TRENDnet®

User's Guide

TEG-448WS

FCC Warning

This equipment has been tested and found to comply with the regulations for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's expense.

CE Mark Warning

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

VCCI Warning

This is a product of VCCI Class A Compliance.

注意
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UL Warning

a) Elevated Operating Ambient Temperature- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

b) Reduced Air Flow- Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

c) Mechanical Loading- mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

d) Circuit Overloading- Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

e) Reliable Grounding- Reliable grounding of rack mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

Ver. 1.00

TABLE OF CONTENT

Congratulations on your purchase of the TEG-448WS 48-Port Gigabit Ethernet Web Smart Switch. This device integrates 1000Mbps Gigabit Ethernet, 100Mbps Fast Ethernet and 10Mbps Ethernet network capabilities in a highly flexible package.

Purpose

This guide describes how to install your TEG-448WS 48-Port Gigabit Ethernet Web Smart Switch.

Terms/Usage

In this guide, the term “Switch” (first letter upper case) refers to the device of TEG-448WS 48-Port Gigabit Ethernet Web Smart Switch and “switch” (first letter lower case) refers to other Ethernet switches.

This chapter describes the features of the TEG-448WS 48-Port Gigabit Ethernet Web Smart Switch and some background information about Ethernet/Fast Ethernet/Gigabit Ethernet switching technology.

Gigabit Ethernet Technology

Gigabit Ethernet is an extension of IEEE 802.3 Ethernet utilizing the same packet structure, format, and support for CSMA/CD protocol, full duplex, flow control, and management objects, but with a tenfold increase in theoretical throughput over 100-Mbps Fast Ethernet and a hundredfold increase over 10-Mbps Ethernet. Since it is compatible with all 10-Mbps and 100-Mbps Ethernet environments, Gigabit Ethernet provides a straightforward upgrade without wasting a company’s existing investment in hardware, software, and trained personnel.

The increased speed and extra bandwidth offered by Gigabit Ethernet is essential to coping with the network bottlenecks that frequently develop as computers and their busses get faster and more users use applications that generate more traffic. Upgrading key components, such as your backbone and servers to Gigabit Ethernet can greatly improve network response times as well as significantly speed up the traffic between your subnets.

Gigabit Ethernet enables fast optical fiber connections to support video conferencing, complex imaging, and similar data-intensive applications. Likewise, since data transfers occur 10 times faster than Fast Ethernet, servers outfitted with Gigabit Ethernet Adapters are able to perform 10 times the number of operations in the same amount of time.

In addition, the phenomenal bandwidth delivered by Gigabit Ethernet is the most cost-effective method to take advantage of today and tomorrow's rapidly improving switching and routing internetworking technologies. And with expected advances in the coming years in silicon technology and digital signal processing that will enable Gigabit Ethernet to eventually operate over unshielded twisted-pair (UTP) cabling, outfitting your network with a powerful 1000-Mbps-capable backbone/server connection creates a flexible foundation for the next generation of network technology products.

Fast Ethernet Technology

The growing importance of LANs and the increasing complexity of desktop computing applications are fueling the need for high performance networks. A number of high-speed LAN technologies have been proposed to provide greater bandwidth and improve client/server response times. Among them, 100BASE-T (Fast Ethernet) provides a non-disruptive, smooth evolution from the current 10BASE-T technology. The non-disruptive and smooth evolution nature, and the dominating potential market base, virtually guarantees cost-effective and high performance Fast Ethernet solutions.

100Mbps Fast Ethernet is a standard specified by the IEEE 802.3 LAN committee. It is an extension of the 10Mbps Ethernet standard with the ability to transmit and receive data at 100Mbps, while maintaining the CSMA/CD Ethernet protocol. Since the 100Mbps Fast Ethernet is compatible with all other 10Mbps Ethernet environments, it provides a straightforward upgrade and takes advantage of the existing investment in hardware, software, and personnel training.

Switching Technology

Another approach to pushing beyond the limits of Ethernet technology is the development of switching technology. A switch bridges Ethernet packets at the MAC address level of the Ethernet protocol transmitting among connected Ethernet or Fast Ethernet LAN segments.

Switching is a cost-effective way of increasing the total network capacity available to users on a local area network. A switch increases capacity and decreases network loading by dividing a local area network into different segments, which don't compete with each other for network transmission capacity.

The switch acts as a high-speed selective bridge between the individual segments. The switch, without interfering with any other segments, automatically forwards traffic that needs to go from one segment to another. By doing this the total network capacity is multiplied, while still maintaining the same network cabling and adapter cards.

Switching LAN technology is a marked improvement over the previous generation of network bridges, which were characterized by higher latencies. Routers have also been used to segment local area networks, but the cost of a router, the setup and maintenance required make routers relatively impractical. Today switches are an ideal solution to most kinds of local area network congestion problems.

VLAN (Virtual Local Area Network)

A VLAN is a group of end-stations that are not constrained by their physical location and can communicate as if a common broadcast domain, a LAN. The primary utility of using VLAN is to reduce latency and need for routers, using faster switching instead. Other VLAN utility includes:

Security, Security is increased with the reduction of opportunity in eavesdropping on a broadcast network because data will be switched to only those confidential users within the VLAN.

Cost Reduction, VLANs can be used to create multiple broadcast domains, thus eliminating the need of expensive routers.

Features

- 48×10/100/1000Mbps 1000BASE-T Auto-negotiation Gigabit Ethernet ports
- 4 x 1000Mbps mini-GBIC slots for optional mini-GBIC transceiver to extend distance, shared with 4 1000BASE-T ports
- All RJ-45 ports support auto MDI/MDIX
- Half duplex transfer mode for connection speed 10Mbps and 100Mbps
- Full duplex transfer mode for connection speed of 10Mbps, 100Mbps and 1000Mbps
- Store-and-Forward switching architecture to support rate adaptation and ensure data integrity
- Integrated address Look-Up Engine, supports 8K absolute MAC addresses
- 1024KB RAM for data buffering

- Supports IEEE 802.3x flow control for full-duplex mode ports
- Supports IEEE 802.1Q VLAN
- Supports Port-based QoS
- Supports six Trunk groups.
- Supports Port-mirroring
- Supports Port-setting for Speed, Duplex and Flow control
- Supports Gigabit Jumbo Frames
- Easy configuration via WEB Browser
- Easy setup via Web Management Utility
- Standard 19” Rack-mount size

This chapter provides Packaging Contents and installation information for the Switch.

Package Contents

Open the box of the Switch and carefully unpacks its contents. The packaging should contain the following items:

- TEG-448WS 48-Port Gigabit Web-Based Smart Switch
- Quick Installation Guide
- CD-ROM (Utility & User's Guide)
- Power Cord
- Rackmount Kit (Rubber Feet, Screws and Mounting Brackets)

If any item is found missing or damaged, please contact your local reseller for replacement.

Installation

Install the Switch in a fairly cool and dry place. See *Technical Specifications* for the acceptable temperature and humidity operating ranges.

Install the Switch in a site free from strong electromagnetic field generators (such as motors), vibration, dust, and direct exposure to sunlight.

Leave at least 10cm of space at the front and rear of the hub for ventilation.

Install the Switch on a sturdy, level surface that can support its weight, or in an EIA standard-size equipment rack. For information on rackmount installation, see the next section, Rack Mounting.

When installing the Switch on a level surface, attach the rubber feet to the bottom of each device. The rubber feet cushion the hub and protect the hub case from scratching.

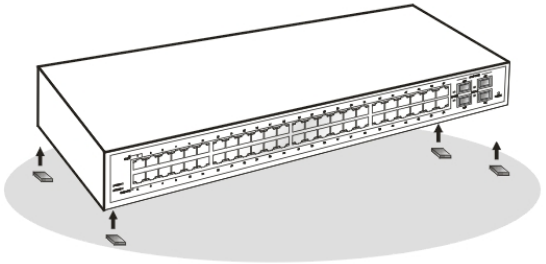


Figure 1. Attach the adhesive rubber pads to the bottom

Rack Mounting

The switch can be mounted in an EIA standard-size, 19-inch rack, which can be placed in a wiring closet with other equipment. Attach the mounting brackets at the switch's front panel (one on each side), and secure them with the provided screws.

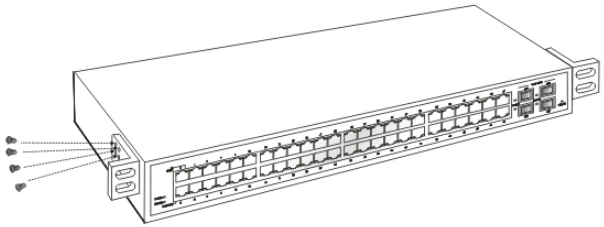


Figure 2. Combine the Switch with the provided screws

Then, use screws provided with the equipment rack to mount each switch in the rack.

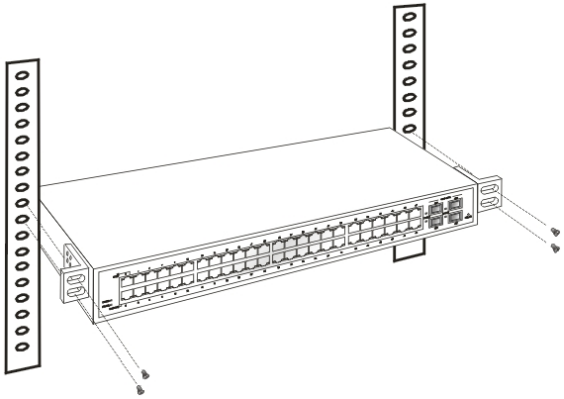


Figure 3. Mount the Switch in the rack

Connecting Network Cable

The Switch supports 10/100/1000Mbps Ethernet that runs in Auto-negotiation mode, 10/100Mbps Ethernet that runs in half and full duplex mode and 1000Mbps Gigabit Ethernet that runs in full duplex mode using four pair of Category 5 Cable.

These RJ-45 ports are Auto-MDIX, allowing you to use either a standard or crossover RJ-45 cable.

There are 4 additional mini-GBIC slots for optional mini-GBIC modules.

AC Power

The Switch uses 100-240V AC, 50-60 Hz AC power. The switch's power supply will adjust to the local power source automatically and may be turned on without having any Ethernet cables connected.

This chapter describes the front panel, rear panel, and LED indicators of the Switch.

Front Panel

The figure below shows the front panel of the Switch.

Figure 4. Front panel of 48-port Gigabit Ethernet Switch

LED Indicator:

Comprehensive LED indicators display the status of the switch and the network (see the LED Indicators chapter below).

1000BASE-T Gigabit Ethernet Ports (Port 1~48):

The Switch has 48 auto-negotiation, auto-MDIX Gigabit ports. These ports can operate in half-duplex mode for 10/100Mbps and full-duplex mode for 10/100/1000Mbps.

Note: When the port is set to "Forced Mode", the Auto-MDIX will be disabled.

mini-GBIC Ports (Port 45F~48F)

The Switch is equipped with four mini-GBIC ports. The ports support optional 1000BASE-SX/LX mini-GBIC module.

Port 45, 46, 47 and 48 are shared with the mini-GBIC 45F, 46F, 47F and 48F ports. When you plug in a mini-GBIC module, the device the RJ-45 port will be disabled.

Reset:

The Reset button reset settings back to factory default.

Note: Please make sure you copy down or save settings before pressing "Reset" button.

Rear Panel

The rear panel of the Switch consists of an AC power connector. The following shows the rear panel of the Switch

Figure 5. Rear panel of the Switch

AC Power Connector:

Plug in the female connector of the provided power cord into this connector. Connect the male into a power outlet. Supported input voltages range from 100-240V AC at 50-60Hz.

UNDERSTANDING LED INDICATORS

The front panel LEDs provides instant status feedback for easy monitoring and troubleshooting.

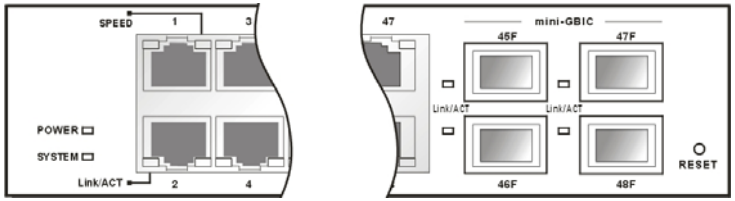


Figure 6. LED indicators of the Switch

Power and System LEDs

POWER: Power Indicator

On	:	When the Power LED is lit, the Switch is receiving power.
Off	:	When the Power LED is off, the switch is off.

System: Management Indicator

Blinking	:	When the Switch is working, the System LED blinks.
On/Off	:	The Switch is not working.

Ports 1~48 Status LEDs

Link/ACT: Link/Activity(left side of each RJ-45 port)

On	:	When the Link/ACT LED is lit, the port is successfully connected to an Ethernet network.
Blinking	:	When the Link/ACT LED is blinking, the port is transmitting or receiving data on the Ethernet network.
Off	:	No link.

Speed (right side of each RJ-45 ports)

Green	:	When Speed LED is lit green, the port is connect at 1000Mbps.
Amber	:	When Speed LED is lit amber, the port is connect at 100Mbps.
Off	:	When Speed LED is lit green, the port is connect at 10Mbps.

mini-GBIC 45F~48F Status LEDs

Link/ACT

On	:	When the Link/ACT LED is lit, the port is successfully connected.
Blinking	:	When the Link/ACT LED is blinking, the port is transmitting or receiving data on the Ethernet network.
Off	:	LC fiber cable is not connected or the mini-GBIC module is not installed.

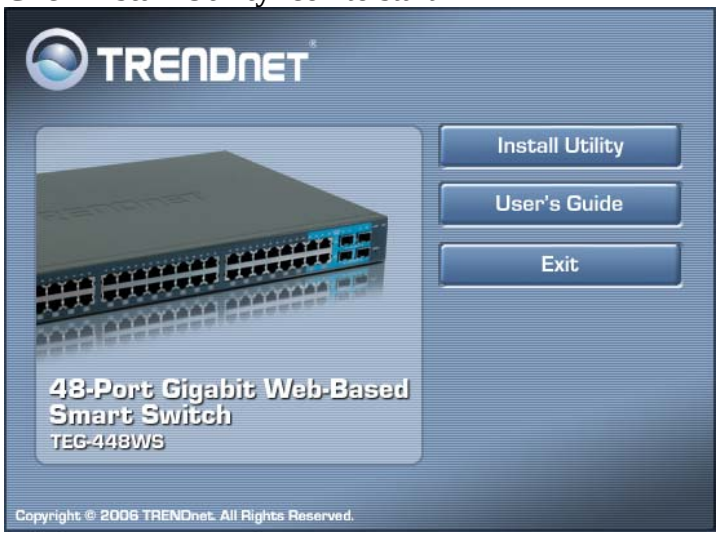
You can configure the Switch settings such as VLAN, Trunking, QoS… etc using the Web Browser.

The Web Management Utility allows the user to easily discover the Web Management Switch, assign the IP Address, change the password and upgrade firmware.

Installing the Web Management Utility

The following are step-by-step instructions for installing the Web Management utility.

1. Insert the Utility CD in the CD-ROM Drive.
2. Click **Install Utility** icon to start



3. Follow the on-screen instructions to install the utility.

4. Upon completion, go to **Program Files -> web_management_utility** and open the Web Management utility. (Figure 7.)

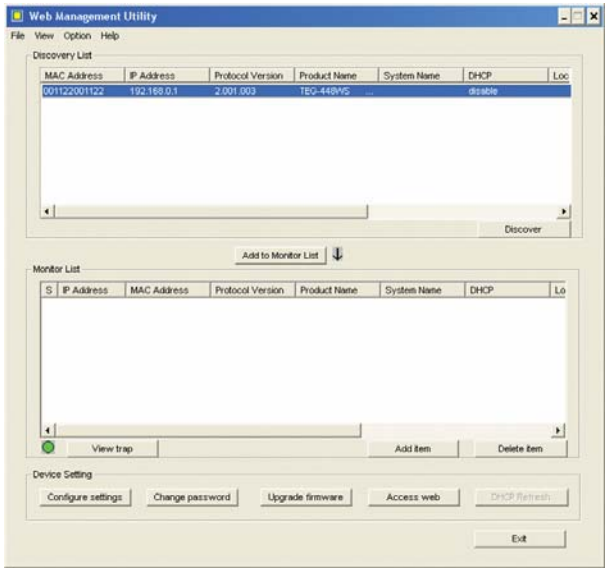


Figure 7. Web Management Utility

The Web Management Utility is divided into four sections, ***Discovery List, Monitor List, Device Setting*** and ***Toolbar function***, for details instruction, follow the below section.

Discovery List

This list shows all the Web management devices in the network.

Click ***"Discovery"*** button to list all the Web Management devices in the discovery list.

Double click or press ***"Add to monitor list"*** to select add a device to the Monitor List.

System word definitions in the Discovery List:

- ***MAC Address:*** Shows the MAC Address of the Switch.
- ***IP Address:*** Shows the current IP address of the Switch.
- ***Protocol version:*** Shows the version of the Utility protocol.
- ***Product Name:*** Shows the product name of the Switch.
- ***System Name:*** Shows the system name of the Switch.
- ***Location:*** Shows the location of the Switch.
- ***Trap IP:*** Shows the IP where the Trap is to be sent.
- ***Subnet Mask:*** Shows the Subnet Mask.
- ***Gateway:*** Shows the Gateway.

Monitor List

All the switches in the Monitor List can be monitored; you can also monitor traps and show the status of the device.

System word definitions in the Monitor List:

- ***S:*** Shows the system symbol of the Switch. means the Switch is not connected.
- ***IP Address:*** Shows the current IP address of the device.
- ***MAC Address:*** Shows the MAC Address of the Switch.
- ***Protocol version:*** Shows the version of the Utility protocol.
- ***Product Name:*** Shows the product name of the Switch.
- ***System Name:*** Shows the system name of the Switch.
- ***Location:*** Shows where the device is located.
- ***Trap IP:*** Shows the IP where the Trap is to be sent.

- ***Subnet Mask:*** Shows the Subnet Mask.
- ***Gateway:*** Shows the Gateway.

View Trap: The Trap function allows you to monitor events that occur with the Switches in the Monitor List.

There is an LED indicator next to the ***"View Trap"*** button. When the LED is green, it means that there is no trap transmitted. When the LED is red, it means a new trap has been transmitted. (Figure 8)

Figure 8.

When ***"View Trap"*** is clicked, a Trap Information window will appear. This window will show the trap information including the Symbol, Time, Device IP and the Event. (Figure 9)

The symbol "" indicates a new Event has occurred. This symbol will disappear after you review and click on the event record.

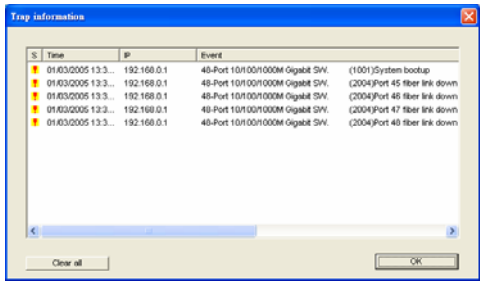


Figure 9.

Note: In order to receive Trap information, the Switch has to be configured with Trap IP and Trap Events in the Web browser. See Page 31 for more details.

Add Item: To add a device to the Monitor List manually, enter the IP Address of the device that you want to monitor.

Delete Item: To delete the device in the Monitor List.

Device Setting

Configuration Setting: In this Configuration Setting, you can set the IP Address, Subnet Mask, Gateway, Set Trap to (Trap IP Address), System name and Location.

Select the device in the Discovery list or Monitor List and click configuration setting. The Configuration Setting window will pop out appear (Figure 10). After making the desired changes, enter the password and click "Set". The default password is ***"admin"***.

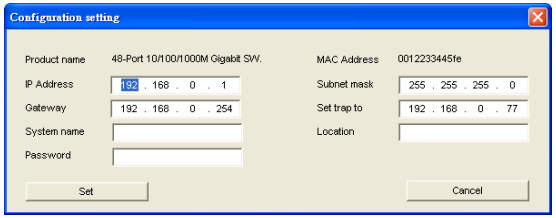


Figure 10. Configuration Setting

Password Change: This option allows you to change the password. Enter the original password, the new password, confirm the password and then press ***"Set"***.

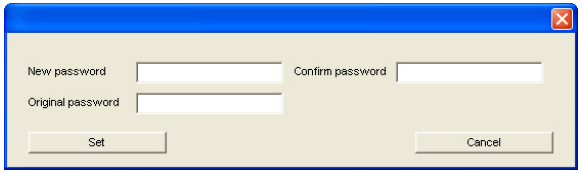


Figure 11. Password Change

Firmware Upgrade: Use this option to upgrade the firmware on the Switch.

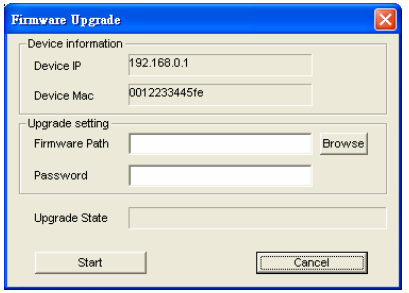


Figure 12.

Web Access: Double click the device in the Monitor List or select a device in the Monitor List and click ***"Web Access"*** button to access the Switch's Web browser configuration.

Toolbar

The toolbar in the Web Management Utility has four options; File, View, Options and Help.

Under ***"File"***, there are four options; Monitor Save, Monitor Save As, Monitor Load and Exit.

- ***Monitor Save:*** To record the settings of the Monitor List to the default. The next time you open the Web Management Utility, it will load the default recorded setting.
- ***Monitor Save As:*** To record the setting of the Monitor List with a specific filename and file path.
- ***Monitor Load:*** To manually load the setting file of the Monitor List.
- ***Exit:*** To exit the Web Management Utility.

Under ***"View"***, there are 2 options; view log and clear log function.

- ***View Log:*** Displays the event of the Web Management Utility and the device.
- ***Clear Log:*** Clears the log.

Under ***"Option"***, there is the Refresh Time option. This option allows the user to set the refresh time for monitoring the device. The user can choose ***15 secs, 30 secs, 1 min, 2 min and 5 min.***

Under ***"Help"***, About shows the version of the Web Management Utility.

Configuring the Switch

The 48-Port 10/100/1000Mbps Gigabit Ethernet Web Smart Switch has a Web GUI interface for smart switch configuration. The Switch can be configured through the Web Browser. A network administrator can manage, control and monitor the switch from the local LAN. This section describes how to configure the various functions on the Switch including:

- Port Setting
- Virtual LAN Group setting (VLAN)
- Trunk
- Port Mirroring
- System Settings
- Statistics

Login

Before you configure this device, make sure the PC is configured to be in the same the **subnet** as the switch. For example, since the default

the default IP address of the Web Smart Switch is ***192.168.0.1***, then the PC should be set to 192.168.0.x (where x is a number between 2 and 254), with a default subnet mask of 255.255.255.0.

Open Internet Explorer 5.0 or above.

Enter IP address ***http://192.168.0.1*** (the factory-default IP address setting) into the address bar.

Figure 13.

You can also access the browser configuration through the Web Management Utility. Select the desired Switch in the Monitor and click **"Access Web"**.

When the following dialog page appears, enter the default password ***"admin"*** and click Login.

Figure 14.

After entering the password, the system information screen will appear.

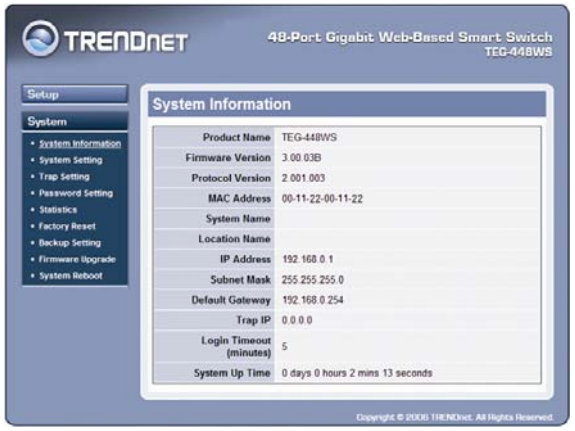


Figure 15. System Information

Configuring Setup Settings

There are seven options; *Port Settings, IEEE 802.1Q VLAN Setting, Trunk Setting, Mirror Setting, IEEE 802.1p Default Priority, Broadcast Storm Control Setting and Jumbo Frame Setting*

Port Settings

In Port Settings menu (Figure 16), this screen shows each port's status. You can change the speed and flow control parameters by clicking on the dropdown menu. If you want to update the link status, press the "Refresh" button.

The *Link Status* in the screen will show the connection speed and duplex mode. If there is no connection to the port, ***down*** will be displayed.

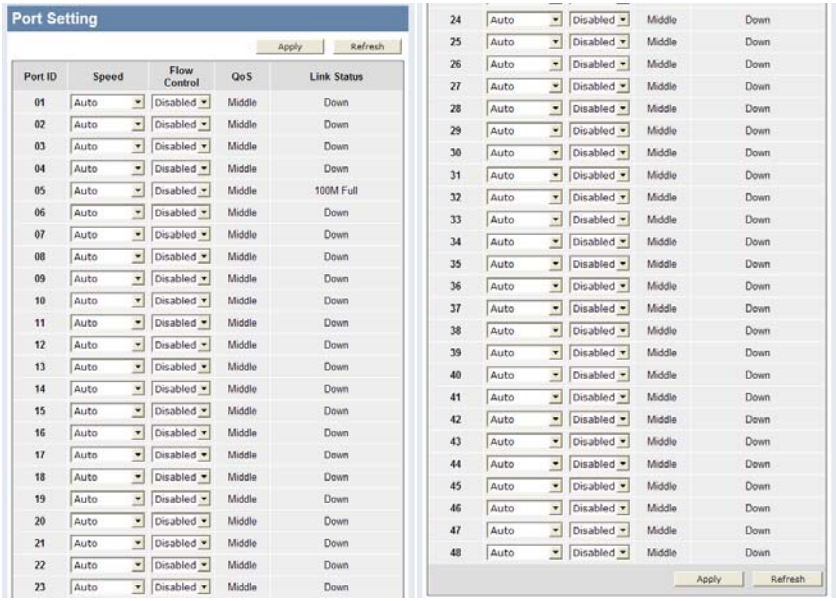


Figure 16. Port Setting

Note 1: Be sure to click refresh after switching between media type (Fiber to Copper or Copper to Fiber).

Note 2: The priority of Gigabit Fiber port is higher than Copper.

Speed/Disable:

There are six options—***1000M Full, 100MFull***, ***100M Half***, ***10M Full***, ***10M Half, Auto and Disable***.

Flow Control:

This setting determines whether or not the Switch will be handling flow control. Set Flow Control to ***Enable*** to avoid data transfer overflow. Set Flow Control to ***Disable*** if flow control is not needed.

When the port is set to ***forced mode***, then the flow control will automatically be set to ***Disable.***

QoS:

Displays the priority set to each port.

VLAN Settings (IEEE 802.1Q VLAN)

A VLAN is a collection of switch ports that make up a single broadcast domain. You can configure a VLAN for a single switch, or for multiple switches. When you create a VLAN, you can control traffic flow and make network administration easier, by eliminating the need to change physical cabling.

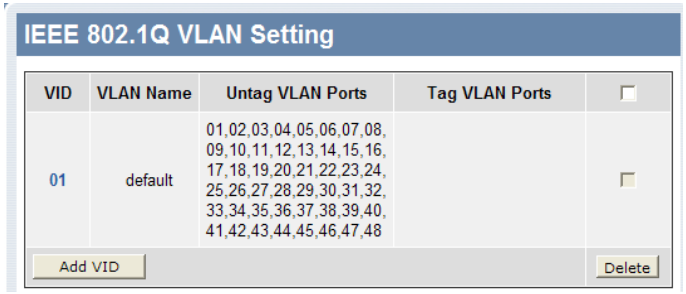


Figure 17

VID Table Setting: To configure the VLAN settings, click on Add VID. Enter a VID and VLAN name. Then select a port to be a member to this VLAN Group by selecting tag or untag, and click *"Apply"*. To modify a VLAN group, click on the VLAN group number. To remove a VID group, select the VID group and press *"Delete"* button.

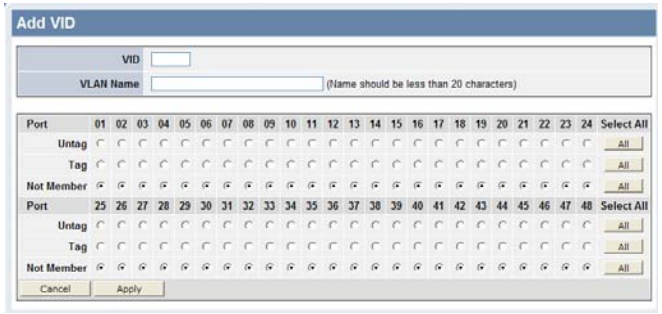


Figure 18. VLAN Settings

Trunk Setting

The Trunk function enables the user to cascade two or more devices t0 increase bandwidth.

The user can set up to six Trunk groups. Enter a Trunking Name, select the ports to be a member of the trunk, and click "Apply".

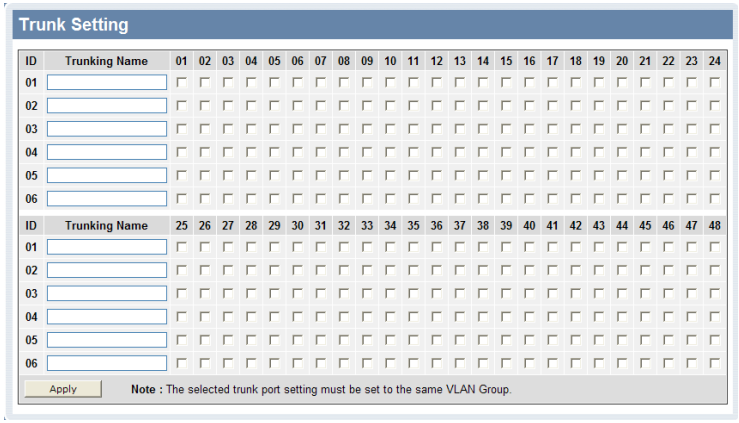


Figure 19. Trunk Settings

Note: The selected trunk port setting must set to the same VLAN group.

Mirror Setting

Port Mirroring is a method of monitoring network traffic. The Switch forwards a copy of each incoming and/or outgoing packet from one port of to another port on the Switch where the packet can be studied. It enables the manager to keep close track of switch performance and alter it if necessary.

Configure port mirroring by assigning a source port from which to copy all packets and a sniffer port where those packets will be sent.

The following options are available:

TX (transmit) mode: this mode will duplicate the data transmit from the source port and forward to the sniffer port.

RX (receive) mode: this mode will duplicate the data that's sent to the source and forward it to the sniffer port.

Both (transmit and receive) mode: this mode will duplicate both the data transmit from and data that send to the source port, then it will forward to the sniffer port.

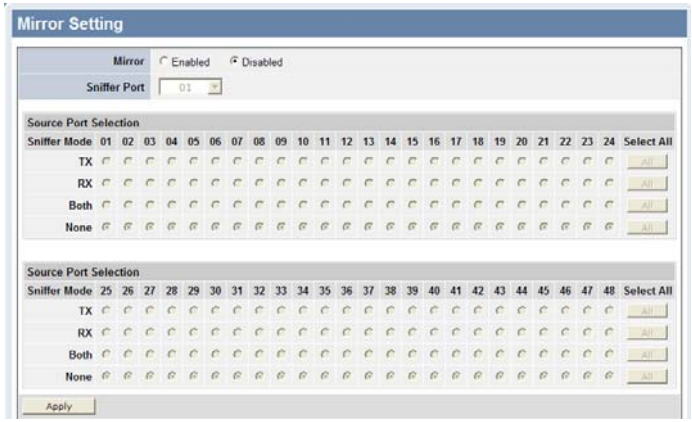


Figure 20

IEEE 802.1p Default Priority

Each port can be set to one of the following priority levels: Highest, High, Middle and Low.

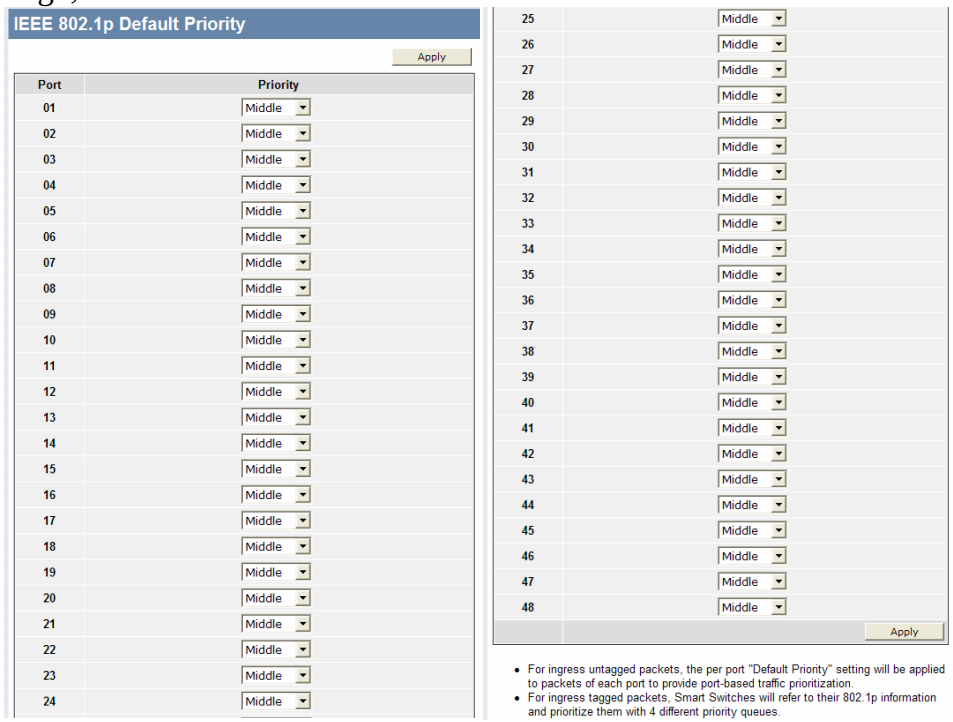


Figure 21

- For ingress untagged packets, the per port "Default Priority" setting will be applied to packets of each port to provide port-based traffic prioritization.
- For ingress tagged packets, Smart Switches will refer to their 802.1p information and prioritize them with 4 different priority queues.

Broadcast Storm Control Setting

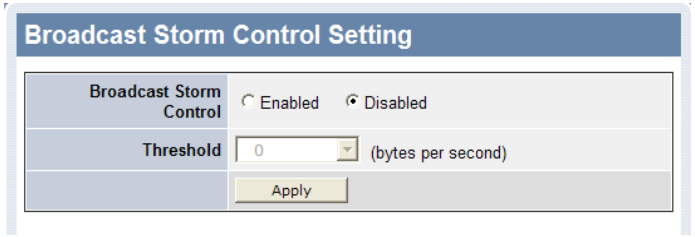


Figure 22

Click **Enabled** to enable Broadcast Storm Control Setting. The threshold can be set to one of the following Threshold levels (in bytes per second): 0, 8,000, 32,000, 64,000, 128,000, 256,000, 512,000, 1,024,000, 2,048,000, 2,096,000.

Jumbo Frame Setting

.

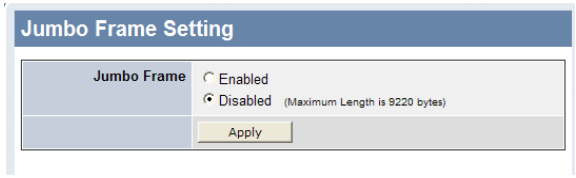


Figure 23

Click **Enabled** to enable Jumbo Frames

Configure System Settings

There are 9 options; System Information, System Setting, Trap Setting, Password Setting, Statistics, Factory Reset, Backup Setting, Firmware Upgrade

System Information

This section displays the following information; Product Name, Firmware Version, Protocol Version, MAC Address, System Name, Location Name, IP Address, Subnet Mask, Default Gateway, Trap IP, Login Timeout (minutes), and System Up Time.

Press ***"Refresh"*** when you need to renew the system information.

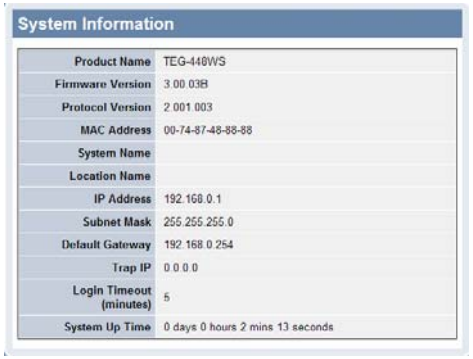


Figure 24

System Setting

The System Setting allows you to configure the following: System Name, Location Name, Login Timeout, IP Address, Subnet Mask and Gateway. Through the Web Management Utility, you can easily recognize the device by using System Name and the Location Name.

Login Timeout allows the user to set the idle time-out. The user must login to the Web Smart Utility once the idle time-out has expired.

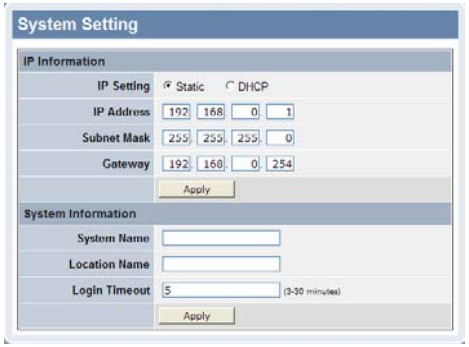


Figure 25

Trap Setting

The Trap Setting enables the device to monitor the Trap through the Web Management Utility, set the Trap IP Address of the manager where the trap to be sent.

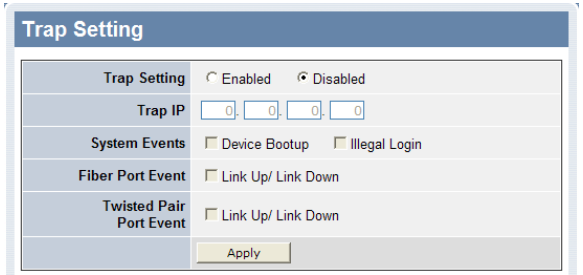


Figure 26. Trap Setting

System Events: Monitoring the system's trap.

Device Bootup: a trap when booting up the system.

Illegal Login: a trap when the wrong password credentials are entered; it will record the user's IP information.

Fiber Port Events: Monitoring the Fiber port status.

Link Up/Link Down: a trap when there is linking status activity on the fiber port.

Abnormal* Receive Error: a trap when there are data receiving errors on the fiber port.

Abnormal* Transmit Error: a trap when there are data transmission errors on the fiber port.

Twisted Pair Port Events: Monitoring the twisted pair port status.

Abnormal* Receive Error: a trap when there are data receiving errors on the copper Ethernet port.

Abnormal* Transmit Error: a trap when there are data transmission errors on the copper Ethernet port.

Abnormal*: 50 error packet count within 10 seconds.

Password Setting

Password is an invaluable tool for the manager to secure access to the Web Management Switch. Use this option to change the password. The default password is **"admin"**.

If you forget the password, press the "Reset" button on the front of the Switch.

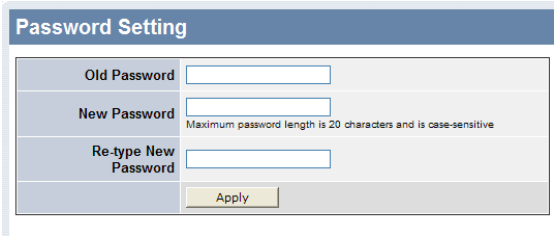


Figure 27. Set Password

Statistics

The Statistics screen will show the status of each port packet count.

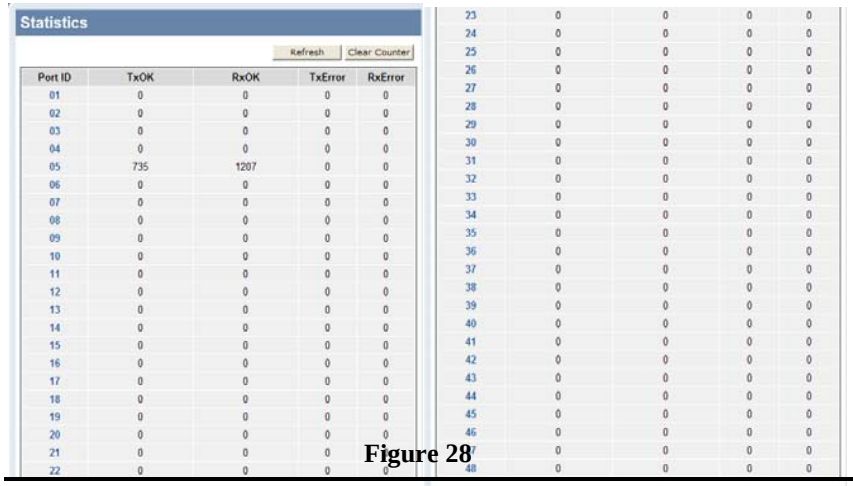


Figure 28

Backup Setting

The backup tool allows you to backup the current setting of the Switch. Press the ***"Backup"*** button to save the setting.

To restore saved settings from a file, you must specify the backup file and press ***"Restore"*** button.

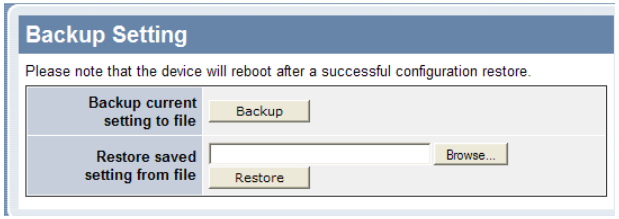


Figure 29. Backup Setting

Note: when restoring a recorded file, the current password will not be erased.

Reset Setting

The Factory Reset button allows you to reset the device back to the default settings. Be aware that the entire configuration will be reset, including IP Address.

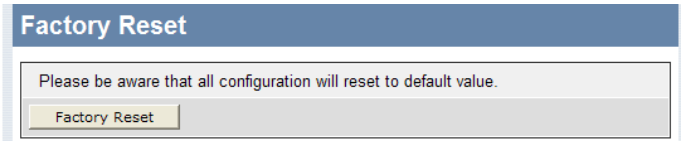


Figure 30. Reset Setting

Logout

When you click on Logout, the web configuration will return to the Login screen.

Figure 31. Logout

TECHNICAL SPECIFICATIONS

General	
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3x Full Duplex Flow Control IEEE 802.3z 1000BASE-SX/LX Gigabit Ethernet
Protocol	CSMA/CD
Data Transfer Rate	Ethernet: 10Mbps (half-duplex), 20Mbps (full-duplex) Fast Ethernet: 100Mbps (half-duplex), 200Mbps (full-duplex) Gigabit Ethernet: 2000Mbps (full-duplex)
Topology	Star
Network Cables	10BASET: 2-pair UTP Cat. 3, 4, 5; up to 100m 100BASE-TX: 2-pair UTP Cat. 5; up to 100m 1000BASE-T: 4-pair UTP Cat. 5; up to 100m Fiber module: mini-GBIC Fiber module
Number of Ports	48 × 10/100/1000Mbps Auto-MDIX RJ-45 ports 4 × mini-GBIC fiber slot (Shared)
Physical and Environmental	
AC inputs	100-240V AC, 50-60 Hz internal universal power supply
Power Consumption	99.7 Watts (Max)
Temperature	Operating: 0° ~ 40° C, Storage: -10° ~ 70° C
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%
Dimensions	440 x 310 x 44 mm (W x H x D)
Certifications	FCC Class A, CE Mark Class A, VCCI Class A

Performance	
Transmits Method:	Store-and-forward
Filtering Address Table:	8K entries per device
Packet Filtering/Forwarding Rate:	10Mbps Ethernet: 14,880/pps 100Mbps Fast Ethernet: 148,800/pps 1000Mbps Gigabit Ethernet: 1,488,000/pps
MAC Address Learning:	Automatic update
Transmits Method:	Store-and-forward
RAM Buffer:	1024KBytes per device

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TEG-448WS – 5 Years Warranty

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Product Warranty Registration

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