D-Link ®

DES-1016R+/DES-1024R+ 10/100 Fast Ethernet Switch User's Guide

RECYCLABLE

Wichtige Sicherheitshinweise

1. Bitte lesen Sie sich diese Hinweise sorgfältig durch.

2. Heben Sie diese Anleitung für den spätern Gebrauch auf.

3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Vervenden Sie keine Flüssig- oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.

4. Um eine Beschädigung des Gerätes zu vermeiden sollten Sie nur Zubehörteile verwenden, die vom Hersteller zugelassen sind.

5. Das Gerät is vor Feuchtigkeit zu schützen.

6. Bei der Aufstellung des Gerätes ist auf sichern Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen. Verwenden Sie nur sichere Standorte und beachten Sie die Aufstellhinweise des Herstellers.

7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor Überhitzung schützt. Sorgen Sie dafür, daß diese Öffnungen nicht abgedeckt werden.

8. Beachten Sie beim Anschluß an das Stromnetz die Anschlußwerte.

9. Die Netzanschlußsteckdose muß aus Gründen der elektrischen Sicherheit einen Schutzleiterkontakt haben.

10. Verlegen Sie die Netzanschlußleitung so, daß niemand darüber fallen kann. Es sollete auch nichts auf der Leitung abgestellt werden.

11. Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.

12. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.

13. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. Elektrischen Schlag auslösen.

14. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von authorisiertem Servicepersonal geöffnet werden.

15. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:

    a – Netzkabel oder Netzstecker sint beschädigt.

    b – Flüssigkeit ist in das Gerät eingedrungen.

    c – Das Gerät war Feuchtigkeit ausgesetzt.

    d – Wenn das Gerät nicht der Bedienungsanleitung ensprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.

    e – Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.

    f – Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.

16. Bei Reparaturen dürfen nur Orginalersatzteile bzw. den Orginalteilen entsprechende Teile verwendet werden. Der Einsatz von ungeeigneten Ersatzteilen kann eine weitere Beschädigung hervorrufen.

17. Wenden Sie sich mit allen Fragen die Service und Repartur betreffen an Ihren Servicepartner. Somit stellen Sie die Betriebssicherheit des Gerätes sicher.

18. Zum Netzanschluß dieses Gerätes ist eine geprüfte Leitung zu verwenden, Für einen Nennstrom bis 6A und einem Gerätegewicht gr ßer 3kg ist eine Leitung nicht leichter als H05VV-F, 3G, 0.75mm2 einzusetzen.

Limited Warranty
Hardware:

D-Link warrants each of its hardware products to be free from defects in workmanship and materials under normal use and service for a period commencing on the date of purchase from D-Link or its Authorized Reseller and extending for the length of time stipulated by the Authorized Reseller or D-Link Branch Office nearest to the place of purchase.

This Warranty applies on the condition that the product Registration Card is filled out and returned to a D-Link office within ninety (90) days of purchase. A list of D-Link offices is provided at the back of this manual, together with a copy of the Registration Card.

If the product proves defective within the applicable warranty period, D-Link will provide repair or replacement of the product. D-Link shall have the sole discretion whether to repair or replace, and replacement product may be new or reconditioned. Replacement product shall be of equivalent or better specifications, relative to the defective product, but need not be identical. Any product or part repaired by D-Link pursuant to this warranty shall have a warranty period of not less than 90 days, from date of such repair, irrespective of any earlier expiration of original warranty period. When D-Link provides replacement, then the defective product becomes the property of D-Link.

Warranty service may be obtained by contacting a D-Link office within the applicable warranty period, and requesting a Return Material Authorization (RMA) number. If a Registration Card for the product in question has not been returned to D-Link, then a proof of purchase (such as a copy of the dated purchase invoice) must be provided. If Purchaser's circumstances require special handling of warranty correction, then at the time of requesting RMA number, Purchaser may also propose special procedure as may be suitable to the case.

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 package must be mailed or otherwise shipped to D-Link with all costs of mailing/shipping/insurance prepaid. D-Link shall never be responsible for any software, firmware, information, or memory data of Purchaser contained in, stored on, or integrated with any product returned to D-Link pursuant to this warranty.

Any package returned to D-Link without an RMA number will be rejected and shipped back to Purchaser at Purchaser's expense, and D-Link reserves the right in such a case to levy a reasonable handling charge in addition mailing or shipping costs.

Software:

Warranty service for software products may be obtained by contacting a D-Link office within the applicable warranty period. A list of D-Link offices is provided at the back of this manual, together with a copy of the Registration Card. If a Registration Card for the product in question has not been returned to a D-Link office, then a proof of purchase (such as a copy of the dated purchase invoice) must be provided when requesting warranty service. The term "purchase" in this software warranty refers to the purchase transaction and resulting license to use such software.

D-Link warrants that its software products will perform in substantial conformance with the applicable product documentation provided by D-Link with such software product, for a period of ninety (90) days from the date of purchase from D-Link or its Authorized Reseller. D-Link warrants the magnetic media, on which D-Link provides its software product, against failure during the same warranty period. This warranty applies to purchased software, and to replacement software provided by D-Link pursuant to this warranty, but shall not apply to any update or replacement which may be provided for download via the Internet, or to any update which may otherwise be provided free of charge.

D-Link's sole obligation under this software warranty shall be to replace any defective software product with product which substantially conforms to D-Link's applicable product documentation. Purchaser assumes responsibility for the selection of appropriate application and system/platform software and associated reference materials. D-Link makes no warranty that its software products will work in combination with any hardware, or any application or system/platform software product provided by any third party, excepting only such products as are expressly represented, in D-Link's applicable product documentation as being compatible. D-Link's obligation under this warranty shall be a reasonable effort to provide compatibility, but D-Link shall have no obligation to provide compatibility when there is fault in the third-party hardware or software. D-Link makes no warranty that operation of its software products will be uninterrupted or absolutely error-free, and no warranty that all defects in the software product, within or without the scope of D-Link's applicable product documentation, will be corrected.

Warranty Period

For warranty in your region, please check with your local D-Link office and authorized agents as warranty periods may vary from region to region.
The warranty for power supplies and power adapters is one year.

D-Link Offices for Registration and Warranty Service

The product's Registration Card, provided at the back of this manual, must be sent to a D-Link office. To obtain an RMA number for warranty service as to a hardware product, or to obtain warranty service as to a software product, contact the D-Link office nearest you. An address/telephone/fax/e-mail/Web site list of D-Link offices is provided in the back of this manual.

Limitation of Warranties

IF THE D-LINK PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, THE CUSTOMER'S SOLE REMEDY SHALL BE, AT D-LINK'S OPTION, REPAIR OR REPLACEMENT. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. D-LINK NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION MAINTENANCE OR USE OF D-LINK'S PRODUCTS
D-LINK SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT IN THE PRODUCT DOES NOT EXIST

OR WAS CAUSED BY THE CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLECT, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING OR OTHER HAZARD.

Limitation of Liability

IN NO EVENT WILL D-LINK BE LIABLE FOR ANY DAMAGES, INCLUDING LOSS OF DATA, LOSS OF PROFITS, COST OF COVER OR OTHER INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES ARISING OUT THE INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE OR INTERRUPTION OF A D- LINK PRODUCT, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY. THIS LIMITATION WILL APPLY EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
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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 user's guide, 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.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

注意

この装置は、情報処理装置等電波障害自主規制協議会(VCCI)の基準に基づく第一種情報技術装置です。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。

BSMI Warning

警告使用者

這是甲類的資訊產品,在居住的環境中使用時,可能會造成射頻干擾,在這種情況下使用者會被要求採取某些適當的對策.

1

FEATURES

♦ 16 or 24 UTP ports all come with NWay auto-negotiation and operate at 10/100 Mbps for connection to servers and hubs. All ports can auto-negotiate for full or half-duplex operation.

♦ All ports support auto MDI/MDIX, so there is no need to use cross-over cables or an up-link port.

♦ Store-and-forward switching scheme capability to support rate adaptation and ensure data integrity.

♦ Auto-polarity detection for correction of incorrect polarity on the receive twisted pair at each port.

♦ Data forwarding rate 148,800 pps per port at 100% of wire-speed for 100Mbps speed.

♦ Data forwarding rate 14,880 pps per port at 100% of wire-speed for 10Mbps speed.

♦ Data filtering rate eliminates all error packets, runts, etc. at 148,800 pps per port at 100% of wire-speed for 100Mbps speed.

♦ Data filtering rate eliminates all error packets, runts, etc. at 14,880 pps per port at 100% of wire-speed for 10Mbps speed.

♦ Up to 4K unicast address entities per device, self-learning, and table aging.

♦ 256K Byte-on-Chip packet buffer per eight ports.

♦ All 16 or 24 UTP ports support IEEE802.3x flow control for full duplex and backpressure flow control for half duplex.

♦ Optional two-port Fiber module (SC type connector) in the front panel for length extension. These two ports operate at either 100M

full duplex or half duplex by means of a manual setting. Please see Chapter Two for additional information about module settings.

2

UNPACKING AND SETUP

Unpacking

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

♦ One DES-1016R+ or DES-1024R+ 10/100 Fast Ethernet Switch

♦ One AC power cord

♦ This User's Guide

♦ Four rubber feet with adhesive backing

♦ Screws and two L-type brackets for rack mounting

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

Setup

The setup of the Switch can be performed using the following steps:

♦ The surface must support at least 3 kg for the Switch.

♦ The power outlet should be within 1.82 meters (6 feet) of the device.

♦ Visually inspect the power cord and see that it is fully secured to the AC power connector.

♦ Make sure that there is proper heat dissipation from and adequate ventilation around the Switch. Do not place heavy objects on the Switch.

Desktop or Shelf Installation

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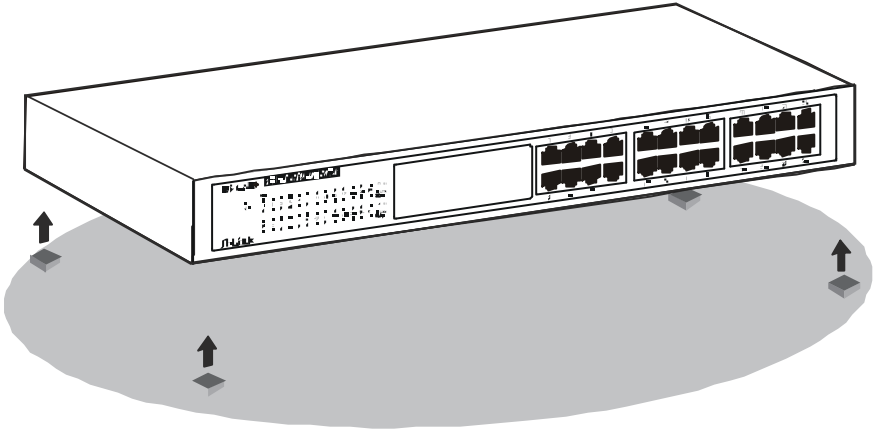

Figure 2.1 10/100 Fast Ethernet Switch installed on a Desktop or Shelf

Rack Installation

The Switch can be mounted in an EIA standard size, 19-inch rack, which can be placed in a wiring closet with other equipment. To install, attach the mounting brackets on the switch's front panel (one on each side) and secure them with the screws provided.
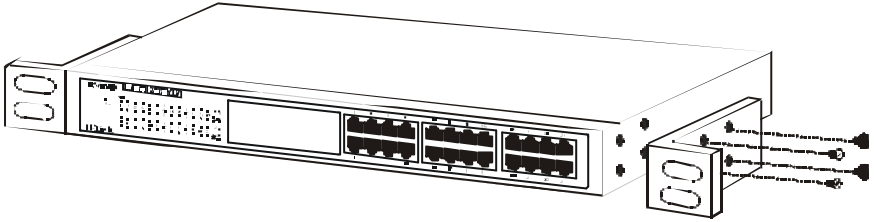
Figure 2.2 Attaching the mounting brackets to the 10/100 Fast Ethernet Switch

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

Module Installation

An optional two-port fiber module (SC type connector) can be installed in the front panel. Follow these steps:

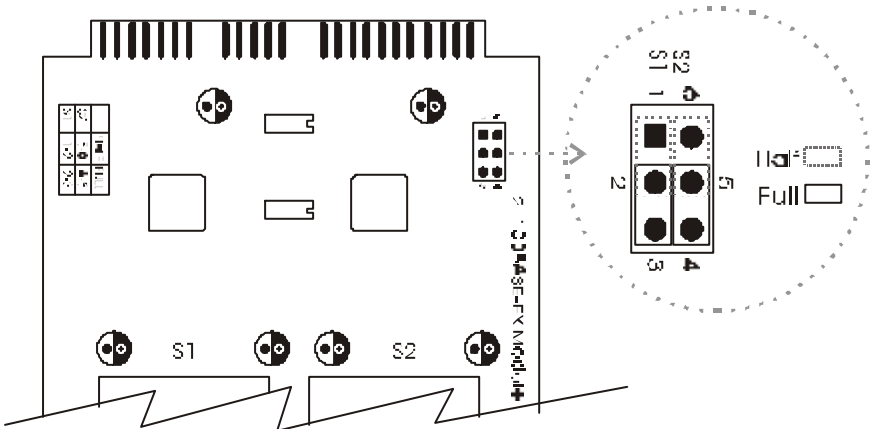First, set up the module, adjusting the jumper settings as desired. The default setting is full duplex.

Figure 2.3 Jumper settings on the module

Next, make sure that the device is powered off and then remove the plain bracket on the front of the switch.
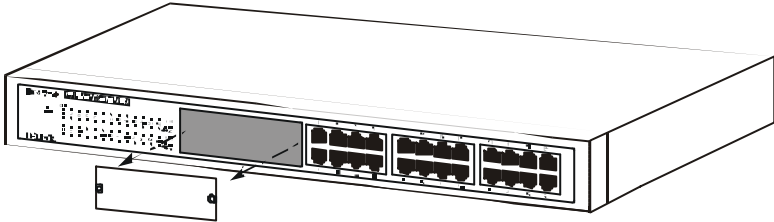

Figure 2.4 Removing the plain bracket

After removing the plain bracket, slide the module in the guide rails all the way into the slot and secure the screws.
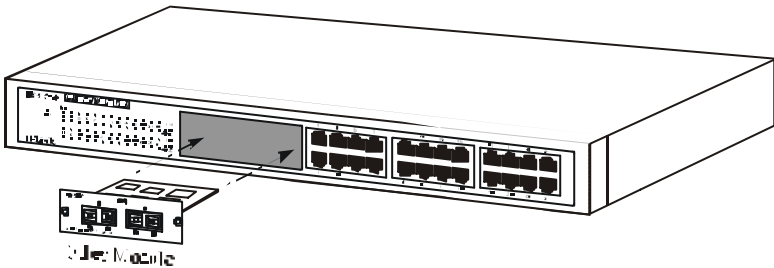

Figure 2.5 Sliding the module into position

When properly installed, the **Slot** LED will be lit after powering on the Switch (see Chapter 3 for more information about LEDs, including a diagram).

Note: *Always remember to turn off the power before a module is inserted or removed.*

3

IDENTIFYING EXTERNAL COMPONENTS

Front Panel

The front panel of the Switch consists of 16 (DES-1016R+) or 24 (DES-1024R+) 10/100 Mbps MDI-II/MDI-X ports and LED indicators.
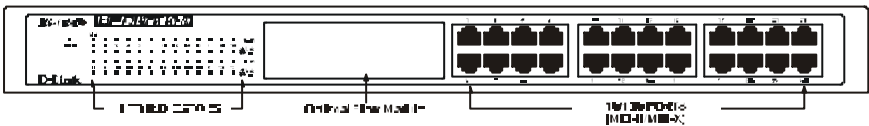

Figure 3.1 Front panel view of the DES-1024R+ Switch

Rear Panel

The rear panel of the Switch consists of an AC power connector.

Figure 3.2 Rear panel view of the DES-1024R+ switch

♦ **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 ~ 240 VAC at 50 ~ 60 Hz.

LED Indicators

The LED indicators of the Switch include Power, 100M, Link/Act (Link/Activity), and Slot. The LED indicators are used to facilitate monitoring and troubleshooting of the Switch. The following shows the LED indicators for the Switch along with an explanation of each indicator.
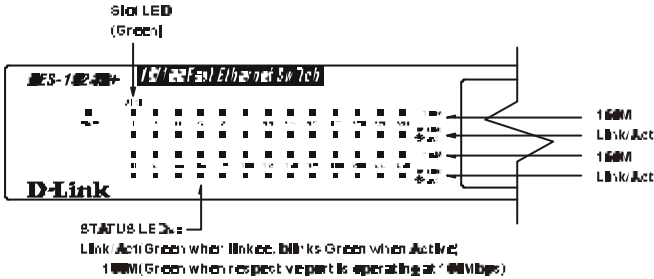

Figure 3.3 The DES-1024R+ Switch LED indicators

♦ **Power** This indicator operates when the Switch is turned on. If this indicator is not lit, check the AC power connector to ensure proper insertion of the power cord.

♦ **100M** The LED indicator lights green when a 100 Mbps device is connected to a respective port. If a 10 Mbps device is connected to a respective port, the LED indicator is OFF.

♦ **Link/Act** These LED indicators are lighted green when there is a secure connection (or link) to a device at any of the ports. The LED indicators blink green whenever there is reception or transmission (i.e. Activity–Act) of data occurring at a port.

♦ **Slot** This LED indicator is lighted green when there is a secure connection (or link) to an optional two-port 100BASE-FX (SC type) module is installed in the front panel. Each port has its own LED, designated as I and II. See 100M and Link/Act indicator descriptions above for further information.

TECHNICAL SPECIFICATIONS

General	
Network Cabling:	**10BASE-T:** 2-pair UTP Cat. 3, 4, 5 (100m) EIA/TIA- 568 100-ohm STP (100m) **100BASE-TX:** 2-pair UTP Cat. 5 (100m) EIA/TIA-568 100-ohm STP (100m) **100BASE-FX:** Multi-mode (62.5/125μm or 50/125μm fiber cabling with SC connector
Number of Ports:	DES-1016R+: 16 x 10/100 Mbps ports DES-1024R+: 24 x 10/100 Mbps ports DES-102F: 2 x 100BASE-FX ports
Physical and Environmental	
AC inputs:	100 - 240 VAC, 50/60 Hz (internal universal power supply)
Power Consumption:	39 watts maximum
Operating Temperature:	32 ° ~ 122 °F (0 ° ~ 50 °C)
Storage Temperature:	-13 ° ~ 131 °F (-25 ° ~ 5 5 °C)
Humidity:	5% ~ 95% non-condensing
EMI:	FCC Class A, CE Mark Class A, VCCI Class A, BSMI Class A , C-Tick Class A
Safety:	UL (UL 1950), CSA (CSA950), TUV/GS (EN60950)

DC Fan:	One built-in 40 x 40 x 10 mm DC fan
Dimensions:	441 x 207 x 44 mm (IU), 19-inch rack-mount width
Weight:	DES-1016R+: 2.6 kg & DES-1024R+: 2.7 kg

D-Link Offices

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CANADA	**D-LINK CANADA** 2180 Winston Park Drive, Oakville, Ontario, L6H 5W1 Canada TEL: 1-905-829-5033 FAX: 1-905-829-5223 BBS: 1-965-279-8732 TOLL FREE: 1-800-354-6522 URL: www.dlink.ca FTP: ftp.dlinknet.com E-MAIL: techsup@dlink.ca
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FRANCE	**D-LINK FRANCE** Le Florilege #2, Allee de la Fresnerie, 78330 Fontenay le Fleury, France TEL: 33-1-3023-8688 FAX: 33-1-3023-8689 URL: www.dlink-france.com E-MAIL: info@dlink-france.fr
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U.K.	**D-LINK EUROPE/D-LINK U.K.**

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U.S.A.   **D-LINK U.S.A.**
53 Discovery Drive, Irvine, CA 92618, USA
TEL: 1-949-788-0805 FAX: 1-949-753-7033 BBS: 1-949-455-1779 & 1-949-455-9616
INFO: 1-800-326-1688 URL: www.dlink.com
E-MAIL: tech@dlink.com & support@dlink.com

Registration Card

Print, type or use block letters.

Your name: Mr./Ms _____
Organization: _____ Dept. _____
Your title at organization: _____
Telephone: _____ Fax:_____
Organization's full address: _____
_____
Country: _____
Date of purchase (Month/Day/Year): _____

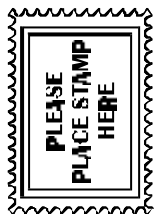| Product Model	Product Serial No.	* Product installed in type of computer (e.g., Compaq 486)	* Product installed in computer serial No.

(* Applies to adapters only)

Product was purchased from:
Reseller's name: _____
Telephone: _____ Fax:_____
Reseller's full address: _____
_____
_____

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

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

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

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

4. What network operating system(s) does your organization use ?
☐D-Link LANsmart ☐Novell NetWare ☐NetWare Lite ☐SCO Unix/Xenix ☐PC NFS ☐3Com 3+Open
☐Banyan Vines ☐DECnet Pathwork ☐Windows NT ☐Windows NTAS ☐Windows '95
☐Others_____

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

6. What network medium/media does your organization use ?
☐Fiber-optics ☐Thick coax Ethernet ☐Thin coax Ethernet ☐10BASE-T UTP/STP
☐100BASE-TX ☐100BASE-T4 ☐100VGAnyLAN ☐Others_____

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

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

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

10. Your comments on this product?
_____

TO:

D-Link®