch.

## Connecting a Terminal or PC to the Console Port



*Figure 4-1. Connecting the CWFE8TX8MS to a terminal via RS-232 cable*

Use the supplied RS-232 cable to connect a terminal or PC to the console port. The terminal or PC to be connected must support the terminal emulation program.

After the connection between the switch and PC is finished, turn on the PC and run a **terminal emulation program** or **Hyper Terminal** to match the following default characteristics of the console port:

**Baud Rate: 9600 bps**  
**Data Bits: 8**  
**Parity: none**  
**Stop Bit: 1**  
**Control flow: None**

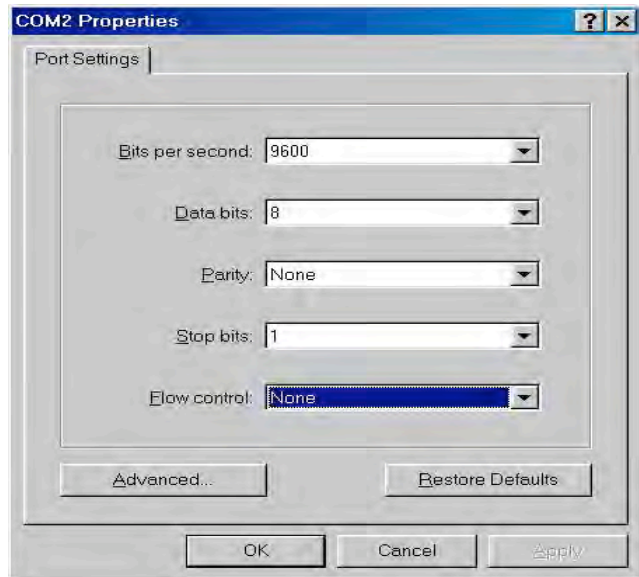


Figure 4-2.

*The settings of communication parameters*

After you have finished parameter settings, press “**Enter**” Key and the Main Menu of console management appears.

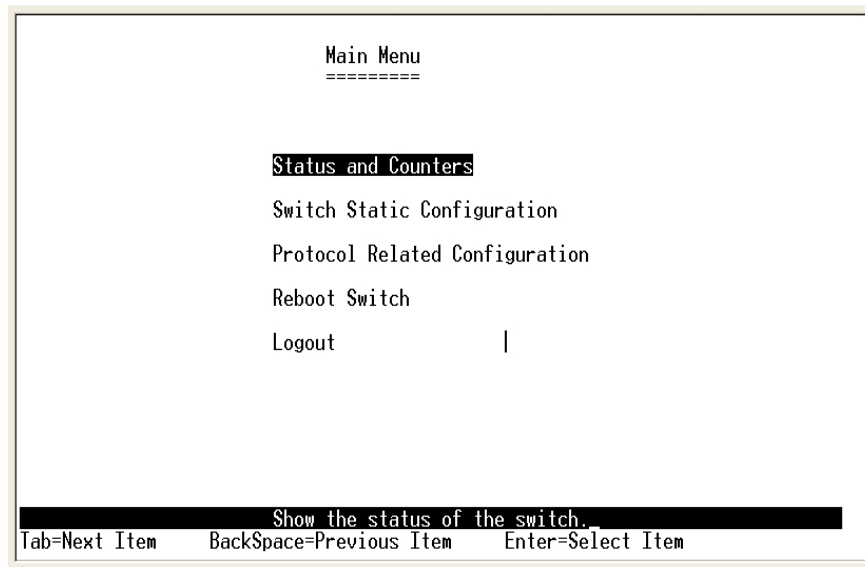
## Console – Menu

1. The switch also provide a serial interface to manage and monitor the switch, the user can follow the Console Port Information provide by web to use windows HyperTerminal program to link the switch.
2. You can type user name and password to login. The default user name is “admin” and the default password is “admin”.



## 4.1 Main Menu

There are five items for selected as follows:



**Status and Counters:** Shows the status of the switch.

**Switch Static Configuration:** Configure the switch.

**Protocol Related Configuration:** Configure the protocol function.

**Reboot Switch:** Restart the system or reset switch to the default configuration.

**Logout:** Exit the menu line program.

### <Control Key>

The control key as follow provided in all menus:

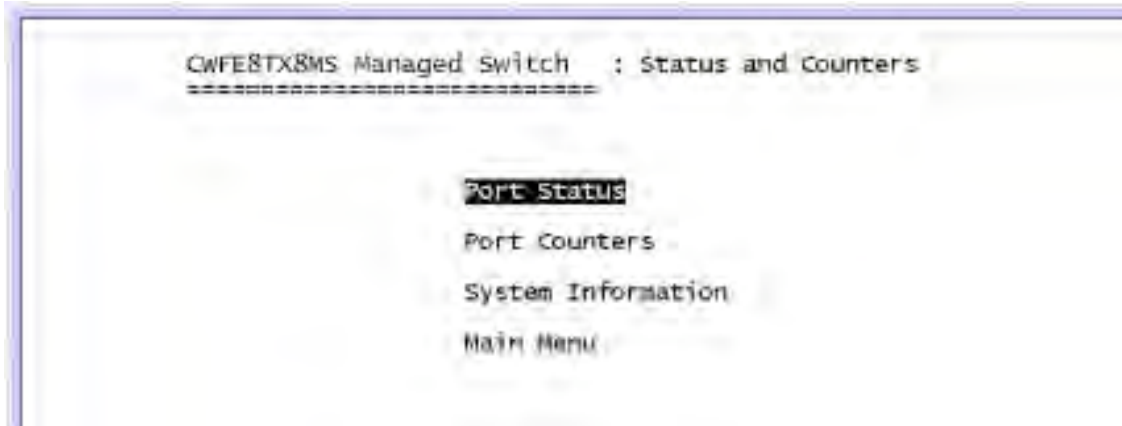
**Tab:** Move the vernier to next item.

**Backspace:** Move the vernier to previous item.

**Enter:** Select item.

**Space:** Toggle selected item to next configure item.

## 4.2 Status and Counters



You can press the key of **Tab** or **Backspace** to choose item, and press **Enter** key to select item.

### 4.2.1 Port Status

This page displays every port's status

**Type:** Displays the port type.

**Enabled:** Displays if the port is enabled or disabled depended on user setting. Enabled will be display "Yes", disabled will be display "No".

**Status:** Displays the port is linked or not linked, "Down" is not linked, and "Up" is linked.

**Mode:** Displays the port's speed and duplex operation.

**FlowCtrl:** Displays the flow control status is in the *enabled* or *disabled* mode.

CWF8TX8MS Managed Switch : Port Status  
=====

Port	Type	Enabled	Status	Mode	FlowCtrl
1.	10/100TX	No	Down	100 Full	On
2.	10/100TX	No	Down	100 Full	On
3.	10/100TX	No	Down	100 Full	On
4.	10/100TX	Yes	Up	100 Full	On
5.	10/100TX	No	Down	100 Full	On
6.	10/100TX	No	Down	100 Full	On
7.	10/100TX	No	Down	100 Full	On
8.	10/100TX	No	Down	100 Full	On
9.	100FX	No	Down	100 Full	On

```
actions-> <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item_
```

### Actions->

You can press the **Tab** or **Backspace** key to choose menu action, and press the **Enter** key to select the item

**<Quit>**: Exit the page of port status, and return it to the previous menu.

**<Previous Page>**: Displays previous page.

**<Next page>**: Displays next page.

## 4.2.2 Port Counters

The following information provides a view of the current status of the unit.

```
CWF8TX8MS Managed Switch : Port Counters
=====
```

Port	TxGoodPkt	TxBadPkt	RxGoodPkt	RxBadPkt	TxAbort	Collision	DropPkt
1.	0	0	0	0	0	0	0
2.	0	0	0	0	0	0	0
3.	0	0	0	0	0	0	0
4.	40963	0	145953	0	0	0	92354
5.	0	0	0	0	0	0	0
6.	0	0	0	0	0	0	0
7.	0	0	0	0	0	0	0
8.	0	0	0	0	0	0	0
9.	0	0	0	0	0	0	0

```
actions->      <Quit>      <Reset All>
                Configure the action menu.
Tab=Next Item  BackSpace=Previous Item  Quit=Previous menu  Enter=Select Item
```

### Actions->

You can press the **Tab** or **Backspace** key to choose a menu action, and press **Enter** key to select the item

**<Quit>**: Exit the port status page, and return to previous menu.

**<Reset All>**: Set all counts to 0.

**<Previous Page>**: Displays previous page.

**<Next page>**: Displays next page.

## 4.2.3 System Information

**System Description:** Displays the name of device type.

**MAC Address:** The unique hardware address assigned by manufacturer.

**Firmware Version:** Displays the switch's firmware version.

**Hardware Version:** Displays the switch's Hardware version.

**Default configure value version:** Displays write to default EEPROM value version.

```
CwFESTX8MS Managed Switch : Management Address Information
*****
```

```
System Description      : 8FE Managed Switch
MAC Address            : 00223B0308EA
Firmware version       : V2.1
Kernel version        : v01.18
```

## 4.3 Switch Static Configuration

```
CwFESTX8MS Managed Switch : Switch Configuration
*****
```

```
Administration Configuration
```

```
Port/Trunk Configuration
Port Mirroring Configuration
VLAN Configuration
Priority Configuration
MAC Address Configuration
Misc Configuration
Main Menu
```

```
*****
Configure the system,IP,and password.
Tab=Next Item      BackSpace=Previous Item      Enter=Select Item
```

You can press the **Tab** or **Backspace** key to choose the item, and press the **Enter** key to select the item



## 4.3.1 Administration Configuration

```
CWFE8TX8MS Managed Switch : Device Configuration
=====
```

```
Device Information
```

```
IP Configuration
```

```
Change Username
```

```
Change Password
```

```
Previous Menu
```

```
Configure the device information.
Tab=Next Item      BackSpace=Previous Item      Enter=Select Item
```

### 4.3.1.1 Device Information

This page provides information the user needs to configure the device.

#### Actions->

**<Edit>**: Configure all items. When the configuration is finished, press **BackSpace** to go back to the action menu line.

**<Save>**: Save all configured values.

**<Quit>**: Exit the device information page and return to the previous menu.

```
CWF8TX8MS Managed Switch : Device Information
=====

Device Name :
Device Content :
Device Location :
Device Description : 8 FE Managed Switch

actions->      <Edit>          <Save>          <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

### 4.3.1.2 IP Configuration

User can configure the IP setting and fill in the new values.

**Actions->**

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back to the action menu line.

**<Save>**: Save all configuration values.

**<Quit>**: Exit the IP configuration page and return to the previous menu.

```
CWFE8TX8MS Managed Switch : IP Configuration
=====

IP Address : 192.168.10.1
Subnet Mask : 255.255.255.0
Gateway : 192.168.16.254

actions->      <Edit>          <Save>          <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

Note: Restart the computer after finishing the setup.

### 4.3.1.3 Change Username

Using this page; the user can change the web management user's name.

```
CWFE8TX8MS Managed Switch : UserName Configuration.
=====

UserName : admin

actions->      <Edit>          <Save>          <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

### 4.3.1.4 Change Password

Using this page, the user can change the web management user's password.



### 4.3.2 Port / Trunk Configuration

This page can change every port's status and configure the trunk group. Press **TAB** key to change configuration of each item.

- 1.Enabled:** The User can disable or enable this port control.
- 2.Auto Negotiate:** User can enable or disable each port's auto negotiation.
- 3.Speed/Duplex Config:** User can set 100Mbps or 10Mbps speed on port 1~port 7, only 100Mbps on port 8, and set full-duplex or half-duplex mode.
- 4.Flow Control:** User can set flow control function is enable or disable.
- 5.Group:** User can set trunk group for port 1~port 8. There are four trunk groups to configure.

```

CWFE8TX8MS Managed Switch : Port Configuration
=====

```

Port	Type	Enabled	Auto Negotiate	Speed/Duplex Config	Flow Control	Group
1.	10/100TX	Yes	Enabled	100 Full	On	
2.	10/100TX	Yes	Enabled	100 Full	On	
3.	10/100TX	Yes	Enabled	100 Full	On	
4.	10/100TX	Yes	Enabled	100 Full	On	
5.	10/100TX	Yes	Enabled	100 Full	On	
6.	10/100TX	Yes	Enabled	100 Full	On	
7.	10/100TX	Yes	Enabled	100 Full	On	
8.	10/100TX	Yes	Enabled	100 Full	On	
9.	100FX	Yes	Disabled	100 Full	On	

```

actions->  <Quit>    <Edit>    <Save>
Select the Action menu.
Tab=Next Item  BackSpace=Previous Item  Quit=Previous menu  Enter=Select Item

```

### Actions->

**<Quit>**: Exit the port configuration page and return to previous menu.

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back to the action menu line.

**<Save>**: Save all configured values.

**<Previous Page>**: Return to previous page to configure.

**<Next page>**: Go to next page to configure.

## 4.3.3 Port Mirroring Configuration

The port mirroring is a method for monitoring traffic in switched networks. Traffic through ports can be monitored by one specific port. That is, traffic goes in or out monitored ports and will be duplicated into monitoring port.

Press **Space** key to change the configuration of each of item.

**1. Analysis State**: Type YES or NO for the port-mirroring function.

**2. Mirroring Port**: The Mirror port can be used to monitor port traffic.

**3. Source Port**: The ports you want to monitor. All monitor port traffic will be copied to a sniffer port. You can select a maximum of 8 monitor ports in the switch. User can choose to monitor RX frames only or TX frames only or both RX and TX frame from the port at **Action** item.

```
CWFE8TX8MS Managed Switch : Port Mirroring Configuration
*****
Port Mirroring State: Disable
```

```
actions-> <Quit> <Edit> <Save>
Select the Action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

### Actions->

**<Quit>**: Exit the port monitoring configuration page and return to previous menu.

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back to the action menu line.

**<Save>**: Save all configured values.

**<Previous Page>**: Return to previous page to configure.

**<Next page>**: Go to next page to configure.

## 4.3.4 VLAN Configuration

```
CWFE8TX8MS Managed Switch : VLAN Configuration
*****
```

### VLAN configure

Create a VLAN Group

Edit/Delete a VLAN Group

Previous Menu

```
Configure the VLAN PVID and Ingress Rule.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

### 4.3.4.1 VLAN Configure

**1. PVID (Port VID):** Set the port VLAN ID that will be assigned to untagged traffic on a given port. This feature is useful for accommodating devices that you want to participate in the VLAN but that do not support tagging. Only one untagged VLAN is allowed per port.

**2. Ingress Filter 1:** It matches the Ingress Filtering Rule 1 on the web. Only forwarded packets with VID matching this port's configured VID. Press **Space** key to choose forward or drop the frame that VID not matching to this port's configured VID.

**3. Ingress Filter 2:** Matches that Ingress Filtering Rule 2 on web. Drop untagged frame.

Press **Space** key to choose drop or forward the untagged frame.

```
CWF8TX8MS Managed Switch : VLAN Support Configuraton
=====
VLAN Mode : Disabled

actions->  <Quit>    <Edit>    <Save>
          Select the Action menu.
Tab=Next Item  BackSpace=Previous Item  Space=Toggle  Esc=Action menu
```

## 4.3.4.2 Create a VLAN Group

Create a VLAN and add tagged /untagged member ports to it.

- 1. VLAN Name:** Type a name for the new VLAN.
- 2. VLAN ID:** Type a VID (between 2~4094). The default is 1.
- 3. Protocol VLAN:** Press **Space** key to choose protocols type.
- 4. Mode:** Press **Space** key to choose VLAN member. There are three types to select as 802.1Q, 802.1Q with GVRP and PortBase.

UnTagged: the member port is an un-tagged port.

Tagged: the member port is tagged port.

NO: The port is not a member of this VLAN group.

```

                                Add a VLAN Group
                                -----
VLAN Name: [                    ] Grp ID: [    ](1~4094)

Port          Member
-----
1.            No
2.            No
3.            No
4.            No
5.            No
6.            No
7.            No
8.            No
9.            No

actions->    <Quit>    <Edit>    <Save>
              Select the Action menu.
Tab=Next Item  BackSpace=Previous Item  Quit=Previous menu  Enter=Select Item
```

### Actions->

**<Quit>**: Exit this page and return to previous menu.

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back to the action menu line.

**<Save>**: Save all configured values.

**<Previous Page>**: Return to previous page to configure.

**<Next page>**: Go to next page to configure.



### 4.3.4.3 Edit/Delete a VLAN Group

In this page, the user can edit or delete a VLAN group.

1. Press **<Edit>** or **<Delete>** item.
2. Choose the VLAN group that you want to edit or delete and then press enter.
3. The User can modify the protocol VLAN item and the member port can be tagged or un-tagged to remove some member ports from this VLAN group.
4. After editing or deleting the VLAN, press the **<Save>** key to save all configuration values.

**NOTE:** 1.The VLAN Name and VLAN ID cannot be modified.  
2.The default VLAN cannot be deleted.

NAME:                      VID:                      NAME:                      VID:  
-----

```
actions-> <Quit> <Edit> <Delete> <Save> <Previous Page> <Next Page>
Edit/Delete a VLAN Group.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter>Select Item_
```

### 4.3.5 Priority Configuration

1. There are 0~7 priority levels that can map to a high or low queue.
2. **High/Low Queue Service Ration H:L** : User can select the ratio of high priority packets and low priority packets.

```
CWF8TX8MS Managed Switch : Priority Configuration
=====

Level 0 : Low
Level 1 : Low
Level 2 : Low
Level 3 : Low
Level 4 : High
Level 5 : High
Level 6 : High
Level 7 : High

High/Low Queue Service Ratio H:L :[2:1 ]

actions->  <Edit>          <Save>          <Quit>
-----
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

### Actions->

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back action menu line.

**<Save>**: Save all configured values.

**<Quit>**: Exit this page and return to previous menu.

**First In First Out**: The sequence of packets sent is dependent on the arrival order.

**High to Low**: The high priority packets are sent before low priority packets.

**Ratio**: Select the preference given to packets in the switch's high-priority queue. These options represent the number of high priority packets sent before one low priority packet is sent. For example, 2 High : 1 Low means that the switch sends 2 high priority packets before sending 1 low priority packet.

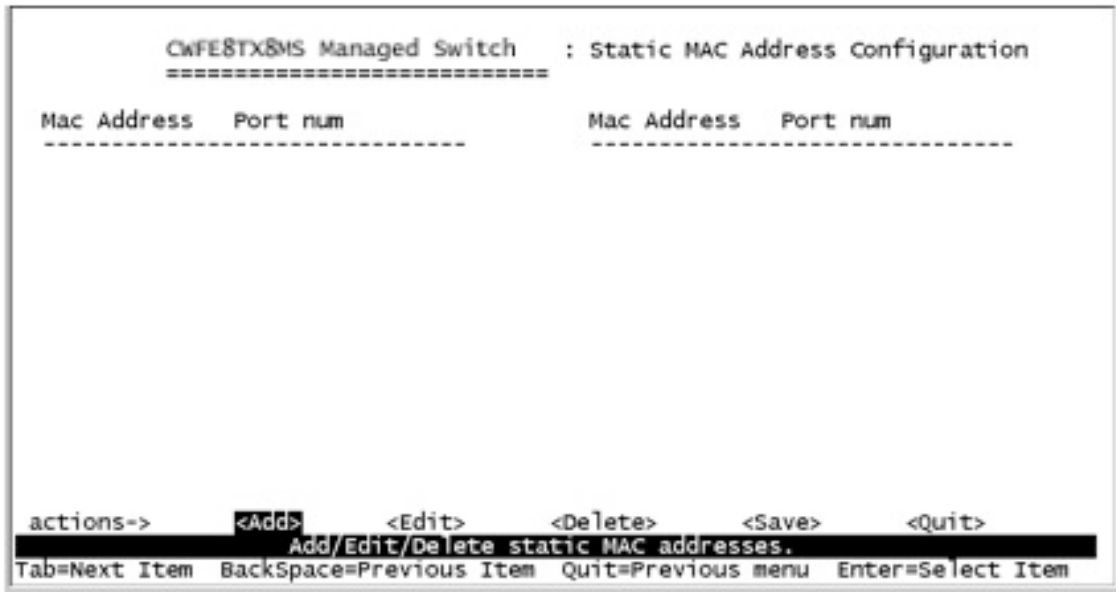
## 4.3.6 MAC Address Configuration



### 4.3.6.1 Static MAC Address

When you add a static MAC address, it remains in the switch's address table, regardless of whether the device is physically connected to the switch. This saves the switch from having to re-learn a device's MAC address when the disconnected or powered-off device is active on the network again.

In this page user can add/modify/delete a static MAC address.



### Add static MAC address

1. Press **<Add>** --> **<Edit>** key to add a static MAC address.
2. Enter the MAC address to and from which the port should permanently forward traffic, regardless of the device's network activity.
3. In the Port num item, enter the port number.
4. If tag-based (802.1Q) VLANs are set up on the switch, static addresses are associated with individual VLANs. Type the VID to associate with the MAC address.
5. Press **ESC** to go back action menu line, and then select **<Save>** to save all configured value.

### Edit static MAC address

1. Press **<Edit>** key to modify a static MAC address.
2. Choose the MAC address that you want to modify and then press enter.
3. Press **<Edit>** key to modify all the items.
4. Press **ESC** to go back action menu line, and then select **<Save>** to save all configure value.

### Delete static MAC address

1. Press **<Delete>** key to delete a static MAC address.
2. Choose the MAC address that you want to delete and then press enter.
3. After delete static MAC address, you have to press **<Save>** to complete the deleting operation.

## 4.3.6.2 Filtering MAC Address

```

CWFE8TX8MS Managed Switch : Filter MAC Address Configuration
=====
Mac Address                Mac Address
-----
actions->  <Add>    <Edit>    <Delete>    <Save>    <Quit>
Add/Edit/Delete filter MAC addresses.
Tab=Next Item  BackSpace=Previous Item  Quit=Previous menu  Enter=Select Item_

```

### Edit Filtering MAC address

1. Press **<Edit>** key to modify a static Filtering address.
2. Choose the MAC address that you want to modify and then press enter.
3. Press **<Edit>** key to modify all the items.
4. Press **ESC** to go back action menu line, and then select **<Save>** to save all configure value.

### Delete Filtering MAC address

1. Press **<Delete>** key to delete a Filtering MAC address.
2. Choose the MAC address that you want to delete and then press enter.
3. After deleting the Filtering MAC address, you have to press **<Save>** to complete the delete operation.

## 4.3.7 Misc Configuration



### 4.3.7.1 Port Security

A port in security mode will be “locked” without permission of address learning. Only the incoming packets with SMAC already existing in the address table can be forwarded normally. The User can disable the port from learning any new MAC addresses, then use the static MAC addresses screen to define a list of MAC addresses that can use the secure port.

```

CWFE8TX8MS Managed Switch : The Configuration of Port Security
=====

Port          Enable Security
              (disable for MAC Learning)
-----
1.            Disable
2.            Disable
3.            Disable
4.            Disable
5.            Disable
6.            Disable
7.            Disable
8.            Disable
9.            Disable

actions->    <Quit>    <Edit>    <Save>
              Select the Action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item

```

1. Press **<Edit>** to enable or disable the port security.
2. Press **Space** key to choose enable / disable item.
3. Press **ESC** to go back action menu line, and then select **<Save>** to save all configure value.

### 4.3.7.2 MAC Age Interval

Type the number of seconds that an inactive MAC address remains in the switch's address table. The valid range is 300~765 seconds. Default is 300 seconds.

```
CWFESTX8MS Managed Switch      : The Configuration of Aging Time
=====

MAC Age Interval (sec) [300 ] : 300  (300-765)

actions->      <Edit>          <Save>          <Quit>
Select the action menu.
Tab=Next Item  BackSpace=Previous Item  Quit=Previous menu  Enter=Select Item
```

#### Actions->

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back action menu line.

**<Save>**: Save all configured values.

**<Quit>**: Exit this page and return to previous menu.

### 4.3.7.3 Broadcast Storm Filtering

This page is to configure broadcast storm control, press **<Edit>** to configure the broadcast storm filter mode.

Press the **Space** key to choose the threshold value. The valid threshold values are 5%, 10%, 15%, 20%, 25% and NO.



```
CWFE8TX8MS Managed Switch : Broadcast Storm Filter Mode
=====

Broadcast Storm Filter Mode :20

actions-> <Edit> <Save> <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

**Actions->**

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back to the action menu line.

**<Save>**: Save all configured values.

**<Quit>**: Exit this page and return to previous menu.

#### 4.3.7.4 Max Bridge transmit delay bound

**Max bridge transmit delay bound:** Limit the packet queuing time in the switch. If enabled, the packets queued exceeded will be dropped. Press the **Space** key to set the time. This valid values are 1 sec, 2 sec, 4 sec and off. Default is 1 second.

**Enable Delay Bound:** Limit the low priority packets queuing time in the switch. If enabled, the low priority packet in switch exceeds Max Delay Time, it will be sent. Press the **Space** key to enable or disable this function.

**Max Delay Time:** To set the time that low priority packets are queuing in switch. The valid range is 1~255 ms.

**NOTE:** Make sure the “Max bridge transit delay bound control” is enabled before enabling Delay Bound, because Enabling Delay Bound must be work under “Max bridge transit delay bound control is enabled” situation.

```
CWF8TX8MS Managed Switch      : Configure Bridge Transmit Delay Bound
=====

Bridge Transmit Delay Bound :OFF
Enable Delay Bound :Disable
Max Delay Time :0

actions->      <Edit>          <Save>          <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

#### Actions->

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back to action menu line.

**<Save>**: Save all configured values.

**<Quit>**: Exit this page and return to the previous menu.

## 4.4 Protocol Related Configuration

### 4.4.1 STP



#### 4.4.1.1 STP Enable

This page enables or disables the Spanning Tree function. Press **the Space** key to enable or disable the Spanning Tree function.

```

CWFE8TX8MS Managed Switch : STP Enabled/Disabled Configuration
=====

STP : Disabled

actions->          <Edit>          <Save>          <Quit>
-----
Select the action menu.
Tab=Next Item BackSpace=Previous Item Space=Toggle Esc=Action menu

```

### 4.4.1.2 System Configuration

```

CWFE8TX8MS Managed Switch : STP System Configuration
=====

Root Bridge Information          Configure Spanning Tree Parameters
-----
Priority           : 32768          Priority (1-65535) : 32768
Mac Address       : 00001c0101b1   Max Age (6-40)    : 20
Root_Path_Cost   : 0               Hello Time (1-10) : 2
Root Port        : Root            Forward_Delay_Time(4-30) : 15
Max Age          : 20
Hello Time       : 2
Forward Delay    : 15

actions->          <Edit>          <Save>          <Quit>
-----
Select the action menu.
Tab=Next Item BackSpace=Previous Item Esc=Action menu Enter=Select Item

```

1. You can view spanning tree information about the Root Bridge on the left.
2. On the right, the user can set a new value for the STP parameter.

### 4.4.1.3 Port Configuration

```
CWFESTX8MS Managed Switch : STP Port Configuration
=====
```

Port	PortState	PathCost	Priority
1.	Forwarding	10	128
2.	Disabled	10	128
3.	Disabled	10	128
4.	Disabled	10	128
5.	Disabled	10	128
6.	Disabled	10	128
7.	Forwarding	10	128
8.	Disabled	10	128
9.	Disabled	10	128

```
actions->  <Quit>  <Edit>  <Save>
Select the Action menu.
Tab=Next Item  BackSpace=Previous Item  Quit=Previous menu  Enter=Select Item
```

1. **PortState:** You can view the spanning tree status within the switch for each port.
2. **PathCost:** Specifies the path cost of the port that the switch uses to determine which ports are the forwarding ports. If you change the value, restart the switch for a valid value.
3. **Priority:** This is the port's priority, you can make it is more or less likely to become the root port. If you change the value, restart the switch for a valid value.

### 4.4.2 SNMP

Use this page to define the management stations as trap managers and to enter SNMP community strings. User can also define a name, location, and contact person for the switch.

```
CWF8TX8MS Managed Switch : SNMP Configuration
=====

System Options
Community Strings
Trap Managers
Previous Menu

Configure the system information.
Tab=Next Item BackSpace=Previous Item Enter=Select Item
```

#### 4.4.2.1 System Options

```
CWF8TX8MS Managed Switch : System Options Configuration
=====

System Name :
System Contact :
System Location :

actions-> <Edit> <Save> <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

Press **<Edit>** to enter all items, and then press **<Save>** to save the configuration value.

1. **System Name:** Enter a name to be used for the switch.
2. **System Contact:** Enter the name of the contact person or organization.
3. **System Location:** Enter the location of the switch.

## 4.4.2.2 Community Strings

**1. Community Name:** Enter the name of the current strings.

**2. Write Access:** Enable the rights as read-only or read/write.

Read-only: Read-only, enables requests accompanied by this string to display MIB-object information.

Read/Write: Read/write, enables requests accompanied by this string to display MIB-object information and to set MIB objects.

```
CWF8TX8MS Managed Switch : SNMP Community Configuration
=====
Community Name          Write Access
-----
public                  Read Only

actions->      <Add>      <Edit>      <Delete>      <Save>      <Quit>
Add/Edit/Delete community strings.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item_
```

```
CWF8TX8MS Managed Switch : Add SNMP Community
=====

Community Name :
Write Access   :Read Only

actions->      <Edit>      <Save>      <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

### Actions->

<Add>: Create a community string.

<Edit>: Modify all items. When the configuration is finished, press **ESC** to go back action menu line.

<Delete>: Delete a community string. After delete item, press <Save> to complete the delete operation.

<Save>: Save all configured values.

<Quit>: Exit this page and return to the previous menu.

## 4.4.2.3 Trap Managers

A trap manager is a management station that receives traps, that are the system alerts generated by the switch. If no trap manager is defined, no traps are issued. Create a trap manager by entering the IP address of the station and a community string.

```

CWFE8TX8MS Managed Switch : Trap Managers Configuration
=====
IP          Community Name
-----

```

actions->    <Add>    <Edit>    <Delete>    <Save>    <Quit>

**Add/Edit/Delete trap managers.**

Tab=Next Item    BackSpace=Previous Item    Quit=Previous menu    Enter=Select Item\_





### Actions->

**<Add>**: Create a trap manager.

**<Edit>**: Modify all items. When the configuration is finished, press **ESC** to go back to the action menu line.

**<Delete>**: Delete a trap manager. After deleting the item press **<Save>** to complete the deleting operation.

**<Save>**: Save all configured values.

**<Quit>**: Exit this page and return to the previous menu.

## 4.4.3 GVRP

On this page you can enable/disable the GVRP (GARP VLAN Registration Protocol) support.

Press **Space** key to choose Enabled/Disabled.

```
CWFESTX8MS Managed Switch : GVRP Configuration
=====

GVRP : Enabled

actions->      <Edit>          <Save>          <Quit>
Select the action menu.
Tab=Next Item  BackSpace=Previous Item  Quit=Previous menu  Enter=Select Item
```

#### Actions->

**<Edit>**: Configure all items. Press **Space** key to choose Enable or Disabled mode. When the configuration is finished, press **ESC** to go back to the action menu line.

**<Save>**: Save all configured values.

**<Quit>**: Exit this page and return to previous menu.

### 4.4.4 LACP

```
CWFESTX8MS Managed Switch : LACP Configuration
=====

Aggregator Setting
State Activity
LACP Status
Previous Menu

LACP setting.
Tab=Next Item  BackSpace=Previous Item  Enter=Select Item
```

### 4.4.4.1 Aggregator Setting

**1. Group:** Display the trunk group ID.

**2. LACP:** Press **Space** key to enable or disable LACP (Link Aggregation Control Protocol) support. If enabled, the group is LACP static trunking group. If disabled, the group is the local static trunking group.

**3. LACP Work Port Num:** The maximum number of ports that can be aggregated at the same time. If LACP static trunking group, the exceeded ports is on standby and able to aggregate if the work ports fail. The local static trunking group, must have the same number as group ports.

**NOTE:** Before setting LACP support, set the trunk group on the page of *Port / Trunk Configuration* first.



#### Actions->

**<Edit>:** Configure all items. When the configuration is finished, press **ESC** to go back action menu line.

**<Save>:** Save all configured values.

**<Quit>:** Exit this page and return to the previous menu.

## 4.4.4.2 State Activity

**Active:** The port automatically sends LACP protocol packets.

**Passive:** The port does not automatically send LACP protocol packets, and responds only if it receives LACP protocol packets from the opposite device.

```
CWF8TX8MS Managed Switch : LACP Port State Active Configuration
=====

      Port      State Activity
-----
      3          Passive
      4          Passive
      5          Passive
      6          Passive
      7          Passive
      8          Passive

actions->      <Edit>          <Save>          <Quit>
Select the action menu.
Tab=Next Item  BackSpace=Previous Item  Quit=Previous menu  Enter=Select Item
```

### Actions->

**<Edit>**: Configure all items. When the configuration is finished, press **ESC** to go back action menu line.

**<Save>**: Save all configured values.

**<Quit>**: Exit this page and return to the previous menu.

### 4.4.4.3 LACP Status

```
CWF8TX8MS Managed Switch : LACP Group Status
=====

          Static Trunking Group

Group Key : 1
Port_No   : 1 2

actions->  <Quit>
Select the action menu.
Tab=Next Item BackSpace=Previous Item Quit=Previous menu Enter=Select Item
```

#### Actions->

**<Quit>**: Exit this page and return to the previous menu.

**<Previous Page>**: Return to the previous page to view.

**<Next page>**: Go to next page to view.

## 4.5 Reboot Switch

**Default:** Resets switch to default configuration.

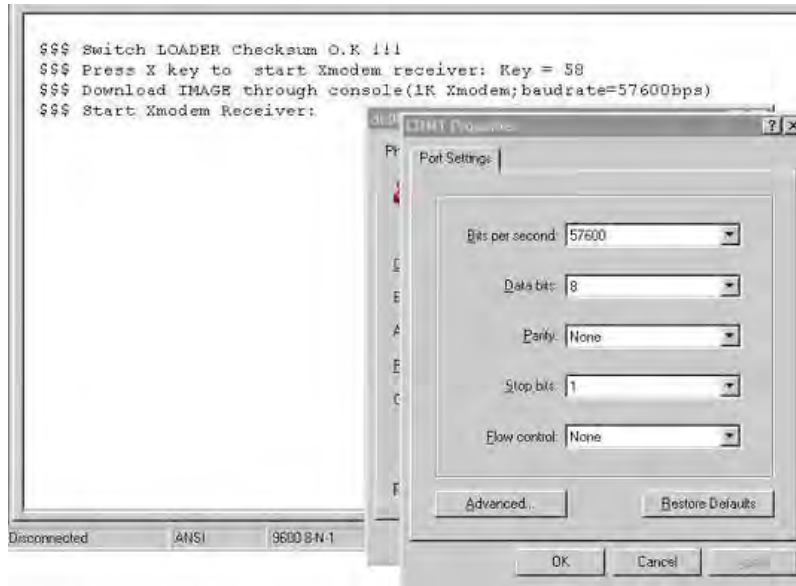
**Restart:** Reboots the switch in software reset.



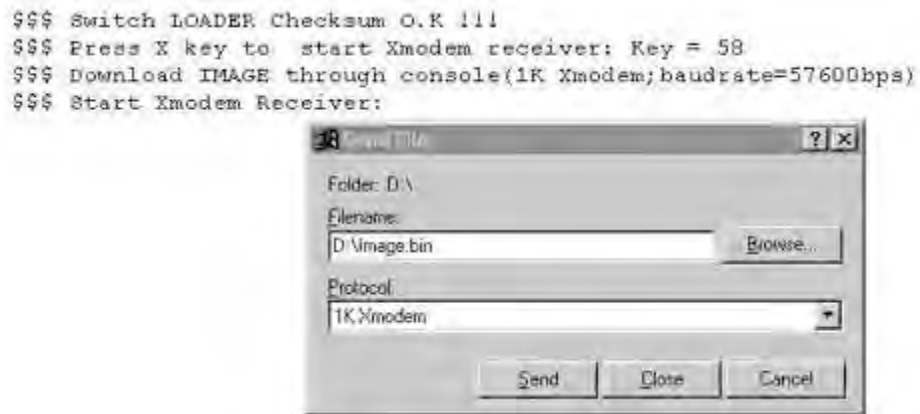
## 4.6 X-modem Upgrade

1. Press X key to start upgrading for X-modem.
2. Disconnect the terminal and modify the baud rate to 57600bps, then reconnect.

```
$$$ Switch LOADER Checksum O.K !!!
$$$ Press X key to start Xmodem receiver:
$$$ Download IMAGE through console(1K Xmodem;baudrate=57600bps)
$$$ Start Xmodem Receiver:
```



3. Select "send file" under "transfer" menu from menu bar.
4. Press "browse" button to select the path.
5. Select "1K X-modem" of protocol and press "Send" button.



6. After successfully upgrading the new firmware, modify the baud rate to 9600bps.

```
$$$ Switch LOADER Checksum O.K !!!
$$$ Press X key to start Xmodem receiver: Key = 78
$$$ Download IMAGE through console(1K Xmodem;baudrate=57600bps)
$$$ Start Xmodem Receiver: CCCCC
$$$ Download IMAGE ....O.K !!!
$$$ Update firmware .....
.....
.....
.....
.....
.....
$$$ Update firmware ....O.K !!!
$$$ Note: console baudrate of new image is 9600bps..
$$$ Reboot .....
```



# Web-Based Management

---

This section introduces the configuration and functions of the Web-based management of CWFE8TX8MS.

The CWFE8TX8MS provides an embedded HTML website residing in the switch's flash memory. It offers management features and allows users to manage the CWFE8TX8MS from anywhere on the network through a standard web browser.

**NOTE:** For those who use Windows2000, you must have the Service Pack2 function, the web management function will have an unexpected display if the Internet Explorer version is below version 5.5.

## Web Management Function

1. The Web Management Function provides a Web browser to manage and monitor the switch, the default values are as shown below. If you need change IP address the first time, you can use console mode to modify it.

IP Address:	192.168.10.1
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.10.254
User Name:	<b>admin</b>
Password:	<b>admin</b>

2. Browse to <http://192.168.10.1>, enter the user name and password as above.



## 5.1 Web Management Home Overview Home Page.



## 5.2 Port status

### 1. Port Status

**State:** Displays port status off or on depended on user setting. “unlink” will be treated as “off ”.

**Link Status:** Down is “No Link”, Up is “Link”

**Auto Negotiation:** auto negotiation mode

**Speed status:** Display 100Mbps or 10Mbps speed, Port 1- 8 is 10/100Mbps,

**Duplex status:** Display full-duplex or half-duplex mode.

**Flow control:** Display flow control status enable or disable mode

**Config:** Display the state of user setting.

**Atual:** Display the negotiation result.

## Port Status

The following information provides a view of the current status of the unit.

Port Num	State		Link Status	Auto Negotiation		Speed Status		Duplex Status		Flow Control	
	Config	Actual		Config	Actual	Config	Actual	Config	Actual	Config	Actual
1	On	On	Up	Auto	Auto	100	100	Full	Full	On	On
2	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
3	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
4	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
5	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
6	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
7	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
8	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On

### 5.3 Port Statistics

1. The following information provides a view of the current status of the unit.

## Port Statistics

The following information provides a view of the current status of the unit.

Port	State	Link	TxGoodPkt	TxBadPkt	RxGoodPkt	RxBadPkt	TxAbort	Collision
1	On	Up	2714	0	2614	0	0	0
2	Off	Down	0	0	0	0	0	0
3	Off	Down	0	0	0	0	0	0
4	Off	Down	0	0	0	0	0	0
5	Off	Down	0	0	0	0	0	0
6	Off	Down	0	0	0	0	0	0
7	Off	Down	0	0	0	0	0	0
8	Off	Down	0	0	0	0	0	0

[Reset](#)

## 5.4 Administrator

Those management functions include: IP address, Switch settings, Console port information, Port controls, Link aggregation, Filter database, VLAN configuration, Spanning Tree, Port Mirror, SNMP, Security Manager, TFTP Update Firmware Configuration Backup, Reset system and Reboot.

### 5.4.1 IP Address

1. Configure the IP Settings and fill in the new value, then click “apply”.
2. Reset switch and login using new IP address.



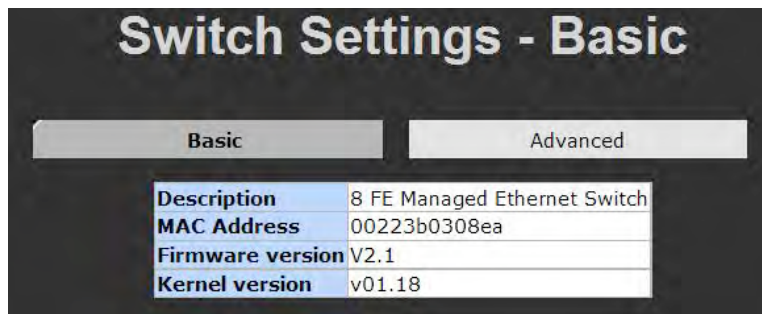
Set IP Address	
IP Address	192.168.10.1
Subnet_Mask	255.255.255.0
Gateway	192.168.10.254

Apply Help

## 5.4.2 Switch Setting

### 5.4.2.1 Basic

1. **Description:** Displays the name of device.
2. **MAC Address:** The unique hardware address assigned by the manufacturer (default)
3. **Firmware Version:** Display the switch's firmware version.
4. **Hardware Version:** Display the switch's hardware version.
5. **Default configure value version:** Display/write to default EEPROM value version.



Switch Settings - Basic	
Basic	
Description	8 FE Managed Ethernet Switch
MAC Address	00223b0308ea
Firmware version	V2.1
Kernel version	v01.18

## 5.4.2.2 Advanced

### Miscellaneous Settings

**MAC Address Age-out Time:** Type the number of seconds that an inactive MAC address remains in the switch's address table. The valid range is 300~765 seconds. Default is 300 seconds.

**Max bridge transit delay bound control:** Limit the packets queuing time in switch. If enabled, the packets queued exceeded will be dropped. This valid values are 1sec, 2 sec, 4 sec and off. Default is 1 second.

**Broadcast Storm Filter:** To configure the broadcast storm control, enable it and set the upper threshold for individual ports. The threshold is the percentage of the port's total bandwidth used by broadcast traffic. When broadcast traffic for a port rises above the threshold you set, broadcast storm control becomes active. The valid threshold values are 5%, 10%, 15%, 20%, 25% and off.

The screenshot shows the 'Advanced' configuration page for a switch. At the top, there are two tabs: 'Basic' and 'Advanced', with 'Advanced' selected. Below the tabs, a message reads: 'Enter the settings, then click Submit to apply the changes on this page.' The configuration is organized into several sections:

- MAC Table Address Entry Age-Out Time:** A checked checkbox is followed by a text input field containing '300' and a label 'secs (300~765)'.
- Bridge Transmit Delay Bound:** A dropdown menu is set to 'OFF'.
- Broadcast Storm Filter Mode:** A dropdown menu is set to 'OFF'.
- Priority Queue Service:** This section contains several options:
  - Radio buttons for 'First Come First Served', 'All High before Low', and 'WRR' (which is selected).
  - Input fields for 'High weight: 2' and 'Low weight: 1'.
  - A checkbox for 'Enable Delay Bound' and an input field for 'Max Delay Time: 0 ms'.
  - A label 'QoS Policy: High Priority Levels'.
  - Checkboxes for 'Level0' through 'Level7', with 'Level4', 'Level5', 'Level6', and 'Level7' checked.
- Protocol Enable Setting:** This section contains:
  - A checked checkbox for 'Enable STP Protocol'.
  - An unchecked checkbox for 'Enable IGMP Protocol'.
  - A dropdown menu for 'IGMP Query Mode' set to 'Disable'.
  - A dropdown menu for 'VLAN Operation Mode' set to '802.1Q without GVRP'.

At the bottom of the page, there are three buttons: 'Apply', 'Default', and 'Help'.

## Priority Queue Service settings:

**First Come First Service:** The sequence of packets sent is dependent on the arrival order.

**All High before Low:** The high priority packets sent before low priority packets.

**Weighted Round Robin:** Select the preference given to packets in the switch's high-priority queue.

These options represent the number of high priority packets sent before one low priority packet is sent. For example, 2 High:1 Low means that the switch sends 2 high priority packets before sending 1 low priority packet.

**Enable Delay Bound:** Limit the low priority packets queuing time in switch.

Default Max Delay Time is 255ms.

If the low priority packet stays in the switch exceeds the Maximum Delay Time, it will be sent. The valid range is 1~255 ms.

**NOTE:** Make sure of “Max bridge transit delay bound control” is enabled before enabling Delay Bound, because the Enable Delay Bound must work under the “Max bridge transit delay bound control is enabled” situation.

**QoS Policy: High Priority Levels:** 0~7 priority level can map to high or low queue. When the VLAN Tag number of a frame is mapping the priority level of the port, this frame can have a high priority. (This QoS Policy is for the global Switch, not for any single port)

## Protocol Enable Setting:

**Enable Spanning Tree Protocol:** Default recommended to enable STP

**Enable Internet Group Multicast Protocol:** enable IGMP protocol

**IGMP Query Mode:** Recognize different Query from client or server to decide which Queries will be the first priority, there are three modes to follow:

1. **Auto Mode:** Choose the indicated Switch, which has the smallest IP address will be set for the IGMP Query.
2. **Enable Mode:** Enable one of Switch to be the IGMP Query.
3. **Disable Mode:** Disable the other CWFE8TX8MS to be the IGMP Query.



### VLAN Operation Mode:

No VLAN

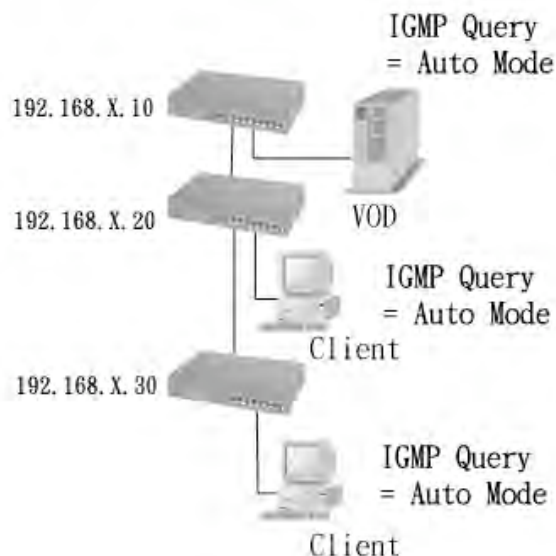
802.1Q(Tag VLAN) without GVRP VLAN mode

802.1Q(Tag VLAN) with GVRP VLAN mode (Default)

Port Based

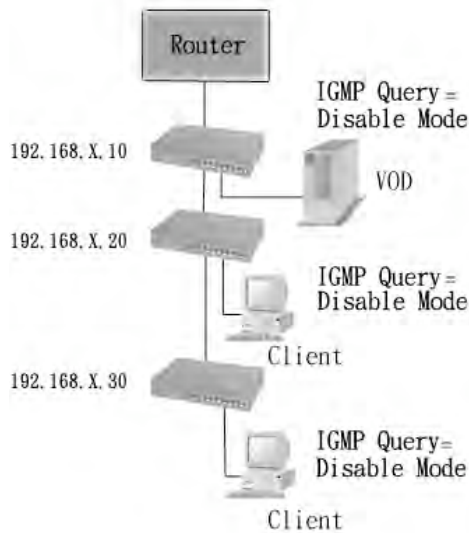
Also, the three topologies shown below illustrate how the IGMP Query works within a network:

1. This topology has to be set for when the switch's IP address is smaller than other switch in the subnet.



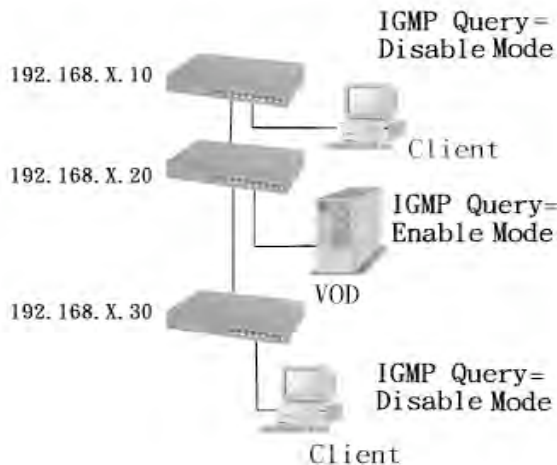


2. This topology has to be set for when the switch's IP address is not smaller than other switch in subnet.



**Note:** This switch supports IGMP protocol, but IGMP function has to be in enable mode, and the switch has to be the Query.

3. This topology must be set for when the switch's IP address is not the smallest in the subnet. If in Auto mode, the network will cause a multi-cast storm from the client IGMP report, the topology shown below is necessary.



Note: Suggest VOD server set with the switch that has smallest IP address.

4. All switches must be in Disable mode when VOD server is set up for IGMP Query.

### **GVRP (GARP [Generic Attribute Registration Protocol] VLAN Registration Protocol)**

GVRP allows automatic VLAN configuration between the switch and nodes. If the switch is connected to a device with GVRP enabled, you can send a GVRP request using the VID of a VLAN defined on the switch and the switch will automatically add that device to the existing VLAN.

### **5.4.3 Console Port Information**

1. Console is a standard UART interface to communicate with Serial Port.

User can use windows HyperTerminal program to link the switch. Connect

To->Configure

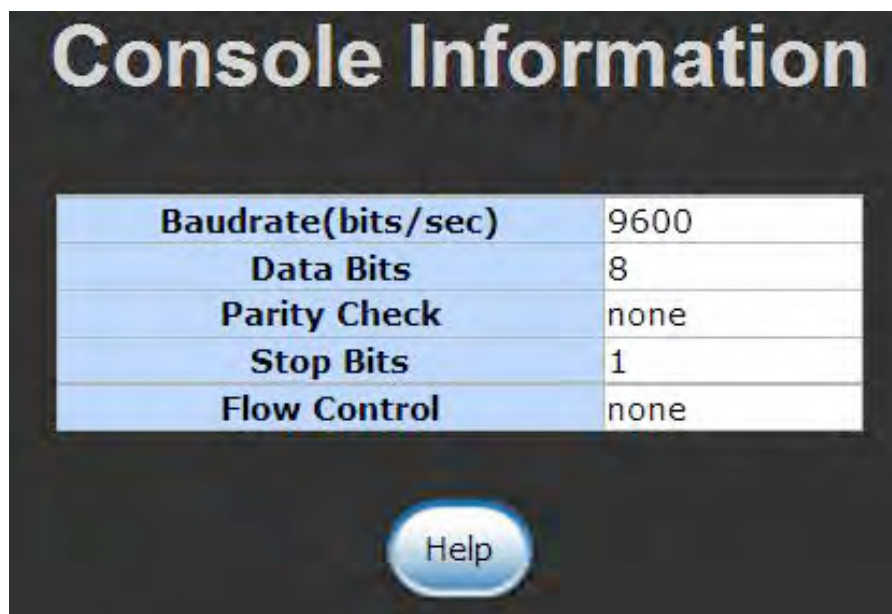
Baud rate (bits/sec): 9600

Data bits: 8

Parity check: none

Stop Bits: 1

Flow control: none



## 5.4.4 Port Controls

1. This page can change every port status

**State:** User can disable or enable this port control

**Auto Negotiation:** User can set auto negotiation as enabled or disabled per port

**Speed setting:** User can set 100Mbps or 10Mbps speed (Port1~Port8)

**Duplex setting:** User can set full-duplex or half-duplex mode

**Flows control setting:** User can set the flow control function as enabled or disabled

### Port Control

Port	State	Auto Negotiation	Speed	Duplex	Flow Control
1	Enable	Enable	100	Full	Enable
2					
3					
4					

Apply

### Port Status

The following information provides a view of the current status of the unit.

Port Num	State		Link Status	Auto Negotiation		Speed		Duplex		Flow Control	
	Config	Actual		Config	Actual	Config	Actual	Config	Actual	Config	Actual
1	On	On	Up	Auto	Auto	100	100	Full	Full	On	On
2	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
3	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
4	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
5	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
6	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
7	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On
8	On	Off	Down	Auto	Auto	100	100	Full	Full	On	On

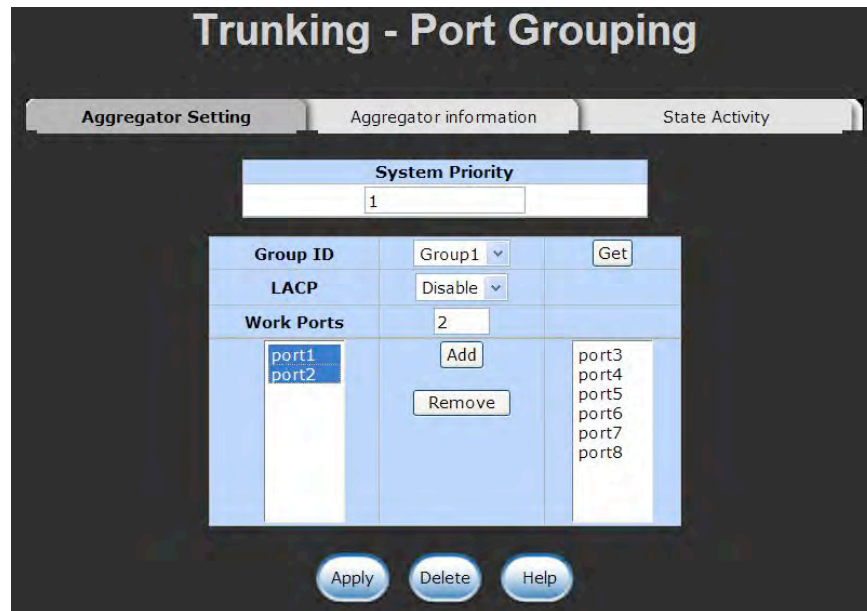
## 5.4.5 Trunking

Trunking provides a standardized means for exchanging information between Partner Systems on a link to allow their Link Aggregation Control instances to reach agreement on the identity of the Link Aggregation Group to which the link belongs, move the link to that Link Aggregation Group, and enable its transmission and reception functions in an orderly manner. In conclusion, Link aggregation lets you group up to eight consecutive ports into a single dedicated connection. This

feature can expand bandwidth to a device on the network. **LACP operation requires full-duplex mode**, more detailed information, refer to IEEE 802.3ad.

### 5.4.5.1 Aggregator setting

**System Priority:** A value used to identify the active LACP. The switch with the lowest value has the highest priority and is selected as the active LACP.



**1.Group ID:** you can create a link aggregation across two or more ports, choose the "group id" and click "Get".

**2.LACP:** If enabled, the group is the LACP static trunking group. If disabled, the group is the local static trunking group.

All ports support LACP dynamic trunking group. If connecting to the device that also supports LACP, the LACP dynamic trunking group will be created automatically.

**3. Work ports:** The max number of ports that can be aggregated at the same time. If LACP static trunking group, the exceed ports are on standby and able to aggregate if the work ports fail. If it is the local static trunking group, the number must be the same as group ports.

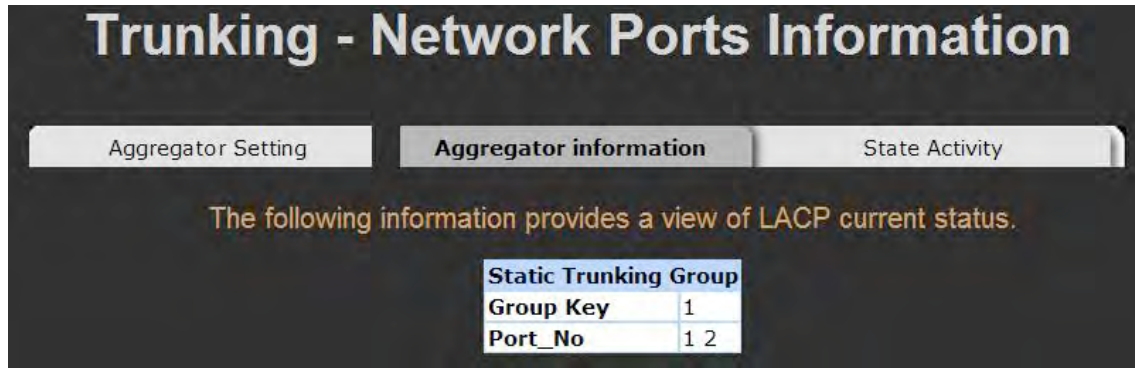
**4.** Select the ports to join the trunking group

**5.** If LACP enabled, you can configure LACP Active/Passive status in each port.

**6.** Select **Apply**.

## 5.4.5.2 Aggregator Information

When you are setting the LACP aggregator, you can see related information here.



The screenshot displays a configuration page titled "Trunking - Network Ports Information". It features three tabs: "Aggregator Setting", "Aggregator information" (which is selected), and "State Activity". Below the tabs, a message states: "The following information provides a view of LACP current status." A table titled "Static Trunking Group" is shown with the following data:

Static Trunking Group	
Group Key	1
Port_No	1 2

## 5.4.5.3 State Activity

**Active** (select): The port automatically sends LACP protocol packets.

**Passive** (no select): The port does not automatically send LACP protocol packets, and responds only if it receives LACP protocol packets from the opposite device.

1. A link having either two active LACP ports or one active port can perform dynamic LACP trunking.  
A link has two passive LACP ports and will not perform dynamic LACP trunking because both ports are waiting for the LACP protocol packet from the opposite device.
2. If you are the active LACP's actor, when you are selected as the trunking port, the active status will be created automatically.

# Trunking - State Activity

Aggregator Setting

Aggregator information

**State Activity**

Port	LACP State Activity	Port	LACP State Activity
1	N/A	5	<input type="checkbox"/> Active
2	N/A	6	<input type="checkbox"/> Active
3	<input type="checkbox"/> Active	7	<input type="checkbox"/> Active
4	<input type="checkbox"/> Active	8	<input type="checkbox"/> Active

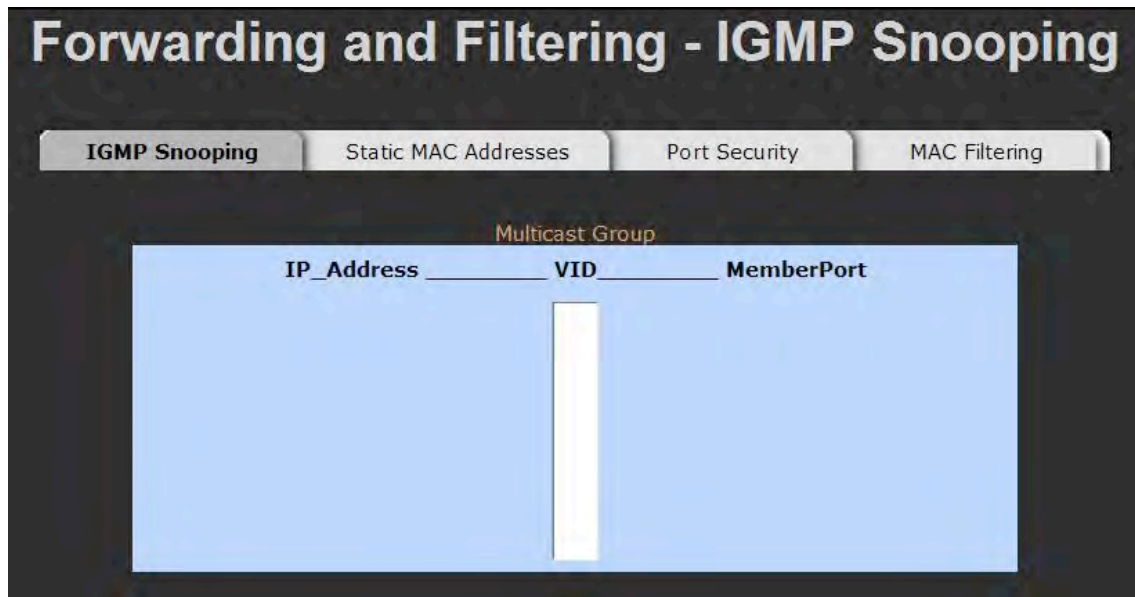
Apply

Default

Help

## 5.4.6 Filter Database

### 5.4.6.1 IGMP Snooping



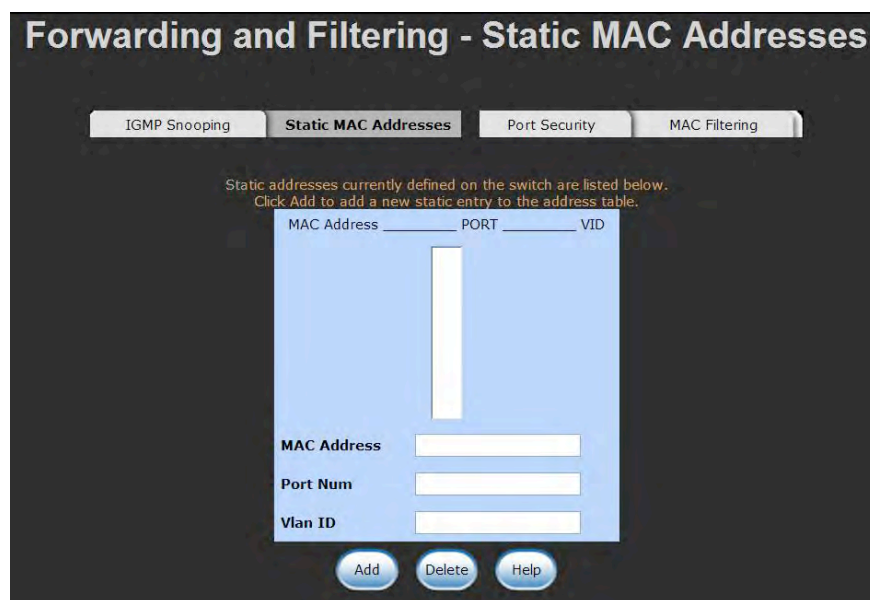
The CWFE8TX8MS supports IP multicast, you can enable IGMP protocol on the web management's switch setting advanced page, then display the IGMP snooping information in this page, you can view different multicast groups, VID and member ports here. IP multicast addresses range from 224.0.0.0 through 239.255.255.255.

The Internet Group Management Protocol (IGMP) is an internal protocol of the Internet Protocol (IP) suite.

IP manages multicast traffic by using the CWFE8TX8MS, routers, and hosts that support IGMP. Enabling IGMP allows the ports to detect IGMP queries and report packets and manage IP multicast traffic through the switch. IGMP has three fundamental types of messages as displayed below:

Message	Description
<b>Query</b>	A message sent from the querier (IGMP router or switch) asking for a response from each host belonging to the multicast group.
<b>Report</b>	A message sent by a host to the querier to indicate that the host wants to be or is a member of a given group indicated in the report message.
<b>Leave Group</b>	A message sent by a host to the querier to indicate that the host has quit to be a member of a specific multicast group.

## 5.4.6.2 Static MAC Address



When you add a static MAC address, it remains in the switch's address table, regardless of whether the device is physically connected to the switch. This saves the switch from having to re-learn a device's MAC address when the disconnected or powered-off device is active on the network again.



1. To add a static MAC address
2. From the main menu, select administrator, then click Filter Database.
3. Click Static MAC Addresses. In the MAC address box, enter the MAC address to and from which the port should permanently forward traffic, regardless of the device's network activity.
4. In the Port Number box, select a port number.
5. If tag-based (IEEE 802.1Q) VLANs are set up on the switch, static addresses are associated with individual VLANs. Type the VID (tag-based VLANs) to associate with the MAC address.
6. Click add

### 5.4.6.3 Port Security

A port in security mode will be “locked” without permission of address learning. Only the incoming packets with SMAC already existing in the address table can be forwarded normally. User can disable the port from learning any new MAC addresses, then use the static MAC addresses screen to define a list of MAC addresses that can use the secure port. Enter the settings, then select *Submit* to apply the changes on this page.

**Forwarding and Filtering - Port Security**

IGMP Snooping    Static MAC Addresses    **Port Security**    MAC Filtering

Port	Enable Security (disable for MAC Learning)	Port	Enable Security (disable for MAC Learning)
1	<input type="checkbox"/>	5	<input type="checkbox"/>
2	<input type="checkbox"/>	6	<input type="checkbox"/>
3	<input type="checkbox"/>	7	<input type="checkbox"/>
4	<input type="checkbox"/>	8	<input type="checkbox"/>

Apply    Default    Help

## 5.4.6.4 MAC Filtering

The screenshot shows a web-based configuration page titled "Forwarding and Filtering - MAC Filtering". At the top, there are four tabs: "IGMP Snooping", "Static MAC Addresses", "Port Security", and "MAC Filtering", with "MAC Filtering" being the active tab. Below the tabs, the page prompts the user to "Specify a MAC address to filter." and displays a table with two columns: "MAC Address" and "VID". The table is currently empty. Below the table, there are two input fields labeled "Mac Address" and "Vlan ID". At the bottom of the form, there are three buttons: "Add", "Delete", and "Help".

## 5.4.7 VLAN configuration

A virtual LAN (VLAN) is a logical network grouping that limits the broadcast domain. It allows you to isolate network traffic so only members of the VLAN receive traffic from the same VLAN members. Basically, creating a VLAN from a switch is logically equivalent of reconnecting a group of network devices to another Layer 2 switch. However, all the network devices are still physically plugged into the same switch.

The CWFE8TX8MS supports port-based and protocol-based VLAN in the web management page. In the default configuration, VLAN support is enabled and all ports on the switch belong to default VLAN, and the VID is 1.

**NOTE:** The default VLAN cannot be deleted.

**Support Port-based VLANs (IEEE 802.1Q VLAN)**

Port-based tagging rule VLAN is an IEEE 802.1Q specification standard. Therefore, it is possible to create a VLAN across devices from different switch vendors. IEEE 802.1Q VLAN uses a technique to insert a “tag” into the Ethernet frames. This tag contains a VLAN Identifier (VID) that indicates the VLAN numbers.

**Support Protocol-based VLAN**

In order for an end station to send packets to different VLANs, it has to be either capable of tagging packets it sends with VLAN tags or attached to a VLAN-aware bridge that is capable of classifying and tagging the packet with different VLAN ID based on not only the default PVID but also other information about the packet, such as the protocol.

## 5.4.7.1 Basic



### Create a VLAN and add tagged member ports to it.

1. From the main menu, click administrator -- VLAN configuration.
2. Click Add
3. Type a name for the new VLAN.
4. Type a VID (between 2-4094). The default is 1.
5. From the available ports box, select the ports to add to the switch and select *Add*.
6. Select *Apply*

## 5.4.7.2 Port VID

### Configure port VID settings

From the main Tag-based (IEEE 802.1Q) VLAN page, click Port VID Settings.

### Port VID (PVID)

Sets the Port VLAN ID that will be assigned to untagged traffic on a given port. For example, if port 9's default PVID is 100, all untagged packets on port 9 will belong to VLAN 100. The default setting for all ports is VID 1.

This feature is useful for accommodating devices that you want to participate in the VLAN but that do not support tagging. Only one untagged VLAN is allowed per port.

**VLAN - Port VID**

Basic      Port VID

Assign a Port VLAN ID (1~4094) for untagged traffic on each port, then click Submit to apply the changes on this page.

No.	PVID	Ingress Filtering 1	Ingress Filtering 2	NO PVID	PVID	Ingress Filtering 1	Ingress Filtering 2
1	1	Enable	Disable	5	1	Enable	Disable
2	1	Enable	Disable	6	1	Enable	Disable
3	1	Enable	Disable	7	1	Enable	Disable
4	1	Enable	Disable	8	1	Enable	Disable

**Ingress Filtering Rule 1**  
(Forward only packets with VID matching this port's configured VID)

**Ingress Filtering Rule 2**  
(Drop Untagged Frame)

Apply    Default    Help

## Ingress Filtering

Ingress filtering lets frames belonging to a specific VLAN to be forwarded if the port belongs to that VLAN. The CWFE8TX8MS has two ingress filtering rules as follows:

Ingress Filtering Rule 1: Forward only packets with VID matching this port's configured VID.

Ingress Filtering Rule 2: Drop Untagged Frame.

## 5.4.8 Spanning Tree

The Spanning-Tree Protocol (STP) is a standardized method (IEEE 802.1D) for avoiding loops in switched networks. When STP enabled, it ensures that only one path at a time is active between any two nodes on the network.

You can enable Spanning-Tree Protocol on the web management's switch setting advanced item. Select enable Spanning-Tree protocol. ComNet recommends that you enable STP on all CWFE8TX8MS switches to ensure a single active path on the network.

1. You can view spanning tree information about the Root Bridge on the following screen.

### Set Spanning Tree

#### Configure Spanning Tree Parameters

Priority (1-65535)	32768
Max Age (6-40)	20
Hello Time (1-10)	2
Forward_Delay_Time(4-30)	15

Apply

#### Root Bridge Information

Priority	32768
Mac Address	00223b0308ea
Root_Path_Cost	0
Root Port	we are root
Max Age	20
Hello Time	2
Forward Delay	15

#### Configure Spanning Tree Port Parameters

Port Number	Path Cost (1 - 65535; Default 10)	Priority (0 - 255; Default 128)
1		
2		
3		
4	10	128
5		

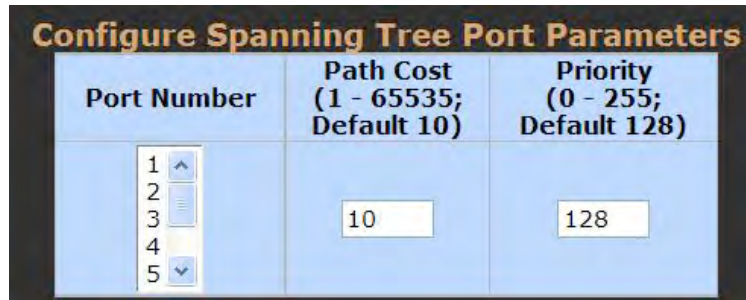
2. You can view spanning tree status about the switch on the following screen.

STP Port Status			
PortNum	PathCost	Priority	PortState
1	10	128	FORWARDING
2	10	128	DISABLED
3	10	128	DISABLED
4	10	128	DISABLED
5	10	128	DISABLED
6	10	128	DISABLED
7	10	128	DISABLED
8	10	128	DISABLED

Configure Spanning Tree Parameters	
Priority (1-65535)	<input type="text" value="32768"/>
Max Age (6-40)	<input type="text" value="20"/>
Hello Time (1-10)	<input type="text" value="2"/>
Forward_Delay_Time(4-30)	<input type="text" value="15"/>
<input type="button" value="Apply"/>	

Parameter	Description
<b>Priority</b>	A value used to identify the root bridge. The bridge with the lowest value has the highest priority and is selected as the root. Enter a number 1 through 65535.
<b>Max Age</b>	The number of seconds a bridge waits without receiving Spanning-Tree Protocol configuration messages before attempting a reconfiguration. Enter a number 6 through 40.
<b>Hello Time</b>	The number of seconds between the transmissions of Spanning-Tree Protocol configuration messages. Enter a number 1 through 10.
<b>Forward Delay time</b>	The number of seconds a port waits before changing from its Spanning-Tree Protocol learning and listening states to the forwarding state. Enter a number 4 through 30.

3. The following parameter can be configured on each port, select the Apply button to modify.



Parameter	Description
<b>Port Priority</b>	<p>You can make it more or less likely to become the root port, the range is 0-255, the default setting is 128.</p> <p>The lowest number has the highest priority.</p> <p>If you change the value, reboot the switch.</p>
<b>Path Cost</b>	<p>Specifies the path cost of the port that the switch uses to determine which ports are the forwarding ports.</p> <p>The lowest number is the forwarding port, the range is 1-65535 and default value base on IEEE802.1D</p> <p>10Mb/s = 50-600      100Mb/s = 10-60</p> <p>If you change the value, reboot the switch.</p>



## 5.4.9 Port Mirror

The Port Mirror is a method for monitoring traffic in switched networks. Traffic through ports can be monitored by one specific port. That is, the traffic that goes in or out of monitored ports will be duplicated into the mirror port.

Monitor Ports	Monitor Rx	Monitor Tx
1	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>

**Port Mirroring State:** Enable or disable the port mirror function.

**Mirror Ports:** The ports you want to mirror. All mirror port traffic will be copied to a mirror port. You can select max 8 monitor ports in the switch. If you want to disable the function, you must set monitor port to none.

**Monitor Rx:** Monitored receive frames from the port.

**Monitor Tx:** Monitored send frames from the port.

## 5.4.10 SNMP

Any Network Management running the simple Network Management Protocol (SNMP) can manage the switch, provided the Management Information Base (MIB) is installed correctly on the management station. The SNMP is a protocol that governs the transfer of information between management and agent. The CWFE8TX8MS supports SNMP V1.

1. Use this page to define the management stations as trap managers and to enter SNMP community strings. The user can also define a name, location, and contact person for the switch. Fill in the system options data, then select *Apply* to update the changes on this page

Name: Enter a name to be used for the switch.

Location: Enter the location of the switch.

Contact: Enter the name of a person or organization.

**SNMP Management**

**System Options**

Name :

Location :

Contact :

Apply Help

**Community Strings**

Current Strings : public\_\_RO

Add Remove

New Community String :

String :

RO  RW

**Trap Managers**

Current Managers : (none)

Add Remove

New Manager :

IP Address :

Community :

### 2. Community strings serve as passwords and can be entered as one of the following:

Read only: Enables requests accompanied by this string to display MIB-object information.

Read write: Enables requests accompanied by this string to display MIB-object information and to set MIB objects.

### 3. Trap Manager

A trap manager is a management station that receives traps, the system alerts generated by the switch. If no trap manager is defined, no traps are issued. Create a trap manager by entering the IP address of the station and a community string.

Trap Managers	
<b>Current Managers :</b>	<b>New Manager :</b>
(none)	IP Address : <input type="text"/>
<input type="button" value="Add"/>	Community : <input type="text"/>
<input type="button" value="Remove"/>	

### 5.4.11 Security Manager

1. Using this page, the user can change the web management user name and password.

User name: admin

Password: admin

Security Manager	
<b>User Name:</b>	<input type="text" value="admin"/>
<b>Assign/Change password:</b>	<input type="password" value="....."/>
<b>Reconfirm password:</b>	<input type="password" value="....."/>
	<input type="button" value="Apply"/>

## 5.4.12 TFTP Update Firmware

1. The following menu options provide some system control functions to allow a user to update firmware and remote boot switch system:

- \* Executing TFTP software
- \* Copy firmware update version image.bin to TFTP software directory.
- \* In web management select administrator—TFTP update firmware.
- \* Download new image.bin file then in web management press <update firmware>.



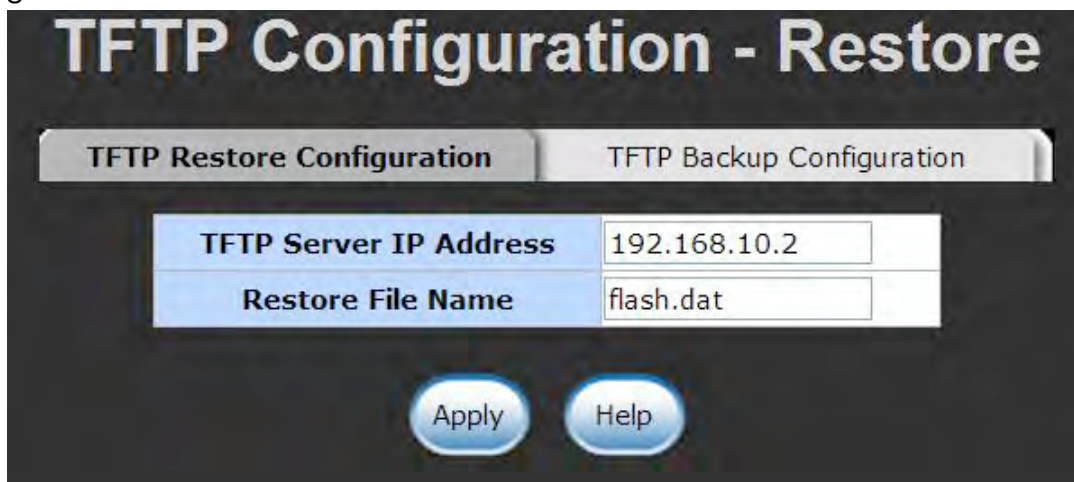
TFTP Download New Image	
TFTP Server IP Address	192.168.10.2
Firmware File Name	image.bin

Apply Help

## 5.4.13 Configuration Backup

### 5.4.13.1 TFTP Restore Configuration

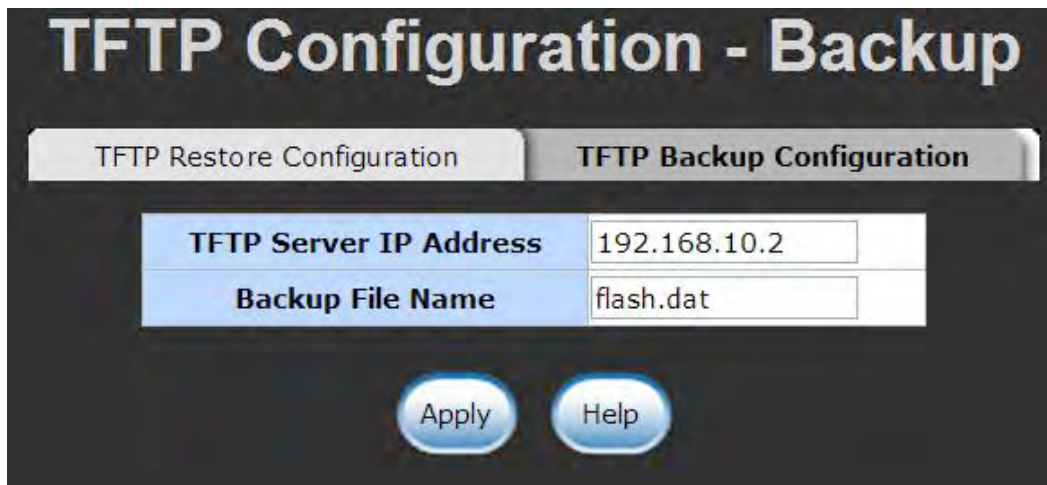
Use this page to set TFTP server address. You can restore EEPROM value from here, but you must put back image in TFTP server, switch will download back flash image.



The screenshot shows a web interface titled "TFTP Configuration - Restore". It features two tabs: "TFTP Restore Configuration" (selected) and "TFTP Backup Configuration". Below the tabs are two input fields: "TFTP Server IP Address" with the value "192.168.10.2" and "Restore File Name" with the value "flash.dat". At the bottom, there are two buttons: "Apply" and "Help".

### 5.4.13.2 TFTP Backup Configuration

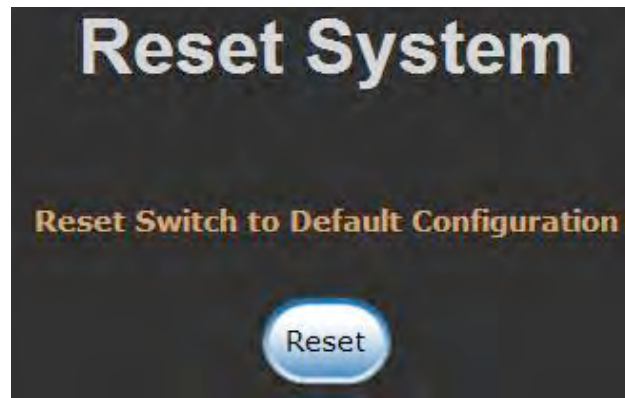
Use this page to set TFTP server IP address. You can save the current EEPROM value from here, then go to the TFTP restore configuration page to restore the EEPROM value.



The screenshot shows a web interface titled "TFTP Configuration - Backup". It features two tabs: "TFTP Restore Configuration" and "TFTP Backup Configuration" (selected). Below the tabs are two input fields: "TFTP Server IP Address" with the value "192.168.10.2" and "Backup File Name" with the value "flash.dat". At the bottom, there are two buttons: "Apply" and "Help".

### 5.4.14 Reset System

Reset Switch to default configuration.



### 5.4.15 Reboot

Reboot the Switch in software reset.



# Technical Specifications

<b>Standards Compliance</b>	IEEE 802.3 10Base-T Ethernet, IEEE 802.3u 100Base-TX/FX Fast Ethernet ANSI/IEEE 802.3 N-Way Auto-negotiation
<b>Protocol</b>	CSMA/CD
<b>Max Forwarding and Max Filtering Rate</b>	14,880 pps per Ethernet port, 148,800 pps per Fast Ethernet port
<b>LED Indicators</b>	Per Port: (10/100 UTP) : 100M, LK/ACT, FD/COL (3 LEDs) Per Unit: Power
<b>Copper Network Cables</b>	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
<b>Dimensions</b>	250mm x 132mm x 37mm (L x W x H)
<b>Weight</b>	8TP Management Switch: 1060 g CWFE8TX8MS series: 1080 ±20 g
<b>Storage Temp.</b>	-40°C to 85°C (-40°F to 185°F)
<b>Operational Temp.</b>	0°C to 50°C (32°F to 122°F)
<b>Operational Humidity</b>	10% to 90% (Non-condensing)
<b>External Power</b>	100-240V AC, 50-60Hz
<b>Power Consumption</b>	8TP Management Switch: 15 Watts (Max) CWFE8TX8MS series: 17 Watts (Max)
<b>EMI</b>	FCC Class A, CE Mark
<b>Safety</b>	UL, ULc

# Problem Solving

---

This section is intended to help you solve the most common problems on the CWFE8TX8MS managed Ethernet switch.

## Incorrect connections

- **Faulty or loose cables**

Look for loose or obviously faulty connections. If they appear to be connected, make sure the connections are snug. If that does not correct the problem, try a different cable.

- **Non-standard cables**

Non-standard and incorrect wired cables may cause numerous network collisions and other network problems, and can seriously impair network performance. A category 5 cable tester is a recommended tool for every 100Base-T network installation.

- **Improper Network Topologies**

It is important to make sure that you have a valid network topology. Common topology faults include excessive cable length and too many repeaters (hubs) between end nodes. In addition, you should make sure that your network topology contains no data path loops. Between any two ends nodes, there should be only one active cabling path at any time. Data path loops will cause broadcast storms that will severely impact your network performance.



## Diagnostic LED Indicators

The switch can be easily monitored through panel indicators to assist in identifying problems, which describes common problems you may encounter and where you can find possible solutions.

If the power indicator does not turn on when the power cord is plugged in, you may have a problem with power outlet, or power cord. However, if the switch powers off after running for a period of time, check for loose power connections, power losses or surges at the power outlet. If you still cannot resolve the problem, contact your local dealer for assistance.

### ■ Cables

RJ45 ports: Use unshielded twisted-pair (UTP) or shield twisted-pair ( STP ) cable for RJ45 connections: 100Ω Category 3, 4 or 5 cable for 10Mbps connections or 100Ω Category 5 cable for 100Mbps connections. Also be sure that the length of any twisted-pair connection does not exceed 100 meters (328 feet).

## **ComNet Customer Service**

Customer Care is provided from the ComNet global service center, where our professional staff are ready to answer your questions at any time. Contact us at +1 203 796 5300 or via Email at: [customercare@ComNet.net](mailto:customercare@ComNet.net)



### **World Headquarters**

3 Corporate Drive  
Danbury, CT 06810 USA  
T 203 796-5300  
F 203 796-5303  
888 678-9427 Tech Support  
[info@ComNet.net](mailto:info@ComNet.net)

### **ComNet Europe Ltd**

8 Turnberry Park Road  
Gildersome, Morley  
Leeds, LS27 7LE, UK  
T +44 (0)113 307 6400  
F +44 (0)113 253 7462  
[info-europe@ComNet.net](mailto:info-europe@ComNet.net)

© 2010 Communication Networks. All rights reserved.

The COMNET logo is a registered trademark of Communication Networks Corporation. Additional Company and product names may be trademarks or registered trademarks of the individual companies and are respectfully acknowledged and do not imply endorsement.