



# **DES-1228P**

**24-Port 10/100Mbps PoE Web Smart Switch  
with 4-Port 10/100/1000Base-T  
and 2-Port Combo SFP**

**User Manual**

*V1.20*

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## ***ABOUT THIS GUIDE***

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Thank you and congratulations on your purchase of the DES-1228P 24-Port 10/100Mbps Fast Ethernet + 4 10/100/1000Base-T Ports and 2 Combo SFP PoE Web-Smart Switch. This device integrates 1000Mbps Gigabit Ethernet, 100Mbps Fast Ethernet and 10Mbps Ethernet network capabilities in a highly flexible package. Since Ports 1~24 of this Switch are Power over Ethernet (PoE) ports, it will automatically detect the presence of IEEE 802.3af compliant devices and will provide power through these PoE ports. The Switch provides up to 15.4Watts per port and can be connected to WLAN access points, IP phones, video cameras, and other PD devices. The Switch will automatically detect the network appliance's requirements, and the Switch will supply the required power current to each appliance.

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### **Purpose**

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This guide will show you how to install and use the configuration functions of the DES-1228P Web-Smart Switch step-by-step.

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### **Terms/Usage**

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In this guide, the term “Switch” (first letter capitalized) refers to the DES-1228P Smart Switch, and “switch” (first letter lower case) refers to other Ethernet switches. Some technologies refer to terms “switch”, “bridge” and “switching hubs” interchangeably, and both are commonly accepted for Ethernet switches.

## ***INTRODUCTION***

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This chapter will describe the features of the DES-1228P and provide some background information about Ethernet/Fast Ethernet/Gigabit Ethernet switching technology.

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### **Gigabit Ethernet Technology**

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Gigabit Ethernet is an extension of IEEE 802.3 Ethernet utilizing the same packet structure, format, and support for CSMA/CD protocol, full duplex, and management objects, but with a tenfold increase in theoretical throughput of 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 existing investments in hardware, software, or trained personnel.

The increased speed and extra bandwidth offered by Gigabit Ethernet is essential to help solving network bottlenecks that frequently develop as more advanced computer users and newer applications continue to demand greater network resources. Upgrading key components, such as backbone connections and servers to Gigabit Ethernet technology can greatly improve network response times as well as significantly speed up the traffic between 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. And with expected advances in the coming years in silicon technology and digital signal processing that will enable Gigabit Ethernet to eventually operate over unshielded twisted-pair (UTP) cabling, outfitting your network with a powerful 1000-Mbps-capable backbone/server connection which will create a flexible foundation for the next generation of network technology products.

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## Fast Ethernet Technology

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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 utilizes existing investments in hardware, software, and personnel training.

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## Switching Technology

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Another approach to push 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 won't compete with each other for network transmission capacity.

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

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## Power over Ethernet (PoE)

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Power over Ethernet (PoE) integrates power and data onto one single cabling infrastructure, eliminating the need to have AC power available at all locations.

Power and Data are integrated onto the same cable. Supporting category 5/5e up to 100 Meters, PoE will provide power to PoE compatible devices, such as IP telephones, wireless LAN access points, and IP security cameras.



PoE is already widely adopted in the market, saving up to 50% of overall installation costs by eliminating the need to install separate electrical wiring and power outlets.

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## Features

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- ◆ Address Table: Supports up to 8K MAC address per device
- ◆ Supports a packet buffer of up to 128K Bytes
- ◆ 1-24 10/100M ports support up to 15.4W power which complies the IEEE802.3af Power over Ethernet standard.
- ◆ IGMP Snooping support
- ◆ IEEE802.1D Spanning Tree
- ◆ Support static Port Trunk
- ◆ IEEE802.3x flow control in full duplex mode
- ◆ Port Mirroring support
- ◆ IEEE802.1Q VLAN
- ◆ IEEE802.1p Priority Queues
- ◆ IEEE802.1x Port-based Access Control
- ◆ Supports Broadcast Storm Control
- ◆ Supports Static MAC setting
- ◆ D-Link Safeguard Engine support
- ◆ Supports Simple Network Management Protocol(SNMP)
- ◆ MIB support for: RFC1213 MIB II, Private MIB
- ◆ Supports DHCP client
- ◆ Supports Port setting for Speed, Duplex Mode

- ◆ Easy configuration via Web Browser
- ◆ Easy setting via SmartConsole Utility
- ◆ Firmware backup and upload via Web GUI
- ◆ System reboot via Web GUI
- ◆ Provides parallel LED display for port status such as link/act, speed, etc.
- ◆ Reset configuration (hardware and Web GUI)

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## Technical Specifications

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<b>Key Components / Performance</b>	
<b>Switching Capacity</b>	12.8Gbps
<b>Max. Forwarding Rate</b>	10M: 14,880 pps 100M: 148,809 pps 1G: 1,488,095 pps
<b>Forwarding Mode</b>	Store and Forward
<b>Packet Buffer memory</b>	128K Bytes
<b>SDRAM for CPU</b>	8M Bytes
<b>Flash Memory</b>	Prom 2M Bytes
<b>Port Functions</b>	
<b>LAN</b>	- 24 x 10/100BaseT ports - Compliant with the following standards: IEEE 802.3 compliance

	<ol style="list-style-type: none"> <li>1. IEEE 802.3u compliance</li> <li>2. Supports Full-Duplex operations at 10/100Mbps, and 1000Mbps only on SFP ports</li> </ol>
<p><b>Combo ports in the front panel</b></p>	<ul style="list-style-type: none"> <li>- 2 Combo 1000Base-T/SFP ports</li> <li>-1000Base-T ports compliant to the following standards: <ol style="list-style-type: none"> <li>1. IEEE 802.3 compliance</li> <li>2. IEEE 802.3u compliance</li> <li>3. IEEE 802.3ab compliance</li> <li>4. Support Full-Duplex operations</li> </ol> </li> <li>- SFP Transceivers Supported: <ol style="list-style-type: none"> <li>1. DEM-310GT (1000BASE-LX)</li> <li>2. DEM-311GT (1000BASE-SX)</li> <li>3. DEM-314GT (1000BASE-LH)</li> <li>4. DEM-315GT (1000BASE-ZX)</li> <li>5. DEM-312GT2 (1000BASE-SX), up to 2km</li> <li>6. DEM-210 (100BASE-FX), up to 2km, Multi-Mode</li> <li>7. DEM-211 (100BASE-FX), up to 15km, Single-Mode</li> </ol> </li> <li>-WDM Transceivers Supported: <ol style="list-style-type: none"> <li>1. DEM-330T (TX-1550/RX-1310nm), up to 10km, Single-Mode</li> <li>2. DEM-330R (TX-1310/RX-1550nm), up to 10km, Single-Mode</li> <li>3. DEM-331T (TX-1550/RX-1310nm), up to 40km, Single-Mode</li> </ol> </li> </ul>



	<p>4. DEM-331R (TX-1310/RX-1550nm), up to 40km, Single-Mode</p> <p>- Compliant to following standards:</p> <ol style="list-style-type: none"> <li>1. IEEE 802.3z compliance</li> <li>2. IEEE 802.3u compliance</li> </ol>
<p><b>1000Mbps Copper ports in the front panel</b></p>	<p>2 1000Base-T ports</p> <p>1000Base-T ports compliant to following standards:</p> <ol style="list-style-type: none"> <li>1. IEEE 802.3 compliance</li> <li>2. IEEE 802.3u compliance</li> <li>3. IEEE 802.3ab compliance</li> <li>4. Support Full-Duplex operations</li> </ol>
<p><b>Power over Ethernet</b></p>	
<p><b>PoE Capable Ports</b></p>	<p>Port 1-24</p>
<p><b>PoE Specification</b></p>	<ol style="list-style-type: none"> <li>1. Supplies power to PD device up to 15.4W per port, meeting IEEE802.3af standards and more sufficiently is able to provide power to PD devices</li> <li>2. Power Budget: 170W max</li> <li>3. Auto discovery feature, automatically recognize the connection of PD device and immediately sends power to it</li> <li>4. Auto disable port if the port current is over 350mA while other ports remain active</li> <li>5. Active circuit protection, automatically disables the port if there is a short while other ports remain active</li> </ol>

	6. Provide the power following the classification below		
	<b>Class</b>	<b>Usage</b>	<b>Minimum power levels at output of PSE</b>
	0	Default	15.4W
	1	Optional	4.0W
	2	Optional	7.0W
	3	Optional	15.4W
	4	Reserved	15.4W
7. DES-1228P follow the PSE pinout standard of Alternative A which is sending out power over number 1,2,3,6 pins of 8 wires of CAT5 UTP cable			

<b>Chassis</b>	
<b>Dimensions</b>	19-inch, 1U Rack-mount size 440mm x 210mm x 44mm
<b>Reset button on the front panel</b>	A factory reset button x 1
<b>Physical &amp; Environment</b>	
<b>AC input</b>	100~240 VAC, 50/60Hz Internal universal power supply
<b>Operation Temperature</b>	0~40°C
<b>Storage Temperature</b>	-10~70°C



<b>Humidity</b>	Operation: 10%~90% RH Storage: 5%~90% RH
<b>Power consumption</b>	222 watts
<b>Heat Dissipation</b>	750.2 btu/hr
<b>MTBF</b>	149,676 (hours)
<b>Emission (EMI) and Safety Certifications</b>	
EMI-EMC Compliance: FCC class A, CE Class A, VCCI Class A Safety Compliance: cUL, UL	

## ***UNPACKING AND INSTALLATION***

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This chapter provides unpacking and installation information for the Web-Smart Switch.

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### **Unpacking**

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Carefully unpack the contents of the Web-Smart Switch from the box and locate the following items:

One DES-1228P Web-Smart Switch

One AC power cord, suitable for the local electrical power voltage requirements

Four rubber feet to be used for shock cushioning

Screws and two mounting brackets

CD-Rom with the SmartConsole Utility application, which includes the full User's Guide

Quick Installation Guide

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

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### **Installation**

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The site chosen for installation greatly affects the Web-Smart Switch's performance. When installing, consider the following points:

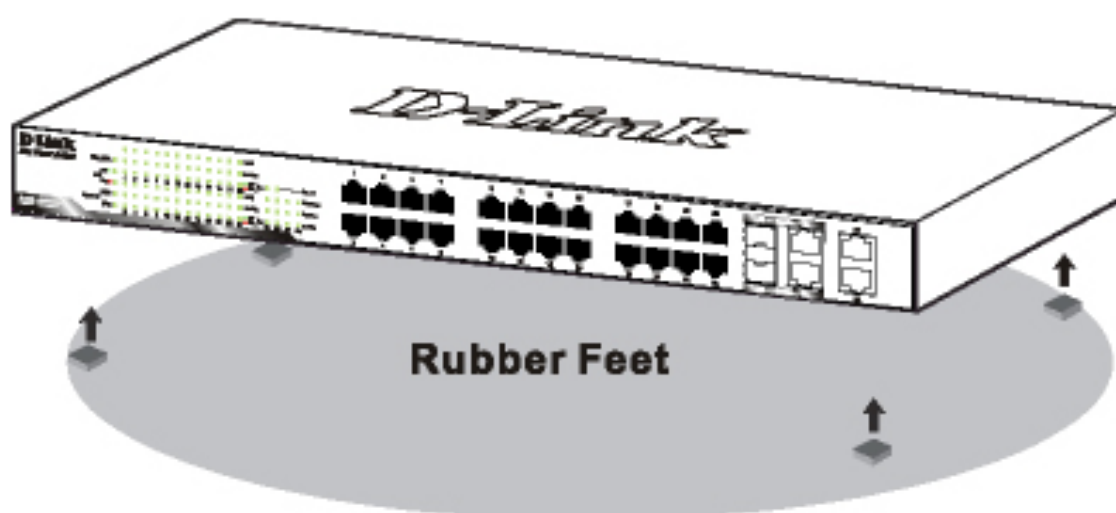
Install the Switch in a fairly cool and dry place. Technical Specifications such as operating temperatures and other important information can be found on page 8 of this manual.

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 to the front and rear of the Switch 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, *Rack Mounting*.

When installing the Switch on a level surface, attach the rubber pads (feet) to the bottom. The rubber feet cushion the switch and helps protect the case from scratches.



**Figure 1 – Attach the adhesive rubber pads to the bottom**

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## **Rack Mounting**

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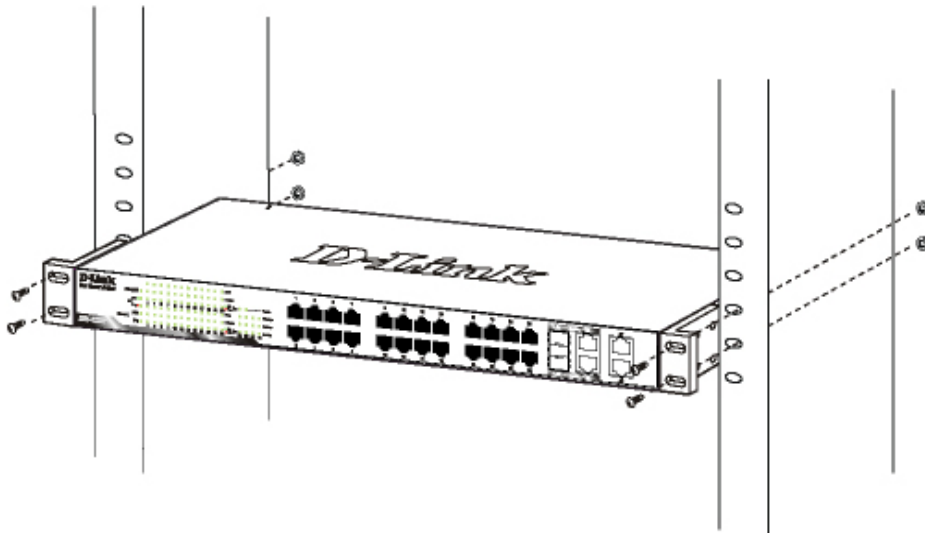
The Switch can be mounted in an EIA standard-size, 19-inch rack or chassis, which can be placed in a wiring closet with other equipment. Attach the mounting brackets to both sides of the Switch (one on each side), and secure them with the provided screws.





**Figure 2 – Attach the mounting brackets to the Switch**

Use the screws provided with the equipment rack or chassis to mount the Switch in the rack.



**Figure 3 – Mount the Switch in the rack or chassis**

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## **Connecting Network Cables**

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The DES-1228P has 24 ports that support 10/100Mbps Fast Ethernet; it also has 4 10/100/1000Base-T Ports and 2 Combo SFPs. Each port on the DES-1228P supports Auto-MDI/MDI-X. Auto-MDI/MDI-X is a feature that enables the switch to auto sense what kind of cable is used on a port (straight or crossover). This allows any type of cables to be used with the switch regardless of what device is being connected.

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## **AC Power**

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The Switch utilizes an AC power supply 100~240V AC, 50~60Hz. 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***

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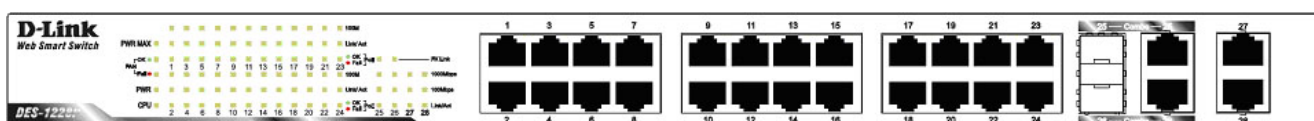
This chapter describes the front panel, rear panel, and LED indicators of the Switch.

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### **Front Panel**

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The figure below shows the front panel of the Switch.



**Figure 4 – Front panel of the 28-port Web-Smart Switch**

### **LED Indicator:**

Comprehensive LED indicators display the status of the switch and the network (see the *Understanding LED Indicators* section).

### **10/100 BASE-TX Twisted Pair Ports (Port 1~24)**

The DES-1228P is equipped with 24 Fast Ethernet twisted pair ports that are auto-negotiable 10/100Mbps and also support auto MDI/MDIX crossover detection. All these 24 ports can operate in half- and full- duplex modes, and will be automatically activated when a compatible terminal is identified. The Switch will provide the power needed through the PoE port to the connected PD.

For Legacy devices that are not yet compatible, the PoE port will not offer the power to these devices. This feature allows users to freely and safely mix legacy and Power over Ethernet compatible devices on their network.

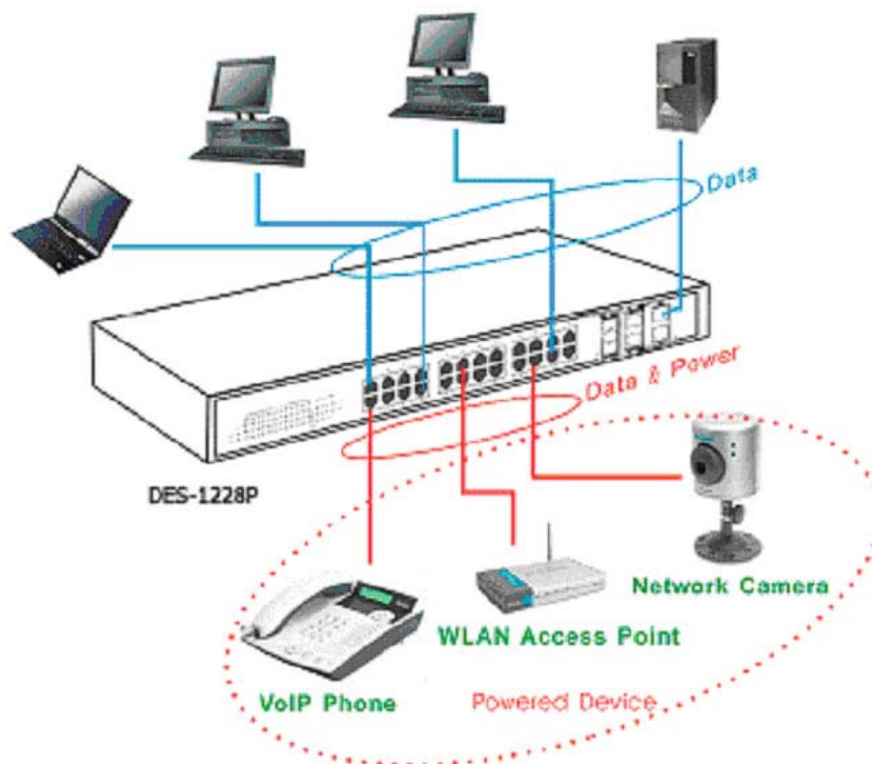
## 10/100/1000 BASE-T / Mini GBIC Combo Ports (Option Port 25~26)

The Switch is also equipped with two combo 10/100/1000 Base-T / Mini GBIC ports, supporting optional 100BASE-FX or 1000BASE-SX/LX Mini GBIC modules for fiber uplinks.

## 10/100/1000 BASE-T Twisted Pair Ports (Port 27~28)

Finally there are 2 Gigabit twisted pair ports that are auto negotiable 10/100/1000Mbps with auto MDI/MDIX crossover detection support that can also operate in half- and full- duplex modes.

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



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## Rear Panel

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### AC Power Connector

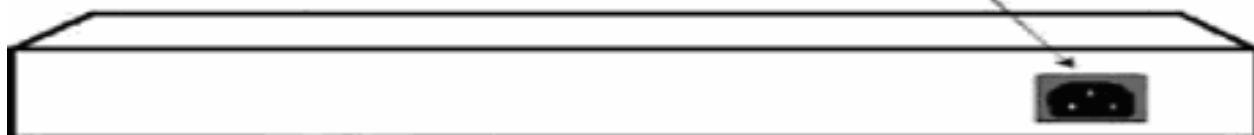


Figure 5 – Rear panel of the Switch

### AC Power Connector:

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, and 50-60Hz.

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## Understanding LED Indicators

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

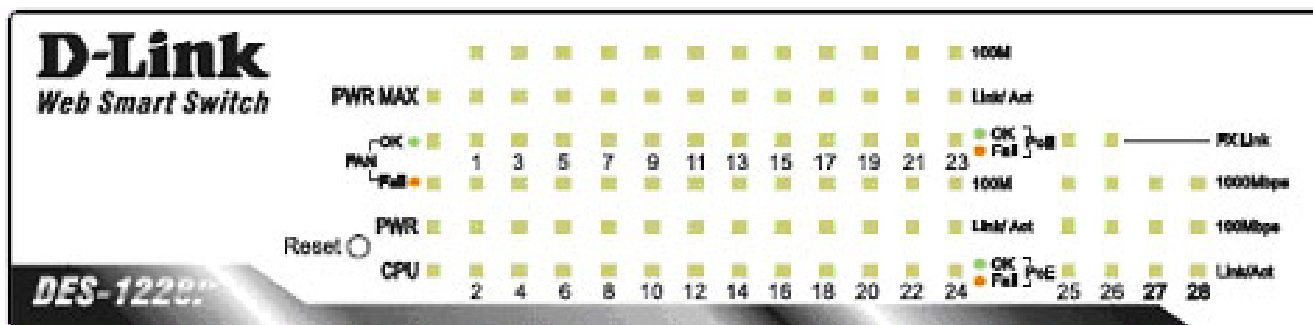


Figure 6 – LED indicators of the Switch

### Reset button:

The Reset button resets all configuration settings back to the factory

default.

*Note:* Be sure that to record all custom settings of the Switch before pressing the reset button. Resetting the Switch back to factory default settings will erase all custom configurations.

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## Power and System LEDs

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### Power LEDs

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 not or improperly connected.

### CPU LEDs ( Management Indicator)

Blinking	When the CPU is working, the CPU LED is blinking.
Off	The CPU is idle.

### Ports 1 ~ 24 Status LEDs

#### Link/Act

On	When the Link/Act LED light is 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.

## 100Mbps

On	When the 100Mbps LED 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.

## PoE

Green Light	When the Green light is on, the respective port is providing 48V of power.
Off	When the light is off, either the respective port is receiving power from an AC power source or no 802.3af PD is found.
Red Light	When the Red light is on, an error has occurred at the respective port.

## Option Ports 25~26 10/100/1000 Base-T / Mini-GBIC Status LEDs

### FX Link

On	When the FX Link LED light is on, the respective port is connected to a 100 or 1000Mbps Gigabit Ethernet network.
Off	No link or linking to copper ports.

## Link/Act

On	When the respective combo port is connected to a network, the Link/Act LED light is on.
Blinking	When the LED is blinking, the respective combo port is transmitting or receiving data on a network.
Off	No link.

## 1000Mbps

On	When the 1000Mbps LED light's on, the respective port is connected to a 1000Mbps Gigabit Ethernet network.
Off	When the respective port is connected to a 100Mbps Fast Ethernet or no link.

## 100Mbps

On	When the 100Mbps LED lights on, the respective port is connected to a 100Mbps Fast Ethernet network.
Off	When the respective port is connected to a 1000Mbps Gigabit Ethernet network or no link.

## Ports 27~28 10/100/1000 Base-T LEDs

### Link/Act

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

### **1000Mbps**

On	When the 1000Mbps LED light is on, the respective port is connected to a 1000Mbps Gigabit Ethernet network.
Off	When the respective port is connected to a 10Mbps Ethernet or 100Mbps Fast Ethernet network, or no link.

### **100Mbps**

On	When the 100Mbps LED 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 1000Mbps Gigabit Ethernet network.

## ***CONFIGURATION***

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Through a web browser, the features and functions of the DES-1228P Switch can be configured for optimum use.

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### **Supported web browsers**

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The embedded Web-based Utility currently supports the following web browsers:

- Microsoft Internet Explorer ver. 6.0, 5.5
- Mozilla ver. 1.7.12, 1.6
- Firefox ver. 1.5, 1.0.7
- Netscape ver. 8.0.4, 7.2
- Opera ver. 8.5, 7.6
- Safari ver. 2.0.2

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### **Installing the SmartConsole Utility**

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The SmartConsole Utility allows a user to monitor and configure multiple D-Link Web-Smart Switches from a workstation connected to the network. Follow these steps to install the SmartConsole Utility:

1. Insert the Utility CD in your CD-Rom Drive.
2. From the **Start** menu on the Windows desktop, choose **Run**.
3. In the **Run** dialog box, type D:\SmartConsole Utility\setup.exe (where D:\ represents the drive letter of your CD-Rom) and click **OK**.
4. Follow the on-screen instructions to install the utility program.
5. Upon completion, go to **Program Files > SmartConsole Utility** and execute the SmartConsole Utility.



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## SmartConsole Utility Features

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The SmartConsole Utility is divided into four parts, a *Menu Toolbar* of functions at the top, *Discovery List*, *Monitor List*, and *Device Setting*.

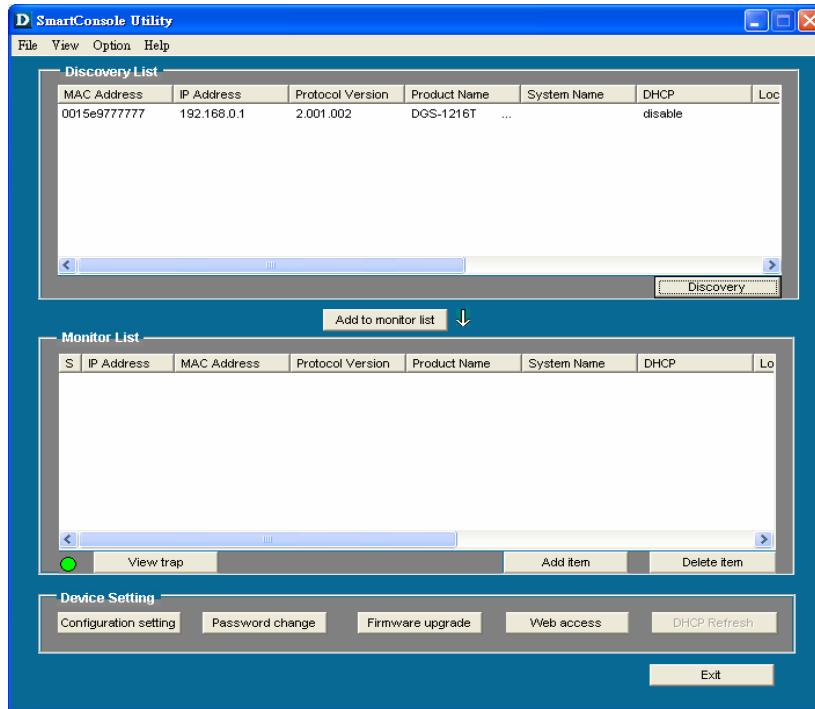


Figure 7 – SmartConsole Utility

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## Menu Toolbar

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The Menu Toolbar in the SmartConsole Utility has four main tabs, File, View, Option, and Help.

**File** includes: *Monitor save*, *Monitor save as*, *Monitor load* and *Exit*.

- **Monitor Save:** To record the setting of the Monitor List as default for the next time the SmartConsole Utility is used.
- **Monitor Save As:** To record the setting of the Monitor List in an appointed filename and file path.

- **Monitor Load:** To manually load a Monitor List setting file.
- **Exit:** To exit the SmartConsole Utility.

**View** includes: *View log* and *Clear Log* functions, which provide trap setting list operations.

- **View Log:** To show the event of the SmartConsole Utility and the device.
- **Clear Log:** To clear all log entries.

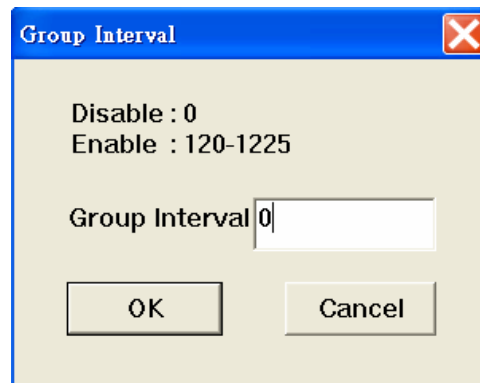
**Option** includes: *Refresh Time* and *Group Interval* functions.

---

Refresh time ▶  
Group Interval

- **Refresh time** refreshes the monitoring time of the device. Choices include *15 secs*, *30 secs*, *1 min*, *2 min* and *5 min* for selecting the monitoring time intervals.
- **Group Interval** establishes the intervals (in seconds) that the Web-Smart Switch will be discovered in the SmartConsole Utility Discovery List.

NOTE: If the Group Interval is set to 0, IGMP snooping must be disabled or else the Web-Smart Switch will not be discovered.



**Help** includes: information *About* the SmartConsole Utility, such as the software version.

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## **Discovery List**

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This is the list where all Web-Smart devices on the network are discovered.

By pressing the **Discovery** button, all the Web-Smart devices are listed 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.

### **Definitions of the Discovery List features:**

**MAC Address:** Shows the device MAC Address.

**IP Address:** Shows the current IP addresses of devices.

**Protocol version:** Shows the version of the Utility protocol.

**Product Name:** Shows the device product name.

**System Name:** Shows the appointed device system name.

**DHCP:** Uses a client/server model to obtain lease of an IP address from a DHCP server as part of the network boot process.

**Location:** Shows where the appointed device location.

**Trap IP:** Shows the IP where the Trap information will be sent.

**Subnet Mask:** Shows the Subnet Mask set of the device.

**Gateway:** Shows the Gateway set of the device.

**Group Interval:** Shows the Group Interval of the device.


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## Monitor List

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All Web-Smart devices in the Monitor List can be monitored, with Trap information available to be received for monitoring status information of the device.

### Definitions of the Monitor List functions and terms:

**S:** Shows the system symbol of the Web-Smart device,  represents the device system is inactive.

**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.

**DHCP:** uses a client/server model to obtain lease of an IP address from a DHCP server as part of the network boot process.

**Location:** Shows where the device is located.

**Trap IP:** Shows the IP where the Trap to be sent.

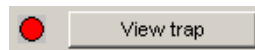
**Subnet Mask:** Shows the Subnet Mask set of the device.

**Gateway:** Shows the Gateway set of the device.

**Group Interval:** Shows the Group Interval of the device.


**View Trap:** The view trap function receives trap events from the Web-Smart Switch.

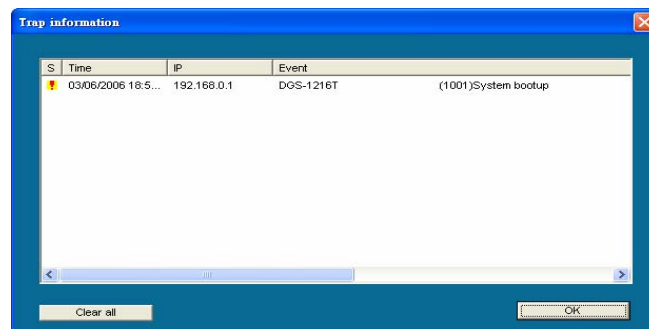
There is a light indicator following the “*View Trap*” button. A green light indicates that the monitor has not received any new traps, while a red light indicates that there are new traps received by the monitor available to view. (Figure 8)



**Figure 8 – View trap**

When the “*View Trap*” button is clicked, a Trap Information window will pop up, showing the trap information, such as Symbol, Time, Device IP and the Event occurred. (Figure 9)

The symbol “” represents a new trap signal, and will disappear after the event record is reviewed (clicked).



**Figure 9 – Trap information**

**Note:** To receive Trap information, the switch must be configured with Trap IP and Trap Events, available from the Trap Setting menu.

**Add Item:** Adds a device to the Monitor List manually, by entering the IP Address of the device to monitor.

**Delete Item:** Deletes the device from the Monitor List.

---

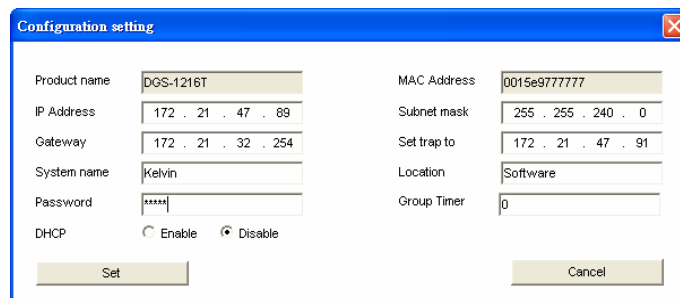
## Device Setting

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Function buttons of the Device Setting section provide several options.

**Configuration Setting:** In the Configuration Setting, the following settings are available: Product Name, MAC Address, IP Address, Subnet Mask, Gateway, Set Trap to (Trapping IP Address), System name, Location, Password and DHCP ON/OFF (OFF is default).

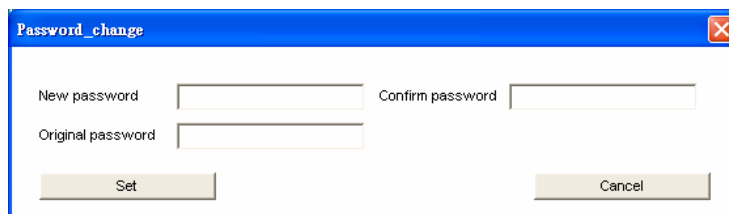
After selecting the device from the Discovery List or Monitor List and pressing Configuration Setting, modify the information necessary and press “Set”.



The screenshot shows a dialog box titled "Configuration setting" with a close button in the top right corner. It contains two columns of input fields. The left column includes: Product name (DGS-1216T), IP Address (172 . 21 . 47 . 89), Gateway (172 . 21 . 32 . 254), System name (Kelvin), Password (masked with asterisks), and a DHCP section with radio buttons for "Enable" and "Disable" (selected). The right column includes: MAC Address (0015e9777777), Subnet mask (255 . 255 . 240 . 0), Set trap to (172 . 21 . 47 . 91), Location (Software), and Group Timer (0). At the bottom, there are "Set" and "Cancel" buttons.

**Figure 10 – Configuration Setting**

**Password Change:** To change the password, fill in the new and original password, and press “Set”.



The screenshot shows a dialog box titled "Password\_change" with a close button in the top right corner. It contains three input fields: "New password", "Confirm password", and "Original password". At the bottom, there are "Set" and "Cancel" buttons.

**Figure 11 – Password Change**

*This space has been intentionally reserved for notes:*



**Firmware Upgrade:** To update the device firmware, enter the firmware path and password (if necessary), and click “Start”).



**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 open the Web-based Utility. To see the list of web browsers the Web-based Utility supports, see *Supported web browsers* on page 22.

**DHCP Refresh:** select a device in the Monitor List and press the “**DHCP Refresh**”, and enter the password (if applicable) to trigger the Web-Smart Switch to request an IP address from a DHCP Server.



**Figure 13 – DHCP Refresh**

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## Web-based Utility

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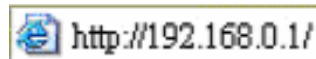
The DES-1228P Web-Smart Switch has a web browser GUI interface for configuring the Switch through a web browser. To see the list of web browsers the Web-based Utility supports, see *Supported web browsers* on page 22. A network administrator can manage, control and monitor the switch from the local LAN. This section indicates how to configure the Switch to enable its smart functions.

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### Login

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In order to login and configure the switch via an Ethernet connection, the PC must have an IP address in the same range as the switch. For example, if the switch has an IP address of 192.168.0.1, the PC should have an IP address of 192.168.0.x (where x is a number between 2 and 254), and a subnet mask of 255.255.255.0. Open your web browser and enter `http://192.168.0.1` (the factory-default IP address) in the address box. Then press <Enter> (Figure 14)



**Figure 14 – Logging into the Switch's (DHCP assigned) IP address**

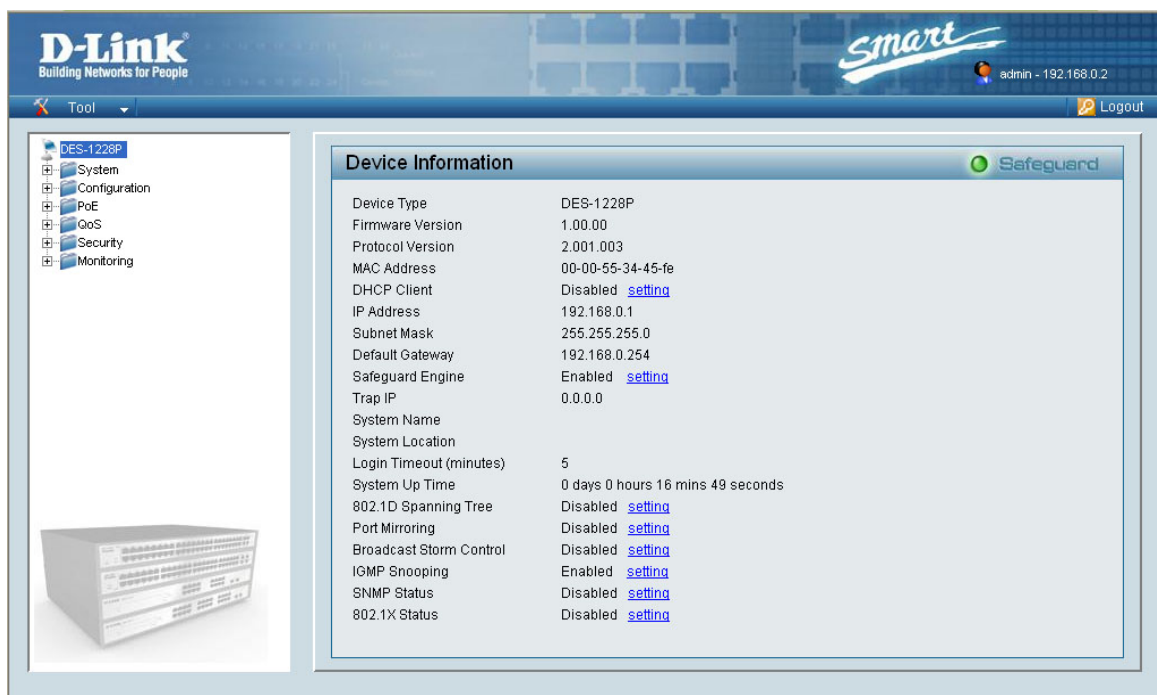
The web configuration can also be accessed through the SmartConsole Utility. Open the SmartConsole Utility and double-click the switch as it appears in the Monitor List. This will automatically load the web configuration in your web browser.

When the following logon box appears, enter "admin" for the password. Press **Ok** to enter the main configuration window. (Figure 15)



**Figure 15 – Log in screen**

Once you have successfully logged in, the device status page will appear. In the top right corner the *user name* (default ‘admin’) is displayed with the *IP address* of the Switch. Below this is a **Logout** option for use when the session is complete.



**Figure 16 – Device Status**

---

## Tool Menu

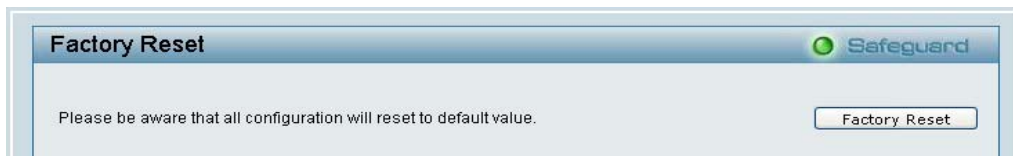
---

The Tool Menu offers global function controls such as Reset, Configuring Backup and Restoration, Firmware Backup and Upload, and System Reboot.



**Figure 17 – Tool Menu**

**Reset:** Provides a safe reset option for the Switch. All configurations will be reset to default.



**Figure 18 – Tool Menu > Reset**

**Configure Backup and Restore:** Allows the current configuration settings to be saved to a file (not including the password), and if necessary, to be restored from a backup.



**Figure 19 – Tool Menu > Configure Backup and Restore**

**Firmware Backup and Upload:** Allows for the firmware to be saved, or for an existing firmware file to be uploaded to the Switch.



**Figure 20 – Tool Menu > Firmware Backup and Upload**

**System Reboot:** Provides a safe way to reboot the system. Ensure the configuration has been saved, or all the changes you just made may be lost after system reboot.



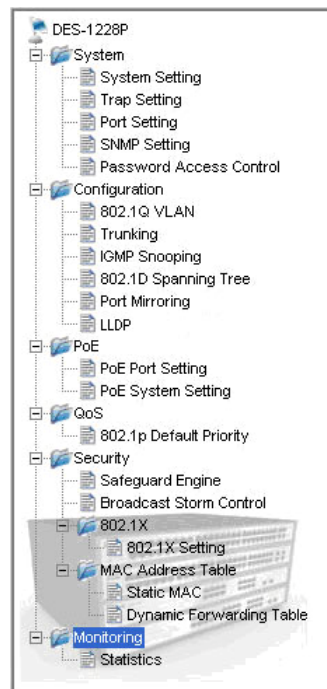
**Figure 21 – Tool Menu > System Reboot**

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## Setup Menu

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All configuration options on the switch are accessed through the Setup menu on the left side of the screen (Figure22). Click on the setup item that you want to configure. The following sections describe in more detail each of the features and functions.



**Figure 22 –Setup Menu**

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## **System > System Setting**

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The System Setting includes IP Information and System information. There are two ways for the switch to attain IP: Static and DHCP (**D**ynamic **H**ost **C**onfiguration **P**rotocol).

When using static mode, the **IP Address**, **Subnet Mask** and **Gateway** can be manually configured. When using DHCP mode, the Switch will first look for a DHCP server to provide it with an IP address, network mask, and default gateway before using the default or previously entered settings. By default the IP setting is static mode.

By entering a **System Name** and **System Location**, the device can more easily be recognized through the SmartConsole Utility and in other Web-Smart devices on the LAN. The **Login Timeout** controls the idle time-out for security purposes, when there is no action in the Web-based Utility. When the Login Timeout expires, the Web-based Utility requires a re-login before using the Utility again. The **Group**

**Interval** send IGMP v1 report packet by switch, it is for SmartConsole Utility to discovery our switch when we in IGMP protocol, zero means disable Group Interval, and 120~1225 means send IGMP v1 report according the value which unit is seconds.

IP Information	
<input type="radio"/> Static <input checked="" type="radio"/> DHCP	
IP Address	192 168 0 1
Subnet Mask	255 255 255 0
Gateway	192 168 0 254

System Information	
System Name	
System Location	
Login Timeout (minutes)	5

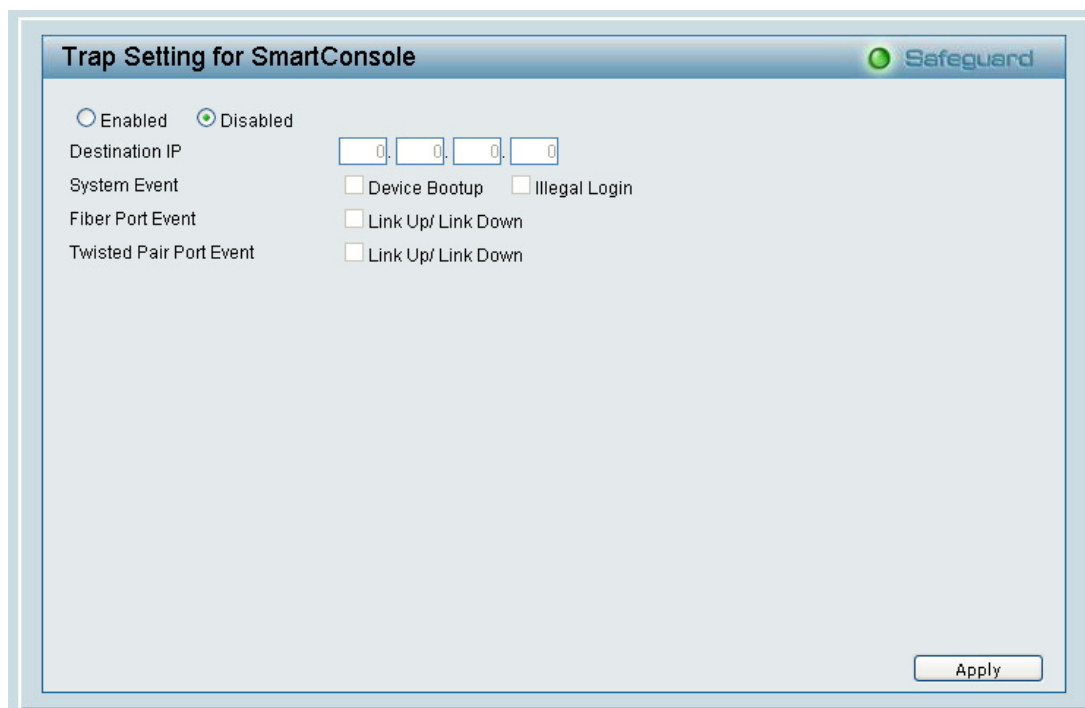
**Figure 23 – System > System Setting**

---

## System > Trap Setting

---

By configuring the Trap Setting, it allows SmartConsole Utility to monitor specified events on this Web-Smart Switch. By default, Trap Setting is **Disabled**. When the Trap Setting is **Enabled**, enter the **Destination IP** address of the managing PC that will receive trap information.



**Figure 24 – System > Trap Setting**

**System Event:** Monitors the system’s trapping information.

**Device Bootup:** Traps system boot-up information.

**Illegal Login:** Traps events of incorrect password logins, recording the IP of the originating PC.

**Fiber Port Events:** Monitors the fiber port status.

**Link Up/Link Down:** Traps fiber connection information.

**Twisted pair Port Events:** Monitors the copper cable port status.

**Link Up/Link Down:** Traps copper connection information.

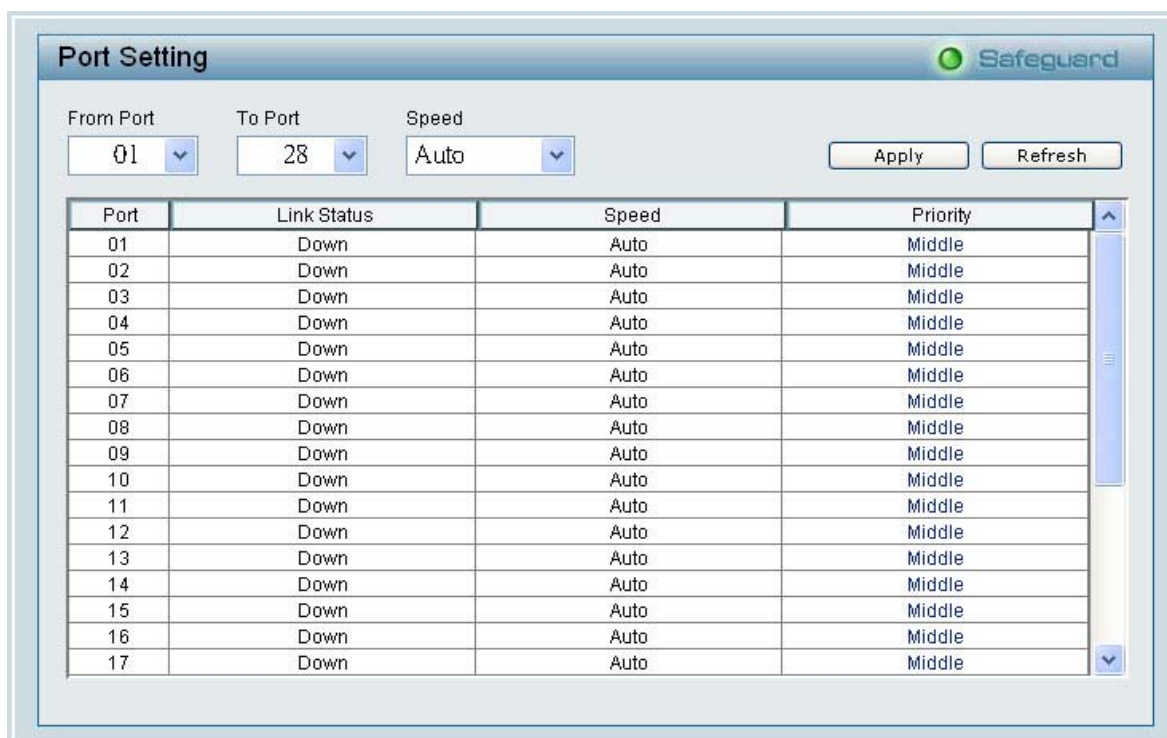


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## System > Port Setting

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In the Port Setting page, the status of all ports can be monitored and adjusted for optimum configuration. By selecting a range of ports (“**From Port**” and “**To Port**”), the **Speed** can be set for all such ports, by clicking **Apply**. To refresh the information table to view the latest Link Status and Priority, press the **Refresh** button.



The screenshot shows the 'Port Setting' window with the Safeguard logo in the top right. Below the title bar, there are three input fields: 'From Port' with a dropdown menu showing '01', 'To Port' with a dropdown menu showing '28', and 'Speed' with a dropdown menu showing 'Auto'. To the right of these fields are two buttons: 'Apply' and 'Refresh'. Below the input fields is a table with four columns: 'Port', 'Link Status', 'Speed', and 'Priority'. The table contains 17 rows, each representing a port from 01 to 17. All 'Link Status' values are 'Down', and all 'Speed' values are 'Auto'. All 'Priority' values are 'Middle'. A vertical scrollbar is visible on the right side of the table.

Port	Link Status	Speed	Priority
01	Down	Auto	Middle
02	Down	Auto	Middle
03	Down	Auto	Middle
04	Down	Auto	Middle
05	Down	Auto	Middle
06	Down	Auto	Middle
07	Down	Auto	Middle
08	Down	Auto	Middle
09	Down	Auto	Middle
10	Down	Auto	Middle
11	Down	Auto	Middle
12	Down	Auto	Middle
13	Down	Auto	Middle
14	Down	Auto	Middle
15	Down	Auto	Middle
16	Down	Auto	Middle
17	Down	Auto	Middle

**Figure 25 – System > Port Setting**

**Speed:** Fiber connections can operate in Forced Mode settings (1000M Full), Auto, or Disable. Copper connections can operate in Forced Mode settings (100M Full, 100M Half, 10M Full, 10M Half), Auto, or Disable. The default setting for all ports is *Auto*. 100Base-FX Fiber supports 100M full/half force mode.

**NOTE:** Be sure to adjust port speed settings appropriately after changing connected cable media types.

**Link Status:** Reporting *Down* indicates the port is disconnected.

**Priority:** Displays each port's 802.1p QoS priority level for received data packet handling. Default setting for all ports is *Middle*. You can change the priority settings in *Qos > 802.1p Default Priority*

**NOTE:** When the Combo Gigabit Fiber port and the Copper ports are both connected, the Fiber port will take precedence over the Copper ports, meaning the Fiber port will be the only connection. But, for 100M Fiber module, the Fiber port will not take precedence over the Copper ports.

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## **System > SNMP Setting**

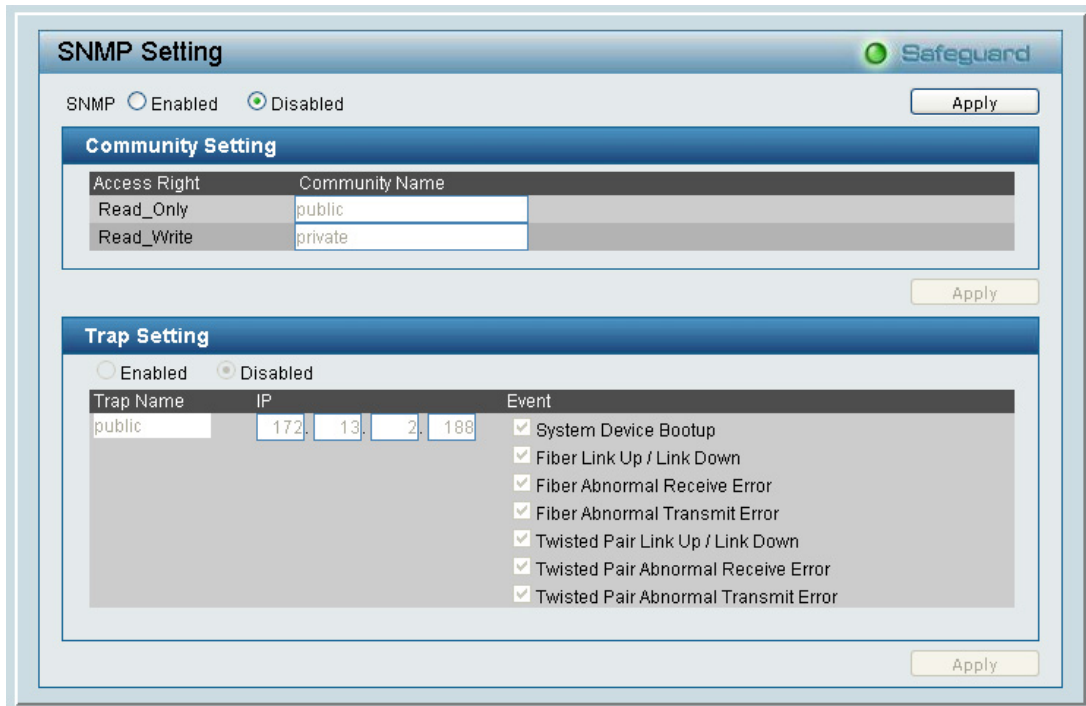
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Simple Network Management Protocol (SNMP) is an OSI Layer 7 (Application Layer) designed specifically for managing and monitoring network devices. SNMP enables network management stations to read and modify the settings of gateways, routers, switches,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

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.

**Community Setting:** In support of SNMP version 1, the Web-Smart Switch accomplishes user authentication by using Community Settings that function as passwords. The remote user SNMP application and the Switch SNMP must use the same community

string. SNMP packets from a station that are not authenticated are ignored (dropped).



**Figure 26 – System > SNMP Setting**

**Enabled / Disabled:** Default setting is *Disabled*. Click *Enable*, then *Apply*, to set Community Settings.

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

**Public:** The community with read-only privilege allows authorized management stations to retrieve MIB objects.

**Private:** The community with read/write privilege allows authorized management stations to retrieve and modify MIB objects.

**Trap Setting:** Traps are messages that alert network personnel of events that occur on the Switch. Such events can be as serious as a reboot (someone accidentally turned the Switch OFF), or less serious

events such as a port status change. The Switch can generate traps and send them to the trap recipient (i.e. network administrator).

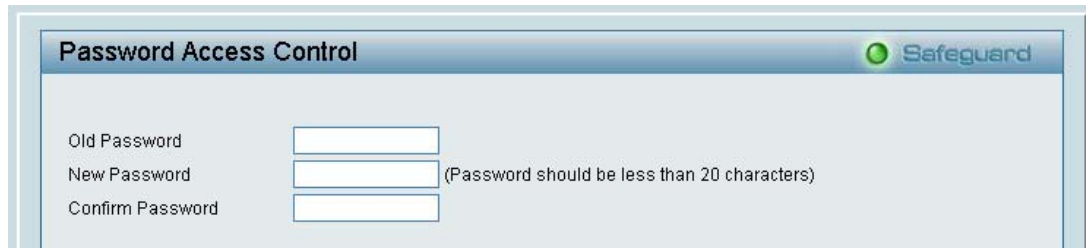
**Setting up a Trap:** Select *Enable*, enter a Trap Name (i.e. Trap Name must be selected from a Community Name), add the IP of the device to be monitored, and choose the event(s) to trap. The available trap Events to choose from include: System Device Bootup, Fiber Link Up / Link Down, Fiber Abnormal Receive Error, Fiber Abnormal Transmit Error, Twisted Pair Link Up / Link Down, Twisted Pair Abnormal Receive Error, Twisted Pair Abnormal Transmit Error.

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## System > Password Access Control

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Setting a password is a critical tool for managers to secure the Web-Smart Switch. After entering the old password and the new password two times, press Apply for the changes to take effect.



The screenshot shows a web interface for 'Password Access Control'. At the top right, there is a green 'Safeguard' logo. Below the title, there are three input fields: 'Old Password', 'New Password', and 'Confirm Password'. To the right of the 'New Password' field, there is a note: '(Password should be less than 20 characters)'.

**Figure 27 – System > Password Access Control**

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## Configuration > 802.1Q VLAN

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A VLAN is a group of ports that can be anywhere in the network, but communicate as though they were in the same area.

VLANs can be easily organized to reflect department groups (such as R&D, Marketing), usage groups (such as e-mail), or multicast groups (multimedia applications such as video conferencing), and therefore

help to simplify network management by allowing users to move devices to a new VLAN without having to change any physical connections.

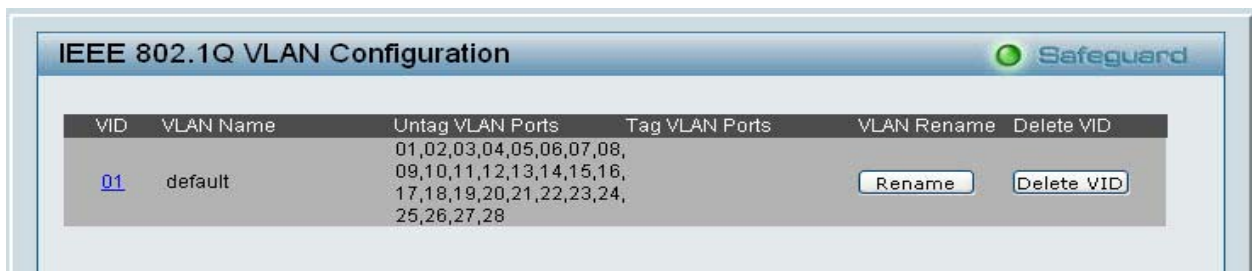
The IEEE 802.1Q VLAN Configuration page provides powerful VID management functions. The original settings have the VID as 01, named “default”, and all 28 ports as “Untagged” (see Figure 29).

**Rename:** Click to rename the VLAN group.

**Delete VID:** Click to delete the VLAN group.

**Add New VID:** Click to create a new VID group, assigning ports from 01 to 28 as *Untag*, *Tag*, or *Not Member*. A port can be “Untagged” in only one VID. To save the VID group, press *Apply*.

You may change the name accordingly to the desired groups, such as the aforementioned R&D, Marketing, email, etc.



**Figure 28 – Configuration > 802.1Q VLAN > Default Setting**

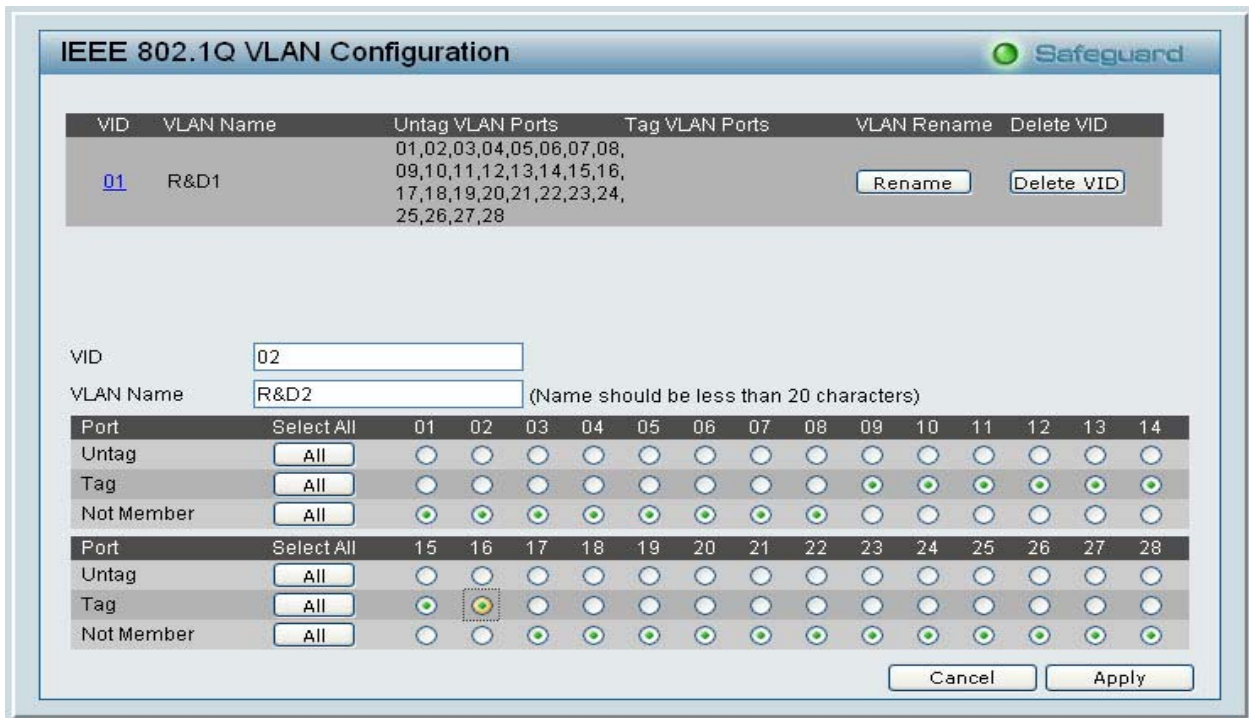


Figure 29 – Configuration > 802.1Q VLAN > Add VID

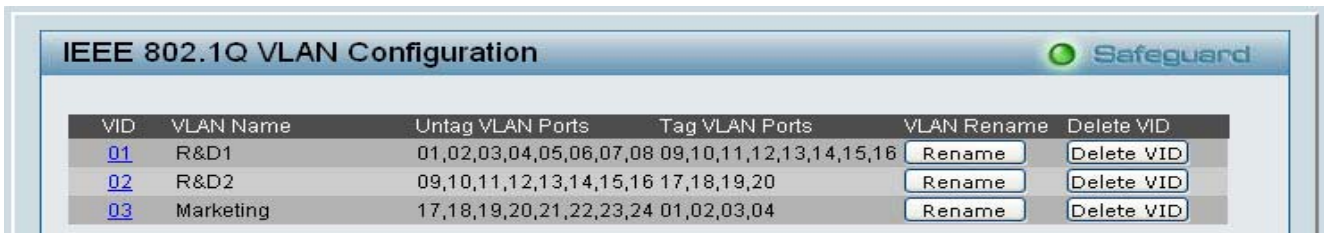


Figure 30 – Configuration > 802.1Q VLAN > Example VLANs

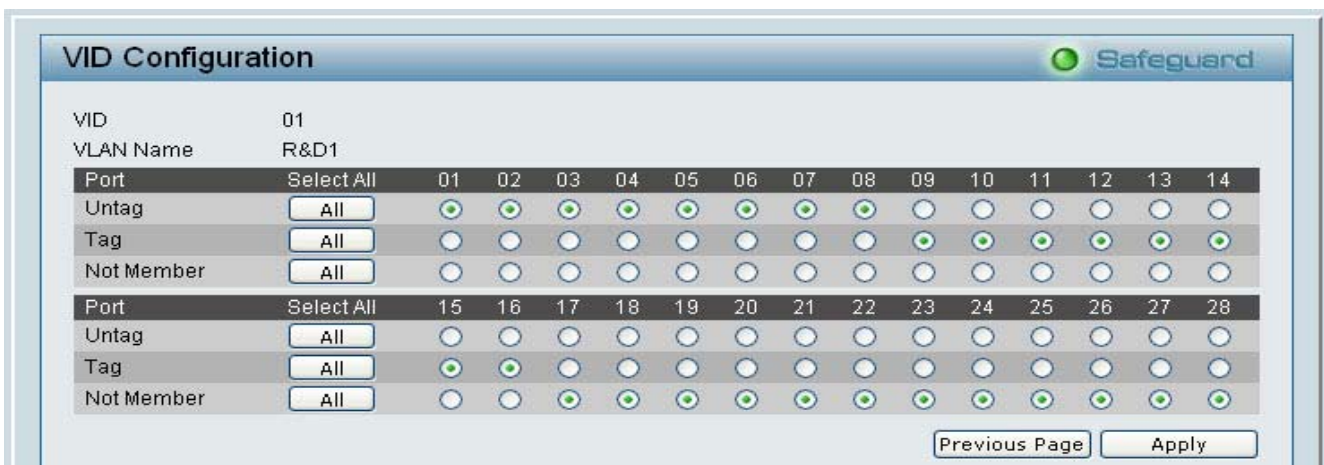


Figure 31 – Configuration > 802.1Q VLAN > VID Assignments

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## Configuration > Trunking

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The Trunking function enables the cascading of two or more ports for a combined larger bandwidth. Up to six Trunk groups may be created, each supporting up to 8 ports. Add a **Trunking Name** and select the ports to be trunked together, and click **Apply** to activate the selected Trunking groups.

The screenshot shows the 'Trunking Configuration' window with a 'Safeguard' logo. It contains two tables for selecting ports to be trunked together. Each table has an 'ID' column, a 'Trunking Name' input field, and 14 columns representing individual ports. Green checkmarks indicate selected ports.

ID	Trunking Name	01	02	03	04	05	06	07	08	09	10	11	12	13	14
01		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02		<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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
03		<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"/>	<input type="checkbox"/>	<input type="checkbox"/>
04		<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"/>	<input type="checkbox"/>	<input type="checkbox"/>
05		<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"/>	<input type="checkbox"/>	<input type="checkbox"/>
06		<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"/>	<input type="checkbox"/>	<input type="checkbox"/>

ID	Trunking Name	15	16	17	18	19	20	21	22	23	24	25	26	27	28
01		<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"/>	<input type="checkbox"/>	<input type="checkbox"/>
02		<input checked="" type="checkbox"/>	<input checked="" 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"/>	<input type="checkbox"/>
03		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04		<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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
05		<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"/>	<input type="checkbox"/>	<input type="checkbox"/>
06		<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"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Trunking name should be less than 20 characters.

Apply

Figure 32 – Configuration > Trunking

**NOTE:** Each combined trunk port must be connected to devices within the same VLAN group.

---

## Configuration > IGMP Snooping

---

With Internet Group Management Protocol (IGMP) snooping, the Web-Smart Switch can make intelligent multicast forwarding

decisions by examining the contents of each frame's Layer 2 MAC header.

IGMP snooping can help reduce cluttered traffic on the LAN. With IGMP snooping enabled globally, the Web-Smart Switch will forward multicast traffic only to connections that have group members attached.

Please note that IGMP will not alter or route IP multicast packets. To send IP multicast packets across subnetworks a multicast routing protocol will be necessary.

The screenshot shows the 'IGMP Snooping Configuration' window. At the top, there is a title bar with 'Safeguard' on the right. Below the title bar, the 'IGMP Snooping' section has two radio buttons: 'Enabled' (unselected) and 'Disabled' (selected). Underneath, the 'IGMP Global Setting' section contains six input fields: 'Query Interval (60-600 sec)' with value 125, 'Host Timeout (130-1225 sec)' with value 260, 'Max Response Time (10-25 sec)' with value 10, 'Router Timeout (60-600 sec)' with value 125, 'Robustness Variable (1-255 sec)' with value 2, and 'Last Member Query Interval (1-25 sec)' with value 1. An 'Apply' button is located to the right of these fields. Below this is the 'The VLAN Setting of IGMP snooping' section, which contains a table with five columns: 'VLAN ID', 'VLAN Name', 'State', 'Router Ports Setting', and 'Multicast Entry Table'. The table lists three VLANs: 01 (R&D1), 02 (R&D2), and 03 (Marketing), all with 'Enabled' state. Each row has an 'Edit' button under 'Router Ports Setting' and a 'View' button under 'Multicast Entry Table'.

VLAN ID	VLAN Name	State	Router Ports Setting	Multicast Entry Table
01	R&D1	Enabled	Edit	View
02	R&D2	Enabled	Edit	View
03	Marketing	Enabled	Edit	View

**Figure 33 – Configuration > IGMP Snooping Configuration**

By default, IGMP is *Disabled*. If *Enabled*, the IGMP Global Settings will need to be entered:

**Query Interval (60-600 sec):** The Query Interval is the interval between General Queries sent. By adjusting the Query Interval, the number of IGMP messages can increase or decrease; larger values cause IGMP Queries to be sent less often. Default is 125 seconds.



**Max Response Time (10-25 sec):** The Max Response Time specifies the maximum allowed time before sending a responding report. Adjusting this setting effects the "leave latency", or the time between the moment the last host leaves a group and when the routing protocol is notified that there are no more members. It also allows adjustments for controlling the frequency of IGMP traffic on a subnet. Default is 10 seconds.

**Robustness Variable (1-255 sec):** The Robustness Variable allows adjustment for the expected packet loss on a subnet. If a subnet is expected to be lossy, the Robustness Variable may be increased. The Robustness Variable can not be set zero, and SHOULD NOT be one. Default is 2 seconds.

**Last Member Query Interval (1-25 sec):** The Last Member Query Interval is the Max Response Time inserted into Group-Specific Queries sent in response to Leave Group messages, and is also the amount of time between Group-Specific Query messages. This value may be adjusted to modify the "leave latency" of the network. A reduced value results in reduced time to detect the loss of the last member of a group. Default is 1 second.

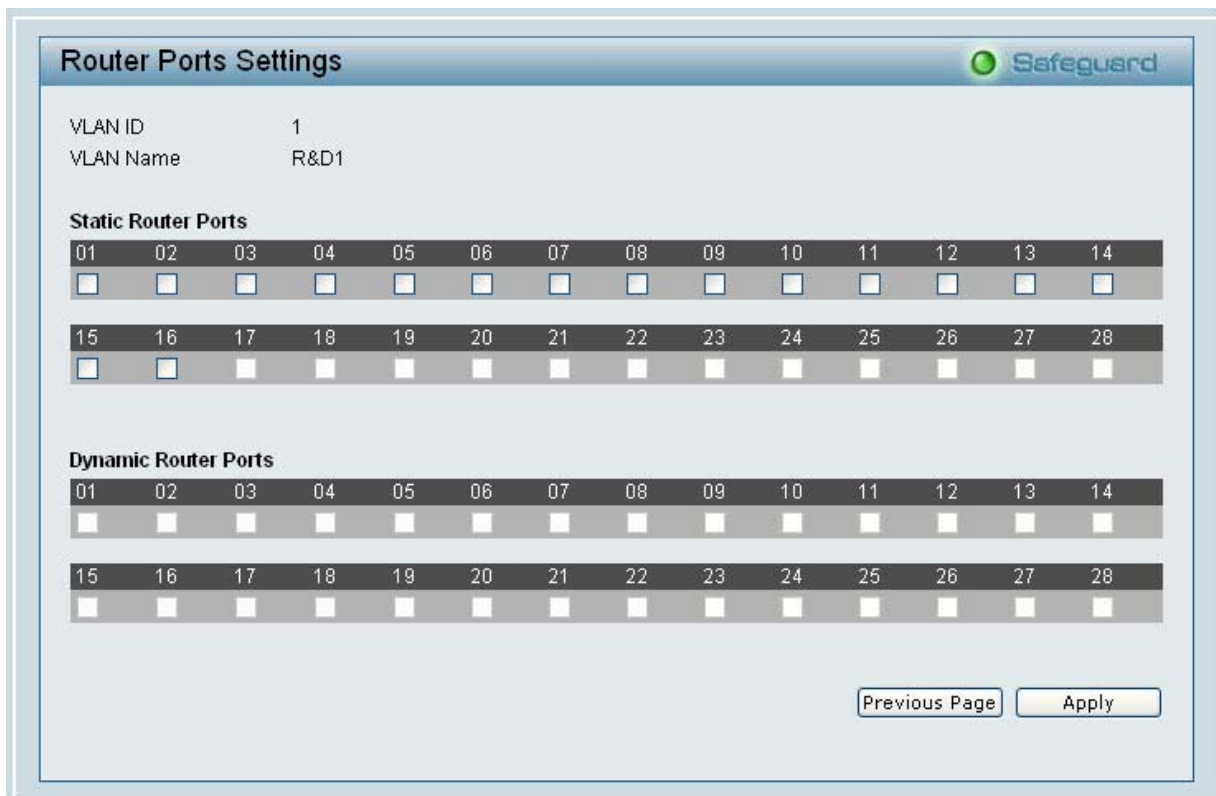
**Host Timeout (130-1225 sec):** This is the interval after which a learnt host port entry will be purged. For each host port learnt, a 'PortPurgeTimer' runs for 'HostPortPurgeInterval'. This timer will be restarted whenever a report message from host is received over that port. If no report messages are received for 'HostPortPurgeInterval' time, the learnt host entry will be purged from the multicast group. Default is 260 seconds.

**Router Timeout (60-600 sec):** This is the interval after which a learnt router port entry will be purged. For each router port learnt, a 'RouterPortPurgeTimer' runs for 'RouterPortPurgeInterval'. This timer will be restarted whenever a router control message is received over that port. If no router control messages are received for

'RouterPortPurgeInterval' time, the learnt router port entry will be purged. Default is 125 seconds.

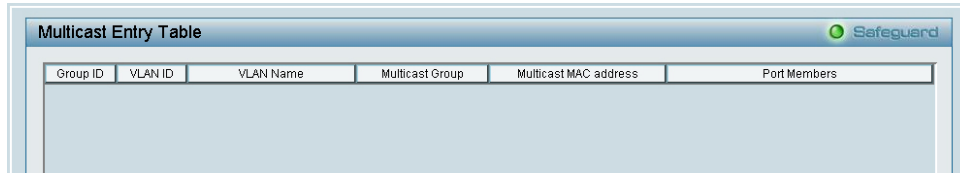
**Leave Timer (0-25 sec):** This is the interval after which a Leave message is forwarded on a port. When a leave message from a host for a group is received, a group-specific query is sent to the port on which the leave message is received. A timer is started with a time interval equal to IgsLeaveProcessInterval. If a report message is received before above timer expires, the Leave message is dropped. Otherwise the Leave message is either forwarded to the port. Default is 1 second.

To enable IGMP snooping for a given VLAN, select *Enable* and click on the *Apply* button. Then press the *Edit* button under **Router Port Setting**, and select the ports to be assigned for IGMP snooping for the VLAN, and press **Apply** for changes to take effect.



**Figure 34 – Configuration > IGMP Router port Settings**

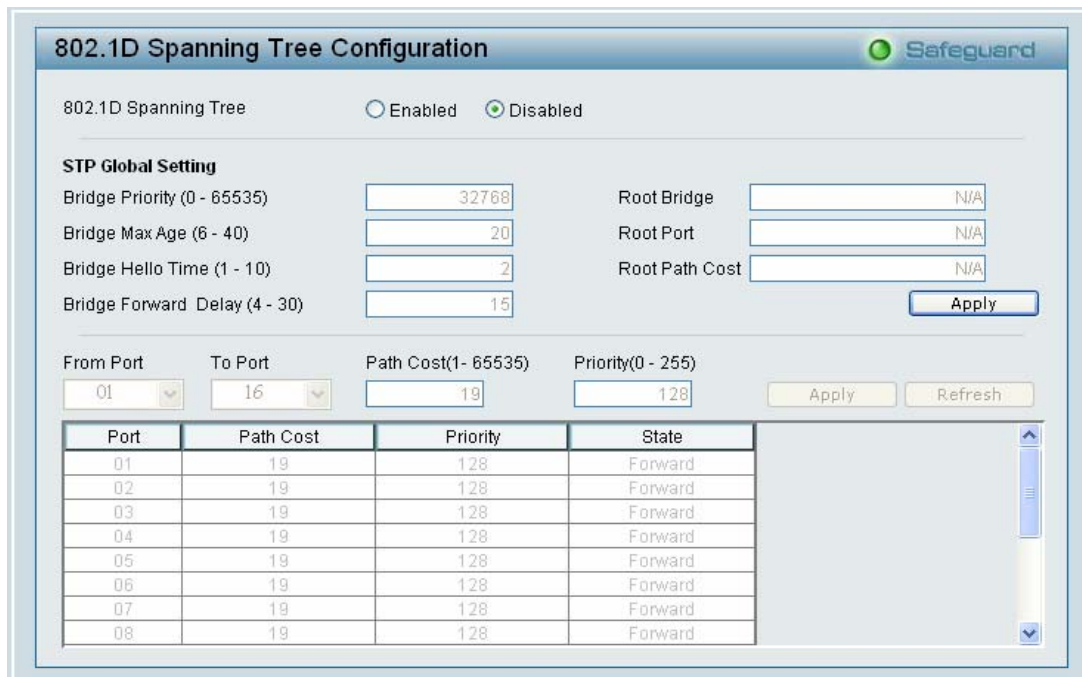
To view the Multicast Entry Table for a given VLAN, press the **View** button.



**Figure 35 – Configuration > IGMP Multicast Entry Table**

## Configuration > 802.1D Spanning Tree

802.1D Spanning Tree Protocol (STP) implementation is a backup link(s) between switches, bridges or routers designed to prevent network loops that could cause a broadcast storm. When physical links forming a loop provide redundancy, only a single path will be forwarding frames. If the link fails, STP activates a redundant link automatically.



**Figure 36 – Configuration > Spanning Tree**

By default, Spanning Tree is *Disabled*. If *Enabled*, the Switch will listen for BPDU packets and its accompanying Hello packet. BPDU packets are sent even if a BPDU packet was not received. Therefore, each link between bridges is sensitive to the status of the link. Ultimately this difference results in faster detection of failed links, and thus faster topology adjustment. A draw-back of 802.1D is this absence of immediate feedback from adjacent bridges.

After *Enabling* STP, setting the STP Global Setting includes the following options:

**Bridge Priority:** This value between 0 and 65535 specifies the priority for forwarding packets: the lower the value, the higher the priority. The default is 32768.

**Bridge Max Age:** This value may be set to ensure that old information does not endlessly circulate through redundant paths in the network, preventing the effective propagation of the new information. Set by the Root Bridge, this value will aid in determining that the Switch has spanning tree configuration values consistent with other devices on the bridged LAN. If the value ages out and a BPDU has still not been received from the Root Bridge, the Switch will start sending its own BPDU to all other switches for permission to become the Root Bridge. If it turns out that the Switch has the lowest Bridge Identifier, it will become the Root Bridge. A time interval may be chosen between 6 and 40 seconds. The default value is 20.

**Bridge Hello Time:** The user may set the time interval between transmissions of configuration messages by the root device, thus stating that the Switch is still functioning. The default is 2 seconds. (Max Age has to have a value bigger than Hello Time)

**Bridge Forward Delay:** This sets the maximum amount of time that the root device will wait before changing states. The default is 15 seconds.



**Root Bridge:** Displays the MAC address of the Root Bridge.

**Root port:** Displays the root port.

**Root Path Cost:** Shows the root path cost.

**Path Cost:** This defines a metric that indicates the relative cost of forwarding packets to specified port list. The lower the number, the greater the probability the port will be chosen to forward packets. The default value is 19.

**Path Priority:** Select a value between 0 and 255 to specify the priority for a specified port for forwarding packets: the lower the value, the higher the priority. The default is 128.

---

## Configuration > Port Mirroring

---

Port Mirroring is a method of monitoring network traffic that forwards a copy of each incoming and/or outgoing packet from one port of the Switch to another port where the packet can be studied. This enables network managers to better monitor network performances.

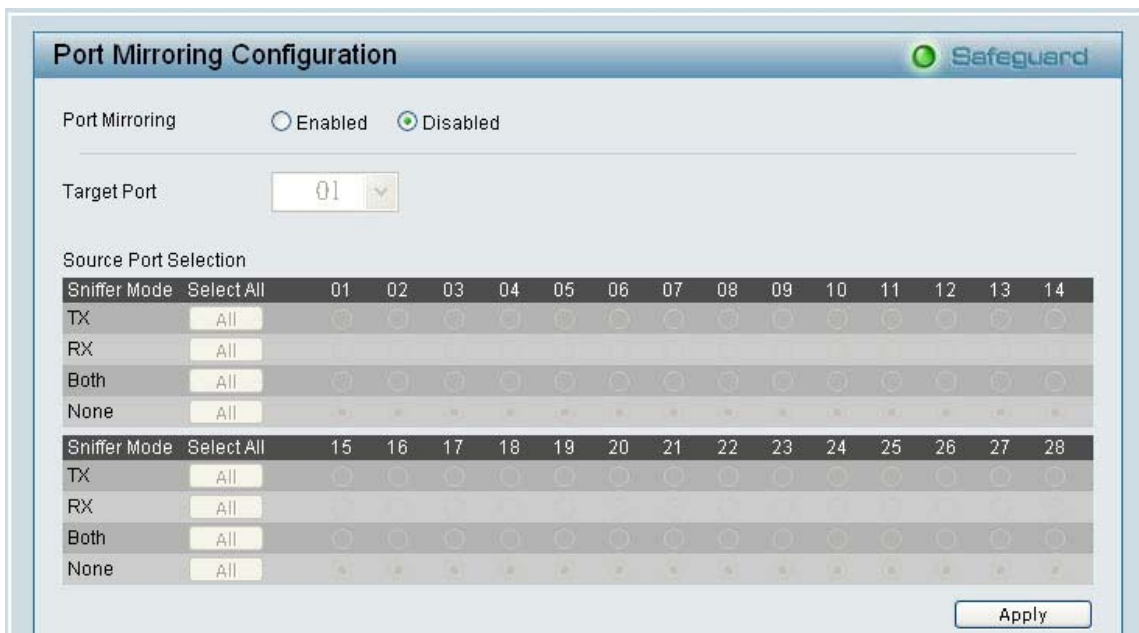


Figure 37 – Configuration > Port Mirroring

Selection options for the Source Ports are as follows:

**TX (transmit) mode:** Duplicates the data transmitted from the source port and forwards it to the Target Port.

**RX (receive) mode:** Duplicates the data that gets sent to the source and forwards it to the Target Port.

**Both (transmit and receive) mode:** Duplicate both the data transmitted from and data sent to the source port, and forwards all the data to the assigned Target Port.

**None:** Turns off the mirroring of the port.

---

## Configuration > LLDP

---

**LLDP (Link Layer Discovery Protocol)** provides a IEEE 802.1AB standards-based method for switches to advertise themselves to neighbor devices and to learn about neighbor LLDP devices as well. DES-1228P will keep those information in the Management Information Base (MIB), SNMP utilities can learn the network topology by get the MIB information in each LLDP device. By default, the LLDP function is disabled.



**Figure 38 – Configuration > LLDP**

---

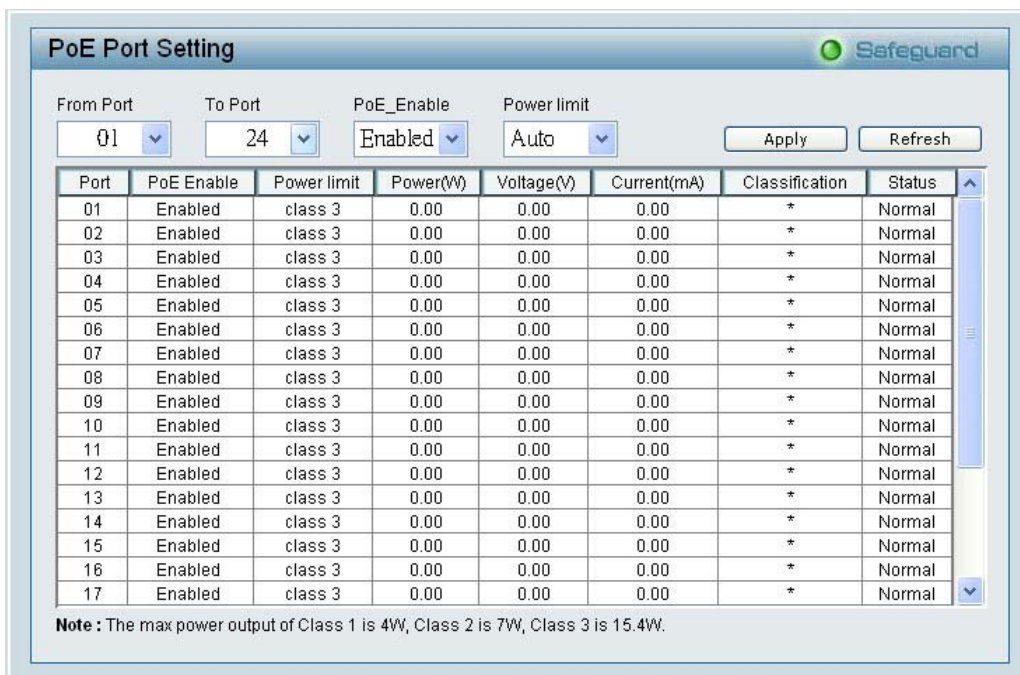
## Power over Ethernet (PoE) > PoE Port Setting

---

Select "PoE Port Setting" to configure the PoE Port setting.

When you click on the PoE Setting, the PoE Status will appear on the screen. It will display the PoE status including, Port Enable, Power Limit, Power (W), Voltage (V), Current (mA), Classification, Port Status.

*Note:* The PoE Status information of Power current, Power Voltage, and Current is the power usage information of the connected PD; please "Refresh" to renew the information.



**Figure 39 – PoE > PoE Port Setting**

**PoE Enable:** Select to enable or disable the PoE function.

**Power Limit:** This function allows you to manually set the port power current limitation to be given to the PD. To protect the DES-1228P and the connected devices, the power limit function will disable the PoE function of the port when the power is overloaded. Select from "Class 1 (4W)", "Class 2 (7W)", "Class 3 (15.4W)" and "Auto" for the power limit. "Auto" will negotiate and follow the classification from the PD power current based on the 802.3af standard.



---

## Power over Ethernet (PoE) > PoE System Setting

---

Select "PoE System Setting" to configure the global PoE Settings.



**Figure 40 – PoE > PoE System Setting**

This page will display the PoE status including System Budget Power, Support Total Power, Remainder Power, and The ratio of system power supply.

**System Power Threshold:** When the ratio of the system power supply is larger than or smaller than the System Power Threshold Setting, the Switch will send trap events to the Management Station.

*Note:* When there is a system power shortage with the PD, the Switch will enforce the PoE port priority management. The lower port numbers will have priority over the higher port numbers. For example, Port 1 > Port 2 > ... > Port 24.

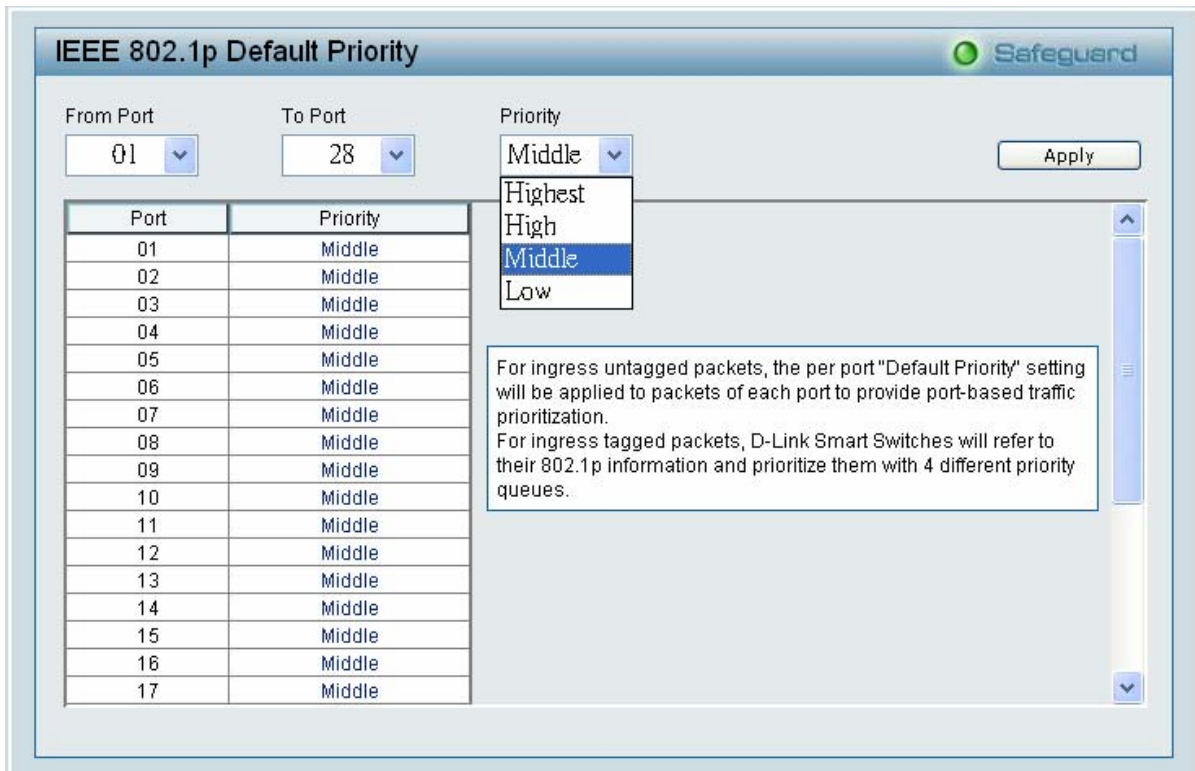
---

## QoS > 802.1p Default Priority

---

This feature displays the status Quality of Service priority levels of each port, and for packets that are untagged, the switch will assign the priority in the tag depending on your configuration.





**Figure 41 – QoS > 802.1p Default Priority**

---

## Security > Safeguard Engine

---

D-Link's **Safeguard Engine** is a robust and innovative technology that automatically throttles the impact of packet flooding into the switch's CPU. This function helps protect the Web-Smart Switch from being interrupted by malicious viruses or worm attacks. By default this is *Enabled*.



**Figure 42 – Security > Safeguard Engine**

---

## Security > Broadcast Storm Control

---

The Broadcast Storm Control feature provides the ability to control the receive rate of broadcasted packets. If *Enabled* (default is *Disabled*), threshold settings of 8,000 ~ 4,096,000 bytes per second can be assigned. Press **Apply** for the settings to take effect.



**Figure 43 – Security > Broadcast Storm Control**

---

## Security > 802.1X Setting

---

Network switches provide easy and open access to resources by simply attaching a client PC. Unfortunately this automatic configuration also allows unauthorized personnel to easily intrude and possibly gain access to sensitive data.

IEEE-802.1X provides a security standard for network access control, especially in Wi-Fi wireless networks. 802.1X holds a network port disconnected until authentication is completed. The switch uses Extensible Authentication Protocol over LANs (EAPOL) to exchange authentication protocol client identity (such as a user name) with the client, and forward it to another remote RADIUS authentication server to verify access rights. The EAP packet from the RADIUS server also contains the authentication method to be used. The client can reject the authentication method and request another, depending on the configuration of the client software and the RADIUS server. Depending on the authenticated results, the port is either made

available to the user, or the user is denied access to the network.

The RADIUS servers make the network a lot easier to manage for the administrator by gathering and storing the user lists.

Port	Control	Port Status	Session Time	User ID
01	Disable	*	0	*****
02	Disable	*	0	*****
03	Disable	*	0	*****
04	Disable	*	0	*****
05	Disable	*	0	*****

**Figure 44 – Security > 802.1X Setting**

By default, 802.1X is *Disabled*. To use EAP for security, select *Enabled* and set the 802.1X **Global Settings** for the Radius Server and applicable authentication information.

**Authentication Port:** sets primary port for security monitoring. Default is 1812.

**Key:** Masked password matching the Radius Server Key.

**Confirm Key:** Enter the Key a second time for confirmation.

**TxPeriod:** Sets the number of seconds that the switch waits for a response to an EAP-request/identity frame from the client before retransmitting the request. Default is 24 seconds.

**ReAuthEnabled:** This *Enables* or *Disables* the periodic ReAuthentication control. When the 802.1X function is *Enabled*, the ReAuthEnabled function is by default also *Enabled*.

**QuietPeriod:** Sets the number of seconds that the switch remains in the quiet state following a failed authentication exchange with the client. Default 80 seconds

**SuppTimeout:** Sets the switch-to-client retransmission time for the EAP-request frame. Default is 12 seconds.

**ServerTimeout:** Sets the amount of time the switch waits for a response from the client before resending the response to the authentication server. Default is 16 seconds.

**MaxReq:** This parameter specifies the maximum number of times that the switch retransmits an EAP Request packet to the client before it times out the authentication session. Default is 5 times.

**ReAuthPeriod:** This command affects the behavior of the switch only if periodic re-authentication is enabled. Default is 3600.

To establish 802.1X port-specific assignments, select the **From** and **To Ports** and select *Enable*.

---

## Security > Mac Address Table > Static Mac

---

This page provides two distinct features. The top table provides the ability to turn off auto learning Mac address if a port isn't connected to an uplink Switch (i.e. DHCP Server). By default, this feature is *OFF* (disabled). The Macs listed on this table may only connect from corresponding ports and VIDs, in order to protect the network from illegal Macs.



**Figure 45 – Security > Static Mac Address**

To initiate the removal of auto-learning for any of the uplink ports, press *On* to enable this feature, and select the port(s) for auto learning to be disabled.

The **Static Mac Address Setting** table displays the static Mac addresses connected, as well as the VID. Press **Delete** to remove a device. To add a new Mac address assignment, press **Add Mac**, then select the assigned Port number, enter both the Mac Address and VID and press **Apply**.

---

### **Security > Mac Address Table > Dynamic Forwarding Table**

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For each port, this table displays the Mac address of each packet passing through the Switch. To add a Mac address to the Static Mac Address List, click the **Add** checkbox associated with the identified packet.



**Figure 46 – Security > Dynamic Forwarding Table**

---

## Monitoring > Statistics

---

The Statistics screen displays the status of each port packet count.

Port	TxOK	RxOK	TxError	RxError
01	704	1008	0	0
02	0	0	0	0
03	0	0	0	0
04	0	0	0	0
05	0	0	0	0
06	0	0	0	0
07	0	0	0	0
08	0	0	0	0
09	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0

**Figure 47 – Monitoring > Statistics**

**Refresh:** To renew the details collected and displayed.

**Clear Counter:** To reset the details displayed.

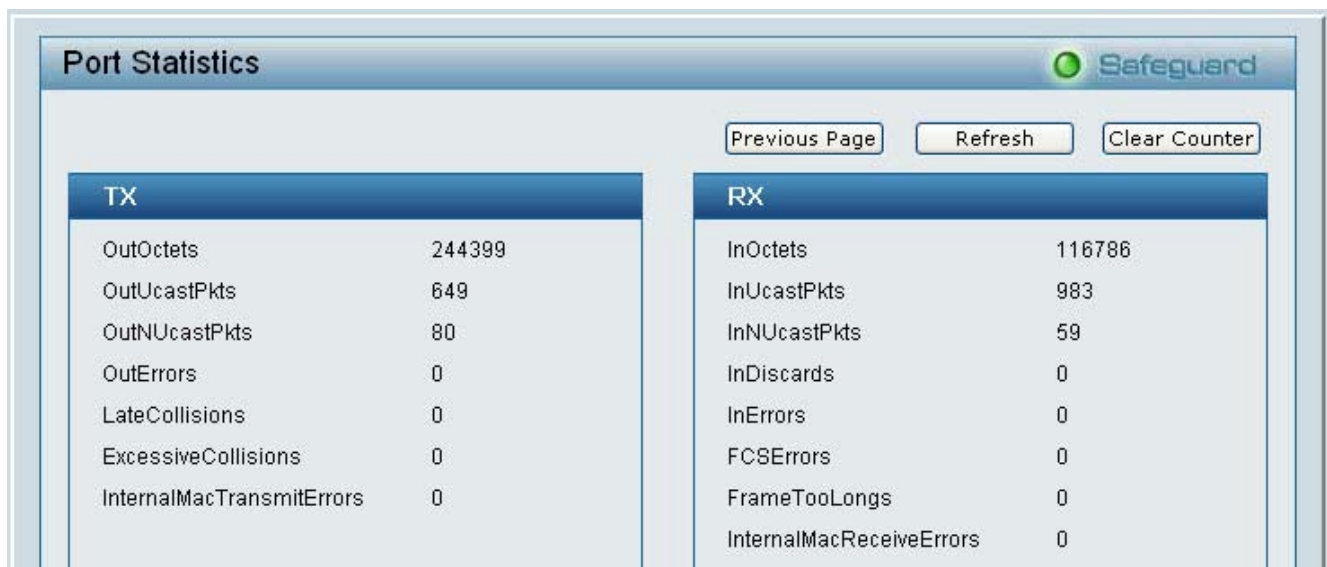
**TxOK:** Number of packets transmitted successfully.

**RxOK:** Number of packets received successfully.

**TxError:** Number of transmitted packets resulting in error.

**RxError:** Number of received packets resulting in error.

To view the statistics of individual ports, click one of the linked Port numbers for details.



**Figure 48 – Monitoring > Port Statistics**

# Warranties/Registration

## LIMITED WARRANTY

D-Link provides this limited warranty for its product only to the person or entity who originally purchased the product from DLink or its authorized reseller or distributor. D-Link would fulfill the warranty obligation according to the local warranty policy in which you purchased our products.

**Limited Hardware Warranty:** D-Link warrants that the hardware portion of the D-Link products described below (“Hardware”) will be free from material defects in workmanship and materials from the date of original retail purchase of the Hardware, for the period set forth below applicable to the product type (“Warranty Period”) if the Hardware is used and serviced in accordance with applicable documentation; provided that a completed Registration Card is returned to an Authorized D-Link Service Office within ninety (90) days after the date of original retail purchase of the Hardware. If a completed Registration Card is not received by an authorized D-Link Service Office within such ninety (90) period, then the Warranty Period shall be ninety (90) days from the date of purchase.

<i>Product Type</i>	<i>Warranty Period</i>
Product (including Power Supplies and Fans)	One (1) Year
Spare parts and pare kits	Ninety (90) days

D-Link’s sole obligation shall be to repair or replace the defective Hardware at no charge to the original owner. Such repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement Hardware need not be new or of an identical make, model or part; D-Link may in its discretion may 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. The Warranty Period shall extend for an additional ninety (90) days after any repaired or replaced Hardware is delivered. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the 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 delivery of the Software for a period of ninety (90) days (“Warranty Period”), if the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. D-Link’s sole obligation shall be to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link’s functional specifications for 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. The Warranty Period shall extend for an additional ninety (90) days after any replacement Software is delivered. 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.

### ***What You Must Do For Warranty Service:***

Registration Card. The Registration Card provided at the back of this manual must be completed and returned to an Authorized D-Link Service Office for each D-Link product within ninety (90) days after the product is purchased and/or licensed. The addresses/telephone/fax list of the nearest Authorized D-Link Service Office is provided in the back of this manual. FAILURE TO



PROPERLY COMPLETE AND TIMELY RETURN THE REGISTRATION CARD MAY AFFECT THE WARRANTY FOR THIS PRODUCT.

**Submitting A Claim.** Any claim under this limited warranty must be submitted in writing before the end of the Warranty Period to an Authorized D-Link Service Office. The claim must include a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same. The original product owner must obtain a Return Material Authorization (RMA) number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided. 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. The packaged product shall be insured and shipped to Authorized D-Link Service Office with all shipping costs prepaid. 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:***

This limited warranty provided by D-Link does not cover:

Products that 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;

and Any hardware, software, firmware or other products or services provided by anyone other than D-Link.

***Disclaimer of Other Warranties:*** EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND 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 NINETY (90) DAYS. 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, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, 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.

**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 the product owner may also have other rights which vary from state to state.

### **Trademarks**

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## **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 manual, 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.

# 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 (e.g., Compaq 486)	* Product installed in computer serial No.

(\* Applies to adapters only)

*Product was purchased from:*

Reseller's name: \_\_\_\_\_  
 Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Reseller's full address: \_\_\_\_\_

**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  
 Banyan Vines  DECnet Pathwork  Windows NT  Windows 2000  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  100BASE-T4  100VGAnyLAN  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/Chainstore/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:**

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**D-Link<sup>®</sup>**



## Limited Warranty (USA Only)

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: For as long as the original customer/end user owns the product, or five (5) years after product discontinuance, whichever occurs first (excluding power supplies and fans)
- Power supplies and fans: Three (3) 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.

**Trademarks:** D-Link is a registered trademark of D-Link Systems, Inc. Other trademarks or registered trademarks are the property of their respective owners.

**Copyright Statement:** No part of this publication or documentation accompanying this product may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from D-Link Corporation/D-Link Systems, Inc., as stipulated by the United States Copyright Act of 1976 and any amendments thereto. Contents are subject to change without prior notice. Copyright 2004 by D-Link Corporation/D-Link Systems, Inc. All rights reserved.

**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.**

# Tech Support

## Technical Support

You can find software updates and user documentation on the D-Link website.

### Tech Support for customers within Australia:

***D-Link Technical Support over the Telephone:***

1300-766-868

Monday to Friday 8:00am to 8:00pm EST

Saturday 9:00am to 1:00pm EST

***D-Link Technical Support over the Internet:***

<http://www.dlink.com.au>

email: [support@dlink.com.au](mailto:support@dlink.com.au)

### Tech Support for customers within New Zealand:

***D-Link Technical Support over the Telephone:***

0800-900-900

Monday to Friday 8:30am to 8:30pm

Saturday 9:00am to 5:00pm

***D-Link Technical Support over the Internet:***

<http://www.dlink.co.nz>

email: [support@dlink.co.nz](mailto:support@dlink.co.nz)

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## Technical Support

You can find software updates and user documentation on the D-Link website.

### **Tech Support for customers within South Eastern Asia and Korea:**

#### ***D-Link South Eastern Asia and Korea Technical Support over the Telephone:***

+65-6895-5355

Monday to Friday 9:00am to 12:30pm, 2:00pm-6:00pm  
Singapore Time

#### ***D-Link Technical Support over the Internet:***

email:[support@dlink.com.sg](mailto:support@dlink.com.sg)

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## Technical Support

You can find software updates and user documentation on the D-Link website.

### Tech Support for customers within India

***D-Link Technical Support over the Telephone:***

+91-22-26526741  
+91-22-26526696 –ext 161 to 167  
Monday to Friday 9:30am to 7:00pm

***D-Link Technical Support over the Internet:***

<http://www.dlink.co.in>  
<http://www.dlink.co.in/dlink/drivers/support.asp>  
<ftp://support.dlink.co.in>  
email: [techsupport@dlink.co.in](mailto:techsupport@dlink.co.in)

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## Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers for the duration of the warranty period on this product.

Customers can contact D-Link technical support through our web site or by phone.

### Tech Support for customers within the Russia

***D-Link Technical Support over the Telephone:***

(495) 744-00-99

Monday to Friday 10:00am to 6:30pm

***D-Link Technical Support over the Internet:***

<http://www.dlink.ru>

email: [support@dlink.ru](mailto:support@dlink.ru)

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# Technical Support

You can find software updates and user documentation on the D-Link website.

## Tech Support for customers within the U.A.E & North Africa:

### ***D-Link Technical Support over the Telephone:***

(971) 4-391-6480 (U.A.E)

Sunday to Wednesday 9:00am to 6:00pm GMT+4

Thursday 9:00am to 1:00pm GMT+4

D-Link Middle East & North Africa

### ***D-Link Technical Support over the Internet:***

<http://support.dlink-me.com>

email: [support@dlink-me.com](mailto:support@dlink-me.com)

## Tech Support for customers within Israel:

### ***D-Link Technical Support over the Telephone:***

(972) 9-9715701

Sunday to Thursday 9:00am to 5:00pm

### ***D-Link Technical Support over the Internet:***

<http://www.dlink.co.il/support/>

e-mail: [support@dlink.co.il](mailto:support@dlink.co.il)

## Tech Support for customers within Turkey:

### ***D-Link Technical Support over the Telephone:***

0090 312 473 40 55

Monday to Friday 9:00am to 6:00pm

### ***D-Link Technical Support over the Internet:***

<http://www.dlink.com.tr>

e-mail: [turkiye@dlink-me.com](mailto:turkiye@dlink-me.com)

## Tech Support for customers within Egypt:

### ***D-Link Technical Support over the Telephone:***

+202-2919035, +202-2919047

Sunday to Thursday 9:00am to 5:00pm

### ***D-Link Technical Support over the Internet:***

<http://support.dlink-me.com>

e-mail: [amostafa@dlink-me.com](mailto:amostafa@dlink-me.com)

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## Technical Support

You can find software updates and user documentation on the D-Link website.

### **Tech Support for customers within South Africa and Sub Sahara Region:**

#### ***D-Link South Africa and Sub Sahara Technical Support over the Telephone:***

+27-12-665-2165

08600 DLINK ( For South Africa only )

Monday to Friday 8:30am to 9:00pm South Africa Time

#### ***D-Link Technical Support over the Internet:***

<http://www.d-link.co.za>

[email:support@d-link.co.za](mailto:support@d-link.co.za)

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# Technical Support

You can find software updates and user documentation on the D-Link website.

## Tech Support for Latin America customers:

### *D-Link Technical Support over the followings Telephones:*

<b>Argentina:</b> 0-800 122 35 465	Monday to Friday 09:00am to 22:00pm
<b>Chile:</b> 800-835465	Monday to Friday 08:00am to 21:00pm
<b>Colombia:</b> 01-800 952 54 65	Monday to Friday 07:00am to 20:00pm
<b>Ecuador:</b> 1800-035465	Monday to Friday 07:00am to 20:00pm
<b>El Salvador:</b> 800-6137	Monday to Friday 06:00am to 19:00pm
<b>Guatemala:</b> 1800-300 0017	Monday to Friday 06:00am to 19:00pm
<b>Panama:</b> 00-800 052 54 65	Monday to Friday 07:00am to 20:00pm
<b>Peru:</b> 0800-00 968	Monday to Friday 07:00am to 20:00pm
<b>Venezuela:</b> 0-800-100 5767	Monday to Friday 08:00am to 21:00pm

### *D-Link Technical Support over the Internet:*

[www.dlinkla.com](http://www.dlinkla.com)  
[www.dlinklatinamerica.com](http://www.dlinklatinamerica.com)  
email:[support@dlink.cl](mailto:support@dlink.cl)

## Tech Support for customers within Brazil:

### *D-Link Technical Support over the Telephone:*

0800 70 24 104  
Monday to Friday 8:30am to 18:30pm

### *D-Link Technical Support over the Internet:*

[www.dlinkbrasil.com.br](http://www.dlinkbrasil.com.br)  
email:[suporte@dlinkbrasil.com.br](mailto:suporte@dlinkbrasil.com.br)

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## **Техническая поддержка**

Обновления программного обеспечения и документация доступны на Интернет-сайте D-Link.

D-Link предоставляет бесплатную поддержку для клиентов в течение гарантийного срока.

Клиенты могут обратиться в группу технической поддержки D-Link по телефону или через Интернет.

### **Техническая поддержка D-Link:**

(495) 744-00-99

### **Техническая поддержка через Интернет**

<http://www.dlink.ru>

email: [support@dlink.ru](mailto:support@dlink.ru)

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# Asistencia Técnica

D-Link Latin América pone a disposición de sus clientes, especificaciones, documentación y software mas reciente a través de nuestro Sitio Web  
**[www.dlinkla.com](http://www.dlinkla.com)**

El servicio de soporte técnico tiene presencia en numerosos países de la Región Latino América, y presta asistencia gratuita a todos los clientes de D-Link, en forma telefónica e internet, a través de la casilla  
**[soporte@dlinkla.com](mailto:soporte@dlinkla.com)**

## **Soporte Técnico Help Desk Argentina:**

**Teléfono:** 0-800 122 35 465 Lunes a Viernes 09:00 am a 22:00 pm

## **Soporte Técnico Help Desk Chile:**

**Teléfono:** 800 8 35465 Lunes a Viernes 08:00 am a 21:00 pm

## **Soporte Técnico Help Desk Colombia:**

**Teléfono:** 01-800 952 54 65 Lunes a Viernes 07:00 am a 20:00 pm

## **Soporte Técnico Help Desk Ecuador:**

**Teléfono:** 1800-035465 Lunes a Viernes 07:00 am a 20:00 pm

## **Soporte Técnico Help Desk El Salvador:**

**Teléfono:** 800-6137 Lunes a Viernes 06:00 am a 19:00 pm

## **Soporte Técnico Help Desk Guatemala:**

**Teléfono:** 1800-300 0017 Lunes a Viernes 06:00 am a 19:00 pm

## **Soporte Técnico Help Desk Panamá:**

**Teléfono:** 00-800 052 54 65 Lunes a Viernes 07:00 am a 20:00 pm

## **Soporte Técnico Help Desk Perú:**

**Teléfono:** 0800-00 968 Lunes a Viernes 07:00 am a 20:00 pm

## **Soporte Técnico Help Desk Venezuela:**

**Teléfono:** 0-800-100 5767 Lunes a Viernes 08:00 am a 21:00 pm





## Suporte Técnico

Você pode encontrar atualizações de software e documentação de usuário no site da D-Link Brasil [www.dlinkbrasil.com.br](http://www.dlinkbrasil.com.br).

A D-Link fornece suporte técnico gratuito para clientes no Brasil durante o período de vigência da garantia deste produto.

### Suporte Técnico para clientes no Brasil:

#### Telefone

São Paulo (11) 2185-9301

Segunda à sexta

Das 8h30 às 18h30

Demais Regiões do Brasil 0800 70 24 104

#### E-mail:

[email:suporte@dlinkbrasil.com.br](mailto:suporte@dlinkbrasil.com.br)

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## D-Link 友訊科技 台灣分公司 技術支援資訊

如果您還有任何本使用手冊無法協助您解決的產品相關問題，台灣地區用戶可以透過我們的網站、電子郵件或電話等方式與D-Link台灣地區技術支援工程師聯絡。

D-Link 免付費技術諮詢專線

0800-002-615

服務時間：週一至週五，早上8:30 到 晚上7:00

(不含周六、日及國定假日)

網 站：<http://www.dlink.com.tw>

電子郵件：[dssqa\\_service@dlink.com.tw](mailto:dssqa_service@dlink.com.tw)

如果您是台灣地區以外的用戶，請參考D-Link網站 全球各地分公司的聯絡資訊以取得相關支援服務。

產品保固期限、台灣區維修據點查詢，請參考以下網頁說明：

<http://www.dlink.com.tw>

產品維修：

使用者可直接送至全省聯強直營維修站或請洽您的原購買經銷商。

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# Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers within the United States and within Canada for the duration of the service period, and warranty confirmation service, during the warranty period on this product. U.S. and Canadian customers can contact D-Link technical support through our website, or by phone.

## Tech Support for customers within the United States:

### ***D-Link Technical Support over the Telephone:***

(877) 354-6555

Monday to Friday 8:00am to 5:00pm PST

### ***D-Link Technical Support over the Internet:***

<http://support.dlink.com>

email: [support@dlink.com](mailto:support@dlink.com)

## Tech Support for customers within Canada:

### ***D-Link Technical Support over the Telephone:***

(877) 354-6560

Monday to Friday 7:30am to 9:00pm EST

### ***D-Link Technical Support over the Internet:***

<http://support.dlink.com>

email: [support@dlink.ca](mailto:support@dlink.ca)

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# Technical Support

You can find software updates and user documentation on the D-Link websites.

If you require product support, we encourage you to browse our FAQ section on the Web Site before contacting the Support line. We have many FAQ's which we hope will provide you a speedy resolution for your problem.

## For Customers within The United Kingdom & Ireland:

### ***D-Link UK & Ireland Technical Support over the Internet:***

<http://www.dlink.co.uk>

<ftp://ftp.dlink.co.uk>

### ***D-Link UK & Ireland Technical Support over the Telephone:***

08456 12 0003 (United Kingdom)

+1890 886 899 (Ireland)

Lines Open

8.00am-10.00pm Mon-Fri

10.00am-7.00pm Sat & Sun

## For Customers within Canada:

### **D-Link Canada Technical Support over the Telephone:**

1-800-361-5265 (Canada)

Mon. to Fri. 7:30AM to 9:00PM EST

### **D-Link Canada Technical Support over the Internet:**

<http://support.dlink.ca>

email: [support@dlink.ca](mailto:support@dlink.ca)

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## Technische Unterstützung

Aktualisierte Versionen von Software und Benutzerhandbuch finden Sie auf der Website von D-Link.

D-Link bietet kostenfreie technische Unterstützung für Kunden innerhalb Deutschlands, Österreichs, der Schweiz und Osteuropas.

Unsere Kunden können technische Unterstützung über unsere Website, per E-Mail oder telefonisch anfordern.

Web: <http://www.dlink.de>

E-Mail: [support@dlink.de](mailto:support@dlink.de)

Telefon: +49 (1805)2787

0,12€/Min aus dem Festnetz der Deutschen Telekom.

Telefonische technische Unterstützung erhalten Sie Montags bis Freitags von 09.00 bis 17.30 Uhr.

Unterstützung erhalten Sie auch bei der Premiumhotline für D-Link Produkte unter der Rufnummer 09001-475767

Montag bis Freitag von 6-22 Uhr und am Wochenende von 11-18 Uhr.

1,75€/Min aus dem Festnetz der Deutschen Telekom.

Wenn Sie Kunde von D-Link außerhalb Deutschlands, Österreichs, der Schweiz und Osteuropas sind, wenden Sie sich bitte an die zuständige Niederlassung aus der Liste im Benutzerhandbuch.

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## Assistance technique

Vous trouverez la documentation et les logiciels les plus récents sur le site web **D-Link**.

Vous pouvez contacter le service technique de **D-Link** par notre site internet ou par téléphone.

### **Support technique destiné aux clients établis en France:** **Assistance technique D-Link par téléphone :**

0820 0803 03

N° INDIGO - 0,12€ TTC/min\*

\*Prix en France Métropolitaine au 3 mars 2005

Du lundi au samedi – de 9h00 à 19h00

### **Assistance technique D-Link sur internet :**

<http://www.dlink.fr>

e-mail : [support@dlink.fr](mailto:support@dlink.fr)

### **Support technique destiné aux clients établis au Canada :**

#### **Assistance technique D-Link par téléphone :**

(800) 361-5265

Lun.-Ven. 7h30 à 21h00 HNE.

#### **Assistance technique D-Link sur internet :**

<http://support.dlink.ca>

e-mail : [support@dlink.ca](mailto:support@dlink.ca)

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## Asistencia Técnica

Puede encontrar las últimas versiones de software así como documentación técnica en el sitio web de **D-Link**.

**D-Link** ofrece asistencia técnica gratuita para clientes residentes en España durante el periodo de garantía del producto.

### **Asistencia Técnica de D-Link por teléfono:**

+34 902 30 45 45

Lunes a Viernes de 9:00 a 14:00 y de 15:00 a 18:00

### **Asistencia Técnica de D-Link a través de Internet:**

<http://www.dlink.es/support/>

e-mail: [soporte@dlink.es](mailto:soporte@dlink.es)

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## Supporto tecnico

Gli ultimi aggiornamenti e la documentazione sono disponibili sul sito D-Link.

### Supporto tecnico per i clienti residenti in Italia

#### **D-Link Mediterraneo S.r.L.**

Via N. Bonnet 6/B 20154 Milano

Supporto Tecnico dal lunedì al venerdì dalle ore  
9.00 alle ore 19.00 con orario continuato  
Telefono: 02-39607160

URL : <http://www.dlink.it/supporto.html>  
Email: [tech@dlink.it](mailto:tech@dlink.it)

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# Technical Support

You can find software updates and user documentation on the D-Link website.

D-Link provides free technical support for customers within Benelux for the duration of the warranty period on this product.

Benelux customers can contact D-Link technical support through our website, or by phone.

## Tech Support for customers within the Netherlands:

### *D-Link Technical Support over the Telephone:*

0900 501 2007

Monday to Friday 9:00 am to 10:00 pm

### *D-Link Technical Support over the Internet:*

[www.dlink.nl](http://www.dlink.nl)

## Tech Support for customers within Belgium:

### *D-Link Technical Support over the Telephone:*

070 66 06 40

Monday to Friday 9:00 am to 10:00 pm

### *D-Link Technical Support over the Internet:*

[www.dlink.be](http://www.dlink.be)

## Tech Support for customers within Luxemburg:

### *D-Link UK & Ireland Technical Support over the Telephone:*

+32 70 66 06 40

Monday to Friday 9:00 am to 10:00 pm

### *D-Link Technical Support over the Internet:*

[www.dlink.be](http://www.dlink.be)

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## Pomoc techniczna

Najnowsze wersje oprogramowania i dokumentacji użytkownika można znaleźć w serwisie internetowym firmy D-Link.

D-Link zapewnia bezpłatną pomoc techniczną klientom w Polsce w okresie gwarancyjnym produktu.

Klienci z Polski mogą się kontaktować z działem pomocy technicznej firmy D-Link za pośrednictwem Internetu lub telefonicznie.

**Telefoniczna pomoc techniczna firmy D-Link:**  
(+48 12) 25-44-000

**Pomoc techniczna firmy D-Link świadczona przez Internet:**  
URL: <http://www.dlink.pl>  
e-mail: [dlink@fixit.pl](mailto:dlink@fixit.pl)

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## Technická podpora

Aktualizované verze software a uživatelských příruček najdete na webových stránkách firmy D-Link.

D-Link poskytuje svým zákazníkům bezplatnou technickou podporu

Zákazníci mohou kontaktovat oddělení technické podpory přes webové stránky, mailem nebo telefonicky

Web: <http://www.dlink.cz/support/>

E-mail: [support@dlink.cz](mailto:support@dlink.cz)

Telefon: 224 247 503

Telefonická podpora je v provozu:

PO- PÁ od 09.00 do 17.00

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## Technikai Támogatás

Meghajtó programokat és frissítéseket a **D-Link** Magyarország weblapjáról tölthet le.

Telefonon technikai segítséget munkanapokon hétfőtől-csütörtökig 9.00 – 16.00 óráig és pénteken 9.00 – 14.00 óráig kérhet a **(1) 461-3001** telefonszámon vagy a [support@dlink.hu](mailto:support@dlink.hu) emailcímen.

Magyarországi technikai támogatás :

## D-Link Magyarország

1074 Budapest, Alsóerdősor u. 6. – R70 Irodaház 1 em.

Tel. : 06 1 461-3001

Fax : 06 1 461-3004

email : [support@dlink.hu](mailto:support@dlink.hu)

URL : <http://www.dlink.hu>

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## Teknisk Support

Du kan finne programvare oppdateringer og bruker dokumentasjon på D-Links web sider.

D-Link tilbyr sine kunder gratis teknisk support under produktets garantitid.

Kunder kan kontakte D-Links teknisk support via våre hjemmesider, eller på tlf.

### Teknisk Support:

#### **D-Link Teknisk telefon Support:**

800 10 610

(Hverdager 08:00-20:00)

#### **D-Link Teknisk Support over Internett:**

<http://www.dlink.no>

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## Teknisk Support

Du finder software opdateringer og bruger-dokumentation på D-Link's hjemmeside.

D-Link tilbyder gratis teknisk support til kunder i Danmark i hele produktets garantiperiode.

Danske kunder kan kontakte D-Link's tekniske support via vores hjemmeside eller telefonisk.

D-Link teknisk support over telefonen:

D-Link teknisk support over telefonen:

**Tlf. 7026 9040**

Åbningstider: kl. 08:00 – 20:00

**D-Link teknisk support på Internettet:**

<http://www.dlink.dk>

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## **Teknistä tukea asiakkaille Suomessa:**

D-Link tarjoaa teknistä tukea asiakkailleen.  
Tuotteen takuun voimassaoloajan.  
Tekninen tuki palvelee seuraavasti:

Arkisin klo. 9 - 21  
numerosta

**0800-114 677**

Internetin kautta  
Ajurit ja lisätietoja tuotteista.  
<http://www.dlink.fi>

Sähköpostin kautta  
voit myös tehdä kyselyitä.

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## **Teknisk Support**

På vår hemsida kan du hitta mer information om mjukvaru uppdateringar och annan användarinformation.

D-Link tillhandahåller teknisk support till kunder i Sverige under hela garantitiden för denna produkt.

### **Teknisk Support för kunder i Sverige:**

**D-Link Teknisk Support via telefon:**

**0770-33 00 35**

Vardagar 08.00-20.00

**D-Link Teknisk Support via Internet:**

<http://www.dlink.se>

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## **Suporte Técnico**

Você pode encontrar atualizações de software e documentação de utilizador no site de D-Link Portugal  
<http://www.dlink.pt>.

A D-Link fornece suporte técnico gratuito para clientes no Portugal durante o período de vigência de garantia deste produto.

### **Suporte Técnico para clientes no Portugal:**

#### ***Assistência Técnica:***

Email: [soporte@dlink.es](mailto:soporte@dlink.es)

<http://www.dlink.pt/support/>

<ftp://ftp.dlink.es>

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## Τεχνική Υποστήριξη

Μπορείτε να βρείτε software updates και πληροφορίες για τη χρήση των προϊόντων στις ιστοσελίδες της D-Link

Η D-Link προσφέρει στους πελάτες της δωρεάν υποστήριξη στον Ελλαδικό χώρο

Μπορείτε να επικοινωνείτε με το τμήμα τεχνικής υποστήριξης μέσω της ιστοσελίδας ή μέσω τηλεφώνου

### Για πελάτες εντός του Ελλαδικού χώρου:

#### *Τηλεφωνική υποστήριξη D-Link :*

Τηλ: 210 86 11 114

Φαξ: 210 86 53 172

(Δευτέρα-Παρασκευή 09:00-17:00)

e-mail: [support@dlink.gr](mailto:support@dlink.gr)

#### *Τεχνική υποστήριξη D-Link μέσω Internet:*

<http://www.dlink.gr>

<ftp://ftp.dlink.it>

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## 技术支持

办公地址：北京市朝阳区建国路71号惠通时代广场C1座  
202室 邮编：100025

技术支持中心电话：8008296688/ (028) 66052968

技术支持中心传真：(028) 85176948

维修中心地址：北京市朝阳区建国路71号惠通时代广场C1座  
202室 邮编：100025

维修中心电话：(010) 58635800

维修中心传真：(010) 58635799

网址：<http://www.dlink.com.cn>

办公时间：周一到周五，早09:00到晚18:00

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# International Offices

## U.S.A

17595 Mt. Herrmann Street  
Fountain Valley, CA. 92708  
TEL: 1-800-326-1688  
URL: [www.dlink.com](http://www.dlink.com)

## Canada

2180 Winston Park Drive  
Oakville, Ontario, L6H 5W1  
Canada  
TEL: 1-905-8295033  
FAX: 1-905-8295223  
URL: [www.dlink.ca](http://www.dlink.ca)

## European HQ & UK & I

D-Link House, Abbey Road  
Park Royal, London  
NW10 7BX UK  
TEL: 44-20-8955-9000  
FAX: 44-20-8955-9003  
URL: [www.dlink.co.uk](http://www.dlink.co.uk)  
URL: [www.dlink.eu](http://www.dlink.eu)

## Germany

Schwalbacher Strasse 74  
D-65760 Eschborn  
Germany  
TEL: 49-6196-77990  
FAX: 49-6196-7799300  
URL: [www.dlink.de](http://www.dlink.de)

## France

41 Boulevard Vauban  
78280 Guyancourt  
France  
TEL: 33-1-30238688  
FAX: 33-1-30238689  
URL: [www.dlink.fr](http://www.dlink.fr)

## Netherlands

Weena 290  
3012 NJ Rotterdam  
Netherlands  
Tel: +31-10-282-1445  
Fax: +31-10-282-1331  
URL: [www.dlink.nl](http://www.dlink.nl)

## Belgium

Rue des Colonies 11  
B-1000 Brussels  
Belgium  
Tel: +32(0)2 517 7111  
Fax: +32(0)2 517 6500  
URL: [www.dlink.be](http://www.dlink.be)

## Italy

Via Nino Bonnet n. 6/b  
20154 – Milano,  
Italy  
TEL: 39-02-2900-0676  
FAX: 39-02-2900-1723  
URL: [www.dlink.it](http://www.dlink.it)

## Sweden

P.O. Box 15036, S-167 15 Bromma  
Sweden  
TEL: 46-(0)8564-61900  
FAX: 46-(0)8564-61901  
URL: [www.dlink.se](http://www.dlink.se)

## Denmark

Naverland 2, DK-2600  
Glostrup, Copenhagen,  
Denmark  
TEL: 45-43-969040  
FAX: 45-43-424347  
URL: [www.dlink.dk](http://www.dlink.dk)

## Norway

Karihaugveien 89  
N-1086 Oslo  
Norway  
TEL: +47 99 300 100  
FAX: +47 22 30 95 80  
URL: [www.dlink.no](http://www.dlink.no)

## Finland

Latokartanontie 7A  
FIN-00700 Helsinki  
Finland  
TEL: +358-10 309 8840  
FAX: +358-10 309 8841  
URL: [www.dlink.fi](http://www.dlink.fi)

## Spain

Avenida Diagonal, 593-95, 9<sup>th</sup> floor  
08014 Barcelona  
Spain  
TEL: 34 93 4090770  
FAX: 34 93 4910795  
URL: [www.dlink.es](http://www.dlink.es)

## Portugal

Rua Fernando Pahlha  
50 Edificio Simol  
1900 Lisbon Portugal  
TEL: +351 21 8688493  
URL: [www.dlink.es](http://www.dlink.es)

## Czech Republic

Vaclavske namesti 36, Proha 1  
110 00 Czech Republic  
TEL: +420 224 247 500  
URL: [www.dlink.cz](http://www.dlink.cz)

## Switzerland

Glatt Tower, 2.OG CH-8301  
Glattzentrum Postfach 2.OG  
Switzerland  
TEL: +41 (0) 1 832 11 00  
FAX: +41 (0) 1 832 11 01  
URL: [www.dlink.ch](http://www.dlink.ch)

## Greece

101 Panagoulis Str. 163-43  
Heliopolis Athens, Greece  
TEL: +30 210 9914 512  
FAX: +32 210 9916 902  
URL: [www.dlink.gr](http://www.dlink.gr)

## Luxembourg

Rue des Colonies 11,  
B-1000 Brussels,  
Belgium  
TEL: +32 (0) 2 517 7111  
FAX: +32 (0) 2 517 6500  
URL: [www.dlink.be](http://www.dlink.be)

## Poland

Budynek AURUM ul. Walic-w 11  
PL-00-851  
Warszawa  
Poland  
TEL: +48 (0) 22 583 92 75  
FAX: +48 (0) 22 583 92 76  
URL: [www.dlink.pl](http://www.dlink.pl)

## Hungary

R70 Irodahaz, 1 emelet  
Rakoczi ut 70-72, Budapest  
H-1074, Magyarorszag  
TEL: +36 (0) 1 461 30 00  
FAX: +36 (0) 1 461 30 09  
URL: [www.dlink.hu](http://www.dlink.hu)

## Singapore

1 International Business Park  
#03-12 The Synergy  
Singapore 609917  
TEL: 65-6774-6233  
FAX: 65-6774-6322  
URL: [www.dlink-intl.com](http://www.dlink-intl.com)

## India

D-Link House, Plot No.5  
Kurla-Bandra Complex Road, Off. CST Road,  
Santacruz(E), Mumbai – 400 098 India  
TEL: 91-022-26526696/30616666  
FAX: 91-022-26528914/8476  
URL: [www.dlink.co.in](http://www.dlink.co.in)

## Middle East (Dubai)

P.O.Box: 500376  
Office: 103, Building:3  
Dubai Internet City  
Dubai, United Arab Emirates  
Tel: +971-4-3916480  
Fax: +971-4-3908881  
URL: [www.dlink-me.com](http://www.dlink-me.com)

## Turkey

Cayazaya Maslak Yolu  
S/A Kat :5,  
Istanbul, Turkey  
TEL: 0212-289-5659  
FAX: 0212-289-7606  
URL: [www.dlink.com.tr](http://www.dlink.com.tr)

## Iran

Unit 6, No. 39, 6<sup>th</sup> Alley  
Sanaei St., Karimkhan Ave  
Tehran-IRAN  
TEL: 9821 8882 2613  
FAX: 9821 8883 5492

## Pakistan

Office#311, Business Avenue  
Main Shahrah-e-Faisal  
Karachi-Pakistan  
TEL: 92-21-4548185, 4548310  
FAX: 92-21-4535103

## Egypt

47, El Merghany Street, Heliopolis  
Cairo, Egypt.  
TEL: +202-2919035, +202-2919035  
FAX: +202-2919051  
URL: [www.dlink-me.com](http://www.dlink-me.com)

## Australia

1 Giffnock Avenue,  
North Ryde, NSW 2113  
Australia  
TEL: 61-2-8899-1800  
FAX: 61-2-8899-1868  
URL: [www.dlink.com.au](http://www.dlink.com.au)

## Israel

11 Hamanofim Street  
Ackerstein Towers, Regus Business Center  
P.O.B 2148, Hertzeliya-Pituach 46120.  
Israel  
TEL: +972-9-9715700  
FAX: +972-9-9715601  
URL: [www.dlink.co.il](http://www.dlink.co.il)

## Latin America

Avv. Vitacura #2939, Floor 6<sup>th</sup>  
Las Condes, Santiago, RM  
Chile  
TEL: 56-2-5838-950  
FAX: 56-2-5838-952  
URL: [www.dlinkla.com](http://www.dlinkla.com)

## Brasil

Av das Nacoes Unidas,  
11857 - 14 - andar - cj 141/142  
Brooklin Novo  
Sao Paulo - SP - Brazil  
CEP 04578-000 (Zip Code)  
TEL: (55 11) 21859300  
FAX: (55 11) 21859322  
URL: [www.dlinkbrasil.com.br](http://www.dlinkbrasil.com.br)

## South Africa

Einstein Park II  
Block B  
102-106 Witch-Hazel Avenue  
Highveld Technopark  
Centurion  
Gauteng  
Republic of South Africa  
TEL: 27-12-665-2165  
FAX: 27-12-665-2186  
URL: [www.d-link.co.za](http://www.d-link.co.za)

## Russia

Grafsky per., 14, floor 6  
Moscow  
129626 Russia  
TEL: 7-095-744-0099  
FAX: 7-095-744-0099 #350  
URL: [www.dlink.ru](http://www.dlink.ru)

## China

No.202, C1 Building, Huitong Office Park,  
No.71, Jianguo Road, Chaoyang District, Beijing,  
100025, China.  
TEL: +86-10-58635800  
FAX: +86-10-58635799  
URL: [www.dlink.com.cn](http://www.dlink.com.cn)

## Japan K.K.

Level 6 Konan YK Building, Konan 2-4-12  
Minato-Ku Tokyo 108-0075, Japan

## Taiwan

No. 289, Sinhu 3<sup>rd</sup> Rd., Neihu District,  
Taipei City 114, Taiwan  
TEL: 886-2-6600-0123  
FAX: 886-2-6600-1188  
URL: [www.dlinktw.com.tw](http://www.dlinktw.com.tw)