



DGE-550SX
Gigabit Ethernet Network
Interface Card for
PCI Bus
User's Guide

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RECYCLABLE

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This equipment has been tested and found to comply with the limits for a Class B 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 communications. 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.

Shielded interface cables must be used in order to comply with emission limits.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

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.

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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.

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Table of Contents

OVERVIEW.....	1
Features	2
INSTALLATION.....	4
Unpack and Inspect	4
Installing the Adapter	4
Connecting the Network Cable	5
Software Installation.....	6
TROUBLESHOOTING	7
SPECIFICATIONS.....	8

1

Overview

Thank you for choosing the D-Link DGE-550SX. This introduction gives a general description of the newer networking technologies found on the DGE-550SX.

This Network Interface Card (NIC) is designed to operate at 1000Mbps at full duplex. When running at 1000Mbps, it provides a network throughput of 2Gbps in full-duplex mode.

The card supports IEEE 802.1p Traffic Prioritization for time-sensitive and mission-critical traffic. With IEEE 802.1Q multiple VLAN support, it provides VLAN tables that can filter packets by recognized VLAN tags, strip VLAN tags when received, and insert VLAN tags when transmitted. VLANs can increase the efficiency and provide extra security of your network.

The DGE-550SX provides IEEE802.3x Flow Control Enhancements, which are needed for a network adapter to function with a switch. In full-duplex mode, MAC implements the PAUSE control function. This means when a switch is connected in full-duplex mode and it senses that its buffer will overflow in the near future, the switch will transmit one standard Ethernet packet that causes the DGE-550SX to pause for a period, thus avoiding internal buffer overflow and packet loss.

The NIC enables simple, scalable network migration, providing the benefit of Gigabit Ethernet networking with the familiarity of Ethernet.

Features

Designed for versatility and performance, the DGE-550SX NIC provides the following:

- Hardware VLAN filtering.
- Chip-Level Internet Protocol (CLIP) for IP packet processing.
- IEEE 802.3z compliant.
- Complies with the PCI v2.2 interface standard – supporting operation at 33/66 MHz and 32/64 bit wide data path.
- Full-duplex operation.
- On-board verification of IP header and TCP/UDP checksum.
- On-board screening of VLAN-tagged packets – tagged in compliance IEEE 802.3ac.
- IEEE 802.3z 1000Base-SX Gigabit Ethernet compliant.
- SC optical fiber connector, 850 nm wavelength.
- Transceiver lasers compliant with Laser AEL Class 1 standards and is safe for eye-viewing.
- Accepts 62.5 / 125 micron multi-mode fiber optic cable for a maximum length of 260 meters.

- Accepts 50 / 125 micron multi-mode fiber optic cable for a maximum length of 550 meters.
- Support for:
 - Windows XP
 - Windows 2000
 - Windows 95 OSR2, 98, 98 SE
 - Windows NT 4.0
 - Windows ME
 - Novell Netware Server 4.x, 5.x , 6
 - Novell Netware Client32 for DOS
 - Linux (kernel 2.4.x)

2

Installation

Unpack and Inspect

CAUTION: *Under ordinary circumstances, a DGE-550SX card will not be affected by static charge. In some circumstances where you may carry an extraordinarily high static charge, it is good practice to reduce the charge by touching a ground before handling the adapter card.*

Open the shipping carton and carefully remove all items. In addition to a printed copy of this User's Guide, ascertain that you have:

- One DGE-550SX 1000 Mbps PCI Adapter Card.
- DGE-550SX User's Guide CD-ROM

Installing the Adapter

1. Shut down the computer, unplug its power cord, and remove the chassis cover.
2. Insert the contact edge of the DGE-550SX card into the connector of any available PCI Bus Master expansion slot. Press the card firmly into the

connector such that the card's contacts are fully seated in the PCI connector.

3. Install the bracket screw that secures the card to the computer chassis.
4. Replace the computer's chassis cover.
5. Reconnect the computer's power cord, and switch computer power on. If the BIOS section of your computer's boot program is Plug-and-Play compliant, then at power-up the BIOS will automatically configure any newly installed DGE-550SX adapter.

NOTE: *Due to a fault in some Plug-n-Play BIOS programs, it happens occasionally that a newly installed adapter is assigned an Interrupt Number which is already assigned to another device. In such a case, a conflict in the Interrupt Number will cause faults in the behavior of both devices. Then it is necessary to run the CMOS Setup utility, and manually assign a non-conflicting Interrupt Number to the PCI bus slot that the DGE-550SX is install in.*

Connecting the Network Cable

The DGE-550SX 1000Base-SX Gigabit Ethernet network adapter card enables operation over 850nm 62.5/125 fiber optic cable to 220 meters and 850nm 50/125 fiber optic cable to 500 meters. The network adapter card uses two SC sockets to terminate the fiber optic cable. The upper socket is used to transmit packets and the lower socket is used to receive packets.

Software Installation

With the wide variety of network architecture in mind, the instructions for driver[†] software installation are given as README files on the DGE-550SX Software CD-ROM. Review the file README in the root directory for an overview and full installation details; see the README and referenced instruction files in the subdirectory appropriate to your network operating system.

A brief overview of the installation details is as follows: As the DGE-550SX is Plug-and-Play compliant, the driver software should be automatically detected and installed in PCs running Windows 95, 98, and 2000. After “New Hardware Found” dialog boxes for “PCI Ethernet Controller” and “D-Link DGE-550SX Gigabit Ethernet Adapter” are displayed in rapid succession, a “Copying Files” window, and then an “Insert Disk” window appear. The final step is placing the DGE-550SX Software CD-ROM in your CD-ROM drive and then making sure the correct location is selected. Once this is done the software installation should be complete.

[†] Check <http://www.dlink.com> for newest release of drivers.

Troubleshooting

If you experience any problems with the adapter, first: ascertain that the appropriate driver is loaded; that the proper grade of cable is employed for the network connection; and that the supporting hub is properly qualified for the application.

The DGE-550SX Adapter features three LED indicators:

- **Power** Steady green indicates the adapter is powered-up.
- **Link/Act** Steady green indicates a good connection between the adapter and another Ethernet device. Flashing green indicates a good connection (valid Link) with Ethernet packet traffic on it.
- **Full** Steady green indicates the adapter is operating in full-duplex mode.

Specifications

Jumperless Hardware

LAN Chip Set:

- Gigabit Media Access controller: D-Link DL2000

EMI Certifications:

- FCC Class B
- CE Class B
- BSMI Class B
- VCCI Class B
- C-Tick

Host interface: PCI Bus (Bus Master)

I/O base address assigned by Plug and Play system

Interrupt Number Assigned by Plug and Play system

Physical Dimensions: 166 mm (L) x 73 mm (H)

Environment:

- Storage: -25° to 55°C (-13° to 131° F)
- Operating: 0° to 50° C (32° to 122° F)
- Humidity: 5% to 90% non-condensing
- Power Consumption: 5.58 W

D-Link® Offices

AUSTRALIA	D-Link Australasia Unit 16, 390 Eastern Valley Way, Roseville, NSW 2069 Australia TEL: 61-2-9417-7100 FAX: 61-2-9417-1077 TOLL FREE (Australia): 1800 177 100 TOLL FREE (New Zealand): 0800-900900 URL: www.dlink.com.au E-MAIL: support@dlink.com.au & info@dlink.com.au
CANADA	D-Link Canada 2180 Winston Park Drive, Oakville, Ontario, L6H 5W1 Canada TEL: 1-905-829-5033 FAX: 1-905-829-5095 BBS: 1-965-279-8732 TOLL FREE: 1-800-354-6522 URL: www.dlink.ca FTP: ftp.dlinknet.com E-MAIL: techsup@dlink.ca
CHILE	D-Link South America Isidora Goyechea 2934 of 702, Las Condes, Santiago, Chile TEL : 56-2-232-3185 FAX: 56-2-232-0923 URL: www.dlink.cl E-MAIL: ccasassu@dlink.cl & tsilva@dlink.cl
DENMARK	D-Link Denmark Naverland 2, DK-2600 Glostrup, Copenhagen, Denmark TEL:45-43-969040 FAX:45-43-424347 URL: www.dlink.dk E-MAIL: info@dlink.dk
EGYPT	D-Link Middle East 7 Assem Ebn Sabet Street, Heliopolis, Cairo, Egypt TEL: 202-245-6176 FAX: 202-245-6192 URL: www.dlink-me.com E-MAIL: support@dlink-me.com & fateen@dlink-me.com
FINLAND	D-Link Finland Tulli-ja Pakkahuone, Katajanokanlaituri 5, Fin - 00160 Helsinki TEL: 358-9-62291660 FAX: 358-9-62291661 URL: www.dlink-fi.com
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.fr E-MAIL: info@dlink-france.fr
GERMANY	D-Link Cent. Europe/D-Link Deutschland GmbH Schwalbacher Strasse 74, 65760 Eschborn, Germany TEL: 49-(0) 6196-7799-0 FAX: 49-(0) 6196-7799-300 URL: www.dlink.de BBS: 49-(0) 6192-971199 (analog) BBS: 49-(0) 6192-971198 (ISDN) INFO: 00800-7250-0000 (toll free) HELP: 00800-7250-4000 (toll free)

INDIA	D-Link India Plot No.5, Kurla-Bandra Complex Rd., Off Cst Rd., Santacruz (E), Bombay, 400 098 India TEL: 91-22-652-6696 FAX: 91-22-652-8914 URL: www.dlink-india.com E-MAIL: service@dlink.india.com
ITALY	D-Link Mediterraneo Srl Via Nino Bonnet n. 6/b, 20154, Milano, Italy TEL: 39-02-2900-0676 FAX: 39-02-2900-1723 URL: www.dlink.it E-MAIL: info@dlink.it
JAPAN	D-Link Japan 10F, 8-8-15 Nishi-Gotanda, Shinagawa-ku, Tokyo 141, Japan TEL: 81-3-5434-9678 FAX: 81-3-5434-9868 URL: www.d-link.co.jp E-MAIL: kida@d-link.co.jp
RUSSIA	D-Link Russia Michurinski Prospekt 49, 117607 Moscow, Russia TEL: 7-095-737-3389 & 7-095-737-3492 FAX: 7-095-737-3390 URL: www.dlink.ru E-MAIL: vl@dlink.ru
SINGAPORE	D-Link International 1 International Business Park, #03-12 The Synergy, Singapore 609917 TEL: 65-774-6233 FAX: 65-774-6322 E-MAIL: info@dlink.com.sg URL: www.dlink-intl.com
S. AFRICA	D-Link South Africa Unit 2, Parkside 86 Oak Avenue, Highveld Technopark Centurion, Gauteng, South Africa TEL: 27 (0) 126652165 FAX: 27 (0) 126652186 URL: www.d-link.co.za E-MAIL: attie@d-link.co.za
SWEDEN	D-Link Sweden P. O. Box 15036, S-167 15 Bromma, Sweden TEL: 46-(0) 8564-61900 FAX: 46-(0) 8564-61901 E-MAIL: info@dlink.se URL: www.dlink.se
TAIWAN	D-Link Taiwan 2F, No. 119 Pao-Chung Rd, Hsin-Tien, Taipei, Taiwan TEL: 886-2-2910-2626 FAX: 886-2-2910-1515 URL: www.dlinktw.com.tw E-MAIL: dssqa@tsc.dlinktw.com.tw
U.K.	D-Link Europe 4 th Floor, Merit House, Edgware Road, Colindale, London NW9 5AB U.K. TEL: 44 (0) 20-8731-5555 FAX: 44 (0) 20-8731-5511 BBS: 44 (0) 181- 235-5511 URL: www.dlink.co.uk E-MAIL: info@dlink.co.uk
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 Computer serial No.

(* Applies to adapters only)

Product was purchased from:

Reseller's name: _____

Telephone: _____ Fax: _____

Reseller's full address: _____

1. Where and how will the product primarily be used?

☐ Home ☐ Office ☐ Travel ☐ Company Business ☐ Home Business ☐ Personal

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 ☐ Other _____

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 ☐ Other _____

5. What network management program does your organization use ?

☐ D-View ☐ HP OpenView/Windows ☐ HP OpenView/Unix ☐ SunNet Manager ☐ Novell NMS

☐ NetView 6000 ☐ Other _____

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 ☐ Other _____

7. What applications are used on your network?

☐ Desktop publishing ☐ Spreadsheet ☐ Word processing ☐ CAD/CAM

☐ Database management ☐ Accounting ☐ Other _____

8. What category best describes your company?

☐ Aerospace ☐ Engineering ☐ Education ☐ Finance ☐ Hospital ☐ Legal ☐ Insurance/Real Estate

☐ Manufacturing ☐ Retail/Chainstore/Wholesale

☐ Transportation/Utilities/Communication ☐ VAR ☐ Systemhouse/company ☐ Other _____

9. Would you recommend your D-Link product to a friend?

☐ Yes ☐ No (why?) _____ ☐ I don't know yet

10. Your comments on this product:



TO: _____

D-Link®