D-Link®
Building Networks for People

Hardware Installation Guide

Product Model: **DGS-3700 Series**

Layer 2 Managed Gigabit Ethernet Switch

Release 1.00

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July 2009 P/N 651GS3712015G

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.

VCCI Warning

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

Table of Contents

Preface

The ***DGS-3700 Series Hardware Installation Guide*** is divided into sections that describe the system installation and operating instructions with examples.

Section 1, Introduction – Describes the Switch and its features.

Section 2, Installation – Helps you get started with the basic installation of the Switch and also describes the front panel, rear panel, side panels, power functions and LED indicators of the Switch.

Section 3, Connecting the Switch – Tells how you can connect the Switch to your Ethernet/Fast Ethernet network.

Section 4, Introduction to Switch Management – Introduces bas ic Switch management f eatures, i ncluding password protection, SNMP settings, IP address assignment and connecting devices to the Switch.

Section 5, Introduction to Web-based Switch Management – Describes how to connect to and use the Web-based switch management feature on the Switch.

Appendix A, Technical Specifications – Features the technical specifications of the DGS-3700 Series.

Appendix B, Cable Lengths – Information on cable types and maximum distances.

Appendix C, Glossary – Lists definitions for terms and acronyms used in this document.

Intended Readers

The **DGS-3700 Series Hardware Installation Guide** contains information for setup and management of the Switch. This manual is intended for network managers familiar with network management concepts and terminology.

Typographical Conventions

Convention	Description
[ ]	In a c ommand l ine, s quare br ackets i ndicate a n o ptional ent ry. F or ex ample: [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 your screen. For example: You have mail. Bold font is also used to represent f ilenames, pr ogram nam es and c ommands. F or ex ample: us e t he c opy 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 n ame. N ames of keys o n t he k eyboard have i nitial c apitals. F or example: Click Enter.
Italics	Indicates a window n ame or a f ield. A lso c an i ndicate a variables or p arameter t hat i s replaced with an appropriate word or string. For example: type filename means that you should type the actual filename instead of the word shown in italic.
Menu Name > Menu Option	**Menu Name > Menu Option** Indicates t he m enu structure. **Device > Port > Port Properties** means t he Port P roperties m enu op tion u nder t he Port m enu opt ion t hat i s 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 t he r isk o f bodi ly i njury, e lectrical s hock, fire and dam age t o t he equ ipment, obs erve t he f ollowing precautions.

- Observe a nd f ollow s ervice m arkings. D o no t s ervice an y pr oduct ex cept as ex plained in your s ystem documentation. Opening or removing covers that are marked with the triangular symbol with a lightning bolt may expose you 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:

  The power cable, extension cable, or plug is damaged.

  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 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 t he s ystem get s wet, s ee t he a ppropriate s ection in your t roubleshooting g uide or c ontact your t rained service provider.

- Do n ot push an y objects into the op enings of your system. D oing s o c an c ause f ire or electric s hock 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 hel p a void damaging your s ystem, be s ure t he v oltage on t he p ower s upply is s et t o m atch t he p ower 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

  – 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

  – 48VDC for DGS-3700 Series

- 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 A C-powered option intended for your system, purchase a power cable t hat is approved for use in your country. T he p ower c able must be r ated f or t he pr oduct an d f or t he v oltage and c urrent m arked on t he 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. T hese c ables are equipped with t hree-prong pl ugs t o h elp e nsure pr oper gr ounding. D o n ot 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 ex tension c able and p ower s trip r atings. Make s ure t hat t he t otal ampere r ating of al l pr oducts 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 c onnecting or d isconnecting po wer t o h ot-pluggable p ower s upplies, if of fered w ith your s ystem, observe the following guidelines:

   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 t he f ollowing pr ecautions f or r ack s tability and s afety. Also, r efer t o the r ack i nstallation d ocumentation 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 t he f ull weight of t he rack r ests on t he f loor. I nstall f ront and s ide s tabilizers on a s ingle r ack or f ront 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: All el ectrical wiring must c omply with ap plicable l ocal, r egional or nat ional c odes and practices.

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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.

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.

3. Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads, workbench pads and an antistatic grounding strap.

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<div align="right">

Section 1

</div>

Introduction

Gigabit Ethernet Technology

Switch Description

Features

Ports

Front-Panel Components

LED Indicators

Rear Panel Description

Side Panel Description

Gigabit Combo Ports

The DGS-3700 Series are layer 2 Gigabit Ethernet switches and members of the D-Link Switch family. The following manual describes the installation, maintenance and configurations concerning the DGS-3700-12 and DGS-3700-12G switches. Please take note that if this device was purchased outside of Europe, certain cosmetic differences between the actual switch and images in this document will be apparent to the reader, such as the faceplate and the manual cover.

NOTE: For the remainder of this manual, the DGS-3700-12 and DGS-3700-12G switches will be referred to as simply the Switch or the DGS-3700 Series.

Gigabit Ethernet Technology

Gigabit Ethernet is an extension of IEEE 802.3 Ethernet utilizing the same packet structure, format, and support for CSMA/CD pr otocol, f ull duplex, f low c ontrol, an d m anagement obj ects, but with a t enfold increase in theoretical throughput over 100Mbps Fast Ethernet and a one hundred-fold increase over 10Mbps Ethernet. Since it is compatible with all 10Mbps and 100Mbps Ethernet environments, Gigabit Ethernet provides a straightforward upgrade without wasting a company's existing investment in hardware, software, and trained personnel.

The i ncreased s peed and ex tra bandwidth of fered b y G igabit Ethernet are essential t o c oping with t he ne twork bottlenecks that frequently develop as computers and their busses get faster and more users using applications that generate more traffic. Upgrading key components, such as your backbone and servers to Gigabit Ethernet can greatly improve network response times as well as significantly speed up the traffic between your sub networks.

Gigabit E thernet enables fast optical fiber connections to s upport video conferencing, c omplex imaging, and similar data-intensive applications. Likewise, since data transfers occur 10 times faster than Fast Ethernet, servers outfitted with Gigabit Ethernet NIC's are able to perform 10 times the number of operations in the same amount of time.

In a ddition, t he ph enomenal ba ndwidth d elivered by Gigabit Ethernet i s the most c ost-effective m ethod t o t ake advantage of today and tomorrow's rapidly improving switching and routing internetworking technologies.

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Switch Description

The DGS-3700 Series is equipped with unshielded twisted-pair (UTP) cable ports providing dedicated 10 or 100 Mbps bandwidth. The DGS-3700-12 Switch has 12 UTP ports and Auto MDI-X/MDI-II convertible ports that can be used for uplinking to another switch. These ports can be used for connecting PCs, printers, servers, hubs, routers, switches and other networking devices. The dual speed ports use standard twisted-pair cabling and are ideal for segmenting networks into small, connected sub networks for superior performance. Each 10/100/1000BASE-T port can support up to 200 Mbps of throughput in full-duplex mode.

In addition, the Switch has 4 SFP combo with 10/100/1000BASE-T ports. These four-gigabit combo ports are ideal for connecting to a server or network backbone.

The D GS-3700-12G c ontains t welve 1000Mbps SFP (Small F orm F actor P ortable) por ts, in a ddition t o four 1000BASE-T located on the front panel. The SFP combo ports 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. The SFP ports can also support full-duplex transmissions, have auto-negotiation and can be used with DEM-210 (100FX-LC), DEM-211 (100FX-LC), DE M-310GT (1000BASE-LX), D EM-311GT (1000BASE-SX), D EM-312GT2 (1000BASE-SX), DEM-314GT (1000BASE-LH), DEM-315GT (1000BASE-ZX), DEM-330T/R (WDM Transceiver) and the DEM-331T/R (WDM Transceiver) t ransceivers. These por ts ar e r eferred t o as " combo" por ts. T hat means bot h t he S FP por ts an d t he 1000BASE-T ports are numbered the same and cannot be used simultaneously. Attempting to use the ports simultaneously will cause a link down status for the 1000BASE-T ports. SFP ports will always have priority over these 1000BASE-T ports.

These S witches en able t he net work t o us e s ome o f t he m ost dem anding m ultimedia a nd imaging applications concurrently with other user applications without creating bottlenecks. The built-in console interface can be used to configure the Switch's settings for priority queuing, VLANs, and port trunk groups, port monitoring, and port speed.

Features

- IEEE 802.3 10BASE-T compliant
- IEEE 802.3u 100BASE-TX compliant
- IEEE 802.1p Priority Queues
- IEEE 802.3x flow control in full duplex mode
- IEEE 80 2.3ad Link A ggregation C ontrol Protocol support.
- IEEE 802.1X P ort-based a nd M AC-based A ccess Control
- IEEE 802.1Q VLAN
- IEEE 802.1D Spanning Tree, IEEE 802.1W Rapid Spanning T ree a nd I EEE 8 02.1s Mu ltiple Spanning Tree support
- Access Control List (ACL) support
- Single IP Management support
- Access A uthentication C ontrol utilizing T ACACS, XTACACS and TACACS+
- Dual Image Firmware
- Simple Network Time Protocol support
- MAC Notification support
- Asymmetric VLAN support
- System and Port Utilization support
- System Log Support
- Provides parallel LED display for port status such as link/act, speed, etc.

- Support port-based enable and disable
- Address table: Supports up to 16K MAC addresses per device
- Supports a packet buffer of up to 1 Mbyte
- Supports Port-based VLAN Groups
- Port Trunking with flexible load distribution and fail-over function
- IGMP Snooping support
- SNMP support
- Secure Sockets Layer (SSL) and Secure Shell (SSH) support
- Port Mirroring support
- MIB support for:
- RFC1213 MIB II
- RFC1493 Bridge
- RFC1757 RMON
- RFC1643 Ether-like MIB
- RFC2233 Interface MIB
- Private MIB
- RFC2674 for 802.1p
- IEEE 802.1X MIB
- RS-232 DCE console port for Switch management

- High per formance s witching en gine performs forwarding and f iltering at f ull wire s peed, m aximum 14, 881 packets/sec on each 10Mbps Ethernet port, and maximum 148,810 packet/sec on 100Mbps Fast Ethernet port.

- Full- and hal f-duplex f or bot h 10Mbps a nd 1 00Mbps c onnections. F ull duplex al lows t he s witch port t o 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 filtering

- Non-blocking store and forward switching scheme capability to support rate adaptation and protocol conversion

- Supports by-port Egress/Ingress rate control.

- Supports IP-MAC Port Binding.

- Efficient self-learning and address recognition mechanism enables forwarding rate at wire speed

- Supports STP Loopback Detection

- Safeguard Engine Support

Ports

The following table lists the relative ports that are present within each switch:

DGS-3700-12	DGS-3700-12G
Eight 10/100/1000 BASE-T	Eight SFP ports
Four Combo 10/100/1000Base-TSFP Ports	Four Combo 10/100/1000Base-T/SFP Ports
One female DCE RS-232 DB-9 console port	One female DCE RS-232 DB-9 console port
One 10/100Base-Tx out of band management port	One 10/100Base-Tx out of band management port
One RJ-45 alarm port	One RJ-45 alarm port

The following table lists the features and compatibility for each type of port present on the DGS-3700 Series.

100/1000M dual speed SFP Ports	10/100/1000BASE-T Ports
SFP Transceivers Supported:	Compliant to following standards:
DEM-310GT (1000Base-LX, Single-mode, 10km)	
DEM-311GT (1000ase-SX, Mutli-mode, 500m)	IEEE 802.3 compliance
DEM-312GT2 (1000Base-SX, Multi-mode, 2km)	
DEM-314GT (1000BASE-LH, Single-mode, 50km)	IEEE 802.3u compliance
DEM-315GT (1000BASE-ZX, Single-mode, 80km)	Support Full-Duplex operations
DEM-330T/R (WDM transceiver, Single-Mode 10km)	
DEM-331T/R (WDM transceiver, Single-Mode 40km)	IEEE 80 2.3x Flow Control support f or F ull-Duplex mode, B ack pr essure w hen ha lf dupl ex, H ead-of-line blocking prevention
DEM-210T (100Base-FX, Multi-mode, 2km)	IEEE 802.3ab compliance
DEM-211T (100Base-FX, Single-mode, 15km)	
Compliant to following standards:	
IEEE 802.3z compliance	

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NOTE: The S FP c ombo p orts on t he S witch c annot be us ed s imultaneously with t he corresponding 10 00BASE-T por ts. I f bot h por ts are in us e at t he s ame t ime, t he SFP ports will t ake pr iority over t he c ombo por ts and r ender the 1 000BASE-T por ts inoperable.

NOTE: For c ustomers i nterested in D -View, D -Link C orporation's pr oprietary S NMP management s oftware, g o t o t he D -Link Website (www.dlink.com) and d ownload t he software and manual.

Front-Panel Components

DGS-3700-12

- Eight 10/100/1000BASE-T ports

- Four Combo 1000BASE-T/SFP ports located to the right

- One female DCE RS-232 DB-9 console port

- One 10/100Base-Tx out of band management port

- One RJ-45 alarm port

- LEDs for AC Power, DC Power, Console, Management, Fan, Master, Link/Act/Speed for each port

- Grounding post

- Fan module

- Power module consisting of the following components:

    − AC power connector (power cord provided, supports voltage 100~240 VAC at 50~60 Hz 1.5A Max)

    − AC power Switch

    − DC power connector (supports voltage 48VDC 1.6A Max)

    − DC power switch

CAUTION: The handles on the power and 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.

Figure 1- 1. Front Panel View of the DGS-3700-12 switch

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DES-3700-12G

- Eight 1000M SFP ports

- Four 10/100/1000BASE-T ports located to the right

- One female DCE RS-232 DB-9 console port

- One 10/100Base-Tx out of band management port

- One RJ-45 alarm port

- LEDs for AC Power, DC Power, Console, Management, Fan, Master, Link/Act/Speed for each port

- Grounding post

- Fan module

- Power module consisting of the following components:

  - AC power connector (power cord provided, supports voltage 100~240 VAC at 50~60 Hz 1.5A Max)

  - AC power Switch

  - DC power connector (supports voltage 48VDC 1.6A Max)

  - DC power switch

CAUTION: The handles on the power and 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.
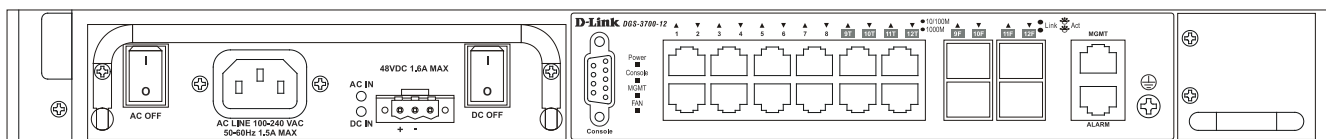

Figure 1- 2. Front Panel View of the DGS-3700-12G switch

LED Indicators

The Switch supports LED indicators for Power, Console, Management, Fan and Port LEDs. The following shows the LED indicators for the DGS-3700 Series along with an explanation of each indicator. LEDs and their corresponding meanings are displayed below.
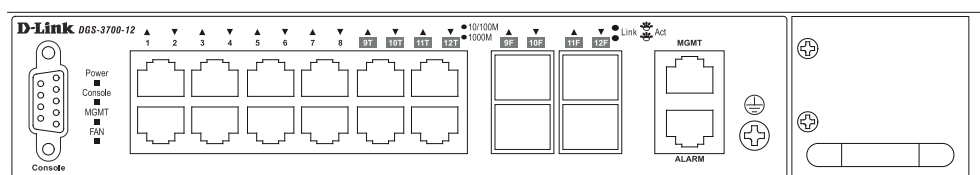

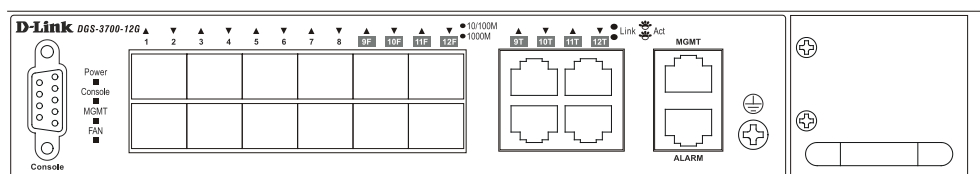**Figure 1- 3. LED Indicators on DGS-3700-12 switch**

Figure 1- 4. LED Indicators on DGS-3700-12G switch

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LED indicators for DGS-3700 Series

Location	LED Indicative	Color	Status	Description
Per Device	**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
	Management	Green	Solid Light	Link established
			Blinking Green	Ethernet activity
			Light Off	No cable connected
	Fan Error	Red	Solid Light	When the system fan fails or the fan module is removed
			Light off	When the system fan is functioning properly
LED Per 10/100/1000 Mbps Port	**Link/Act**	Green	Solid Light	When there is a secure connection (or link) to a 1 00Mbps E thernet de vice on any of the ports
			Blinking Light	Link is in progress
		Amber	Solid Light	When there is a solid reception for 10/100M link.
			Blinking Light	When there is a reception or transmission (i.e. Activity—Act) of data occurring at a Fast Ethernet connected port
		Off	Light off	No link
SFP port (100/1000M)	**Link/Act**	Green	Solid Light	When there is a secure connection (or link) t o 1000 Mbps E thernet de vice at any of the ports
			Blinking	When there i s a r eception or transmission (i.e. Activity – Act) of data occurring at a port
		Amber	Solid Light	When there is a secure connection (or link) to 100Mbps Ethernet device at any of the ports
			Blinking	When t here i s a r eception or transmission (i.e. Activity – Act) of data occurring at a port
		Off	Light off	No link

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Rear Panel Description

The DGS-3700 Series rear panel is shown below.

Figure 1- 5. Rear panel view of the DGS-3700 Series

Side Panel Description

The left hand panel of the Switch contains large heat vents. The heat vents are used 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. The right-hand side panel of the Switch contains three system fans along with ventilation vents for these fans.
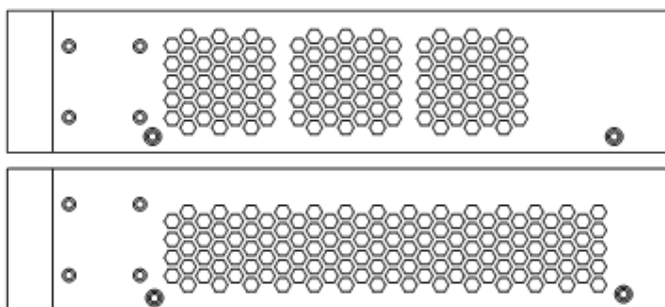
Figure 1- 6. Side panels of the DGS-3700 Series

Gigabit Combo Ports

In addition to the 10/100/1000 Mbps ports, the Switch features Gigabit Ethernet Combo ports. These ports are 1000BASE-T copper ports (provided) and SFP ports (optional). See the diagrams below to view the SFP port modules being plugged into the Switch. Please note that although these front panel modules can be used simultaneously. At the same time, only one copper port or one SFP port can link up for each combo port. The SFP port will always have the highest priority.
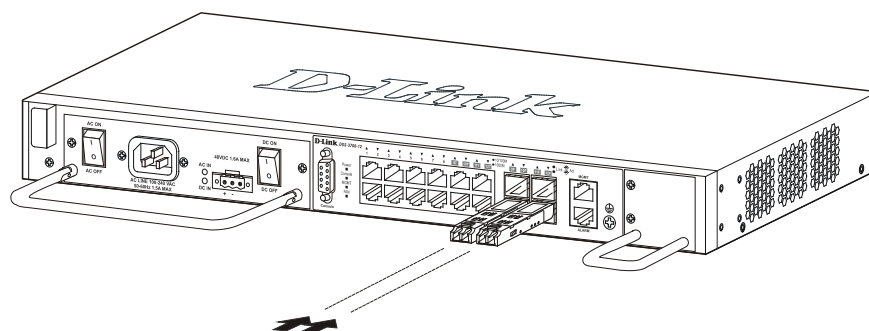
Figure 1- 7. Inserting the SFP modules into the DGS-3700-12

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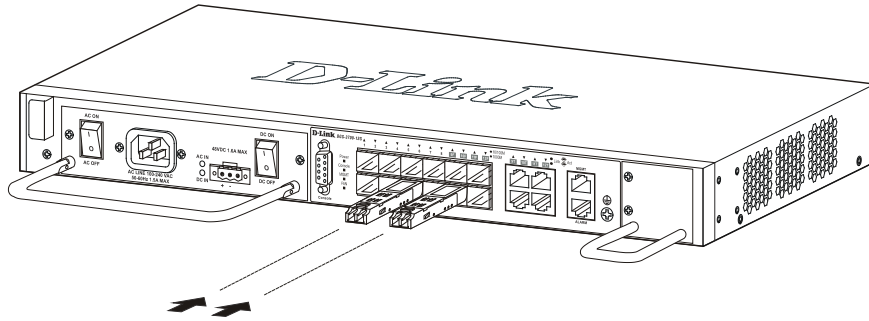
Figure 1- 8. Inserting the SFP modules into the DGS-3700-12G
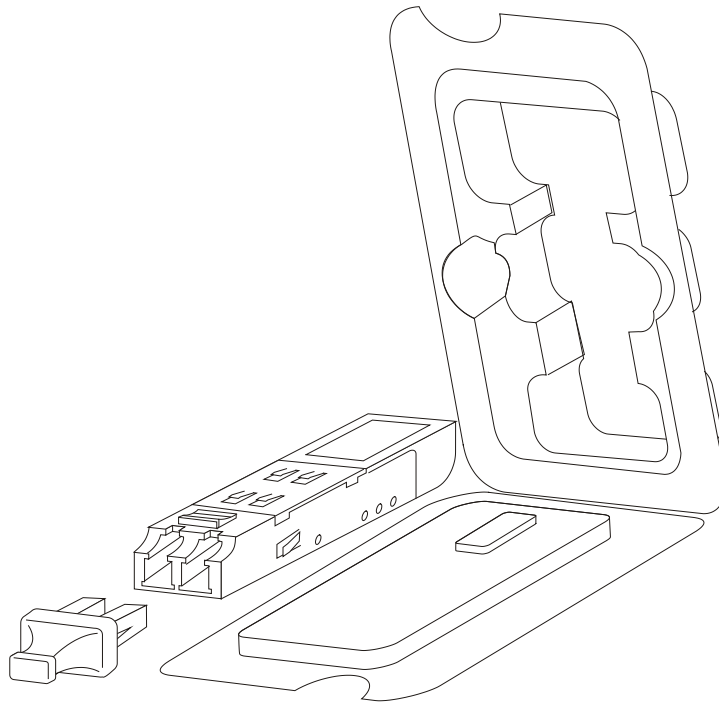
Figure 1- 9. Installing the SFP Module

The A C po wer c onnector i s a s tandard t hree-pronged c onnector t hat s upports t he p ower c ord. Plug-in t he f emale 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 s etting to any supply voltage in the range from 100 ~ 240 VAC at 50 ~ 6 0 Hz 1.5A Max.

The front panel also includes an outlet for an optional external DC power supply. See the installation instructions in Section 2 for details.

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<div style="text-align:right">**Section 2**</div>

Installation

Package Contents

Before You Connect to the Network

Ventilation Requirements

Installing the Switch without the Rack

Installing the Switch in a Rack

Mounting the Switch in a Standard 19" Rack

Installing/Removing the Power, Fan or Dust Module

Power On (AC Power)

Power Failure (AC Power)

Connecting DC Power to the DGS-3700 Series

Package Contents

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

- One DGS-3700-12/DGS-3700-12G stand-alone switch
- One AC power cord
- Registration card
- Mounting kit (two brackets and screws)
- Four rubber feet with adhesive backing
- RS-232 console cable

If any item is found 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 6.6 lb (3 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 cushions help protect the casing from scratches and prevent it from scratching other surfaces.

<div style="text-align:center">9</div>

Ventilation Requirements

The figure below shows the ventilation requirements of the DGS-3700 Series. The sufficient spacing must be reserved at the ventilation openings to ensure the normal working of ventilation. After various cables have been connected, they should be arranged into bundles or placed on the cabling rack to avoid blocking the air inlets.
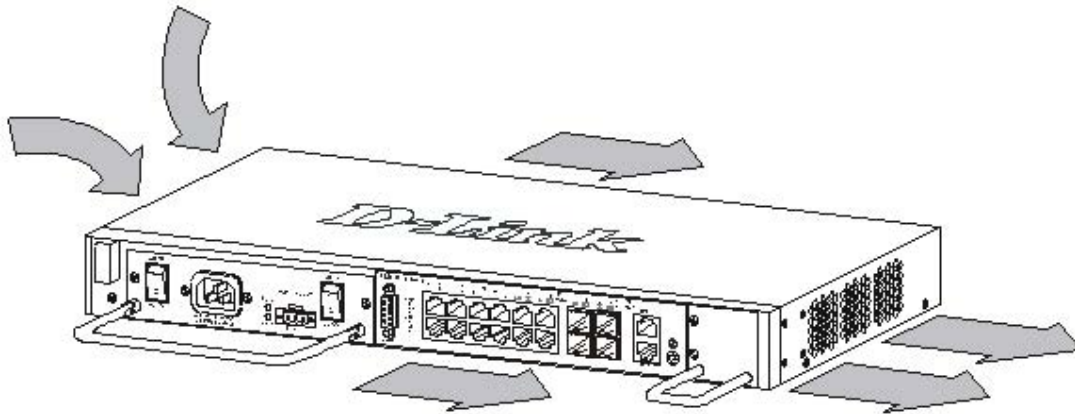
Figure 2- 1 Ventilation of the DGS-3700 Series

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.
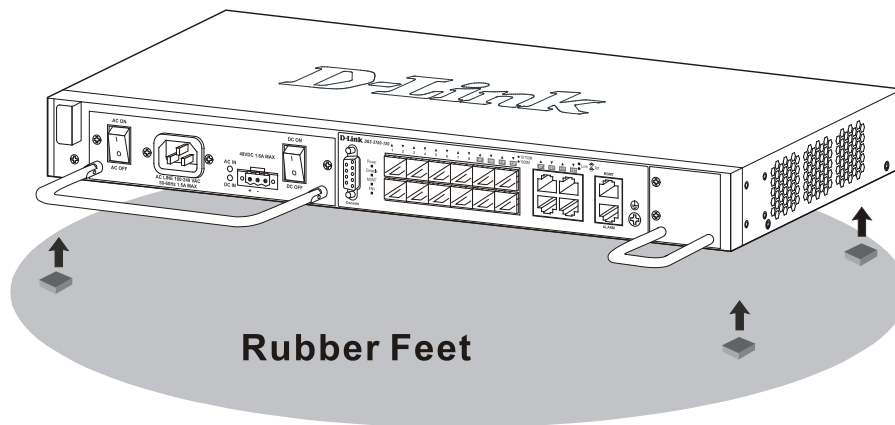
Figure 2- 2. Preparing the Switch for installation on a desktop or shelf

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Installing the Switch in a Rack

The Switch can be mounted in a standard 19" rack. Use the following diagrams to guide you.
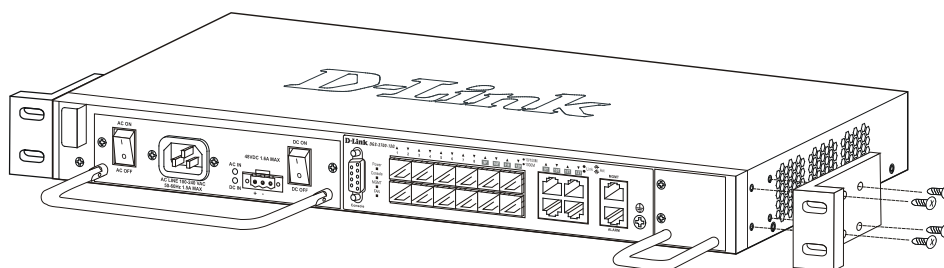
Figure 2- 3. Fasten mounting brackets to the Switch

Fasten the mounting brackets to the Switch using the screws provided. With the brackets attached securely, you can mount the Switch in a standard rack as shown in Figure 2-3 below.

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 t o t ip o ver, potentially r esulting i n bo dily injury under c ertain c ircumstances. T herefore, al ways 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 i ts 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.
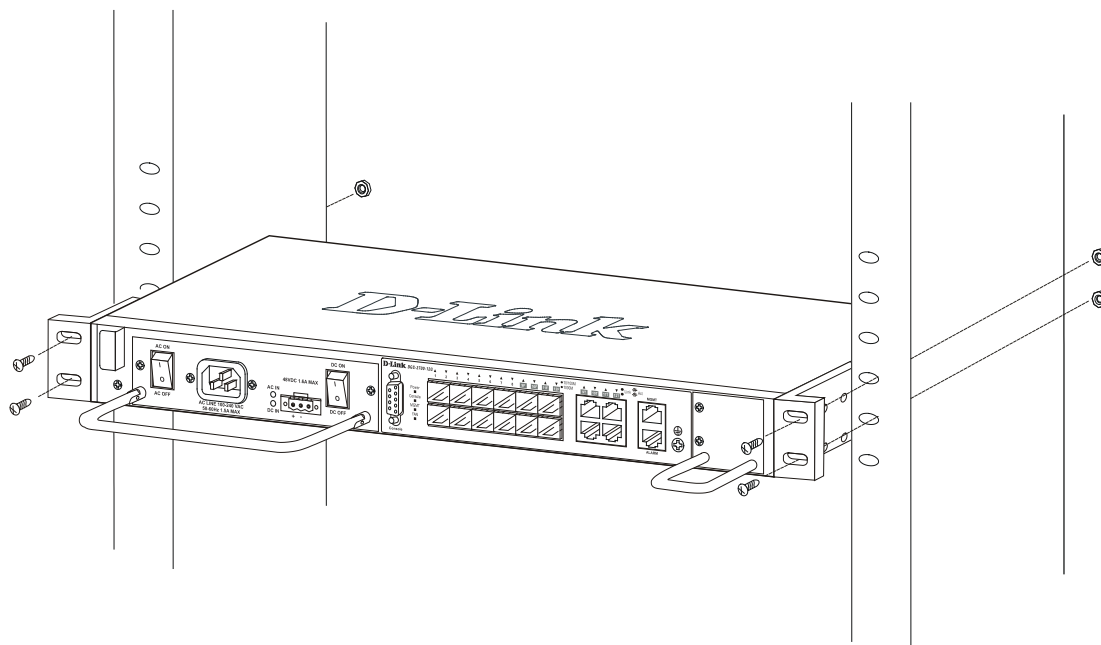
Figure 2- 4. Installing the Switch in a rack

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Installing/Removing the Dust Filter, Power or Fan Modules

There are three modules available for the Switch, dust, power and fan modules. Power and fan modules have the handles for users to replace the modules easily. If installing or removing the power module, make sure to unplug the Switch before installing or removing the module. To install the any of three modules, slide it in to the available slot at the front of the Switch until it reaches the back. Gently, but firmly push in on the module to secure it to the Switch. The module should fit snugly into the corresponding receptors.
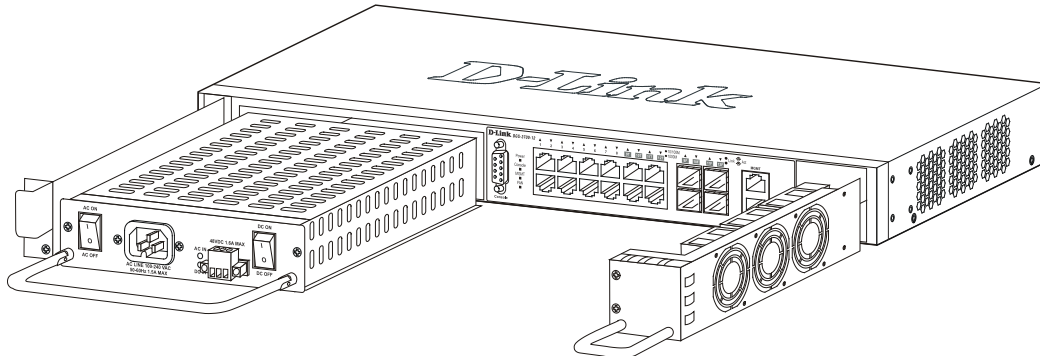
Figure 2- 5 Inserting/Removing the modules

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

CAUTION: The handles on the power and 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 (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 and turn the AC power switch on.

After the Switch is powered on, the LED indicators will momentarily blink and the fan will complete a check. This blinking of the LED indicators represents a reset of the system.

Power Failure (AC Power)

As a precaution for AC power supply units, in the event of a power failure, unplug the Switch. When power has resumed, plug the Switch back in and turn the AC power switch on.

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Connecting DC Power to the DGS-3700 Series

Follow the instructions below to connect the DC power supply of the Switch to the DC power source.

48VDC 1.6A MAX
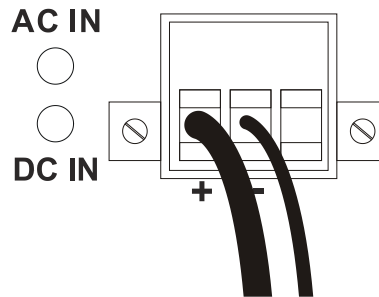
Figure 2- 6. Power connections attached to contacts after assembly

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.

   - The black negative pole (-) connects to the **-48V** contact.
   - The red positive pole (+) connects to the **-48V Return** contact.
   - 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: T his eq uipment m ust be i nstalled and maintained b y qualified s ervice personnel only.

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<div align="right">

┌─────────────────────────┐
│ **Section 3** │
└─────────────────────────┘

</div>

Connecting the Switch

Switch to End Node

Switch to Hub or Switch

Connecting To Network Backbone or Server

> **NOTE:** All high-performance NWay 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/Fast Ethernet Network Interface Card (NIC) and most routers.

An end node can be connected to the Switch via a twisted-pair Category 3, 4, or 5 UTP/STP cable. The end node should be connected to any of the ports of the Switch.
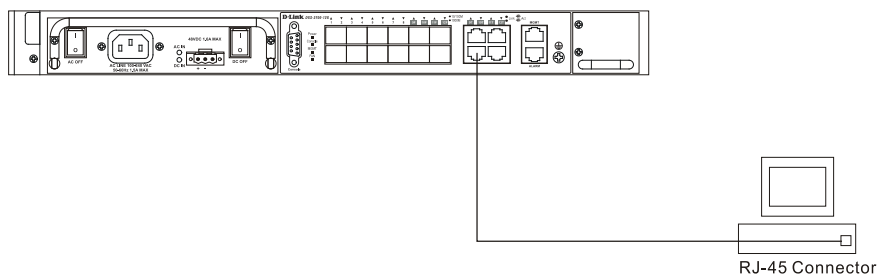
Figure 3- 1. The Switch connected to an end node

The Link/Act LEDs for each UTP port will light green or amber 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 or 5 UTP/STP cable.

- A 100BASE-TX hub or switch can be connected to the Switch via a twisted -pair Category 5 UTP/STP cable.

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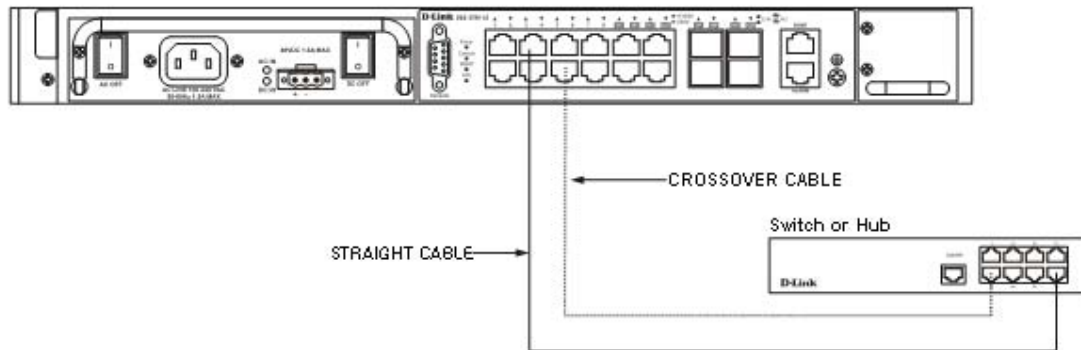
Figure 3- 2. The Switch connected to a normal (non-Uplink) port on a hub or switch using a straight or crossover cable

Connecting To Network Backbone or Server

The SFP combo ports are ideal for linking to a network backbone or server. 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 100Mbps or 1000Mbps in full duplex mode.

Connections to the Gigabit Ethernet ports are made using 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.
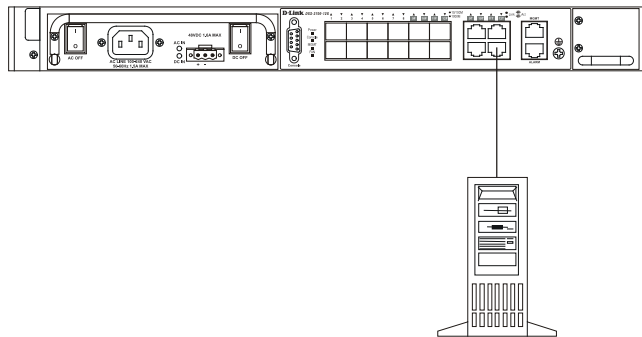
Figure 3- 3. Connecting the Switch to a Server

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Introduction to Switch Management

Management Options

Web-based Management Interface

SNMP-Based Management

Connecting the Console Port (RS-232 DCE)

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 or RJ-45 management 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 Netscape Navigator (version 6.2.3 and higher) or Microsoft® Internet Explorer (version 6.0).

SNMP-based Management

You can manage the Switch 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.

Connecting the Console Port (RS-232 DCE)

The Switch provides an RS-232 serial port that enables a connection to a computer or terminal for monitoring and configuring the Switch. This port is a female DB-9 connector, implemented as a data communications equipment (DCE) connection.

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

A terminal or a computer with both a serial port and the ability to emulate a terminal.

A null modem or Parallel RS-232 cable with a male DB-9 connector for the console port on the Switch.

To connect a terminal to the console port:

1. Connect the male connector of the RS-232 cable directly to the console port on the Switch, and tighten the captive retaining screws.

2. Connect the other end of the cable to a terminal or to the serial connector of a computer running terminal emulation software. Set the terminal emulation software as follows:

    2.1 Select the appropriate serial port (COM port 1 or COM port 2).

    2.2 Set the data rate to **115200 baud**.

    2.3 Set the data format to **8 data bits**, **1 stop bit**, and **no parity**.

    2.4 Set flow control to **none**.

    2.5 Under **Properties**, select **VT100** for Emulation mode.

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2.6 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.

3. 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.

4. After the boot sequence completes, the console login screen displays.

5. 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.

6. 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 ***DGS-3700 Series CLI Manual*** on the documentation CD for a list of all commands and additional information on using the CLI.

7. When you have completed your tasks, exit the session with the logout command or close the emulator program.

8. 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.

```
                DGS-3700-12 Gigabit Ethernet Switch
                      Command Line Interface


                     Firmware: Build 1.00.B031
        Copyright(C) 2009 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 **DGS-3700-12:5#** shown below:

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

```
                    DGS-3700-12 Gigabit Ethernet Switch
                          Command Line Interface


                        Firmware: Build 1.00.B031
           Copyright(C) 2009 D-Link Corporation. All rights reserved.


Username:
PassWord:


DGS-3700-12:5#
```

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 us er ac counts. O nce l ogged i n us ing a pr edefined adm inistrator-level us er nam e, us ers w ill ha ve privileged access to the Switch's management software.

After your i nitial l ogin, def ine ne w passwords f or bot h def ault user nam es t o pr event un authorized access t o t he 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.

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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".

```
DGS-3700-12:5# create account admin newmanager
Command: create account admin newmanager

Enter a case-sensitive new password: ********
Enter the new password again for confirmation: ********

Success.


DGS-3700-12:5#
```

Figure 4- 3. New administrator level account

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.

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. 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

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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 r eboot (someone ac cidentally t urned O FF t he S witch), or l ess s erious l ike a por t s tatus c hange. The S witch 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.

MIBs

The Switch in the Management Information Base (MIB) stores management and counter information. The Switch uses the s tandard MIB-II Management I nformation B ase m odule. C onsequently, v alues f or MI B obj ects c an be r etrieved from any SNMP-based network management software. In addition to the standard MIB-II, the Switch also supports its own pr oprietary ent erprise MIB as an ex tended Management Information Base. Specifying the MIB O bject 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 T CP/IP application (for ex ample B OOTP, TFTP). The S witch's def ault IP addr ess i s 10.90.90.90. Y ou c an 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.

```
DGS-3700-12:5#show switch
Command: show switch

Device Type        : DGS-3700-12 Gigabit Ethernet Switch
MAC Address        : 00-01-02-03-04-00
IP Address         : 10.24.73.21 (Manual)
VLAN Name          : default
Subnet Mask        : 255.0.0.0
Default Gateway    : 0.0.0.0
Boot PROM Version  : Build 1.00.B002
Firmware Version   : Build 1.00.B031
Hardware Version   : A1
System Name        :
System Location    :
System Contact     :
Spanning Tree      : Disabled
GVRP               : Disabled
IGMP Snooping      : Disabled
MLD Snooping       : Disabled
TELNET             : Enabled (TCP 23)
WEB                : Enabled (TCP 80)
SNMP               : Disabled
SSL Status         : Disabled
SSH Status         : Disabled
802.1x             : 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 **Switch Information (Basic Settings)** window on the **Configuration** menu.

The IP addr ess f or the Switch must be set before it can be m anaged with the Web-based manager. The S witch 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

<div align="center">

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

</div>

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 c an en ter **config ipif System ipaddress xxx.xxx.xxx.xxx/z.** Where t he x 's r epresent t he I P 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.

```
DGS-3700-12:5#config ipif System ipaddress 10.24.73.21/255.0.0.0
Command: config ipif System ipaddress 10.24.73.21/8


Success.


DGS-3700-12:5#
```

<div align="center">

Figure 4- 5. Assigning the Switch an IP Address

</div>

In the above example, the Switch was assigned an IP address of 10.24.73.21 with a subnet mask of 255.0.0.0. (the CIDR form was used to set the address (10.24.73.21/8). 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 Web-based management.

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Section 5

</div>

Web-based Switch Configuration

Introduction

Login to Web Manager

Web-based User Interface

Web Pages

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 Opera, Netscape Navigator/Communicator, 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.
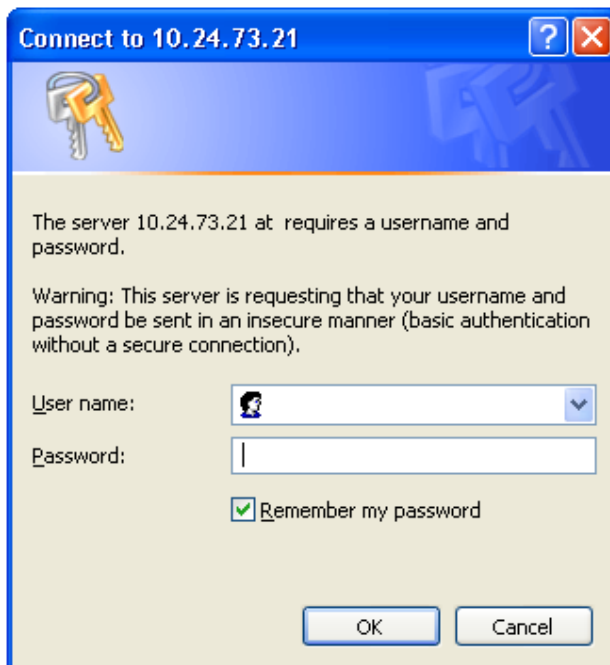
Figure 5- 1. Enter Network Password dialog

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Enter "admin" in both the User Name and Password fields 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 us er i nterface pr ovides ac cess t o v arious S witch c onfiguration and m anagement w indows, allows y ou to v iew 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.
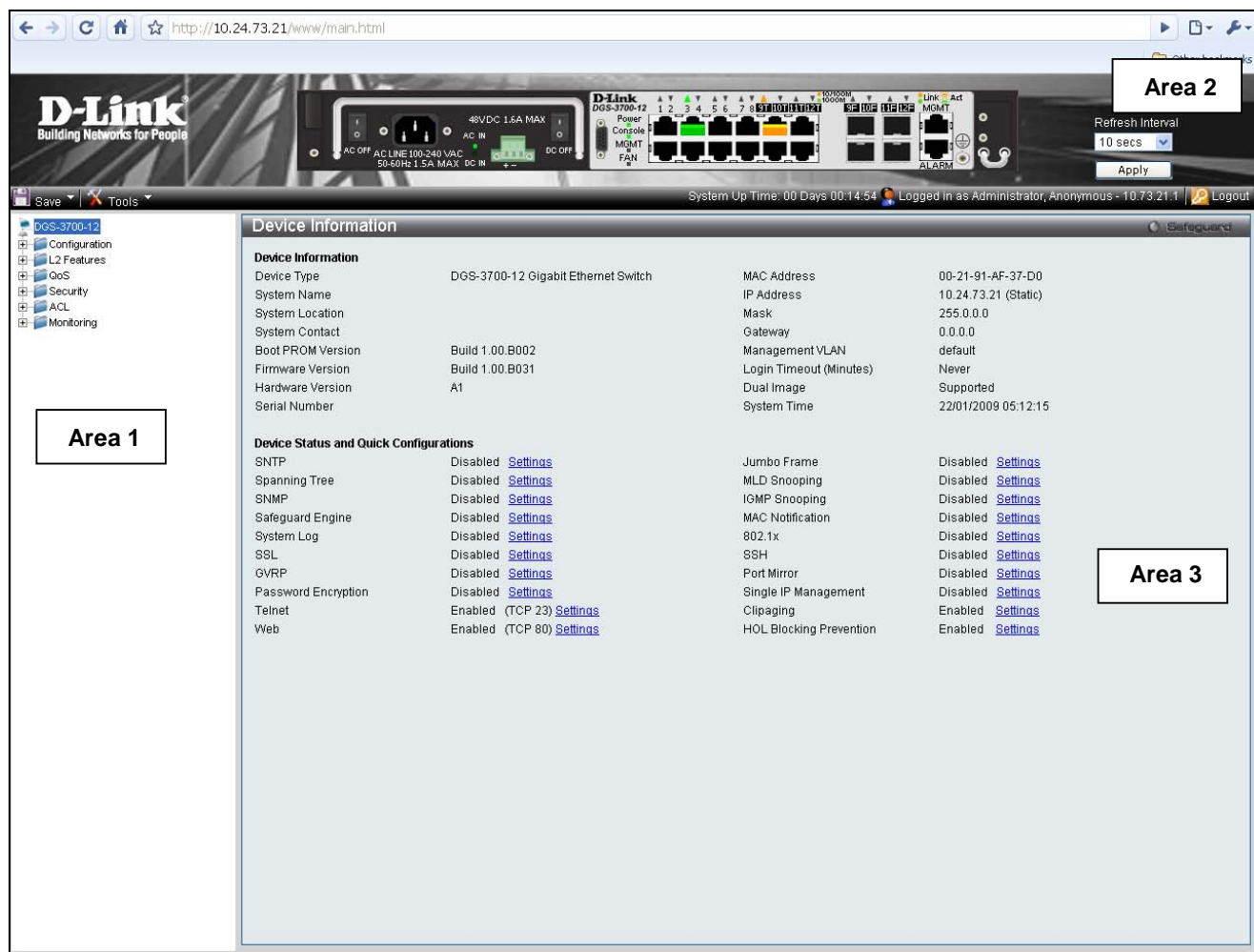
Figure 5- 2. Main Web-Manager page

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 gr aphical near r eal-time i mage of t he front pan el of t he Switch. T his ar ea d isplays the Switch's ports a nd ex pansion m odules, s howing p ort ac tivity, d uplex m ode, or f low c ontrol, depending on the specified mode. Various areas of t he gr aphic can be selected for performing management functions, i ncluding 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.

Below is a list and description of the main folders available in the web interface:

Configuration – A detailed discussion about configuring some of the basic functions of the Switch, accessing the System i nformation, S erial P ort Settings, I P Address, I nterface Settings, I Pv6 R oute S ettings, I Pv6 N eighbor Settings, Port C onfiguration, S tatic A RP Settings, U ser A ccounts, S ystem Log Configuration, System S everity Settings, D HCP R elay, O ut of Band Management S ettings, E xternal Alarm Settings, D HCP A uto C onfiguration Settings, MAC A ddress A ging T ime, Web S ettings, T elnet S ettings, Password E ncryption, C lipaging Settings, Firmware Information, Dual Configuration Settings, Ping Test, Local Loopback Port Settings, VLAN Counter Settings, SNTP Settings, MAC Notification Settings, SNMP Settings, Time Range Settings, sFlow, Single IP Management and DDM.

L2 Features – A discussion of the Layer 2 features on the Switch, including Jumbo Frame, 802.1Q VLAN, Subnet VLAN, QinQ, 802.1v Protocol VLAN, RSPAN Settings, GVRP Settings, GVRP Global Settings, MAC-based VLAN Settings, PVID A uto A ssign Settings, P ort Trunking, LA CP P ort S ettings, Traffic Segmentation, B PDU T unneling Settings, IGMP Snooping, MLD Snooping, Port Mirror, Loopback Detection Settings, Spanning Tree, Forwarding & Filtering, LLDP, CFM and Ethernet OAM.

QoS – Features i nformation on Switch Q oS f unctions, i ncluding H OL B locking P revention, B andwidth C ontrol, Traffic Control, 802.1P Default Priority, 802.1P User Priority, QoS Scheduling Mechanism, QoS Scheduling, In Band Manage Settings and SRED.

Security – Features information on Switch security functions, including Safeguard Engine, Trusted Host, IP-MAC-Port B inding, Port S ecurity, DHCP S erver S creening, 802.1X, S SL S ettings, SSH, Access Authentication C ontrol, MAC-based Access Control, Web Authentication, and NetBIOS Filtering Settings.

ACL – Discussion on the ACL functions of the Switch, including ACL Configuration Wizard, Access Profile List, CPU Access Profile List, ACL Finder, and ACL Flow Meter.

Monitoring – Features information about the monitoring functions on the Switch including, Cable Diagnostic, CPU Utilization, Port U tilization, P acket S ize, Mem ory Utilization, Packets, E rrors, P ort A ccess C ontrol, Browse A RP Table, Browse VLAN, IGMP Snooping, MLD Snooping, Browse Session Table, CFM, MAC Address Table, Browse VLAN Counter Statistics, Ethernet OAM and Historical Counter & Utilization and System Log.

NOTE: Be s ure t o c onfigure t he us er n ame and pa ssword i n t he U ser Accounts window before connecting the Switch to the greater network.

Appendix A

Technical Specifications

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 Gibabit Ethernet. (SFP "Mini GBIC") IEEE 802.1D/S/W Spanning Tree 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 Support: DEM-310GT (1000BASE-LX) DEM-311GT (1000BASE-SX) DEM-314GT (1000BASE-LH) DEM-315GT (1000BASE-ZX) DEM-312GT2 (1000BASE-LX) DEM-210 (Single Mode 100BASE-FX) DEM-211 (Multi Mode 100BASE-FX) WDM Transceivers Supported: DEM-330T (TX-1550/RX-1310nm), up to 10km, Single-Mode DEM-330R (TX-1310/RX-1550nm), up to 10km, Single-Mode DEM-331T (TX-1550/RX-1310nm), up to 40km, Single-Mode DEM-331R (TX-1310/RX-1550nm), up to 40km, Single-Mode
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	DGS-3700-12 8 1 0/100/1000 B ASE-T Po rts, 4 Combo 1 0/100/1000Base-T/SFP Ports DGS-3700-12G 8 SFP Ports, 4 Combo 10/100/1000Base-T/SFP Ports

Physical and Environmental	
Internal Power Supply	Revovable power module AC power Input: 100~240V, AC/1.5A(Max), 50~60Hz DC power Input: 48 V,DC/ 1.6A (Max) DC Output: 12V, 5A (Max)
Max Power Consumption	**DGS-3700-12** – AC-39W/DC-40.7W **DGS-3700-12G** – AC-31.8W/DC-33W
Operating Temperature	0 – 65°C
Storage Temperature	-40 – 70°C
Humidity	Operation Relative Humidity: 10 – 90% non-condensing. Storage Relative Humidity: 5 – 90% non-condensing.
Dimensions	**DGS-3700-12** – W441xD207.1xH44mm **DGS-3700-12G** – W441xD207.1xH44mm
Weight	**DGS-3700-12** – 3.7kg **DGS-3700-12G** – 3.9kg
EMI	CE Class A, FCC Class A, C-Tick, VCCI
Safety	CB, UL

Performance

Feature	Detailed Description
Wire speed on all GE ports	Full-wire speed (full-duplex) operation on all GE ports
Forwarding Mode	Store and Forward
Switching Capacity	24 Gbps
64 Byte s ystem pac ket forwarding rate	17.86 million 64-byte packets per second.
Priority Queues	8 Priority Queues per port
MAC Address Table	Supports 16K MAC address
Packet Buffer	1 MB per device
Packet Filtering/Forward Rate	14,881 pps (10M port) 148,810 pps (100M port) 1,488,100 pps (1 Gbps port)

<div style="text-align: right;">

Appendix B

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Cable Lengths

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

Standard	Media Type	Maximum Distance
SFP	1000BASE-LX, Single-mode fiber module	10km
	1000BASE-SX, Multi-mode fiber module	500m
	1000BASE-LHX, Single-mode fiber module	40km
	1000BASE-ZX, Single-mode fiber module	80km
1000BASE-T	Category 5e UTP Cable	100m
100BASE-TX	Category 5 and Category 5e UTP Cable (100 Mbps)	100m
10BASE-T	Category 3, 4, 5, and 5e UTP Cable (10 Mbps)	100m

Glossary

1000BASE-SX: A short laser wavelength on multimode fiber optic cable for a maximum length of 500 meters

1000BASE-LX: A long wavelength for a "long haul" fiber optic cable for a maximum length of 10 kilometers

1000BASE-T: 1000Mbps Ethernet implementation over Category 5E cable.

100BASE-FX: 100Mbps Ethernet implementation over fiber.

100BASE-TX: 100Mbps Ethernet implementation over Category 5 and Type 1 Twisted Pair cabling.

10BASE-T: The IEEE 802.3 specification for Ethernet over Unshielded Twisted Pair (UTP) cabling.

aging: The automatic removal of dynamic entries from the Switch Database which have timed-out and are no longer valid.

ATM: Asynchronous Transfer Mode. A connection oriented transmission protocol based on fixed length cells (packets). ATM is designed to carry a complete range of user traffic, including voice, data and video signals.

auto-negotiation: A feature on a port, which allows it to advertise its capabilities for speed, duplex and flow control. When connected to an end station that also supports auto-negotiation, the link can self-detect its optimum operating setup.

backbone port: A port which d oes not learn de vice addr esses, a nd which r eceives al l f rames w ith a n unk nown address. B ackbone por ts ar e normally us ed to connect the S witch t o t he backbone of y our network. Note that backbone ports were formerly known as designated downlink ports.

backbone: The part of a network used as the primary path for transporting traffic between network segments.

bandwidth: Information capacity, measured in bits per second that a channel can transmit. The bandwidth of Ethernet is 10Mbps, the bandwidth of Fast Ethernet is 100Mbps.

baud rate: The switching speed of a line. Also known as line speed between network segments.

BOOTP: The BOOTP protocol allows you to automatically map an IP address to a given MAC address each time a device is started. In addition, the protocol can assign the subnet mask and default gateway to a device.

bridge: A device t hat interconnects l ocal or r emote net works no m atter w hat hi gher-level pr otocols ar e i nvolved. Bridges form a single logical network, centralizing network administration.

broadcast: A message sent to all destination devices on the network.

broadcast storm: Multiple simultaneous broadcasts that typically absorb available network bandwidth and can cause network failure.

console port: The port on the Switch accepting a terminal or modem connector. It changes the parallel arrangement of data within computers to the serial form used on data transmission links. This port is most often used for dedicated local management.

CSMA/CD: Channel access method used by Ethernet and IEEE 802.3 standards in which devices transmit only after finding the data channel clear for some period of time. When two devices transmit simultaneously, a collision occurs and the colliding devices delay their retransmissions for a random amount of time.

data center switching: The point of aggregation w ithin a corporate network where a switch provides high-performance access to server farms, a high-speed backbone connection and a control point for network management and security.

Ethernet: A LAN specification developed jointly by Xerox, Intel and Digital Equipment Corporation. Ethernet networks operate at 10Mbps using CSMA/CD to run over cabling.

Fast Ethernet: 100Mbps technology based on the Ethernet/CMSA/CD network access method.

Flow Control: (IEEE 802.3z) A m eans of h olding packets bac k at t he transmit por t of t he c onnected end s tation. Prevents packet loss at a congested switch port.

forwarding: The process of sending a packet toward its destination by an internetworking device.

full duplex: A system that allows packets to be transmitted and received at the same time and, in effect, doubles the potential throughput of a link.

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half duplex: A system that allows packets to be transmitted and received, but not at the same time. Contrast with full duplex.

IP address: Internet Protocol address. A unique identifier for a device attached to a network using TCP/IP. The address is written as four octets separated with full-stops (periods), and is made up of a network section, an optional subnet section and a host section.

IPX: Internetwork Packet Exchange. A protocol allowing communication in a NetWare network.

LAN - Local Area Network: A network of connected computing resources (such as PCs, printers, servers) covering a relatively small geographic area (usually not larger than a floor or building). Characterized by high data rates and low error rates.

latency: The delay between the time a device receives a packet and the time the packet is forwarded out of the destination port.

line speed: See baud rate.

main port: The port in a resilient link that carries data traffic in normal operating conditions.

MDI - Medium Dependent Interface: An Ethernet port connection where the transmitter of one device is connected to the receiver of another device.

MDI-X - Medium Dependent Interface Cross-over: An Ethernet port connection where the internal transmit and receive lines are crossed.

MIB - Management Information Base: Stores a device's management characteristics and parameters. MIBs are used by the Simple Network Management Protocol (SNMP) to contain attributes of their managed systems. The Switch contains its own internal MIB.

multicast: Single packets copied to a specific subset of network addresses. These addresses are specified in the destination-address field of the packet.

protocol: A set of rules for communication between devices on a network. The rules dictate format, timing, sequencing and error control.

resilient link: A pair of ports that can be configured so that one will take over data transmission should the other fail. See also main port and standby port.

RJ-45: Standard 8-wire connectors for IEEE 802.3 10BASE-T networks.

RMON: Remote Monitoring. A subset of SNMP MIB II that allows monitoring and management capabilities by addressing up to ten different groups of information.

RPS - Redundant Power System: A device that provides a backup source of power when connected to the Switch.

server farm: A cluster of servers in a centralized location serving a large user population.

SLIP - Serial Line Internet Protocol: A protocol, which allows IP to run over a serial line connection.

SNMP - Simple Network Management Protocol: A protocol originally designed to be used in managing TCP/IP internets. SNMP is presently implemented on a wide range of computers and networking equipment and may be used to manage many aspects of network and end station operation.

Spanning Tree Protocol (STP): A bridge-based system for providing fault tolerance on networks. STP works by allowing you to implement parallel paths for network traffic, and ensure that redundant paths are disabled when the main paths are operational and enabled if the main paths fail.

stack: A group of network devices that are integrated to form a single logical device.

standby port: The port in a resilient link that will take over data transmission if the main port in the link fails.

switch: A device, which filters, forwards and floods packets based on the packet's destination address. The switch learns the addresses associated with each switch port and builds tables based on this information to be used for the switching decision.

TCP/IP: A layered set of communications protocols providing Telnet terminal emulation, FTP file transfer, and other services for communication among a wide range of computer equipment.

Telnet: A TCP/IP application protocol that provides virtual terminal service, letting a user log in to another computer system and access a host as if the user were connected directly to the host.

TFTP - Trivial File Transfer Protocol: Allows you to transfer files (such as software upgrades) from a remote device using your switch's local management capabilities.

UDP - User Datagram Protocol: An Internet standard protocol that allows an application program on one device to send a datagram to an application program on another device.

VLAN - Virtual LAN: A group of location- and topology-independent devices that communicate as if they are on a common physical LAN.

VLT - Virtual LAN Trunk: A Switch-to-Switch link which carries traffic for all the VLANs on each Switch.

VT100: A type of terminal that uses ASCII characters. VT100 screens have a text-based appearance.

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.

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

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

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

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

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

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

Product Registration

<div style="border:2px solid black">

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.

</div>

LIMITED WARRANTY (Exclude USA, Europe, China and Taiwan)

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

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

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

D-Link's sole obligation shall be to repair or replace the defective Hardware at no charge to the original owner. Such repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement Hardware need not be new or of an identical make, model or part; D-Link may in its discretion replace the defective Hardware (or any part thereof) with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. The Warranty Period shall extend for an additional ninety (90) days after any repaired or replaced Hardware is delivered. If a material defect is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to repair or replace the defective Hardware, the price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware (or part thereof) that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

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

What You Must Do For Warranty Service:

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

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

<u>Submitting A Claim.</u> Any claim under this limited warranty must be submitted in writing before the end of the Warranty Period to an Authorized D-Link Service Office. The claim must include a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same. The original product owner must obtain a Return Material Authorization (RMA) number from the Authorized D-Link Service Office and, if requested, provide written proof of purchase of the product (such as a copy of the dated purchase invoice for the product) before the warranty service is provided. After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. The packaged product shall be insured and shipped to Authorized D-Link Service Office with all shipping costs prepaid. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link's reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

What Is Not Covered:

This limited warranty provided by D-Link <u>does not cover:</u>

Products that have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed;

Initial installation, installation and removal of the product for repair, and shipping costs;

Operational adjustments covered in the operating manual for the product, and normal maintenance;

Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; and

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

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

Limitation of Liability: TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, LOSS OF

INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NON-CONFORMING PRODUCT.

GOVERNING LAW: This Limited Warranty shall be governed by the laws of the state of Singapore.

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FCC Warning
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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:

877-354-6560

D-Link Technical Support over the Internet:

http://support.dlink.com

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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://www.dlink.co.uk

ftp://ftp.dlink.co.uk

Technische Unterstützung

Deutschland:	Web:	http://www.dlink.de	
	E-Mail:	support@dlink.de	
	Telefon:	+49(0)1805 2787	0,14 € pro Minute
	Zeiten:	Mo. –Fr. 09:00 – 17:30 Uhr	
Österreich:	Web:	http://www.dlink.at	
	E-Mail:	support@dlink.at	
	Telefon:	+43(0)820 480084	0,116 € pro Minute
	Zeiten:	Mo. –Fr. 09:00 – 17:30 Uhr	
Schweiz:	Web:	http://www.dlink.ch	
	E-Mail:	support@dlink.ch	
	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.

* Gebühren aus Mobilnetzen und von anderen Providern können abweichen.

Assistance technique

Assistance technique D-Link par téléphone : 0820 0803 03

0.12 € la minute : Du lundi au vendredi de 9h à 19h

Assistance technique D-Link sur internet :

http://www.dlink.fr

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://www.dlink.es

Supporto tecnico

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

Telefono: 199400057

http://www.dlink.it/support

Technical Support

Tech Support for customers within the Netherlands:

0900 501 2007 / www.dlink.nl / €0.15ppm anytime.

Tech Support for customers within Belgium:

070 66 06 40 / www.dlink.be / €0.175ppm peak, €0.0875ppm off peak

Tech Support for customers within Luxemburg:

+32 70 66 06 40 / www.dlink.be

Pomoc techniczna

Telefoniczna pomoc techniczna firmy D-Link: 0 801 022 021
Pomoc techniczna firmy D-Link świadczona przez Internet:
URL: http://www.dlink.pl
e-mail: serwis@dlink.pl

Technická podpora

Web: http://www.dlink.cz/suppport/
E-mail: support@dlink.cz
Telefon: 225 281 553
Telefonická podpora je v provozu: PO- PÁ od 09.00 do 17.00
Pevna linka 1,78 CZK/min - mobil 5.40 CZK/min

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://www.dlink.hu

Teknisk Support

D-Link Teknisk telefon Support: 820 00 755

(Hverdager 08:00-20:00)

D-Link Teknisk Support over Internett: http://www.dlink.no

Teknisk Support

D-Link teknisk support over telefonen: Tlf. 7026 9040
Åbningstider: kl. 08:00 – 20:00
D-Link teknisk support på Internettet: http://www.dlink.dk

Teknistä tukea asiakkaille Suomessa:

Arkisin klo. 9 - 21
numerosta : **06001 5557**
Internetin kautta : http://www.dlink.fi

Teknisk Support

D-Link Teknisk Support via telefon: 0900-100 77 00
Vardagar 08.00-20.00
D-Link Teknisk Support via Internet: http://www.dlink.se

Assistência Técnica

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

Τεχνική Υποστήριξη

D-Link Hellas Support Center
Κεφαλληνίας 64, 11251 Αθήνα,
Τηλ: 210 86 11 114 (Δευτέρα- Παρασκευή 09:00-17:00)
Φαξ: 210 8611114
http://www.dlink.gr/support

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

www.dlink.biz/hr

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

www.dlink.biz/sl

Suport tehnica

Vă mulțumim pentru alegerea produselor D-Link. Pentru mai multe informații, suport şi manuale ale produselor vă rugăm să vizitați site-ul D-Link www.dlink.eu

www.dlink.ro

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(24Hrs, 7days a week) technical support

http://www.dlink.com.au

e-mail: support@dlink.com.au

India:

Customer Support: - 1800-233-0000 (MTNL & BSNL Toll Free) or

+91-832-2885700 (GSM, CDMS & Others)

E-Mail Address: - helpdesk@dlink.co.in, techsupport@dlink.co.in

Website: - www.dlink.co.in

Indonesia, Malaysia, Singapore and Thailand:

Tel: +62-21-5731610   (Indonesia)

Tel: 1800-882-880   (Malaysia)

Tel: +65 6501 4200   (Singapore)

Tel: +66-2-719-8978/9   (Thailand)

24/7, for English Support Only

http://www.dlink.com.sg/support/

e-mail: support@dlink.com.sg

Korea:

Tel: +82-2-2028-1815

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

http://www.d-link.co.kr

e-mail: arthur@d-link.co.kr

New Zealand:

Tel: 0800-900-900

24/7(24Hrs, 7days a week) technical support

http://www.dlink.co.nz

e-mail: support@dlink.co.nz

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Technical Support

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

Tech Support for customers in

Egypt:

Tel: +202-2919035 or +202-2919047

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

http://support.dlink-me.com

Email: support.eg@dlink-me.com

Iran:

Te: +98-21-88880918,19

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

http://support.dlink-me.com

Email : support.ir@dlink-me.com & support@dlink.ir

Israel:

Magshimim 20 St., Matalon center,

Petach Tikva, Israel 49348

Consumer support line: 03-9212886

Business support line: 03-9212608

Pakistan:

Tel: +92-21-4548158 or +92-21-4548310

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

http://support.dlink-me.com

E-mail: zkashif@dlink-me.com

South Africa and Sub Sahara Region:

Tel: +27-12-661-2025

08600 DLINK (for South Africa only)

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

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

Turkey:

Tel: +90-212-2895659

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

http://www.dlink.com.tr

e-mail: turkiye@dlink-me.com

e-mail: support@d-link.co.za

U.A.E and North Africa:

Tel: +971-4-4278127 (U.A.E)

Sunday to Thursday 9.00AM to 6.00PM GMT+4

Web: http://www.dlink-me.com

E-mail: support.me@dlink-me.com

Saudi ARABIA (KSA):

Telephone : +966 01 217 0008

Facsimile : +966 01 217 0009

e-mail: Support.sa@dlink-me.com

Saturday to Wednesday 9.30AM to 6.30PM

Thursdays 9.30AM to 2.00 PM

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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:
+7(495) 744-00-99

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

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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	HORARIO
Argentina	0800 - 12235465	Lunes a Viernes 08:00am a 21:00pm
Chile	800 - 835465 ó (02) 5941520	Lunes a Viernes 08:00am a 21:00pm
Colombia	01800 - 9525465	Lunes a Viernes 06:00am a 19:00pm
Costa Rica	0800 - 0521478	Lunes a Viernes 05:00am a 18:00pm
Ecuador	1800 - 035465	Lunes a Viernes 06:00am a 19:00pm
El Salvador	800 - 6335	Lunes a Viernes 05:00am a 18:00pm
Guatemala	1800 - 8350255	Lunes a Viernes 05:00am a 18:00pm
México	01800 - 1233201	Lunes a Viernes 06:00am a 19:00pm
Panamá	011 008000525465	Lunes a Viernes 05:00am a 18:00pm
Perú	0800 - 00968	Lunes a Viernes 06:00am a 19:00pm
Venezuela	0800 - 1005767	Lunes a Viernes 06:30am a 19:30pm

Soporte Técnico de D-Link a través de Internet
www.dlinkla.com
e-mail: soporte@dlinkla.com & consultas@dlinkla.com

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Suporte Técnico

Você pode encontrar atualizações de software e documentação de usuário no site da D-Link Brasil.

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

Suporte Técnico para clientes no Brasil:

Telefone

São Paulo +11-2185-9301

Segunda à sexta

Das 8h30 às 18h30

Demais Regiões do Brasil 0800 70 24 104

E-mail:

e-mail: suporte@dlinkbrasil.com.br

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D-Link 友訊科技 台灣分公司
技術支援資訊

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

D-Link 免付費技術諮詢專線

0800-002-615

服務時間：週一至週五，早上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。

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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
行っていただくと、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

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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：8008296688/ (028)66052968

技术支持中心传真：(028)85176948

各地维修中心地址请登陆官方网站查询

网址：http://www.dlink.com.cn

办公时间：周一到周五，早09:00到晚18:00

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Registration Card
All Countries and Regions Excluding USA

Print, type or use block letters.

Your name: Mr./Ms_____

Organization: _____ Dept. _____

Your title at organization: _____

Telephone: _____ Fax:_____

Organization's full address: _____

_____

Country: _____

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

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

(* Applies to adapters only)

Product was purchased from:

Reseller's name: _____

Telephone: _____

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

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

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

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

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

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

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

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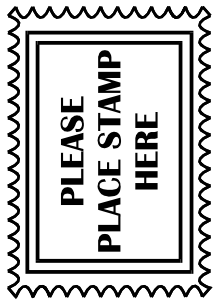   ☐Database management ☐Accounting ☐Others_____

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

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

10.Your comments on this product?
   _____
   _____

PLEASE
PLACE STAMP
HERE

TO:

D-Link®