



Broadcom NetXtreme™ Gigabit Ethernet Adapter Installation

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Safety Precautions

Before you remove the cover of your system, you must observe the following precautions to protect yourself and to prevent damage to the system components (refer to the [Safety Information](#) link).

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Installing the Broadcom Adapter

The following instructions apply to installing the Broadcom adapter in most systems. Refer to the manuals that were supplied with your system for details about performing these tasks on your particular system.

Installing the Adapter

1. Before installing the adapter, ensure the system power is OFF and unplugged from the power outlet, and that proper electrical grounding procedures have been followed.
2. Remove the system cover, and select any empty PCI/PCI-X slot. If you do not know how to identify a PCI slot, refer to your system documentation.
3. Remove the blank cover-plate from the slot that you selected.
4. Holding the PCI/PCI-X card by the edges, align the adapter's connector edge with the PCI connector dock in the system.



NOTE - The connector dock in a 32-bit PCI slot is shorter than in a 64-bit PCI slot. Although the adapter is designed to fit in either slot type, when installed in a 32-bit PCI slot, part of the adapter's connector edge will remain undocked. This is perfectly normal.

5. Applying even pressure at both corners of the card, push the adapter card until it is firmly seated in the PCI/PCI-X slot. When properly seated, the adapter's port connectors will be aligned with the slot opening, and its faceplate will be flush against the system chassis.



Caution—Do not use excessive force when seating the card, as this may damage the system or the adapter. If the card resists seating, remove it from the system, realign it, and try again.

6. Secure the adapter with the adapter clip or screw.
7. Replace the system cover and disconnect any personal antistatic devices.
8. Power the system on.

Once the system returns to proper operation, the adapter hardware is fully installed.

Connecting the Network Cables

Ethernet Adapter

The Ethernet adapters have one RJ-45 connector used for attaching the system to an Ethernet copper-wire segment. When automatic link negotiation is disabled, the port can be configured for 10 Mbps, 100 Mbps, or 1000 Mbps signaling and either half-duplex or full-duplex operation.

Perform the following procedure for connecting a network cable to the Gigabit Ethernet Adapter:

1. Prepare an appropriate cable. The following table lists the cable characteristics for connecting to 10/100/1000BASE-T ports:

Table 1. 10/100/1000BASE-T Cable Specifications

Port Type	Connector	Media	Maximum Distance
10BASE-T	RJ-45	Cat. 3, 4, or 5 UTP	100 meters (328 feet)
100/1000BASE-T	RJ-45	Cat. 5 UTP	100 meters (328 feet)



Note – 1000BASE-T signaling requires four twisted pairs of Category 5 balanced cabling, as specified in ISO/IEC 11801:1995 and EIA/TIA-568-A (1995) and tested using procedures defined in TIA/EIA TSB95.

2. Connect one end of the cable to the Gigabit Ethernet adapter.
3. Connect the other end of the cable to an RJ-45 Ethernet network port.



Note – Once the cable is properly connected at both ends, the adapter port LEDs should be functional. For driver installation and configuration instructions, refer to the software configuration for that specific driver.

Fiber Adapter

The BCM5701S, 03S base adapters have one fiber optic connector for attaching the system to a compatible link partner, or an IEEE 802.3z compliant gigabit switch. Upon connecting the system to the network and power is supplied, the adapter performs autonegotiation and attempts to establish the connection at 1000 Mbps full-duplex, only.

Perform the following procedure for connecting a network cable to the Gigabit Fiber Adapter:

1. The following table lists the cable characteristics for connecting to 1000BASE-SX fiber optic ports:

Table 2. 1000BASE-SX Fiber Optic Cable Specifications

Port Type	Connector	Media	Maximum Distance
1000BASE-SX	Fiber Optic	50 um multimode	550 meters (1,804 feet)
1000BASE-SX	Fiber Optic	62.5 um multimode	260 meters (853 feet)



Caution – The fiber optic ports contain a Class 1 laser device. When the ports are disconnected, always cover them with the provided plug. Exposed ports may cause skin or eye damage.

2. Connect one end of the cable to the Adapter.
3. Connect the other end of the cable to the fiber optic port.



Note – Once the cable is properly connected at both ends, the adapter port LEDs should be functional. For driver installation and configuration instructions, refer to the software configuration for that specific driver.

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Installing the Driver Software

NOTE – The Broadcom adapter must be physically installed in your system prior to installing the driver



software.

Windows™ XP

When the Windows XP system first boots up after installing a new hardware device, such as a Fiber Adapter, the system automatically detects the new hardware and prompts you to install the driver software for that device.

A network device driver must be installed before the adapter can be used with your Windows XP system.

To install the adapter software for Windows XP, do the following



NOTE – Before beginning this procedure, verify that the Windows XP system has been upgraded to the latest version with the latest service pack applied.

Installing the Adapter Software

To install the adapter software for Windows XP do the following:

1. Start your computer and log on to Windows XP. You must have Local Administrator privileges to install the driver software.

When you boot up the Windows XP system after installing the adapter card, a series of *Found New Hardware* windows display.

Updating the Adapter Software

To update the adapter software for Windows XP, do the following

1. Start your Windows XP system and log in. You must have Local Administrator privileges to update the driver software.
2. From the Start menu, right click **My Computer** and select **System Properties**.
3. When the System Properties window opens, click the **Hardware** tab.
4. When the Device Manager window opens, right-click on the Broadcom NetXtreme™ adapter and select **Update Driver**.
5. In the Hardware Update Wizard window, select *Install the software automatically (Recommended)*, then click **Next**.

The Hardware Update Wizard searches for the appropriate driver and automatically updates the software.

If asked to specify the location of the Windows XP CD-ROM instead, click **Browse** (don't use the text entry field) and locate the path to the Gigabit drivers that was specified above.

6. Once the software update is complete, click **Finish** to close the wizard and complete the software installation.

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Windows™ 2000

When the Windows 2000 system first boots up after installing a new hardware device, such as a Gigabit adapter, the system automatically detects the new hardware and prompts you to install the driver software for that device.



NOTE – A network device driver must be installed before the Gigabit adapter can be used with your Windows 2000 system.



NOTE – Before beginning this procedure, verify that the Windows 2000 system has been upgraded to the latest version with the latest service pack applied (service pack 2 is required).

Installing the Adapter Software

To install the adapter software for Windows 2000, do the following

1. Start your Windows 2000 system and log in. You must have Local Administrator privileges to install the driver software.

When you boot up the Windows 2000 system after installing the adapter card, a series of *Found New Hardware Wizard* windows are displayed.

2. In the Install Hardware Device Drivers window, click **Search for a suitable driver for my device (recommended)**, then click **Next**.
3. In the Locate Driver Files window, select the applicable search location check boxes.
4. When prompted, insert the media to be searched into your CD-ROM drive, type the path to the driver, and select **OK**.

Example: e:

Where "e:" is the designation of the CD-ROM drive on your system.

5. In the Driver Files Search Results window, verify that the correct path to the driver software is shown, then click **Next**.



*NOTE – If the Insert Disk window appears, **do not insert the Windows 2000 disk**:*

Some early versions of Windows 2000 may display a spurious message requesting you to insert the Windows 2000 disk. If this occurs, leave the driver installation media in the drive and click **OK**. If asked to specify the location of the Windows 2000 CD-ROM instead, click **Browse** (don't use the text entry field) and locate the path to the Gigabit Fiber drivers that was specified above.

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Windows™ NT



NOTE – Broadcom recommends using Internet Explorer 5.0 to view help files.

Install the adapter software for Windows NT as follows:

1. Verify that the Windows NT system is upgraded with Service Pack 4 or later.
2. Start your Windows NT system and log in. You must have Local Administrator privileges to install the driver software.
3. Open the Control Panel.
4. In the Control Panel, double-click the **Network** icon.
5. When the Network window opens, select the **Adapters** tab.
6. Click **Add** to install a new adapter.

All previously installed drivers are listed under Network Adapters.

7. When the Select Network Adapter window opens, click **Have Disk**.
8. When prompted, insert the Broadcom CD-ROM into your system's CD-ROM drive, type the path to the driver, and click **OK**.

For example, to install the adapter driver software for Windows NT, type **e:** in the Insert Disk location box (where "e:" is the designation of the CD-ROM drive on your system).



NOTE - If you acquired the adapter software on floppy disk or from the Broadcom support website, enter the path to where the adapter driver files reside on your system.

9. With "Fiber Controller" highlighted in the Select OEM Option window, click **OK**.

The adapter files are installed, then the Network window is displayed showing the newly installed adapter.

10. Click **Close**, then the Microsoft TCP/IP Properties window appears.
11. Configure the TCP/IP protocol and click **OK**.
12. When prompted to restart your computer, click **Yes**.

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Linux

Building Driver From TAR File

1. Create a directory and extract the TAR files:

```
tar xvzf bcm5700-<version>.tar.gz
```

2. Build the driver bcm5700.o as a loadable module for the running kernel:

```
CD src  
make
```

3. Test the driver by loading it:

```
insmod bcm5700.o
```

4. Install the driver and man page:

```
make install
```

5. To configure network protocol and address, refer to Linux-specific documentation.

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Other Operating Systems

See the User's Guide on the CD or Web for DOS, OS2, Netware, and Unixware instructions.

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