

NETGEAR™

Gigabit Ethernet Card Installation Guide for Windows NT

MODEL
GA 620

MODEL
GA 620T

START HERE

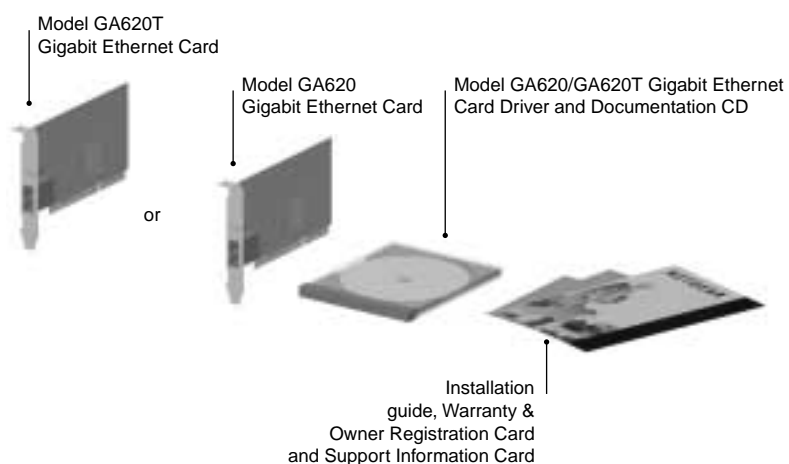
Instructions in this guide are for users of Windows NT® who are installing the NETGEAR™ Model GA620 or the Model GA620T Gigabit Ethernet Card. For instructions on installing and verifying the Windows NT network driver, refer to "Install the Windows NT Network Driver" on the other side of this guide.

These four easy steps are provided for installing your Model GA620 or the Model GA620T Gigabit Ethernet Card: (1) Verify package contents and hardware and software requirements; (2) Install the card; (3) Connect the network cables; and (4) Install the Windows NT Network Driver.

For further information about your Model GA620 or the Model GA620T Gigabit Ethernet Card, refer to Reference Guide for the Model GA620/GA620T Gigabit Ethernet Card (included on the Model GA620/GA620T Gigabit Ethernet Card Driver and Documentation CD).

As a last step, in order to receive the maximum warranty protection provided by NETGEAR, be sure to register for the product either online or by mailing in the registration card. To get product support, to register your product online, or to obtain product information and NETGEAR product documentation, direct your Web browser to the Web page at: <http://www.netgear.com>

Note: If your server is operating in a Novell NetWare or Windows 2000 environment, refer to Reference Guide for the Model GA620 and Model GA620T Gigabit Ethernet Cards (included on the Model GA620/GA620T Gigabit Ethernet Card Driver and Documentation CD).



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VERIFY PACKAGE

Unpack the contents of the package and make sure that you have everything.

VERIFY SOFTWARE REQUIREMENTS

The instructions given in this guide are for using the Model GA620 or Model GA620T Gigabit Ethernet Card in a server that has a Microsoft® Windows NT 4.0 operating system. You must have Service Pack 6 installed on your Windows NT server. To download Service Pack 6, go to the Microsoft Web page at: <http://www.microsoft.com/downloads>

Scroll to Support Drivers, and then scroll to Patches & Service Packs to download Service Pack 6.

VERIFY HARDWARE REQUIREMENTS

You must have a pentium-based server that meets Windows NT 4.0 software requirements, and has an open 32-bit or 64-bit PCI expansion slot with bus mastering capability.

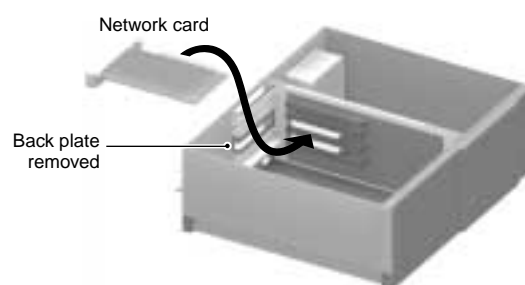
INSTALL THE CARD

Note: Touch a grounded metal object to free yourself of static electricity before you handle the card.

1. Turn the power off and unplug the power cord from your computer.
2. Remove the PC cover.
3. Choose an available PCI slot (either a 32-bit or a 64-bit slot) and remove the corresponding back plate from the PC chassis.
4. Insert the card into the PCI expansion slot.

Caution: To avoid damaging any components on the card, handle it by the edges, using your thumbs to push it securely into the PCI slot. Make sure the card is fully inserted into the slot to prevent the PC operating system from freezing at startup. If you are inserting the card into a 32-bit slot, part of the connector edge on the card remains undocked. This situation is normal and does not affect the operation of the card.

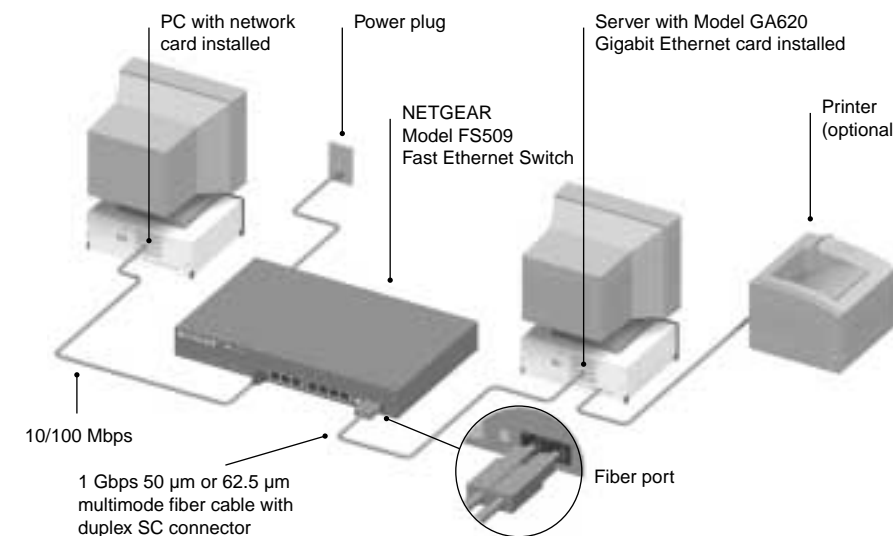
5. Fasten the card to the rear of the computer chassis by tightening the screw that is on the PC.
6. Replace the PC cover and reconnect the power cord to the PC.



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CONNECT THE NETWORK CABLES

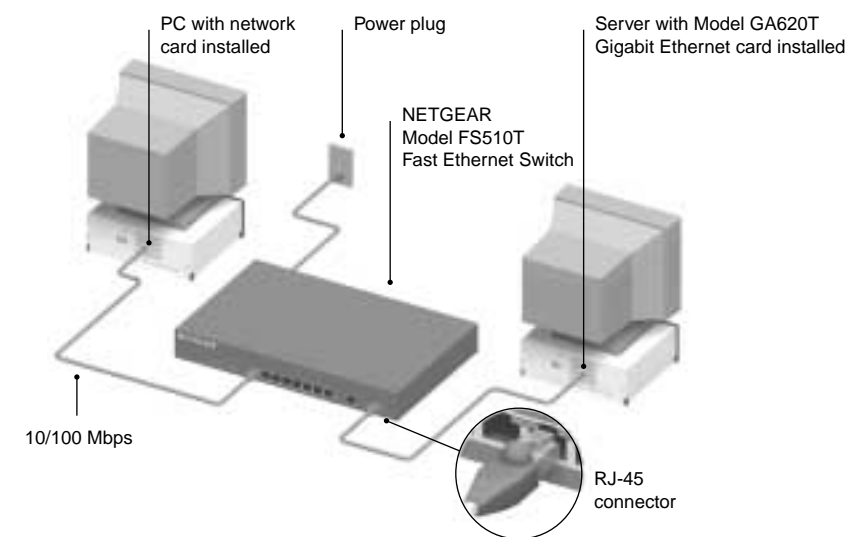
Using the appropriate cable (as outlined in the table below), connect the port on a network hub or switch to the port on the card. The port on the card performs autonegotiation and supports full-duplex operation.



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Multimode Fiber (GA620)	62.5/125-Micron*	50/125-Micron
Operating range	2 to 260 meters	2 to 550 meters

* Shortwave laser optics (850 nm)



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Unshielded Twisted Pair (GA620T)	Category 5 cabling	100 meters max
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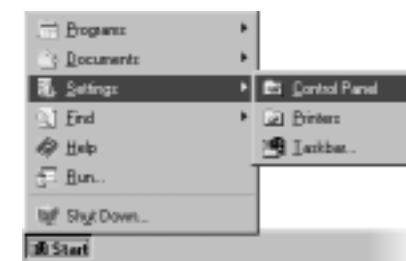
INSTALL THE WINDOWS NT NETWORK DRIVER

Note: You must install the card (instructions on other side of this guide) before installing the network driver.

It is all right if screens appear on your system that are different from those shown in these instructions, but make sure you are prompted for the same information. If you are not prompted for the same information, refer to your Microsoft documentation.

1. Turn on the power to the computer and start Windows NT.
You must have Network Administrator privileges to install the driver software.

2.



Click on "Start" from the Windows desktop menu; select "Settings" and then "Control Panel." The Control Panel window opens, displaying a group of icons including the Network icon.

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Internet / World Wide Web

Go to <http://www.NETGEAR.com> for the NETGEAR Web page.
Defective or damaged merchandise can be returned to your point-of-sale representative.

IMPORTANT!

Please register online. YOU MUST REGISTER TO OBTAIN TECHNICAL SUPPORT. PLEASE RETAIN PROOF OF PURCHASE and this warranty information. To get product support, or to obtain product information and NETGEAR product documentation, direct your Web browser to the <http://www.NETGEAR.com> Web page.

To register online, direct your Web browser to the <http://www.gearguy.com/pub/registration> Web page. If you do not have access to the World Wide Web, you can print a registration card and mail it to NETGEAR customer service. The card is included on your Drivers and Diagnostics disk as a Microsoft Word document file called **register.doc**. Download the file, print the form, and fill in the information. Then mail the completed form to:

NETGEAR, Inc.
P.O. Box 58185
Santa Clara, CA 95052-9916



* M 1 . G A 6 2 0 N A . 2 *

3.



Network

Double-click on the Network icon.

The Network window opens.

4.



Click on the "Adapters" tab, and then click on "Add."

If there are any previously installed Model GA620 or Model GA620T Gigabit Ethernet Card drivers listed, the drivers must be updated (as outlined in "Updating the Driver Software" in Chapter 3 of Reference Guide for the Model GA620/GA620T Gigabit Ethernet Card). The Select Network Adapter window opens.

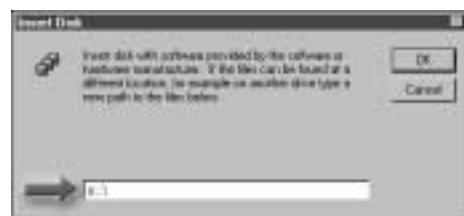
5.



Click on "Have Disk."

The Insert Disk window opens.

6.



Insert the Model GA620/GA620T Gigabit Ethernet Card Driver and Documentation CD into the CD-ROM drive in your server when prompted.

Type the path to the CD-ROM drive on your server, and then click on "OK."

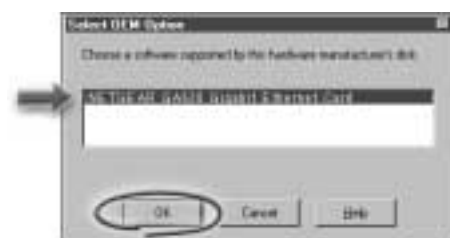
For example, you enter a different path depending on the system:

- Enter the following path for the Intel driver: e=

In each example, the letter e is the CD-ROM drive.

The Select OEM Option window opens and NETGEAR GA620 Gigabit Ethernet Card is highlighted. If it is not highlighted, click on it.

7.



Click on "OK."

The driver is copied onto your system, and the NETGEAR GA620 Gigabit Ethernet Card installation window opens.

8.



Refer to the table to set the parameters in the entry fields

Entry Field	Description
NIC Detected	<p>Adapter Instance: To distinguish multimode network cards installed in the system, each is assigned a unique instance number. Typically, the first network card detected is instance 1, and the next is instance 2.</p> <p>Bus: Shows on which PCI bus the network card is operating. The number shown is typically 0 for a system with up to 4 PCI slots on its bus. The number may be slightly higher for servers with more than 4 PCI slots.</p> <p>Slot: Shows the PCI slot number where the Gigabit Ethernet Card is installed.</p>
Link Negotiation Enabled	<p>When checked (default): 802.3z-compliant Gigabit Ethernet Link Negotiation is used. All Model GA620 and Model GA620T Gigabit Ethernet Cards use Link Negotiation by default.</p> <p>When unchecked: Link Negotiation is disabled and only link signal detection is used. Use this setting when connecting to Gigabit Ethernet equipment that does not support Link Negotiation or if there is a problem establishing a link between the card and the connecting device. The link is set for 1000 Mbps full-duplex mode. Be sure that the connecting device uses the same duplex mode and speed settings.</p>
Rx Flow Control Enabled	<p>When checked (default) and link negotiation is enabled: The card negotiates 802.3x receive flow control with the device at the other end of the link. If 802.3x flow control is supported by the other device, receive flow control is enabled.</p> <p>When unchecked or link negotiation is disabled: Receive flow control is disabled.</p>
Tx Flow Control Enabled	<p>When checked (default) and link negotiation is enabled: The card negotiates 802.3x transmit flow control with the device at the other end of the link. If 802.3x flow control is supported by the other device, transmit flow control is enabled.</p> <p>When unchecked or link negotiation is disabled, transmit flow control is disabled.</p>
Jumbo Frames Enabled	<p>When unchecked (default), only standard-size Ethernet frames will be sent. Use this setting when connecting to Gigabit Ethernet equipment that does not support Jumbo Frames.</p>

9. Click on "OK" to accept the changed parameters.

The Network window opens.

10. Click on "Close."

If other cards in your server use TCP/IP bindings, the Microsoft TCP/IP Properties window opens. Set any necessary TCP/IP configurations, and then click on "OK" when finished.

11. Click on "Yes" when prompted to restart your computer.

The system restarts using the new driver and configuration settings.

CHANGING CONFIGURATION PARAMETERS

To configure Link negotiation, RX (receive) flow control, or TX (transmit) flow control card parameters:

1. From the Start Menu on the Windows desktop, select "Settings" and then "Control Panel."

The Control Panel window opens.

2. Double-click on the Network icon.

The Network window opens.

3. Click on the "Adapters" tab.

4. Click on "NETGEAR GA620 Gigabit Ethernet Card," and then click on "Properties."

The Properties window opens.

5. Click on the parameter boxes to disable (not selected) or enable (selected) the parameter.

6. Click on "OK" to accept the settings.

TECHNICAL SPECIFICATION

NETGEAR Model GA620 and GA620T Gigabit Ethernet Cards	
Standards Compatibility	IEEE 802.3z 1000BASE-SX Gigabit Ethernet IEEE 802.3x Flow Control
Network Connection (Model GA620)	Duplex SC fiber connector for 62.5/125- or 50/125-micron multimode fiber Full-duplex 2,000 Mbps (1,000 Mbps each way) Gigabit Ethernet
Network Connection (Model GA620T)	RJ 45 connector for Category 5 Unshielded Twisted Pair Cable.
Host Connection	Single slot, short form factor, PCI card with 32- or 64-bit connectors PCI Revision 2.2 compliant Clock speed up to 66 MHz
Power Specifications DC Operating Voltage Power Consumption	+5V +/- 5% 14 watts, maximum 2.8A @ + 5VDC
Physical Specifications Dimensions Weight	6.6 x 3.7 in. 16.8 x 9.5 cm 3.8 oz. (104 g)
Environmental Specifications Operating Temperature Operating Humidity Agency Compliance	0° to 40° C 10% to 90% noncondensing CE mark, commercial
Agency Compliance	FCC, Part 15, Class B EN 55 022 (CISPR 22), Class B Canada ICES-003, Class B

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Statement of Conditions

In the interest of improving internal design, operational function, and/or reliability, NETGEAR reserves the right to make changes to the products described in this document without notice. NETGEAR does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

Certificate of the Manufacturer/Importer

It is hereby certified that the NETGEAR Model GA620 and Model GA620T Gigabit Ethernet cards have been suppressed in accordance with the conditions set out in the BMPT-AmtsblVfg 243/1991 and Vfg 46/1992. The operation of some equipment (for example, test transmitters) in accordance with the regulations may, however, be subject to certain restrictions. Please refer to the notes in the operating instructions.

Federal Office for Telecommunications Approvals has been notified of the placing of this equipment on the market and has been granted the right to test the series for compliance with the regulations.

Federal Communications Commission (FCC) Compliance Notice: Radio Frequency Notice

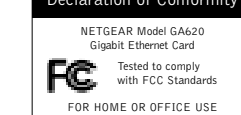
Note: Modifications to this device change it from the original state it was in when tested and may alter the device so that it no longer complies with FCC testing limitations for Class B digital devices. According to FCC regulations, the user could be prevented from operating this equipment if it is modified.

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, (2) This device must accept any interference received, including interference that may cause undesired operation.

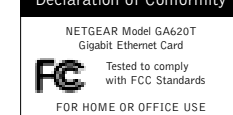
Note: The NETGEAR Model GA620 and Model GA620T Gigabit Ethernet cards have been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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.

Declaration of Conformity



Declaration of Conformity



EN 55 022 Statement

This is to certify that the NETGEAR Model GA620 and Model GA620T Gigabit Ethernet cards are shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN 55 022 Class B (CISPR 22).

Compliance is dependent upon the use of shielded data cables.

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (NETGEAR Model GA620 and Model GA620T Gigabit Ethernet Cards) do not exceed the Class B limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique (NETGEAR Model GA620 and Model GA620T Gigabit Ethernet Cards) respecte les limites de bruits radioélectriques visant les appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.