D-Link®

DGE-550T
Gigabit Ethernet Adapter for PCI Bus
User's Guide

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FCC Certifications

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.

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.

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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.

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Introduction

Thank you for choosing DLink DGE-550T, the value leader among dual-speed adapters for PCI Bus personal computers. This introduction gives a general description of the newer networking technologies found on the DGE-550T.

The DGE-550T provides the bandwidth capability to support high-end servers and workstations. With Auto-negotiation, this card can run on two different speeds: 100Mbps, both half- and full-duplex, and 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-550T 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-550T 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-550T Adapter provides the following:

- Operability in both 32-bit, 33 MHz and 64-bit, 66 MHz slot servers

- Universal Bus support, 3.3V and 5V

- IPV.4 checksum task off-loading for checksum generation and verification

- Compliance with IEEE 802.3z 1000BASE-SX Gigabit Ethernet standards and IEEE 802.3 Ethernet standards

- Plug-and-Play installation

- Support for 802.1Q VLAN Capacity

- Jumbo frame support

- Adaptive Inter Frame Spacing (IFS) capacity

- Auto-assignment of IRQ numbers and IO address

- Full-duplex Gigabit Ethernet interface that delivers 2Gbps aggregate bandwidth

- One built-in RJ-45 connector

- Support for Gigabit Ethernet over standard Category 5 and 5e UTP wiring for distances up to 100 meters

- Auto-negotiation to the highest available speed

- Four LED indicators: Link/Activity, Full Duplex, 1000Mbps, 100Mbps

- Driver[†] support for:

  √ Linux kernel v. 2.4 and up

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

√ Novell Netware 5.1 ODI3.0

√ Windows NT 4.0

√ Windows 98

√ Windows 2000

√ Windows XP

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Installation

Unpack and Inspect

CAUTION: *Under ordinary circumstances, a DGE-550T card will not be affected by static charge as may be received through your body during handling of the unit. In special 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-550T 100/1000 PCI Adapter Card.
- DGE-550T 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-550T 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 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-550T 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, the conflict of 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.*

Connecting the Network Cable

1000BASE-T Gigabit Ethernet enables operation over the extensive installed base of legacy Category 5 cabling systems and, by default, the Category 5 cabling systems currently being installed.

It provides optimal full-duplex 1000Mb/s Ethernet service over Category 5e links as defined by ANSI/TIA/EIA-568-A-5. Topology rules for 1000BASE-T are the same as those used for 100BASE-T. Category 5 and 5e link lengths are limited to 100 meters.

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-550T Software CD-ROM. Review the file README in the root directory for an

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[‡] Check *http://www.dlink.com* for newest release of drivers.

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-550T 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-550T 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-550T 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.

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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-550T Adapter features four LED indicators:

- **FDX** Steady green indicates the adapter is operating in full-duplex mode.

- **1000M** The LED indicator lights green when a 1000 Mbps device is connected to the adapter.

- **100M** The LED indicator lights green when a 100 Mbps device is connected to the adapter.

- **Link/Activity** Steady green indicates good linkage between the DGE-550T and its supporting server or switch. Flashing green indicates activity (transmitting or receiving) within the adapter.

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Specifications

Jumperless Hardware

LAN Chip Set:

- Gigabit Media Access controller: DL2000
- Physical interface: 88E1000T

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: 10W

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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 ☐Government ☐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®