Gigabit Ethernet Card
Installation Guide for Windows NT
Instructions in this guide are for users of Windows NT® who are installing the NETGEAR™ Model GA620 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 Gigabit Ethernet Card:

1. Verify package contents and hardware and software requirements
2. Install the card
3. Connect the network cables
4. Install the Windows NT Network Driver


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://netgear.baynetworks.com

Note: If your server is operating in a Novell NetWare environment, refer to Reference Guide for the Model GA620 Gigabit Ethernet Card (included on the Model GA620 Gigabit Ethernet Card Driver and Documentation CD).
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 Gigabit Ethernet Card in a server that has a Microsoft Windows NT 4.0 operating system. You must have Service Pack 3 installed on your Windows NT server. To download Service Pack 3, go to the Microsoft Web page at:

http://www.microsoft.com/msdownload/#sup

Scroll to Support Drivers, and then scroll to Patches & Service Packs to download Service Pack 3.

Verify Hardware Requirements

You must have a pentium-based server that:

- Meets Windows NT 4.0 software requirements.
- Has an open 32-bit or 64-bit PCI expansion slot with bus mastering capability. The Model GA620 Gigabit Ethernet Card delivers 32-bit performance when it is plugged into either slot.
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.

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

**Note:** 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.
Using the appropriate fiber cable (as outlined in one of the tables below), connect the fiber 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.

### Connect the Network Cables

| Model GA620 Gigabit Ethernet Card Installation Guide for Windows NT |

- **Multimode Fiber**
  - **62.5/125-Micron**
  - **50/125-Micron**

| Operating Range | 2 to 260 meters | 2 to 550 meters |

* Shortwave laser optics (850 nm)

### Description of Port LEDs

<table>
<thead>
<tr>
<th>Label</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINK</td>
<td>Blinking slowly</td>
<td>The port is disabled.</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>A good link exists on the port.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>No link exists on the port.</td>
</tr>
<tr>
<td>DATA</td>
<td>Blinking or On</td>
<td>Data is detected on the port.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>No data is detected on the port.</td>
</tr>
</tbody>
</table>
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.

3. **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 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 Gigabit Ethernet Card).

The Select Network Adapter window opens.

5. Click on “Have Disk.”

The Insert Disk window opens.
6. Insert the Model GA620 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:\nt\x86

- Enter the following path for the Campaq/DEC Alpha driver:

  \e:\nt\alpha

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

<table>
<thead>
<tr>
<th>Entry Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| NIC Detected                 | **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.  
**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.  
**Slot:** Shows the PCI slot number where the Model GA620 Gigabit Ethernet Card is installed.                                                                                                           |
| Link Negotiation Enabled     | - When checked (default): 802.3z-compliant Gigabit Ethernet Link Negotiation is used. All Model GA620 Gigabit Ethernet Cards use Link Negotiation by default.  
- 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. |
| Rx Flow Control Enabled      | - 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.  
- When unchecked or link negotiation is disabled: Receive flow control is disabled.                                                                                                               |
| Tx Flow Control Enabled      | - When checked 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.  
- When unchecked (default) or link negotiation is disabled, transmit flow control is disabled.                                                                                                      |
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 Specifications

| Standards Compatibility | IEEE 802.3z 1000BASE-SX Gigabit Ethernet  
IEEE 802.3x Flow Control |
|--------------------------|----------------------------------------------------------------------------------|
| Network Connection       | 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 |
| Host Connection          | Single slot, short form factor, PCI card with 64-bit connectors  
Fits in any 32- or 64-bit PCI Revision 2.1 compliant slot  
Clock speed up to 66 MHz |
| Power Specifications     | DC Operating Voltage: +5V +/- 5%  
Power Consumption: 14 watts, maximum  
2.8A @ +5VDC |
| Physical Specifications  | Dimensions: 6.6 x 3.7 in.  
16.8 x 9.5 cm  
Weight: 3.8 oz. (104 g) |
| Environmental Specifications | Operating Temperature: 0° to 40° C |
|                          | Operating Humidity: 10% to 90% noncondensing |
|                          | Agency Compliance: CE mark, commercial  
FCC, Part 15, Class B  
EN 55 022 (CISPR 22), Class B  
Canada ICES-003, Class B |