



This manual covers installation and operating instructions for the following 3Com® modem:

U.S. Robotics® Cable Modem VSP plus (model 2699)

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INTRODUCTION

Congratulations! You have just purchased a modem which features a pioneering new technology. 3Com, the leader in networking and data access, is proud to offer you this technology that makes Internet access possible at speeds previously only imagined!

This internal cable modem is one part of a comprehensive communications system that utilizes the cable television (CATV) network to deliver high-speed data to your computer. Data is requested via your phone line and sent from the Internet via the CATV network to your computer at burst rates of up to 38 Mbps!

Cable Modem Features

- MCNS compatibility for interoperability
- Data transfer burst rates up to 38 Mbps
- Integrated 56 Kbps* analog modem (upgradeable to the ITU standard) eliminates the need for a separate analog modem
- Local and remote diagnostic capabilities
- The modem's design allows for easy software updates
- 3Com's extensive end-user support organizations

* **IMPORTANT!** You need the analog modem in this product to upload information to your cable company's cable

INTRODUCTION

modem server. When this analog modem is used in conjunction with the cable modem, uploads from users to server equipment travel at speeds up to 33.6 Kbps. Once a connection is made, downloads occur via the cable modem at burst rates up to 38 Mbps.

Additionally, this analog modem is capable of 56 Kbps downloads over analog lines when used as a stand-alone 56 Kbps modem. However, due to FCC rules which restrict power output of service providers' modems, current download speeds are limited to 53 Kbps. Actual speeds may vary depending on line conditions and other factors. Cable modem downloads are unaffected by these FCC rules. When this analog modem is used as a stand-alone 56 Kbps modem, uploads from users to server

equipment travel at speeds up to 31.2 Kbps. An analog phone line compatible with 56 Kbps technology, and an Internet provider or corporate host site compatible with x2™ technology are necessary for high speed downloads. Once the analog modem is upgraded to the ITU 56K V.90 standard, an Internet provider or corporate host site compatible with V.90 or x2 technology are necessary. ITU 56K standard officially determined in February, 1998; expected to be ratified in September, 1998. See www.3com.com/56k for details.

BEFORE YOU BEGIN

This chapter explains how to prepare your system for cable modem installation.

Contacting Your Local Cable Company

In order to use your cable modem, you need to establish an Internet access account with your local cable company. Before contacting your cable company to establish an account, have the following information handy:

- The modem's Media Access Control (MAC) address (located on a bar code sticker on the modem). The MAC address is a 12-character number beginning with **00C049**. Write the MAC address in the blank provided in the next column.
- The modem's model number (your modem is model number **2699**).

MAC address: **00C049** _____

Model number: **2699**

You should now contact your local cable company and verify the following:

- You have cable service to your home which supports cable modem access.
- Your cable company has set up your cable Internet access account.

If you do not have a cable line in your home that supports cable modem access, your cable company can provide one. If you use your cable line for cable television access, your cable company can also provide you with an additional line for use with your cable modem. Your cable company may also provide you with a login name and password for your cable

BEFORE YOU BEGIN

modem Internet access account. Write these in the blanks below for future reference:

Login name: _____

Password: _____

Preparing Your Workspace

Position your computer so that it is located near the cable access outlet and a telephone wall jack. Familiarize yourself with all of the materials in this box. Please read these installation instructions thoroughly before installing your cable modem.



CAUTION: Your cable company will provide a cable connection. Do not attempt any rewiring without first contacting your cable company.

You Will Need These Items

Included:

- Cable modem
- Cable modem installation diskettes
- A phone cord
- *Connections*[™] CD-ROM

Not Included:

- A PC running Windows 95 and meeting these minimum requirements:
 - ♦ 486 33MHz (or higher) CPU
 - ♦ 8 MB of RAM (16 MB preferred)
 - ♦ At least 5 MB of free hard disk space
- Windows 95 installation CD-ROM

BEFORE YOU BEGIN



NOTE: If you do not have a Windows 95 installation CD-ROM, you may be able to find the required files on your hard drive. Use the path `c:\windows\options\cabs` (where "c" is the letter for your hard drive) instead of the CD-ROM path referred to in these instructions where applicable. If this path does not work, you will need to contact the vendor who supplied your copy of Windows 95 to obtain a Windows 95 installation CD-ROM.

- Active cable line
- POTS (Plain Old Telephone Service) phone line. This is the standard analog telephone line found in most homes. It is important to NOT use a digital phone line. If you are unsure which type of phone line

you have, contact your local telephone company.

- A screwdriver (for opening your PC and installing the modem card)

Preparing Windows 95 for Cable Modem Installation

Before you install your cable modem, you need to make sure your system is prepared for installation. This section outlines the Windows 95 features your cable modem requires, how to verify whether or not your system already has these features, and how to install them if it does not.

BEFORE YOU BEGIN



NOTE: Some versions of Windows 95 will not support both the cable modem and a network interface card (such as Ethernet cards). We recommend that you uninstall or disable any existing network interface cards in your computer before installing the cable modem card. Please refer to the network interface card's documentation for more information about removing it from your system. For more information about using the cable modem on a system that includes a functioning network interface card, see the `readme.txt` file on disk 3 of 3 included in this package.

The cable modem requires these applications (which are included on your Windows 95 installation CD-ROM):

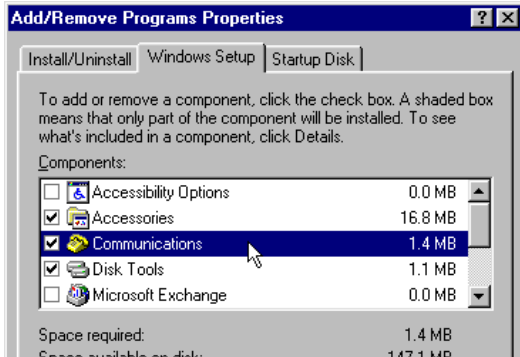
- Dial-Up Networking, which enables the modem to access the Internet
- TCP/IP, a communications protocol required by the cable modem to access the Internet
- SNMP Agent

Dial-Up Networking

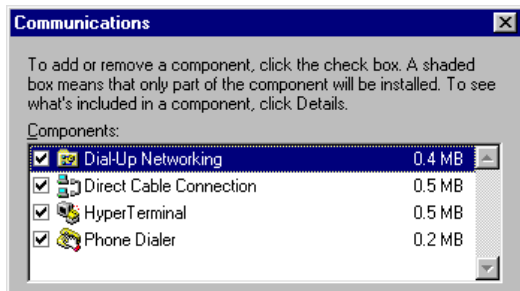
First, verify that Dial-Up Networking is installed on your PC.

1. Click **Start**, point to **Settings**, and then click **Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Click the **Windows Setup** tab.
4. In the “Components” list, click **Communications**. Then click **Details...**

BEFORE YOU BEGIN



5. If the “Dial-Up Networking” box is checked, close all open windows and go to the next section, “TCP/IP”.



6. If the “Dial-Up Networking” box is not checked, click the box so that a check appears. Then click **OK**. Click **OK** again. Windows will ask for the Windows 95 Installation CD. Follow the on-screen instructions to install Dial-Up Networking. When you are finished, close all open windows and continue with the next section, “TCP/IP”.

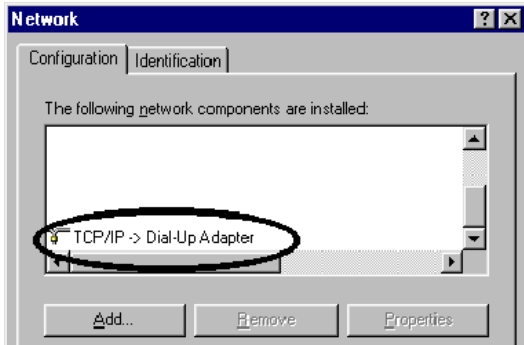
TCP/IP

Next, verify that TCP/IP is installed.

1. Click **Start**, point to **Settings**, and then click **Control Panel**.
2. Double-click the **Network** icon.
3. A list of installed network components appears. Look for **TCP/IP -> Dial-Up**

BEFORE YOU BEGIN

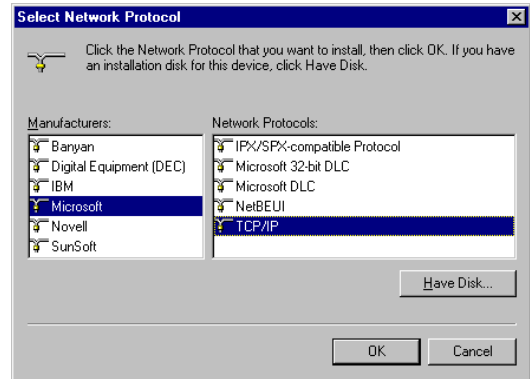
Adapter in the list that appears (circled in the following screen image).



If this entry is present, close all open windows and go to the next section, “SNMP Agent”. If not, continue with step 4.

4. Click **Add...**
5. Click **Protocol**, and then click **Add...**

6. Click **Microsoft** in the “Manufacturers:” list and then click **TCP/IP** in the “Network Protocols:” list. Then click **OK**.



7. “TCP/IP” will appear in the list of installed network components. Click **OK**.
8. Windows will now ask you if you would like to restart your computer. Click **No**. Close all open windows and then continue with the next section, “SNMP Agent”.

BEFORE YOU BEGIN

SNMP Agent

Finally, verify that SNMP Agent is installed on your PC.

1. Click **Start**, point to **Settings**, and then click **Control Panel**.
2. Double-click the **Network** icon.
3. A list of installed network components appears. Look for **Microsoft SNMP Agent** in the list. If it is listed, close all open windows and turn to “Determining Available Interrupt Requests (IRQs)” (page 10). If it is not listed, continue with step 4 below.
4. Click **Add...**
5. Click **Service**, and then click **Add...**
6. Click **Have Disk**. Next, while holding down the **SHIFT** key on your keyboard, insert the Windows 95 installation CD-ROM into your CD-ROM drive.

Holding down the shift key will prevent the CD from auto-running. When the CD is completely inserted into your CD-ROM drive, you can release the **SHIFT** key. Type **d:\admin\nettools\snmp** and then press **ENTER**.



NOTE: If you do not have a Windows 95 installation CD-ROM, you will either need to obtain SNMP Agent from Microsoft's Web page (www.microsoft.com/windows95/info/admintools.htm) or from your computer's manufacturer.

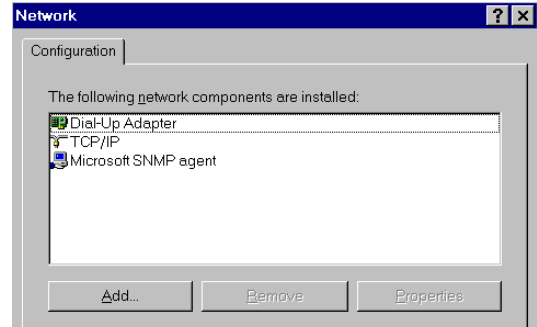
If you do not install SNMP Agent now, be sure to install it as soon as possible after installation. Although SNMP Agent is not required for your cable modem to operate properly, it will help with remote diagnostics.

BEFORE YOU BEGIN

7. When SNMP Agent installation is complete, **Microsoft SNMP Agent** will be added to the list of installed network components in the “Network” screen. Windows will ask you if you would like to restart your computer. Click **Yes**. Turn to “Determining Available Interrupt Requests (IRQs)” (page 10).

8. When your computer restarts, check the “Configuration” section of your “Network” screen. It should include at least the following three items (your screen may show additional items):

- Dial-Up Adapter
- TCP/IP
- Microsoft SNMP agent



Determining Available Interrupt Requests (IRQs)

All hardware devices installed on your computer require at least one interrupt request (IRQ). Your cable modem requires two IRQs. Here’s how you can verify that your system has the interrupt requests available that your modem requires:

BEFORE YOU BEGIN

1. Right click the **My Computer** icon on your desktop.
2. Click **Properties**.
3. When the “System Properties” screen appears, click the **Device Manager** tab.
4. Double-click **Computer** and the “Computer Properties” screen appears.
5. Select the option at the top of the screen to show **Interrupt Requests (IRQs)**.

You will see a list of the IRQs your system is currently using. IRQs that are not listed are available for use by your cable modem. You need to verify that at least two IRQs are available. One of the IRQs should be 3, 4, 5, 7, or 9 (these are the only IRQs that the analog modem portion of your cable modem can use). The other required IRQ can be any IRQ between 3 and 15. If you do not have both of

the necessary IRQs, turn to the section titled “Freeing IRQs for Your Cable Modem” on [page 45](#).

You are now ready to move on to the next section and install your cable modem hardware.

CABLE MODEM HARDWARE INSTALLATION



NOTE: Before installing your modem, write its 16-digit serial number in the space provided on the first page of this manual. (You'll find the serial number underneath the bar code on the white sticker on the modem and on the outside of the box.) If you ever need to call our customer support department, a customer support representative will ask you for the serial number. This will help him or her identify your modem.

1. Turn off your computer and unplug it from the electrical outlet.
2. Unplug any peripheral devices (printer, monitor, keyboard, mouse, etc.) from the computer.



TIP: Before you unplug any cords, label them or make a sketch of how they are connected. This can be helpful when you plug them back in later.

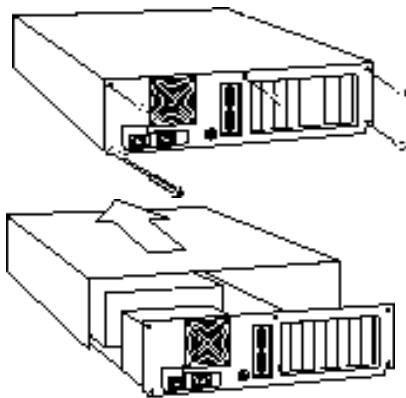


CAUTION: To avoid risk of electric shock, make sure your computer and all peripheral devices are turned off and unplugged from electrical outlets.

3. Remove the screws from your computer's cover and then remove the cover, as shown in the following diagrams. Your computer may differ in appearance from these diagrams, but the

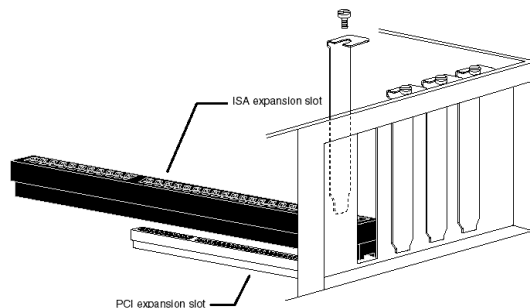
CABLE MODEM HARDWARE INSTALLATION

basic principle for removing the cover should be the same. Refer to your computer manufacturer's manual if you need further instructions.



4. Find an empty ISA expansion slot that is at least as long as the gold edge of your modem. (ISA slots are typically black plastic grooves lined with silver metal.)

Unscrew and remove the expansion slot cover (the long narrow piece of metal that keeps dust from entering through the opening perpendicular to the slot). Store the slot cover in a safe place in case you ever need to remove the modem.

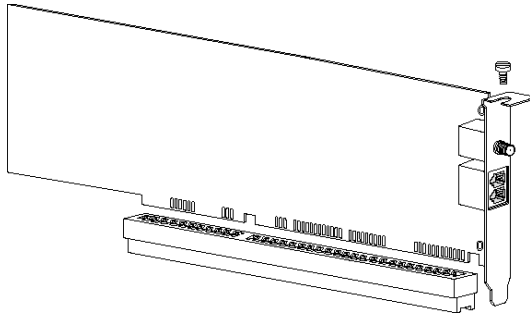


5. Holding the modem at each corner, with the gold edge facing the slot, push the modem down as gently as possible until it snaps into the expansion slot. (NOTE: The following diagram shows horizontally aligned

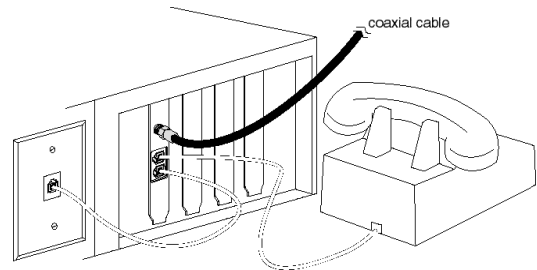
CABLE MODEM HARDWARE INSTALLATION

expansion slots. Some computers have vertically aligned slots. The instructions apply to both styles.)

You need to apply a little pressure to seat the modem properly. Sometimes a gentle back-and-forth motion helps fit the modem all the way into the slot. If you feel resistance, the modem may not be properly lined up with the slot. Do not force it into the slot. Remove the modem and try again.



6. Once the modem is in the slot, fasten the modem firmly into place using the screw that you removed in step 4.
7. Replace the computer's cover and fasten it with the screws you removed in step 3.
8. Connect your cable line to the cable modem's coaxial cable connector. Be careful not to bend the center wire inside the end of the connector.



9. Locate the phone jack you plan to use for the modem. If you have a phone plugged

CABLE MODEM HARDWARE INSTALLATION

into this jack, disconnect the telephone cord from the jack.



WARNING : The phone jack you use must be for an **ANALOG** phone line (the type found in most homes). Many office buildings have digital phone lines. Be sure you know which type of line you have. The modem will be damaged if you use a digital phone line.

10. Plug one end of the phone cord included with the modem into the TELCO jack at the rear of the modem. Plug the other end of the cable into the phone jack.
11. If you wish to use a phone on the same line the modem is using when the modem is not in use, plug your phone's cord into the modem's PHONE jack.



NOTE: You cannot use a phone connected to the modem's PHONE jack when the modem is active.

12. Plug the power cords, cables, and peripherals back into the computer and turn on the computer.



NOTE: Your computer's three-pronged power cable should be plugged into a properly grounded three-pronged outlet.

13. Continue with "Cable Modem Software Installation" ([page 16](#)).

CABLE MODEM SOFTWARE INSTALLATION



NOTE: This guide uses “a” as the letter for the 3.5 inch disk drive and “d” as the letter for the CD-ROM drive. Your computer may use different letters for these drives.

When your Windows 95 desktop appears, you will see one of these screens.

Screen 1 (Windows 950 or 950a)



Screen 2 (Windows 950b)



Windows has detected the modem. If Screen 1 appears, turn to “Installing the Cable Modem Drivers with Windows 95 Versions 950 and 950a” ([page 17](#)). If Screen 2 appears, turn to “Installing the Cable Modem Drivers with Windows 95 Version 950b” ([page 19](#)). If neither screen appears, turn to “If Plug and Play Does Not Detect Your Modem” ([page 44](#)).

Installing the Cable Modem Drivers with Windows 95 Versions 950 and 950a

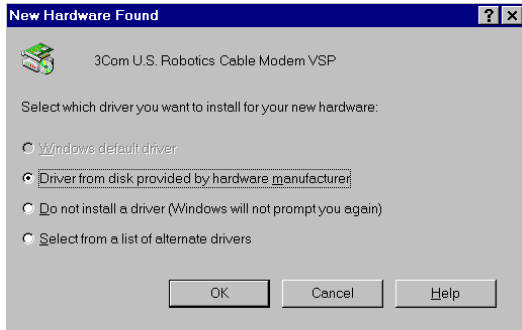
1. First, Windows detects the Winmodem™ portion of the ISA card. Click **Driver from disk provided by hardware manufacturer**. Then click **OK**.



2. When you see the “Install From Disk” dialog box, insert diskette 1 of 3 into your floppy drive and click **OK**.

3. When Windows finishes installing the modem’s drivers, it will tell you which COM port has been assigned to the modem. On this same screen, Windows will ask whether you would like to restart your computer. Click **No**.
4. A second “New Hardware Found” dialog box appears. The operating system has detected the cable modem portion of the ISA card (see the following screen shot). Select **Driver from disk provided by hardware manufacturer** and click **OK**.

CABLE MODEM SOFTWARE INSTALLATION



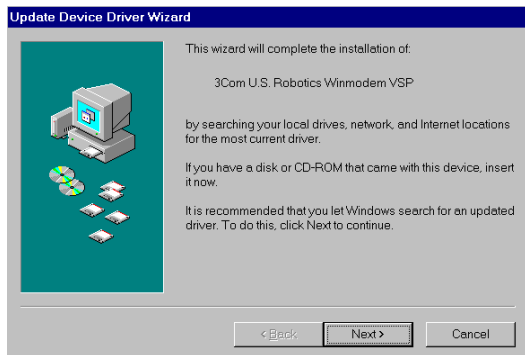
5. You will see an “Install From Disk” dialog box. Click **OK**.
6. After copying several files from the diskette, Windows will ask for the Windows 95 CD-ROM. Next, while holding down the **SHIFT** key on your keyboard, insert the Windows 95 installation CD-ROM into your CD-ROM drive. Holding down the shift key will prevent the CD from auto-running. When the CD is completely inserted into your CD-ROM drive, you can

- release the **SHIFT** key. Click **OK**. On the screen that follows, type **d:** and click **OK**.
7. Turn to “Installing the Cable Modem Dial Up Protocol” ([page 21](#)).

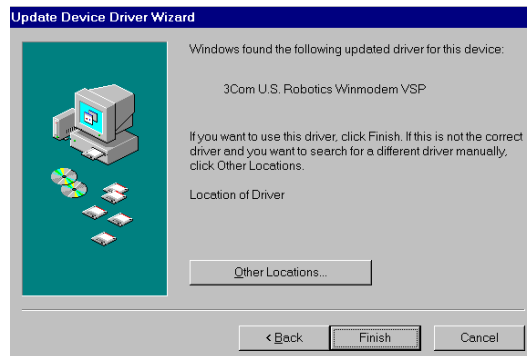
CABLE MODEM SOFTWARE INSTALLATION

Installing the Cable Modem Drivers with Windows 95 Version 950b

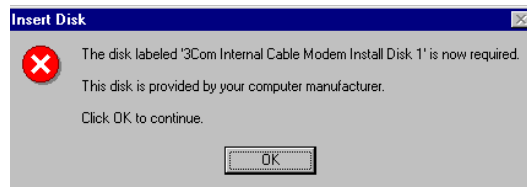
1. First, Windows detects the Winmodem™ portion of the ISA card. Insert diskette 1 of 3 into the disk drive. Click **Next**.



2. When the following dialog box appears, click **Finish**.

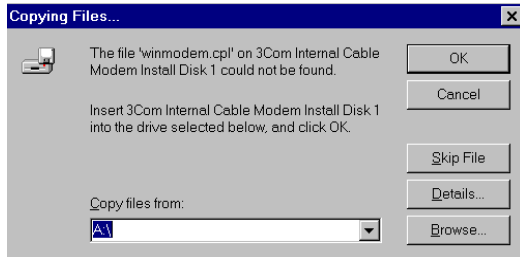


3. You will see the following "Install Disk" screen. Click **OK**.

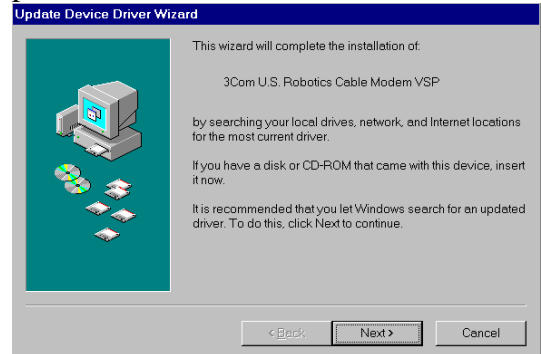


CABLE MODEM SOFTWARE INSTALLATION

- Windows may ask for the Windows 95 CD-ROM. If so, insert the Windows 95 CD-ROM into your CD-ROM drive, type **d:** and press **ENTER**.
- Windows 95 may ask for the file **winmodem.cpl** (located on diskette 1 of 3). If so, type **a:** and then press **ENTER**.



- When Windows finishes installing the modem's drivers, it will tell you which COM port has been assigned to the modem.
- Next, Windows detects the cable modem portion of the ISA card. Click **Next**.

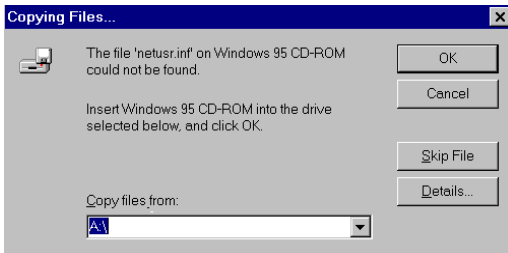


CABLE MODEM SOFTWARE INSTALLATION

8. Click **Finish**.



9. Windows 95 may ask for the file **netusr.inf** (located on diskette 1 of 3). If so, type **a:** then press **ENTER**.



Installing the Cable Modem Dial Up Protocol

1. Diskette 1 of 3 should already be inserted into your floppy drive. If it is not, insert it now.
2. Click Windows 95 **Start**, point to **Settings**, and click **Control Panel**.
3. Double-click the **Network** icon in the Control Panel.
4. Click **Add**.
5. Double-click **Protocol**.
6. When the “Select Network Protocol” screen appears, click **Have disk**. You will see an “Install From Disk” screen. Make sure **a:** appears in the text box and then click **OK**.

CABLE MODEM SOFTWARE INSTALLATION

7. A second “Select Network Protocol” screen will appear. In the “Models:” dialog, you should see “3Com CM Dial Up Protocol”. Double-click that text. Windows 95 will display the main “Network” screen showing the “3Com CM Dial Up Protocol” added to the components list. Click **OK** and Windows 95 will start copying files.
8. At a midway point during the file copying process, Windows will ask for the Windows 95 installation CD-ROM. When it does, insert the CD-ROM into your CD-ROM drive and click **OK**. A “Copying Files” screen will appear. Make sure the path in the “Copy files from:” field matches the letter for your CD-ROM drive. Then click **OK**.
9. When Windows finishes copying files, it will ask if you wish to restart your computer.

Remove the Windows 95 installation CD-ROM from your CD-ROM drive and remove the diskette from your floppy drive. Then click **No**.

Installing Cable Modem Connection Center

1. Insert diskette 2 of 3 into your floppy disk drive.
2. Click **Start**. Then click **Run**.
3. At the “Run” dialog box, type **a:\setup.exe** and then press **ENTER**.
4. Follow the on-screen instructions to install CMCC. Return to step 5 in these instructions when the installation asks if you wish to restart your computer.

CABLE MODEM SOFTWARE INSTALLATION

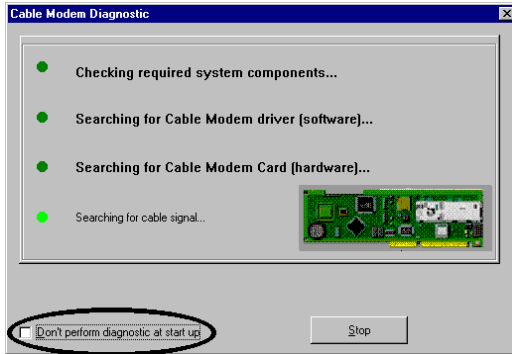
5. At the end of the installation, you will be asked if you wish to restart your computer. Click the **Yes** radio button, eject the diskette from your floppy drive, and then click **Finish**.
6. When Windows restarts, CMCC will initiate a channel scan. It will lock on to the first active downstream channel it detects and indicate the number and frequency of the channel. (See the following screen image. Your screen may show different information.) This automatic scan occurs only upon your first restart after installing the CMCC software. (If the CMCC fails to lock onto a channel, see the “Troubleshooting and Support Resources” section on [page 40](#).) The cable modem will use this channel until you scan for a different channel or your cable company supplies

you with new channel information. Click **OK**.



7. CMCC will then run a diagnostic test of your cable modem system. Windows will launch this diagnostic test upon every fresh restart unless you check the **Don't perform diagnostic at start up** option in the first screen of the test (circled in the following screen shot).

CABLE MODEM SOFTWARE INSTALLATION



Here's how to interpret the diagnostic test:

- Red lights indicate problems, green lights indicate normal operation. If all lights on your diagnostic screen are green, go to step 8 on [page 25](#).
- If a red light appears next to “Checking required system components...”, you should re-read the “Before You Begin” section to make sure you have properly

installed all of the network components required by the cable modem. If the light is red because you have not installed SNMP Agent yet, you may be able to use your cable modem, though you will not be able to take advantage of the modem's remote diagnostic capabilities.

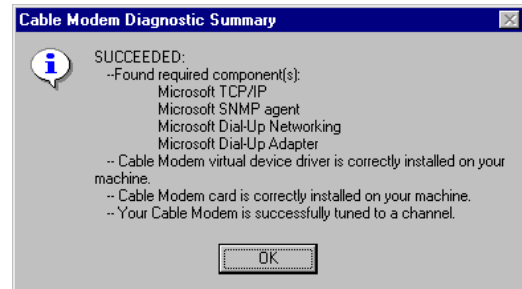
- If a red light appears next to “Searching for Cable Modem driver (software)...”, the cable modem is not properly installed. Uninstall the modem according to the instructions in the “Uninstalling the Cable Modem” section ([page 38](#)) and then reinstall the modem using the instructions in the section titled “Cable Modem Hardware Installation” ([page 12](#)).

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- If a red light appears next to “Searching for Cable Modem Card (hardware)...”, the cable modem is not properly installed. Uninstall the modem according to the instructions in the “Uninstalling the Cable Modem” section (page 38) and then reinstall the modem using the instructions in the section titled “Cable Modem Hardware Installation” (page 12).
- If a red light appears next to “Searching for cable signal...”, the cable modem is not detecting an active data signal from your cable line. Check the connection of the coaxial cable to the modem. If this connection seems secure, reboot your computer and restart the CMCC software. The software may be able to detect the signal after restarting. If these

possible solutions fail, call your cable company. Their signal may be too weak.

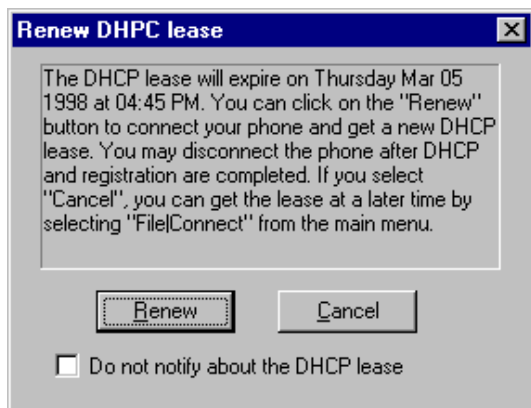
8. When you see the “Cable Modem Diagnostic Summary” screen (see the following screen shot), click **OK**.



9. You will see a screen reading that your IP lease will expire and that you need to dial in to obtain a new one. This screen appears because you have not yet connected to obtain an IP address. If you do not want to be notified about this again, you may check

CABLE MODEM SOFTWARE INSTALLATION

the “Do not notify about the DHCP lease” option. Click **Cancel**.




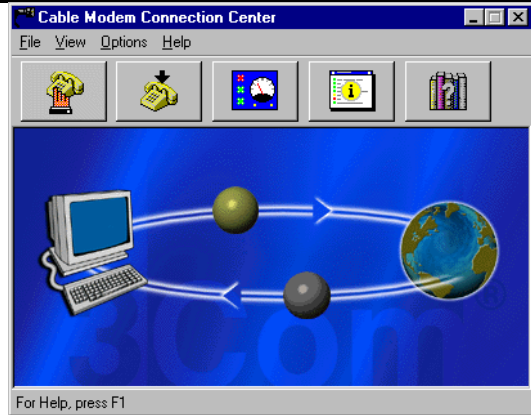
MAKING YOUR FIRST CONNECTION


The Cable Modem Connection Center requires some configuration when you initiate your first session. Follow these steps to configure the software.



NOTE: These instructions describe one method of making your first cable modem connection. However, there are other methods. If you have trouble connecting using these instructions or your cable company has provided you with different instructions, follow your cable company's instructions or contact them for assistance.


1. Double-click the CMCC icon () in the system tray (lower right corner of your desktop). The main CMCC screen appears.



2. To begin the session, click the **Connect** () button.
3. When the “Enroll” screen appears, there should be at least two options in the **Service Provider** field. One should be “Manual Enrollment” and another should

correspond to your cable company's Internet service.

4. Highlight the option in the **Service Provider** field that corresponds to your cable company (like the “ACME Cable Co.” in the preceding screen shot).

 **NOTE:** If your cable company's Internet service does not appear in the “Service Provider” field, call your cable company for assistance.

5. If your cable company has provided you with a login name and password:

Click **Copy to Manual Enrollment**. The “Manual Enrollment” option should now be highlighted in the **Service Provider** field and the fields will show the information for your cable company's Internet service. Enter your **Login** name and **Password** in the appropriate fields. Click **Enroll Now**. Your modem should dial the cable company's Internet server and make your connection.


If your cable company has not provided you with a login name and password:

Click **Enroll Now**. Your modem should dial the cable company's Internet server and make your connection.



NOTE: If your modem fails to dial, make sure the phone line is properly connected to the TELCO jack on the modem and an analog phone jack. If this connection is correct, turn to "Troubleshooting and Support Resources" (page 40).

6. You will see a series of screens detailing the progress of the enrollment. When these screens disappear, launch your Internet browser or e-mail software and you are ready to work online! After this initial

connection, you can simply click the **Connect** () button to initiate future cable modem sessions.

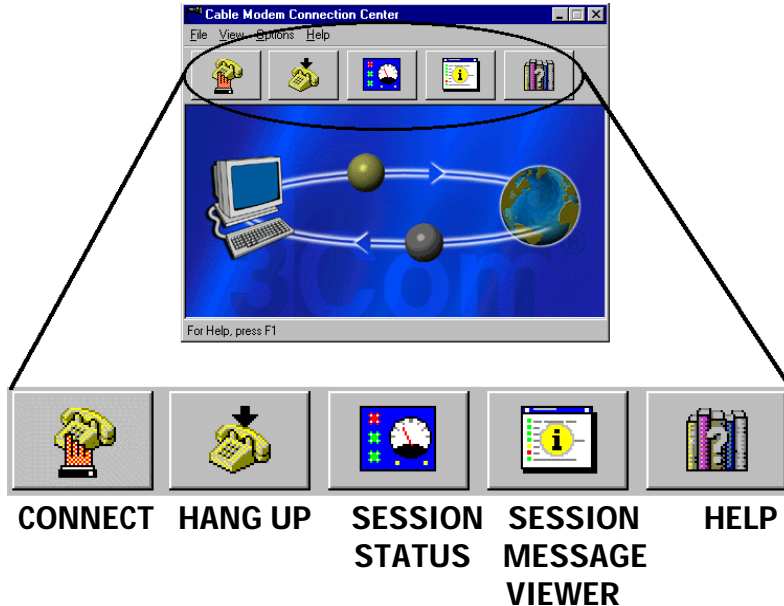


NOTE: If any error screens appear during the enrollment process, turn to the "Troubleshooting and Support Resources" section (page 40).

CABLE MODEM CONNECTION CENTER FEATURES

Here is an overview of the Cable Modem Connection Center's features.

Main Panel Toolbar



CABLE MODEM CONNECTION CENTER FEATURES

Connect



Click this button to initiate a cable modem session with CMCC. This button is grayed-out when there is already an established connection.

Hang Up



Click this button to disconnect your cable modem's connection to your cable company and end the current session. This button is grayed-out when there is no established connection.

Session Status



Click this button to check the status of the current cable modem session. When you click this button, the following "Session Status" screen appears. Click **OK** to exit.

Cable modem		Telco modem	
Downstream lock:	Yes	Status:	Connected
Channel ID:	0	IP address:	10.1.1.16
Frequency:	225,000,000 Hz	Connection duration:	000:04:05 (hh:mm:ss)
Modulation:	256 QAM		
IP address:	149.112.58.14		
Cable activity			
MCNS frames received since reboot:	100	Block errors per second:	0
		Raw symbol errors per second:	0

Status Message Viewer



Click this button to view a message log that documents the events of each cable modem session (establishing connections, failures to connect, file transfers, etc.). The information on this screen can be helpful if you need to troubleshoot problems with our technical support staff.

Help



Click this button to use the CMCC's built-in help files.

Main Panel Menu Options

The File Menu

Clicking **File** provides access to the following options:

DIAGNOSTICS:

Clicking this option runs the same diagnostic utility that launches automatically at the beginning of each CMCC session (unless you specify for it not to run).

RESCAN CHANNELS:

Clicking this option allows you to manually start a scan for an open channel. This is useful if for some reason the cable modem is not currently locked on to an active signal.

CABLE MODEM CONNECTION CENTER FEATURES

TUNE FREQUENCY:

Clicking this option allows you to tune the cable modem to an exact frequency.

ENROLL:

This is the option you use to enroll into a new cable modem access account with a cable company (for more information about enrollment, see the section “Making Your First Connection” on [page 27](#)).

CONNECT:

This option initiates a new session with CMCC (same function as the **Connect** button on the main panel toolbar).

HANG UP:

This option ends the current cable modem session (same function as the **Hang Up** button on the main panel toolbar).

EXIT:

This option closes the software completely.

The View Menu

Clicking **View** provides access to the following options:

STATUS MESSAGE VIEWER:

Clicking this option displays the same information that appears when you click the **Status Message Viewer** button on the main panel toolbar (see [page 32](#)).

CABLE MODEM CONNECTION CENTER FEATURES

DIAL-UP PARAMETERS:

Clicking this option allows you to modify the dial-up parameters for your cable modem.

SESSION STATUS:

Clicking this option brings up the same status screen as the **Session Status** button on the toolbar (see [page 31](#)).

CABLE MODEM CONFIGURATION:

Clicking this option displays information concerning your cable modem's configuration.

The Options Menu

Clicking **Options** provides access to the following options.

PREFERENCES:

Clicking **Preferences** brings up a multi-tab screen outlined as follows:

- **GENERAL:** This tab brings up a screen that allows you to choose whether or not you want the diagnostic test to be performed at the beginning of each cable modem session.
- **LOGGING:** This tab gives you access to options concerning which event messages are stored in the message log and where the log is stored.
- **BROWSER:** This tab allows you to select the default Web browser for use with the cable modem and determine whether or not it starts automatically at the beginning of each session.

CABLE MODEM CONNECTION CENTER FEATURES

- **STATUS MESSAGES:** This tab allows you to choose the action CMCC should take when the status message viewer is full.
- **DHCP IP:** This tab allows you to select from options for detecting/selecting source IP addresses for out-bound DHCP packets.

The Help Menu

Clicking **Help** gives you access to CMCC's help files and information about the software.

UNINSTALLING THE CABLE MODEM

You need to perform five steps to remove the cable modem from your system. Each step will be covered in detail in this section. Here is an overview of the five steps:

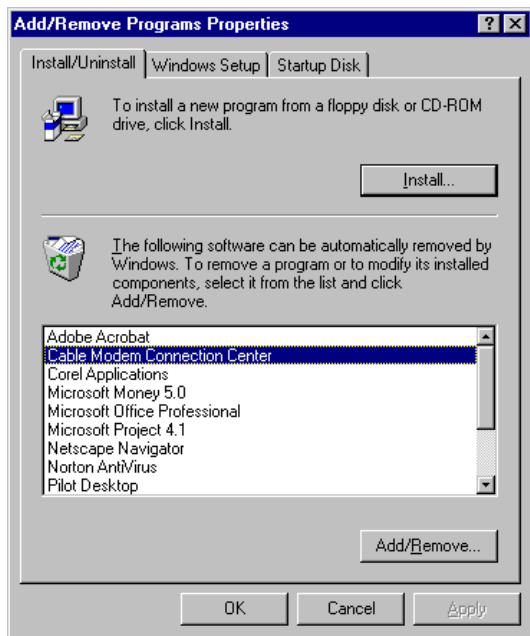
- Uninstalling the CMCC software
- Uninstalling the Cable Modem Dial Up Protocol
- Uninstalling the 56 Kbps Winmodem™
- Uninstalling the internal cable modem card
- Shutting down and unplugging your computer and physically removing the cable modem from the ISA slot

Uninstalling the CMCC Software

To uninstall the CMCC software, follow these steps:

1. Right-click the CMCC icon in your system tray. Then click **Exit**. A dialog box will ask if you are sure you wish to exit. Click **Yes**.
2. Click Windows 95 **Start**, point to **Settings**, and click **Control Panel**. Double-click **Add/Remove Programs**.
3. Double-click **Cable Modem Connection Center** (shown in the following screen shot).

UNINSTALLING THE CABLE MODEM



Windows asks if you are sure you want to remove the software and all of its components. Click **OK**. Follow the on-

screen instructions to remove the software from your system.

Uninstalling the Cable Modem Dial Up Protocol

1. Click Windows 95 **Start**, point to **Settings**, and click **Control Panel**.
2. Double-click **Network**.
3. Click **3Com CM Dial Up Protocol** in the list that appears to highlight it.
4. Click **Remove**.
5. Click **OK**.
6. Windows will tell you that you must restart your computer before these changes will take effect. When asked if you wish to restart now, click **No**.

Uninstalling the 56 Kbps Winmodem

1. Click Windows 95 **Start**, point to **Settings**, and click **Control Panel**.
2. Double-click the **Modems** icon.
3. Select **3Com U.S. Robotics Winmodem VSP**.
4. Click **Properties**.
5. Click the **Uninstall** tab and then click the **Uninstall** button.
6. Windows displays the following message: “Warning, you are about to remove this device from your system”. Click **OK**. The Winmodem is now uninstalled from your system.

Uninstalling the Internal Cable Modem Card

1. Click Windows 95 **Start**, point to **Settings**, and click **Control Panel**. Double-click the **System** icon.
2. Click the **Device Manager** tab at the top of the screen.
3. Double-click **Network adapters**.
4. Select **3Com U.S. Robotics Cable Modem VSP** and click **Remove**.
5. Windows displays the following message: “Warning, you are about to remove this device from your system”. Click **OK**. The cable modem is now uninstalled from your system.

UNINSTALLING THE CABLE MODEM

Removing the Cable Modem

1. Shut down, turn off, and unplug your computer.
2. Disconnect your cable line from the modem's **CABLE** jack and disconnect the phone cord from the modem's **TELCO** jack. If your phone's cord is plugged into the modem's **PHONE** jack, disconnect that cord, as well.
3. Remove the computer's cover.
4. Remove the screw that holds the cable modem in its slot.
5. Pull the cable modem out of the slot.
6. Cover the slot with the bracket you removed during installation and screw it into place.
7. Replace the computer's cover, plug it back into the electrical outlet, and turn the computer back on.

TROUBLESHOOTING AND SUPPORT RESOURCES

PROBLEM

My cable modem does not dial my cable company's server properly.

POSSIBLE SOLUTION

1. Make sure your phone line is active. Plug a telephone into the analog phone jack and listen for a dial tone.
2. Make sure you are dialing the correct access number for your cable company's cable modem service.
3. If you have a TELCO modem installed on your system in addition to the 56 kbps Winmodem which is included on your cable modem card, make sure that phone cord that is included with your cable modem is plugged into an analog phone jack and into the TELCO jack on the cable modem and not the TELCO jack on the other modem.
4. Click Windows **Start**, point to **Programs**, point to **Accessories**, and click **Dial Up Networking**. If you see a "Welcome" screen, click **Cancel**. Otherwise, right-click on the **Cable Modem** icon. Click **Properties**. In the **Connect Using:** field of the screen that appears, make sure Winmodem VSP is listed. If it is not, select it from the pull-down menu and then click **OK**.

My computer went into "power save" mode. When it came out of power save mode, my screen was frozen.

If the upstream (TELCO) connection is active when a computer goes into power save mode, the computer may freeze when coming out of power save mode. Either hang up the TELCO modem before your computer goes into power save mode or disable power save on your PC. If you choose to disable power save, disable it in both the Windows 95 Control Panel and the BIOS setup. To disable power save in Windows 95, click Windows 95 **Start**, point to **Settings**, and click **Control Panel**. Double-click the **Power** icon and select **OFF** in the "Power Management" box. Click **Apply**. To disable power save in the BIOS setup, you usually must press a function key while booting up to enter the setup menu. Consult your computer's manual for exact instructions.

PROBLEM

I installed the cable modem, but it does not work.

POSSIBLE SOLUTION

1. Your cable modem may have been installed with an IRQ conflict. Right click on the **My Computer** icon on your desktop and then click **Properties**. Click the **Device Manager** tab at the top of the “System Properties” screen. Look for yellow exclamation points over either or both of the following devices:
 - The 3Com U.S. Robotics Cable Modem VSP in the Network adapters category
 - The 3Com U.S. Robotics Winmodem VSP in the Modems category

If either device has a yellow exclamation point, it has been installed with a resource conflict. Uninstall the device(s) with yellow exclamation points by highlighting each one and then clicking the **Remove** button. You will be asked if you are sure you wish to uninstall the device(s). Click **OK**. Next, you need to free IRQs for the device(s). Double-click the **Computer** icon at the top of the **Device Manager** screen. In the **Setting** column, look for numbers between 3 and 15 that aren't listed. These are IRQs available for use by the cable modem. If the Winmodem was in conflict, you will need to free one of the IRQs in the range that it can use (IRQs 3, 4, 5, 7, or 9). You will need to move a device currently using one of these IRQs to a higher IRQ. We highly recommend removing any modems installed in this range (other than the cable modem) in order to free an IRQ for use by the Winmodem VSP. The 3Com U.S. Robotics Cable Modem VSP can use any available IRQ. If none are available, choose a device for removal. Remove the device using its documentation as a guide. Once you have freed the necessary IRQs, restart your computer and turn to “Cable Modem Software Installation” ([page 16](#)).

TROUBLESHOOTING AND SUPPORT RESOURCES

PROBLEM

I installed the cable modem, but it does not work (cont.).

My cable modem scans for an active channel, pauses on an active channel, but instead of locking on to it, continues to scan for active channels.

My cable modem scans for an active channel, but never locks on to an active channel.

POSSIBLE SOLUTION

2. Some versions of Windows 95 will not support both the cable modem and a network interface card (such as an Ethernet card). We recommend that you uninstall or disable any existing network interface cards in your computer before installing the cable modem card. Please refer to the network interface card's documentation for more information about removing it from your system. For more information about using the cable modem on a system that includes a functioning network interface card, see the **readme.txt** file on disk 3 of 3 included in this package.

Your cable modem may be assigned to IRQ 12, which is often a problem, though Windows 95 will not report it as such. Right-click on the **My Computer** icon on your desktop and then click **Properties**. Click **Device Manager** and then click **Network Adapters**. Double-click 3Com U.S. Robotics Cable Modem VSP and then click Resources. Look for Interrupt Request in the Resource Type column. If the number listed to the right is 12, you will need to move the cable modem to a different interrupt request (IRQ). See the section "Freeing IRQs for Your Cable Modem" ([page 45](#)).

-
1. The signal from your cable company's equipment may be too weak. Call your cable company to verify whether or not this may be the problem.
 2. Check the physical connection of the coaxial cable to the modem.
 3. Reboot your computer and attempt to connect again.

TROUBLESHOOTING AND SUPPORT RESOURCES

PROBLEM

During registration, I receive a “DHCP offer receive” error.

POSSIBLE SOLUTION

1. Click on the “Register again” button. Registration may proceed despite this error.
2. Click Windows 95 **Start**, point to **Settings**, and click **Control Panel**. Double-click the **Network** icon. In the list of installed network components that appears, highlight “TCP/IP -> Dial-Up Adapter” and then click **Properties**. In the “TCP/IP Properties” screen that appears, click the “IP Address” tab. Make sure the “Obtain an IP address automatically” option is checked. Click **OK** and close all open windows.
3. Click Windows 95 **Start** and then click **Run**. Type **winipcfg.exe** and press **ENTER**. When the “IP Configuration” screen appears, make sure the values in the “IP Address” and “Default Gateway” fields are identical and do not equal zero. If they are not identical or equal zero, contact our technical support department.
4. In CMCC, click **Options**, click **Preferences**, and then click **DHCP IP Address**. Make sure Auto Detect is enabled unless your cable company recommends against it.
5. Restart your computer and try again. If registration fails again after restarting, contact your cable company.

During registration, I receive a “<TFTP Error> code =4, timeout”.

1. Click on the “Register again” button. Registration may proceed despite this error.
2. Click Windows 95 **Start**, point to **Settings**, and click **Control Panel**. Double-click the **Network** icon. In the list of installed network components that appears, highlight “TCP/IP -> Dial-Up Adapter” and then click **Properties**. In the “TCP/IP Properties” screen that appears, click the “IP Address” tab. Make sure the “Obtain an IP address automatically” option is checked. Click **OK** and close all open windows.
3. Restart your computer and try again. If registration fails again after restarting, contact your cable company.

If Plug and Play Does Not Detect Your Modem

1. Click Windows 95 **Start** and click **Shut Down**. When asked if you wish to shut down your computer, click **Yes**. When Windows 95 indicates that it is safe to turn off your computer, turn it off and wait at least 15 seconds. Then turn the computer back on. Windows 95 may detect your modem upon this restart even if it did not detect the modem during the initial installation. If you see screens indicating that new hardware has been detected by Windows 95, turn to “Cable Modem Software Installation” on [page 16](#). If not, continue with the next step.
2. Click Windows 95 **Start**, point to **Settings**, and click **Control Panel**. Double-click the **System** icon and then click the **Device Manager** tab on the “System Properties” screen. Look for “Other Devices” or “Unknown Devices” in the list that appears. If you do not see either of these options in the list, continue with the next section to learn about our support options. If you do see one of these options, double-click the option. If the description that appears matches the modem you are trying to install, click the **Remove** button. Click **OK** when Windows asks if you wish to remove the device. Next, restart the computer as described in step 1 on this page. If the computer does not detect the modem after this second restart, please continue reading to learn about our support options.

Freeing IRQs for Your Cable Modem

If you were referred to this section of the manual, your computer does not have the free IRQs necessary that your cable modem requires. Here are a couple of possible ways to free the IRQs your modem needs. Once you have the free IRQs necessary to begin installation, turn to the section “Cable Modem Hardware Installation” on [page 12](#).

- **Uninstall any analog modems on your system.** If you have an analog modem (other than your cable modem) currently installed on your system, uninstall it before installing the cable modem. This will free an IRQ in the range required by the analog modem portion of your cable modem. Please

refer to the analog modem’s documentation for more information about uninstalling it from your computer.

- **Disable any onboard serial ports that are not in use.** If you have serial ports on your system that are not currently in use, disable them using your computer’s documentation as a guide.

Support Resources

3Com BBS

Dial the 3Com BBS, 847-982-5092, using the communications software of your choice.

Internet FTP

Our ftp site provides a free library containing the same files as the BBS site. FTP to **ftp.usr.com**.

TROUBLESHOOTING AND SUPPORT RESOURCES

Internet on Demand

Our Internet on Demand site provides automatic technical support through a library containing product information, quick reference cards, and installation help. To obtain an index of available documents, send a blank e-mail to **support@usr.com**. To have a document e-mailed to you, send the document's number as the subject.

World Wide Web

The 3Com home page contains the same information as the Internet on Demand listing. Log on to www.3com.com

CompuServe

You can access the same information as the Internet FTP site through CompuServe. The forum address is **GO THREECOM**. Address private messages to **76711,707**.

America Online

Go to the **Keyword** field and type **3COM** to connect to various 3Com resources, such as file libraries, message boards, online customer support, and product announcements.

90-Day Free Installation Support

If you need help with installation within 90 days of purchase, please call our toll-free installation support number.

888-877-5040

(Hours: 8:00 am - 6:00 pm CST)

Technical Support Hotline

Technical questions about 3Com U.S. Robotics modems can also be answered by technical support representatives. The hotline is a toll call.

847-676-2550

(Hours: 8:00 am - 6:00 pm CST)

TROUBLESHOOTING AND SUPPORT RESOURCES

Are You Still Having Problems?

- Review this manual.
- Call or visit your modem dealer. They may be able to assist you.
- If your dealer can't help you, contact 3Com Customer Support. When you call, specify your modem's serial number (found on the modem and on the outside of the box) and the software being used.

If You Need to Return the Modem to Us

Contact 3Com Customer Support. If the support representative determines that you need to return the modem, you will receive an SRO (Service Repair Order) number. You must have an SRO number before returning

the modem to us. Ship the unit, postage paid, in a strong box made of corrugated cardboard with plenty of packing material. **DO NOT** send the modem back in the original box. Send **ONLY** the modem (NOT manuals, diskettes, etc.). Include your SRO number, name, and address on the shipping label as well as inside the package. If possible, send the package via a courier capable of tracking the progress of the shipment. Ship to the following address:

**3Com
Attn: RMA
SRO#
6201 W. Oakton, East Dock
Morton Grove, IL 60053**

REGULATORY INFORMATION AND LIMITED WARRANTY

Manufacturer's Declaration of Conformity

3Com
7770 North Frontage Road
Skokie, Illinois 60077-2690
U.S.A.

declares that the product *U.S. Robotics Cable Modem VSP plus* (2699) conforms to the FCC's specifications:

Part 15:

Operation is subject to the following two conditions:

(1) this device may not cause harmful electromagnetic interference, and

(2) this device must accept any interference received including interference that may cause undesired operations.

Part 68:

This equipment complies with FCC Rules Part 68. Located on the bottom of the modem is the FCC Registration Number and Ringer Equivalence Number (REN). You must provide this information to the telephone company when requested.

The REN is used to determine the number of devices you may legally connect to your telephone line. In most areas, the sum of the REN of all devices connected to one line must not exceed five (5.0). You should contact your telephone company to determine the maximum REN for your calling area.

REGULATORY INFORMATION AND LIMITED WARRANTY

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

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

An FCC compliant telephone cord and modular plug are provided with this equipment, which is designed to connect to the telephone network or premises wiring using a Part 68 compliant compatible jack. See installation instructions for details.

Caution to the User

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Performance Specifications

This equipment has a bit-error rate (BER) less than $10E-8$ when the signal-to-noise ratio (SNR) is 23.5 dB or greater when operating in 64-QAM mode, and when the SNR is 30.0 dB or greater.

IC (Canada)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled *Digital Apparatus*, ICES-003 of Industry Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: *Appareils Numériques*, NMB-003 édictée par l'Industrie Canada.

REGULATORY INFORMATION AND LIMITED WARRANTY

UL Listing/CUL Listing

This information technology equipment is UL-Listed and CUL-Listed for use with UL-Listed personal computers that have installation instructions detailing user installation of card cage accessories.

Fax Branding

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, an identification of the business or other entity, or other individual sending the message, and the telephone number of the sending machine or of 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 modem, refer to your communications software's manual.

Radio and Television Interference

This equipment generates and uses radio frequency energy and if not installed and used properly, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. The modem has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation.

REGULATORY INFORMATION AND LIMITED WARRANTY

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause interference to radio or television reception, which you can determine by monitoring reception when the modem is installed and when it is removed from the computer, try to correct the problem with one or more of the following measures:

- Reorient the receiving antenna (for televisions with antenna reception only) or cable input device.
- Relocate the computer with respect to the receiver.
- Relocate the computer and/or the receiver so that they are on separate branch circuits.

If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may find the

following booklet, prepared by the Federal Communications Commission, helpful:

How to Identify and Resolve Radio-TV Interference Problems

Stock No. 004-000-0345-4

U.S. Government Printing Office

Washington, DC 20402

In accordance with Part 15 of the FCC rules, the user is cautioned that any changes or modifications to the equipment described in this manual that are not expressly approved by 3Com could void the user's authority to operate the equipment.

For Canadian Modem Users

NOTICE: The Industry Canada (IC) label identifies certified equipment. This certification means the equipment meets certain

REGULATORY INFORMATION AND LIMITED WARRANTY

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. In some cases, the company's inside wiring associated with a single-line, individual service may be extended by means of a certified connector assembly (telephone extension cord.) The customer should be aware that compliance with the above conditions may not prevent degradation of service in some

situations. Currently, telecommunication companies do not allow users to connect their equipment to jacks except in precise situations that are spelled out in tariffing arrangements with those companies.

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.

For your own protection, make sure that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

REGULATORY INFORMATION AND LIMITED WARRANTY

CAUTION: Do *NOT* attempt to make such connections yourself. Instead, contact an electric inspection authority or electrician, as appropriate.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication 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 Ringer Equivalence Number is located on the bottom of the modem's case (external modems) or on the modem's circuit board (internal modems).

WARRANTY AND REPAIR SERVICE CENTER:

Keating Technologies
25 Royal Crest Court, Suite 200
Markham, ONT L3R 9X4

«**AVIS** : L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux

REGULATORY INFORMATION AND LIMITED WARRANTY

installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées cidessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de

la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

«**AVIS : L'indice d'équivalence de la sonnerie (IES)** assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule

REGULATORY INFORMATION AND LIMITED WARRANTY

condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.»

Centre de garantie et de service après-vente:

Keating Technologies

25 Royal Crest Court, Suite 200

Markham, ONT L3R 9X4

Limited Warranty

U.S. Robotics Access Corp., a subsidiary of 3Com Corporation, warrants to the original end-user purchaser that this product will be free from defects in materials and workmanship for a period of five years from the date of purchase. During the limited warranty period, and upon proof of purchase, the product will be repaired or replaced (with the same or a similar model,

which may be a refurbished model) at U.S. Robotics' option, without charge for either parts or labor. This limited warranty shall not apply if the product is modified, tampered with, misused, or subjected to abnormal working conditions (including, but not limited to, lightning and water damage).

THIS LIMITED WARRANTY DOES NOT GUARANTEE YOU UNINTERRUPTED SERVICE. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED

REGULATORY INFORMATION AND LIMITED WARRANTY

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To obtain service under this limited warranty, contact the 3Com Technical Support Department at 847-982-5151 or by mail at:

3Com
7770 N. Frontage Road
Attn.: Technical Support Dept.
Skokie, IL 60077-2690

REGULATORY INFORMATION AND LIMITED WARRANTY

You will be given a Service Repair Order (“SRO”) number to help 3Com keep track of your limited warranty request. Once you have received your SRO number, take or send the product, postage prepaid and insured, to the following address:

3Com
Attn: RMA
[your SRO#]
6201 W. Oakton, East Dock
Morton Grove, IL 60053

Pack the modem in a strong corrugated cardboard box with plenty of packing material. DO NOT send the modem back in its original box. DO NOT send anything but the modem (do not send back the diskettes, documentation, etc.). If possible, send the modem via a courier capable of tracking the progress of the shipment. Include proof of the date of purchase. IMPORTANT: If you send your unit, pack it securely, and be sure that your SRO number is visible on the outside of the package.