D-Link®
Building Networks for People

Hardware Installation Guide

Product Model: DGS-3710 Series
Layer 2 Managed Gigabit Switch
Release 1.00

IPv6 READY

CARRIER ETHERNET
MEF Certified Compliant

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 their 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.

BSMI Notice

此為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。

產品須連接額定電流 20A 之斷路器,做為與直流電源之切斷裝置。

Table of Contents

Intended Readers

Typographical Conventions
Notes, Notices, and Cautions
Safety Instructions

The **DGS-3710 Series Hardware Installation Guide** contains information about the hardware specifcations of the Switch. This manual is intended for network managers familiar with network management concepts and terminology.

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 **File** menu and choose **Cancel**. Used for emphasis. May also indicate system messages or prompts appearing on 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 *filename* means that the actual filename should be typed 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.

Table 1. Typographical Conventions

Notes, Notices, and Cautions

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

A **NOTICE** indicates either potential damage to hardware or loss of data and tells 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 safety section, the caution icon (⚠) is used to indicate cautions and precautions that need to be reviewed and followed.

> ⚠ **CAUTION:** The installation and maintenance of this device should be done by qualified service personnel only.

Safety Cautions

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

- Observe and follow service markings.
    - Do not service any product except as explained in the system documentation.
    - Opening or removing covers that are marked with the triangular symbol with a lightning bolt may expose the user to electrical shock.
    - 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:
    - Damage to the power cable, extension cable, or plug.
    - An object has fallen into the product.
    - The product has been exposed to water.
    - The product has been dropped or damaged.
    - The product does not operate correctly when the operating instructions are correctly followed.
- Keep your system away from radiators and heat sources. Also, do not block cooling vents.
- Do not spill food or liquids on system components, and never operate the product in a wet environment. If the system gets wet, see the appropriate section in the troubleshooting guide or contact your trained service provider.
- Do not push any objects into the openings of the 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 unsure of the type of power source required, consult your service provider or local power company.
- To help avoid damaging the system, be sure the voltage selection switch (if provided) on the power supply is set to match the power available at the Switch's 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
    - 100 V/50 Hz in eastern Japan and 100 V/60 Hz in western Japan
    - 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 using an extension cable is necessary, 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 the 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.
  - o Unplug the power cable before removing the power supply.
  - o 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.

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 system/components in a rack, never 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 serious injury.

- 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 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 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. Completed power and safety ground wiring must be inspected by a qualified electrical inspector. An energy hazard will exist if the safety ground cable is omitted or disconnected.

Protecting Against Electrostatic Discharge

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

The following steps can also be taken 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 ready to install the component in the 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.
3. 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
Features
Ports
Front-Panel Components
LED Indicators
Rear Panel Description
Side Panel Description

This manual describes the installation, maintenance, and configurations concerning the Switch.

Switch Description

D-Link's DGS-3710 Series switch is a high performance member of the D-Link switch family. Ranging from 10/100Mbps edge switches to core gigabit switches, the switch family has been future-proof designed to provide fault tolerance, flexibility, port density, robust security and maximum throughput with a user-friendly management interface for the networking professional

The Switch has a combination of 1000BASE-T ports and SFP ports that may be used in uplinking 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. These SFP ports support full-duplex transmissions and can be used with the following transceivers:

* DEM-310GT (1000BASE-LX, Single-mode, 10km)
* DEM-311GT (1000BASE-SX, Mutli-mode, 500m)
* DEM-312GT2 (1000BASE-SX, Multi-mode, 2km)
* DEM-314GT (1000BASE-LH, Single-mode, 50km)
* DEM-315GT (1000BASE-ZX, Single-mode, 80km)
* DEM-210 (100BASE-FX, Single-mode, 15km)
* DEM-211 (100BASE-FX, Multi-mode, 2km)

WDM transceivers supported include:

* DEM-330T (1000BASE-BX-D, Single-Mode, 10km, TX-1550/RX-1310nm)
* DEM-330R (1000BASE-BX-U, Single-Mode, 10km, TX-1310/RX-1550nm)
* DEM-331T (1000BASE-BX-D, Single-Mode, 40km, TX-1550/RX-1310nm)
* DEM-331R (1000BASE-BX-U, Single-Mode, 40km, TX-1310/RX-1550nm)
* DEM-220T (100BASE-BX-D, Single-Mode, 20km, TX-1550/RX-1310nm)
* DEM-220R (100BASE-BX-U, Single-Mode, 20km TX-1310/RX-1550nm)

Features

The list of features below highlights the significant features of the Switch.

- IEEE 802.3 compliant
- IEEE 802.3z compliant
- IEEE 802.3x Flow Control in full-duplex compliant
- IEEE 802.3u compliant
- IEEE 802.3ab compliant
- IEEE 802.1p Priority Queues
- IEEE 802.3ad Link Aggregation Control Protocol for up to 6 groups
- IEEE 802.1X Port-based and Host-based Access Control
- IEEE 802.1Q VLAN
- IEEE 802.1D Spanning Tree, IEEE 802.1w Rapid Spanning Tree and IEEE 802.1s Multiple Spanning Tree support
- Support jumbo frame to 13K Bytes
- Access Control List (ACL) support
- ISM VLAN support
- DHCP local relay support
- Single IP Management support
- Access Authentication Control utilizing TACACS, XTACACS, TACACS+, and RADIUS protocols
- Supports Multiple Authentication
- Power saving mode support
- Broadcast Ping support
- Simple Network Time Protocol support
- System Log support
- Maximum packet forwarding rate 17.86Mpps.
- High performance switching engine performs forwarding and filtering at full wire speed up 24Gbps
- Full- and half-duplex for all ports. Full duplex allows the switch port to simultaneously transmit and receive data. It only works with connections to full-duplex-capable end stations and switches. Connections to a hub must take place at half-duplex.
- Support broadcast storm control
- Loopback Detection (LBD) version 4.0 Trap support
- Non-blocking store and forward switching scheme capability to support rate adaptation and protocol conversion
- Supports Egress/Ingress bandwidth control
- Efficient self-learning and address recognition mechanism enables forwarding rate at wire speed
- Address table: Supports up to 16 K
- Supports a packet buffer of up to 1MByte
- Port Trunking with flexible load distribution
- Authentication Server failover
- IGMP Snooping support
- MLD Snooping support (MLD v1 and v2)
- IP-MAC-Port Binding (IMPB) v3.61 support
- SNMP support
- Secure Sockets Layer (SSL) and Secure Shell (SSH) support
- System Severity control
- Port Mirroring support
- MIB support for:
    - RFC 1213 MIB II
    - RFC 1493 Bridge

- o RFC 1907 SNMPv2
- o RFC 2819 RMON
- o RFC 2665 Ether-like MIB
- o RFC 2863 IF MIB
- o RFC 2618 RADIUS Authentication Client MIB
- o RFC 2620 RADIUS Accounting Client MIB
- o Private MIB
- o RFC 4363
- o IEEE 802.1X MIB
- Provides parallel LED display for port status such as link/act, speed, etc.
- Web-based GUI compatible with Internet Explorer 5.5 or later, Netscape 8.0 or later, and Firefox 2.0 or later

Ports

- Twelve 10/100/1000Mbps Copper/SFP Combo Ports.
- One female DCE RS-232 DB-9 console port.
- One Out-of-Band Management (10BASE-T/100BASE-TX/1000BASE-T) port used for out-of-band, remote IP access to the Switch.
- One Alarm port (8 Pin standard RJ45 connector).

Front-Panel Components

The front panel of the Switch consists of LED indicators for Power, System, Alarm, FAN, Management, and a Link/Act LED indicator for each Copper/SFP port on the Switch. A separate table below describes LED indicators in more detail.
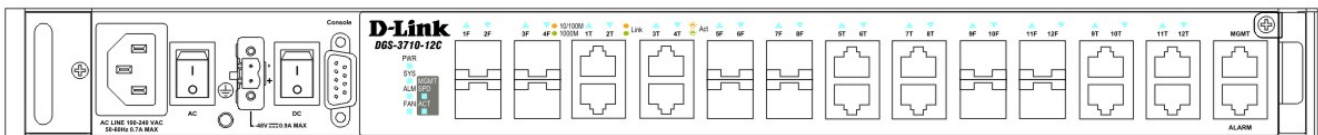

Figure 1–1 Front panel view of a DGS-3710-12C Switch

The front panel of the Switch contains an AC or a 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 the power setting to any supply voltage in the range from 100 ~ 240 VAC at 50 ~ 60 Hz.

Also found on the front panel is a power switch to turn the switch on and off and a console port for the command line interface management discussed later in this manual. Another port found on the front panel is the Alarm port. This port is used to detect physical signals from external devices when an alarm event is triggered.

LED Indicators

The DGS-3710 Series switch's front panel presents LED indicators for Power (PWR), System (SYS), Alarm (ALM), FAN, Management (MGMT), and Link/Act indicators for all ports including the Gigabit Ethernet ports.
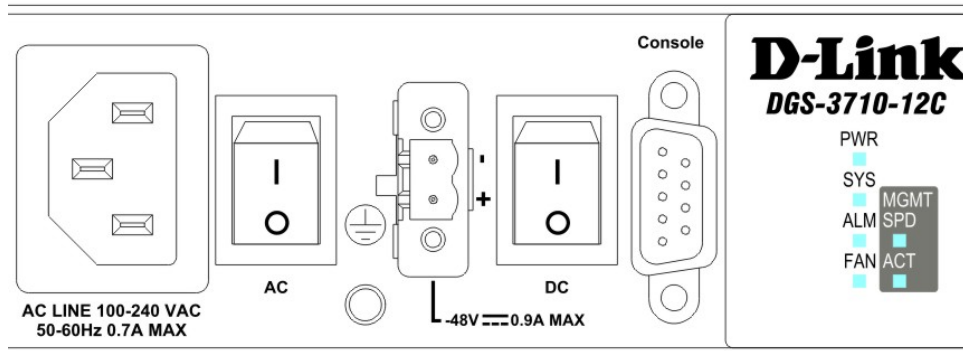

Figure 1–2 LED indicators for a DGS-3710-12C Switch

LED	Description
Power (PWR)	This LED will light green after powering the Switch on to indicate the ready state of the device. The indicator is dark when the Switch is no longer receiving power.
System (SYS)	This LED will blink green during the Power-On Self Test (POST). When the POST is finished, this LED will be on and steady.
Alarm (ALM)	When the alarm LED is solid red, it indicates that an alarm event has been detected or that the temperature has exceeded to upper and lower threshold. The alarm LED will be off when an alarm event was cleared or when the temperature is in the normal threshold.
Fan (FAN)	When the fan LED is solid red, it indicates that the system fan failed and/or the fan module was removed. When all the fans are functioning properly, this LED will be off.
Management Port Link/Act LEDs (MGMT)	The Management Port on the front panel presents LED indicators for Link and Activity. The SPD light will illuminate solid green when a secure, 1000Mbps, connection is made to the MGMT port. The SPD light will illuminate solid amber when a secure, 100Mbps, connection is made to the MGMT port. The SPD light will be off when a secure, 10Mbps, connection is made to the MGMT port; or when the link is down. The ACT light will be on solid when the port link is up and will flicker when data is being sent and received to and from the MGMT port. The ACT light will be off when the link is down.
GE Port	LED indicators for the Combo ports are located above the ports. A steady green light denotes a valid 1000Mbps link on the port while a blinking green one indicates activity on the port (at 1000Mbps). A steady amber light denotes a valid 10 or 100Mbps link on the port while a blinking amber one indicates activity on the port (at 10 or 100Mbps). These LEDs will remain dark if there is no link/activity on the port.

Rear Panel Description

The rear panel of the Switch has no input, output, or display components.

Figure 1–3 Rear panel view of a DGS-3710-12C Switch

Side Panel Description

The system heat vents located on each side dissipate heat. Do not block these openings. 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 or even severely damage components.
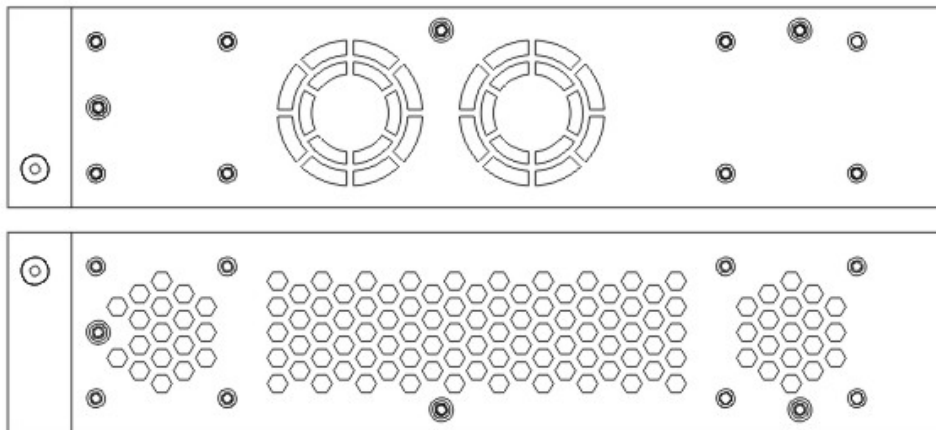
Figure 1–4 Side panels of a DGS-3710-12C Switch

Chapter 2   Installation

Package Contents
Installation Guidelines
Power On
Alarm Connector (RJ45)
Installing SFP Ports
Connect to DC Power Plug

Package Contents

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

- One DGS-3710 Series Switch
- One AC power cord
- One DCE RS-232 DB-9 console cable
- One mounting kit (two brackets and screws)
- Four rubber feet with adhesive backing
- One DC male connector, used for connecting to the DC female power input, which is located on the front panel.
- One Alarm port cable.

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

Installation Guidelines

Please follow these guidelines for setting up the Switch:

- Install the Switch on a sturdy, level surface that can support at least 8.8 lb. (4 kg) 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 a Rack

First, attach the rubber feet included with the Switch if installing on a desktop or shelf. 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.
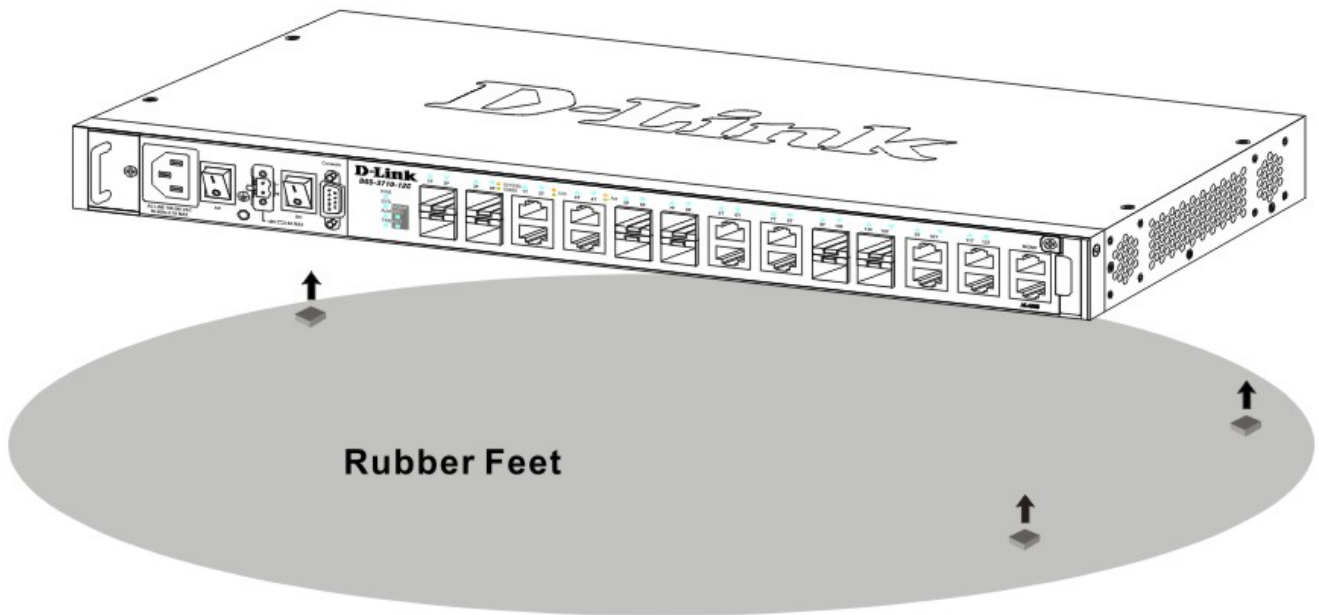

Figure 2–1 Preparing a DGS-3710 Series Switch for installation on a desktop or shelf

Attaching Brackets to a Switch for Rack Mounting

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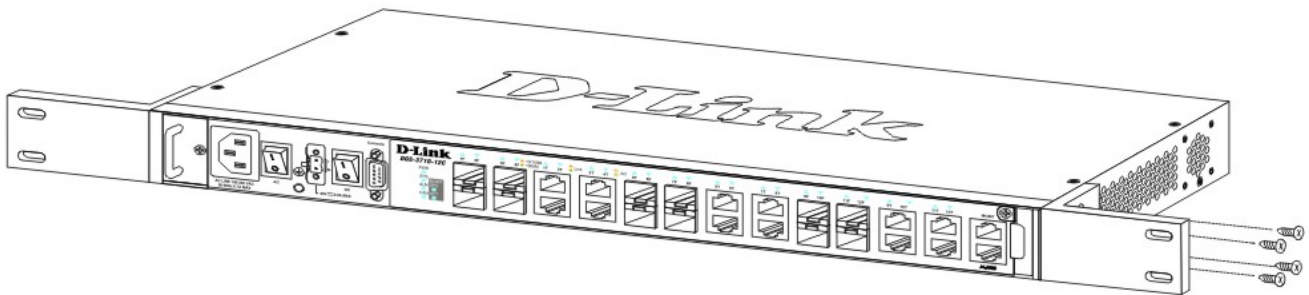

Figure 2–2 Fasten mounting brackets on a DGS-3710 Series Switch

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 below.

Note: Please review the Installation Guidelines above before installing the Switch in a rack. Make sure there is adequate space around the Switch to allow for proper air flow, ventilation and cooling.
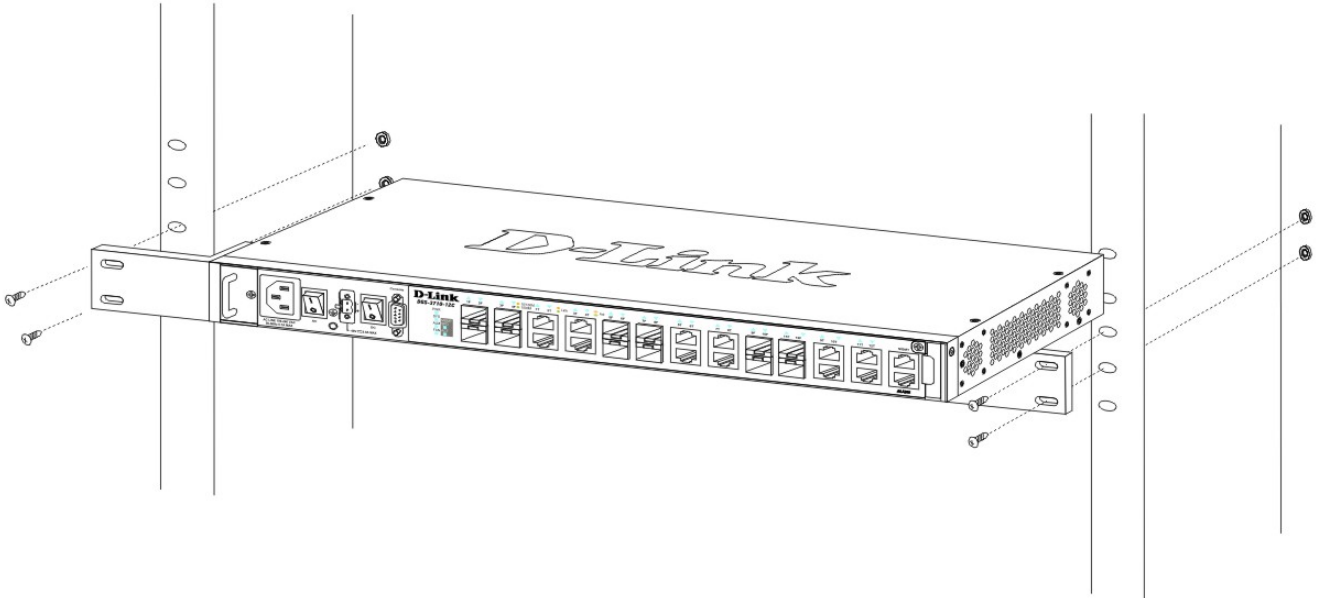
Mounting the Switch in a Standard 19" Rack

Figure 2–3 Installing a DGS-3710 Series Switch in a rack

Fan Modules – Installing and Removing

The Switch is equipt with two removable modules. On the one side we find a fan module and on the other side we find a dust filter module. Fan and dust filter modules have handles for users to replace these modules easily. To install any of the two modules, simply slide it into the available slot at the front of the Switch until it reaches the back. Carefully push the module into the slot to secure it to the Switch. The module should fit snugly into the corresponding receptors.

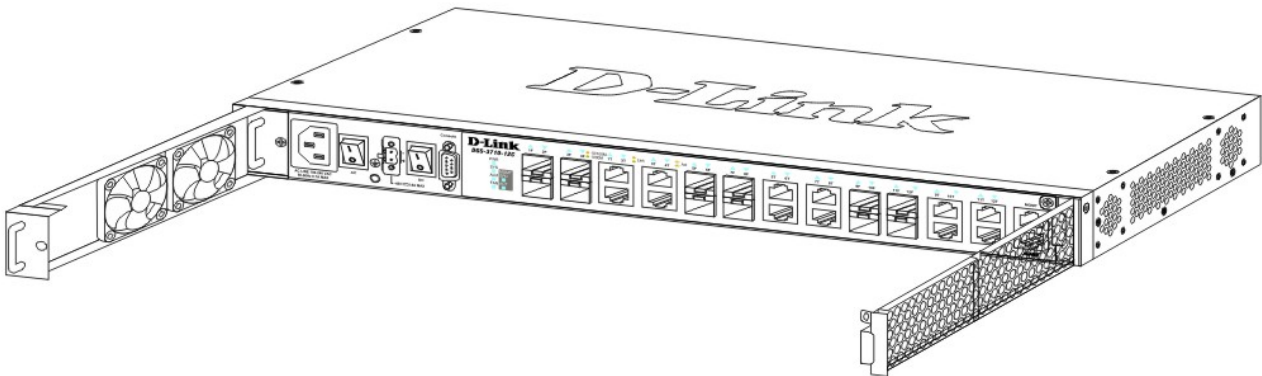**Figure 2–4 Installing a DGS-3710 Series Switch Fan Module**

After the modules are secured, tighten the screws at the adjacent ends of the modules into the available screw holes on the Switch. The Switch is now ready for use.

CAUTION: The handles on the fan modules should only be used to replace the modules in the event of a hardware failure. Do not use the power module handle to lift the Switch.

Power On

1. Connect the AC or DC power cord into the power connector of the Switch and the other end into the local power source outlet.

2. Turn on the power switch, located on the front panel of the device, to power on the Switch.

3. After powering on the Switch, the LED indicators will momentarily blink green. This blinking of the LED indicators represents a reset of the system.

NOTE: When the AC power and DC power are on at the same time, the AC power will take higher priority than the DC power.

Connect to DC Power Plug

The DGS-3710 Series Switch supports a unique Dual Power Input feature. Next to the AC Power plug we find a DC power plug. Here the user can connect a -48V DC power source that will be activated when the AC power is not working.

Please make sure that connection polarity (positive and negative) is correct before using this feature to avoid any damaged.

Connect the power source to the DC plug before plugging it into the Switch. This will protect Switch from a possible shortage on the DC cable.
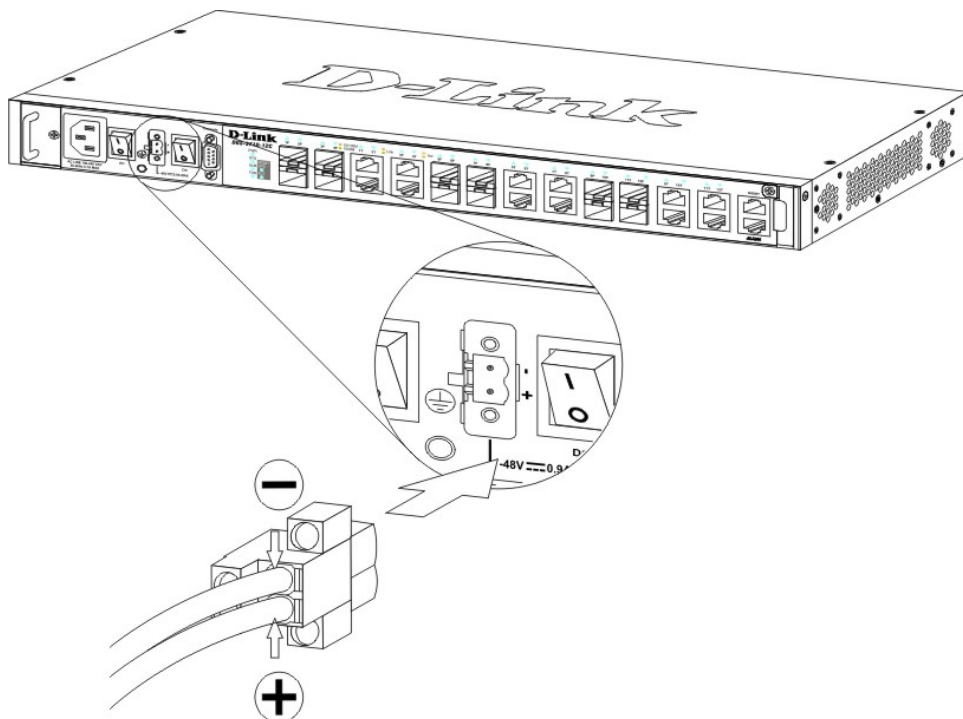

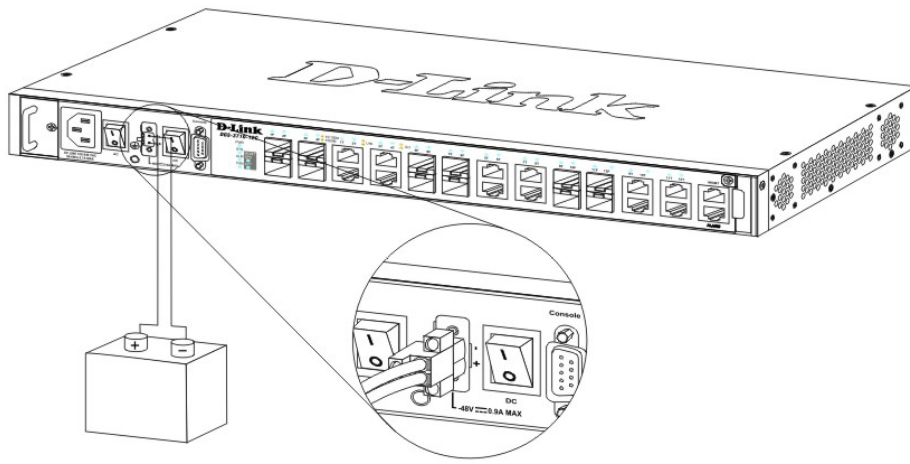**Figure 2–5 The DC Power Plug Enlarged**

Figure 2–6 Connecting a Switch to the DC Power source

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 below 20A.

Power Failure

The AC power and DC power of the device will backup each other immediately when one of the power sources fail. If both power sources fail, unplug the Switch. When the power source has been restored, plug the Switch's power back in.

Alarm Connector (RJ45)

The Alarm (RJ45) port pin assignment is layed out in the figure below.
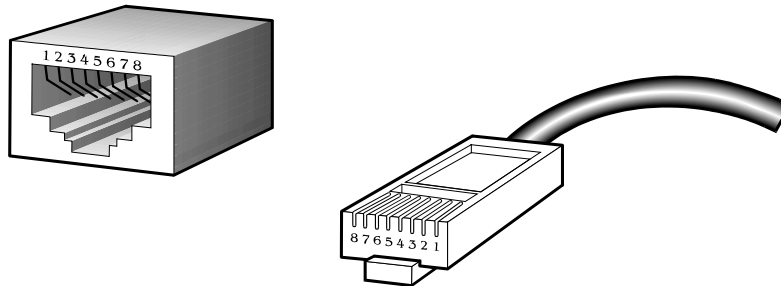
Figure 2–7 Alarm (RJ45) Connector

Alarm Connector Port	
Contact	**Description**
1	GND
2	Input (Channel 1)
3	GND
4	Input (Channel 2)
5	GND
6	Input (Channel 3)
7	GND
8	Input (Channel 4)

Installing SFP Ports

The Switch is equipped with SFP (Small Form Factor Portable) 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. These SFP ports support full-duplex transmissions, have auto-negotiation and can be used with DEM-310GT (1000BASE-LX), DEM-311GT (1000BASE-SX), DEM-312GT2 (1000BASE-SX), DEM-314GT (1000BASE-LX) and DEM-315GT (1000BASE-LX) transceivers. See the figure below for installing the SFP ports in the Switch. In addition, DEM-210T (100BASE-FX, Multi-mode) and DEM-211T (100BASE-FX, Single-mode) SFP transceivers are supported. WDM transceivers supported include DEM-330T (TX-1550/RX-1310 nm), DEM-330R (TX-1310/RX-1550 nm), DEM-331T (TX-1550/RX-1310 nm), and DEM-331R (TX1310/RX-1550 nm).
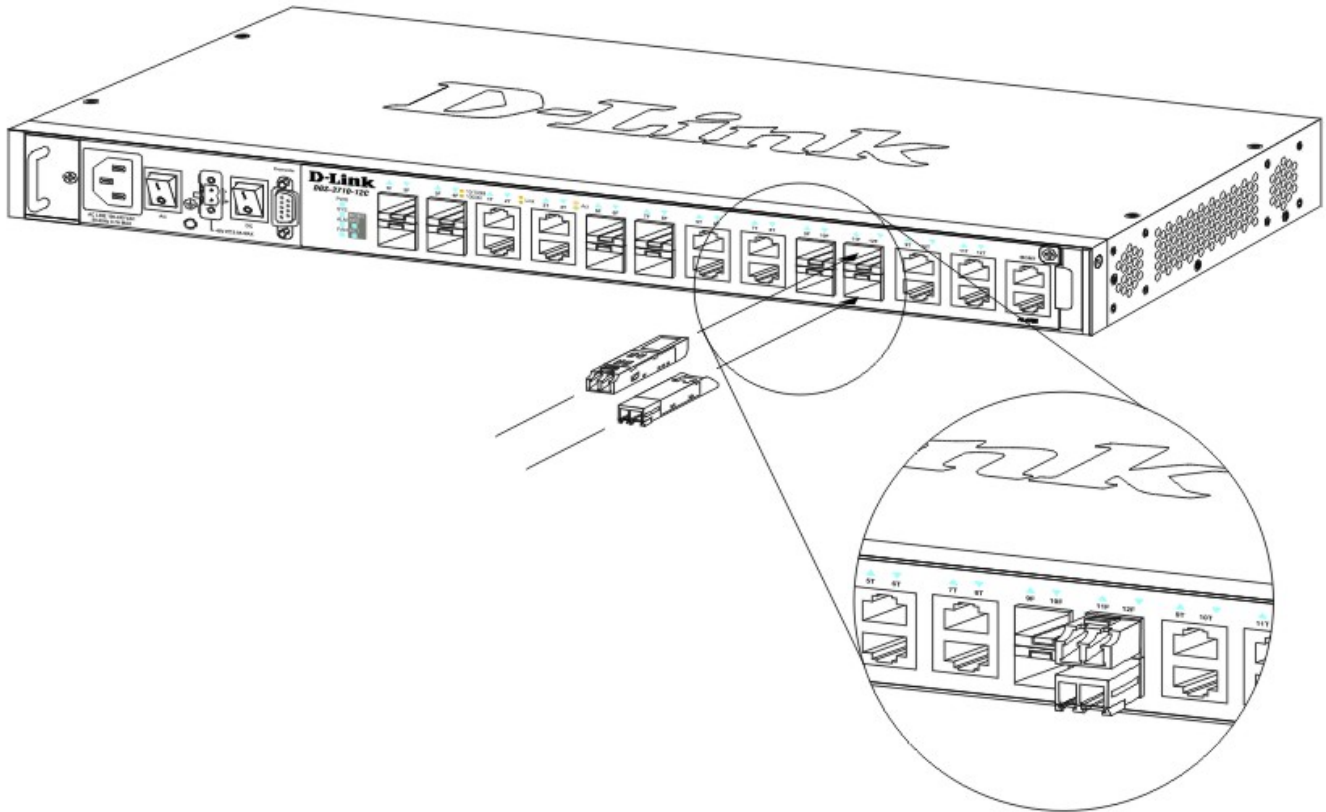

Figure 2–8 Inserting fiber-optic transceivers into a DGS-3710 Series Switch

Connecting the Switch

Switch to End Node
Switch to Switch
Connecting To Network Backbone or Server

Note: All high-performance N-Way Ethernet ports can support both MDI-II and MDI-X connections.

Switch to End Node

End nodes include PCs outfitted with a 10, 100 or 1000 Mbps RJ-45 Ethernet Network Interface Card (NIC) and routers. An end node connects to the Switch via a twisted-pair UTP/STP cable. Connect the end node to any of the 1000BASE-T ports of the Switch. The Link/Act LEDs for each Ethernet port will light green or amber when the link is valid. A blinking LED indicates packet activity on that port.
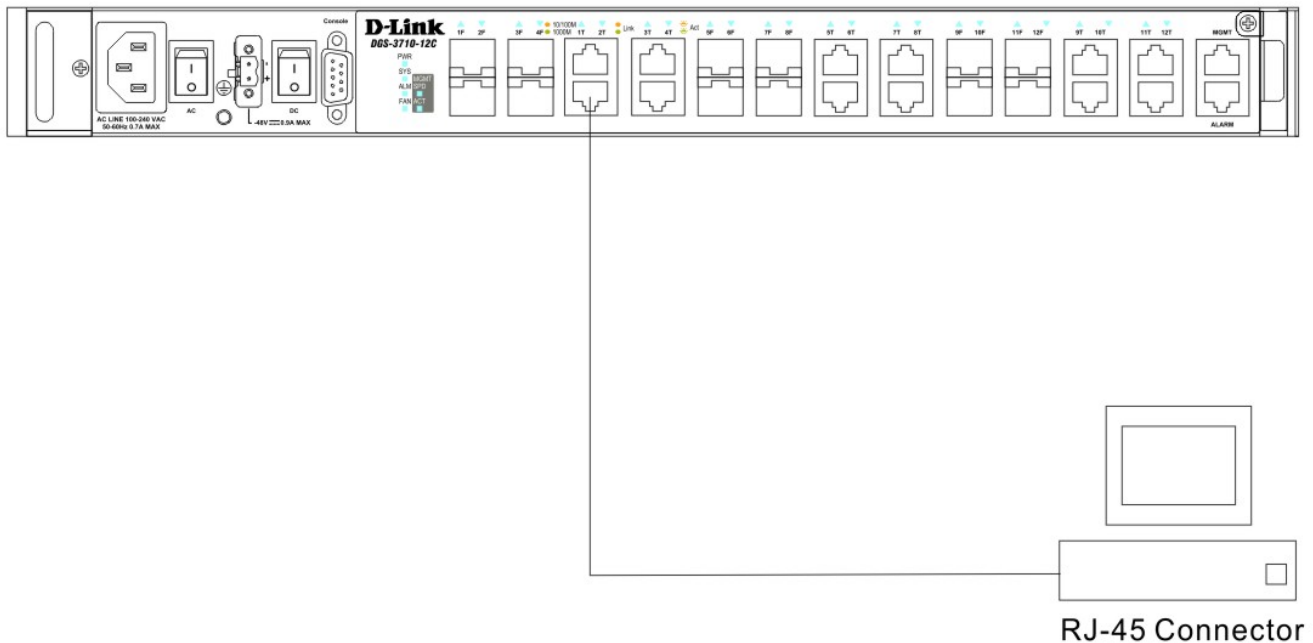
Figure 2–9 Connecting a DGS-3710 Series Switch to an end node

Switch to Switch

There is a great deal of flexibility on how connections are made using the appropriate cabling.

- Connect a 10BASE-T switch port to the Switch via a twisted-pair Category 3, 4 or 5 UTP/STP cable.
- Connect a 100BASE-TX switch port to the Switch via a twisted-pair Category 5 UTP/STP cable.
- Connect 1000BASE-T switch port to the Switch via a twisted pair Category 5e UTP/STP cable.
- Connect switch supporting a fiber-optic uplink to the Switch's SFP ports via fiber-optic cabling. See cabling guidelines in Appendix B for more information.
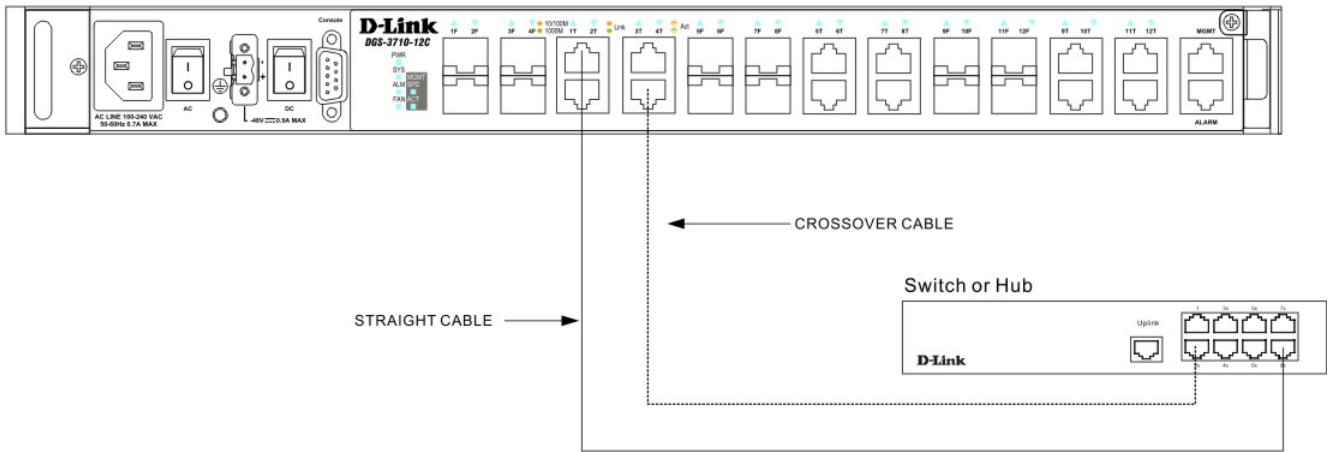
Figure 2–10 Connecting a DGS-3710 Series Switch to another switch

Connecting To Network Backbone or Server

The combo SFP ports and the 1000BASE-T ports are ideal for uplinking to a network backbone, server or server farm. The copper ports operate at a speed of 1000, 100 or 10Mbps in full or half duplex mode. The fiber-optic ports can operate at both 100Mbps and 1000Mbps in full duplex mode.

Connections to the Gigabit Ethernet ports are made using a fiber-optic cable or Category 5e copper cable, depending on the type of port. A valid connection is indicated when the Link LED is lit.

Figure 2–11 Connecting a DGS-3710 Series Switch to a server

Chapter 3   Introduction to Switch Management

Management Options
Connecting the Console Port
First Time Connecting to the Switch
Password Protection
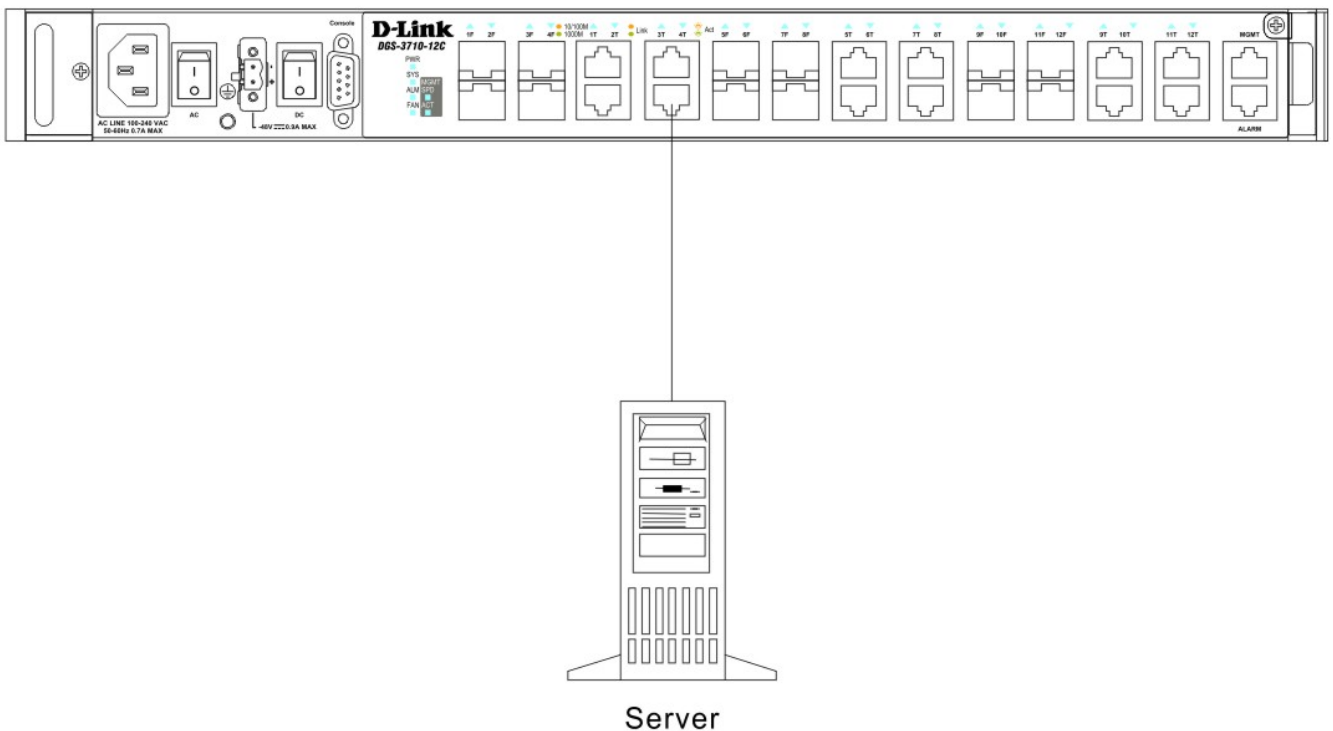*SNMP Settings*
IP Address Assignment

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 successfully installing the Switch, the user can configure the Switch, monitor the LED panel, and display statistics graphically using a web browser, such as Netscape Navigator (version 6.2 and higher) or Microsoft® Internet Explorer (version 5.0 and higher).

SNMP-Based Management

The Switch can be managed with an SNMP-compatible console program. 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.

Command Line Interface through the Serial Port or remote Telnet

The user can also connect a computer or terminal to the serial console port to access the Switch. The command line interface provides complete access to all Switch management features.

Connecting the Console Port

The front panel of the DGS-3710 Series switch provides a port that enables a connection to a computer monitoring and configuring the Switch. The console port is a DB-9 port and requires a special cable that is included with the switch, to establish the physical connection.

To use the console port, the following equipment is needed:

- A terminal or a computer with both an RS-232 serial port and the ability to emulate a terminal.
- A console cable with a male DB-9 connector on one end and a female DB-9 connector 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 male 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 female DB-9 connector into the DB-9 console port on the front of the Switch. Set the terminal emulation software as follows:

- Select the appropriate serial port (COM port 1 or COM port 2).
- Set the data rate to 115200 baud.
- Set the data format to 8 data bits, 1 stop bit, and no parity.
- Set flow control to none.
- Under Properties, select VT100 for Emulation mode.
- Select Terminal keys for Function, Arrow and Ctrl keys. Make sure to use Terminal keys (not Windows keys) are selected.

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

- 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.
- After the boot sequence completes, the console login screen displays.
- If the user has 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 user accounts have been previously set up, log in and continue to configure the Switch.
- Enter the commands to complete desired tasks. Many commands require administrator-level access privileges. Read the next section for more information on setting up user accounts. See the DGS-3710 Series CLI Manual on the documentation CD for a list of all commands and additional information on using the CLI.
- To end a management session, use the logout command or close the emulator program.

If problems occur in making this connection on a PC, make sure the emulation is set to VT-100. The emulation settings can be configured by clicking on the File menu in the HyperTerminal window by 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 the 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.

```
 Boot Procedure                                              V1.00.001
---------------------------------------------------------------------------

 Power On Self Test ........................................  100 %

 MAC Address    : F0-7D-68-25-CB-40
 H/W Version    : A1

 Please Wait, Loading V1.00.029 Runtime Image .............  100 %


 UART init ................................................  100 %
 Device Discovery .........................................  100 %
 Configuration init .......................................  100 %
```

Figure 3–1 Boot up display in console screen

First Time Connecting to the Switch

The Switch supports user-based security that can allow prevention of unauthorized users from accessing the Switch or changing its settings. This section tells how to log onto the Switch via out-if-band console connection or out-of-band Management port connection.

Upon initial connection to the Switch, the login screen appears (see example below).

```
                      DGS-3710-12C Gigabit Ethernet Switch
                             Command Line Interface


                             Firmware: Build 1.00.029
                Copyright(C) 2012 D-Link Corporation. All rights reserved.
UserName:admin
PassWord:****


DGS-3710-12C:admin#
```

Figure 3–2 Initial screen, first time connecting to the Switch

Input the username and password and press **Enter** on both occasions. Then access will be given to enter commands after the command prompt **DGS-3710-12C:admin#**.

NOTE: The first user automatically gets Administrator level privileges. At least one Admin-level user account must be created for the Switch.

Connecting to the Management Port

The front panel of the Switch features an out-of-band Management port. The port is an RJ-45 port so it can be easily connected to a notebook computer using a standard Ethernet cable. Connect to the port for out-of-band management using a web browser or Telnet command prompt interface. The Management port is enabled by default, so it can be used for the first time connection to the Switch.
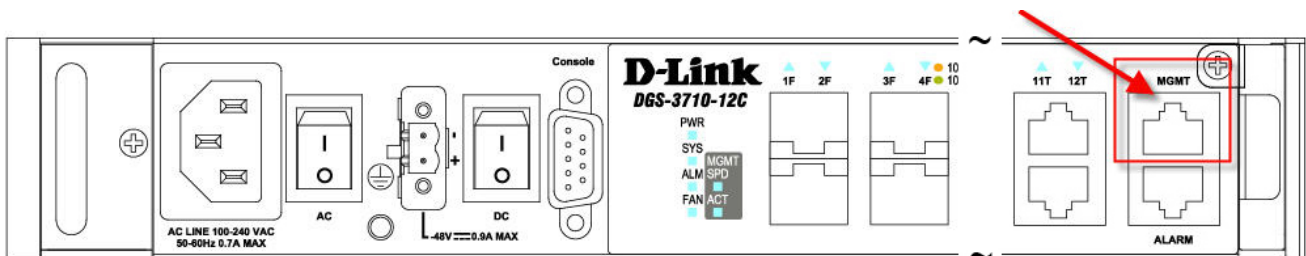

Figure 3–3 The Management Port on the Front Panel

To use the Management port, use an Ethernet cable to connect the port to the Ethernet interface of a computer used for Switch management. The default IP address of the Management port is 192.168.0.1 with a subnet mask of 255.255.255.0, make sure the computer used for Switch management has a nonconflicting IP address in the 192.168.0.x subnet.

The IP settings or enabled status of the Management port can be changed through the console port, or through the web-based Switch management interface. To change the configuration of the Management port, use the command:

config out_band_ipif {ipaddress <network_address> | state [enable | disable] | gateway <ipaddr>}

To view the status or IP settings, use the command:

show out_band_ipif

To change settings for the out-of-band Management port in the web interface, use the following path:

Management > Out of Band Management Settings

Password Protection

After the 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, do the following:

1. At the CLI login prompt, enter create account admin followed by the <user name> and press the Enter key.
2. The Switch will then prompt the user to provide a password. Type the <password> used for the administrator account being created and press the Enter key.
3. Once entered, the Switch will again ask the user to enter the same password again to verify it. Type the same password and press the Enter key.
4. A "Success" response by the Switch will verify the creation of the new administrator.

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

IP Address Assignment

An IP Address must be assigned to each switch, 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. The user may 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.

The Switch's MAC address also appears in the **Device Information** and **System Information** windows of the Web-based management interface. The IP address for the Switch must be set before using 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.

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 on-board SNMP agent. SNMP defines both the format of the MIB specifications and the protocol used to access this information over the network.

The Switch supports SNMP versions 1, 2c, and 3. The administrator may specify which version of SNMP 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 SNMPv1 and SNMPv2, 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 SNMPv1 and SNMPv2 management access are:

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

SNMPv3 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, a group of SNMP managers can be created to view read-only information or receive traps using SNMPv1 while assigning a higher level of security to another group, granting read/write privileges using SNMPv3.

Using SNMPv3 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 SNMPv3 in that SNMP messages may be encrypted. To read more about how to configure SNMPv3 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, Topology Change and Broadcast\Multicast Storm.

Management Information Base (MIB)

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. The proprietary MIB may also be retrieved by specifying the MIB Object Identifier. MIB values can be either read-only or read-write.

Chapter 4   Web-based Switch Configuration

Introduction
Logging onto the 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. Manage the Switch from remote stations anywhere on the network through a standard browser, such as Internet Explorer 5.5 or later, Netscape 8.0 or later, or Firefox 2.0 or later. 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.

Logging onto the Web Manager

To begin managing the Switch, simply run the browser 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.

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

Figure 4–1 Enter Network Password Window

Enter the User Name and Password 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 the user to view performance statistics, and permits graphical monitoring of the system status.

Areas of the User Interface

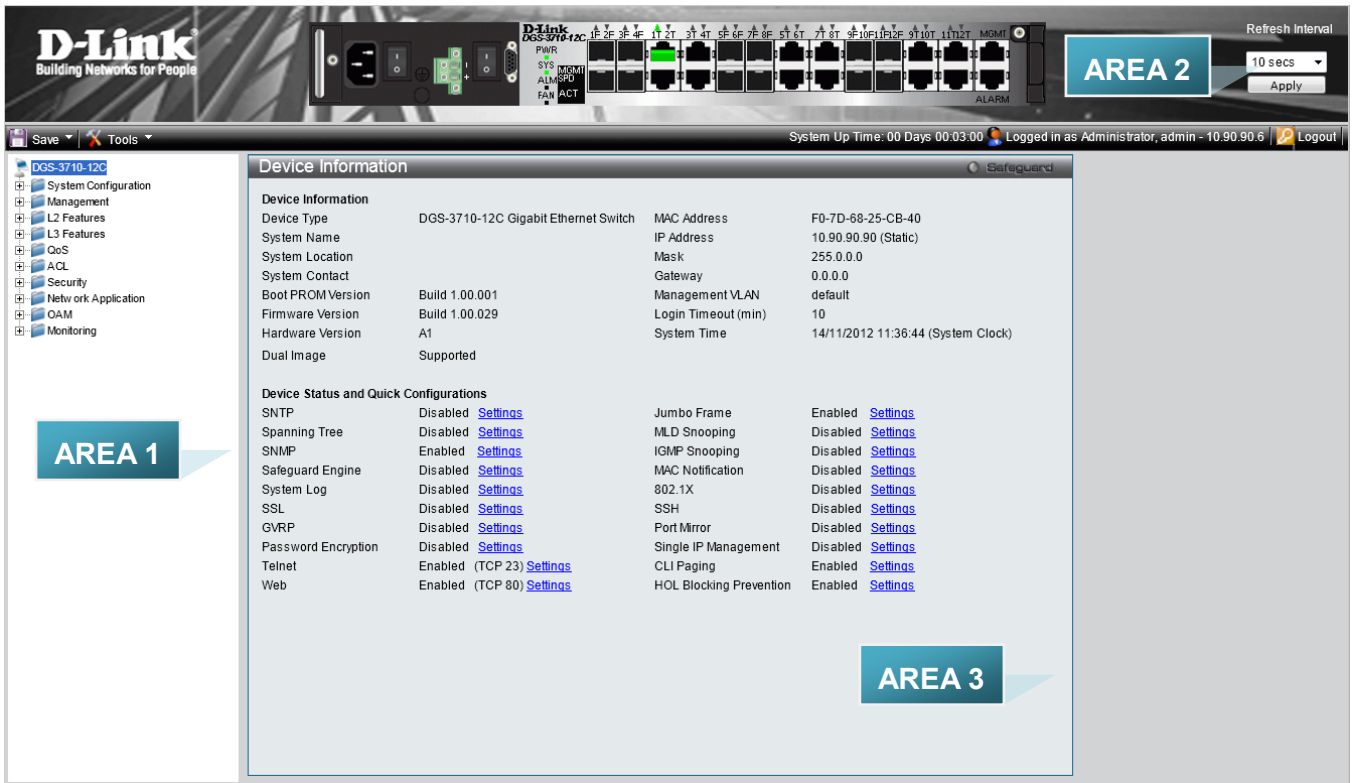The figure below shows the user interface. Three distinct areas divide the user interface, as described in the table.

Figure 4–2 Main Web-manager Window

Area	Function
AREA 1	Select the folder or window to display. Open folders and click the hyper¬linked window buttons and subfolders contained within them to display windows.
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 and shows port activity, depending on the specified mode. Some management functions, including port monitoring are accessible here. Click the D-Link logo to go to the D-Link Website.
AREA 3	Presents Switch status based on user selection and the entry of configuration data. In addition, hyperlinks are offered for many Switch features to enable quick configuration.

Web Pages

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.

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

Appendix Section

Appendix A – Technical Specifications

General

Feature	Detailed Description	
Standards	IEEE 802.3 10BASE-T Ethernet	
	IEEE 802.3u 100BASE-TX Fast Ethernet	
	IEEE 802.3ab 1000BASE-T Gigabit Ethernet	
	IEEE 802.3z 1000BASE-T (SFP "Mini GBIC")	
	IEEE 802.1D/2004/Spanning Tree (802.1s, 802.1w)	
	IEEE 802.1Q-2005 VLAN	
	IEEE 802.1p Priority Queues	
	IEEE 802.1X Network Access Control	
	IEEE 802.3 Nway Auto-negotiation	
	IEEE 802.3ad Link Aggregation Control	
	IEEE 802.3x Full-duplex Flow Control	
	IEEE 802.1u Fast Ethernet	
Protocols	CSMA/CD	
Data Transfer Rates: Ethernet Fast Ethernet Gigabit Ethernet	Half-duplex 10 Mbps 100 Mbps 1000 Mbps	Full-duplex 20 Mbps 200 Mbps 2000 Mbps
Topology	Duplex Ring, Duplex Chain	
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)	

Physical and Environmental

Feature	Detailed Description
Internal Power Supply	AC Input: 100 – 240VAC @ 0.7A max, 50-60 Hz, 40 Watt. DC Input: -48VDC @ 0.9A max.
Fans	Supports one modular fan tray in the front panel. • Fans are capable to automatically turn on or off and adjust speed based on system temperature. • Alert alarm if the fan is running at an abnormal speed.
Power Consumption	28 Watts @ 110VAC 27 Watts @ -48VDC
Operating Temperature	0~65°C
Storage Temperature	-40~70°C
Humidity	Storage: 5-90% non-condensing Operation: 10-90% non-condensing
Dimensions	441mm (W) x 207mm (D) x 44mm (H)

Weight	3.25kg
EMI	CE Class A, FCC Class A, C-Tick Report, IC Report, BSMI.
Safety	UL, CB Report, CE LVD Report.
Green	• Comply with RoHS 6. • All Gigabit ports support power saving, by Link Status and Energy Efficiency Ethernet (EEE) known as IEEE 802.3az.

Performance

Feature	Detailed Description
Transmission Method	Store-and-forward
Packet Buffer	1MByte per device
Packet Filtering / Forwarding Rate	Full-wire speed for all connections 1,488,095 pps per port (for 1000Mbps) 148,810 pps per port (100Mbps)
Wire speed	Wire speed operation on all FE/GE ports
Switching Capacity	24Gbps
64 Byte System Packet Forwarding Rate	9.5 Million Packets Per Second

LED Indicators

Location	LED Indicative	Color	Status	Description
Per Device	Power (PWR)	Green	Solid Light	Power On.
			Light off	Power Off.
	System (SYS)	Green	Solid Light	System is running.
			Blinking	System booting.
	Alarm (ALM)	Red	Solid Light	When an alarm event has been detected. When the temperature exceed the upper and lower threshold.
			Light off	When an alarm event has been cleared. When the temperature is in the normal threshold.
	FAN	Red	Solid Light	When the system fan failed and/or the fan module has been removed.
			Light off	When all the fans are functioning properly.
	Management Port (MGMT) – SPD	Green/Amber	Solid Green	Secure connection to the MGMT port at 1000Mbps.
			Solid Amber	Secure connection to the MGMT port at 100Mbps.
			Light off	Secure connection to the MGMT port at 10Mbps; or link down.
	Management Port (MGMT) – ACT	Green	Solid Light	Port link up.
			Blinking	When there is reception or transmission of data occurring at Management port.
			Light off	No link

LED Per 10/100/1000 Mbps Port	Link/Act/Speed	Green/Amber	Solid Green	When there is a secure 1000Mbps 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 connected port.
			Solid Amber	When there is a secure 10/100Mbps Ethernet/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 an/a Ethernet/Fast Ethernet connected port.
			Light off	No link
LED Per SFP Port	Link/Act/Speed	Green/Amber	Solid Green	When there is a secure 1000Mbps 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 connected port.
			Solid Amber	When there is connection or link with 100BASE-FX at SFP ports.
			Blinking Amber	When there is reception or transmission (i.e. Activity - Act) of data occurring at a 100BASE-FX connected SFPport.
			Light off	No link

Port Functions

Feature	Detailed Description
Console Port	RJ-45 interface for out-of-band CLI configuration
DGS-3710-12C (12 x 10BASE-T/100BASE-TX/1000BASE-T ports)	Compliant to following standards: 1. IEEE 802.3 compliance 2. IEEE 802.3u compliance 3. Support Half/Full-Duplex operations 4. All ports support Auto MDI-X/MDI-II cross over 5. IEEE 802.3x Flow Control support for Full-Duplex mode, Back Pressure when Half-Duplex mode, and Head-of-line blocking prevention.
12 Combo ports in the front panel	12 combo 1000BASE-T/SFP ports 1000BASE-T ports compliant to following standards: IEEE 802.3 compliance IEEE 802.3u compliance IEEE 802.3ab compliance Support Full-Duplex operations IEEE 802.3x Flow Control support for Full-Duplex mode, back pressure when Half-Duplex mode, and Head-of-line blocking prevention **SFP Transceivers Supported:** • DEM-310GT (1000BASE-LX, Single-mode, 10km) • DEM-311GT (1000BASE-SX, Mutli-mode, 500m) • DEM-312GT2 (1000BASE-SX, Multi-mode, 2km) • DEM-314GT (1000BASE-LH, Single-mode, 50km)

- DEM-315GT (1000BASE-ZX, Single-mode, 80km)
- DEM-210 (100BASE-FX, Single-mode, 15km)
- DEM-211 (100BASE-FX, Multi-mode, 2km)

WDM Transceiver Supported:
- DEM-330T (1000BASE-BX-D, Single-Mode, 10km, TX-1550/RX-1310nm)
- DEM-330R (1000BASE-BX-U, Single-Mode, 10km, TX-1310/RX-1550nm)
- DEM-331T (1000BASE-BX-D, Single-Mode, 40km, TX-1550/RX-1310nm)
- DEM-331R (1000BASE-BX-U, Single-Mode, 40km, TX-1310/RX-1550nm)
- DEM-220T (100BASE-BX-D, Single-Mode, 20km, TX-1550/RX-1310nm)
- DEM-220R (100BASE-BX-U, Single-Mode, 20km TX-1310/RX-1550nm)

Compliant to following standards:
1. IEEE 802.3z compliance
2. IEEE 802.3u compliance

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.
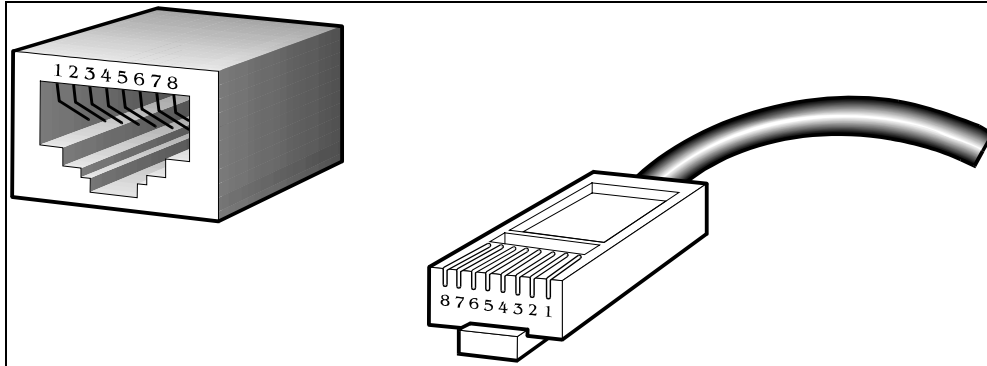
Figure 4–3 Standard RJ-45 port and connector

RJ-45 Pin Assignments		
Pin	**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

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 functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by D-Link in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

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

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

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

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

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

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

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

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

Disclaimer of Other Warranties: EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED "AS-IS" WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO NINETY (90) DAYS. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Product Registration

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

Tech Support

D-Link®
Building Networks for People

Technical Support

United Kingdom (Mon-Fri)

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

Managed, Smart, & Wireless Switches, or Firewalls 0871 873 0909 (09.00am – 05.30pm)

(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

Technische Unterstützung

Deutschland:	Web:	http://dlink.com
	Telefon:	+49(0)1805 2787 0,14 € pro Minute
	Zeiten:	Mo. –Fr. 09:00 – 17:30 Uhr

Österreich:	Web:	http://dlink.com
	Telefon:	+43(0)820 480084 0,116 € pro Minute
	Zeiten:	Mo. –Fr. 09:00 – 17:30 Uhr

Schweiz:	Web:	http://dlink.com
	Telefon:	+41(0)848 331100 0,08 CHF pro Minute
	Zeiten:	Mo. –Fr. 09:00 – 17:30 Uhr

* Gebühren aus Mobilnetzen und von anderen Providern können abweichen.

Assistance technique

Assistance technique D-Link sur internet : http://dlink.com

Assistance technique D-Link par téléphone : 01 76 54 84 17

Du lundi au vendredi de 9h à 19h (hors jours fériés)

Asistencia Técnica

Asistencia Técnica Telefónica de D-Link: +34 902 30 45 45

0,067 €/min

De Lunes a Viernes de 9:00 a 19:00

http://dlink.com

Supporto tecnico

Supporto Tecnico dal lunedì al venerdì dalle ore 9.00 alle ore 19.00 con orario continuato

Telefono: 02 87366396

http://dlink.com

TECHNISCHE ONDERSTEUNING

Technische ondereuning voor klanten in Nederland:

http://dlink.com / 0107994325 / €0.15per minuut.

Tech Support for customers within Belgium:

http://dlink.com / 028801640 / €0.175per minuut(spitsuren), €0.0875per minuut(daluren)

Technische ondereuning voor klanten in Luxemburg:

http://dlink.com / +32 70 66 06 40

Pomoc techniczna

Telefoniczna pomoc techniczna firmy D-Link: 0 801 022 021

Pomoc techniczna firmy D-Link świadczona przez Internet:
http://dlink.com

Technická podpora

Web: http://dlink.com
E-mail: support@dlink.cz
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

Tel. : 06 1 461-3001
Fax : 06 1 461-3004
Land Line 14,99 HUG/min - Mobile 49.99,HUF/min
email : support@dlink.hu
URL : http://dlink.com

Teknisk Support

D-Link Teknisk Support over Internett: http://dlink.com

D-Link Teknisk telefonsupport: 815 69 755

(Hverdager 08:00 - 17:00)

Teknisk Support

D-Link teknisk support over telefonen: Tlf.: 702 690 40
Normale åbningstider: Hverdage kl. 08:00 - 17:00
D-Link teknisk support på Internettet: http://dlink.com

Teknistä tukea asiakkaille Suomessa:

Internetin kautta : http://dlink.com
Arkisin klo. 09:00 - 18: 00
Numerosta : 0200-555 57

Teknisk Support

D-Link Teknisk Support via Internet: http://dlink.com
D-Link Teknisk Support via telefon: 0770-33 00 35
Vardagar 08:00 - 17:00

Assistência Técnica

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

Τεχνική Υποστήριξη

D-Link Hellas Support Center
http://dlink.com
Καλύμνου 12, 112 51, Αθήνα
Τηλ. 213 0020353 (Δευτέρα - Παρασκευή, 09.00 - 19.00)
Fax. 210 8653172

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

Tehnična podpora

Zahvaljujemo se vam, ker ste izbrali D-Link proizvod. Za vse nadaljnje
informacije, podporo ter navodila za uporabo prosimo obiščite D-Link - ovo
spletno stran www.dlink.eu

http://dlink.com

Suport tehnic

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

Technical Support

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

Tech Support for customers in

Australia:
Tel: 1300-766-868
24/7 Technical Support
Web: http://www.dlink.com.au
E-mail: support@dlink.com.au

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
Monday to Friday 9:00am to 6:00pm
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:
Tel: +27 12 661 2065
    08600 DLINK (for South Africa only)
Monday to Friday 8:30am to 9:00pm South Africa
Time
Web: http://www.d-link.co.za
E-mail: support@d-link.co.za

Saudi Arabia (KSA):
Tel: +966 01 217 0008
Fax: +966 01 217 0009
Saturday to Wednesday 9.30AM to 6.30PM
Thursdays 9.30AM to 2.00 PM
E-mail: Support.sa@dlink-me.com

D-Link Middle East - Dubai, U.A.E.
Plot No. S31102,
Jebel Ali Free Zone South,
P.O.Box 18224, Dubai, U.A.E.
Tel: +971-4-8809022
Fax: +971-4-8809066 / 8809069
Technical Support: +971-4-8809033
General Inquiries: info.me@dlink-me.com
Tech Support: support.me@dlink-me.com

Egypt
1, Makram Ebeid Street - City Lights Building
Nasrcity - Cairo, Egypt
Floor 6, office C2
Tel.: +2 02 26718375 - +2 02 26717280
Technical Support: +2 02 26738470
General Inquiries: info.eg@dlink-me.com
Tech Support: support.eg@dlink-me.com

Kingdom of Saudi Arabia
Office # 84 ,
Al Khaleej Building (Mujamathu Al-Khaleej)
Opp. King Fahd Road, Olaya
Riyadh - Saudi Arabia
Tel: +966 1 217 0008
Technical Support:
+966 1 2170009 / +966 2 6522951
General Inquiries: info.sa@dlink-me.com
Tech Support: support.sa@dlink-me.com

Pakistan
Islamabad Office:
61-A, Jinnah Avenue, Blue Area,
Suite # 11, EBC, Saudi Pak Tower,
Islamabad - Pakistan
Tel.: +92-51-2800397, 2800398
Fax: +92-51-2800399

Karachi Office:
D-147/1, KDA Scheme # 1,
Opposite Mudassir Park, Karsaz Road,
Karachi – Pakistan
Phone: +92-21-34548158, 34326649
Fax: +92-21-4375727
Technical Support: +92-21-34548310, 34305069
General Inquiries: info.pk@dlink-me.com
Tech Support: support.pk@dlink-me.com

D-Link®
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Technical Support

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

Tech Support for customers in

Iran
Unit 5, 5th Floor, No. 20, 17th Alley , Bokharest
St. , Argentine Sq. ,
Tehran IRAN
Postal Code : 1513833817
Tel: +98-21-88880918,19
+98-21-88706653,54
General Inquiries: info.ir@dlink-me.com
Tech Support: support.ir@dlink-me.com

Morocco
M.I.T.C
Route de Nouaceur angle RS et CT 1029
Bureau N° 312 ET 337
Casablanca , Maroc
Phone : +212 663 72 73 24
Email: support.na@dlink-me.com

Lebanon RMA center
Dbayeh/Lebanon
PO Box:901589
Tel: +961 4 54 49 71 Ext:14
Fax: +961 4 54 49 71 Ext:12
Email: taoun@dlink-me.com

Bahrain
Technical Support: +973 1 3332904

Kuwait:
Technical Support: + 965 22453939 / +965
22453949

Türkiye Merkez İrtibat Ofisi
Ayazağa Maslak yolu
Erdebil Cevahir İş Merkezi No: 5/A   Ayazağa /
Maslak İstanbul
Tel: +90 212 2895659
Ücretsiz Müşteri Destek Hattı: 0 800 211 00 65
Web:www.dlink.com.tr
Teknik Destek: support.tr@dlink.com.tr

Israel
רח' המגשימים 20
קרית מטלון, פ"ת 49348
ת.ד. 7060
טלפון: 073-796-2797
אי-מאייל כללי: info@dlink.co.il
אי-מאייל תמיכה: support@dlink.co.il

D-Link®
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Техническая поддержка

Обновления программного обеспечения и документация доступны на Интернет-сайте D-Link. D-Link предоставляет бесплатную поддержку для клиентов в течение гарантийного срока. Клиенты могут обратиться в группу технической поддержки D-Link по телефону или через Интернет.

Техническая поддержка D-Link:
8-800-700-5465

Техническая поддержка через Интернет:
http://www.dlink.ru
e-mail: support@dlink.ru

Офисы

Россия
129626 г. Москва
Графский пер., 14
Тел.: +7 (495) 744-0099

Украина,
04080 г. Киев , ул. Межигорская, 87-А, офис 18
Тел.: +38 (044) 545-64-40
E-mail: kiev@dlink.ru

Беларусь
220114, г. Минск,   проспект Независимости, 169 , БЦ "XXI Век"
Тел.: +375(17) 218-13-65
E-mail: minsk@dlink.ru

Казахстан,
050008, г. Алматы, ул. Курмангазы, 143 (уг. Муканова)
Тел./факс: +7 727 378-55-90
E-mail: almaty@dlink.ru

Армения
0038, г. Ереван, ул. Абеляна, 6/1, 4 этаж
Тел./Факс: + 374 (10) 398-667
E-mail: erevan@dlink.ru

Грузия
Тел./Факс: +995 (593) 98-3210

Lietuva
09120, Vilnius, Žirmūnų 139-303
Tel./faks. +370 (5) 236-3629
E-mail: info@dlink.lt

Eesti
Mustamae 55-314
10621, Tallinn
Tel +372 613 9771
e-mail: info@dlink.ee

Latvija
Mazā nometņu 45/53 (ieeja no Nāras ielas)
LV-1002, Rīga
Tel.:+371 7 618-703
Fax: +371 7 618-706
e-pasts: info@dlink.lv

SOPORTE TÉCNICO

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

D-Link®
Building Networks for People

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®
Building Networks for People

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。

D-Link®
Building Networks for People

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

D-Link®
Building Networks for People

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

D-Link®
Building Networks for People

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

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

400电话工作时间：工作日9:00-19:00；节假日9:00-18:00.

D-Link®

Building Networks for People

Registration Card
All Countries and Regions Excluding USA

Print, type or use block letters.

Your name: Mr./Ms_____

Organization: _____ Dept. _____

Your title at organization: _____

Telephone: _____ Fax:_____

Organization's full address: _____

_____

Country: _____

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

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

(* Applies to adapters only)

Product was purchased from:

Reseller's name: _____

Telephone: _____

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

1. Where and how will the product primarily be used?
☐Home ☐Office ☐Travel ☐Company Business ☐Home Business ☐Personal Use

2. How many employees work at installation site?
☐1 employee ☐2-9 ☐10-49 ☐50-99 ☐100-499 ☐500-999 ☐1000 or more

3. What network protocol(s) does your organization use ?
☐XNS/IPX ☐TCP/IP ☐DECnet ☐Others_____

4. What network operating system(s) does your organization use ?
☐D-Link LANsmart ☐Novell NetWare ☐NetWare Lite ☐SCO Unix/Xenix ☐PC NFS ☐3Com 3+Open ☐Cisco Network
☐Banyan Vines ☐DECnet Pathwork ☐Windows NT ☐Windows 98 ☐Windows 2000/ME ☐Windows XP
☐Others_____

5. What network management program does your organization use ?
☐D-View ☐HP OpenView/Windows ☐HP OpenView/Unix ☐SunNet Manager ☐Novell NMS
☐NetView 6000 ☐Others_____

6. What network medium/media does your organization use ?
☐Fiber-optics ☐Thick coax Ethernet ☐Thin coax Ethernet ☐10BASE-T UTP/STP
☐100BASE-TX ☐1000BASE-T ☐Wireless 802.11b and 802.11g ☐wireless 802.11a ☐Others_____

7. What applications are used on your network?
☐Desktop publishing ☐Spreadsheet ☐Word processing ☐CAD/CAM
☐Database management ☐Accounting ☐Others_____

8. What category best describes your company?
☐Aerospace ☐Engineering ☐Education ☐Finance ☐Hospital ☐Legal ☐Insurance/Real Estate ☐Manufacturing
☐Retail/Chain store/Wholesale ☐Government ☐Transportation/Utilities/Communication ☐VAR
☐System house/company ☐Other_____

9. Would you recommend your D-Link product to a friend?
☐Yes ☐No ☐Don't know yet

10.Your comments on this product?
_____
_____

TO:

D-Link®