





Product Model: xStack® DES-3200 Series Layer 2 Managed Fast Ethernet Switch Release 4.04



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November, 2012 P/N 651ES32C1035G

#### **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.

#### **CE Mark Warning**

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

#### Warnung!

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

#### Precaución!

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

#### Attention!

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

#### Attenzione!

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

#### **VCCI** Warning

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

#### **BSMI**

此爲甲類的資訊技術設備,在居住環境中使用時,可能會造成射頻擾動,在這種情況下,使用者會被要求採取某些適當的對策。 產品 DES-3200-10-DC/DES-3200-18-DC/ DES-3200-26-DC/ DES-3200-52DC 須連接額定電流 2A 至 10A 之斷路器,做爲與直流電源 之切斷裝置。

#### SFP (Mini-GBIC), XENPAK, and XFP Regulatory Compliance

Networks pluggable optical modules meet the following regulatory requirements:

- Class 1 Laser Product
- EN60825-1+A2:2001 or later, European laser standard
- FCC 21 CFR Chapter 1, Subchapter J in accordance with FDA & CDRH requirements

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### **Intended Readers**

Typographical Conventions
Notes, Notices, and Cautions
Safety Instructions
Safety Cautions
General Precautions for Rack-Mountable Products
Protecting Against Electrostatic Discharge

The **DES-3200 Series Hardware Installation Guide** contains detailed information about the hardware specifications of a Switch in this series. It also contains brief information on how to configure and manage a Switch in this series. This manual is intended for advanced level users that are familiar with network management concepts and terminology. For all practical reasons all the Switches in this series will simply be referred to as the **Switch** throughout this manual. All example screenshots are taken from the **DES-3200-28P** Switch.

### **Typographical Conventions**

Convention	Description
[]	In a command line, square brackets indicate an optional entry. For example: [copy filename] means that optionally you can type copy followed by the name of the file. Do not type the brackets.
Bold font	Indicates a button, a toolbar icon, menu, or menu item. For example: Open the <b>File</b> menu and choose <b>Cancel</b> . Used for emphasis. May also indicate system messages or prompts appearing on your screen. For example: You have mail. Bold font is also used to represent filenames, program names and commands. For example: use the copy command.
Boldface Typewriter Font	Indicates commands and responses to prompts that must be typed exactly as printed in the manual.
Initial capital letter	Indicates a window name. Names of keys on the keyboard have initial capitals. For example: Click Enter.
Italics	Indicates a window name or a field. Also can indicate a variables or parameter that is replaced with an appropriate word or string. For example: type <i>filename</i> means that you should type the actual filename instead of the word shown in italic.
Menu Name > Menu Option	Menu Name > Menu Option Indicates the menu structure. Device > Port > Port Properties means the Port Properties menu option under the Port menu option that is located under the Device menu.

### Notes, Notices, and Cautions



A **NOTE** indicates important information that helps you make better use of your device.



A **NOTICE** indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



A **CAUTION** indicates a potential for property damage, personal injury, or death.

### **Safety Instructions**

Use the following safety guidelines to ensure your own personal safety and to help protect your system from potential damage. Throughout this document, the caution icon ( ) is used to indicate cautions and precautions that you need to review and follow.

### **Safety Cautions**

To reduce the risk of bodily injury, electrical shock, fire, or damage to the equipment, observe the following precautions.

- Observe and follow service markings.
  - Do not service any product except as explained in your system documentation.
  - Opening or removing covers that are marked with the triangular symbol with a lightning bolt may expose you to electrical shock.
  - o Only a trained service technician should service components inside these compartments.
- If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your trained service provider:
  - o The power cable, extension cable, or plug is damaged.
  - o An object has fallen into the product.
  - o The product has been exposed to water.
  - The product has been dropped or damaged.
  - o The product does not operate correctly when you follow the operating instructions.
- Keep your system away from radiators and heat sources. Also, do not block cooling vents.
- Do not spill food or liquids on your system components, and never operate the product in a wet environment. If the system gets wet, see the appropriate section in your troubleshooting guide or contact your trained service provider.
- Do not push any objects into the openings of your system. Doing so can cause fire or electric shock by shorting out interior components.
- Use the product only with approved equipment.
- Allow the product to cool before removing covers or touching internal components.
- Operate the product only from the type of external power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your service provider or local power company.
- To help avoid damaging your system, be sure the voltage on the power supply is set to match the power available at your location:
  - 115 volts (V)/60 hertz (Hz) in most of North and South America and some Far Eastern countries such as South Korea and Taiwan
  - o 100 V/50 Hz in eastern Japan and 100 V/60 Hz in western Japan
  - o 230 V/50 Hz in most of Europe, the Middle East, and the Far East
- Also, be sure that attached devices are electrically rated to operate with the power available in your location.
- Use only approved power cable(s). If you have not been provided with a power cable for your system or for any
  AC-powered option intended for your system, purchase a power cable that is approved for use in your country.
  The power cable must be rated for the product and for the voltage and current marked on the product's
  electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on
  the product.
- To help prevent electric shock, plug the system and peripheral power cables into properly grounded electrical
  outlets. These cables are equipped with three-prong plugs to help ensure proper grounding. Do not use adapter
  plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3-wire cable with
  properly grounded plugs.
- Observe extension cable and power strip ratings. Make sure that the total ampere rating of all products plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for the extension cable or power strip.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- Position system cables and power cables carefully; route cables so that they cannot be stepped on or tripped over. Be sure that nothing rests on any cables.
- Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications. Always follow your local/national wiring rules.
- When connecting or disconnecting power to hot-pluggable power supplies, if offered with your system, observe the following guidelines:
  - o Install the power supply before connecting the power cable to the power supply.
  - Unplug the power cable before removing the power supply.

- If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
- Move products with care; ensure that all casters and/or stabilizers are firmly connected to the system. Avoid sudden stops and uneven surfaces.

#### **General Precautions for Rack-Mountable Products**

Observe the following precautions for rack stability and safety. Also, refer to the rack installation documentation accompanying the system and the rack for specific caution statements and procedures.

- Systems are considered to be components in a rack. Thus, "component" refers to any system as well as to various peripherals or supporting hardware.
- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and
  that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front
  stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a component from the rack.
- Use caution when pressing the component rail release latches and sliding a component into or out of a rack;
   the slide rails can pinch your fingers.
- After a component is inserted into the rack, carefully extend the rail into a locking position, and then slide the component into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Ensure that proper airflow is provided to components in the rack.
- Do not step on or stand on any component when servicing other components in a rack.



**NOTE:** A qualified electrician must perform all connections to DC power and to safety grounds. All electrical wiring must comply with applicable local, regional or national codes and practices.



**CAUTION:** Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.



**CAUTION:** The system chassis must be positively grounded to the rack cabinet frame. Do not attempt to connect power to the system until grounding cables are connected. A qualified electrical inspector must inspect completed power and safety ground wiring. An energy hazard will exist if the safety ground cable is omitted or disconnected.



**CAUTION:** Do not replace the battery with an incorrect type. The risk of explosion exists if the replacement battery is not the correct lithium battery type. Dispose of used batteries according to the instructions.

### **Protecting Against Electrostatic Discharge**

Static electricity can harm delicate components inside your system. To prevent static damage, discharge static electricity from your body before you touch any of the electronic components, such as the microprocessor. You can do so by periodically touching an unpainted metal surface on the chassis.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

- 1. When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until you are ready to install the component in your system. Just before unwrapping the antistatic packaging, be sure to discharge static electricity from your body.
- 2. When transporting a sensitive component, first place it in an antistatic container or packaging.
- Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads, workbench pads and an antistatic grounding strap.

## **Chapter 1 Introduction**

Switch Description Front Panel Description Rear Panel Description Side Panel Description Gigabit Combo Ports

#### **Switch Description**

The **DES-3200 Series Hardware Installation Guide** describes the hardware installation and specifications concerning the DES-3200 Series switches. These switches are identical in configuration and very similar in basic hardware and consequentially, most of the information in this manual will be universal to the total group of switches. This manual concentrates on the **Hardware Version C1**.

The DES-3200 Series switches are equipped with **Copper ports** (10/100Mbps) and **SFP ports** (100/1000Mbps) that can be used to attach various networking devices to the network like Computers, Notebooks, Print Servers, Network Attached Storage devices, IP Cameras, VoIP PBX devices, and other Switches. The Small Form Factor Portable (SFP) combo ports can be used together with fiber-optical transceivers in order to connect various other networking devices, using a fiber-optic connection, to the network at Gigabit Ethernet speeds over great distances.

The DES-3200 Series switches provide unsurpassed performance, fault tolerance, scalable flexibility, robust security, standard-based interoperability and impressive technology to future-proof departmental and enterprise network deployments with an easy migration path.

The Series features the following list of switches:

Switch	Description
DES-3200-10	Eight 10/100Mbps Copper Ports, One 100/1000Mbps SFP Port, One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Port, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-10-DC	Eight 10/100Mbps Copper Ports, One 100/1000Mbps SFP Port, One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Port, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-18	Sixteen 10/100Mbps Copper Ports, One 100/1000Mbps SFP Port, One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Port, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-18-DC	Sixteen 10/100Mbps Copper Ports, One 100/1000Mbps SFP Port, One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Port, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-26	Twenty-four 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-26-DC	Twenty-four 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-28	Twenty-four 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 100/1000Mbps SFP Ports, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-28F	Twenty-four 100Mbps SFP Ports, Four Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-28P	Twenty-four 10/100Mbps Power over Ethernet Copper Ports, Two Combo

	10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 10/100/1000Mbps Copper Ports, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-28/ME	Twenty-four 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 100/1000Mbps SFP Ports, One RJ-45 Console Port for out-of-band CLI configuration, and One Alarm Connector Port.
DES-3200-52	Forty-eight 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 100/1000Mbps SFP Ports, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-52-DC	Forty-eight 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 100/1000Mbps SFP Ports, and One RJ-45 Console Port for out-of-band CLI configuration.
DES-3200-52P	Forty-eight 10/100Mbps Power over Ethernet Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 10/100/1000Mbps Copper Ports, and One RJ-45 Console Port for out-of-band CLI configuration.

These switches have a combination of 1000BASE-T ports and SFP ports that may be used in to uplink various network devices to the Switch, including PCs, hubs and other switches to provide a gigabit Ethernet uplink in full-duplex mode. The SFP (Small Form Factor Portable) combo ports are used with fiber-optical transceiver cabling in order to uplink various other networking devices for a gigabit link that may span great distances.

### **Front Panel Description**

The front panel of the **DES-3200-10** switch consists out of the following:

- Eight 10/100Mbps Copper Ports
- One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP port
- One 100/1000Mbps SFP Port
- One RJ-45 Console Port
- LEDs for Power, Console, Link/Act for port 1 to 8, and Link/Act/Speed for port 9 and 10



Figure 1-1. Front Panel of the DES-3200-10

The front panel of the **DES-3200-10-DC** switch consists out of the following:

- Eight 10/100Mbps Copper Ports
- One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP port
- One 100/1000Mbps SFP Port
- One RJ-45 Console Port
- LEDs for Power, Console, Link/Act for port 1 to 8, and Link/Act/Speed for port 9 and 10



Figure 1-2. Front Panel of the DES-3200-10-DC

The front panel of the **DES-3200-18** switch consists out of the following:

- Sixteen 10/100Mbps Copper Ports
- One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP port
- One 100/1000Mbps SFP Port
- One RJ-45 Console Port
- LEDs for Power, Console, Link/Act for port 1 to 16, and Link/Act/Speed for port 17 and 18

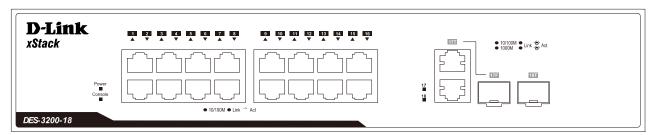


Figure 1-3. Front Panel of the DES-3200-18

The front panel of the **DES-3200-18-DC** switch consists out of the following:

- Sixteen 10/100Mbps Copper Ports
- One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP port
- One 100/1000Mbps SFP Port
- One RJ-45 Console Port
- LEDs for Power, Console, Link/Act for port 1 to 16, and Link/Act/Speed for port 17 and 18

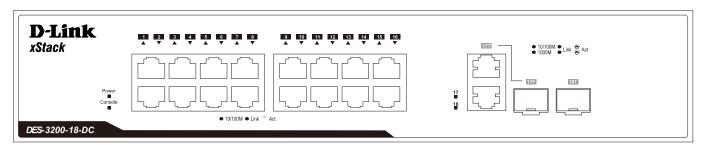


Figure 1-4. Front Panel of the DES-3200-18-DC

The front panel of the DES-3200-26 switch consists out of the following:

- Twenty-four 10/100Mbps Copper Ports
- Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP ports
- One RJ-45 Console Port
- LEDs for Power, Console, Link/Act for port 1 to 24, and Link/Act/Speed for port 25 and 26

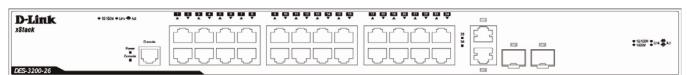


Figure 1-5. Front Panel of the DES-3200-26

The front panel of the **DES-3200-26-DC** switch consists out of the following:

- Twenty-four 10/100Mbps Copper Ports
- Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP ports
- One RJ-45 Console Port
- LEDs for Power, Console, Link/Act for port 1 to 24, and Link/Act/Speed for port 25 and 26

Figure 1-6. Front Panel of the DES-3200-26-DC

The front panel of the DES-3200-28 switch consists out of the following:

- Twenty-four 10/100Mbps Copper Ports
- Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP ports
- Two 100/1000Mbps SFP Ports
- One RJ-45 Console Port
- LEDs for Power, Console, Link/Act for port 1 to 24, and Link/Act/Speed for port 25 to 28

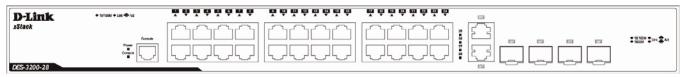


Figure 1-7. Front Panel of the DES-3200-28

The front panel of the DES-3200-28F switch consists out of the following:

- Twenty-four 100Mbps SFP Ports
- Four Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports
- One RJ-45 Console Port
- LEDs for Power, Console, Fan, Link/Act for port 1 to 24, and Link/Act/Speed for port 25 to 28

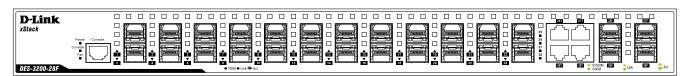


Figure 1-8. Front Panel of the DES-3200-28F

The front panel of the **DES-3200-28P** switch consists out of the following:

- Twenty-four 10/100Mbps Power over Ethernet Copper Ports
- Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP ports
- Two 10/100/1000Mbps Copper Ports
- One RJ-45 Console Port
- Link/PoE button
- LEDs for Link, PoE, Power, Console, Fan, Link/Act for port 1 to 24, and Link/Act/Speed for port 25 to 28

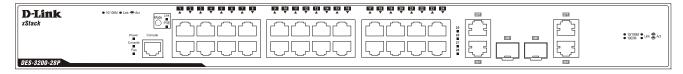


Figure 1-9. Front Panel of the DES-3200-28P

The front panel of the DES-3200-28/ME switch consists out of the following:

- Twenty-four 10/100Mbps Copper ports
- Two Combo 10/100/1000Mbps Copper 100/1000Mbps SFP ports, Two 100/1000Mbps SFP ports
- One RJ-45 Console port
- One Alarm Connector
- LEDs for Power, Console, Alarm, and Link/Act/Speed for each port

Figure 1-10. Front Panel of the DES-3200-28/ME

The front panel of the DES-3200-52 switch consists out of the following:

- Forty-eight 10/100Mbps Copper Ports
- Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP ports
- Two 100/1000Mbps SFP Ports
- One RJ-45 Console Port
- LEDs for Power, Console, Fan, Link/Act for port 1 to 48, and Link/Act/Speed for port 49 to 52



Figure 1-11. Front Panel of the DES-3200-52

The front panel of the **DES-3200-52-DC** switch consists out of the following:

- Forty-eight 10/100Mbps Copper Ports
- Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports
- Two 100/1000Mbps SFP Ports
- One RJ-45 Console Port
- LEDs for Power, Console, Fan, Link/Act for port 1 to 48, and Link/Act/Speed for port 49 to 52

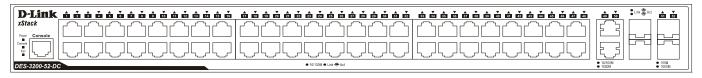


Figure 1-12. Front Panel of the DES-3200-52-DC

The front panel of the **DES-3200-52P** switch consists out of the following:

- Forty-eight 10/100Mbps Power over Ethernet Copper Ports
- Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP ports
- Two 10/100/1000Mbps Copper Ports
- Link/PoE button
- One RJ-45 Console Port
- LEDs for Link, PoE, Power, Console, Fan, Link/Act for port 1 to 48, and Link/Act/Speed for port 49 to 52

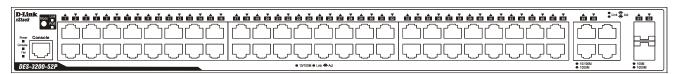


Figure 1-13. Front Panel of the DES-3200-52P

#### **LED Indicators**

The Switch supports LED indicators for Power, Console, Fan, and Link/Act or Link/Act/Speed for each port. The following shows the LED indicators for the DES-3200 Series along with an explanation of each indicator.

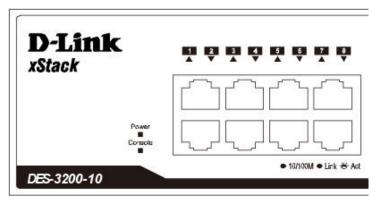


Figure 1-14. LED Indicators on DES-3200-10

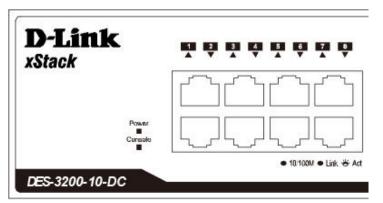


Figure 1-15. LED Indicators on DES-3200-10-DC

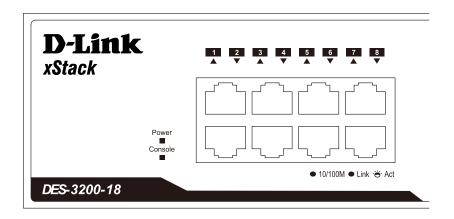


Figure 1-16. LED Indicators on DES-3200-18

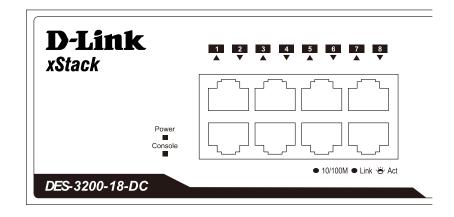


Figure 1-17. LED Indicators on DES-3200-18-DC

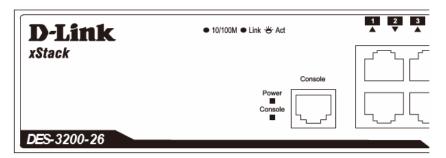


Figure 1-18. LED Indicators on DES-3200-26

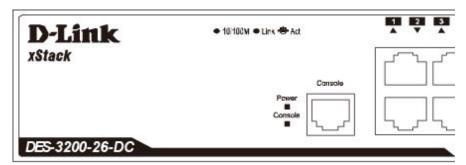


Figure 1-19 LED Indicators on DES-3200-26-DC

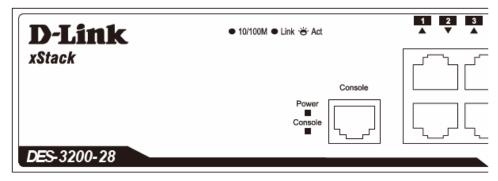


Figure 1-20. LED Indicators on DES-3200-28

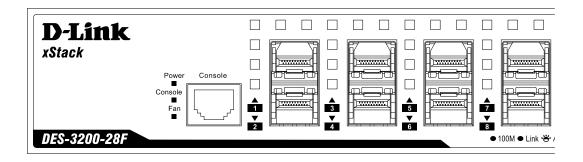


Figure 1-21. LED Indicators on DES-3200-28F

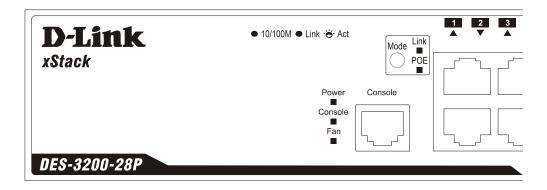


Figure 1-22. LED Indicators on DES-3200-28P

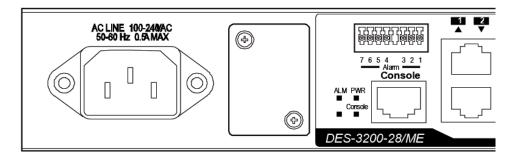


Figure 1-23. LED Indicators on DES-3200-28/ME

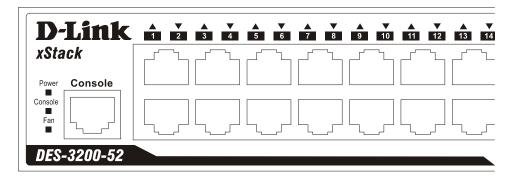


Figure 1-24. LED Indicators on DES-3200-52

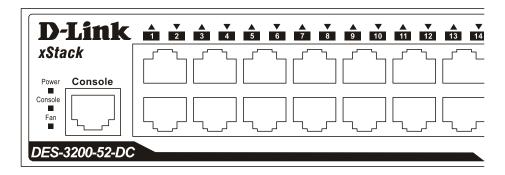


Figure 1-25. LED Indicators on DES-3200-52-DC

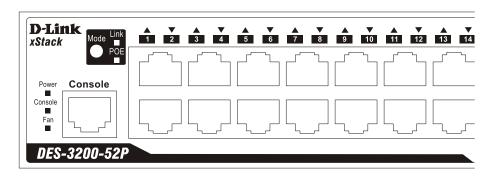


Figure 1-26. LED Indicators on DES-3200-52P

Location	LED Indicative		Color	Status	Description
	Dower	Power		Solid Light	Power on.
	Power			Light off	Power off.
		Console		Solid Light	Console on.
	Console			Blinking	POST is in progress.
				Light off	Console off.
	Alarm (DES-320	Alarm (DES-3200- 28/ME only)		Solid Light	Attached device failure is detected.
Per Device				Light off	Attached device is off or functioning properly.
	Fan	Fan (DES-3200- 28F/28P/52/52-DC/52P only)		Blinking Light	When any of the fans has failed.
	28F/28P/52/52-D			Light off	When all fans work normally.
	Port LED Mode (DES-3200-	Link	Green	Solid Light	When 10/100Mbps port is in Link/Act Mode.
	28P/52P only)	POE	Green	Solid Light	When 10/100Mbps port is in PoE Mode.
	RPS (Only for	RPS (Only for Redundant Power)	Green	Solid Light	RPS in use
				Light off	RPS not in use
LED Per 10/100Mbps Copper Port		Link/Act		Solid Green	When there is a secure 10/100Mbps Ethernet connection (or link) at any of the ports.
	Link/Act			Blinking Green	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 10/100Mbps Ethernet connected port.
				Light off	No link.

			Solid Green	When there is a secure 1000Mbps Ethernet connection (or link) at any of the ports.
LED Per 10/100/1000Mbps Copper Port	Link/Act/Speed	Green/Amber	Blinking Green	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 1000Mbps Ethernet connected port.
			Solid Amber	When there is a secure 10/100Mbps Ethernet connection (or link) at any of the ports.
			Blinking Amber	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 10/100Mbps Ethernet connected port.
			Light off	No link.
LED Per	PoE	Green	Solid Green	Power feeding.
10/100Mbps Port in PoE Mode (DES-			Blinking Green	Error Condition
3200-28P/52P only)			Light off	No power feeding.
LED Per 100Mbps SFP Port (DES- 3200-28F only)	Link/Act	Green	Solid Green	When there is a secure 100Mbps Ethernet connection (or link) at any of the ports.
			Blinking Green	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 100Mbps Ethernet connected port.
			Light off	No link.
LED Per 100/1000Mbps SFP Port	Link/Act/Speed	Green/Amber	Solid Green	When there is a secure 1000Mbps Ethernet connection (or link) at any of the ports.
			Blinking Green	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 1000Mbps Ethernet connected port.
			Solid Amber	When there is a secure 100Mbps Ethernet connection (or link) at any of the ports.
			Blinking Amber	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 100Mbps Ethernet connected port.
			Light off	No link.

### **Rear Panel Description**

The rear panel of the Switch contains an AC or DC power connector. The AC power connector is a standard three-pronged connector that supports the power cord. Plug-in the female connector of the provided power cord into this socket, and the male side of the cord into a power outlet. The Switch automatically adjusts its power setting to any supply voltage in the range from 100 to 240 VAC at 50 to 60 Hz. The DC power supply has a three-terminal wiring block consisting of a positive (+), a negative (-) and a safety ground terminal. Connect the Kensington-compatible security lock, at the rear of the switch, to a secure immovable device. Insert the lock into the notch and turn the key to secure the lock.

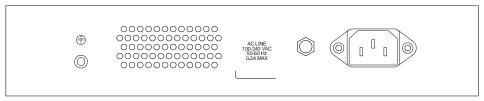


Figure 1-27. Rear panel view of the DES-3200-10

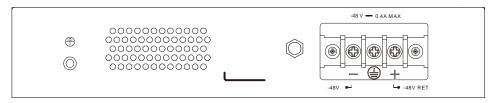


Figure 1-28. Rear panel view of the DES-3200-10-DC



Figure 1-29. Rear panel view of the DES-3200-18

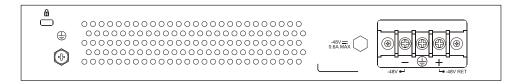


Figure 1-30. Rear panel view of the DES-3200-18-DC

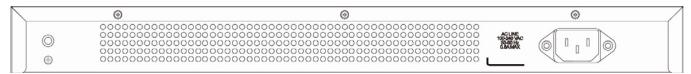


Figure 1-31. Rear panel view of the DES-3200-26

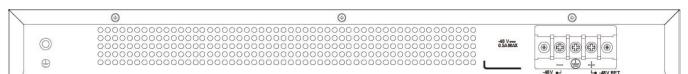


Figure 1-32. Rear panel view of the DES-3200-26-DC

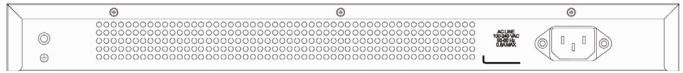


Figure 1-33. Rear panel view of the DES-3200-28



Figure 1-34. Rear panel view of the DES-3200-28F



Figure 1-35. Rear panel view of the DES-3200-28P

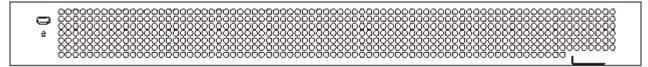


Figure 1-36. Rear panel view of the DES-3200-28/ME



Figure 1-37. Rear panel view of the DES-3200-52

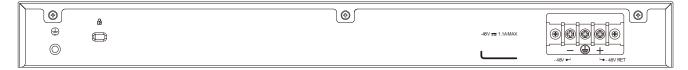


Figure 1-38. Rear panel view of the DES-3200-52-DC



Figure 1-39. Rear panel view of the DES-3200-52P

### **Side Panel Description**

The left- and right-hand panels of the Switch have heat vents to dissipate heat. Do not block these openings, and leave at least 6 inches of space at the rear and sides of the Switch for proper ventilation. Be reminded that without proper heat dissipation and air circulation, system components might overheat, which could lead to system failure



Figure 1-40. Side panels of the DES-3200-10

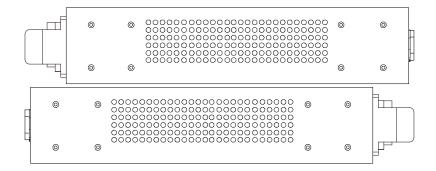


Figure 1-41. Side panels of the DES-3200-10-DC

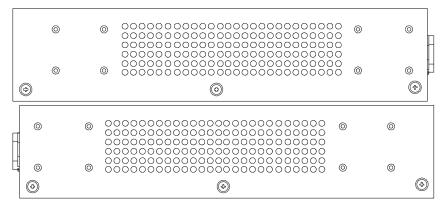


Figure 1-42. Side panels of the DES-3200-18

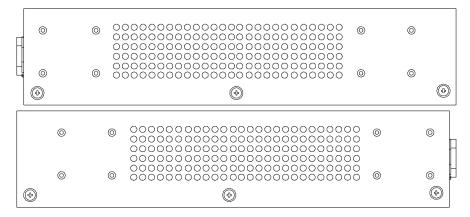


Figure 1-43. Side panels of the DES-3200-18-DC

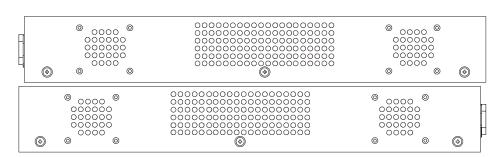


Figure 1-44. Side panels of the DES-3200-26

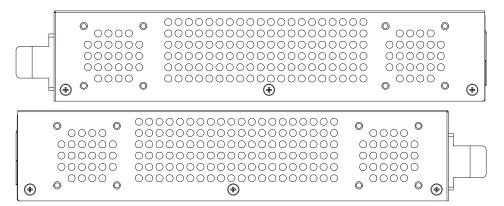


Figure 1-45. Side panels of the DES-3200-26-DC

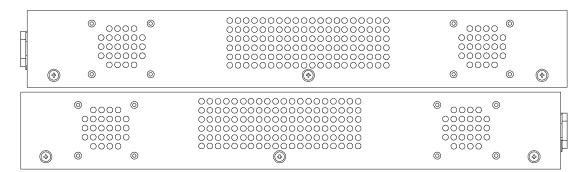


Figure 1-46. Side panels of the DES-3200-28

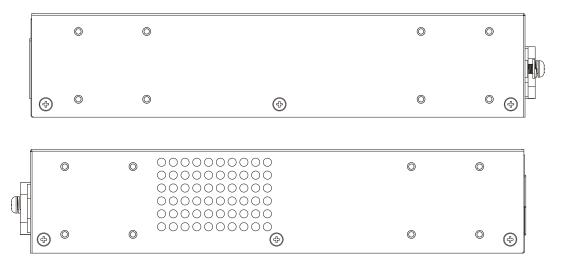


Figure 1-47. Side panels of the DES-3200-28F

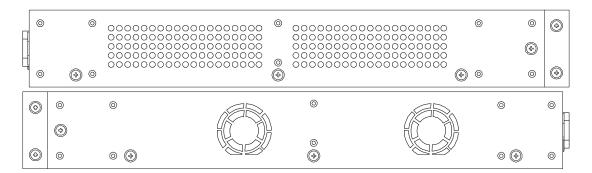


Figure 1-48. Side panels of the DES-3200-28P

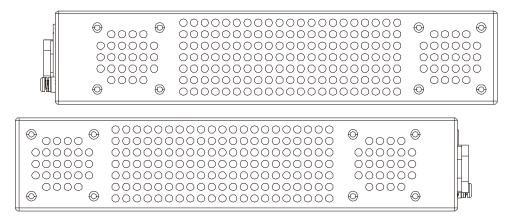


Figure 1-49. Side panels of the DES-3200-28/ME

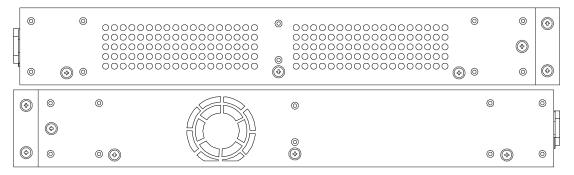


Figure 1-50. Side panels of the DES-3200-52

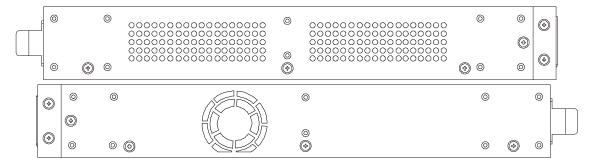


Figure 1-51. Side panels of the DES-3200-52-DC

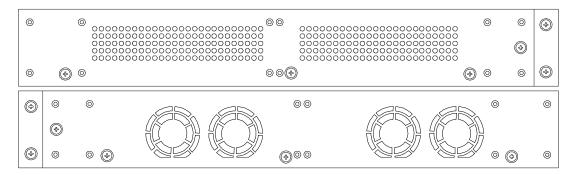


Figure 1-52. Side panels of the DES-3200-52P

### **Gigabit Combo Ports**

The DES-3200 Series features either two or four Gigabit Ethernet Combo ports. These ports are 1000BASE-T copper ports (optional) and Small Form Factor Portable (SFP) ports (optional). See the diagram below to view the two SFP port modules being plugged into the Switch. Please note that although these two front panel modules can be used simultaneously, the ports must be different. The SFP port will always have the highest priority.

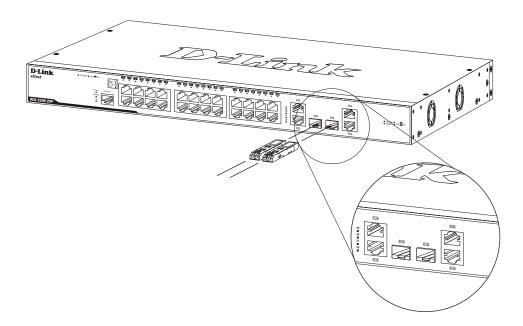


Figure 1-53. Inserting the SFP modules into the Switch

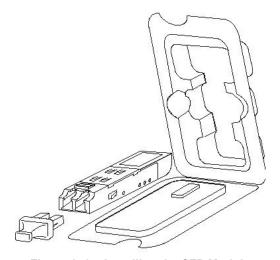


Figure 1-27. Installing the SFP Module

The Switch is equipped with SFP ports, which are to be used with fiber-optical transceiver cabling in order to uplink various other networking devices for a gigabit link that may span great distances. For a full list of supported SFP transceivers, for this switch series, refer to the Appendix A.

## **Chapter 2 Installation**

Package Contents
Before You Connect to the Network
Installing the Switch without the Rack
Installing the Switch in a Rack
Mounting the Switch in a Standard 19" Rack
Power on AC Power
Connecting DC Power

#### **Package Contents**

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

- One Stand-alone DES-3200 Series Switch
- · One AC power cord
- Rack mounting kit (two brackets and screws)
- · Four rubber feet with adhesive backing
- RJ-45 console cable
- Quick Installation Guide

This manual on CD, including a D-View trial version

If any item is missing or damaged, please contact your local D-Link Reseller for replacement.

#### **Before You Connect to the Network**

The site where you install the Switch may greatly affect its performance. Please follow these guidelines for setting up the Switch.

- Install the Switch on a sturdy, level surface that can support at least 7kg (15.43lbs) of weight. Do not place heavy objects on the Switch.
- The power outlet should be within 1.82 meters (6 feet) of the Switch.
- Visually inspect the power cord and see that it is fully secured to the AC power port.
- Make sure that there is proper heat dissipation from and adequate ventilation around the Switch. Leave at least 10 cm (4 inches) of space at the front and rear of the Switch for ventilation.
- Install the Switch in a fairly cool and dry place for the acceptable temperature and humidity operating ranges.
- Install the Switch in a site free from strong electromagnetic field generators (such as motors), vibration, dust, and direct exposure to sunlight.
- When installing the Switch on a level surface, attach the rubber feet to the bottom of the device. The rubber feet cushion the Switch, protect the casing from scratches and prevent it from scratching other surfaces.

### Installing the Switch without the Rack

When installing the Switch on a desktop or shelf, the rubber feet included with the Switch should first be attached. Attach these cushioning feet on the bottom at each corner of the device. Allow enough ventilation space between the Switch and any other objects in the vicinity.

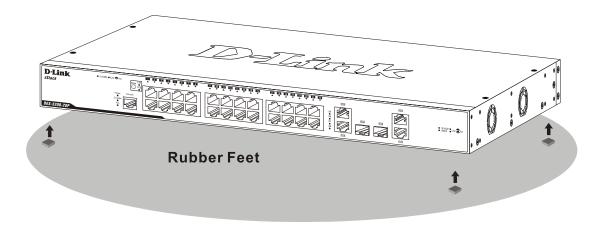


Figure 2-1. Prepare Switch for installation on a desktop or shelf

### Installing the Switch in a Rack

The Switch can be mounted in a standard 19" rack. Use the following diagrams as a guide.

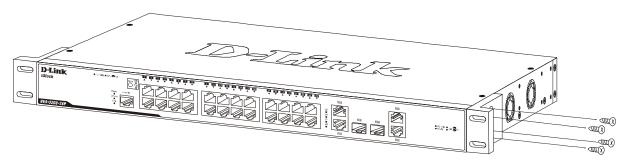


Figure 2-2. Fasten mounting brackets to Switch

Fasten the mounting brackets to the Switch using the screws provided. With the brackets attached securely, the Switch can be mounted in a standard rack as shown in the next figure.

### Mounting the Switch in a Standard 19" Rack



**CAUTION:** Installing systems in a rack without the front and side stabilizers installed could cause the rack to tip over, potentially resulting in bodily injury under certain circumstances. Therefore, always install the stabilizers before installing components in the rack. After installing components in a rack, do not pull more than one component out of the rack on its slide assemblies at one time. The weight of more than one extended component could cause the rack to tip over and may result in injury.

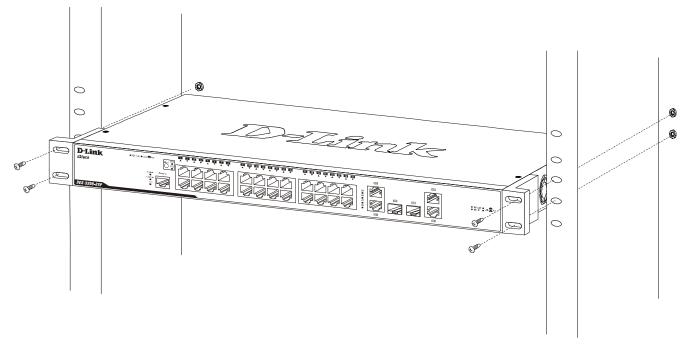


Figure 2-3. Installing Switch in a rack

#### **Power on AC Power**

Plug one end of the AC power cord into the power connector of the Switch and the other end into the local power source outlet.

After the Switch is powered on, the LED indicators will momentarily be on. This solid light represents a reset of the system.

#### **Power Failure**

For AC power supply units, as a precaution, in the event of a power failure, unplug the Switch. When power has resumed, plug the Switch back in.



**CAUTION:** Installing systems in a rack without the front and side stabilizers installed could cause the rack to tip over, potentially resulting in bodily injury under certain circumstances. Therefore, always install the stabilizers before installing components in the rack. After installing components in a rack, do not pull more than one component out of the rack on its slide assemblies at one time. The weight of more than one extended component could cause the rack to tip over and may result in injury.

### **Connecting DC Power**

Follow the instructions below to connect the DC power supply of the DES-3200-10-DC, DES-3200-18-DC, DES-3200-26-DC and DES-3200-52-DC to the DC power source.

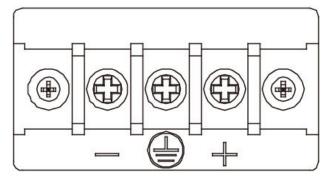


Figure 2-4. Close-up view of Power Receptacle

- 1. The DC power supply has a three-terminal wiring block consisting of a positive (+), a negative (-) and a safety ground terminal.
- 2. Firmly attach the DC power to the negative and positive contacts on the wiring assembly.
  - a. The negative pole (-) connects to the -48V contact.
  - b. The positive pole (+) connects to the -48V Return contact.
  - c. If available, an earth ground may be connected to the center contact post.
- 3. Tighten the contact screws to secure the connection.



**NOTE**: Use a minimum 18 gauge (AWG) wire. All power connection wiring should conform to the rules and regulations in the National Electrical Code (NEC), as well as any local codes. A branch circuit over current protection must be rated between 2A to 10A.



**CAUTION**: This equipment must be grounded.



**CAUTION**: This equipment must be installed and maintained by qualified service personnel only.

### Alarm Connector (DES\_3200-28/ME only)

Connect alarm and/or intrusion detection devices to the alarm connector to trigger events.

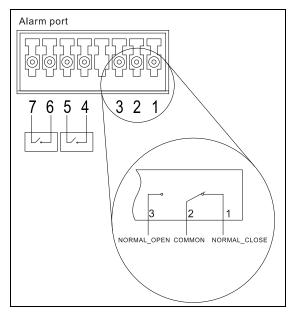


Figure 2-1 Alarm Connector

### xStack® DES-3200 Series Layer 2 Ethernet Managed Switch Hardware Installation Guide

Alarm Connector Port			
Contact	Description		
1	Output. Normal Closed Pin. (42VAC or 60VDC)		
2	Output. Common Pin. (42VAC or 60VDC)		
3	Output. Normal Open Pin. (42VAC or 60VDC)		
4	Input 2.		
5	Input 2.		
6	Input 1.		
7	Input 1.		

Connect the alarm input pins to alarm output terminals.

## **Chapter 3 Connecting the Switch**

Switch to End Node Switch to Hub or Switch



**NOTE:** All 10/100/1000Mbps NWay Ethernet ports can support both MDI-II and MDI-X connections.

#### Switch to End Node

End node is a generic name for edge networking devices that are connected to the Switch. Typical examples of end nodes are Personal Computers (PCs), Notebooks, Access Points, Print Servers, VoIP Phones and more. Each end node is outfitted with a 10/100Mbps or 10/100/1000Mbps, RJ-45, networking port. Normally, end nodes connect to the Switch by using a standard twisted-pair, UTP/STP, network cable. After a successful connection, the corresponding Link/Act light will illuminate and blink to indicate that packet activity is taking place on that port.

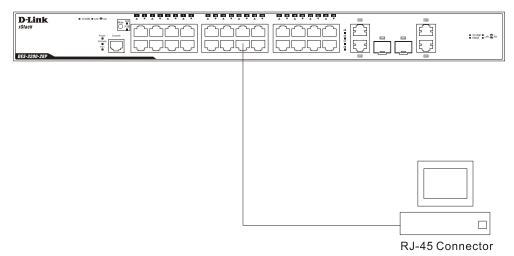


Figure 3-1. Switch connected to an end node

The Link/Act LEDs for each UTP port will light when the link is valid. A blinking LED indicates packet activity on that port.

#### Switch to Hub or Switch

These connections can be accomplished in a number of ways using a normal cable.

- A 10BASE-T hub or switch can be connected to the Switch via a twisted-pair Category 3, 4, 5 or 5e UTP/STP cable.
- A 100BASE-TX hub or switch can be connected to the Switch via a twisted-pair Category 5 or 5e UTP/STP cable.
- A 1000BASE-T switch can be connected to the Switch via a twisted pair Category 5e UTP/STP cable.
- A switch supporting a fiber-optic uplink can be connected to the Switch's SFP ports via fiber-optic cabling.

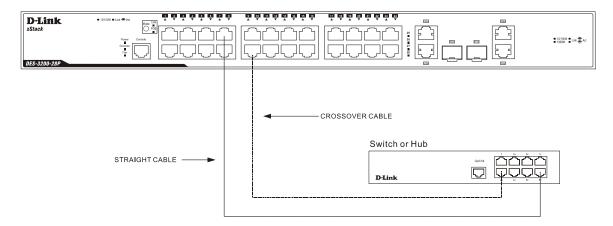


Figure 3-3. Switch connected to a normal (non-Uplink) port on a hub or switch using a straight or crossover cable



**NOTICE:** When the SFP transceiver acquires a link, the associated integrated 10/100/1000BASE-T port is disabled.

## **Chapter 4 Introduction to Switch Management**

Management Options
Web-based Management Interface
SNMP-Based Management
Connecting the Console Port
First Time Connecting to the Switch
Password Protection
SNMP Settings
IP Address Assignment

#### **Management Options**

This system may be managed out-of-band through the console port on the front panel or in-band using Telnet. The user may also choose the Web-based management, accessible through a web browser.

### **Web-based Management Interface**

After you have successfully installed the Switch, you can configure the Switch, monitor the LED panel, and display statistics graphically using a Web browser, such as Firefox, or Microsoft® Internet Explorer (version 6.0 and above).

#### SNMP-Based Management

You can manage the Switch with an SNMP Server. The Switch supports SNMP version 1.0, version 2.0 and version 3.0. The SNMP agent decodes the incoming SNMP messages and responds to requests with MIB objects stored in the database. The SNMP agent updates the MIB objects to generate statistics and counters.

### **Connecting the Console Port**

The Switch provides an RS-232 serial port that enables a connection to a computer or terminal for monitoring and configuring the Switch. This console port is an RJ-45 port and requires a special cable that is included with the switch, to establish the physical connection.

To use the console port, you need the following equipment:

 A console cable with a female DB-9 connector on one end and an RJ-45 connection on the other. This cable should be included with the Switch. It establishes the physical connection to the console port.

#### To connect a terminal to the console port:

Connect the female DB-9 connector on the console cable (shipped with the Switch) to the RS-232 serial port on the computer running terminal emulation software then insert the RJ-45 connector into the RJ-45 console port on the front of the Switch.

Set the terminal emulation software as follows:

- 1. Select the appropriate serial port (COM port 1 or COM port 2).
- 2. Set the data rate to 115200 baud.
- 3. Set the data format to 8 data bits, 1 stop bit, and no parity.
- 4. Set flow control to none.
- 5. Under Properties, select VT100 for Emulation mode.
- 6. Select Terminal keys for Function, Arrow, and Ctrl keys. Ensure that you select Terminal keys (not Windows keys).



**NOTE:** When you use HyperTerminal with the Microsoft® Windows® 2000 operating system, ensure that you have Windows 2000 Service Pack 2 or later installed. Windows 2000 Service Pack 2 allows you to use arrow keys in HyperTerminal's VT100 emulation. See www.microsoft.com for information on Windows 2000 service packs.

- 7. After you have correctly set up the terminal, plug the power cable into the power receptacle on the back of the Switch. The boot sequence appears in the terminal.
- 8. After the boot sequence completes, the console login screen displays.
- 9. If you have not logged into the command line interface (CLI) program, press the Enter key at the User name and password prompts. There is no default user name and password for the Switch. The administrator must first create user names and passwords. If you have previously set up user accounts, log in and continue to configure the Switch.
- 10. Enter the commands to complete your desired tasks. Many commands require administrator-level access privileges. Read the next section for more information on setting up user accounts. See the DES-3200 Series CLI Reference Guide on the documentation CD for a list of all commands and additional information on using the CLI.
- 11. When you have completed your tasks, exit the session with the logout command or close the emulator program.
- 12. Make sure the terminal or PC you are using to make this connection is configured to match these settings.

If you are having problems making this connection on a PC, make sure the emulation is set to VT-100. You will be able to set the emulation by clicking on the File menu in you HyperTerminal window, clicking on Properties in the drop-down menu, and then clicking the Settings tab. This is where you will find the Emulation options. If you still do not see anything, try rebooting the Switch by disconnecting its power supply.

Once connected to the console, the screen below will appear on your console screen. This is where the user will enter commands to perform all the available management functions. The Switch will prompt the user to enter a user name and a password. Upon the initial connection, there is no user name or password and therefore just press enter twice to access the command line interface.

DES-3200-28P Fast Ethernet Switch Command Line Interface

Firmware: Build 4.04.003

Copyright(C) 2012 D-Link Corporation. All rights reserved.

UserName:

Figure 4-1. Initial screen after first connection

### First Time Connecting to the Switch

The Switch supports user-based security that can allow you to prevent unauthorized users from accessing the Switch or changing its settings. This section tells how to log onto the Switch.



**NOTE:** The passwords used to access the Switch are case-sensitive; therefore, "S" is not the same as "s".

When you first connect to the Switch, you will be presented with the first login screen.



**NOTE:** Press Ctrl+R to refresh the screen. This command can be used at any time to force the console program in the Switch to refresh the console screen.

Press **Enter** in both the Username and Password fields. You will be given access to the command prompt **DES-3200-28P:admin#** shown below:

There is no initial username or password. Leave the Username and Password fields blank.

DES-3200-28P Fast Ethernet Switch Command Line Interface

Firmware: Build 4.04.003
Copyright(C) 2012 D-Link Corporation. All rights reserved.

UserName: PassWord:

DES-3200-28P:admin#

Figure 4-2. Command Prompt



**NOTE:** The first user automatically gets Administrator level privileges. It is recommended to create at least one Admin-level user account for the Switch.

#### **Password Protection**

The Switch does not have a default user name and password. One of the first tasks when settings up the Switch is to create user accounts. Once logged in using a predefined administrator-level user name, users will have privileged access to the Switch's management software.

After your initial login, define new passwords for both default user names to prevent unauthorized access to the Switch, and record the passwords for future reference.

To create an administrator-level account for the Switch, follow these steps:

- At the CLI login prompt, enter create account admin followed by the <user name> and press the Enter key.
- The switch will then prompt the user for a password. Type the <password> used for the administrator account being created and press the Enter key.
- Again, the user will be prompted to enter the same password again to verify it. Type the same password and press the Enter key.
- Successful creation of the new administrator account will be verified by a Success message.



**NOTE:** Passwords are case sensitive. User names and passwords can be up to 15 characters in length.

The sample below illustrates a successful creation of a new administrator-level account with the user name "newmanager".

```
DES-3200-28P:admin#create account admin newmanager

Command: create account admin newmanager

Enter a case-sensitive new password:******

Enter the new password again for confirmation:******

Success.

DES-3200-28P:admin#
```

Figure 4-3. Create account command



**NOTICE:** CLI configuration commands only modify the running configuration file and are not saved when the Switch is rebooted. To save all your configuration changes in nonvolatile storage, you must use the save command to copy the running configuration file to the startup configuration.



**NOTICE:** In case of lost passwords or password corruption, please refer to the section titled "Password Recovery Procedure" in Appendix B of the CLI Reference Guide" which will guide you through the steps necessary to resolve this issue.

### **SNMP Settings**

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

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

The Switch supports SNMP versions 1, 2c, and 3. You can specify which version of SNMP you want to use to monitor and control the Switch. The three versions of SNMP vary in the level of security provided between the management station and the network device.

In SNMP v.1 and v.2, user authentication is accomplished using 'community strings', which function like passwords. The remote user SNMP application and the Switch SNMP must use the same community string. SNMP packets from any station that has not been authenticated are ignored (dropped).

The default community strings for the Switch used for SNMP v.1 and v.2 management access are:

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

SNMP v.3 uses a more sophisticated authentication process that is separated into two parts. The first part is to maintain a list of users and their attributes that are allowed to act as SNMP managers. The second part describes what each user on that list can do as an SNMP manager.

The Switch allows groups of users to be listed and configured with a shared set of privileges. The SNMP version may also be set for a listed group of SNMP managers. Thus, you may create a group of SNMP managers that are allowed to view read-only information or receive traps using SNMP v.1 while assigning a higher level of security to another group, granting read/write privileges using SNMP v.3.

Using SNMP v.3 individual users or groups of SNMP managers can be allowed to perform or be restricted from performing specific SNMP management functions. The functions allowed or restricted are defined using the Object Identifier (OID) associated with a specific MIB. An additional layer of security is available for SNMP v.3 in that SNMP messages may be encrypted. To read more about how to configure SNMP v.3 settings for the Switch read the section entitled Management.

### **Traps**

Traps are messages that alert network personnel of events that occur on the Switch. The events can be as serious as a reboot (someone accidentally turned OFF the Switch), or less serious like a port status change. The Switch generates traps and sends them to the trap recipient (or network manager). Typical traps include trap messages for Authentication Failure and Topology Change.

#### **MIBs**

The Switch in the Management Information Base (MIB) stores management and counter information. The Switch uses the standard MIB-II Management Information Base module. Consequently, values for MIB objects can be retrieved from any SNMP-based network management software. In addition to the standard MIB-II, the Switch also supports its

own proprietary enterprise MIB as an extended Management Information Base. Specifying the MIB Object Identifier may also retrieve the proprietary MIB. MIB values can be either read-only or read-write.

### **IP Address Assignment**

Each Switch must be assigned its own IP Address, which is used for communication with an SNMP network manager or other TCP/IP application (for example BOOTP, TFTP). The Switch's default IP address is 10.90.90.90. You can change the default Switch IP address to meet the specification of your networking address scheme.

The Switch is also assigned a unique MAC address by the factory. This MAC address cannot be changed, and can be found by entering the command "show switch" into the command line interface, as shown below.

```
DES-3200-28P:admin#show switch
Command: show switch
Device Type
                           : DES-3200-28P Fast Ethernet Switch
MAC Address
                           : B8-A3-86-CF-1F-20
IP Address
                           : 10.90.90.90 (Manual)
VLAN Name
                           : default
                           : 255.0.0.0
Subnet Mask
Default Gateway
                            : 0.0.0.0
Boot PROM Version
                           : Build 4.00.002
Firmware Version
                           : Build 4.04.003
Hardware Version
                           : C1
Serial Number
                           : R3921BC000005
System Name
System Location
System Uptime
                           : 0 days, 0 hours, 2 minutes, 51 seconds
System Contact
Spanning Tree
                           : Disabled
GVRP
                            : Disabled
IGMP Snooping
                            : Disabled
MLD Snooping
                            : Disabled
VLAN Trunk
                            : Disabled
Telnet
                            : Enabled (TCP 23)
                            : Enabled (TCP 80)
Web
                            : Disabled
CTRL+C ESC q Quit SPACE n Next Page ENTER Next Entry a All
```

Figure 4-4. Show switch command

The Switch's MAC address can also be found from the Web management program on the **System Information window** in the Configuration folder.

The IP address for the Switch must be set before it can be managed with the Web-based manager. The Switch IP address can be automatically set using BOOTP or DHCP protocols, in which case the actual address assigned to the Switch must be known.

The IP address may be set using the Command Line Interface (CLI) over the console serial port as follows: Starting at the command line prompt, enter the commands

config ipif System ipaddress xxx.xxx.xxx.xxx/yyy.yyy.yyy

Where the x's represent the IP address to be assigned to the IP interface named System and the y's represent the corresponding subnet mask.

Alternatively, you can enter **config ipif System ipaddress xxx.xxx.xxx.xxx/z**. Where the x's represent the IP address to be assigned to the IP interface named System and the z represents the corresponding number of subnets in CIDR notation.

The IP interface named System on the Switch can be assigned an IP address and subnet mask, and then be used to connect a management station to the Switch's Telnet or Web-based management agent.

```
DES-3200-28P:admin#config ipif System ipaddress 10.90.90.91/255.0.0.0

Command: config ipif System ipaddress 10.90.90.91/8

Success.

DES-3200-28P:admin#
```

Figure 4-5. Assigning the Switch an IP Address

In the above example, the Switch was assigned an IP address of 10.90.90.91 with a subnet mask of 255.0.0.0. (the CIDR form was used to set the address (10.90.90.91/8). The system message Success indicates that the command was executed successfully. The Switch can now be configured and managed via Telnet and the CLI or via the Webbased management.

## **Chapter 5 Web-based Switch Configuration**

Introduction

Login to Web manager

Web-Based User Interface

#### Introduction

All software functions of the Switch can be managed, configured and monitored via the embedded web-based (HTML) interface. The Switch can be managed from remote stations anywhere on the network through a standard browser such as Firefox or Microsoft Internet Explorer. The browser acts as a universal access tool and can communicate directly with the Switch using the HTTP protocol.

The Web-based management module and the Console program (and Telnet) are different ways to access the same internal switching software and configure it. Thus, all settings encountered in web-based management are the same as those found in the console program.

#### Login to Web Manager

To begin managing the Switch, simply run the browser you have installed on your computer and point it to the IP address you have defined for the device. The URL in the address bar should read something like: http://123.123.123.123, where the numbers 123 represent the IP address of the Switch.



**NOTE:** The Factory default IP address for the Switch is 10.90.90.90.

This opens the management module's user authentication window, as seen below.



Figure 5-1. Enter Network Password dialog

Leave both the **User Name** field and the **Password** field blank and click **OK**. This will open the Web-based user interface. The Switch management features available in the web-based manager are explained below.

#### Web-based User Interface

The user interface provides access to various Switch configuration and management windows, allows you to view performance statistics, and permits you to graphically monitor the system status.

#### Areas of the User Interface

The figure below shows the user interface. The user interface is divided into three distinct areas as described in the table.

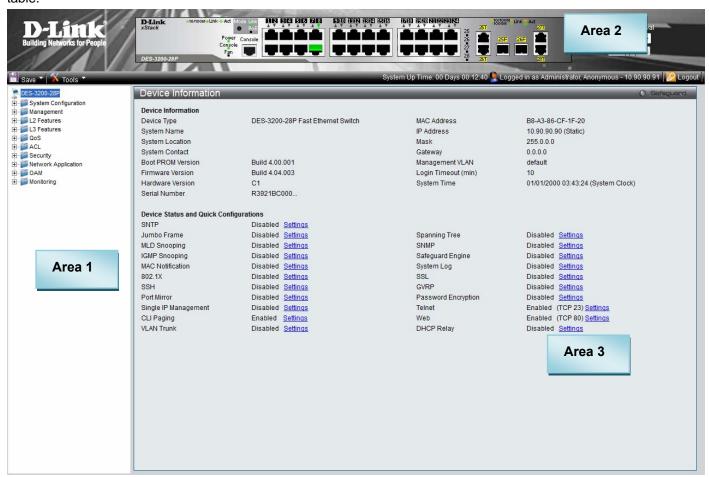


Figure 5-2. Main Web-Manager page

Area	Function
Area 1	Select the folder or window to be displayed. The folder icons can be opened to display the hyperlinked window buttons and subfolders contained within them. Click the D-Link logo to go to the D-Link website.
Area 2	Presents a graphical near real-time image of the front panel of the Switch. This area displays the Switch's ports and expansion modules, showing port activity, duplex mode, or flow control, depending on the specified mode.
	Various areas of the graphic can be selected for performing management functions, including port configuration.
Area 3	Presents switch information based on your selection and the entry of configuration data.



**NOTICE:** Any changes made to the Switch configuration during the current session must be saved in the Save Changes web menu (explained below) or use the command line interface (CLI) command save.

#### **Web Pages**

When you connect to the management mode of the Switch with a Web browser, a login window is displayed. Enter a user name and password to access the Switch's management mode.

When connecting to the management mode of the Switch with a web browser, a login screen is displayed. Enter a user name and password to access the Switch's management mode.

Below is a list of the main folders available in the Web interface:

System Configuration - In this section the user will be able to configure features regarding the Switch's configuration.

Management - In this section the user will be able to configure features regarding the Switch's management.

**L2 Features** - In this section the user will be able to configure features regarding the Layer 2 functionality of the Switch.

L3 Features - In this section the user will be able to configure features regarding the Layer 3 functionality of the Switch.

QoS - In this section the user will be able to configure features regarding the Quality of Service functionality of the Switch

**ACL** - In this section the user will be able to configure features regarding the Access Control List functionality of the Switch.

Security - In this section the user will be able to configure features regarding the Switch's security.

**Network Application** - In this section the user will be able to configure features regarding network applications handled by the Switch.

**OAM** - In this section the user will be able to configure features regarding the Switch's operations, administration and maintenance (OAM).

Monitoring - In this section the user will be able to monitor the Switch's configuration and statistics.



**NOTE:** Be sure to configure the user name and password in the User Accounts window before connecting the Switch to the greater network.

## **Appendix A – Technical Specifications**

	Occurrent				
	General				
Protocols	IEEE 802.3 10BASE-T Ethernet				
	IEEE 802.3u 100BASE-TX Fast Ethernet				
	IEEE 802.3ab 1000BASE-T Gigabit Ethernet				
	IEEE 802.3z 1000BASE-X (SFP "Mini GBIC")				
	IEEE 802.1D Spanning Tree				
	IEEE 802.1w Rapid Spanning Tree Protocol				
	IEEE 802.1s Multiple Spanning Tree Protocol				
	IEEE 802.1Q VLAN				
	IEEE 802.1p Priority Queues				
	IEEE 802.1X Port Based Network Access Control				
	IEEE 802.3ad Link Aggregation Control				
	IEEE 802.3x Full-duplex Flow Control				
	IEEE 802.3 NWay auto-negotiation				
Fiber-Optic	SFP (Mini GBIC) Support:				
	DEM-210 (100BASE-FX, Single-mode, 15km)				
	DEM-211 (100BASE-FX, Multi-mode, 2km)				
	DEM-310GT (1000BASE-LX, Single-mode, 10km)				
	DEM-311GT (1000BASE-SX, Multi-mode, 550m)				
	DEM-312GT2 (1000BASE-SX, Multi-mode, 2km)				
	DEM-314GT (1000BASE-LHX, Single-mode, 50km)				
	DEM-315GT (1000BASE-ZX, Single-mode, 80km)				
	DGS-712 (1000BASE-T, 100m) <b>NOTE</b> : This transceiver together with the Switch does				
	not support flow control and will only operate at 1000Mbps.				
	WDM Transceivers Support:				
	DEM-220T (100BASE-BX, Tx:1550nm/Rx:1310nm, Single-mode, 20km)				
	DEM-220R (100BASE-BX, Tx:1310nm/Rx:1550nm, Single-mode, 20km)				
	DEM-330T (1000BASE-LX, Tx-1550/Rx-1310nm, Single-mode, 10km)				
	DEM-330R (1000BASE-LX, Tx-1310/Rx-1550nm, Single-mode, 10km)				
	DEM-331T (1000BASE-LX, Tx-1550/Rx-1310nm, Single-mode, 40km)				
	DEM-331R (1000BASE-LX, TX-1310/RX-1550nm, Single-mode, 40km)				
Standards	CSMA/CD				
Data Transfer Rates:	Half-duplex Full-duplex				
Ethernet	10 Mbps 20Mbps				
Fast Ethernet	100Mbps 200Mbps 200Mbps				
	n/a 2000Mbps				
Gigabit Ethernet	1				
Topology	Star				
Network Cables	Cat.5 Enhanced for 1000BASE-T				
	UTP Cat.5, Cat. 5 Enhanced for 100BASE-TX				
	UTP Cat.3, 4, 5 for 10BASE-T				
	EIA/TIA-568 100-ohm screened twisted-pair (STP)(100m)				
Number of Ports	DES-3200-10 - Eight 10/100Mbps Copper Ports, One 100/1000Mbps SFP Port, One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Port.				
	<b>DES-3200-10-DC</b> - Eight 10/100Mbps Copper Ports, One 100/1000Mbps SFP Port, One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Port.				
	<b>DES-3200-18</b> - Sixteen 10/100Mbps Copper Ports, One 100/1000Mbps SFP Port, One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Port.				

DES-3200-18-DC - Sixteen 10/100Mbps Copper Ports, One 100/1000Mbps SFP Port, One Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Port. DES-3200-26 - Twenty-four 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports. DES-3200-26-DC - Twenty-four 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports. DES-3200-28 - Twenty-four 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 100/1000Mbps SFP Ports. DES-3200-28F - Twenty-four 100Mbps SFP Ports, Four Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports. DES-3200-28P - Twenty-four 10/100Mbps Power over Ethernet Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 10/100/1000Mbps Copper Ports. DES-3200-28/ME - Twenty-four 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 100/1000Mbps SFP Ports. DES-3200-52-DC - Forty-eight 10/100Mbps Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 100/1000Mbps SFP

Copper Ports.

Ports. **DES-3200-52P** - Forty-eight 10/100Mbps Power over Ethernet Copper Ports, Two Combo 10/100/1000Mbps Copper / 100/1000Mbps SFP Ports, Two 10/100/1000Mbps

Physical and Environmental				
Power Consumption	<b>DES-3200-10:</b> 13.54W			
	<b>DES-3200-10-DC:</b> 11.54W			
	<b>DES-3200-18:</b> 15.44W			
	<b>DES-3200-18-DC</b> : 15.64W			
	<b>DES-3200-26:</b> 20.38W			
	<b>DES-3200-26-DC</b> : 21.64W			
	<b>DES-3200-28:</b> 20.38W			
	<b>DES-3200-28F</b> : 44.38W			
	<b>DES-3200-28P</b> : 250.78W			
	<b>DES-3200-28/ME</b> : 19.1W			
	<b>DES-3200-52:</b> 33.38W			
	<b>DES-3200-52-DC:</b> 32.28W			
	<b>DES-3200-52P:</b> 471.6W			
Internal Power Supply DES-3200-10: 24W AC Input: 100 – 240VAC, 50-60 Hz				
	<b>DES-3200-10-DC:</b> 24W DC Input: -36 – -72 VDC			
	<b>DES-3200-18:</b> 24W AC Input: 100 – 240 VAC, 50-60 Hz			
	<b>DES-3200-18-DC</b> : 24W DC Input: -36 – -72 VDC			
	<b>DES-3200-26:</b> 24W AC Input: 100 – 240 VAC, 50-60 Hz			
	<b>DES-3200-26-DC</b> : 24W DC Input: -36 – -72 VDC			
	<b>DES-3200-28:</b> 24W AC Input: 100 – 240 VAC, 50-60 Hz			
	<b>DES-3200-28F</b> : 60W AC Input: 100 – 240 VAC, 50-60 Hz			
	<b>DES-3200-28P:</b> 253W AC Input: 100 – 240 VAC, 50-60 Hz			
	<b>DES-3200-28/ME</b> : 24W AC Input: 100~240 VAC, 50~60Hz			
	<b>DES-3200-52:</b> 40W AC Input: 100 – 240 VAC, 50-60 Hz			
	<b>DES-3200-52-DC:</b> 40W DC Input: -36 – -72 VDC			
	<b>DES-3200-52P:</b> 589W AC Input: 100 – 240 VAC, 50-60 Hz			
DC Fans	<b>DES-3200-28F:</b> One fan			
	<b>DES-3200-28P:</b> Two fans			

	<b>DES-3200-52</b> : One fan			
	<b>DES-3200-52-DC</b> : One fan			
	<b>DES-3200-52P:</b> Four Fans			
	The other switches in this series are <b>Fanless</b> .			
Operating Temperature	-5 - 50°C			
Storage Temperature	-40 - 70°C			
MTBF	<b>DES-3200-10:</b> 738,787.9883 hours			
	<b>DES-3200-10-DC:</b> 931,568.559 hours			
	<b>DES-3200-18:</b> 670,243 hours			
	<b>DES-3200-18-DC:</b> 825,160 hours			
	<b>DES-3200-26</b> : 601,273 hours			
	<b>DES-3200-26-DC:</b> 723,053 hours			
	<b>DES-3200-28:</b> 590,423 hours			
	<b>DES-3200-28F</b> : 484,053 hours			
	<b>DES-3200-28P:</b> 216,780 hours			
	<b>DES-3200-28/ME</b> : 607,514.5 Hours			
	<b>DES-3200-52</b> : 440,704 hours			
	<b>DES-3200-52-DC</b> : 440,704 hours			
	<b>DES-3200-52P</b> : 189,396 hours			
Humidity	5 - 95% non-condensing			
Dimensions	<b>DES-3200-10:</b> 228.5(W) X 195(D) X 44(H) mm			
	<b>DES-3200-10-DC:</b> 228.5(W) X 195(D) X 44(H) mm			
	<b>DES-3200-18:</b> 280(W) X 180(D) X 44(H) mm			
	<b>DES-3200-18-DC:</b> 280(W) X 180(D) X 44(H) mm			
	<b>DES-3200-26:</b> 441(W) X 210(D) X 44(H) mm			
	<b>DES-3200-26-DC:</b> 441(W) X 210(D) X 44(H) mm			
	<b>DES-3200-28:</b> 441(W) X 210(D) X 44(H) mm			
	<b>DES-3200-28F</b> : 441(W) X 210(D) X 44(H) mm			
	<b>DES-3200-28P</b> : 441(W) X 308(D) X 44(H) mm			
	<b>DES-3200-28/ME</b> : 441(W) x 207(D) x 44(H) mm			
	<b>DES-3200-52:</b> 441(W) X 308(D) X 44(H) mm			
	<b>DES-3200-52-DC</b> : 441(W) X 308(D) X 44(H) mm			
	<b>DES-3200-52P</b> : 441(W) X 380(D) X 44(H) mm			
Weight	<b>DES-3200-10:</b> 1.198 kg			
	<b>DES-3200-10-DC</b> : 1.241 kg			
	<b>DES-3200-18:</b> 1.36 kg			
	<b>DES-3200-18-DC</b> : 1.36 kg			
	<b>DES-3200-26:</b> 1.78 kg			
	<b>DES-3200-26-DC</b> : 1.797 kg			
	<b>DES-3200-28:</b> 1.8 kg			
	<b>DES-3200-28F</b> : 2.195 kg			
	<b>DES-3200-28P</b> : 4.28 kg			
	<b>DES-3200-28/ME</b> : 2.29kg			
	<b>DES-3200-52</b> : 4.03 kg			
	<b>DES-3200-52-DC</b> : 4.09 kg			
	<b>DES-3200-52P</b> : 6.04 kg			
ЕМІ	CE Class A, FCC Class A, C-Tick, VCCI			
Safety	CB Report, UL			

Performance				
Transmission Method	Store-and-forward			
Packet Buffer	1.5MB per device			
Packet Filtering/ Forwarding Rate  14,881 pps (10M port)  148,810 pps (100M port)  1,488,100 pps (1Gbps port)				
MAC Address Learning Automatic update. Supports 16K MAC address				
Priority Queues 8 Priority Queues per port				
Forwarding Table Age Max age: 10-1000000 seconds. Default = 300.				

#### **LED Indicators:**

Location	LED Indicative		Color	Status	Description
	Power		Green	Solid Light	Power on.
				Light off	Power off.
	Console		Green	Solid Light	Console on.
				Blinking	POST is in progress.
				Light off	Console off.
	Alarm (DES-3200-			Solid Light	Attached device failure is detected.
Per Device	28/ME only)	- U-	Red	Light off	Attached device is off or functioning properly.
	Fan			Blinking Light	When any of the fans has failed.
	(DES-3200- 28F/28P/52/52- DC/52P only)		Red	Light off	When all fans work normally.
	Port LED Mode (DES-3200- 28P/52P only)	Link	Green	Solid Light	When 10/100Mbps port is in Link/Act Mode.
		PoE	Green	Solid Light	When 10/100Mbps port is in PoE Mode.
	RPS (Only for Redundant Power)		Green	Solid Light	RPS in use
				Light Off	RPS not in use
LED Per				Solid Green	When there is a secure 10/100Mbps Ethernet connection (or link) at any of the ports.
10/100Mbps Copper Port	0/100Mbps Link/Act copper Port  ED Per 0/100/1000Mbps Link/Act/Speed		Green	Blinking Green	When there is reception or transmission (i.e. Activity—Act) of data occurring at a Fast Ethernet connected port.
				Light off	No link.
LED Per 10/100/1000Mbps Copper Port			Green/Amber	Solid Green	When there is a secure 1000Mbps Ethernet connection (or link) at any of the ports.
			Blinking Green	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 1000Mbps Ethernet connected port.	
				Solid Amber	When there is a secure 10/100Mbps Fast Ethernet connection (or link) at any of the ports.

			Blinking Amber	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 10/100Mbps Ethernet connected port.
			Light off	No link.
LED Per			Solid Green	Power feeding.
10/100Mbps Port in PoE Mode (DES-	PoE	Green	Blinking Green	Error Condition
3200-28P/52P Only)			Light off	No power feeding.
LED Per 100Mbps			Solid Green	When there is a secure 100Mbps Ethernet connection (or link) at any of the ports.
-	Link/Act	Green	Blinking Green	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 100Mbps Ethernet connected port.
			Light off	No link.
	P Link/Act/Speed	Green/Amber	Solid Green	When there is a secure 1000Mbps Fast Ethernet connection (or link) at any of the ports.
LED Per			Blinking Green	When there is reception or transmission (i.e. Activity—Act) of data occurring at a Fast Ethernet connected port.
100/1000Mbps SFP Port			Solid Amber	When there is a secure 100Mbps Ethernet connection (or link) at any of the ports.
			Blinking Amber	When there is reception or transmission (i.e. Activity—Act) of data occurring at a 100Mbps Ethernet connected port.
			Light off	No link.

The following table lists the features and compatibility for each type of port present in the DES-3200 Series.

10/100Mbps Copper Ports	Compliant to the following standards:		
	IEEE 802.3 compliant		
	IEEE 802.3u compliant		
	Support Half/Full-duplex operations		
	IEEE 802.3x flow control support in full-duplex mode		
	Back pressure in half-duplex mode		
	Head-of-line blocking prevention		
	Support manual/auto MDI/MDIX configuration		
10/100/1000Mbps Copper Ports	Compliant to the following standards:		
	IEEE 802.3 compliant		
	IEEE 802.3u compliant		
	IEEE 802.3ab compliant		
	Support Half/Full-duplex operations		
	IEEE 802.3x flow control support in full-duplex mode		
	Back pressure in half-duplex mode		
	Head-of-line blocking prevention		
	Support manual/auto MDI/MDIX configuration		

100Mbps SFP Ports	Compliant to the following standards:		
(DES-3200-28F Only)	IEEE 802.3 compliance		
	IEEE 802.3u compliance		
	Support Full-Duplex operations		
	IEEE 802.3x flow control support in full-duplex mode		
	SFP (Mini GBIC) Support:		
	DEM-210 (100BASE-FX, Single-mode, 15km)		
	DEM-211 (100BASE-FX, Multi-mode, 2km)		
	DEM-220T (TX-1550/RX-1310nm, Single-mode, 20km)		
	DEM-220R (TX-1310/RX-1550nm, Single-mode, 20km)		
100/1000Mbps SFP Ports	Compliant to the following standards:		
	IEEE 802.3u compliance		
	IEEE 802.3z compliance		
	SFP (Mini GBIC) Support:		
	DEM-210 (100BASE-FX, Single-mode, 15km)		
	DEM-211 (100BASE-FX, Multi-mode, 2km)		
	DEM-310GT (1000BASE-LX, Single-mode, 10km)		
	DEM-311GT (1000BASE-SX, Multi-mode, 550m)		
	DEM-312GT2 (1000BASE-SX, Multi-mode, 2km)		
	DEM-314GT (1000BASE-LHX, Single-mode, 50km)		
	DEM-315GT (1000BASE-ZX, Single-mode, 80km)		
	DGS-712 (1000BASE-T, 100m) <b>NOTE</b> : This transceiver together with the Switch does not support flow control and will only operate at		
	1000Mbps.		
	WDM Transceiver Supported:		
	DEM-220T (TX-1550/RX-1310nm, Single-mode, 20km)		
	DEM-220R (TX-1310/RX-1550nm, Single-mode, 20km)		
	DEM-330T (TX-1550/RX-1310nm, Single-mode, 10km)		
	DEM-330R (TX-1310/RX-1550nm, Single-mode, 10km)		
	DEM-331T (TX-1550/RX-1310nm, Single-mode, 40km)		
	DEM-331R (TX-1310/RX-1550nm, Single-mode, 40km)		
10/100Mbps Power Over Ethernet Ports	IEEE 802.3af compliant		
(DES-3200-28P/52P Only)	IEEE 802.3at compliant		



**NOTE:** The SFP combo ports on the Switch cannot be used simultaneously with the corresponding 1000BASE-T ports. If both ports are in use at the same time (ex. port 25 of the SFP and port 25 of the 1000BASE-T), the SFP ports will take priority over the combo ports and render the 1000BASE-T ports inoperable.

## **Appendix B – Cables and Connectors**

#### **Ethernet Cable**

When connecting the Switch to another switch, a bridge or hub, a normal cable is necessary. Please review these products for matching cable pin assignment.

The following diagrams and tables show the standard RJ-45 receptacle/connector and their pin assignments.

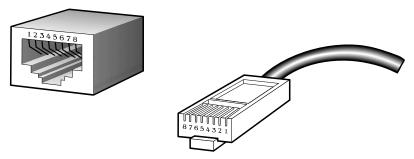


Figure B- 1. The standard RJ-45 port and connector

RJ-45 Pin Assignments			
Contact	MDI-X Port	MDI-II Port	
1	RD+ (receive)	TD+ (transmit)	
2	RD- (receive)	TD- (transmit)	
3	TD+ (transmit)	RD+ (receive)	
4	1000BASE-T	1000BASE-T	
5	1000BASE-T	1000BASE-T	
6	TD- (transmit)	RD- (receive)	
7	1000BASE-T	1000BASE-T	
8	1000BASE-T	1000BASE-T	

#### **Console Cable**

When connecting the Switch a PC, a Console cable is necessary. The following diagrams and tables show the standard Console-to-DJ-45 receptacle/connector and their pin assignments.

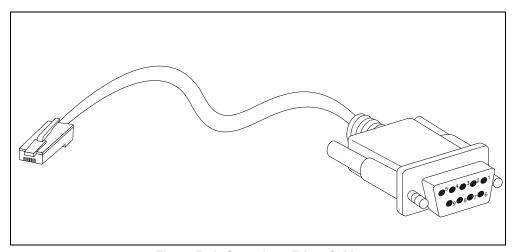


Figure B- 2. Console-to-RJ-45 Cable

Console-RJ-45 Pin Assignments				
Pin	Console (DB9/RS232)	RJ-45		
1	Not Used	Not Used		
2	RXD	Not Used		
3	TXD	TXD		
4	Not Used	GND		
5	GND (shared)	GND		
6	Not Used	RXD		
7	Not Used	Not Used		
8	Not Used	Not Used		

## **Appendix C – Module Specs and Cable Lengths**

Use the following table to as a guide for the module specs and maximum cable lengths.

Standard	Media Type	Maximum Distance
SFP	1000BASE-LX, Single-mode fiber module	10km
	1000BASE-SX, Multi-mode fiber module	550m / 2km
, , , , , , , , , , , , , , , , , , , ,		50km
	1000BASE-ZX, Single-mode fiber module	80km
1000BASE-T	Category 5e UTP Cable	100m
100BASE-TX	Category 5 UTP Cable (100 Mbps)	100m
10BASE-T	Category 3, 4 or 5 UTP Cable (10 Mbps)	100m
DEM-310GT	1000Base-LX, Single-mode	10km
DEM-311GT	1000ase-SX, Multi-mode	500m
DEM-312GT2	1000Base-SX, Multi-mode	2km
DEM-314GT	1000BASE-LHX, Single-mode	50km
<b>DEM-315GT</b> 1000BASE-ZX, Single-mode		80km
DEM-210	100BASE-FX, Single-mode	15km
DEM-211	100BASE-FX, Multi-mode	2km
DGS-712	1000BASE-T	100m
	<b>NOTE:</b> This transceiver together with the Switch does not support flow control and will only operate at 1000Mbps.	
DEM-220T	TX-1550/RX-1310nm, Single-mode	Up to 20km
DEM-220R	TX-1310/RX-1550nm, Single-mode	Up to 20km
DEM-330T	TX-1550/RX-1310nm, Single-mode	Up to 10km
DEM-330R	TX-1310/RX-1550 nm, Single-mode	Up to 10km
DEM-331T	TX-1550/RX-1310 nm, Single-Mode	Up to 40km
DEM-331R	TX-1310/RX-1550 nm, Single-Mode	Up to 40km

Network pluggable optical modules meet the following regulatory requirements:

- Class 1 Laser Product
- EN60825-1+A2:2001 or later, European laser standard
- FCC 21 CFR Chapter 1, Subchapter J in accordance with FDA & CDRH requirements



## 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.

Limited Lifetime Warranty for the product is defined as follows:

- 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 functions 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 <a href="https://rma.dlink.com/">https://rma.dlink.com/</a>.
- 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.

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

**FCC Statement:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. Operation of this equipment in a residential environment is likely to cause harmful interference to radio or television reception. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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



## **Tech Support**

## **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:

USA - 877-DLINK-55 (877-354-6555)

D-Link Technical Support over the Internet:

http://support.dlink.com

#### **Tech Support for customers within Canada:**

D-Link Technical Support over the Telephone:

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#### **United Kingdom (Mon-Fri)**

Home Wireless/Broadband 0871 873 3000 (9.00am–06.00pm, Sat 10.00am-02.00pm)

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(BT 10ppm, other carriers may vary.)

#### Ireland (Mon-Fri)

All Products 1890 886 899 (09.00am-06.00pm, Sat 10.00am-02.00pm) € 0.05ppm peak, €0.045ppm off peak Times

#### Internet

http://dlink.com

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Deutschland: Web: http://dlink.com

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Zeiten: Mo. –Fr. 09:00 – 17:30 Uhr

Österreich: Web: http://dlink.com

Telefon: +43(0)820 480084 0,116 € pro Minute

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<sup>\*</sup> Gebühren aus Mobilnetzen und von anderen Providern können abweichen.

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Telefoniczna pomoc techniczna firmy D-Link: 0 801 022 021 Pomoc techniczna firmy D-Link świadczona przez Internet: http://dlink.com

## Technická podpora

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Telefon ČR: +420 211 151 640 nebo SK: +421 (0)692 147 110 Telefonická podpora je v provozu: PO - PÁ od 09:00 do 17:00 Volání je zpoplatněno dle příslušných tarifů Vašeho operátora.

## Technikai Támogatás

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Land Line 14,99 HUG/min - Mobile 49.99, HUF/min

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Assistência Técnica da D-Link na Internet: http://dlink.com e-mail: soporte@dlink.es

## Τεχνική Υποστήριξη

## Tehnička podrška

Hvala vam na odabiru D-Link proizvoda. Za dodatne informacije, podršku i upute za korištenje uređaja, molimo vas da posjetite D-Link internetsku stranicu na www.dlink.eu

http://dlink.com

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http://dlink.com

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Vă mulţumim pentru alegerea produselor D-Link. Pentru mai multe informaţii, suport şi manuale ale produselor vă rugăm să vizitaţi site-ul D-Link www.dlink.eu http://dlink.com

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#### India:

Tel: +91-22-27626600 Toll Free 1800-22-8998 Web: www.dlink.co.in E-Mail: helpdesk@dlink.co.in

## Singapore, Thailand, Indonesia, Malaysia, Philippines, Vietnam:

Singapore - www.dlink.com.sg Thailand - www.dlink.co.th Indonesia - www.dlink.co.id Malaysia - www.dlink.com.my Philippines - www.dlink.com.ph Vietnam - www.dlink.com.vn

#### Korea:

Tel: +82-2-2028-1810

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Web: http://d-link.co.kr E-mail: g2b@d-link.co.kr

#### New Zealand:

Tel: 0800-900-900 24/7 Technical Support Web: http://www.dlink.co.nz E-mail: support@dlink.co.nz

#### **South Africa and Sub Sahara Region:**

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08600 DLINK (for South Africa only)
Monday to Friday 8:30am to 9:00pm South Africa

Гime

Web: http://www.d-link.co.za E-mail: support@d-link.co.za

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Saturday to Wednesday 9.30AM to 6.30PM

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8-800-700-5465

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Usted puede encontrar actualizaciones de softwares o firmwares y documentación para usuarios a través de nuestro sitio www.dlinkla.com

#### SOPORTE TÉCNICO PARA USUARIOS EN LATINO AMERICA

Soporte técnico a través de los siguientes teléfonos de D-Link

PAIS	NUMERO	
Argentina	0800 - 12235465	
Chile	800 260200	
Colombia	01800 - 510070	
Costa Rica	0800 - 0521478	
Ecuador	1800 - 035465	
El Salvador	800 - 6335	
Guatemala	1800 - 8350255	
México	01800 - 0626270	
Panamá	011 008000525465	
Perú	0800 - 00968	
Venezuela	0800 - 1005767	

#### Soporte Técnico de D-Link a través de Internet

Horario de atención Soporte Técnico en www.dlinkla.com e-mail: soporte@dlinkla.com & consultas@dlinkla.com



## **Suporte Técnico**

Caso tenha dúvidas na instalação do produto, entre em contato com o Suporte Técnico D-Link.

Acesse o site: www.dlink.com.br/suporte



## 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9:00到晚上9:00

(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

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。



## **Dukungan Teknis**

Update perangkat lunak dan dokumentasi pengguna dapat diperoleh pada situs web D-Link.

**Dukungan Teknis untuk pelanggan:** 

**Dukungan Teknis D-Link melalui telepon:** 

Tel: +62-21-5731610

**Dukungan Teknis D-Link melalui Internet:** 

Email: support@dlink.co.id

Website: http://support.dlink.co.id



## **Technical Support**

この度は弊社製品をお買い上げいただき、誠にありがとうご ざいます。

下記弊社 Web サイトからユーザ登録及び新製品登録を 行っていただき、ダウンロードサービスにて サポート情報、ファームウェア、ユーザマニュアルを ダウンロードすることができます。

#### ディーリンクジャパン Web サイト

URL:http://www.dlink-jp.com



## 技术支持

办公地址: 北京市东城区北三环东路 36 号 环球贸易中心 B 座

26F 02-05 室 邮编: 100013

技术支持中心电话: 400-629-6688 / 800-829-6688

技术支持中心传真: (028) 87300889

各地维修中心地址请登陆官方网站查询

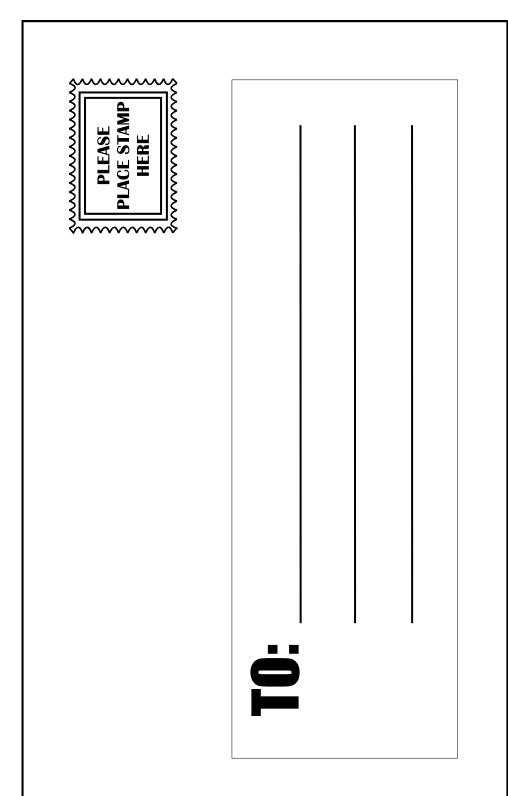
网址: http://www.dlink.com.cn

800电话工作时间: 工作日9:00-19:00; 节假日9:00-18:00.



## Registration Card All Countries and Regions Excluding USA

Print, type or use block				
Your name: Mr./Ms				
Organization: Dept Your title at organization:				
Organization's full addres		Fax:		
Country:				
Date of purchase (Month	/Day/Year):			
Product Model	Product Serial No.	* Product installed in type of	* Product installed in	
		computer	computer serial No.	
Dua di sat sua a nomala a a a dif	· · · · · · · · · · · · · · · · · · ·		(* Applies to adapters or	
Product was purchased for				
Reseller's name:			<del></del>	
Telephone:		<del></del>		
Answers to the following	na auestions help us to	support your product:		
1. Where and how will t	• •			
		s □Home Business □Personal Use		
2. How many employee				
		9 □500-999 □1000 or more		
3. What network protoc				
<u>-</u>	□DECnet □Others			
4. What network operat	ing system(s) does you	ur organization use ?		
□D-Link LANsmart □Novell NetWare □NetWare Lite □SCO Unix/Xenix □PC NFS □3Com 3+Open □Cisco Network				
□Banyan Vines □DECnet Pathwork □Windows NT □Windows 98 □Windows 2000/ME □Windows XP				
□Others				
5. What network management program does your organization use ?				
□D-View □HP OpenView/Windows □HP OpenView/Unix □SunNet Manager □Novell NMS				
□NetView 6000 □Oth				
6. What network medium/media does your organization use ?				
-		ax Ethernet □10BASE-T UTP/STP		
		2.11b and 802.11g □wireless 802.11a	□ Others	
7. What applications are	<u>-</u>			
	⊐Spreadsheet	<u> </u>		
_	ent □Accounting □Othe	• • • • • • • • • • • • • • • • • • • •		
8. What category best of	•	-		
•	□Aerospace □Engineering □Education □Finance □Hospital □Legal □Insurance/Real Estate □Manufacturing			
		□Transportation/Utilities/Communica	tion □VAR	
□System house/comp		<del></del>		
9. Would you recomme		t to a friend?		
□Yes □No □Don't kn	•			
10. Your comments on t	nis product?			



# D-Link®