D-Link DES-1026G

24-Port 10/100 + 2-Port 10/100/1000Mbps Gigabit Ethernet Switch

Manual

Second Edition

D-Link

Building Networks for People

Table of Contents

P/N:1907E7224TA6002

1. Package Contents

- **One DES-1026G 24-Port 10/100Mbps + 2-Port 10/100/1000Mbps Gigabit Ethernet Switch**
- **One AC power cord**
- **Four rubber feet to be used for shock cushioning**
- **Screws and two mounting brackets**
- **Manual**

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

2. Introduction

Congratulations on your purchase of the DES-1026G 24-Port 10/100Mbps + 2-Port 10/100/1000Mbps Gigabit Ethernet Switch. This device integrates 1000Mbps Gigabit Ethernet, 100Mbps Fast Ethernet, and 10Mbps Ethernet network capabilities into one cost-effective solution.

This manual discusses how to install your DES-1026G 24-Port 10/100Mbps + 2-Port 10/100/1000Mbps Gigabit Ethernet Switch.

In this manual, the term "**Switch**" (first letter upper case) refers to your DES-1026G 24-Port 10/100Mbps + 2-Port 10/100/1000Mbps Gigabit Ethernet Switch, and "**switch**" (first letter lower case) refers to other Ethernet switches.

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

Fast Ethernet Technology

Ethernet, along with its speedier counterpart Fast Ethernet, is the most popular networking standard in use today. 100BaseT Fast Ethernet is an

extension of the 10BaseT Ethernet standard, designed to raise the data transmission capacity of 10BaseT from 10Mbits/sec to 100Mbits/sec. An important technology incorporated by 100BaseT is its use of the Carrier Sense Multiple Access with Collision Detection (CSMA/CD) protocol - which is the same protocol that 10BaseT uses - because of its ability to work with several different types of cable, including basic twisted-pair wiring. Both of these features play an important role in network considerations, and they make 100BaseT an attractive migration path for those networks based on 10BaseT. Since the 100Mbps Fast Ethernet is compatible with all other 10Mbps Ethernet environments, it provides a straightforward upgrade and takes advantage of the existing investment in hardware, software, and personnel training.

Switching Technology

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

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

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

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

Switching LAN technology is a marked improvement over the previous generation of network hubs and bridges, which were characterized by higher latencies. Routers have also been used to segment local area networks, but the cost of a router, the setup and maintenance required make routers relatively impractical. Today switches are an ideal solution to most kinds of local area network congestion problems.

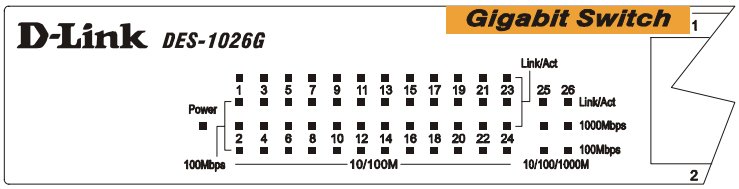
Features and Benefits

- **(24) 10/100BASE-TX Fast Ethernet ports + (2) 1000BASE-T Gigabit Ethernet ports**
- **Auto MDI/MDI-X support on each port**
- **Full/half duplex transfer mode for 10/100Mbps Fast Ethernet transmission**
- **Full duplex transfer mode for Gigabit Ethernet transmission**
- **Wire-speed reception and transmission**
- **Store-and-Forward switching method**
- **Integrated address Look-Up Engine, supports 8K MAC addresses**
- **Supports 512K bytes RAM for data buffering**
- **Extensive front-panel diagnostic LEDs**
- **Broadcast storm protection**
- **IEEE 802.3x flow control for full-duplex**
- **Back pressure flow control for half-duplex**
- **Standard 19” Rack-mount size**

LEDs

LED stands for **L**ight-**E**mitting **D**iode.

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



LED indicators of the Switch

- **POWER**

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

Ports 1-24 Status LEDs

- **LINK/ACT**

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

- **100Mbps**

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

Ports 25 & 26 Status LEDs

- **LINK/ACT**

On	When the LED lights on, the respective port is connected to a 10/100/1000Mbps Ethernet network.
Blinking	When the LED is blinking, the respective port is

	transferring or receiving data on a 10/100/1000Mbps Ethernet network.
Off	No link.

■ 1000Mbps

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

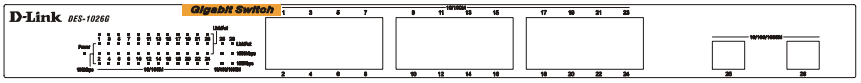
■ 100Mbps

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

Connections

Front Panel

10/100 Base-TX Twisted-Pair Ports



LED Indicators

1000 Base-T
Twisted-Pair Ports

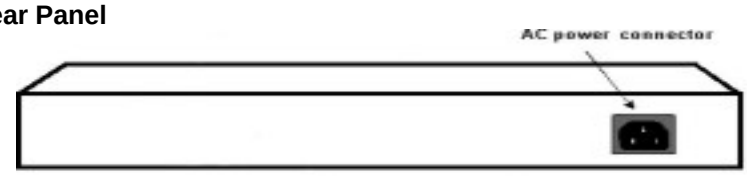
■ 10/100BASE-TX Twisted-Pair Ports (Port1~24)

These ports support network speeds of either 10Mbps or 100Mbps, and can operate in half- and full- duplex transfer modes. These ports also support automatic MDI/MDI-X crossover detection, giving true “plug and play” capability. Just plug the network cable directly into the hub; you can use either straight-through or crossover cable.

- **1000BASE-T Twisted Pair Ports (Port 25~26)**

  The DES-1026G is equipped with two Gigabit twisted pair ports that are auto negotiable 10/100/1000Mbps and also support auto MDI/MDIX crossover detection. These two ports can operate in half- and full- duplex modes.

Rear Panel



- **AC Power Connector**

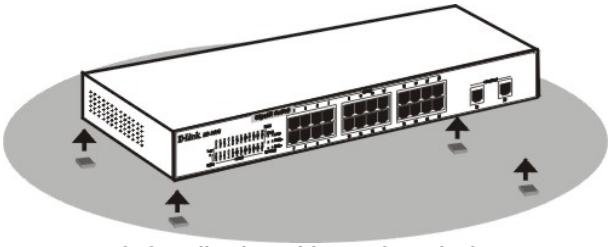
  This is a three-pronged connector that supports the power cord. Plug in the female connector of the provided power cord into this connector, and the male into a power outlet. Supported input voltages range from 100~240V AC at 50~60Hz.

3. Installation

The site where you place the DES-1026G may greatly affect its performance. When installing, take the following into your consideration:

- Install the DES-1026G in a fairly cool and dry place. See ***Technical Specifications*** for the acceptable temperature and humidity operating ranges.
- Install the DES-1026G in a site free from strong electromagnetic field generators (such as motors), vibration, dust, and direct exposure to sunlight.
- Leave at least 10cm (about 4 inches) of space at the front and rear of the hub for ventilation.

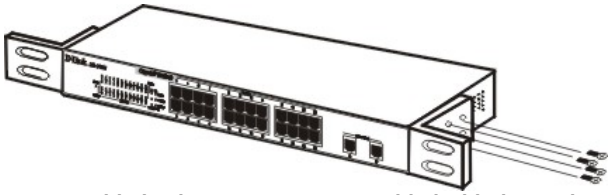
- Install the DES-1026G on a sturdy, level surface that can support its weight, or in an EIA standard-size equipment rack.
- When installing the Switch on a level surface, attach the rubber feet to the bottom of each device. The rubber feet cushion the hub and protects the hub case from scratching.



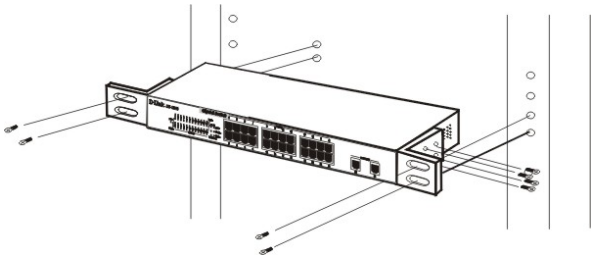
Attach the adhesive rubber pads to the bottom

Rack Mounting

The DES-1026G can be mounted in an EIA standard-size, 19-inch rack, which can be placed in a wiring closet with other equipments. Attach the mounting brackets to both sides of the Switch (one at each side), and secure them with the provided screws.



Use the screws provided. Then, use screws provided with the equipment rack to mount the Switch in the rack.



Mount the Switch in the rack

Connecting Network Cable

The DES-1026G supports 10/100/1000Mbps Gigabit Ethernet. It runs full/half duplex transfer mode for 10/100Mbps and full duplex transfer mode for 1000Mbps. Each port on the DES-1026G supports Auto-MDI/MDI-X. Auto-MDI/MDI-X is a feature that eliminates the need for worrying about using either a standard or crossover cable—you can use either one—and allows any port to be an uplink port.

AC Power

The DES-1026G can be used with AC power supply 100~240V AC, 50~60 Hz. The power switch is located at the rear of the unit adjacent to the AC power connector and the system fan. The switch's power supply will adjust to the local power source automatically and may be turned on without having any or all LAN segment cables connected.

4. Technical Specifications

General	
Standards	*IEEE 802.3 10BASE-T Ethernet* *IEEE 802.3u 100 BASE-TX Fast Ethernet* *IEEE 802.3ab 1000BASE-T Gigabit Ethernet*
Protocol	*CSMA/CD*
Data Transfer Rate	*Ethernet: 10Mbps (half duplex), 20Mbps (full duplex)* *Fast Ethernet: 100Mbps (half duplex), 200Mbps (full duplex)* *Gigabit Ethernet: 2000Mbps (full duplex)*
Topology	*Star*
Network Cables	*10BASET: 2-pair UTP/STP Cat. 3,4,5; up to 100m* *100BASE-TX: 2-pair UTP/STP Cat. 5; up to 100m* *1000BASE-T: 4-pair UTP/STP Cat. 5; up to 100m (Cat. 5E is recommended)*
Number of Ports	*24 ×10/100BASE-TX Auto-MDIX STP ports* *2 × 1000BASE-T Auto-MDIX STP ports*
Physical and Environmental	
AC inputs	*100 to 240V AC, 50/60 Hz internal universal power supply*
Power Consumption	*11.75 watts. (max.)*
Temperature	*Operating: 0℃~40℃, Storage: -10℃~70℃*
Humidity	*Operating: 10%~90%, Storage: 5%~90%*
Dimensions	*440× 140× 44 mm (W × H × D)*
Emissions	*FCC Class A, CE Mark Class A,* *VCCI Class A*
Safety	CUL, LVD
Performance	
Transmits Method	*Store-and-forward*
RAM Buffer	*2.5Mbits per device*
Filtering Address + Table	*8K entries per device*
Packet Filtering/ Forwarding Rate	*10Mbps Ethernet: 14,880/pps* *100Mbps Fast Ethernet: 148,800/pps* *1000Mbps Gigabit Ethernet: 1488,000/pps*
MAC Address Learning	*Automatic update*

5. Contacting Technical Support

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

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

U.S. customers can contact D-Link technical support through our web site, or by phone.

D-Link Technical Support over the Telephone:
(877) 453-5465
24 hours a day, seven days a week.

D-Link Technical Support over the Internet:
http://support.dlink.com

When contacting technical support, please provide the following information:

- *Serial number of the unit*
- *Model number or product name*
- *Software type and version number*

6. Warranty

D-Link Systems, Inc. (“D-Link”) provides this 5-Year Limited warranty for its product only to the person or entity that originally purchased the product from:

- D-Link or its authorized reseller or distributor.
- Products purchased and delivered with the fifty United States, the District of Columbia, US Possessions or Protectorates, US Military Installations, addresses with an APO or FPO.

5-Year 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”).

5-Year Limited Warranty for the Product(s) is defined as follows:

- Hardware (excluding power supplies and fans) Five (5) Years
- Power Supplies and Fans Three (3) Years
- Spare parts and spare kits Ninety (90) days

D-Link’s sole obligation shall be to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund at D-Link’s sole discretion. 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 have an identical make, model or part. D-Link may in its sole 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. Repaired or replacement Hardware will be warranted for the remainder of the original Warranty Period from the date of original retail purchase. 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 retail purchase of the Software for a period of ninety (90) days (“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 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 or to refund at D-Link’s sole discretion. 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. Software will be warranted for the remainder of the original Warranty Period from the date or original retail purchase. 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.

Submitting A Claim: Any claim under this limited warranty must be submitted in writing before the end of the Warranty Period to an Authorized D-Link Service Office.

- The customer must submit 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.
- 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. 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 shipping charges to D-Link. No Charge on Delivery ("COD") are allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products should be fully insured by the customer and shipped to **D-Link Systems, Inc., 17595 Mt. Herrmann Fountain Valley, CA 92708-4160**. 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 via UPS Ground or any common carrier selected by D-Link, with shipping charges prepaid. Expedited shipping is available if 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: This limited warranty provided by D-Link does not cover: Products, if 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; and Any hardware, software, firmware or other products or services provided by anyone other than D-Link. Repair by anyone other than D-Link or an Authorized D-Link Service Office will void this 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 the product owner may also have other rights which vary from state to state.

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

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.

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 residential 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. 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

Registration

Register your product on-line 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.