

D-Link™ DES-1226G

**Web-Smart 24-Port 10/100Mbps+2-Port Combo 10/100/1000Mbps
Copper/SFP(Mini GBIC) Gigabit Switch**

Manual

Second Edition

D-Link®

Building Networks for People



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1. Package Contents



- One 24-Port 10/100Mbps+2-Port Combo 10/100/1000Mbps Copper/SFP(Mini GBIC) Gigabit Smart Switch
- One AC power cord
- Four rubber feet to be used for shock cushioning
- Screws and two mounting brackets
- Quick Installation Guide
- CD-Rom with Web Management Utility and Manual

If any of the above items are missing, please contact your reseller.

2. Introduction

Congratulations on your purchase of the DES-1226G 24-Port 10/100Mbps+2-Port combo 10/100/1000Mbps Copper/SFP(Mini GBIC) Gigabit Smart Switch. This device integrates 1000Mbps Gigabit Ethernet, 100Mbps Fast Ethernet, and 10Mbps Ethernet network capabilities into one cost-effective solution.

This manual discusses how to install your DES-1226G One 24-Port 10/100Mbps +2-Port combo 10/100/1000Mbps Copper/SFP(Mini GBIC) Gigabit Smart Switch.

In this manual, the term “**Switch**” (first letter upper case) refers to your DES-1226G 24-Port 10/100Mbps+2-Port combo 10/100/1000Mbps Copper/SFP(Mini GBIC) Gigabit Smart Switch, and “**switch**” (first letter lower case) refers to other Ethernet switches.

This chapter describes the features of the Switch and some background information about Ethernet/ Fast Ethernet/ Gigabit Ethernet switching technology.

Fast Ethernet Technology

Ethernet, along with its speedier counterpart Fast Ethernet, is the most popular networking standard in use today. 100Base-T Fast Ethernet is an extension of the 10Base-T Ethernet standard, designed to raise the data transmission capacity of 10Base-T from 10Mbps/sec to 100Mbps/sec. An important technology incorporated by 100Base-T is its use of the Carrier Sense Multiple Access with Collision Detection (CSMA/CD) protocol, which is the same protocol that 10Base-T uses, because of its ability to work with several different types of cable, including basic twisted-pair wiring. Both of these features play an important role in network considerations, and they make 100Base-T an attractive migration path for those networks based on 10Base-T. 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

Switching is a cost-effective way of increasing the total network capacity available to users on a LAN. If an Ethernet network begins to display symptoms of congestion, low throughput, slow response times, and high rates of collision, installing a switch to a network can preserve much or all of the existing network's cabling and workstation interface card infrastructure while still greatly enhancing the throughput for users. A switch is a viable solution even if demanding applications, such as multimedia production and video conferencing, are on the horizon. The most promising techniques, as well as the best return on investment, could well consist of installing the right mixture of Ethernet switches.

A switch increases capacity and decreases network loading by dividing a local area network into different LAN segments. Dividing a LAN into multiple segments is one of the most common ways of increasing available bandwidth. If segmented correctly, most network traffic will remain within a single segment, enjoying the full-line speed bandwidth of that segment.

Switches provide full-line speed and dedicated bandwidth for all connections. This is in contrast to hubs, which use the traditional shared networking topology, where the connected nodes contend for the same network bandwidth. When two switching nodes are communicating, they are connected with a dedicated channel between them, so there is no contention for network bandwidth with other nodes. As a result, the switch reduces considerably the likelihood of traffic congestion.

For Fast Ethernet networks, a switch is an effective way of eliminating the problem of chaining hubs beyond the “two-repeater limit.” A switch can be used to split parts of the network into different collision domains, making it possible to expand your Fast Ethernet network beyond the 205-meter network diameter limit for 10BASE-TX networks. Switches supporting both traditional 10Mbps Ethernet and 100Mbps Fast Ethernet are also ideal for bridging between existing 10Mbps networks and new 100Mbps networks.

Switching LAN technology is a marked improvement over the previous generation of network hubs and bridges, which were characterized by higher latencies. Routers have also been used to segment local area networks, but the cost of a router, and 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 utilities include:

- 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 and Benefits

- (24) 10/100BASE-TX Fast Ethernet ports + (2) 1000BASE-T Gigabit Ethernet ports or (2) SFP(Mini GBIC) for 2 additional copper or fiber Gigabit connections
- Auto MDI/MDI-X support on each port
- Full-/half- duplex transfer mode for 10/100Mbps Fast Ethernet transmission
- Full-duplex transfer mode for Gigabit Ethernet transmission
- Wire-speed reception and transmission
- Store-and-Forward switching method
- Integrated address Look-Up Engine, supports 8K MAC addresses
- Supports 256K bytes RAM for data buffering
- Extensive front-panel diagnostic LEDs
- Broadcast storm protection
- IEEE 802.3x flow control for full-duplex
- Back pressure flow control for half-duplex
- Support Simple Network Management Protocol (SNMP)
- Supports MIB for:
 - RFC1213 MIB II.
 - Private MIB.
- Supports port-base VLAN, 802.1Q-based VLAN
- Supports Trunking
- 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

LEDs

LED stands for Light-Emitting Diode.

The front panel LEDs provides instant status feedback and simplifies monitoring and troubleshooting tasks.

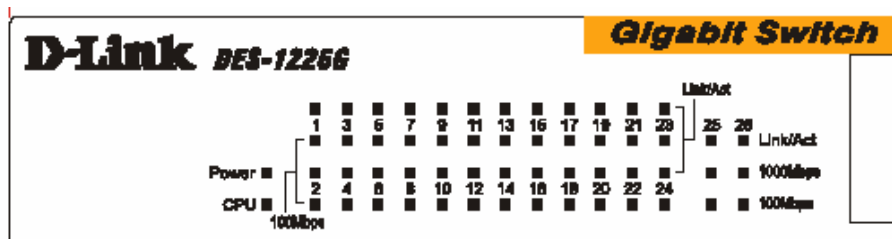


Figure 1. LED indicators of the Switch

- Power

On	When the Power LED light is on, the Switch is receiving power.
Off	When the Power LED light is off, the power cord is improperly connected.

■ **CPU (Management Indicator)**

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

Ports 1-24 Status LEDs

■ **Link/Act**

On	When the LED light is on, the respective port is connected to the 10/100Mbps Ethernet network.
Blinking	When the LED light is blinking, the port is transmitting or receiving data on the 10/100Mbps Ethernet network.
Off	No link.



■ **100Mbps**

On	When the LED light is on, the respective port is connected to a 100Mbps Ethernet network.
Off	When the LED light is off, the respective port is connected to a 10Mbps Ethernet network, or no link.

Ports 25 & 26 Status LEDs

■ **Link/Act**

On	When the LED lights on, the respective port is connected to a 10/100/1000Mbps Ethernet network.
Blinking	When the LED is blinking, the respective port is transferring or receiving data on a 10/100/1000Mbps Ethernet network.
Off	No link.

■ **1000Mbps**

On	When the LED lights on, the respective port is connected to a Gigabit Ethernet network.
Off	The respective port is connected to a 10/100Mbps Ethernet network, or no link.

■ **100Mbps**

On	When the LED lights on, the respective port is connected to a 100Mbps Fast Ethernet network.
Off	When the LED light is off, the respective port is connected to a 10Mbps or Gigabit Ethernet network or there is no link.

Option Ports 25~26 SFP(Mini GBIC) Status LEDs

■ **Link/Act**

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

■ **1000Mbps**

On	: When the 1000Mbps LED lights on, the respective port is connected to a 1000Mbps Gigabit Ethernet network.
Off	: When the respective port is disconnected to the network.

Connections

Front Panel

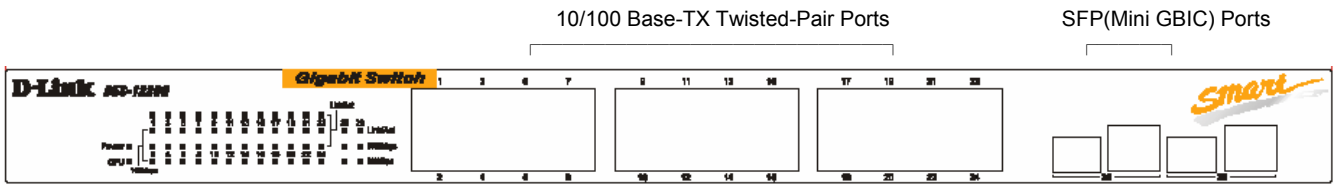


Figure 2. Front Panel

LED Indicators

10/100/1000Base-T
Twisted-Pair Ports

- 10/100BASE-TX Twisted-Pair Ports (Port1~24)
These ports support network speeds of either 10Mbps or 100Mbps, and can operate in half- and full- duplex transfer modes. These ports also support automatic MDI/MDI-X crossover detection, giving true “plug and play” capability. Just plug the network cable directly into the hub; you can use either straight-through or crossover cable.
- 10/100/1000BASE-T Twisted Pair Ports (Port 25~26)
The DES-1226G is equipped with two Gigabit twisted pair ports that are auto negotiable 10/100/1000Mbps and also support auto MDI/MDIX crossover detection. These two ports can operate in half- and full- duplex modes.
- SFP(Mini GBIC) Ports (Option Port 25~26)
The Switch is equipped with two SFP(Mini GBIC) ports, supported optional 1000BASE-X SFP(Mini GBIC) module.

Note: When the port is set to “Forced Mode”, the Auto MDI/MDIX will be disabled.

Rear Panel

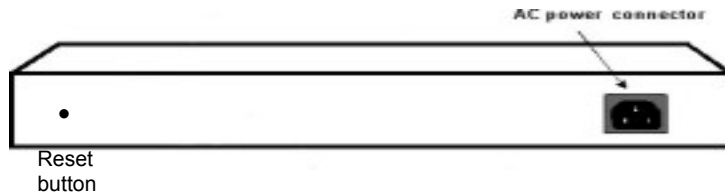


Figure 3. Rear Panel

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

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

3. Installation

The site where you place the DES-1226G may greatly affect its performance. When installing, take the following into your consideration:

- Install the DES-1226G in a fairly cool and dry place. See the *Technical Specifications* for the acceptable temperature and humidity operating ranges.
- Install the DES-1226G 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 Switch for ventilation.
- Install the DES-1226G on a sturdy, level surface that can support its weight, or in an EIA standard-size equipment rack.
- When installing the Switch on a level surface, attach the rubber feet to the bottom of each device. The rubber feet cushion the Switch and protect the Switch case from scratching.

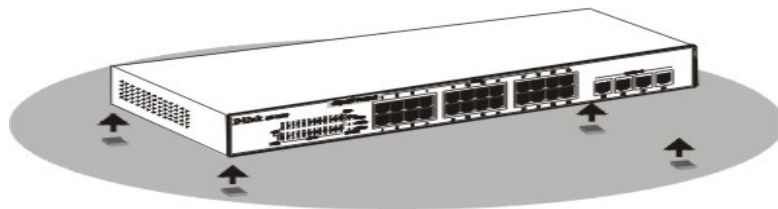


Figure 4. Attach the adhesive rubber pads to the bottom

Rack Mounting

The DES-1226G 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 to both sides of the Switch (one at each side), and secure them with the provided screws.



Figure 5. Use the screws provided, then use the equipment rack to mount the Switch in the rack.

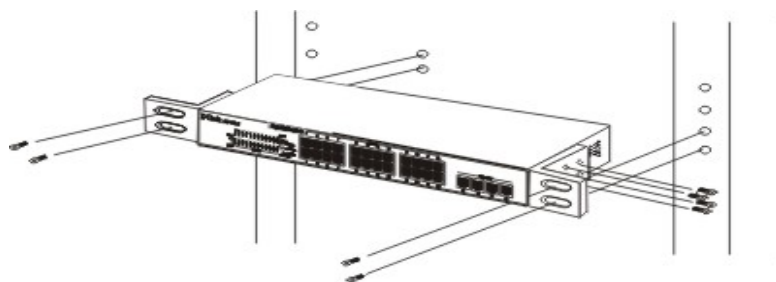


Figure 6. Mount the Switch in the rack.

Connecting Network Cable

The DES-1226G supports 10/100/1000Mbps Gigabit Ethernet. It runs full-/half- duplex transfer mode for 10/100Mbps and full-duplex transfer mode for 1000Mbps. Each port on the DES-1226G supports Auto-MDI/MDI-X. Auto-MDI/MDI-X is a feature that eliminates the need for worrying about using either a standard or crossover cable—you can use either one—and allows any port to be an uplink port.

AC Power

The DES-1226G can be used with AC power supply 100~240V AC, 50~60 Hz. 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.

4. Configuration

Through the Web browser you can configure Switch settings such as VLAN, Trunking, QoS... etc. Using the Switch's Web Management Utility, you can easily discover all the D-Link Web-Smart Switches in your network, assign the IP Address, change the password, and upgrade new firmware.

Installing the Web Management Utility

The following gives instructions guiding you through the installations 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 -> web_management_utility** and execute the Web Management utility. (Figure 1.)

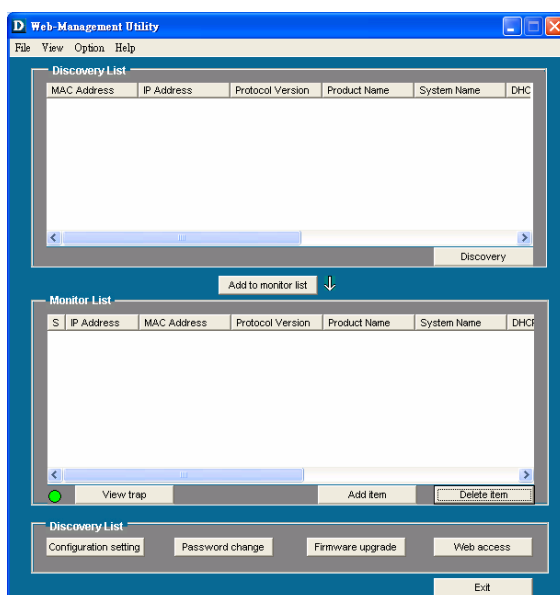


Figure 7. Web Management Utility

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 D-Link Web-Smart devices in the entire network

By clicking on the **“Discovery”** button, you can list all the Web-Smart 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 a trap 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 that the device system 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-Smart Switch in the Monitor List.

There is a light indicator behind the “**View Trap**” button. When the light is green, it indicates that no trap has been transmitted, and when it is red, it indicates that a new trap has been transmitted, reminding us to view the trap. (Figure 2)



Figure 8. View trap button

When the “**View Trap**” button is clicked, a Trap Information window will pop up, displaying trap information including the Symbol, Time, Device IP, and the Event occurred. (Figure 3)

The symbol “” represents the trap signal; this symbol will disappear after you review and click on the event record.

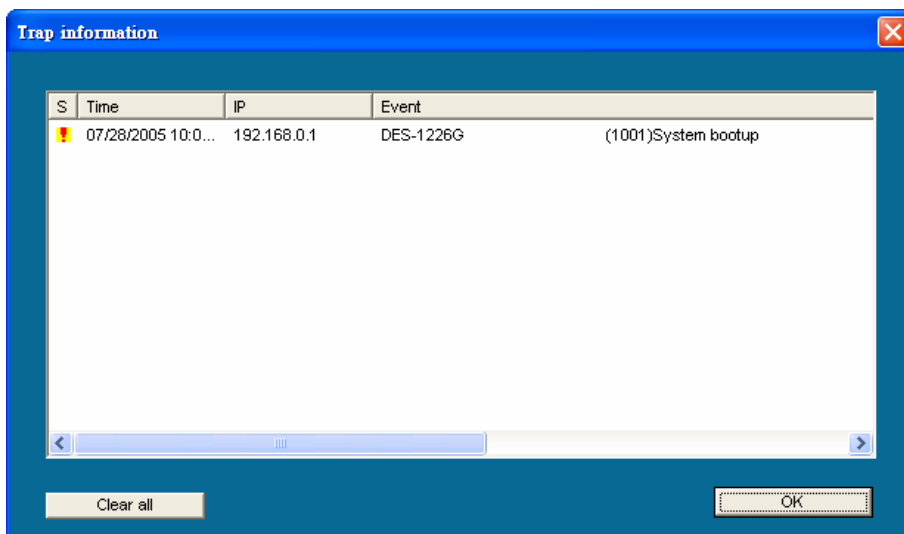


Figure 9. Trap information

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

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

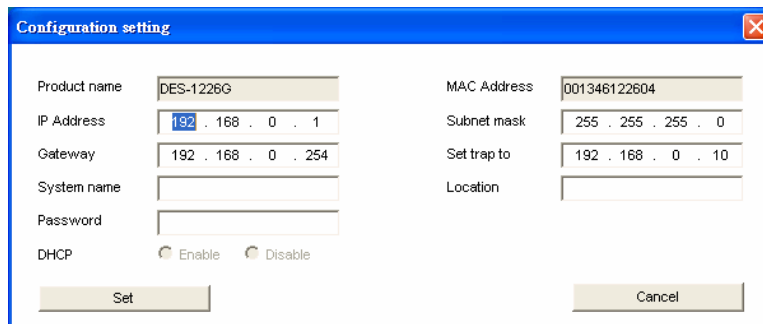
Delete Item: To delete the device in the Monitor List.

Device Setting

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

Configuration Setting: In 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 the “Configuration Setting” button; the Configuration Setting window will appear as seen in Figure 4. After entering the data that you want to change, you must enter the password and press the “Set” button to process the data change immediately.

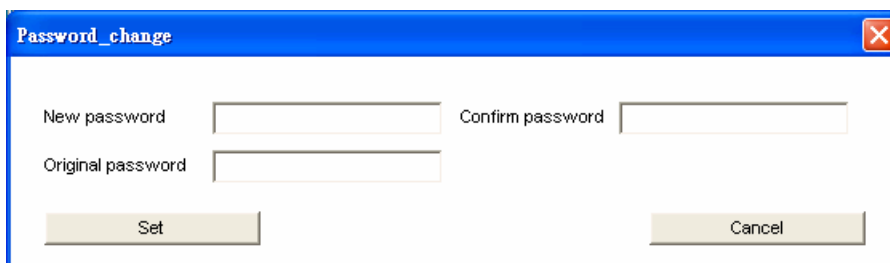


Product name	DES-1226G	MAC Address	001346122604
IP Address	192 . 168 . 0 . 1	Subnet mask	255 . 255 . 255 . 0
Gateway	192 . 168 . 0 . 254	Set trap to	192 . 168 . 0 . 10
System name		Location	
Password			
DHCP	<input checked="" type="radio"/> Enable <input type="radio"/> Disable		

Set Cancel

Figure 10. Configuration Setting

Password Change: You can use this when you need to change the password. Enter the required password in the dialog box and press the “Set” button to process the password change immediately.

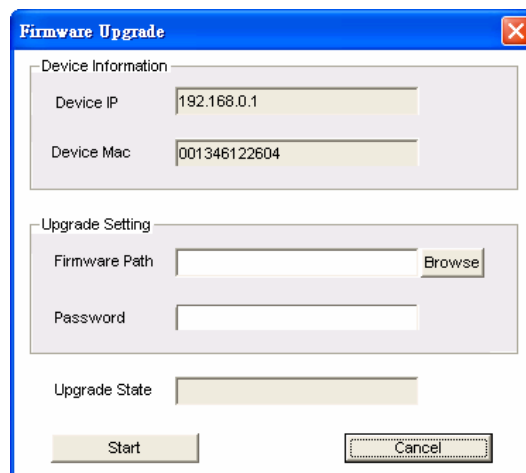


New password		Confirm password	
Original password			

Set Cancel

Figure 11. Password Change

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



Device Information	
Device IP	192.168.0.1
Device Mac	001346122604
Upgrade Setting	
Firmware Path	Browse
Password	
Upgrade State	

Start Cancel

Figure 12. Firmware upgrade

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 the Web browser.

Toolbar

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

In the “File TAB”, the options are Monitor Save, Monitor Save As, Monitor Load, and Exit.

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

Monitor Save As: To record the setting of the Monitor List in appointed 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”**, the options are view log and clear log function, this function will help you to 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 of monitoring the device. Choose **15 secs, 30 secs, 1 min, 2 min, and 5 min** to select the time of monitoring.

In the **“Help TAB”**, there is the About function. It will show out the version of the Web Management Utility.

Configuring the Switch

The DES-1226G 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, Flow Control)
- ◆ Virtual LAN Group setting (VLAN)
- ◆ Trunking
- ◆ Port Mirroring
- ◆ SNMP
- ◆ Static MAC
- ◆ QoS
- ◆ System Setting
- ◆ Device status

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 an Internet Explorer 5.0 or above Web browser.

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



Figure 13. IP address

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.

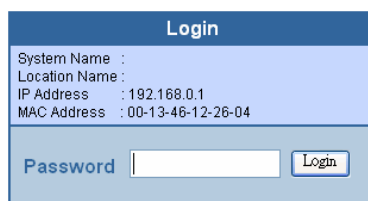
A screenshot of a 'Login' dialog box. The title bar says 'Login'. The content area lists system information: 'System Name :', 'Location Name:', 'IP Address : 192.168.0.1', and 'MAC Address : 00-13-46-12-26-04'. At the bottom, there is a 'Password' label followed by a text input field and a 'Login' button.

Figure 14. Login Password

After entering the password, the main page appears and the screen will display the device status.

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DES -1226G

Switch Status Refresh

Product Name	DES-1226G
Firmware Version	3.00.13
Protocol Version	2.001.001
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Default gateway	192.168.0.254
Trap IP	0.0.0.0
MAC address	00-13-46-11-11-11
System Name	
Location Name	
Login Timeout (minutes)	5
System Up Time	0 days 0 hours 3 mins 6 seconds

PORT Status

10/100 Mbps

ID	Speed	Flow Control	Default Priority	Link Status	ID	Speed	Flow Control	Default Priority	Link Status
01	Auto	Enable	0	Down	13	Auto	Enable	0	Down
02	Auto	Enable	0	Down	14	Auto	Enable	0	100M Half
03	Auto	Enable	0	Down	15	Auto	Enable	0	Down
04	Auto	Enable	0	Down	16	Auto	Enable	0	Down
05	Auto	Enable	0	Down	17	Auto	Enable	0	Down
06	Auto	Enable	0	Down	18	Auto	Enable	0	Down

Setup

- Port
- VLAN
- Trunking
- Mirror
- SNMP
- Static MAC
- QoS

Maintenance

- Status
- System
- Trap
- Password
- Backup Setting
- Reset Setting

Logout

Figure 15. Device Status

Setup Menu

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

DES -1226G

Setup

- Port
- VLAN
- Trunking
- Mirror
- SNMP
- Static MAC
- QoS

Maintenance

- Status
- System
- Trap
- Password
- Backup Setting
- Reset Setting

Logout

Figure 16. Setup menu

Configuring Setup Setting

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

Port Settings

The Port Settings menu page (Figure 11) displays each port's status. Click on the ID parameter to set each port's *Speed*, *Flow Control*, *Default priority*, and *Link Status*. When you need to renew the posted information, press the "Refresh" button.

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

Refresh

10/100 Mbps									
ID	Speed	Flow Control	Default Priority	Link Status	ID	Speed	Flow Control	Default Priority	Link Status
01	Auto	Enable	0	Down	13	Auto	Enable	0	Down
02	Auto	Enable	0	Down	14	Auto	Enable	0	100M Half
03	Auto	Enable	0	Down	15	Auto	Enable	0	Down
04	Auto	Enable	0	Down	16	Auto	Enable	0	Down
05	Auto	Enable	0	Down	17	Auto	Enable	0	Down
06	Auto	Enable	0	Down	18	Auto	Enable	0	Down
07	Auto	Enable	0	Down	19	Auto	Enable	0	Down
08	Auto	Enable	0	Down	20	Auto	Enable	0	Down
09	Auto	Enable	0	Down	21	Auto	Enable	0	Down
10	Auto	Enable	0	Down	22	Auto	Enable	0	Down
11	Auto	Enable	0	Down	23	Auto	Enable	0	Down
12	Auto	Enable	0	Down	24	Auto	Enable	0	Down
10/100/1000 Mbps									
ID	Speed	Flow Control	Default Priority	Link Status	ID	Speed	Flow Control	Default Priority	Link Status
25	Auto	Enable	0	Down	26	Auto	Enable	0	Down

Port 25 & 26 default (or unlinked) media types are Copper 10/100/1000Mbps.

Figure 17. Port Configuration

Note:

1. **Be sure to reset the Gigabit port when transferring the media type (Fiber to Copper or Copper to Fiber).**
2. **The priority of Gigabit Fiber port is higher than Copper.**

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

PORT Settings

Please be aware that speed must set as same as link partner.
Otherwise, packet loss or link error might occur.

ID	Speed	Flow Control	Default Priority
01	Auto	Enable	0

Apply

Figure 18. Port settings

Speed/Disable:

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

Flow Control:

This setting determines whether or not the Switch will be handling flow control. Set **FlowCtrl** to **Enable** to avoid data transfer overflow. It is set to **Disable** when there is either no flow control or other hardware/software management.

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

Default Priority:

The Default Priority is specific the 802.1P QoS priority level to related port, all of the received data packet will follow the Default Priority level forwarding data packet to other port.

VLAN Settings (Virtual Local Area Network)

IEEE 802.1Q VLAN:

VID Table Setting: 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 "Apply" button. To remove the selected VID group, select the VID group and press "Remove the VID" button. To modify the VID group setting, select the VID group and change the setting, and press "Apply" button to save the settings.

IEEE 802.1Q VLAN

VID Table Setting

VID: 1 (Default)

Apply

Egress Rule	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Untag Port	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Tag Port	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not Member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Remove the VID

Add new VID

Figure 19. VID table setting

Port VID Setting:

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

IEEE 802.1Q VLAN

Port VID Setting

Port	PVID	Port	PVID	Port	PVID	Port	PVID	Port	PVID	Port	PVID
01	1	02	1	03	1	04	1	05	1	06	1
07	1	08	1	09	1	10	1	11	1	12	1
13	1	14	1	15	1	16	1	17	1	18	1
19	1	20	1	21	1	22	1	23	1	24	1
25	1	26	1								

Apply

Figure 20. Port VID setting

Trunk Setting

The Trunk function enables to cascade two or more devices with a larger bandwidths.

There are three Trunk groups to be set; and there are default ports in each member. Checked "Enable" to use the trunk function, select the ports in each member to be trunk, and click "Apply" to activate the selected trunk group.

Trunk Setting

The selected trunk port setting must set to the same VLAN Group.

ID	Enable	Member											
01	<input type="checkbox"/>	01	02	03	04	05	06	07	08	09	10	11	12
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02	<input type="checkbox"/>	13	14	15	16	17	18	19	20	21	22	23	24
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03	<input type="checkbox"/>	25	26										
		<input type="checkbox"/>	<input type="checkbox"/>										

Apply

Figure 21. Trunk setting

Figure 15. Trunk Settings

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

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 follows:

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

RX (receive) mode: This mode will duplicate the data sent to the source and forward it to the sniffer port.

Both (transmit and receive) mode: This mode will duplicate both data transmitted from and data sent to the source port, then it will forward it to the sniffer port.

Mirror Setting

ID	01											
Sniffer Mode	Disable											
Sniffer Port	▼											
Source Port	01	02	03	04	05	06	07	08	09	10	11	12
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	13	14	15	16	17	18	19	20	21	22	23	24
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	25	26										
	<input type="checkbox"/>	<input type="checkbox"/>										

Figure 22. Mirror setting

SNMP Setting

Simple Network Management Protocol (SNMP) is an OSI Layer 7 (Application Layer) designed specifically for managing and monitoring network devices. SNMP enables network management stations to read and modify the settings of gateways, routers, switches, and other network devices. Use SNMP to configure system features for proper operation, monitor performance and detect potential problems in the Switch, switch group or network.

Managed devices that support SNMP include software (referred to as an agent), which runs locally on the device. A defined set of variables (managed objects) is maintained by the SNMP agent and used to manage the device. These objects are defined in a Management Information Base (MIB), which provides a standard presentation of the information controlled by the on-board SNMP agent. SNMP defines both the format of the MIB specifications and the protocol used to access this information over the network.

The Switch supports the SNMP versions 1. In SNMP v.1, user authentication is accomplished using 'community strings', which function like passwords. The remote user SNMP application and the Switch SNMP must use the same community string. SNMP packets from any station that has not been authenticated are ignored (dropped).

The default community strings for the Switch used for SNMP v.1 management access are:

public - Allows authorized management stations to retrieve MIB objects.

private - Allows authorized management stations to retrieve and modify MIB objects.

Traps

Traps are messages that alert network personnel of events that occur on the Switch. The events can be as serious as a reboot (someone accidentally turned OFF the Switch), or less serious like a port status change. The Switch generates traps and sends them to the trap recipient (or network manager). Typical traps include trap messages for Device boot up, Authentication Failure, Port status change and Abnormal transmit/receive data packet error.

MIBs

Management and counter information are stored by the Switch in the Management Information Base (MIB). The Switch uses the standard MIB-II Management Information Base module. Consequently, values for MIB objects can be retrieved from any SNMP-based network management software. In addition to the standard MIB-II, the Switch also supports its own proprietary enterprise MIB as an extended Management Information Base. The proprietary MIB may also be retrieved by specifying the MIB Object Identifier. MIB values can be either read-only or read-write.

Enabled / Disabled: To selecting enable or disable SNMP function on the Switch.

SNMP Community / Trap: To configure the SNMP Community or SNMP Trap configuration.

Configure SNMP Community:

SNMP Setting

SNMP:

ID	State	Community Name
01	RO	public
02	RW	private

Figure 23. SNMP Community Setting

Add Group: To add a SNMP Community group, press “Add Group” button, the Add SNMP Community configuration window will pop out; fill in the community name and assign the community enable read_only or read_write. Press “Apply” button to execute the setting.

SNMP Community Set.

Community Name	<input type="text"/>
Community Enable	<input checked="" type="radio"/> ReadOnly (RO) <input type="radio"/> ReadWrite (RW)

Apply

Figure 24. Add SNMP Community group

Delete Group: To delete previously defined SNMP Community group, press **“Delete Group”** button, the Delete SNMP Community configuration window will pop out; checked the delete dialog box. Press **“Apply”** to delete the selected SNMP Community Group.

SNMP Community Delete.

Delete	ID	State	Community Name
<input type="checkbox"/>	01	RO	public
<input type="checkbox"/>	02	RO	test2
<input checked="" type="checkbox"/>	03	RW	User

Apply

Figure 25. Delete SNMP Community group

Modify Group: To modify previously defined SNMP Community group, click on the **ID** parameter to enter to the selected SNMP Community Group to configure its community name and community enable. Press **“Apply”** to save change of the SNMP Community Group.

SNMP Community Set.

Community Name	<input type="text"/>
Community Enable	<input type="radio"/> ReadOnly (RO) <input checked="" type="radio"/> ReadWrite (RW)

Apply

Figure 196. Modify SNMP Community group

Configure SNMP Trap:

SNMP Setting Enabled

SNMP: Trap Trap authentication fail

ID	Trap Name	IP	Event
01	public	0.0.0.0	None

Note:
 S1: device bootup
 F2: link up / link down
 T1: link up / link down

Figure 27. Configure SNMP Trap Setting

Trap authentication fail: When checked the dialog box of the **Trap authentication fail**, when fail to authentication, the Switch will trap the authentication fail even to the SNMP host.

Add Trap: To create a recipient of SNMP traps generated by the Switch’s SNMP agent, press **“Add Trap”** button, and the SNMP Trap Set window will pop out; you can fill in the community name and trap IP address of the remote management station that will serve as the SNMP host for the Switch and checked the events selection n to enabled selected event traps.

SNMP Trap Set.

Trap Community Name	<input type="text"/>
Trap IP	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/>
System Events	<input type="checkbox"/> device bootup
Fiber Port Events	<input type="checkbox"/> link up / link down
Twisted Pair Port Events	<input type="checkbox"/> link up / link down

Apply

Figure 28. Add SNMP Trap

Delete Trap: To delete previously defined SNMP Trap, press **“Delete Trap”** button, the Delete SNMP Trap Delete configuration window will pop out; checked the delete dialog box. Press **“Apply”** to delete the selected SNMP Trap setting.

SNMP Setting

Enabled

SNMP:

Trap authentication fail

ID	Trap Name	IP	Event
01	public	0.0.0.0	None
02	public	192.168.0.10	S1. F2. T1.

Note:

S1: device bootup

F2: link up / link down

T1: link up / link down

Figure 29. Delete SNMP Trap

Modify Trap: To modify previously defined SNMP Trap, click on the **ID** parameter to enter to the selected SNMP Trap to configure its community name, IP address and events. Press **“Apply”** to save change of the SNMP Trap.

SNMP Trap Set.

Trap Community Name	<input type="text" value="public"/>
Trap IP	<input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="0"/> <input type="text" value="10"/>
System Events	<input checked="" type="checkbox"/> device bootup
Fiber Port Events	<input checked="" type="checkbox"/> link up / link down
Twisted Pair Port Events	<input checked="" type="checkbox"/> link up / link down

Figure 30. Modify SNMP Trap

Static MAC

The Static MAC function allows you to enable the Switch to forward the data packets to specific MAC address and specific port. Only Static MAC function enabled ports will follow the Static MAC rule from the Static MAC list.

Enabled / Disabled: Selecting the enable or disable Static MAC function on the Switch. Select “Enabled” to enabling the Static MAC function on the Switch, the Switch’s auto learning function will be disable except the specific port (set in the “Disable auto learning excluding uplink port” setting), and the Switch will forward data following the Static MAC Address Table to the specific port. Select “Disabled”, the Switch will learn and build MAC address table automatically and the Switch will forward data following the auto learning MAC Address Table to the specific port.

Disable auto learning excluding uplink port: When enable the Static MAC function, the Switch’s auto learning function will be disable, check the dialog box of the “Disable auto learning excluding uplink port” and then check the dialog box of port numbers to enable the auto learning function of the port, and the Switch will forward data following the Static MAC Address Table and the Switch’s auto learn MAC address table to the specific port.

Dynamic Forwarding Table: Select the “Dynamic Forwarding Table” at Operation Tab, and select a port which you need to list all the MAC Address connected to this port,

Static MAC Function Enabled ▾

Operation: Dynamic Forwarding Table ▾

Please select a port to search : 02 ▾ Search

Total Found:4 **PAGE:1 / 1**

ID	Port	Mac Address	Vid	Add
01	02	00 00 0c 07 ac 01	<input type="text" value="1"/>	<input type="checkbox"/>
02	02	00 05 5d a5 d3 27	<input type="text" value="1"/>	<input type="checkbox"/>
03	02	00 0c 29 45 2c 0b	<input type="text" value="1"/>	<input type="checkbox"/>
04	02	00 11 22 33 44 55	<input type="text" value="1"/>	<input type="checkbox"/>

Prev. Page Next Page Add To Static Mac

Figure 31. Dynamic forwarding table

Static MAC Address Setting: Select the “Static MAC Address Setting” at Operation Tab, add or delete the Static MAC rule the static table.

Static MAC Function Enabled ▾

Operation: Static MAC Address Setting ▾

ID	Port	Mac Address	Vid	Delete
Add Mac Delete Mac				

Figure 32. Configure Static MAC Setting

Add Static MAC rule: Press “Add Mac” button, and the Static MAC Setting window will pop out; fill in the specific MAC address, select the specific port and Vid. Press “Apply” to add rule to the list.

Static MAC Setting

MAC Address	<input type="text"/>
Port	01 ▾
Vid	<input type="text"/>

Apply

Figure 33. Add ststic MAC rule

Remove Static MAC rule: Checked Static MAC rule in list, Press “Delete Mac” button to delete the selected Static MAC rule from the list.

Static MAC Function Enabled ▾

Operation: Static MAC Address Setting ▾

ID	Port	Mac Address	Delete
01	07	00 40 05 12 34 56	<input type="checkbox"/>
02	13	00 40 05 22 44 55	<input type="checkbox"/>

Add Mac Delete Mac

Figure 34. Delete MAC

Port Setting: Select the “Port Setting” at Operation Tab, when the port is uncheck, it means that the port will auto-learn to forward the packets, and when the selected port was checked, then the port will follow the Static MAC rule to forward the packets.

Static MAC Function Enabled ▾

Operation: Port Setting ▾

Disable auto learning excluding uplink port

Uplink Port	01	02	03	04	05	06	07	08	09	10	11	12
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	13	14	15	16	17	18	19	20	21	22	23	24
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Apply

Figure 35. Add/Delete Static MAC

QoS Setting

To set the Switch QoS base on IEEE 802.1p,

Quality of Service IEEE 802.1P Based ▾

Priority	QoS	Priority	QoS	Priority	QoS	Priority	QoS
0	Normal ▾	1	Normal ▾	2	Normal ▾	3	Normal ▾
4	Normal ▾	5	Normal ▾	6	Normal ▾	7	Normal ▾

Apply

Figure36. 802.1P-based QoS Setting

Device Status

Click on the “**Status**” to present the device status on this screen. It will display the System Status, Port Status, VLAN Status, Trunk Status, and Mirror Status.

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

Switch Status Refresh

Product Name	DES-1226G
Firmware Version	3.00.13
Protocol Version	2.001.001
IP Address	192.168.0.1
Subnet mask	255.255.255.0
Default gateway	192.168.0.254
Trap IP	0.0.0.0
MAC address	00-13-46-11-11-11
System Name	
Location Name	
Login Timeout (minutes)	5
System UpTime	0 days 0 hours 3 mins 6 seconds

PORT Status

10/100 Mbps									
ID	Speed	Flow Control	Default Priority	Link Status	ID	Speed	Flow Control	Default Priority	Link Status
01	Auto	Enable	0	Down	13	Auto	Enable	0	Down
02	Auto	Enable	0	Down	14	Auto	Enable	0	100M Half
03	Auto	Enable	0	Down	15	Auto	Enable	0	Down
04	Auto	Enable	0	Down	16	Auto	Enable	0	Down
05	Auto	Enable	0	Down	17	Auto	Enable	0	Down
06	Auto	Enable	0	Down	18	Auto	Enable	0	Down

Figure 37. Device status

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 to set the idle time-out for security issues. When there is no action when running the Web Smart Utility, and it times out, you must re-login to Web Smart Utility before you set the Utility.

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

System Setting

System Name	<input type="text"/>
Location Name	<input type="text"/>
Login Timeout (3 - 30 minutes)	<input type="text" value="5"/>
IP Address	
IP address	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="0"/> . <input type="text" value="1"/>
Subnet mask	<input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/>
Gateway	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="0"/> . <input type="text" value="254"/>
<input type="button" value="Apply"/>	

Figure 38. System setting

Trap Setting

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

Trap Setting

Trap IP	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="0"/> . <input type="text" value="10"/>
System Events	<input checked="" type="checkbox"/> device bootup <input type="checkbox"/> illegal login
Fiber Port Events	<input type="checkbox"/> link up / link down
Twisted Pair Port Events	<input type="checkbox"/> link up / link down
<input type="button" value="Apply"/>	

Figure 39. Trap Setting

- ◆ **System Events:** Monitoring the system's trap.
Device Bootup: A trap when booting up the system.
Illegal Login: A trap when an incorrect password is used to login. It will record the IP address that attempted to login.
- ◆ **Fiber Port Events:** Monitors the Fiber port status.
Link Up/Link Down: A trap displaying a change in link status in the fiber port.
- ◆ **Twisted Pair Port Events:** Monitors the Fiber port status.
Link Up/Link Down: A trap displaying a change in link status in the twisted-pair port.

Set Password

Password is the invaluable tool used 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 settings, including VLAN, Port Setting... etc., will be lost and the Switch will restore to the default setting.

Password Setting

The maximum length is 20 and is case-sensitive.

Old Password	<input type="text"/>
New Password	<input type="text"/>
Re-type New Password	<input type="text"/>

Figure 40. Set Password

Backup Setting

The backup tools help you to backup the current settings of the Switch. To backup your settings, press the **“Backup”** button. To restore a current settings file to the device, you must specify the backup file and click on the **“Restore”** button to process the setting of the recorded file.

Backup Setting

Please be aware that the device will reboot after the configuration settings are restored.

Backup current setting to file :	<input type="button" value="Backup"/>
Restore saved setting from file :	<input type="button" value="Restore"/>
	<input type="text"/> <input type="button" value="Browse..."/>

Figure 41. 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 settings from the factory. Be aware that the entire configuration will be reset; the IP address of the device will be set to default setting of 192.168.0.1.

Factory Reset

Please be aware that all configuration will reset to default value.

Figure 42. Reset Setting

Logout

When pressing the **“Logout”** button, you will be logged out and the Web configuration will return to the first Login page.

Login	
System Name	: DES-1228G
Location Name	: Nick
IP Address	: 172.16.2.85
MAC Address	: 00-11-22-33-44-55
Password	<input type="text"/> <input type="button" value="Login"/>

Figure 43. Logout

5. Technical Specifications

General	
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100 BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet 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)
Network Cables	10BASE-T: 2-pair UTP/STP Cat. 3,4,5; up to 100m 100BASE-TX: 2-pair UTP/STP Cat. 5; up to 100m 1000BASE-T: 4-pair UTP/STP Cat. 5; up to 100m (Cat. 5E is recommended) Fiber module: SFP(Mini-GBIC Fiber module)
Number of Ports	24 × 10/100BASE-TX Auto-MDIX STP ports 2 × 1000BASE-T Auto-MDIX STP ports 2 × SFP(Mini GBIC) fiber slot
Physical and Environmental	
AC inputs	100 to 240V AC, 50/60 Hz internal universal power supply
Power Consumption	16 watts. (max.)
Temperature	Operating: 0°~40°C, Storage: -10°~70°C
Humidity	Operating: 10%~90%, Storage: 5%~90%
Dimensions	440× 140× 44 mm (W × H × D) 17.32 X 5.51 X 1.73 inches
Emissions	FCC Class A, CE Mark Class A
Safety	CUL
Performance	
Transmits Method	Store-and-forward
RAM Buffer	256K bytes per device
Packet Filtering/ Forwarding Rate	10Mbps Ethernet: 14,880/pps 100Mbps Fast Ethernet: 148,800/pps 1000Mbps Gigabit Ethernet: 1488,000/pps
MAC Address Learning	Automatic update

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.

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law: This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This Limited Warranty provides specific legal rights and you may also have other rights which vary from state to state.

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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

Register online your D-Link product at <http://support.dlink.com/register/>
Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

International Offices

U.S.A

17595 Mt. Herrmann Street
Fountain Valley, CA 92708
TEL: 1-800-326-1688
URL: www.dlink.com

Canada

2180 Winston Park Drive
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FAX: 1-905-8295223
URL: www.dlink.ca

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FAX: 44-20-8731-5511
URL: www.dlink.co.uk

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FAX: 49-6196-7799300
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FAX: (55 11) 21859322
URL: www.dlinkbrasil.com.br

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URL: www.dlink.com.tw

Registration Card

All Countries and Regions Excluding USA

Print, type or use block letters.

Your name: Mr./Ms _____

Organization: _____ Dept. _____

Your title at organization: _____

Telephone: _____ Fax: _____

Organization's full address: _____

Country: _____

Date of purchase (Month/Day/Year): _____

Product Model	Product Serial No.	* Product installed in type of computer	* Product installed in computer serial No.

(* Applies to adapters only)

Product was purchased from:

Reseller's name: _____

Telephone: _____

Answers to the following questions help us to support your product:

1. Where and how will the product primarily be used?

Home Office Travel Company Business Home Business Personal Use

2. How many employees work at installation site?

1 employee 2-9 10-49 50-99 100-499 500-999 1000 or more

3. What network protocol(s) does your organization use ?

XNS/IPX TCP/IP DECnet Others _____

4. What network operating system(s) does your organization use ?

D-Link LANsmart Novell NetWare NetWare Lite SCO Unix/Xenix PC NFS 3Com 3+Open Cisco Network

Banyan Vines DECnet Pathwork Windows NT Windows 98 Windows 2000/ME Windows XP

Others _____

5. What network management program does your organization use ?

D-View HP OpenView/Windows HP OpenView/Unix SunNet Manager Novell NMS

NetView 6000 Others _____

6. What network medium/media does your organization use ?

Fiber-optics Thick coax Ethernet Thin coax Ethernet 10BASE-T UTP/STP

100BASE-TX 1000BASE-T Wireless 802.11b and 802.11g wireless 802.11a Others _____

7. What applications are used on your network?

Desktop publishing Spreadsheet Word processing CAD/CAM

Database management Accounting Others _____

8. What category best describes your company?

Aerospace Engineering Education Finance Hospital Legal Insurance/Real Estate Manufacturing

Retail/Chain store/Wholesale Government Transportation/Utilities/Communication VAR

System house/company Other _____

9. Would you recommend your D-Link product to a friend?

Yes No Don't know yet

10. Your comments on this product?

PLEASE
PLACE STAMP
HERE

TO:

D-Link[®]