

D-Link DGE-528T
Gigabit Ethernet PCI Adapter

Manual

Rev.2. 10



Table of Contents

Introduction	3
Contents of Package	4
Technology Basics	4
About Gigabit Ethernet	4
About Auto-Negotiation	5
About PCI Bus	5
Wake On LAN	6
Connecting the WOL Cable	6
Flow Control	7
Networking Basics	7
Troubleshooting	19
Technical Specifications.....	23

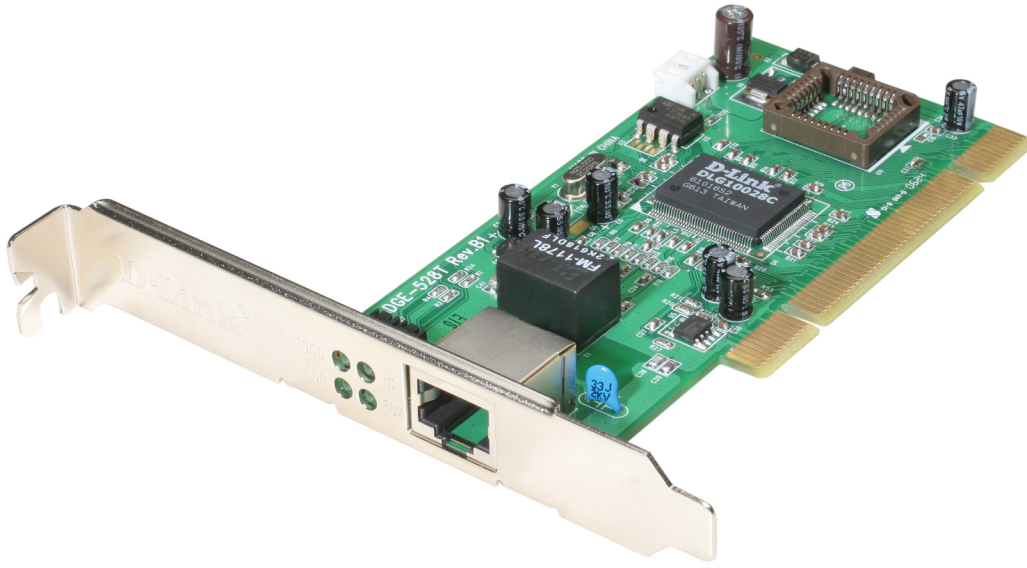
Introduction

The D-Link DGE-528T is ideal for the small office or home office environment. After completing the steps in this manual, you will have the ability to share information and resources - such as files and printers - and take full advantage of a “connected” environment for work and play!

The DGE-528T comes with drivers for the most popular operating systems and can be integrated into a larger network. However, this manual is designed to help you network two computers running Windows 98SE, Me, 2000, XP, Server 2003 and Vista in a peer-to-peer configuration. The standards compliant DGE-528T gives you the flexibility to expand and customize your Fast Ethernet / Gigabit Ethernet network at will.

The Fast Ethernet standard allows you to connect computers and devices at speeds up to 100 Mbps. Gigabit Ethernet allows speeds up to 1000 Mbps. A Dual-Speed 100/1000 Mbps Ethernet / Gigabit Ethernet network combines both standards allowing computers and devices of different speeds to communicate with each other. The DGE-528T is a Dual-Speed 100/1000 Mbps Fast Ethernet / Gigabit Ethernet network card.

Contents of Package



DGE-528T Gigabit Ethernet PCI Adapter Package Contents

- 1 DGE-528T Gigabit Ethernet PCI Adapter
- 2 Manual in the CD-ROM
- 3 Quick Installation Guide
- 4 WOL Cable and Low Profile Bracket

Technology Basics

About Gigabit Ethernet

Gigabit Ethernet is a network technology specified by IEEE Standard 802.3ab. It extends the traditional 100Mbps Fast Ethernet technology to achieve 1000Mbps transmission and reception, while retaining the same CSMA/CD Ethernet protocol. Thus, while Gigabit Ethernet provides a tenfold increase in network capacity, it is wholly compatible with traditional 100Mbps Fast Ethernet network facilities. This compatibility is the key to easy and efficient upgrades to 1000Mbps in your network areas needing greater bandwidth. Upgrading selected areas to Gigabit Ethernet does not require hardware or software changes in network areas where traditional 100Mbps Ethernet is providing good service. For upgrading, Gigabit Ethernet is the clear choice in terms of cost-effectiveness, as well as convenience and smoothness in transition.

Category 5 cabling is required for 1000Base-T Gigabit Ethernet in order to provide full duplex operation. Full duplex 1000Base-T operation allows simultaneous transmission and reception, both at 1000Mbps, thus providing service potentially equal to 2000Mbps full-duplex service

To provide compatibility in traditional 100Mbps Fast Ethernet environments (where, for example DGE-528T adapters are installed anticipating upgrade of supporting switch equipment to Gigabit Ethernet), the DGE-528T also supports traditional 100Mbps Fast Ethernet operation, in full-duplex as well as half-duplex modes. Selection of the best operation mode in any given installation is automatically governed by auto-negotiation.

About Auto-Negotiation

You have probably had the experience of making a dialup connection through a modem, and have heard the sound exchange between your modem and the modem at the other end of the telephone line. As irritating as those few seconds of noise may be, they do let you know that your modem and the remote modem are on the job, preparing for your intended communication with the remote computer.

When the two modems have tested the phone-line quality and settled on the combination of shared options and parameters which will provide the best data communication over the connecting phone line, then you are given the “connect” message which signals the end of the intermodem negotiation and the beginning of your intended communication with the remote computer.

Auto-negotiation between devices within an Ethernet LAN is similar in concept, but much briefer. The two devices involved in the auto-negotiation will be the DGE-528T Adapter serving your station (installed in your computer), and the switch through which it is connected to the LAN. The options to be negotiated between the DGE-528T and its supporting switch includes Ethernet type (1000BASE-T Gigabit Ethernet or 100BASE-TX Fast Ethernet) and duplex mode (half-duplex, being one-way-at-a-time, or full duplex, being simultaneous transmit-and receive.)

Startup communication between the two devices occurs when both devices are powered up. Once the cable connection and the Network Operating System software is satisfied, the preparatory process of auto-negotiation between the DGE-528T and its supporting switch proceeds automatically. If the switch has auto-negotiation functionality, it and the DGE-528T exchange a series of messages, each device signals its capabilities and listens for corresponding information about the other. The auto-negotiation process requires only a few milliseconds, and the two devices select the best communication parameters supported by both.

If the switch does not support auto-negotiation, the (single capability) message will be recognized by the DGE-528T auto-negotiation facility, which will switch to those settings of its own capabilities, which match that of the switch.

Auto-negotiation reoccurs any time the linkage is restored, making the line ready again for optimal data communications.

About PCI Bus

Your DGE-528T Adapter delivers outstanding performance by fully exploiting the advance features of your computer's PCI bus. DGE-528T Adapters utilize the Bus Master Mode of the PCI bus, allowing direct transfers of Ethernet packet content between computer memory and the adapter's controller, thus minimizing network demands on the CPU. The adapter's controller function provides the additional benefit of reduced command processing overhead.

The working relationship between a DGE-528T adapter and main memory working in Bus Master mode is powered by the Bridge/Memory Controller of the PCI bus. This reduces the CPU role in network operations, thus freeing the CPU to service other tasks, with resulting improvement in overall computing (multitasking) performance. At the same time, it produces superior network throughput by reducing latency (waiting for CPU service) during transmissions and receptions.

Features

Wake On LAN

Wake On LAN (WOL) is an ACPI function allowing a powered down (sleeping) computer to be powered ON from a remote station. To use the WOL feature, the NIC must be WOL capable and the motherboard of the PC must be ACPI compliant. While powered-down computers Sleep, WOL enabled NICs monitor LAN traffic for valid Wake-up frames. When one is received, the NIC will immediately wake-up and send a signal to the motherboard to power ON the computer.

Some uses for the WOL feature include:

- Forgot a document and are out of town? Send a Wake-up signal to your computer and retrieve the needed file.
- Initiate long routines and reports before you get to work.
- Transfer files when the network traffic is low (during late hours).
- Power ON your PC before you arrive to work.
- The MIS department can upgrade software on computers after hours from a remote station.

Connecting the WOL Cable

NOTE: If your system's motherboard WOL Connector does not fit the WOL Cable or does not have 3 pins, do not attempt to force a connection or alter the components to fit. Doing so could permanently damage your computer.

The WOL function is system dependent, in addition to the following instructions, you may need to download WOL software from INTEL or another manufacturer's website.

Please consult your computer's manual for specific BIOS settings.

The WOL Cable is an interconnect cable with standard 3-pin connectors on each end. Please follow the procedures listed below to ensure proper installation of the WOL cable.

1. Connect either end connector of the WOL Cable to the NIC WOL Connector. Both ends of the WOL Cable are identical, so either end may be used.

Examine the PC motherboard and/or refer to the manual for the motherboard to locate the corresponding WOL Connector on the motherboard. The actual location is system dependent, but the motherboard may have a label beside the WOL Connector. After you have located the WOL connector on the motherboard, connect the cable.

1. Power-ON the PC and press “Delete” or “F1” when prompted to enter the PCI/ISA BIOS CMOS Setup. Enable the WOL function or the power-ON function of the PC. The name of this function is system dependent, but may be located in a category heading titled something like *Power Management*. Refer to your computer’s manual for more information regarding the CMOS Setup Utility and BIOS settings.

Flow Control

The DGE-528T implements IEEE 802.3x compliant flow control for full-duplex, which provides traffic management functions for full-duplex operation. Flow control allows for enhanced full-duplex operation with switches. When operating at full-duplex (requiring a direct connection to a switch) and the switch’s data buffer is about to overflow, a Pause frame will be transmitted to the DGE-528T. The ensuing idle time keeps the buffer from overflowing and prevents data from being lost. This enhancement can improve network throughput, avoid collisions and prevent lost data, helping the network achieve optimal performance.

Networking Basics

Using the Network Setup Wizard in Windows XP and Vista

In this section you will learn how to establish a network at home or work, using **Microsoft Windows XP and Vista**.

Note: Please refer to websites such as <http://www.homenethelp.com> and <http://www.microsoft.com/windows2000> for information about networking computers using Windows 2000, ME or 98.

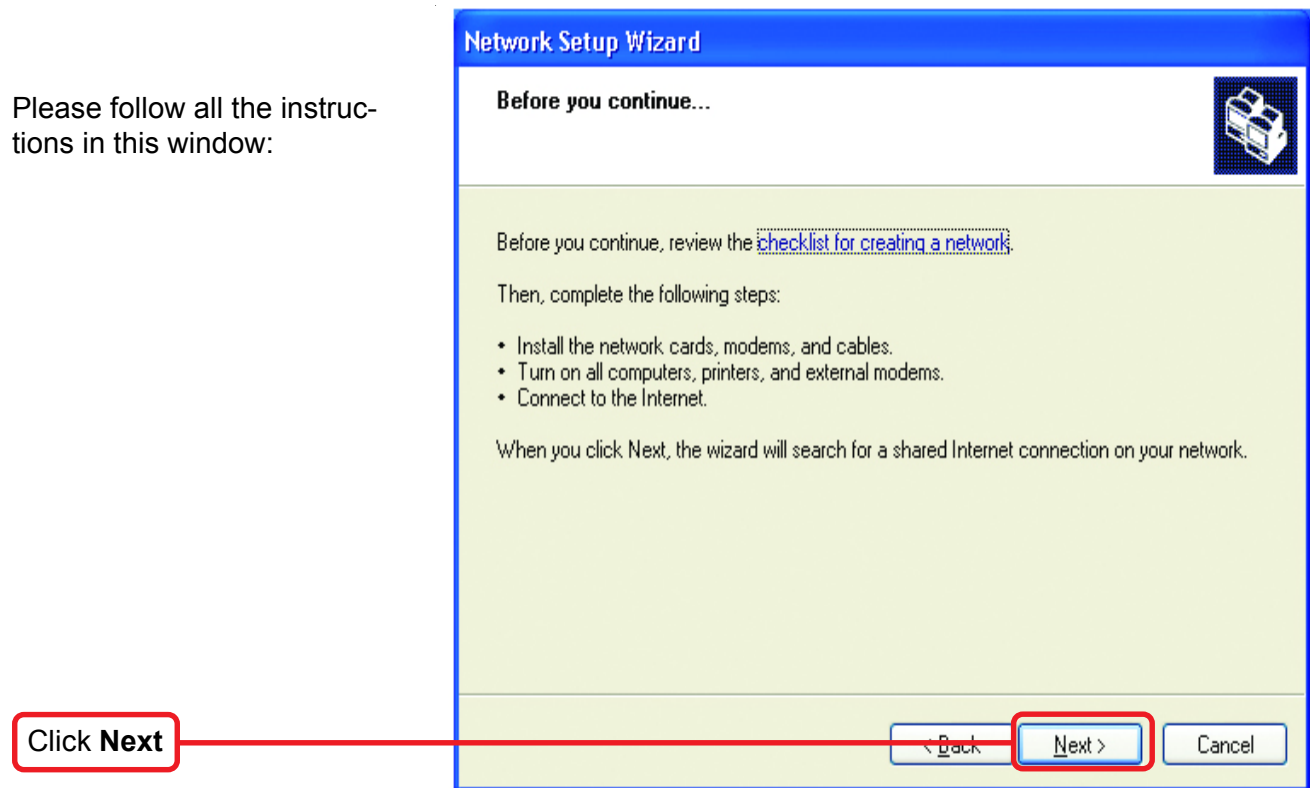
Go to **Start>Control Panel>Network Connections**. Select **Set up a home or small office network**



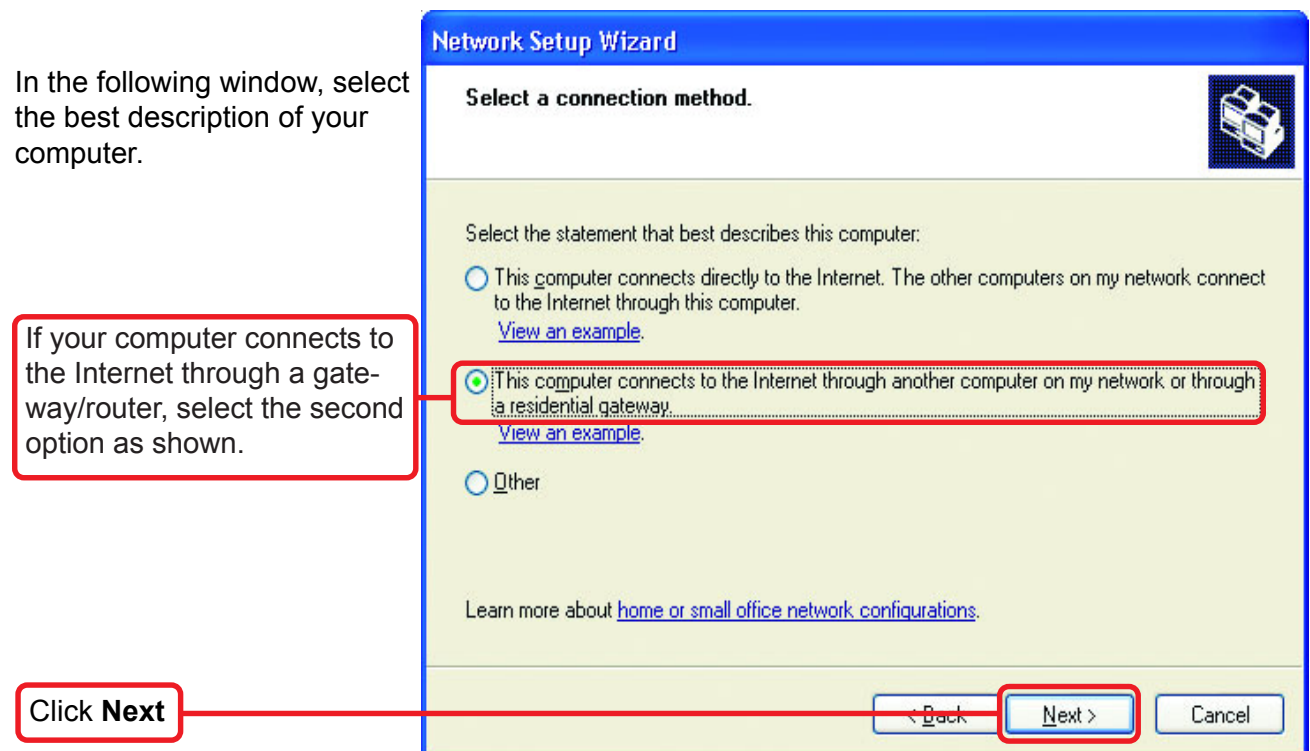
When this screen appears, click **Next**.

Networking Basics

Please follow all the instructions in this window:



In the following window, select the best description of your computer.



Networking Basics

Network Setup Wizard

Give this computer a description and name.

Computer description:
Examples: Family Room Computer or Monica's Computer

Computer name:
Examples: FAMILY or MONICA

The current computer name is Office

Learn more about [computer names and descriptions](#).

Click **Next**

< Back Next > Cancel

Network Setup Wizard

Name your network.

Name your network by specifying a workgroup name below. All computers on your network should have the same workgroup name.

Workgroup name:
Examples: HOME or OFFICE

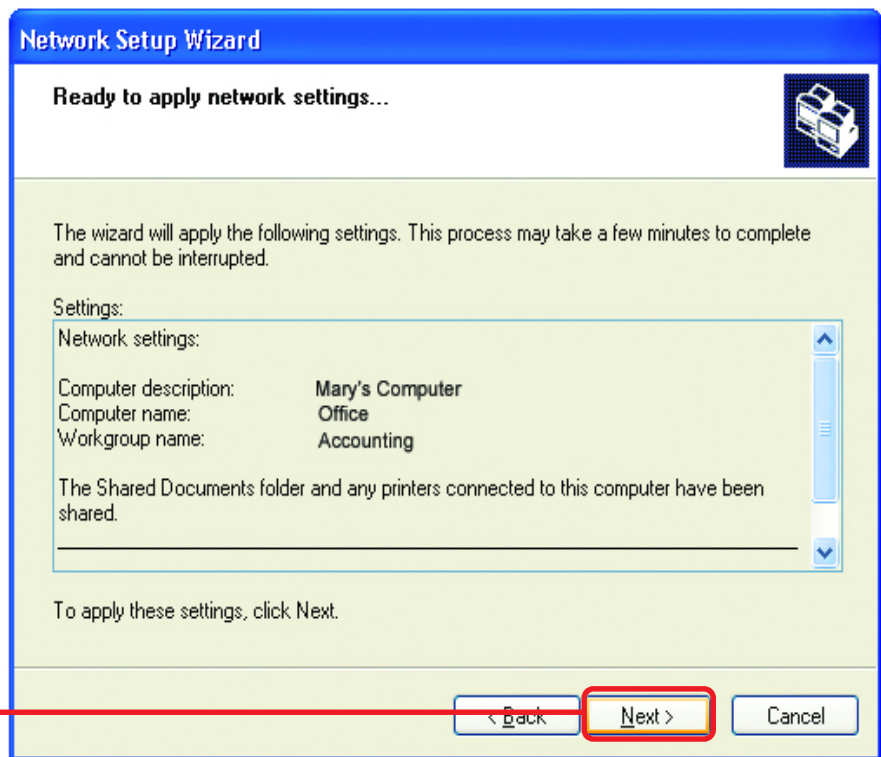
Click **Next**

< Back Next > Cancel

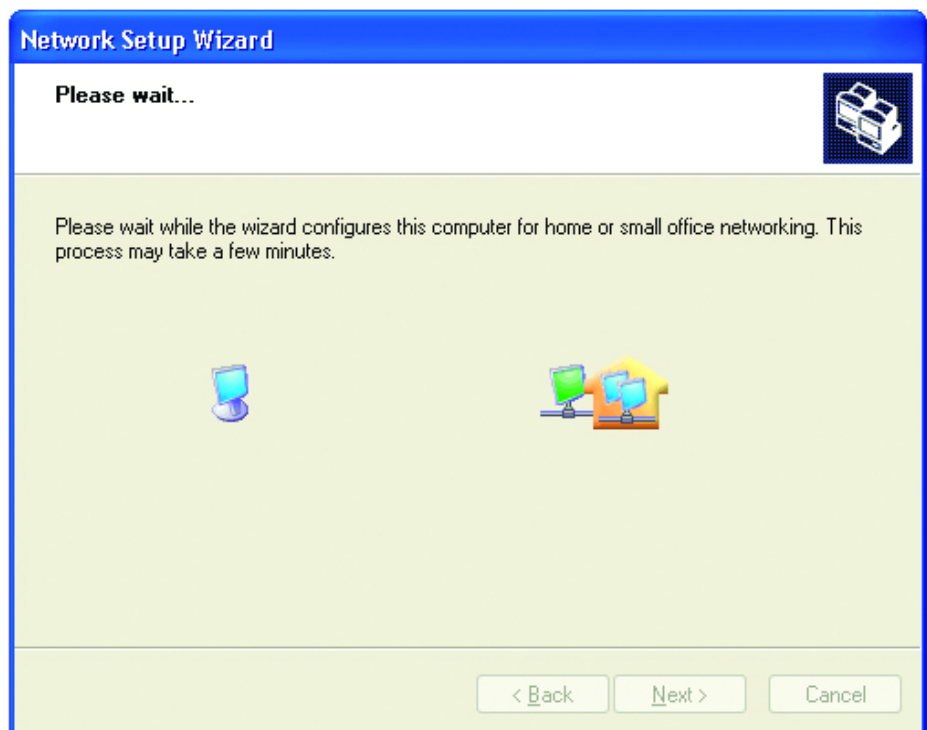
Networking Basics

Please wait while the **Network Setup Wizard** applies the changes.

When the changes are complete, click **Next**



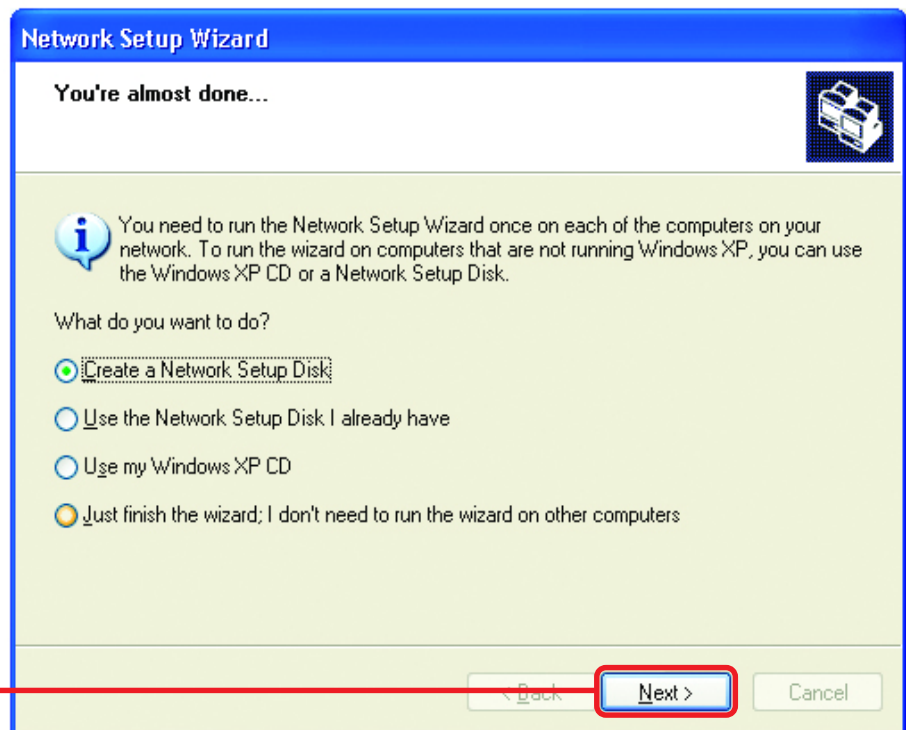
Please wait while the **Network Setup Wizard** configures the computer. This may take a few minutes.



Networking Basics

In this window, select the best option. In this example, **Create a Network Setup Disk** has been selected. You will run this disk on each of the computers on your network.

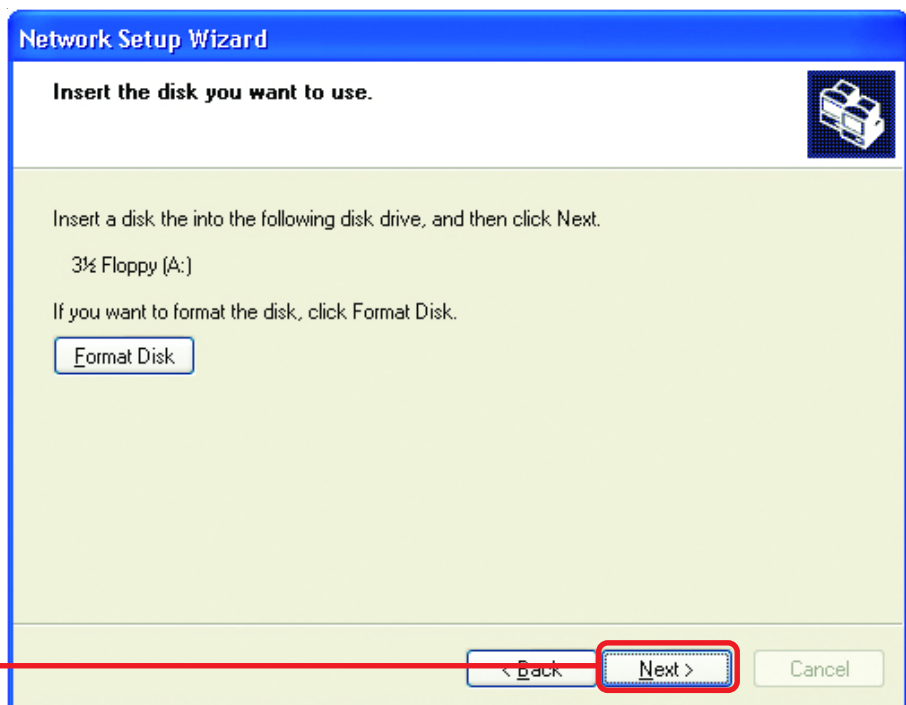
Click **Next**



Insert a disk into the Floppy Disk Drive, in this case drive "A."

Format the disk if you wish.

Click **Next**

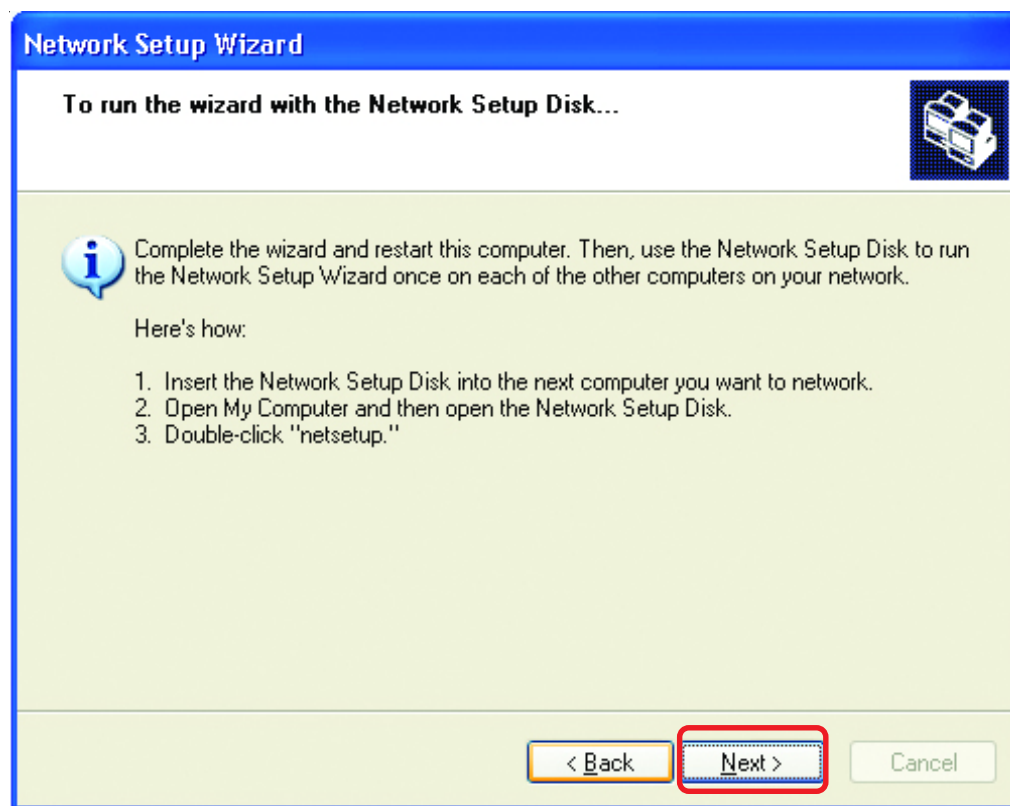


Networking Basics

Please wait while the **Network Setup Wizard** copies the files.

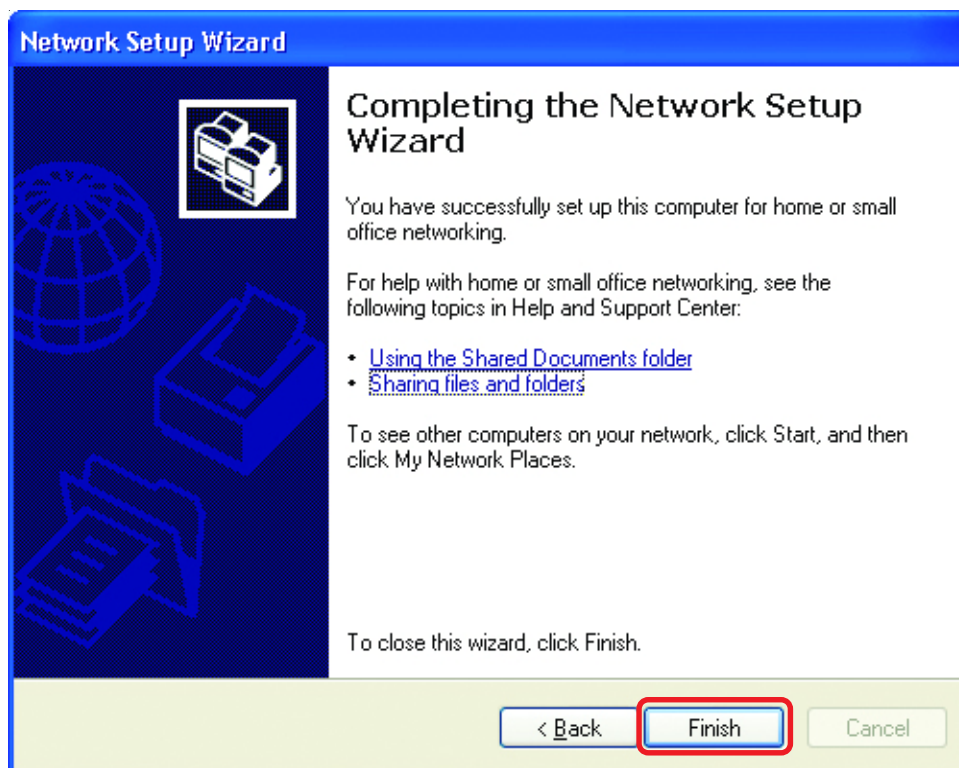


Please read the information under **Here's how** in the screen below. After you complete the **Network Setup Wizard** you will use the **Network Setup Disk** to run the **Network Setup Wizard** once on each of the computers on your network. To continue click **Next**.

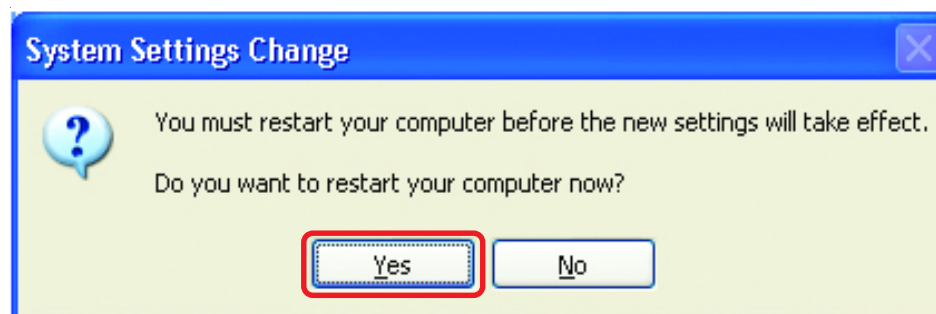


Networking Basics

Please read the information on this screen, then click **Finish** to complete the **Network Setup Wizard**.



The new settings will take effect when you restart the computer. Click **Yes** to restart the computer.



You have completed configuring this computer. Next, you will need to run the **Network Setup Disk** on all the other computers on your network. After running the **Network Setup Disk** on all your computers, your new network will be ready to use.

Networking Basics

Naming your Computer

To name your computer, please follow these directions:

In Windows XP:

Click **Start** (in the lower left corner of the screen)

Right-click on **My Computer**

Select **Properties** and click

Select the **Computer Name** Tab in the System Properties window.

You may enter a Computer Description if you wish, this field is optional.

To rename the computer and join the domain, click **Change**.

The image shows two screenshots from Windows XP. The first screenshot is the Start menu, with annotations pointing to the Start button, the 'My Computer' icon, and the 'Properties' option in the right-click context menu. The second screenshot is the 'System Properties' window, with annotations pointing to the 'Computer Name' tab, the 'Computer description' field, and the 'Change...' button. The 'Computer Name' tab is active, showing fields for 'Full computer name' (Office) and 'Workgroup' (Accounting). The 'Change...' button is highlighted with a red box.

Networking Basics

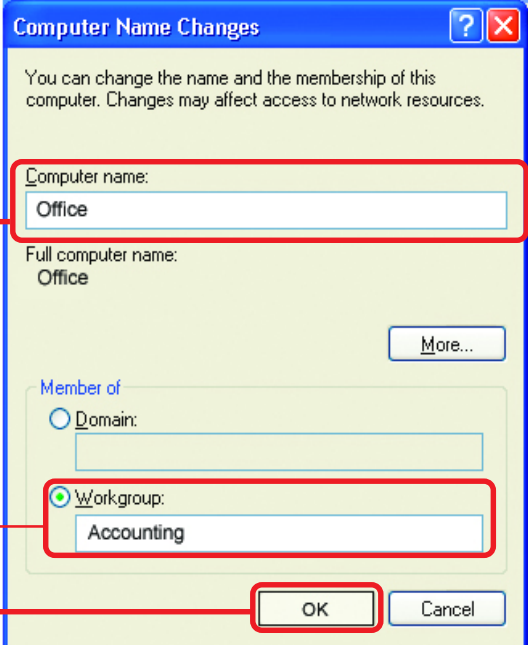
Naming your Computer

In this window, enter the computer name.


All computers on your network must have the same Workgroup name.

Select Workgroup and enter the name of the Workgroup.

Click **OK**



Checking the IP Address in Windows XP/2000/Vista



Go to Start >Run

Networking Basics



Type **ipconfig /all** at the prompt. Hit **Enter**. All the configuration settings are displayed as shown below.

```
Command Prompt
F:\Documents and Settings\lab4>ipconfig /all

Windows IP Configuration

    Host Name . . . . . : iqc4
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Unknown
    IP Routing Enabled. . . . . : No
    WINS Proxy Enabled. . . . . : No

Ethernet adapter Wireless Network Connection:

    Connection-specific DNS Suffix . :
    Description . . . . . : D-Link Adapter
    Adapter Physical Address. . . . . : 00-06-25-53-85-31
    Dhcp Enabled. . . . . : No
    IP Address. . . . . : 192.168.0.23
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.0.1
                                10.10.10.40
                                192.152.81.1

F:\Documents and Settings\lab4>
```

Checking the IP Address in Windows XP/2000/Vista

Type **ipconfig /renew** at the prompt to get a new IP Address. Hit **Enter**. The new IP Address is shown below:

```
Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

F:\Documents and Settings\lab4>ipconfig /renew_

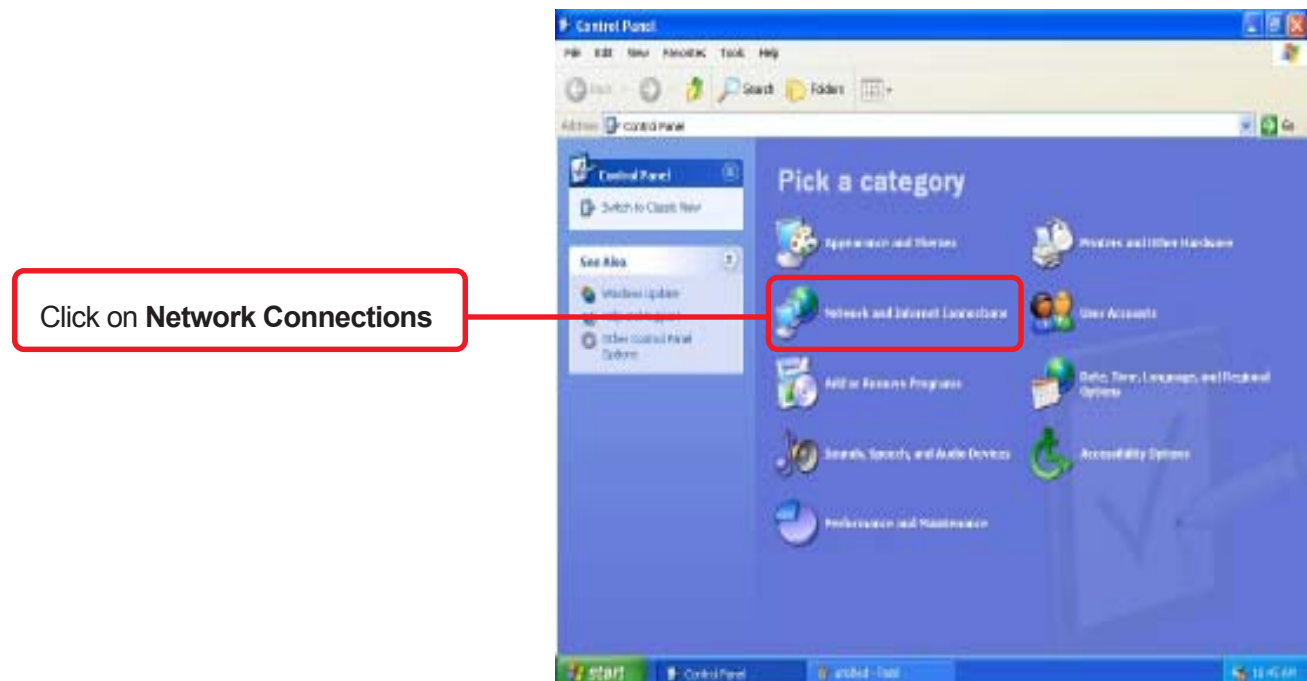
Adapter
    Physical Address. . . . . : 00-06-25-53-85-31
    Dhcp Enabled. . . . . : No
    IP Address. . . . . : 192.168.0.23
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.0.1
                                10.10.10.40
                                192.152.81.1
```

(Windows 98/ME users: go to **Start > Run**. Type **Command**. Type **winipcfg** at the prompt. Click **Release and Renew** to obtain a new IP Address.)

Assigning a Static IP Address

Note: Residential Gateways/Broadband Routers will automatically assign IP Addresses to the computers on the network, using DHCP (Dynamic Host Configuration Protocol) technology. If you are using a DHCP-capable Gateway/Router you will not need to assign Static IP Addresses.

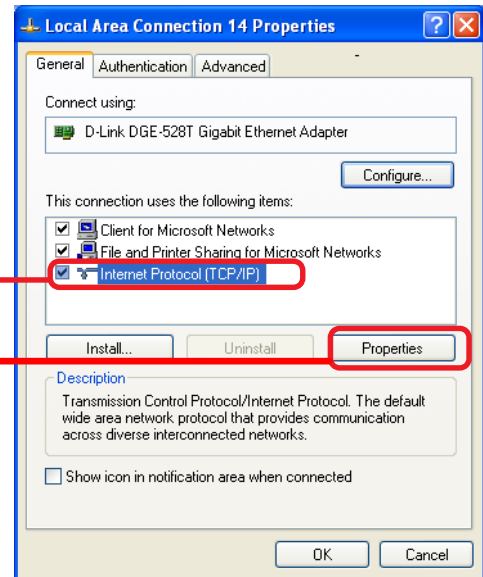
If you are not using a DHCP capable Gateway/Router, or you need to assign a Static IP Address, please follow these instructions:



Assigning a Static IP Address continued

Highlight **Internet Protocol (TCP/IP)**

Click **Properties**



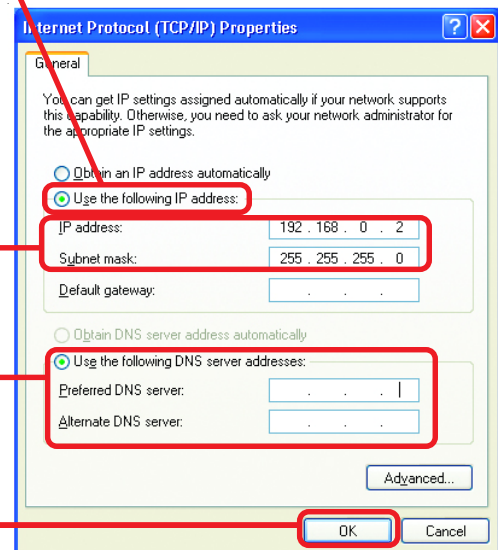
Select **Use the following IP Address** in the Internet Protocol (TCP/IP) Properties window

Input your IP Address and subnet mask. (The IP Addresses on your network must be within the same range. For example, if one computer has an IP Address of 192.168.0.2, the other computers should have IP Addresses that are sequential, like 192.168.0.3 and 192.168.0.4. The subnet mask must be the same for all the computers on the network.)

Input your **DNS server address**. (Note: If you are entering a DNS server, you must enter the IP Address of the **Default Gateway**.)

The DNS server information will be provided by your ISP (Internet Service Provider.)

Click **OK**



You have completed the assignment of a Static IP Address. *(You do not need to assign a Static IP Address if you have a DHCP-capable Gateway/Router.)*

Other networking tasks

For help with other tasks in home or small office networking, see **Using the Shared Documents** folder and **Sharing files and folders** in the **Help and Support Center** in Microsoft Windows XP.

Troubleshooting

A network can be simple to install and maintain. However, occasionally something might go wrong. The best approach to troubleshooting network problems is to start at the very simplest level and work your way up.

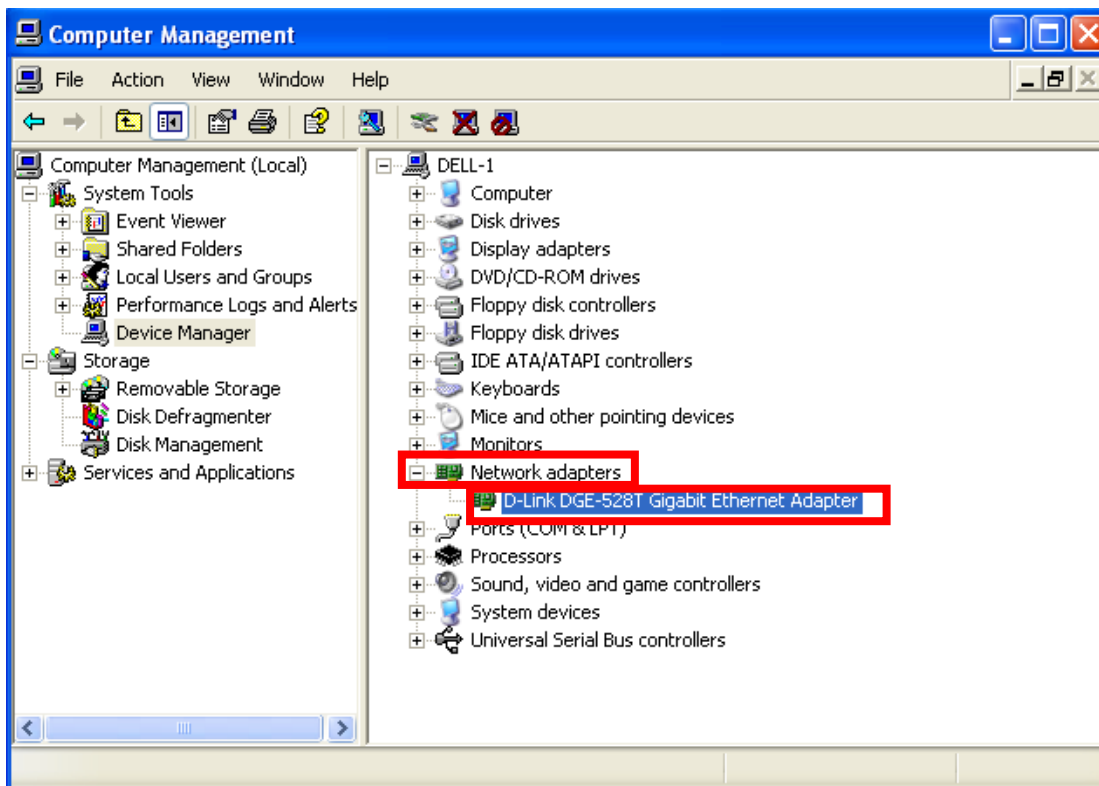
Verify Each Computers Identification

If more than one computer on your network has the same **Computer Name**, communications may be negatively affected. Also, each computer must have the same **Workgroup** name to communicate properly. Use the steps in **Networking Basics** to ensure that each computer on your network has a unique **Computer Name** and identical **Workgroup**.

Verify Network Adapter Installation

If your Network Adapters were not properly installed, including the Network System Software or device drivers, your network will not function properly. Use these steps to verify that your Network Adapter are properly installed:

1. Double-click the **System** icon in the Control Panel.
2. Select the **Device manager** tab on top of the **System Properties** dialog box.
3. Double-click **Network adapters** if you do not see any items branching out. You should see D-Link DGE-528T Gigabit Ethernet PCI Adapter branching out after double-clicking **Network adapters**.



If you do not see any items branching out after double-clicking “Network adapters,” your Network Adapter has not been properly installed. Start at the beginning of the guide and follow all the steps for this computer.

If you see symbols such as a yellow exclamation point or red “X” over the icon adjacent to “D-Link DGE-528T Gigabit Ethernet PCI Adapter,” your adapter is not installed properly or may have a problem. Double-click the “D-LinkDGE-528T Gigabit Ethernet PCI Adapter” to read the explanation of the problem. This information will be helpful if you require technical support from D-Link.

Verify Cable Connections

Check to see that the computer(s) you are troubleshooting are properly connected. Each computer must be connected from its DGE-528T with Category 5 UTP cables. Examine the Network cables and ensure that they have not been damaged by walking-on, rolling over with chairs, or closed in doors. Additionally, make note of and alleviate any possible electromagnetic interference that may be affecting your network.

Your network cables can be plugged into any port on your hub except the “Uplink” port. The “Uplink” port is only used when connecting your hub to another hub or switch.

Understanding Indicators

Your DGE-528T has indicators or lights that can give you information about your network traffic and help you determine problems when troubleshooting.

Your DGE-528T have two indicators labeled “ACT” and “LINK” on their back panels. A steady green “LINK” light indicates a good connection with the switch. A flashing green “ACT” light indicates that the Network Adapter is sending or receiving data.

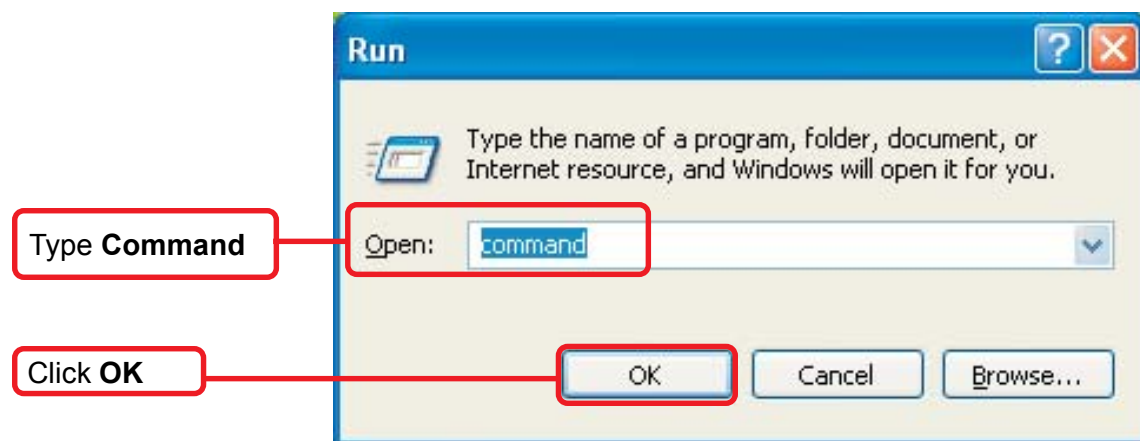
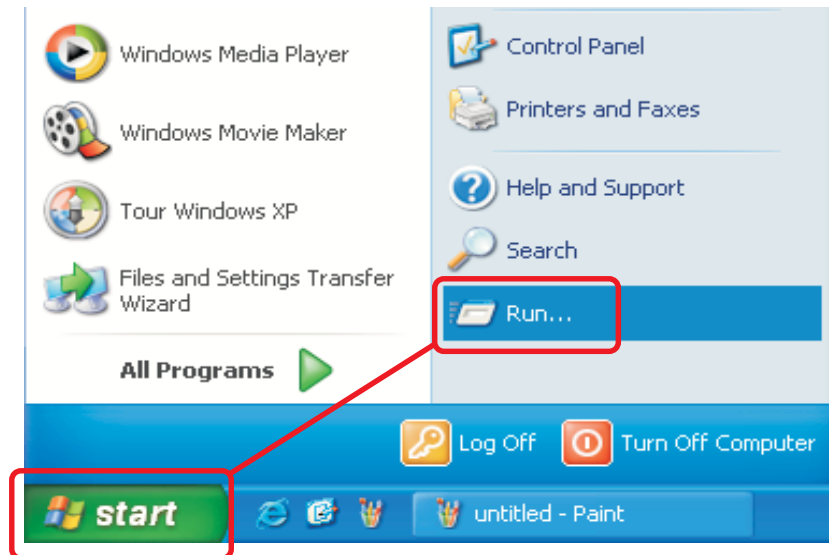
Pinging your DGE-528T Card

Follow these steps to Ping a device:

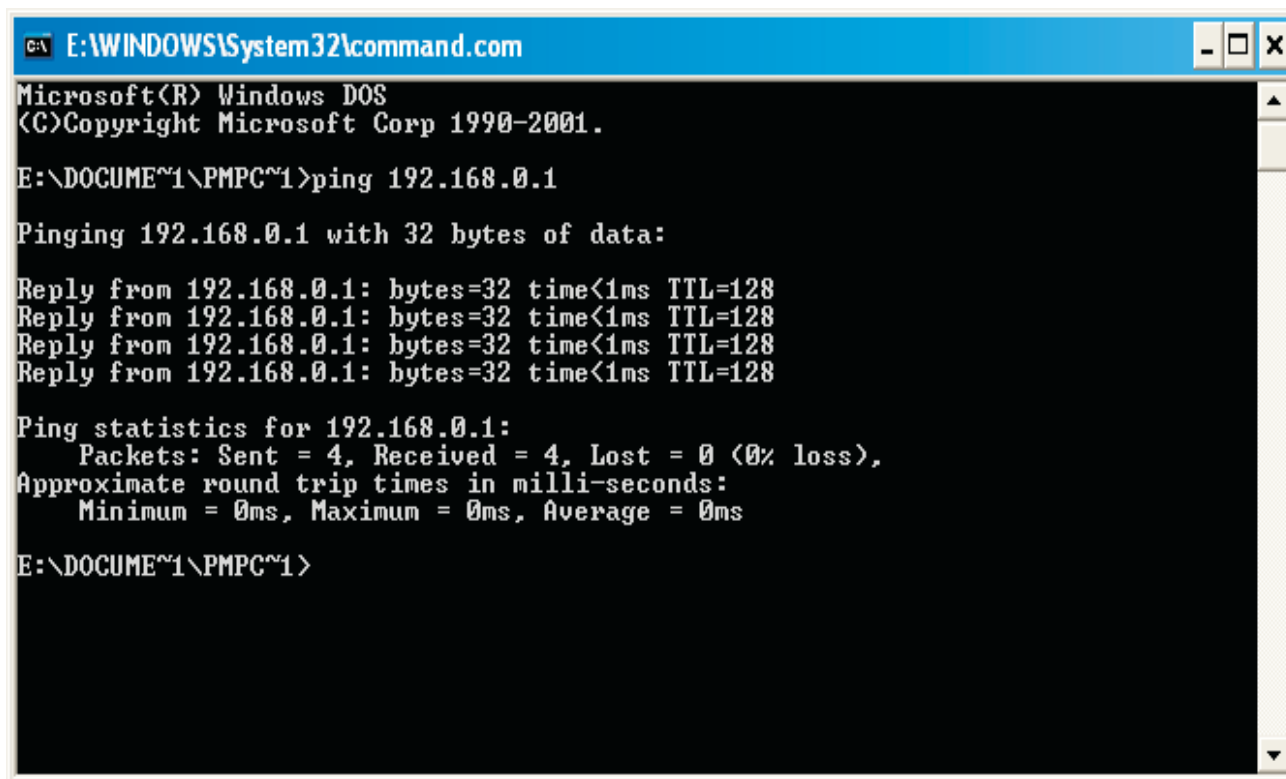
Ping is the acronym for Packet Internet Groper (PING), a utility to determine if a specific IP address is accessible. It works by sending a packet to the specified address and waiting for a reply. Ping is primarily used to troubleshoot Internet connections. By sending out a ping, you are verifying that a specific computer is available. Since all computers on the network must have a unique IP address, getting a reply means that a computer is on the network and that they can communicate. If they can communicate, then the hardware and cabling is probably okay. If you cannot ping another computer, then there is probably a problem with the hardware. Check the cabling and adapter installation. If you are unable to network, even when you receive a reply to your ping, it is probably a software configuration issue. Verify that all the settings are correct.

Pinging your DGE-528T Card *continued*

Go to **Start> Run**.



Type in the following: **ping xxx.xxx.xxx.xxx**, where xxx.xxx.xxx.xxx is the IP address to be pinged (i.e. 192.168.0.1). In this case, computer B with the IP address=192.168.0.1 is being pinged from computer A. Press Enter to begin ping.

A screenshot of a Windows DOS command window. The title bar is blue and contains the text "E:\WINDOWS\System32\command.com" and standard window control buttons. The command prompt shows the following text:

```
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-2001.

E:\DOCUME~1\PMPC~1>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time<1ms TTL=128
Reply from 192.168.0.1: bytes=32 time<1ms TTL=128
Reply from 192.168.0.1: bytes=32 time<1ms TTL=128
Reply from 192.168.0.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

E:\DOCUME~1\PMPC~1>
```

If the connection is good, you will receive four “Reply from” messages. Type **exit** at the prompt to return to Windows.

Technical Specifications

Network Type:

Gigabit Ethernet 1000Base-T

IEEE 802.3ab standard for 1000 Mbps baseband CSMA/CD local area network

Fast Ethernet 100Base-TX

IEEE 802.3u standard for 100Mbps baseband CSMA/CD local area network

Jumperless Hardware

Auto-negotiation functionality

ACPI PCI power management support

Remote Wake up of ACPI/APM system support

With AMD magic packet,

Link Chg.

Microsoft wake-up frame

Media interface: RJ-45

EMI Compatibility:

FCC Class B

VCCI Class B

CISPR B

CE Certification, Class B

C-Tick

Host Interface: PCI 2.2/2.3 Bus (Bus Master)

I/O & IRQ base address: assigned by Plug and Play system

Physical Dimensions: 14 cm x 5.9 cm

Environment:

Storage: -10° to 70°C, (14° to 158°F)

Operating: 0° to 55°C, (32° to 131° F)

Humidity: 10% to 90% RH, non-condensing

Power Consumption: 3.65W max.

PCB Layer: 2 layers

Software drivers for:

- Microsoft Windows 98SE, ME, NT4.0
- Microsoft Windows 2000, XP, XP 64bit, Server 2003, Vista x86, Vista x64
- Linux for kernel 2.4.x, 2.6.x
- DOS ODI Client
- NDIS2 for DOS
- Novell Client for DOS
- Netware Server 4.x, 5.x, 6.x
- Free BSD 4.x and 5.0
- Macintosh OS X (10.2, 10.3, 10.4.x)



Limited Warranty (USA Only)

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.

- Hardware (excluding power supplies and fans): One (1) year
- Power supplies and fans: One (1) 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 THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. 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.

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

Copyright Statement: *No part of this publication or documentation accompanying this product may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from D-Link Corporation/D-Link Systems, Inc., as stipulated by the United States Copyright Act of 1976 and any amendments thereto. Contents are subject to change without prior notice. Copyright 2005 by D-Link Corporation/D-Link Systems, Inc. All rights reserved.*

CE Mark Warning: This is a Class B 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 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 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.

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

Product Registration

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.

Worldwide offices URL

U.S.A

URL: www.dlink.com

Canada

URL: www.dlink.ca

European HQ & UK&I

URL: www.dlink.eu

URL: www.dlink.co.uk

Germany

URL: www.dlink.de

France

URL: www.dlink.fr

Netherlands

URL: www.dlink.nl

Belgium

URL: www.dlink.be

Italy

URL: www.dlink.it

Sweden

URL: www.dlink.se

Denmark

URL: www.dlink.dk

Norway

URL: www.dlink.no

Finland

URL: www.dlink.fi

Spain

URL: www.dlink.es

Portugal

URL: www.dlink.es

Czech Republic

URL: www.dlink.cz

Switzerland

URL: www.dlink.ch

Greece

URL: www.dlink.gr

Luxemburg

URL: www.dlink.be

Poland

URL: www.dlink.pl

Hungary

URL: www.dlink.hu

Singapore

URL: www.dlink-intl.com

Australia

URL: www.dlink.com.au

India

URL: www.dlink.co.in

Middle East (Dubai)

URL: www.dlink-me.com

Turkey

URL: www.dlink.com.tr

Iran

URL: www.dlink-me.com/

Pakistan

URL: www.dlink-me.com/

Egypt

URL: www.dlink-me.com

Israel

URL: www.dlink.co.il

LatinAmerica

URL: www.dlinkla.com

Brazil

URL: www.dlinkbrasil.com.br

South Africa

URL: www.d-link.co.za

Russia

URL: www.dlink.ru

Japan K.K.

URL: www.dlink-jp.com

Korea

URL: www.dlink.co.kr/

China

URL: www.dlink.com.cn

Taiwan

URL: www.dlinktw.com.tw