D-Link™ DES-1250G

Web Smart 48-Port 10/100Mbps+2-Port Combo 10/100/1000Mbps Copper/SFP(Mini GBIC) Gigabit Switch

Manual

Second Edition

D-Link®

Building Networks for People

RECYCLABLE

FCC Warning

This equipment has been tested and found to comply with the limits 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 can radiate radio frequency energy and, if not installed and used in accordance with this user's guide, 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 his own 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.

Warnung!

Dies ist ein Produkt der Klasse A. Im Wohnbereich kann dieses Produkt Funkstoerungen verursachen. In diesem Fall kann vom Benutzer verlangt werden, angemessene Massnahmen zu ergreifen.

Precaución!

Este es un producto de Clase A. En un entorno doméstico, puede causar interferencias de radio, en cuyo case, puede requerirse al usuario para que adopte las medidas adecuadas.

Attention!

Ceci est un produit de classe A. Dans un environnement domestique, ce produit pourrait causer des interférences radio, auquel cas l`utilisateur devrait prendre les mesures adéquates.

Attenzione!

Il presente prodotto appartiene alla classe A. Se utilizzato in ambiente domestico il prodotto può causare interferenze radio, nel cui caso è possibile che l`utente debba assumere provvedimenti adeguati.

VCCI Warning

　　この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

TABLE OF CONTENT

Congratulations on your purchase of the Web Smart 48+2G-Port 10/100/1000Mbps/SFP Switch. This device integrates 1000Mbps Gigabit Ethernet, 100Mbps Fast Ethernet, and 10Mbps Ethernet network capabilities in a highly flexible package.

Purpose

This guide discusses how to install   your Web Smart 48+2G-Port 10/100/1000Mbps/SFP Switch.

Terms/Usage

In this guide, the term "Switch" (first letter upper case) refers to your Web Smart 48+2G-Port 10/100/1000Mbps Switch, and "switch" (first letter lower case) refers to other Ethernet switches.

INTRODUCTION

This chapter describes the features of the Web-Smart 48+2G-Port 10/100/1000Mbps/SFP 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 are 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 NIC's 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. 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 do not 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 the need for routers, by 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.

Port-based (or port-group) VLAN is the common method of implementing a VLAN, and is the one supplied in the Switch.

Features

◆ 48×10/100Mbps Auto-negotiation Fast Ethernet RJ-45 ports

◆ 2×10/100/1000Mbps Auto-negotiation Gigabit RJ-45 ports

◆ 2×mini-GBIC/SFP ports, share with the 2 gigabit copper ports

◆ All RJ-45 ports support auto MDI/MDIX, so there is no need to use cross-over cables or an up-link port

◆ Half-duplex transfer mode for 10/100Mbps RJ45 ports

◆ Full-duplex transfer mode for 10/100/1000Mbps RJ45 ports

◆ Store-and-Forward switching scheme capability to support rate adaptation and ensure data integrity

◆ Up to 8K unicast addresses entities per device, self-learning, and table aging

◆ 1536KBytes packet buffer

◆ Supports IEEE 802.3x flow control for full-duplex mode ports

◆ Supports Back-pressure flow control for half-duplex mode ports

◆ Supports 802.1Q VLAN

◆ Supports Port-base QoS

◆ Supports seven Port-base Trunking group

◆ Supports Port Mirroring

◆ Supports Port-setting for Speed/Disable, Flow control

◆ Easy configuration via Web Browser

◆ Easy setting via Web Management Utility

◆ Standard 19" Rack-mount size

UNPACKING AND INSTALLATION

This chapter provides unpacking and installation information for the Switch.

Unpacking

Open the shipping cartons of the Switch and carefully unpacks its contents. The carton should contain the following items:

◆ One Web Smart 48+2G-Port 10/100/1000Mbps/SFP Switch

◆ One AC power cord, suitable for your area's electrical power connections

◆ Four rubber feet to be used for shock cushioning

◆ Screws and two mounting brackets

◆ CD-Rom with Web Management Utility and User's Guide

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

Installation

The site where you install the hub stack may greatly affect its performance. When installing, consider the following pointers:

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 (about 4 inches) 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 rack installation, see the next section, titled 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.

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 1. Combine the Switch with the provided screws

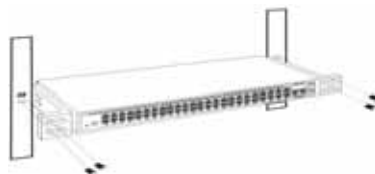Then, use screws provided with the equipment rack to mount each Switch in the rack.

Figure 2. Mount the Switch in the rack

Connecting Network Cable

The Switch supports 10Mbps Ethernet or 100Mbps Fast Ethernet and it runs both in half- and full- duplex mode using two pairs of Category 5 cables.

The Switch also supports 2-Ports Gigabit Ethernet that runs in Auto-negotiation mode and 10Mbps Ethernet or 100Mbps Fast Ethernet that runs both in half- and full- duplex mode and 1000Mbps Gigabit Ethernet runs in full-duplex mode using four pairs of Category 5 Cables.

These RJ-45 ports are Auto-MDI type port. The Switch can auto transform to MDI-II or MDI-X type, so you can just make an easy connection that without worrying if you are using a standard or crossover RJ45 cable.

There are additional two mini-GBIC ports for optional mini-GBIC/SFP modules.

AC Power

The Switch uses a 100-240V AC, 50-60 Hz AC power supply. The power switch is located at the rear of the unit adjacent to the AC power connector and the system fan. The Switch's power supply will adjust to the local power source automatically and may be turned on without having any or all LAN segment cables connected.

IDENTIFYING EXTERNAL COMPONENTS

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

Front Panel
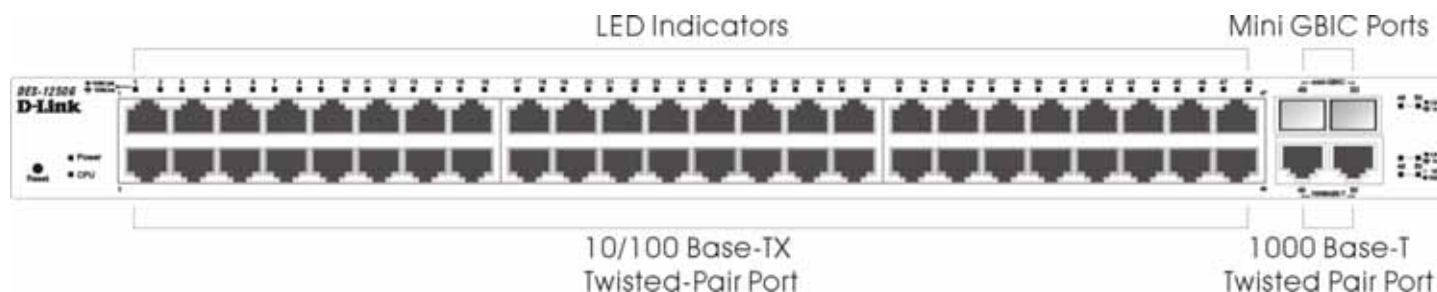
The figure below shows the front panels of the Switch.

Figure 3. Front panel of 48+2G-port Gigabit Ethernet Switch

LED Indicator:

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

Fast Ethernet Ports (Port 1~48):

These ports support network speeds of either 10Mbps or 100Mbps, and can operate in half- and full- duplex transfer modes. These ports also supports automatic MDI/MDIX crossover detection function gives true "plug and play" capability, just need to plug-in the network cable to the hub directly and don't care if the end node is NIC (Network Interface Card) or switch and hub.

Gigabit Ethernet Ports (Port 49~50):

The Switch is equipped with two Gigabit twisted pair ports, supported auto negotiable 10/100/1000Mbps and auto MDI/MDIX crossover detection function. These two ports can operate in half-duplex mode for 10/100Mbps and full-duplex mode for 10/100/1000Mbps.

Note: When the port was set to "Forced Mode", the Auto MDI/MDIX will be disabled.

mini-GBIC (SFP) Ports (Port 49~50):

The Switch is equipped with two mini-GBIC ports, supported optional 1000BASE-SX/LX mini-GBIC transceivers.

Port 49 and 50 are the same ports with the mini-GBIC no.49 and 50 ports, when the mini-GBIC transceiver is plugged in, the device will activate mini-GBIC, and the RJ-45 port will be disabled.

Reset:

The Reset button is to reset all settings back to factory defaults.

Note: Be sure that you record the setting of your device, or else all settings will be erased when pressing the "Reset" button.
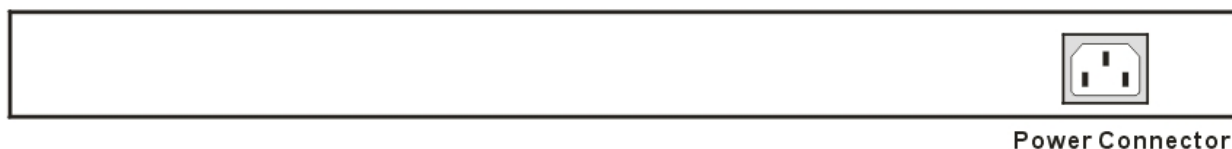
Rear Panel

Figure 4. Rear panel of the Switch

AC Power Connector:

This is a three-pronged connector that supports the power cord. Plug in the female connector of the provided power cord into this connector, and the male into a power outlet. Supported input voltages range from 100-240V AC at 50-60Hz.

UNDERSTANDING LED INDICATORS

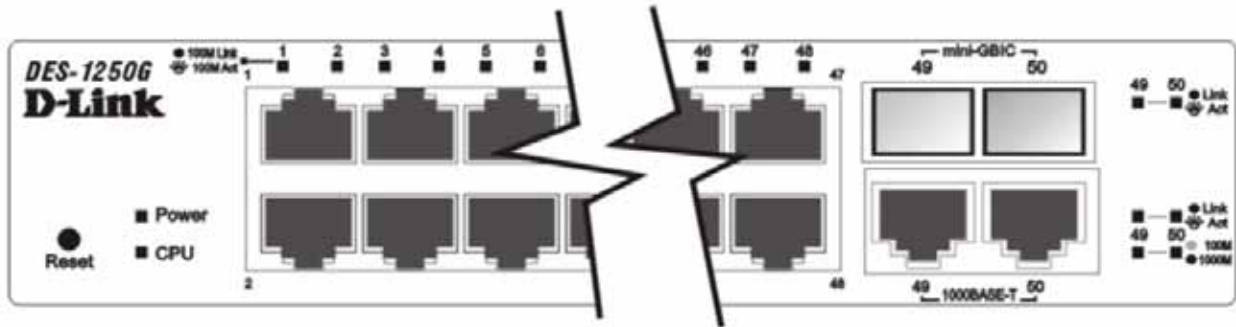The front panel LEDs provide instant status feedback, and help monitor and troubleshoot when needed.

Figure 5. LED indicators of the Switch

Power and System LEDs

POWER: Power Indicator

On	:	When the Power LED lights on, the Switch is receiving power.
Off	:	When the Power turns off or the power cord has improper connection.

CPU: Management Indicator

Blinking	:	When the CPU is working, the System LED is blinking.
On/Off	:	The CPU is not working.

Ports 1~48 10/100M Status LEDs

Link/ACT: Link/Activity

On	:	When the Link/ACT LED lights on, the respective 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.

Ports 49~50 Gigabit Status LEDs

Link/ACT: Link/Activity

On	:	When the Link/ACT LED lights on, the respective 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:

On (Green)	:	When the green light is on, the respective port is connected to a 1000Mbps Gigabit Ethernet network.

On (Amber)		When the Amber light is on, the respective port is connected to a 100Mbps Fast Ethernet network.
Off	:	When the respective port is connected to a 10Mbps Ethernet or No link.

Ports 49~ 50 mini-GBIC Status LEDs

Link/ACT: Link/Activity

On	:	When the mini-GBIC transceiver is installed and connected to a network, the Link/ACT LED lights on.
Blinking	:	When the LED is blinking, the mini-GBIC module is receiving data on a network.
Off	:	No link.

CONFIGURATION

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

With the attached Web Management Utility, you can easily discover all Web Management Switches, assign the IP Address, change the password, and upgrade new firmware.

Installing the Web Management Utility

"If your utility is old version, please remove it and install v.1.01 or higher"

The following   provides instructions guiding you through the installation of the Web Management utility.

1.   **Insert the Utility CD in the CD-ROM Drive.**

2.   **From the** Start **menu on the Windows desktop, choose** Run**.**

3.   **In the** Run **dialog box, type D:\Web Management Utility\setup.exe (D:\ depends where your CD-Rom drive is located) and click** OK**.**

4.   **Follow the on-screen instructions to install the utility.**

5.   **Upon completion, go to** Program Files -> D-Link_web_management_utility **and execute the Web Management utility. (Figure 6.)**
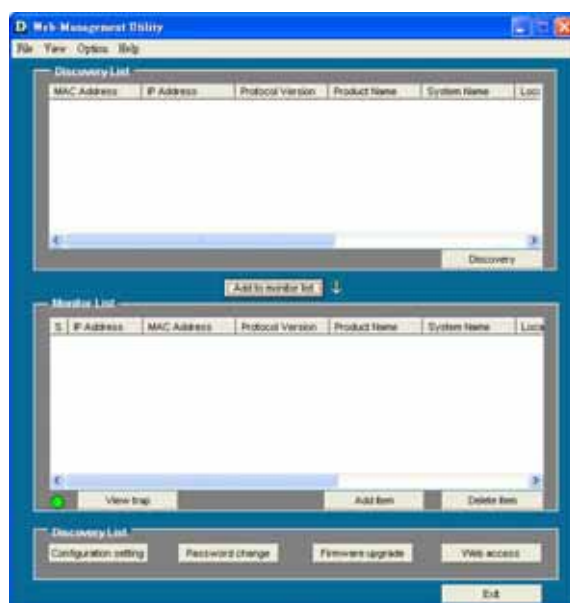
Figure 6. Web Management Utility

The Web Management Utility is divided into four parts: *Discovery List*, *Monitor List*, *Device Setting*, and *Toolbar function*. **For detailed instruction, follow the section below.**

Discovery List

This is the list where you can discover all the Web management devices in the entire network.

By pressing the *"Discovery"* **button, you can list all the Web Management devices in the discovery list.**

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

System word definitions in the Discovery List:

● *MAC Address:* Shows the device MAC Address.
● *IP Address:* Shows the current IP address of the device.
● *Protocol version:* Shows the version of the Utility protocol.
● *Product Name:* Shows the device product name.
● *System Name:* Shows the appointed device system name.
● *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 set of the device.
- **Gateway:** Shows the Gateway set of the device.

Monitor List

All the Web Smart Devices in the Monitor List can be monitored; you can also receive   traps and show the status of the device.

System word definitions in the Monitor List:

- **S:** Shows the system symbol of the Web-Smart device, ❌ represents a device system that is not alive.
- **IP Address:** Shows the current IP address of the device.
- **MAC Address:** Shows the device MAC Address.
- **Protocol version:** Shows the version of the Utility protocol.
- **Product Name:** Shows the device product name.
- **System Name:** Shows the appointed device system name.
- **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 set of the device.
- **Gateway:** Shows the Gateway set of the device.

View Trap: **The Trap function can receive the events that occur from the Web Management Switch in the Monitor List.**

There is a light indicator behind the *"View Trap"* **button, when the light is green, it means that no trap has been transmitted, and when it is red, it means that a new trap has been transmitted; this is to remind us to view the trap. (Figure 7)**

 Figure 7.

When the *"View Trap"* **button is clicked, a Trap Information window will pop up; it will display the trap information including the Symbol, Time, Device IP, and the Event occured. (Figure 8)**

The symbol "❗" represents the trap signal, this symbol will disappear after you review and click on the event record.

Figure 8.

Note: In order to receive Trap information, the Switch has to be configured with the Trap IP and Trap Events settings in the Web browser, which are available in the Trap Setting Menu (see Page 40 for detail).

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

You can set the device by using the function key in the Device Setting Dialog box.

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 press this button. The Configuration Setting window will pop   up as seen in Figure 9. After filling in the data that you want to change, you must fill in the password and press the "Set" button to process the data change immediately.
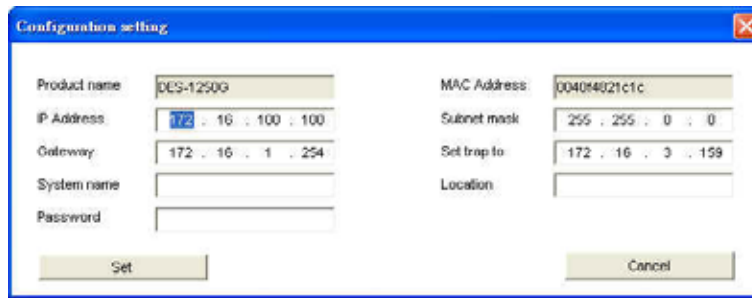
The factory default password is *"admin."*

Figure 9. Configuration Setting

Password Change: **You can use this Password Change when you need to change the password, fill in the required passwords in the dialog box and press the** *"Set"* **button to process the password change immediately.**
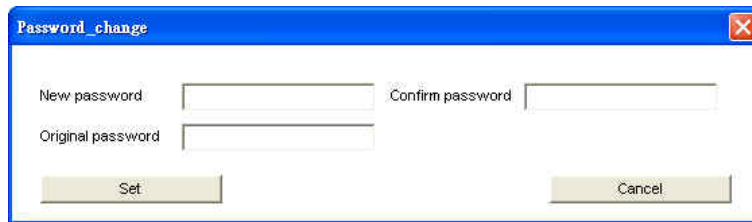

Figure 10. Password Change

Firmware Upgrade: **When the device has a new function, there will be a new firmware to update the device; use this function to upgrade the firmware.**
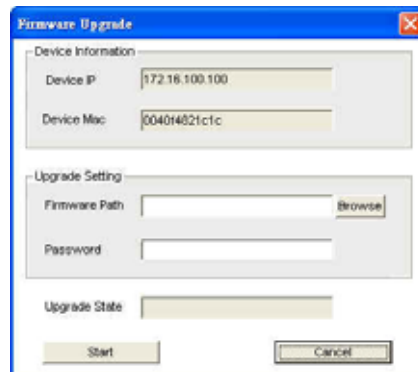

Figure 11.

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

Toolbar

The toolbar in the Web Management Utility has four main tabs: File, View, Options, and Help.

In the *"File TAB"***, there is Monitor Save, Monitor Save As, Monitor Load, and Exit.**

   Monitor Save: **To record the setting of the Monitor List to the default settings. The next time you open the Web Management Utility, it will automatically load the default recorded setting.**

   Monitor Save As: **To record the setting of the Monitor List to anappointed filename and file path.**

   Monitor Load: **To manually load the setting file of the Monitor List.**

   Exit: **To exit the Web Management Utility.**

In the *"View TAB"***, there is the view log and clear log function. These functions will help you display trap settings.**

   View Log: **To show the event of the Web Management Utility and the device.**

   Clear Log: **To clear the log.**

In the *"Option TAB"*, there is the Refresh Time function; this function helps you to refresh the time for monitoring the device. Choose *15 secs*, *30 secs*, *1 min*, *2 min*, and *5 min* to select the time for monitoring.

In the *"Help TAB"*, there is About function, it will show out the version of the Web Management Utility.

Configuring the Switch

The 48+2G-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 indicates how to configure the Switch to enable its smart functions including:

◆ Port Setting (Speed/Disable, Duplex mode, Flow Control, and Port base QoS)

◆ Virtual LAN Group setting (VLAN)

◆ Port trunking

◆ Port mirroring

◆ System Setting

◆ Device status and Statistic

Login

Before you configure this device, note that when the Web Smart Switch is configured through an Ethernet connection, the manager PC must be set on same the IP network. For example, when the default network address of the default IP address of the Web Smart Switch is *192.168.0.1*, then the manager PC should be set at 192.168.0.x (where x is a number between 2 and 254), and the default subnet mask is 255.255.255.0.

Open Internet Explorer 5.0 or above Web browser.

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

Figure 12.

Or through the Web Management Utility, you do not need to remember the IP Address. Select the device shown in the Monitor List of the Web Management Utility to settle the device on the Web Browser.

When the following dialog page appears, enter the default password *"admin"* and press Login to enter the main configuration window.

Figure 13.

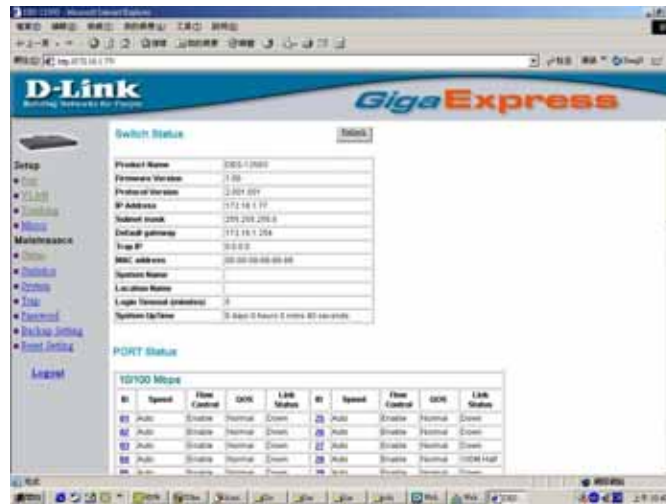After entering the password, the main page comes up; the screen will display the device status.

Figure 14. Device Status

Setup Menu

When the main page appears, find the *Setup menu* on the left side of the screen (Figure 15). Click on the setup item that you want to configure. There are eleven options: *Port Settings*, *VLAN Settings*, *Trunk Setting*, *Device Status*, *Statistic*, *System Settings*, *Trap Setting*, *Password Setting*, *Backup Setting*, *and Reset Setting* as shown in the Main Menu screen.
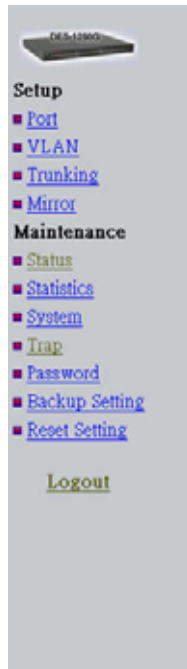

Figure 15. Setup menu

Configuring Setup Setting

There are four items, including *Port Settings*, *VLAN Settings*, *and Trunk Settings* in the Setup menu.

Port Settings

The Port Settings menu (Figure 16) will display each port's status, press the ID parameter to set each port's *Speed*, *Flow Control*, *and QoS priority*. When you need to renew the posted information, press the "Refresh" button.

The *Link Status* in the screen will display the connection speed and duplex mode; this dialog box will display *down* when the port is disconnected.

Figure 16. Port Configuration

To change the port setting, click on the ID parameter to enter the selected port to configure its Speed/Disable, Flow control, and QoS setting.

Figure 17.

Speed:
This setting has six modes—*1000M Full*, *100M Full*, *100M Half*, *10M Full*, *10M Half*, *Auto*, and *Disable*—for speed or port disable selections.

Note: If the speed set to 100M full mode or 10M full mode, flow control should have the fixed setting set to disable.

Flow Control:
This setting determines whether or not the Switch will be handling flow control. Set *FlowCtrl* to *Enable* for avoiding data transfer overflow. Or if it is set to *Disable*, there is either no flow control or other hardware/software management.

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

Note: Sending packets between two groups may cause packet loss.

QoS:
In some ports that need to have a high priority to manage the data transfer, QoS should be changed. Set the port's QoS to high to determine that the port will always transfer its data first.

VLAN Settings (Virtual Local Area Network)

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 ease the administration of moves, adds, and changes on the network, by eliminating the need to change physical cabling.

On VLAN settings, there are two main settings, VID Table Setting and Port VLAN Setting.

VID: **Select the VID group that you set.**
When you select VID Table Setting, press "Add new VID" to create new VID group, from port 01 ~ port 16. Select Untag Port, Tag Port, or Not Member for each port. To save the VID group, press the "Apply" button. To remove the selected VID group, select the

VID group and press the "Remove the VID" button. To modify the VID group setting, select the VID group and change the setting, and press the "Apply" button to save the settings.

Figure 18.

When you select Port VLAN setting, fill in each port's PVID value between 1 and 4094.

Figure 19.

Trunk Setting

The Trunk function enables the Switch to cascade two devices with a double times bandwidth (up to 4000Mbps in full-duplex mode). There are seven groups for trunk setting, each group has a fixed setting to choose from, Group 1~Group 6 for 10/100Mbps setting and Group 7 for 10/100/1000Mbps setting

Figure 22. Trunk Settings

Mirror Setting

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

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

The selection of the sniffer mode is as follow:

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 send to the source and forward 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.

Note: The fiber port does not support sniffer function.

Figure 1. Mirror setting

Be sure that the selected trunk setting port connects to the device with a same VLAN group.

Device Status

Click on the *"Status"* **button to present the device status on this screen, it will show the System Status, Port Status, VLAN Status, and Trunk Status.**

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

Statistic

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

Figure 23. Statistic

For detailed packet information, click on the ID parameter as seen Figure 24.

Figure 24. Port Statistics

System Setting

The System Setting includes the 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 the System Name and the Location Name.

The Login Timeout is used to set the idle time-out for security purposes. When there is no action while running the Web Smart Utility and the time is up, you must re-login to Web Smart Utility before you set the Utility.

Fill in the IP Address, Subnet Mask, and Gateway for the device.

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 is 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 there is an incorrect password login, and it will record from where the IP logins in.**
◆ Fiber Port Events: **Monitoring the Fiber port status.**
   Link Up/Link Down: **A trap when linking status occurs in the fiber port.**
   Abnormal* Receive Error: **A trap when there are receive data errors in fiber port.**
   Abnormal* Transmit Error: **A trap when there are transmit data errors in fiber port.**
◆ Copper Port Events: **Monitoring the copper port status.**
   Abnormal* Receive Error: **A trap when there are receive data errors in copper port.**
   Abnormal* Transmit Erro**r: A trap when there are transmit data errors in copper port.**

Abnormal*: 50 error packet count within 10 seconds.

Set Password

Password is the invaluable tool for the manager to secure Web Management Switch. Use this function to change the password.

If you forget the password, press the "Reset" button in the rear panel of the Switch; the current setting includes VLAN, Port Setting… etc. will be lost and the Switch will restore to the default setting.

Figure 27. Set Password

Backup Setting

The backup tools help you to backup the current setting of the Switch. Once you need to backup the setting, press the *"Backup"* button to save the setting.

To restore a current setting file to the device, you must specify the backup file and press the *"Restore"* **button to process the setting of the recorded file.**

Figure 28. Backup Setting

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

Reset Setting

The Factory Reset button helps you to reset the device back to the default setting from the factory. Be aware that the entire configuration will be reset; the IP address of the device will be set to the default setting of 192.168.0.1.

Figure 29. Reset Setting

Logout

When you use this function, the Web configuration will logout and return to the first Login page.

Figure 30. Logout

TECHNICAL SPECIFICATIONS

General	
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3z 1000BASE-SX/LX Gigabit Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3x Full Duplex Flow Control
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(1000BBASE-SX/LX)
Number of Ports	48 × 10/100Mbps Auto-MDIX RJ45 ports 2 × 10/100/1000Mbps Auto-MDIX RJ45 ports 2 × mini-GBIC fiber slot (disables the Gigabit Copper ports when active)
Physical and Environmental	
AC inputs	100-240V AC, 50-60 Hz internal universal power supply
Power Consumption	24Watts (Max)
Temperature	Operating: 0° ~ 40° C (32° ~ 104° F), Storage: -10° ~ 70° C (14° - 158° F)
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%
Dimensions	440 x 44 x 310 mm (W x H x D) (17.3 x 1.7 x 12.2 in.)
EMI:	FCC Class A, CE Mark Class A, VCCI Class A
Safety:	CUL(UL60950)
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:	1536K Bytes per device

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. ("D-Link") provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty: D-Link warrants that the hardware portion of the D-Link product described below ("Hardware") will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below ("Warranty Period"), except as otherwise stated herein.

- Hardware (excluding power supplies and fans): Five (5) Years
- Power supplies and fans: One (1) Year
- Spare parts and spare kits: Ninety (90) days

The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty: D-Link warrants that the software portion of the product ("Software") will substantially conform to D-Link's then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days ("Software Warranty Period"), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer's sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link's option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link's functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty: The Limited Warranty provided hereunder for Hardware and Software portions of D-Link's products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold "As-Is" without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim: The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.

- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-453-5465, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.com/.

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.

- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery ("COD") is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to **D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708**. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer.

D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered: The Limited Warranty provided herein by D-Link does not cover: Products that, in D-Link's judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product. While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

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

FCC Statement: This equipment has been tested and found to comply with the limits 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 in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. Operation of this equipment in a residential environment is likely to cause harmful interference to radio or television reception. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Product Registration

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