3Com® OfficeConnect®

10/100 LAN + 56K Global Modem CardBus PC Card User Guide

Contents

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INSTALLING AND CONNECTING THE CARD

Identifying the LAN+Modem Card Ports

Type III PC Card   The dual-function LAN+Modem card has an integrated LAN RJ-45 port and an integrated RJ-11 modem port, as well as a port for a cellular phone or an ISDN connection.

RJ-11 Modem Cable

RJ-45 Ethernet Cable
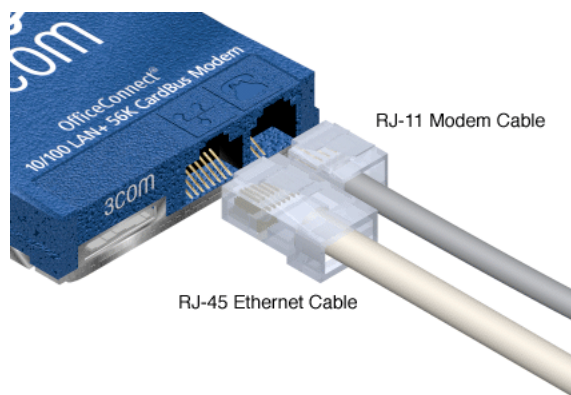
Type II PC Card   The dual-function LAN+Modem card has an XJACK® LAN/modem port and an auxiliary LAN port. The XJACK connector accepts either an RJ-45 network jack or an RJ-11 telephone jack.
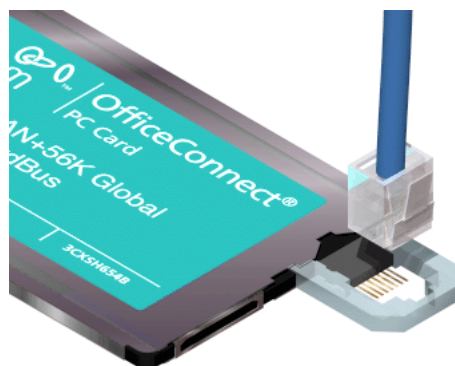
Inserting the LAN+Modem Card

Type III PC Card   To insert the card, slide it into the PC Card slot as shown below. The power to the computer can be on or off. Without forcing the card, push until it seats firmly.

⚠️ *CAUTION: Forcing the card into the slot may bend the pins. If you do not know how to insert cards in your computer, refer to the documentation supplied with your computer on using PC Card (PCMCIA) slots.*

Type II PC Card   To insert the card, slide it into the PC Card slot as shown below. Without forcing the card, push until it seats firmly.

⚠️ *CAUTION: Forcing the card into the slot may bend the pins. If you do not know how to insert cards in your computer, refer to the documentation supplied with your computer on using PC Card (PCMCIA) slots.*

Connecting to a Network

Before connecting the LAN+Modem card to the network, be sure that you have the network adapter cable appropriate for a network connection at your site.

Type III PC Card

1 Connect one end of the network adapter cable to the integrated RJ-45 connector on the card, as shown in the following figure.

2 Connect the other end to the LAN port.

Type II PC Card

1 Connect one end of the network adapter cable to the XJACK connector on the card, as shown in the following figure.

2 Connect the other end to the LAN port.
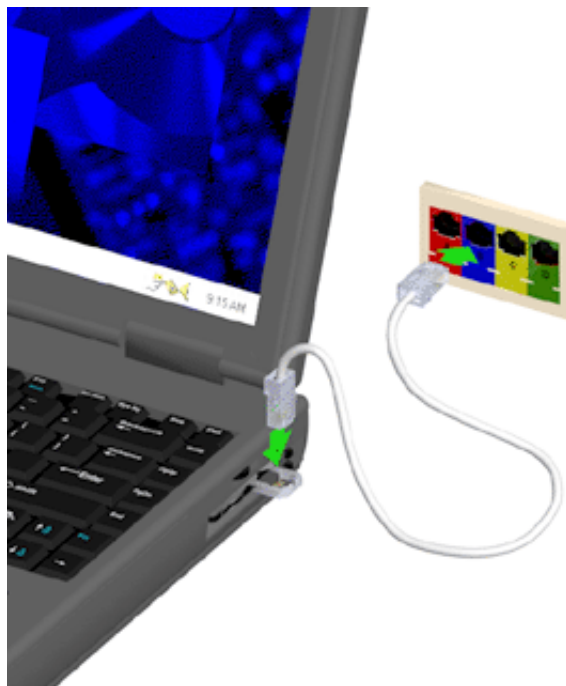
Connecting to a Telephone Line

Type III PC Card

1 Connect the modem cable to the integrated RJ-11 connector (See "Identifying the LAN+Modem Card Ports" on page 1).

2 Connect the other end of the modem cable to the telephone wall jack.

Type II PC Card

The modem can be connected only through the XJACK connector.

1 Connect the modem cable to the XJACK connector (See "Identifying the LAN+Modem Card Ports" on page 1).

2 Connect the other end of the modem cable to the telephone wall jack.
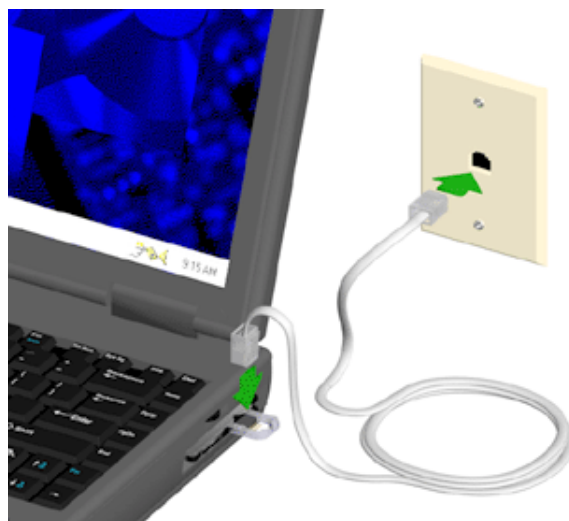
Simultaneous LAN and Modem Connections

Type III PC Card

1 Connect one end of the network adapter cable to the integrated RJ-45 connector on the card, as shown in the following figure. Connect the other end to the LAN port.

2 Connect the modem cable to the integrated RJ-11 connector (See "Identifying the LAN+Modem Card Ports" on page 1). Connect the other end of the modem cable to the telephone wall jack.
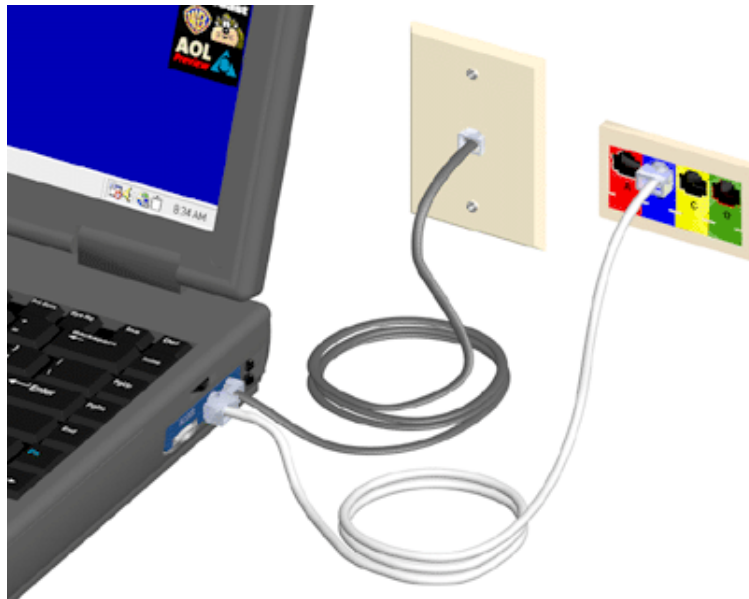
Type II PC Card   There is no simultaneous LAN and modem connection with the Type II card.

International Telephone Adapters

Both PC Cards   In some countries, the wall jack requires a telephone line adapter in order for it to accept the RJ-11 connector. Adapters for the United Kingdom, Germany, and France are included with the LAN+Modem card sold in Europe.
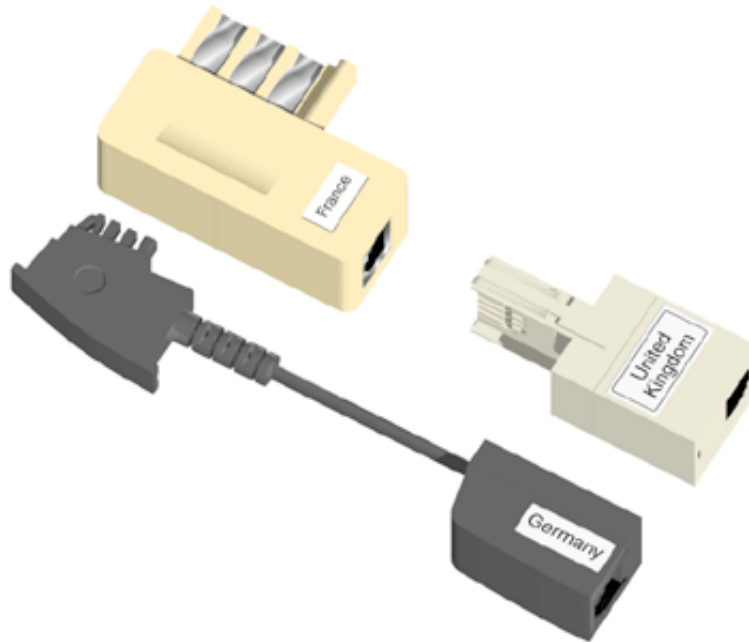
To order a line adapter for a specific country, contact TeleAdapt at one of the numbers listed below.

	USA	United Kingdom	Australia
Phone	877 835 3232	(44) (0) 181 233 3000	(61) (2) 9433 8363
Fax	408 965 1414	(44) (0) 181 233 3132	(61) (2) 9433 8369
Web Site	www.teleadapt.com		

Disconnecting the Cables

Type II PC Card   The network adapter cable locks in place when connected to the card. To release the adapter, squeeze the release clips located on the sides of the connector.

CAUTION: Do not pull or attempt to disconnect the network adapter cable without squeezing the release clips. Otherwise, you may damage the card and make it inoperable.

All other cables used with the PC Cards lock in place when connected to the cards. To release a cable, squeeze the release clip located on the top of the connector.

LAN and Modem Connector LEDs

Type III PC Card   The connector lights to indicate network or modem connection status.

- Green indicates a 10 Mbps link.

- Yellow indicates a 100 Mbps link.

- Amber indicates a modem connection.

    - If it blinks, the modem is off hook.

    - If it is solid, a connection is established.
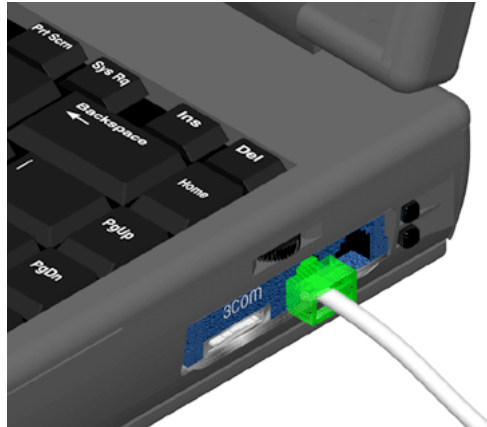
Type II PC Card   When using the XJACK connector, the card LED displays the status of your network link as follows:

- Green indicates a 10 Mbps link.
- Yellow indicates a 100 Mbps link.
- Off indicates that there is no connection between the card and the hub.

You can use the LEDs to verify link integrity when the LAN+Modem card is connected to the network and the network drivers are installed.

Installing 3Com Utilities and Documentation

If you did not install the WorldPort country selection software when you installed this manual, do so now.

In Windows 2000 use the Microsoft country selection utility instead of the WorldPort utility.

To install the 3Com utilities and online documentation:

1 Insert the *Installation CD* in the CD-ROM drive and wait for the setup program to start automatically.

2 From the 3Com PC Card Installer menu, select the function you want to perform..

Check with your MIS manager about whether to install other utilities included with the LAN+Modem card.

Opening the User Guide

After the *User Guide* has been installed, to start it in your browser:

1 Open the *Start* menu and select *Programs*.

2 Select *3Com Mobile*.

3 Select *3Com 3CXSH654B*.

4 Select *User Guide*.

**Making Your OwDisk
1: *Windows 95/98
Installation***

- Disk 2: *Windows NT Installation*
- Disk 3: *Windows 2000 Installation*

To create a *Windows 95/98 Installation* diskette:

1 Insert the *Installation CD* in the CD-ROM drive (for example, Drive D) and wait for the auto start feature to start the installation.

2 From the 3Com PC Card Installer menu, select *CD Utilities*.

3 Select *Create Diskettes*.

4 Follow the prompts that appear in DiskFactory.

2
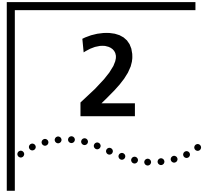
WINDOWS 2000

Installing the PC Card

1 Insert the *Installation CD* into the CD-ROM drive. The auto-start feature starts the installation. If auto-start is disabled on your computer, click Start>Run and type *d:\setup.exe* (where d: is your CD-ROM drive).

2 Insert the PC Card into the PC Card slot as shown in Chapter 1.

   After inserting the PC Card, if auto-start is enabled and nothing happens within five seconds, reboot your computer and log in to Windows 2000. The installation process will begin when the computer restarts.

3 Respond to the prompts as they appear.

   During the installation process, you may receive prompts for the PC Card *Installation CD*. Insert the CD and select the path from the drop-down list. Click *OK*. The path is d:\install\disks\win2000, where d: is your CD-ROM drive.

   During the installation process, you may also receive prompts for the Windows 2000 installation CD. Insert the CD and indicate the correct path.

4 Restart your computer if prompted.

Confirming Installation

Checking that the LAN Interface is Present

1 Double-click the *My Computer* icon.

2 Double-click the *Control Panel* icon.

3 Double-click the *System* icon. The System Properties box appears, detailing your system setup.

4 Click the *Hardware* tab and then the *Device Manager* button. A list of devices appears, arranged by type.

5 Double-click *Network Adapters*. The LAN+Modem card name appears, confirming successful installation.

6 Double-click the entry for the LAN+Modem card to display a description of the card and its current status. The device status should indicate "This device is working properly."

7 Click *Cancel* to return to System Properties.

8 Click *OK* to exit System Properties.

Checking that the Modem is Present

1 Double-click the *My Computer* icon.

2 Double-click the *Control Panel* icon.

3 Double-click the *System* icon. The System Properties box details your system setup.

4 Click the *Hardware* tab and then the *Device Manager* button. A list of devices appears, arranged by type.

5 Double-click *Modems*. It should display the entry for the *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)*.

6 Double-click the entry for the LAN+Modem card. It should confirm "This device is working properly."

7 Click *Cancel*, then click *OK* to exit System Properties.

Testing the Modem

1 Open the Control Panel and double-click the *Phone and Modem Options* icon.

2 Select the *Modems* tab and then double-click your installed modem.

3 When the next window opens, click the *Diagnostics* tab and then click the *Query Modem* button.

4 After a short pause, a list of AT commands is displayed in the Command/Response window. This indicates that the modem is functioning properly.

Uninstalling the Card

If the card installation is unsuccessful for any reason, your best course may be to completely uninstall the LAN+Modem card and its software and repeat the installation procedures. A fresh install can also solve problems that can arise from removing the card or shutting off your computer while diagnostics were running.

Sometimes earlier installations or interrupted installation attempts leave problems that affect card operation. Possible problems include:

■ One or both of the card functions not working.

■ Windows not detecting the card.

■ The system issuing a warning tone at startup.

If you are having any of these problems, remove the LAN+Modem card and software using the procedures below, then reinstall the card.

CAUTION: Exit any communications or networking applications before removing the card.

Removing Card Software

Open Control Panel/System/Hardware/Device Manager. Select the LAN+Modem card components and click *Remove*.

Using the Device Manager to remove the card will uninstall the card, software, and documentation. Be sure to remove both the LAN interface and the modem interface.

You can also remove the on-line User Guide separately.

1 Open *Control Panel/System/Hardware/Device Manager*.

2 Select *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)* and click *Remove*.

3 Select *SH654B-3Com OfficeConnect LAN + Global Modem -(Fast Ethernet)* and click *Remove*.

4 Click *Action* on the toolbar above and choose *Uninstall*.

Removing the Card Check your computer manual for information on removing cards. Store the card in its original or similar packaging.

Troubleshooting

Symptom	Solution
Basic troubleshooting, applicable for all problem situations	Inspect all cables and connections.
	Check whether your card is fully inserted into the slot
	Check the Web site for your computer to verify whether you have the latest BIOS for your system. If not, download the newest BIOS version, and follow the upgrade instructions.
	Check for multiple installations of the card.
	Check whether your system's PC Card CardBus Controller is installed and running properly: go to *Control Panel/System/Hardware/Device Manager/PCMCIA Card* and verify that the controller is present and shows no errors.
	Check the Control Panel/PC Card application to confirm that your card is recognized by the system.
	In the Control Panel/Network application, make sure that you have appropriate Clients and Protocols installed.
	Check the Control Panel/Network application. Select the *SH654B-3Com OfficeConnect LAN + Global Modem -(Fast Ethernet)*, open the Advanced tab, and select *Check for cable*.
The LAN device is not functional. LED on the connector or network adapter cable is off or mismatches the real network speed.	Use *Control Panel/System/Hardware/Device Manager* to inspect the status of your LAN card.
	If you see a red X, enable the card by checking the appropriate box under Properties
	If you see a yellow exclamation point, click the icon to see what the conflict is. Verify that there are adequate system resources. Try to free system resources (for example, disable the infrared port), then remove and reinstall the card.
Losing network connection after disconnecting or changing the media speed when using NetWare servers and IPX/SPX protocol	This happens when the frame type is selected automatically. A temporary solution is to reboot the system after disconnecting /reconnecting the cable in NetWare networks. The permanent solution is to use specific frame types such as 802.2 or 802.3.
Modem appears installed, but functionality is inconsistent.	Ensure that the appropriate country is selected, using the Windows country selector.

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WINDOWS 98 OR WINDOWS ME

Installing the PC Card

If you are reinstalling the card, make sure you have completed the procedures for "Uninstalling the Card" on page 17.

1 Insert the *Installation CD* into the CD-ROM drive. The auto-start feature starts the installation. If auto-start is disabled on your computer, click Start>Run and type *d:\setup.exe* (where d: is your CD-ROM drive).

After you insert the *Installation CD*, you may see messages telling you that the installation is preparing your system to run your LAN+Modem card. The messages you see depend on how your system was set up and what utilities you have used.

2 Insert the PC Card into the PC Card slot as shown in Chapter 1.

3 Respond to the prompts as they appear.

During the installation process, you may receive prompts for the PC Card *Installation CD*. Insert the CD and select the path from the drop-down list. Click *OK*. The path is d:\install\disks\win9x\drivers, where d: is your CD-ROM drive.

During the installation process, you may receive prompts for the Windows 98 or Windows Millennium (ME) installation CD. Insert the CD and indicate the correct path.

If you have not previously installed networking, you may be prompted for information about your network. See your network administrator for this information.

4 If you are prompted, restart your computer.

Modifying Audio Settings

With the default audio settings for Windows 98 and Windows ME, you may not hear the sound from the modem when you dial out. To enable the sound, use the following procedure:

1 Locate the speaker icon in the system tray.

If there is no speaker icon in the system tray, open the Control Panel and double-click *Multimedia*. On the Audio page, make sure *Show volume control on the task bar* is checked

2 Double-click the *speaker* icon in the system tray.

3 When the *Master Out* window opens, select *Options*.

4 Choose *Properties* and make sure the *Mono In* box is checked. Click *OK*.

5 When the *Master Out* window is redisplayed, check *Mono In Balance*. Ensure that the mute box is unchecked.

If this does not solve the problem, refer to "Troubleshooting" on page 18.

Confirming Installation

Checking that the LAN Interface is Present

1 Double-click the *My Computer* icon.

2 Double-click the *Control Panel* icon.

3 Double-click the *System* icon. The System Properties box appears, detailing your system setup.

4 Click the *Device Manager* tab. A list of devices appears, arranged by type.

5 Double-click *Network Adapters*. The LAN+Modem card name appears, confirming successful installation.

6 Double-click the entry for the LAN+Modem card to display a description of the card and its current status. The device status should indicate "This device is working properly."

7 Click *Cancel* to return to System Properties.

8 Click *OK* to exit System Properties.

Checking that the Modem is Present

1 Double-click the *My Computer* icon.

2 Double-click the *Control Panel* icon.

3 Double-click the *System* icon. The System Properties box details your system setup.

4 Click the *Device Manager* tab. A list of devices appears, arranged by type.

5 Double-click *Modems*. It should display the entry for the *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)*.

6 Double-click the entry for the LAN+Modem card. It should confirm "This device is working properly."

7 Click *Cancel*, then click *OK* to exit System Properties.

Testing the Modem

1 Open the *Control Panel* and double-click *Modems*.

2 Select the *Diagnostics* tab.

3 Click the COM port assigned to the LAN+Modem card.

4 Click *More Info...* If the modem is working properly, the test will display a white box with a list of AT commands. This will confirm that the modem is functioning properly.

Uninstalling the Card

If the card installation is unsuccessful for any reason, your best course may be to completely uninstall the LAN+Modem card and its software and repeat the installation procedures.

Sometimes earlier installations or interrupted installation attempts leave problems that affect card operation. Possible problems include:

- One or both of the card functions not working.

- Windows 98 or Windows ME not detecting the card.

- The system issuing a warning tone at startup.

If you are having any of these problems, remove the LAN+Modem card and software using the procedures below, then reinstall the card.

CAUTION: Exit any communications or networking applications before removing the card.

Removing Card Software

Open *Control Panel/System/Device Manager.* Select the LAN+Modem card components and click *Remove*.

Using the Device Manager to remove the card will uninstall the card, software, and documentation. Be sure to remove both the LAN interface and the modem interface.

You can also remove the WorldPort software and the on-line User Guide separately.

1 Open *Control Panel/System/Device Manager.*

2 Select *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)* and click *Remove*.

3 Select *SH654B - 3Com OfficeConnect LAN + Global Modem-(Fast Ethernet)* and click *Remove*.

4 Go to the Start menu and choose *Shutdown* or *Restart*.

Removing the Card

Check your computer manual for information on removing cards. Store the card in its original or similar packaging.

Troubleshooting

Symptom	Solution
Basic troubleshooting, applicable for all problem situations	Inspect all cables and connections.
	Check whether your card if fully inserted into the slot
	Check the Web site for your computer to verify whether you have the latest BIOS for your system. If not, download the newest BIOS version, and follow the upgrade instructions.
	Check for multiple installations of the card.
	Check whether your system's PC Card CardBus Controller is installed and running properly: go to *Control Panel/System/Device Manager/PCMCIA Card* and verify that the controller is present and shows no errors.
	Check the *Control Panel/PC Card* application to confirm that your card is recognized by the system.
	In the Control Panel/Network application, make sure that you have appropriate Clients and Protocols installed.
The LAN device is not functional. LED on the connector is off or mismatches the real network speed.	Use Control Panel/System/Device Manager to inspect the status of your LAN card.
	If you see a red X, enable the card checking the appropriate box under Properties.
	If you see a yellow exclamation mark, click the icon to see what the conflict is. Verify that there are adequate system resources. Try to free system resources (for example, disable the infrared port), then remove and reinstall the card.
After you remove the card from the system and then reinsert it, Windows runs the installation process again	This is normal behavior for Windows with PCI and CardBus cards installed. Windows 98 or Windows ME can install one instance of the card for every slot presented in the system. (If you proceed with this installation, you will need your LAN+Modem card Installation CD (disk).) You will have two instances of the card under the Network and Modem applications in Control Panel. After the second instance is installed – the hot swap from one slot to another will be smooth. Be sure to check your settings under Dial-up Networking and Hyperterminal to ensure that your preferred settings apply to the correct instance of the card.
Losing network connection after disconnecting or changing the media speed when using NetWare servers and IPX/SPX protocol	This happens when the frame type is selected automatically. A temporary solution is to reboot the system after disconnecting /reconnecting the cable in NetWare networks. The permanent solution is to use specific frame types such as 802.2 or 802.3.
After a fresh installation of Windows 98 or Windows ME with the card already installed, the system detects the card interface as a PCI device.	This happens only when you reply "No" when asked whether the card is used for Windows installation.
	Check *Control Panel/System/Device Manager*. Remove the "PCI Device" entry and reboot the system. Windows 98 or Windows ME will detect the card and prompt for the Windows 95/98 or ME Installation disk.
Modem appears installed, but functionality is inconsistent.	Ensure that you ran the WorldPort country selection software and chose the country in which the modem is being used.
Previously installed software does not work with modem.	Make sure the COM port used by the application is the same as the COM port assigned to the modem during installation.

4

WINDOWS 95

Determining Your Windows 95 Version

If you are reinstalling the card, make sure you have completed the procedures for "Uninstalling the Card" on page 21.

The LAN+Modem card runs under Windows 95 version B (OSR 2). If you do not know which version of Windows 95 is installed on your computer, follow these steps:

1 In the Windows 95 Control Panel, double-click *System* to display the System Properties dialog box.

2 Click the *General* tab to display the Windows 95 version information.

3 Version B (also known as OSR 2) is identified as 4.00.950b.

About Windows 95 Prompts

During setup, Windows 95 may prompt for an installation disk or the Windows CD several times. Be sure that the path or device you supply to this prompt is correct. Here are some guidelines:

- If Windows 95 prompts for a disk from the manufacturer, put the LAN+Modem *Installation CD (*disk) in the CD-ROM drive. On many systems, this will be drive D, so the path in the dialog box should point to D:\.

- If Windows 95 prompts for the Windows CD, put the Windows 95 CD in your CD-ROM drive. Often, this will be drive D. If so, the path in the dialog box should point to D:\WIN95.

- Some computers are delivered with Windows 95 installed, but no CD is supplied. If this is the case with your computer, you must supply the path where the Windows 95 software resides. Check your owner's manual for details. Often, this will be a subdirectory of your Windows folder. A common path for these driver files is C:\WINDOWS\OPTIONS\CABS, so you would supply this path in the dialog box.

If you remove the LAN+Modem card and reinstall it in another slot, the first time Windows 95 rediscovers it in the new location it will start another installation. If the double installation causes problems, uninstall one of the occurrences of the card. See "Uninstalling the Card" on page 21.

Installing the PC Card

1 Insert the *Installation CD* into the CD-ROM drive. The auto-start feature starts the installation. If auto-start is disabled on your computer, click Start>Run and type *d:\setup.exe* (where d: is your CD-ROM drive).

After you insert the *Installation CD*, you may see messages telling you that the installation is preparing your system to run your LAN+Modem card. The messages that you see depend on how your system was set up and what utilities you have used.

2 Insert the PC Card into the PC Card slot as shown in Chapter 1.

3 Respond to the prompts as they appear.

During the installation process, you may receive prompts for the PC Card *Installation CD*. Insert the CD and select the path from the drop-down list. Click *OK*. The path is d:\install\disks\win9x\drivers, where d: is your CD-ROM drive.

During the installation process, you may receive prompts for the Windows 95 installation CD. Insert the CD and indicate the correct path.

If you have not previously installed networking, you may be prompted for information about your network. See your network administrator for this information.

4 You may be prompted to restart your computer.

Confirming Installation

Checking that the Network Interface is Present

1 Double-click the *My Computer* icon.

2 Double-click the *Control Panel* icon.

3 Double-click the *System* icon. The System Properties box appears, detailing your system setup.

4 Click the *Device Manager* tab. A list of devices appears, arranged by type.

5 Double-click *Network Adapters*. The entry for the LAN+Modem card, *SH654B - 3Com Officeconnect LAN + Global Modem-(Fast Ethernet)*, confirms successful installation.

6 Double-click the entry for the LAN+Modem card to display a description of the card and its current status. The device status should indicate "This device is working properly."

7 Click *Cancel* to return to System Properties.

8 Click *OK* to exit System Properties.

Checking that the Modem is Present

1 Open the *My Computer* folder.

2 Double-click *Control Panel*.

3 Double-click *System*. The System Properties box details your system setup.

4 Click the *Device Manager* tab. A list of devices appears, arranged by type.

5 Double-click *Modems*. It should display the entry for the *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)*.

6 Double-click the entry for the LAN+Modem card. It should confirm "This device is working properly."

7 Click *Cancel*, then click *OK* to exit System Properties.

Testing the Modem

1 Open the *Control Panel* and double-click *Modems*.

2 Select the *Diagnostics* tab.

3 Click on the COM port assigned to the LAN+Modem card.

4 Click *More Info...* If the modem is working properly, the test displays a white box with a list of AT commands. This confirms that the modem is functioning properly.

Uninstalling the Card
If the card installation is unsuccessful for any reason, your best course may be to completely uninstall the LAN+Modem card and its software and repeat the installation procedures.

Sometimes earlier installations or interrupted installation attempts leave problems that affect card operation. Possible problems include:

■ One or both of the card functions not working.

■ Windows 95 not detecting the card.

■ The system issuing a warning tone at startup.

If you are having any of these problems, remove the LAN+Modem card and software using the procedures below, then reinstall the card.

CAUTION: Exit any communications or networking applications before removing the card.

Removing Card Software
Open Control Panel/System/Device Manager. Select the LAN+Modem card components and click *Remove*.

Using the Device Manager to remove the card will uninstall the card, software, and documentation. Be sure to remove both the LAN interface and the modem interface.

You can also remove the WorldPort software and the on-line User Guide separately.

1 Open *Control Panel/System/Device Manager*.

2 Select *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)* and click *Remove*.

3 Select *SH654B - 3Com Officeconnect LAN + Global Modem-(Fast Ethernet)* and click *Remove*.

4 Go to the Start menu and choose *Shutdown* or *Restart*.

Removing the Card
Check your computer manual for information on removing cards. Store the card in its original or similar packaging.

Troubleshooting

Symptom	Solution
Basic troubleshooting, applicable for all problem situations.	Inspect all cables and connections.
	Check whether your card if fully inserted into the slot.
	Check the Web site for your computer to verify whether you have the latest BIOS for your system. If not, download the newest BIOS version, and follow the upgrade instructions.
	Check for multiple installations of the card.
	Check whether your system's PC Card CardBus Controller is installed and running properly: go to Control Panel/System/Device Manager/PCMCIA Card and verify that the controller is present and shows no errors.
	Check the *Control Panel/PC Card* application to confirm that your card is recognized by the system.
	In the *Control Panel/Network* application, make sure that you have appropriate clients and protocols installed.
After installation, card not functional after reboot.	In some Windows 95 (OSR 2) computers, the card is accessed after reboot and the PCI devices are found, but the card slot is powered down. This problem may be due to the inability of some versions of Windows 95 to support multifunction cards. A temporary workaround is to remove the card and reinsert it. In order to support multifunction CardBus cards, Windows 95 OSR 2.x needs update files from Microsoft. These files are installed automatically when the LAN+Modem card is installed.
System shows a valid COM port setting for the modem, but your application does not recognize it.	Use the *3Com Modem Setting* application in the control panel to change the COM port assignment. The default is COM5. Use a lower number if you are have older software that does not recognize COM ports higher than 4.
LAN device is not functional. LED on the connector or network adapter cable is off or mismatches the real network speed.	Use *Control Panel/System/Device Manager* to inspect the status of your LAN card.
	If you see a red X, enable the card and set the Properties.
	If you see a yellow exclamation mark, click on the icon to see what the conflict is. Verify that there are adequate system resources. Try to free system resources (for example, disable the infrared port), then remove and reinstall the card.
After you remove the card and reinsert it, Windows runs the installation process again.	This is normal behavior for Windows with PCI and CardBus cards installed. Windows 95 can install one instance of the card for every slot presented in the system. You will have two instances of the card under the Network and Modem applications in Control Panel. After the second instance is installed – the hot swap from one slot to another will be smooth. Be sure to check your settings under Dial-up Networking and Hyperterminal to ensure that your preferred settings apply to the correct instance of the card.
The card does not work in your system with Windows 95 or Windows 95a	Earlier versions of Windows (Windows 95 and Windows 95a) are not supported. Upgrade your system to Windows 95b (OSR 2), Windows 98, or Windows ME.
	To determine your version of Windows 95, open the Control Panel, select System, and look at System information under the General tab. If your release is identified as version 4.00.950 B, you are using OSR 2.
Losing network connection after disconnecting or changing the media speed when using NetWare servers and IPX/SPX protocol	This happens when the frame type is selected automatically. A temporary solution is to reboot after disconnecting and reconnecting the cable in NetWare networks. The permanent solution is to use specific frame types such as 802.2 or 802.3.
Modem appears installed, but functionality is inconsistent.	Ensure that you ran the WorldPort country selection software and chose the country in which the modem is being used.

Updating Windows 95 Drivers

Updating LAN Drivers

1 From the *Control Panel*, open the *System* application.

2 Select the *Device Manager* tab.

3 Double-click *Network Adapters*.

4 Double-click *SH654B - 3Com Officeconnect LAN + Global Modem-(Fast Ethernet)*.

5 Open the Driver tab and click *Update Driver*.

6 Choose *Select Driver from list* and click *Next*.

7 Select *Have Disk*. Specify the location of the new driver files and click *OK*.

8 After Windows copies the files, click Restart for the changes to take effect.

Updating Modem Drivers

1 From the *Control Panel*, open the *System* application.

2 Select the *Device Manager* tab.

3 Double-click *Modems*.

4 Double-click *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)*.

5 Open the Driver tab and click *Update Driver*.

6 Choose *No, Select Driver from list* and click *Next*.

7 Select *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)* and click *Finish*.

8 Click *OK* and specify the location of the new driver files. Click *OK* again to copy the files you need.

9 After Windows copies the files and finishes the update, restart the computer for the changes to take effect.

5

WINDOWS NT

Inserting the PC Card and Running the Installation

If you are reinstalling the card, make sure you have completed the procedures for "Uninstalling the Card" on page 28. For Windows NT 4.0 installation, you must have Service Pack 3 or later installed on your computer. After installation, reinstall the Service Pack software to update NT network files and eliminate error messages in the Event Viewer. Contact your Network Administrator or Microsoft if you do not have the current Service Pack.

1 If your computer is currently running, log out of Windows and turn the computer off.

2 Insert the PC Card into the PC Card slot as shown in Chapter 1.

3 Turn your computer on and log in to Windows.

4 Select the appropriate heading below and follow the instructions.

Setup Using Softex Software

Use the following procedures if the Softex PC Card Controller for Windows NT 4.0 is installed on your system. If the Softex software is not installed, use the procedures for "Setup Using Point Enabler" on page 26.

For the following procedures:

■ The computer must be running Windows NT 4.0.

■ The Softex PC Card Controller for Windows NT 4.0 must be installed.

■ Windows NT Service Pack 3 or later must be installed.

Installing the Network Interface

1 Insert the LAN+Modem card and connect to the network as described in "Installing and Connecting the Card" on page 1. The system will find the card and display a *PCMCIA Card Not Configured* dialog box.

2 Select *Install the driver that was provided with the PC Card.*

3 Insert the *Installation CD* and click *OK*.

4 Set the I/O Port, Memory Address, Interrupt, and Duplex Mode (the default values work in most instances) as required for your site and click *Continue*.

5 Set the Microsoft TCP/IP Properties as required for your site and click *OK*. The system will display a dialog box called *PCMCIA Reboot Needed*.

Consult with your MIS representative if you do not know what settings to use.

Once the procedure is completed, reboot for the changes to take effect.

Installing the Modem

For instructions on installing the modem, see "Installing the Modem Interface" on page 28.

Setup Using System Soft Software

For setup using System Soft Card and Socket Services:

1 Insert the LAN+Modem card and connect to the network as described in "Installing and Connecting the Card" on page 1. The system will find the card and display a *PCMCIA Card Not Configured* dialog box.

2 Click *Correct*. The card wizard for Windows NT will appear with instructions for installing the card.

3 Click *OK* and continue with the procedure described for "Setup Using Point Enabler" below.

Setup Using Point Enabler

Point-enabler installation is a basic, manual installation procedure that will work on nearly all configurations, including systems with System Soft Card and Socket services installed. If you are running the Softex software on your system, use the procedures for "Inserting the PC Card and Running the Installation" on page 25.

Installing the Network Interface

Before installing the network interface, insert the LAN+Modem card and connect to the network as described above. Obtain the following information from your MIS department:

■ For Windows NT networking, your computer name and workgroup or domain name.

■ For your network account, your user name and password.

The LAN+Modem card requires that Service Pack 3 (or a later version) be installed on your computer. Contact your network administrator or Microsoft if you do not have Service Pack 3 or later.

Setup With No Networking Installed

This procedure assumes that you have not already installed Windows NT networking on your notebook computer. If networking is installed, see "Setup With Networking Already Installed" on page 27.

1 In the Control Panel, double-click *Network*.

2 When the system prompts: "Windows NT Networking is not installed. Do you want to install it now?", click *Yes*. This opens the Network Setup Wizard.

If the Network Setup Wizard does not appear, refer to "Setup With Networking Already Installed" on page 27.

3 Check *Wired to the network* and click *Next*.

4 When the system prompts to have setup start searching for a network adapter, click *Select* from List.

5 Click *Have Disk*. Put the LAN+Modem card *Installation CD* (disk) in the floppy drive and click *OK*.

6 When the Select OEM Option window opens, select *SH654B - 3Com OfficeConnect LAN + Global Modem -(Fast Ethernet)* and click *OK*.

7 The *Network Adapters* list shows a check mark next to the 3Com LAN+Modem card. Click *Next* to continue.

8 In the Network Protocols list, place a check mark next to each network protocol required for your site and click *Next*.

9 In the Network Services window, place a check mark in the box next to each desired service. Unless you are following specific guidelines from your MIS department, select the default settings.

10 Click *Next* to install the selected components.

11 When prompted, enter the path to the Windows NT installation files (for example, D:\i386 on the NT CD) and click *Continue*.

When the system prompts again for NT files, specify the CD-ROM drive and click *Continue*.

12 In the 3Com LAN+Modem card dialog box, accept the default settings and click *Continue*.

Depending on your computer's current settings, a TCP/IP setup windows may appear. Select the options that are required for your site and continue.

13 When the window for enabling or disabling protocols opens, click *Next*.

14 When NT is ready to start the network, click Next to copy the network files.

15 Provide your computer name and workgroup or domain name when prompted.

16 When the system displays "Networking has been installed on your computer," click *Finish*.

17 When prompted to reboot the computer, remove the LAN+Modem card *Installation CD* from the CD-ROM drive and click Yes.

Setup With Networking Already Installed

This procedure assumes that Windows NT networking is already installed on your notebook computer. If networking is not yet installed, see "Setup With No Networking Installed" on page 26.

1 In the Control Panel, double-click *Network*.

If the system prompts: "Windows NT Networking is not installed. Do you want to install it now?", use the procedure for "Setup With No Networking Installed" on page 26.

2 Open the *Adapter* tab and click *Add*.

3 Click *Have Disk*. Put the LAN+Modem card *Installation CD* in the CD-ROM drive and click *OK*.

4 When the Select OEM Option window opens, select *SH654B - 3Com OfficeConnect LAN + Global Modem -(Fast Ethernet)* and click *OK*.

5 In the 3Com LAN card dialog box, accept the default settings and click *Continue*.

The default settings work in most instances. However, you may specify network link settings, auto polarity, and IRQ and I/O values.

6 After Windows copies all of the required files, it displays the LAN card name, *SH654B - 3Com OfficeConnect LAN + Global Modem -(Fast Ethernet)*. Click *Close*.

7 Depending on your current network settings, you may see the Microsoft TCP/IP Properties screen.

8 When prompted to reboot the computer, remove the *Installation CD* from the CD-ROM drive and click Yes.

Installing the Modem Interface

1 Put the Installation CD in the CD-ROM Drive.

2 From the Windows Start Menu select *Run*.

3 Browse to *d:\install\disks\winnt40\standard* (where d: is your CD-ROM drive) and find the WMSETUP.EXE program on the installation CD.

4 Select WMSETUP.EXE and Click *OK* to run the program.

5 In the setup window, select *Install*.

6 When prompted, set your COM port and click *OK*.

Uninstalling the Card

To remove the card and LAN software from your system:

1 From the Control Panel, open Network/Adapters.

2 Select *SH654B - 3Com OfficeConnect LAN + Global Modem -(Fast Ethernet)* and click *Remove*. Do not reboot until you have deleted the modem interface as described below.

3 Reboot.

To remove the modem:

1 Put the Installation CD in the CD-ROM Drive.

2 From the Windows Start Menu select *Run*.

3 Browse to *d:\install\disks\winnt40\standard* (where d: is your CD-ROM drive) and find the WMSETUP.EXE program on the installation CD.

4 Select WMSETUP.EXE and click *OK* to run the program.

5 In the setup window, select *Uninstall*.

Troubleshooting   For additional configuration information for the LAN+Modem card under
Windows NT, see the file **NTConfig.txt**. This file also contains recommendations
for configuring specific computer models.

Symptom	Solution
Basic troubleshooting, applicable for all problem situations.	Inspect all cables and connections.
	Check whether your card is fully inserted into the slot.
	Check the Web site for your computer to verify whether you have the latest BIOS for your system. If not, download the newest BIOS version and follow the upgrade instructions.
	If you are not using the Softex PC Card Controller, reinstall your Service Pack software after installing drivers for the LAN+Modem card.
	The event log lists any problems found during system operation. To check the event log for errors, select *Programs/Administrator Tools/Event Viewer* from the Start menu.
Computer not connecting to network.	The most common problems under NT 4.0 occur because system resources are not set correctly. If you are installing the LAN+Modem card using the point-enabler procedure, refer to the file **NTConfig.txt**.
	Remember that you can always use the Windows NT Diagnostics Resource tab to determine which resources are free.
Driver not loading correctly.	Service Pack 3 or a later version should be installed before you install the Softex PC Card Controller. If you are using Softex without any Service Pack software, complete the following procedure:
	1 Remove the card.
	2 Uninstall the Softex software.
	3 Install the Service Pack software. You can download the latest Service Pack from Microsoft.
	4 Reinstall the Softex software.
	5 Reinstall the card.
Application cannot find the modem.	An older application may not be aware of COM ports higher than COM4. If your modem is installed on COM5 or higher, reinstall the modem using one of the legacy COM ports (COM2, COM3, or COM4). See the file **NTConfig.txt** for more information.
Modem will not fax.	Most Windows fax software will not work with Windows NT. Contact Microsoft for information about software for sending faxes.
Failure after Suspend/Resume.	This usually indicates a power-management problem. Since Windows NT 4.0 does not support power management, we recommend that you disable power management in the BIOS. Make sure you have the latest BIOS for your computer or upgrade your software from Microsoft.
Card not functioning.	Open Windows NT Diagnostics. From the Start menu, select *Programs/Admin Tools/Windows NT Diagnostics.*
	Windows NT Diagnostics lets you see where the drivers are loading in I/O, IRQ, MEM ranges.
	Check for resource conflicts and make sure the settings for the LAN+Modem card are valid.
Modem driver does not load properly	If your modem did not install correctly, make sure you installed the driver from the LAN+Modem card Installation CD. If not, remove and reinstall the driver using the LAN+Modem card Installation CD.

Symptom	Solution
The LAN+Modem card fails to function properly with SoftTex Card Services installed.	Make sure that you have the appropriate version of Softex installed for your machine and that you are using the Softex drivers located on the installation CD that shipped with the product.
The LAN+Modem card fails to function with SystemSoft Card Services installed.	SystemSoft version 4.10.13 was tested with the LAN+Modem card. It functions fully except that modem capabilities are not hotswappable. Make sure that you have properly installed the correct version of SystemSoft Card Services for your computer.
16-bit card fails to function after installing the LAN+Modem adapter.	Since the LAN+Modem card is a CardBus adapter, it disables the PCMCIA service required for 16-bit adapters. To use a 16-bit adapter, click *Control Panel/Devices/PCMCIA* and enable it on boot. This is not supported on Toshiba machines using the Topic 95/97 controllers since the controller needs to be in CardBus/16 to support the CardBus adapter. Windows NT 4.0 cannot enable PCMCIA services when the controller is in CardBus mode. To work around this, you can either set up multiple hardware configurations or choose a 16-bit multifunction PC Card.

6

USING THE MODEM

Using WorldPort

Connecting in different countries may require trial and error until you determine exactly what you need. This is because a particular country may have multiple telephone exchange systems that require different configurations. The information provided below provides some hints for connecting in different countries. Be sure to have the correct country adapter when you try to connect. See "International Telephone Adapters" on page 6.

WorldPort Country Select software lets you select a country, then automatically configures the modem for that country.

Because the country selection software provided by Microsoft overrides the WorldPort country selection, the option to install the Modem WorldPort Utility is not available under Windows 2000 or XP.

To change the modem configuration for another country after WorldPort has been installed:

1 Open the Start menu and select *Programs/3Com Utilities*.

2 In the WorldPort Country Select Software, locate the country you are connecting from.

3 Select your country and click OK.

If the country you want to select is not listed, and if the country does not require modem homologation, set the WorldPort Country Select Software to *USA*.

4 Try connecting.

Hints for Good Connections

Use the following information when you set up your communications software to help your modem connect at the highest possible speed:

- If you have call waiting, disable it. Call waiting generates a tone on the line that causes results similar to static. It also causes your modem to disconnect or report NO CARRIER if a call waiting signal comes when your modem is connected to another modem. Call waiting is usually disabled by using *70 in your dial string before the phone number.

  Contact your phone company if you need more information on how to disable any call waiting options.

- Telephone lines with static or noise slow down transmission and require error correction. If your phone line has a problem with noise, contact your telephone company to see if they can fix the problem.

- Don't use a splitter on your telephone line. A single connection from wall to modem produces the highest transfer speed.

■ If the modems do not connect during the handshake, try disabling error correction (use the AT command AT&M0). You can also try disabling data compression (AT&K0).

Software Settings

Communications software setup requires information about the modem to make a call or send a fax using the modem. Enter the following settings with the modem software you are using:

■ Select the highest transmission speed or baud rate listed, up to 115,200 bps

■ Select fax Class 1

■ Select NONE for parity

■ Select a word length of 8

■ Set the stop bits to 1

■ Select either Hayes-compatible, Generic 28.8, or Generic 33.6 modem.

Setup for Communications Applications

Virtually all data or fax communications software packages will work if set up correctly for your modem. Read and follow the software installation and setup instructions supplied with your communications application.

If the LAN+Modem card is listed in your communications software, the correct initialization strings will be used. If the correct modem does not appear on the list, use the generic 28.8 or 33.6 modem setting. Alternatively, you can contact your software vendor for an updated list of supported modems.

For most applications, you can use the factory-default setting for the modem initialization string. To reset your modem to the factory defaults, use the AT command string AT&F.

Calls with HyperTerminal

HyperTerminal is the resident telecommunication application supplied with Windows XP, Windows ME, Windows 2000, Windows 98, Windows 95 and Windows NT 4.0. To place a call using HyperTerminal:

1 Close any open applications you are not using. Be especially sure to close any communications programs.

2 Click *Start/Programs/Accessories/HyperTerminal*.

3 Double-click the *HyperTerminal* icon to open the *New Connection* window.

In Windows 95 and Windows NT, you can find the Hyperterminal icon in Start/Programs/Accessories/Hyperterminal.

In Windows 98 and Windows ME, look in Start/Programs/Accessories/Communications.

4 In the Connection Description dialog box, type a text description, such as an easy-to-remember name, for the connection and click *OK*.

5 In the Phone Number dialog box, type in the area code and phone number. For the 3Com BBS service, for example, type 18472626000 ("1", followed by the area code, followed by the number).

6 In the Connect Using menu, be sure that you have selected the *SH654B - 3Com OfficeConnect LAN + Global Modem-(Modem)*. If it does not appear, your modem is not installed correctly.

7 Click *OK*.

8 When the Connect dialog box appears, choose the location and the dialing properties (for example, dial a 9 to access an outside line, dial a 1 before long distance, wait for a dial tone, and so forth) you require to make the call from your site.

9 Click *Dial* to initiate the call and make the connection.

You may hear a brief handshaking as the modem tries to establish a connection.

Calls from a Hotel or Business PBX

Normally, your LAN+Modem card waits for a dial tone before dialing. In some cases, however, a modem cannot detect a dial tone even when voice calls can be completed. This problem can occur when:

■ Dialing into a standard telephone network using nonstandard dial tone conventions

■ Placing a call from a country outside of the United States, where a different dial tone is used

■ Dialing through a business or hotel PBX or a voice-mail system that indicates new mail with a unique dial tone (travelers often find that hotel PBXs have unique dial tones)

■ Using telephones (such as cellular telephones) that require you to press a button before the dial tone can be heard

If you cannot obtain a normal dial tone following the procedures provided for your phone, you may have to reconfigure the dialing options for your communications package. Most packages have a *Wait for Dial Tone Before Dialing* option that you can enable or disable if your modem is having trouble detecting a dial tone. You must disable this option to permit blind dialing.

Additional Modem Features

Redialing

Your modem stores each dialed number until another number is dialed. When you enter **ATDL**, the modem redials the last number dialed.

Dialing Stored Numbers

The modem can store up to four telephone numbers. For example, suppose you frequently call the number 555-5555. If this is the first number you want to store, enter **AT&Z1=5555555** and **ATDS1** to dial it. If it is the fourth number you want to store, you would type **AT&Z4=5555555** to store it and **ATDS4** to dial it.

Call Progress Detection

An optional set of result codes lets you know when:

■ The telephone number you have dialed is busy

■ The line has been picked up, but a modem is not answering the call

■ There is no dial tone on the telephone line

■ A call is coming in

These result codes, and the commands that enable or disable these result codes are controlled by the ATXn command. See "AT Commands" on page 34 for information on AT commands.

Fax Support

To send or receive faxes using the modem, you must have a facsimile software package, such as Microsoft Fax, provided with your notebook computer. In your fax software, select error-correcting mode (ECM) to provide more reliable fax connectivity. Your modem supports Class 1 and Class 2.0 faxing; for best results and compatibility, we recommend using Class 1 as your fax class.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual.

Attaching this information to faxes is known as *fax branding*. Refer to your fax communications software documentation for details on how to comply with the fax-branding requirement.

Faxing with Microsoft Fax

Microsoft Fax is the resident fax application supplied with Windows ME, Windows 2000, Windows 98, and Windows 95. Before you can use Microsoft Fax, you may have to install it from your operating system CD or folder using the Add/Remove Programs utility in the Control Panel. It is available for Windows NT, but you will have to download it from the Microsoft Web site.

Microsoft Fax is configured to use an installed modem and set up as a printer-like device. Once installed, all you need to do to send a fax is select Microsoft Fax from the Printer Setup menu of your text-processing application, then print the file. Microsoft Fax will prompt for the Fax number to dial.

AT Commands

AT commands are set at the factory (factory settings are called *defaults*) to perform specific modem functions in preselected ways. They can be used to display call status or send and receive data with communications software such as HyperTerminal.

AT commands are instructions typed at the command line of any communications application. A communications application is in command mode when the application is started but the modem has not yet dialed. When your application is in command mode, the AT commands you type are sent directly to the modem.

The most common way to enter AT commands is from terminal mode in your communications software. The basic rules for entering AT commands are:

- All AT command lines must begin with the prefix **AT**.
- Spaces between command characters (and option characters) are ignored.
- Command line parameters cannot exceed 255 characters.
- Press Enter to enter a command line. Commands take effect as soon as they are received.
- Type commands in either upper or lower case, not a combination.
- If you leave the number off a command, zero is assumed. For example, if you type **ATE**, **ATE0** is assumed.

See **ATCommandRef.htm** for a listing of AT commands.

S Registers

AT command settings are stored in S-Registers. S-Register values can be changed by AT commands or by entering the new value of the S Register, preceded by AT. The command ATSn=v changes register n by setting its value to v.

For example, to change from manual answer to auto-answer after three rings, follow these steps:

1 Check the S-Register table for the register that controls Answering. The functions are listed in alphabetical order.

2 Start your communications software and enter Terminal mode.

3 Type ATS0=3 and press Enter. The modem will now answer a call after three rings.

See **SRegisterRef.htm** for a listing of S-Registers and their values.

Result Codes

Modem result codes are messages that appear on your computer screen to inform you of the status of modem actions or when an error has occurred. What result codes appear depends on the setting of the ATXn command (see ATXn **ATCommandRef.htm**).

See **ResultCodeRef.htm** for a listing of result codes.

Modem Troubleshooting

Symptom	Solution
COM Port Conflict	Indicates a conflict between two devices claiming the same IRQ. Change one of the IRQs. Try changing the IRQ assigned to one of the devices. The LAN+Modem card is a Winmodem and uses COM5 or higher.
Cannot hear modem or speaker	Make sure your computer's speaker is turned on (ATM1).
	With the default audio settings for Windows 98 or Windows ME, the sound may be disabled. To enable the sound, use the following procedure:
	1 Locate the speaker icon in the system tray.
	2 If there is no speaker icon in the system tray, open the Control Panel and double-click Multimedia. On the Audio page, make sure Show volume control on the task bar is checked
	3 Double-click the speaker icon in the system tray.
	4 When the Master Out Window opens, select Options.
	5 Choose Properties and make sure the Mono In box is checked. Click OK.
	6 When the Master Out window is redisplayed, check Mono In Balance. Ensure that the mute box is unchecked.

Symptom	Solution
Modem does not dial correctly	Make sure that you have entered the telephone number correctly if you are using the dialing directory.
	Be sure that you added any required prefix (such as 1) before your number when dialing long distance.
	The other line could be busy or not answering. Make sure that the other line is available before calling.
	If you are dialing internationally, your modem may not recognize the dial tone. Before dialing the telephone number, enter the command ATX5 to ignore the dial tone.
Modem not responding	Check your computer's BIOS setup. If it requires certain settings for modems, be sure they have been turned on.
	Make sure you have selected the correct COM port in your software setup.
	Make sure the modem has been connected completely. Check all your connections and make sure they are all secure.
	Reboot your system.
Modem does not dial	Check your phone line and cable connections. See "Installing and Connecting the Card" on page 1.
	Make sure no other phone extension has been picked up on the same line.
	Make sure you are using a standard analog telephone line. You might receive an error if you are trying to connect to a digital phone system or PBX.
	Listen for a normal dial tone on the line. If the dial tone sounds different than normal, find another line.
Modem cannot connect to remote access server	When connecting to a remote access server running V.34 protocol (up to 33.6 Kbps) with devices such as 3Com AccessBuilder, configure your DUN settings to reflect the connection speed. We recommend 19200 or 38400 Kbps. Settings of 57600 or 115200 Kbps will cause a failure.
Modem does not fax	Make sure you have selected the correct fax class.
	Make sure that you do not have another communications program open.
	Be sure you selected the correct printer driver in your word processing program.
	Turn off all power management.
Modem does not connect	Make sure the parity, modem speed, word length, and stop bits are set up according to specifications.
	Try removing all of the error correction and data compression.
"No Dial Tone" Message	Check all the cable connections and make sure they are secure. The connection to the phone line could be incomplete or the phone cable could be bad.
	Make sure the telephone line you are using is not in use by someone else.
	Check to make sure you are using a standard analog telephone line. If you are trying to connect to a digital phone system or a PBX, you may receive an error message.
	Make sure the phone line is in working order by connecting a standard telephone and listening for a dial tone.
"Digital Line Error" Message	You are trying to connect to a digital phone system or a PBX. Change lines to connect to a standard analog telephone line.

Symptom	Solution
Modem clicks repeatedly, but no connection is made	You are trying to connect to a digital phone system or a PBX. Change lines to connect to a standard analog telephone line. Ordinarily, you would get a DIGITAL LINE ERROR message, but if the current is under 100mA, the modem will click repeatedly but the message will not appear.
	The cable may not be seated securely. Check both cable connections to the modem and to the phone jack or cellular phone.
	Tip and Ring may be reversed. Try another telephone port.
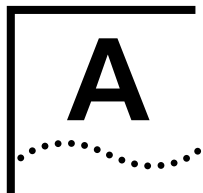
A TECHNICAL SUPPORT

3Com provides easy access to technical support information through a variety of services. This appendix describes these services.

Information contained in this appendix is correct at time of publication. For the most recent information, 3Com recommends that you access the 3Com Corporation World Wide Web site.

Online Technical Services

3Com offers worldwide product support 24 hours a day, 7 days a week, through the following online systems:

- World Wide Web site
- 3Com Knowledgebase Web Services
- 3Com FTP site

World Wide Web Site

To access the latest networking information on the 3Com Corporation World Wide Web site enter this URL into your Internet browser:

http://www.3com.com/

This service provides access to online support information such as technical documentation and software library, as well as support options that range from technical education to maintenance and professional services.

3Com Knowledgebase Web Services

This interactive tool contains technical product information compiled by 3Com expert technical engineers around the globe. Located on the World Wide Web at **http://knowledgebase.3com.com**, this service gives all 3Com customers and partners complementary, round-the-clock access to technical information on most 3Com products.

3Com FTP Site

Download drivers, patches, and software across the Internet from the 3Com public FTP site. This service is available 24 hours a day, 7 days a week.

To connect to the 3Com FTP site, enter the following information into your FTP client:

- Hostname: **ftp.3com.com**
- Username: **anonymous**
- Password: **<your Internet e-mail address>**

You do not need a user name and password with Web browser software such as Netscape Navigator and Internet Explorer.

Support from Your Network Supplier

If you require additional assistance, contact your network supplier. Many suppliers are authorized 3Com service partners who are qualified to provide a variety of services, including network planning, installation, hardware maintenance, application training, and support services.

When you contact your network supplier for assistance, have the following information ready:

■ Product model name, part number, and serial number

■ A list of system hardware and software, including revision levels

■ Diagnostic error messages

■ Details about recent configuration changes, if applicable

If you are unable to contact your network supplier, see the following section on how to contact 3Com.

Support from 3Com

If you are unable to obtain assistance from the 3Com online technical resources or from your network supplier, 3Com offers technical telephone support services. To find out more about your support options, call the 3Com technical telephone support phone number at the location nearest you.

When you contact 3Com for assistance, have the following information ready:

■ Product model name, part number, and serial number

■ A list of system hardware and software, including revision levels

■ Diagnostic error messages

■ Details about recent configuration changes, if applicable

Here is a list of worldwide technical telephone support numbers. These numbers are correct at the time of publication. Refer to the 3Com Web site for updated information.

Country	Telephone Number
Asia, Pacific Rim	
Australia	1 800 678 515
Hong Kong	800 933 486
India	+61 2 9937 5085 or 000800 6501111
Indonesia	001 800 61 009
Japan	03 5783 1270
Malaysia	1800 801 777
New Zealand	0800 446 398
Pakistan	+61 2 9937 5083
Philippines	1235 61 266 2602
P.R. of China	10800 61 00137 or 021 6350 1590 or 00800 0638 3266
Singapore	800 6161 463
S. Korea	82 2 3455 6455
From anywhere in S. Korea:	00798 611 2230
From Seoul:	00798 611 2230
Taiwan, R.O.C.	0080 611 261
Thailand	001 800 611 2000

Country	Telephone Number
Europe, Middle East and Africa	
From anywhere in these regions, call:	
	+44 (0)1442 435529 phone
	+44 (0)1442 436722 fax
Europe and South Africa	
From the following countries, you may use the toll-free numbers:	
Austria	0800 297468
Belgium	0800 71429
Denmark	800 17309
Finland	0800 113153
France	0800 917959
Germany	0800 1821502
Hungary	06800 12813
Ireland	1800 553117
Israel	1800 9453794
Italy	800 8 79489
Luxembourg	0800 3625
Netherlands	0800 0227788
Norway	800 11376
Poland	00800 3111206
Portugal	0800 831416
South Africa	0800 995014
Spain	900 983125
Sweden	020 795482
Switzerland	0800 55 3072
U.K.	0800 966197
Latin America	
Brazil	0800 13 3266
Mexico	01 800 849CARE
Puerto Rico	800 666 5065
Central and South America	AT&T +800 998 2112
North America	1 800 NET 3Com (1 800 638 3266)
	Enterprise Customers:
	1 800 876-3266

Returning Products for Repair

Before you send a product directly to 3Com for repair, you must first obtain an authorization number. Products sent to 3Com without authorization numbers will be returned to the sender unopened, at the sender's expense.

To obtain an authorization number, call or fax:

Country	Telephone Number	Fax Number
Asia, Pacific Rim	+65 543 6500	+65 543 6348
Europe, South Africa, and Middle East	+31 30 6029900	+31 30 6029999
Central and South America	525 201 0075	
Argentina	0810 222 3266	
Bolivia	511 241 1691	
Brazil	0800 133266 or 55 11 5643 2700	
Caribbean	525 201 0004	
Chile	562 240 6200	
Colombia	525 201 0004	
Ecuador	525 201 0004	
Mexico	525 201 0004	
Paraguay	525 201 0004	
Peru	511 241 1691	
Uruguay	525 201 0004	
Venezuela	525 201 0004	

From the following countries, you may call the toll-free numbers; select option 2 and then option 2:

Country	Telephone Number
Austria	0800 297468
Belgium	0800 71429
Denmark	800 17309
Finland	0800 113153
France	0800 917959
Germany	0800 1821502
Hungary	00800 12813
Ireland	1800553117
Israel	1800 9453794
Italy	1678 79489
Netherlands	0800 0227788
Norway	800 11376
Poland	00800 3111206
Portugal	0800 831416
South Africa	0800 995014
Spain	900 983125
Sweden	020 795482
Switzerland	0800 55 3072
U.K.	0800 966197

Country	Telephone Number	Fax Number
U.S.A. and Canada	1 800 NET 3Com (1 800 638 3266) Enterprise Customers: 1 800 876 3266	1 408 326 7120 (not toll-free)

REGULATORY INFORMATION

(3C3SH654B, 3CXSH654B certified as M/N: 3C3FEM656 C, 3CXFEM656 C)

FCC PART 68

This equipment complies with Part 68 of the FCC Rules. A label is attached to this equipment that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following USOC jacks: RJ-11C

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact 3Com Corporation at (800) NET3COM for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

No repairs may be done by the customer.

This equipment cannot be used on telephone company provided coin service. Connection to Party Line Service is subject to state tariffs.

When programming and/or making test calls to emergency numbers:

- Remain on the line and briefly explain to the dispatcher the reason for the call.
- Perform such activities in the off-peak hours such as early morning or late evenings.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be a 900 number or any other number for which charges exceed local or long-distance transmission charges).

In order to program this information into your facsimile, refer to your communications software user manual.

FCC PART 15

This equipment has been tested and found to comply with the limits for a Class B digital device as applicable, 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.

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.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

Note: This card was tested to comply with FCC-15 Class B requirements in the cases of the following configurations:

a) Modem

MANUFACTURER'S DECLARATION OF CONFORMITY

3Com Corporation

3930 W. Parkway Blvd.

West Valley City, UT 84120

(800) 527-8677

Declares that the Product:

Date: June 15, 2000	Name: 3Com
Model Number:	Equipment Type: PC Card Modem
3C3FEM656, 3CXFEM656	

INDUSTRY CANADA (ICES-003)

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS DE CONFORMITÉ À LA RÉGLEMENTATION D'INDUSTRIE CANADA

Cet appareil numérique de la classe B est conform à la norme NMB-003 du Canada.

INDUSTRY CANADA (CS-03)

The Load Number of this modem is 0.0. The standard connecting arrangement code for this equipment as specified in CP-01, Section 1.8.3 is CA11A.

The Ringer Equivalence Number (REN) assigned to each terminal device provides anindication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe systems, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

SAFETY

This modem has been tested and certified according to the following safety standards and is intended for use only in Information Technology Equipment which has been tested and certified to these or other equivalent standards:

- *UL Standard 1950 (3rd Edition)/ CSA C22.2 No. 950*

- *IEC 60950*

- *EN 60950*

CAUTION: To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.

CE NOTICE

CE

This device complies with the requirements of European Directive 1999/5/EC.

The safety status of the ports on this modem is as follows:

- Line Interface Port - TNV

- PCMCIA Bus connector to PC - SELV

Note that only SELV ports should be connected to other SELV ports or TNV ports to other TNV ports. Interconnection of ports with different safety status may invalidate the approval. If in doubt about making such a connection, advice should be sought from a competent engineer.

The user should ensure that the power drawn by the modem, together with the host and any auxiliary apparatus drawing power from the host is within the rating of the power supply.

The modem power requirement is: +5V @ 120 mA.

The user should be aware that it is the modem and not the host that is approved.

When the modem is supplied along with a host machine, the modem user instructions must also be supplied. Failure to do so will invalidate the modem approval.

Please consult the supplier or maintainer of the modem, not the network operator, if operational difficulties are experienced.

NEW ZEALAND

Not all phones connected to the phone port will respond to incoming ringing. Do not report this as a fault unless the same phone will not respond to ringing when connected to a standard phone socket.

This equipment shall not be set up to make automatic calls to the Telecom 111 Emergency Services.

The grant of a Telepermit for a device in no way indicates Telecom acceptance of responsibility for the correct operation of that device under all operating conditions. In particular, higher speeds at which this modem is capable of operating depend on a specific network implementation which is only one of many ways of delivering high quality voice telephony to customers. Failure to operate should not be reported as a fault to Telecom.

In addition to satisfactory line conditions a modem can only work properly if:

a) it is compatible with the modem at the other end of the call and,

b) the application using the modem is compatible with the application at the other end of the call – e.g. accessing the Internet requires suitable software in addition to a modem.

This equipment should not be used in a manner which could constitute a nuisance to other Telecom customers.

Some parameters required for compliance with Telecom's PTC Specifications are dependent on the equipment (PC) associated with this modem. The associated equipment shall be set up to operate within the following limits for compliance with Telecom specifications:

a) There shall be no more than 10 call attempts to the same number within any 30 minute period for a single manual call initiation

b) The equipment shall go back on-hook for a period of not less than 30 seconds between the end of one call attempt and the beginning of the next.

c) Automatic calls to different numbers shall be not less than 5 seconds apart.

d) When used in the Auto-Answer mode, the S0 register must be set with a value between 2 and 5. This ensures:

i. A person calling your modem will hear a short burst of ringing before the modem answers. This confirms that the call has been successfully switched through the network.

ii. Caller identification information (which occurs between the first and second ring cadence) is not destroyed.

The code for Call Waiting disable is *52 on the Telecom New Zealand telephone network.

VCCI CLASS B

This is a Class B product based on the standard of the Voluntary Control Council for Interference from information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

情報処理装置等電波障害自主規制協議会 (VCCI) の基準に基づくクラス B情報技術装置
家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受
と、受信障害を引き起こすことがあります。

従って正しい取り扱いをして下さい。

USER GUIDE VERSION

1.0