

Zoom CableModem

U S E R ' S M A N U A L

**External Modem
with Ethernet & USB Interfaces**



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Getting Started

Your Zoom™ cable modem is designed to connect your personal computer to the Internet through the same cable that you use for television reception. You can connect your external cable modem to a computer in one of two ways: You can use its Ethernet (10/100BaseT) interface or its USB (Universal Serial Bus) interface.

Contacting Your Cable Company

Please fill out the information in the following table before you begin installing your Zoom cable modem. Your cable service provider needs this information to ensure that your modem connects to the Internet successfully. Note: This manual assumes that you have already arranged for cable modem service and established a cable modem account with your cable company.

Important Installation Information

The following information is located on the label on the back of your modem. You will be asked to provide it when you call for installation.

Product Name: Zoom CableModem

Model: _____

S/N: _____ - _____ - _____ - _____ - _____

C-MAC Address: _____

U-MAC Address: _____
Only required if you plan to connect the modem using the USB port

If you plan to connect your cable modem to the Ethernet port of your computer, you will need the Ethernet card's MAC Address. If you don't know it or can't find it, see page 38 for detailed instructions.

Ethernet MAC Address: _____

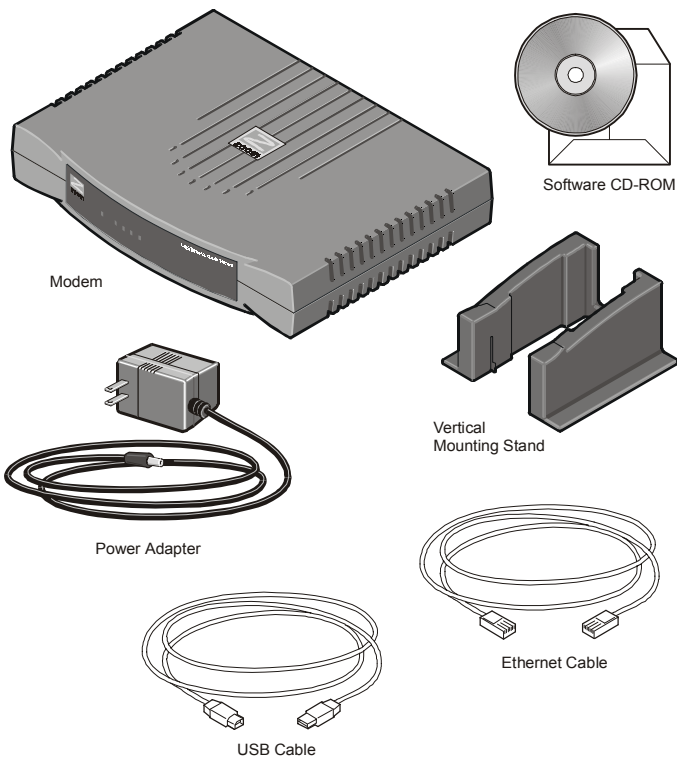
If you plan to use the cable modem with an Internet gateway, you will need the MAC Address of its WAN port, which should be on the gateway's label.

Gateway MAC Address: _____

Package Contents

In addition to this manual, check that your package includes the following items. If you are missing anything, contact your dealer or cable service provider.

- Cable modem
- Ethernet cable
- USB cable
- Power adapter
- Software on a CD-ROM
- Vertical mounting stand.



You Will Also Need

To complete your installation, you must have these items:

- Cable modem service provided by your cable company. The service must be DOCSIS- (Data Over Cable Service Interface Specification) or EuroDOCSIS-compatible, where applicable.
- A power outlet.
- A 75-ohm coaxial cable that will connect to the cable TV system and that can reach to where you intend to place your cable modem.

Note: Because there is great variety in the way cable is installed, Zoom does not provide a coaxial cable to connect your modem to your cable system. Your cable company may provide the appropriate length cable for your use. If the company doesn't supply the cable, you should buy a coaxial cable with an RG-59 or RG-61U rating (75 ohm) and industry-standard F connectors.

Tip: For best performance, do not use "push-on" F connectors; use only "screw-on" F connectors.

To Use the Ethernet Option

If you want to use your cable modem's Ethernet interface option, make sure you have

- A computer running the Windows® 95, 98, NT 4.0, 2000, Millennium (Me), XP, or Linux operating system, or a Macintosh® running System 7.5 or later.
- An Ethernet (10BaseT or 100BaseT) port in the computer you want connected to your cable modem. If your computer doesn't have an Ethernet port, you will need to buy a Network Interface Card (NIC) and install it before completing the cable modem setup. Some cable operators offer the option of providing and installing the NIC card.

To Use the USB Option

If you want to use your cable modem's USB interface option, make sure you have

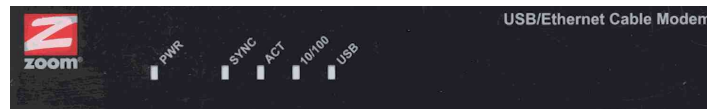
- A computer running the Windows 98, 2000, Millennium (Me), or XP operating system.
- An available USB port on your computer. If your computer doesn't have a USB port, we recommend that you use the cable modem's Ethernet option.

IMPORTANT

You can use either the Ethernet or the USB option but not both simultaneously. If you change interface options while the cable modem is connected, the modem will resynchronize with the cable company. You must restart your computer. You may also have to install software from your CD.

Familiarizing Yourself with Your Cable Modem

Your Zoom cable modem has several LED light indicators on its front panel, so you can monitor its operation and perform troubleshooting if necessary.



The following table defines these lights and explains how to interpret them. This table is for reference only and is not required for cable modem installation.

LIGHT NAME	MODE	STATUS
PWR	Lit	Power is on.
SYNC	Blinking Fast	Searching for "data" channel from cable provider.
	Blinking Slow	Ranging (synchronizing the signal for optimum performance) and Registering (signing on to the cable company's network).
	Steady (Lit)	The modem is synchronized to the cable system.
ACT	Blinking	Data activity is present on the cable. The cable modem is communicating with the cable system. It may be downloading data or uploading data to the cable service provider and the Internet.
10/100	Lit	The Ethernet (10/100BaseT) computer interface is connected.
USB	Lit	The USB computer interface is connected.

The back panel of your cable modem looks like this.



When you connect your cable modem, all connections will originate from this back panel. Continue with **Chapter 1** (page 8) for installation instructions.

If you would like to use your cable modem with multiple computers, you can do so by adding a hub, router, or gateway. Zoom offers gateway/routers that work with your cable modem. You will also have to contact your cable service provider.

1

Installing Your Cable Modem

Note: *If your cable company provides you with an installation procedure, follow it instead of the instructions in this chapter.*

This chapter describes how to connect your Zoom cable modem to a computer and to your cable service.

Installation consists of a few simple steps:

- 1. Install any software required.*
- 2. Make the physical connections to your cable modem.*
- 3. Provide your cable provider with the proper MAC addresses (if necessary).*

Installing the Cable Modem Software

Install your cable modem software first, before connecting the modem hardware. Follow these steps.

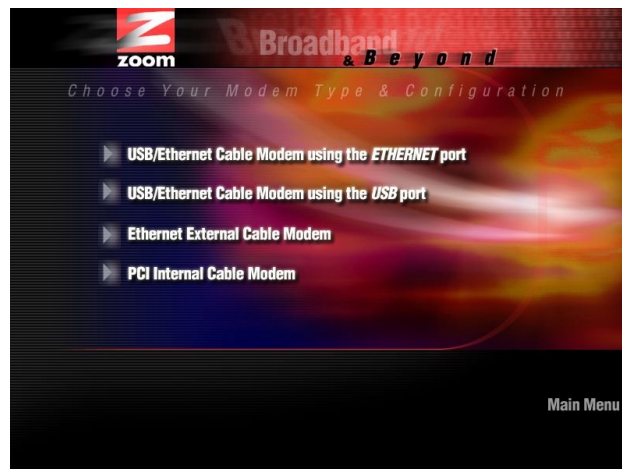
- 1** Your computer should be on. Insert the Zoom CD into your computer's CD-ROM drive. The CD will start automatically. (If it doesn't, from the desktop, go to **Start | Run** and then type **d:\setup.exe**, where **d** is the letter of your CD-ROM drive.)

- 2 When the main menu appears, click **Cable Modem Installation Wizard**.

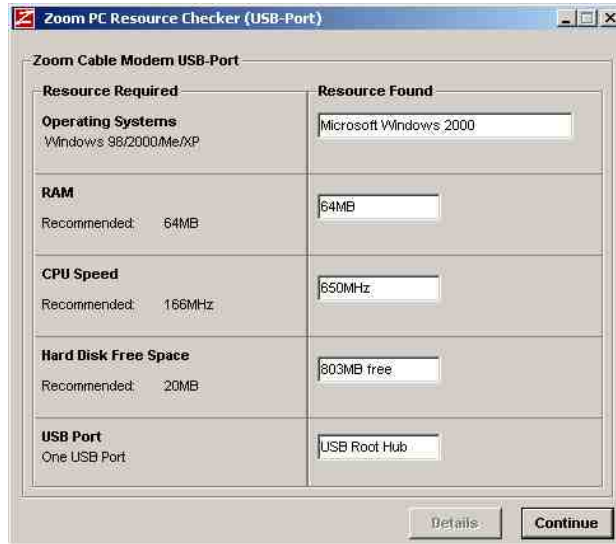


Be sure to read the **Prepare to Install** directions, take action as needed, and then click **Continue**.

- 3 When the **Choose Your Modem** dialog box displays, click the selection that matches how you want your cable modem to connect to your computer, either via the Ethernet port or the USB port.



- 4** The Zoom PC Resource Checker checks your computer to verify that it has appropriate resources to support your cable modem model. You will see a screen similar to the one below.

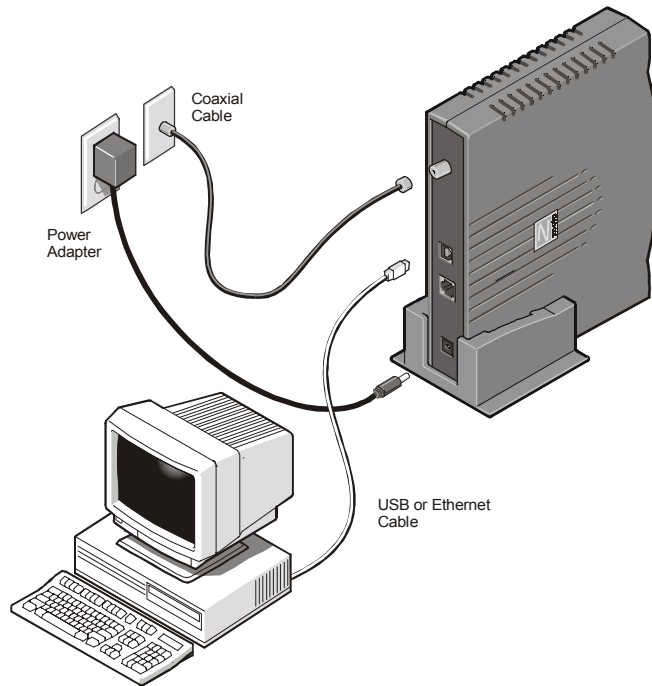


- If your computer has the recommended resources, click **Continue** to proceed.
 - If your computer does not have the recommended resources, click **Details** and follow the instructions to rectify the problem.
- 5** The Setup Wizard continues the software installation process.
- 6** When prompted, click **NO, I will restart my computer later**, and then click **Finish**.
- Be sure to remove the CD from your computer when you're done.
- 7** Shut down your computer.

The next stage is to connect the hardware.

Making the Connections

Connecting your cable modem is simple. Typical connections are shown below.



Note: A splitter, amplifier, and high-pass filter may also be required; your service provider will advise you. The **Troubleshooting** appendix includes a diagram illustrating such a setup (page 29).

CAUTION:



Place the modem so that there is one inch of free space between its top and sides and any other device or the wall. Do not block the vents in any way. Failure to allow proper air circulation can result in serious damage to the modem.

Do not place any items on top of the modem while it is on.

Do not place the modem near a heating or air conditioning duct, in direct sunlight, or anywhere susceptible to drastic temperature changes.

To Connect via the Ethernet Option

- 1** Plug one end of the Ethernet cable into the **Ethernet** jack on the rear of the modem and the other into the Ethernet jack on your computer.
- 2**
 - If you have a wall outlet cable jack, connect one end of the coaxial cable to it. Connect the other end of the cable to the **Cable** connector on the back of the cable modem.
 - If you don't have a wall jack, you should have a length of coaxial cable entering your house close to where you want to locate your cable modem. Connect the end of this cable to the **Cable** connector on the back of the modem.
- 3** Connect the power cord. Insert the small round end of the power cord into the **Power** socket on the back of the cable modem. Plug the power adapter into the wall socket.
- 4** Restart your computer.

You should see a dialog box similar to the one below.

Note: If this dialog box does not display automatically, go to **Start | Programs | Zoom Cable Modem | Cable Modem Monitor**.



Select your computer's Ethernet NIC card from the dropdown list and click **Next**.

5 The following dialog box displays.



Click **Restart System**.

The modem starts an automated power-up process that is described on page 15.

Note: The Resource Checker, User Manual, and supplementary software are also installed on your computer during this installation procedure. For removal instructions, see page 24.

To Connect via the USB Option

- 1** Connect the USB cable. Plug one end into the **USB** port on the back of the modem and the other end into your computer's USB port.
- 2**
 - If you have a wall outlet cable jack, connect one end of the coaxial cable to it. Connect the other end of the cable to the **Cable** connector on the back of the cable modem.
 - If you don't have a wall jack, you should have a length of coaxial cable entering your house close to where you want to locate your cable modem. Connect the end of this cable to the **Cable** connector on the back of the modem.
- 3** Connect the power cord. Insert the small round end of the power cord into the **Power** socket on the back of the cable modem. Plug the power adapter into the wall socket.

4 Restart your computer.

You should see a dialog box similar to the one below.

Note: If this dialog box does not display automatically, go to **Start | Programs | Zoom Cable Modem | Cable Modem Monitor**.



Select **Zoom Cable Modem** from the dropdown list and click **Next**.

5 The following dialog box displays.



Click **Restart System**.

The modem starts an automated power-up process that is described below.

Note: The Resource Checker, User Manual, and supplementary software are also installed on your computer during this installation procedure. For removal instructions, see page 24.

The Modem's Power-Up Process

As your cable modem powers itself up, the lights on the front panel indicate the different stages. When the modem initially powers itself up, the **PWR** light comes on. After completing a self-test, the cable modem registers with the cable system. While the modem is searching for and registering with the cable system, the **SYNC** light blinks: At first the light blinks fast; then it blinks slowly. After the process is complete, the **SYNC** light stays on steady. (The table on page 7 lists the LEDs and their modes.)

Note: It may take several minutes for the modem to register with the cable system.

After the cable modem is connected, the **10/100** or **USB** light (depending on the interface you are using) comes on. This indicates that the cable modem and the computer's data interface are linked.

If you do not see the **10/100** or **USB** light on, double-check to see that the Ethernet cable or USB cable is securely inserted in the proper jacks on the cable modem and computer. The **PWR** light must be on before the **10/100** or **USB** light will come on.

Note: If you experience an outage with your cable TV service, your cable data connection will most likely also be off. If you are unable to connect to the Internet, or if your browser notes that it is unable to find a selected URL, check to ensure that you have cable TV service available. If not, contact your cable service provider.

At this point, the system at your cable company will communicate with the modem and computer to finalize the installation. This part of the installation varies from company to company, so you should follow the directions that are given to you.

In some cases, the cable company will automatically query the cable modem via the cable connection. In other cases, your cable company may have instructed you to phone back with your cable modem's MAC address once you have completed the hardware installation. The cable company may need the cable modem's MAC addresses (located on your cable modem's label), or request billing information. Refer to the table on page 1.

The Next Step

If you are like the majority of users, your cable modem installation is complete. Turn to **Chapter 3** (page 20) to learn how to use your modem. The exceptions are as follows:

- Your Internet browser setting may need adjustment. If you are unsure, turn to **Chapter 2** (page 17) for advice.
- If you are using Windows 95, or if you are a Macintosh or Linux user, your computer's network settings need to be configured. Turn to page 30 for instructions.

2

Configuring Your Browser

An Internet browser is a program used to find and display Web pages. To find a page, the browser must connect to the Internet, either via phone lines or a LAN (Local Area Network). If you are using a cable modem, your browser needs to connect to the Internet via a LAN. This chapter describes how to configure some of the most common Internet browsers. It is beyond the scope of this manual to give step-by-step instructions for all versions of all browsers, so the instructions below cover only the major versions of the most common browsers. If you are using another browser, please consult the documentation that came with it.

Internet Explorer 4.0

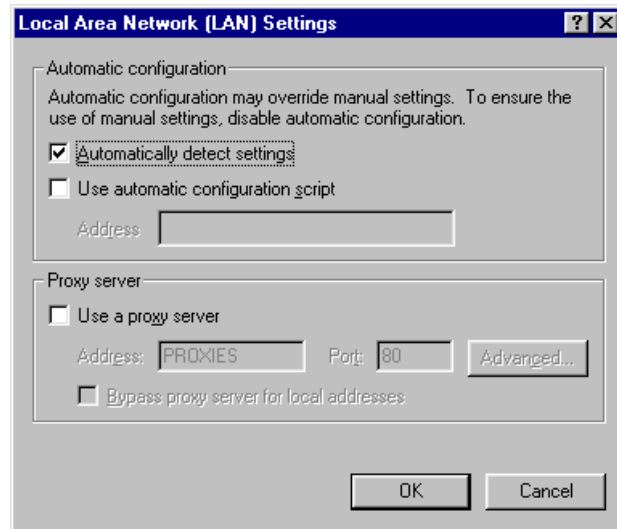
- 1** Start **Internet Explorer**.
- 2** Open the **View** menu and select **Internet Options**.
- 3** In the **Internet Properties** dialog box, click the **Connections** tab.
- 4** Click **Connect to the Internet using local area network**, and click **OK**.

Internet Explorer 5.x or Later

- 1** On the desktop, click the **Internet Explorer** icon.
If you cannot access the Internet Explorer menu, follow these steps:
 - Click **Start | Settings | Control Panel**.
 - Click the **Internet Options** icon, and go to Step 3.
- 2** Click the **Tools** menu, and then **Internet Options**.
- 3** In the **Internet Properties** dialog box, click the **Connections** tab.
- 4** On the **Connections** tab, click the **LAN Settings** button.



- 5 In the **Local Area Network (LAN) Settings** dialog box, select **Automatically detect settings** and click **OK**.



Netscape Navigator

- 1 On the desktop, click the **Netscape Navigator** icon.
- 2 From the **Edit** menu, select **Preferences**.
- 3 In the **Preferences** dialog box, click the **Advanced** option, and then click **Proxies**.
- 4 Select the option that allows you to connect to the Internet directly.

AOL

AOL 5.0 or higher has a cable modem option that configures your connection automatically.

3

Using Your Cable Modem

Once you've installed your cable modem, connecting to the Internet is as simple as clicking on the icon that corresponds to the desired Internet application.

Connecting to the Internet

Once you have correctly installed the Zoom cable modem, it will power up and synchronize itself with the cable network. The **PWR** light, **SYNC** light, and **10/100** or **USB** light will light up, indicating that everything is complete. When you want to connect to the Internet, start your browser or another Internet application.

Note: Your browser should be configured so that it connects via a LAN. If you need help changing the way it connects, turn to page 17.

The Zoom CM Monitor Utility

The Zoom CM Monitor Utility works with Windows 98/2000/Me/XP computers. It is automatically installed when you install the cable modem software.

The utility is intended for both end users and cable service providers. It is meant to eliminate or decrease the number of cable company "truck rolls" and to save subscribers and service providers time and money.

For end users installing the modem themselves, should a question arise pertaining to the installation, the application can help during a call to the cable company.

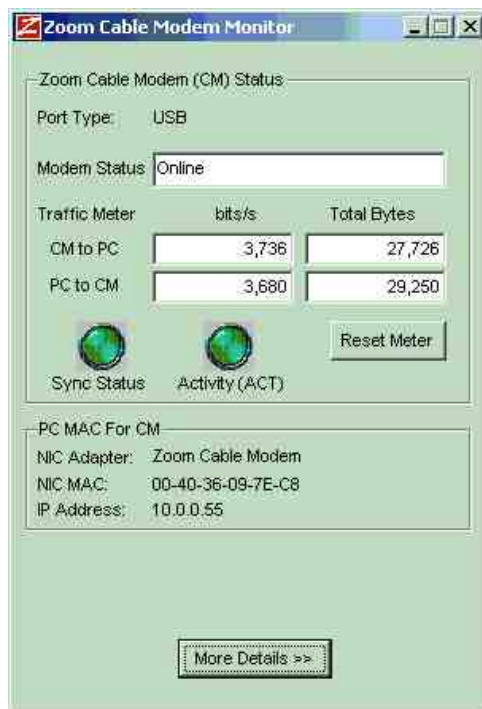
Cable company field technicians can monitor the cable modem during the range and registering portion of the installation and quickly troubleshoot any problems encountered during the initial setup process.

Once you've installed your cable modem software, you should see a monitor icon in your computer's system tray:



Double-clicking on the icon displays a dialog box similar to the one below.

(If you don't see this icon, you can access the monitor from the computer desktop by clicking **Start | Programs | Zoom Cable Modem | Cable Modem Monitor**.



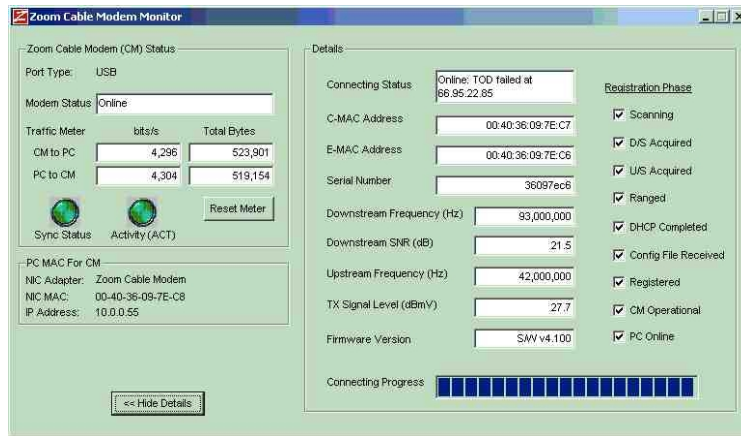
The system tray icon (and the **Status** and **Activity** buttons) can be one of three colors, indicating the modem's connection status.

- Green: The modem is online and synchronized.
- Yellow: The modem is in the process of connecting.

- Red: Synchronization has been lost and the modem is trying to connect.

Depending on your cable modem model, you may be able to click the **More Details** button for more technical information. The table below defines this information. Most fields have “rollover” text definitions: If you move your mouse over a field’s label, a definition of that field pops up.

Note: All these fields may not be visible for all cable modem models.



Port Type	Ethernet or USB
Modem Status	Online or Connecting
Traffic Meter: CM to PC	The data rate, expressed in bits/second, and the total amount of data, expressed in bytes, from the cable modem to the computer.
Traffic Meter: PC to CM	The data rate, expressed in bits/second, and the total amount of data, expressed in bytes, from the computer to the cable modem.
Reset Meter	Clicking this button clears all traffic fields.
Sync Status Activity (ACT)	These lights match the cable modem’s front panel lights.
Hide Details	Clicking this button closes the more details screen.

Connecting Status	A text message that describes the cable modem's current mode.
C-MAC Address	The cable modem's MAC address.
E-MAC Address	The NIC card's MAC address.
Serial Number	The cable modem's serial number.
Downstream Frequency (Hz)	The frequency over which the service provider's head-end transmits data to the cable modem.
Downstream SNR (dB)	The signal/noise ratio (SNR) on the downstream data channel, from the service provider's head-end to the cable modem.
Upstream Frequency (Hz)	The frequency over which the cable modem transmits data to the service provider's head-end.
TX Signal Level (dBmV)	The cable modem's transmit power output level.
Firmware Version	The cable modem's firmware version number.
Registration Phase	As the modem completes each stage of the registration process, a checkmark appears in each box. The Connecting Progress bar on the left-hand side of the dialog box tracks this progression: When all stages are complete, the bar is solid, and Modem Status is Online .

Right-clicking the system tray icon displays a brief menu of options. From here, you can

- Open the CM Monitor's **Status** screen.
- Close the CM Monitor's **Status** screen.
- Quit the CM Monitor application.
- Review information about the application.

Ending an Internet Session

After you have completed your Internet session, close the browser you are using. The Zoom cable modem will remain connected with the cable system and will be ready to open another session.

If You Lose Power

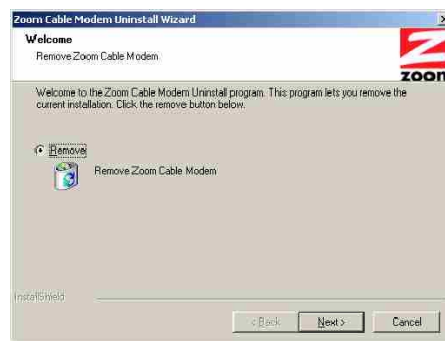
If you unplug your cable modem, or if power is lost for any other reason, all communication between the modem and the cable system will be terminated. When the power is restored, the cable modem must go through the full startup and connection process before you can connect to the Internet. This process will be performed automatically when the modem is powered up.

Note: Your cable company may request that you always keep your cable modem on so that software maintenance can be performed at night.

Removing Your Cable Modem

To remove your Zoom cable modem, follow these steps.

- 1** Quit all running programs.
Note: This includes the CM Monitor Utility.
- 2** Go to **Start | Programs | Zoom Cable Modem** and then select **Cable Modem Uninstall**.



Click **Next**.

- 3** When the process is done, the following dialog box displays.



Click **Finish**.

- 4** Shut down your computer and unplug the cable modem hardware.

Important: Be sure to unplug the cable modem hardware before restarting your computer.

Note: The Resource Checker, User Manual, and complementary software are also installed on your computer as part of the cable modem installation process. When you perform the instructions above, everything associated with your cable modem is removed.

Appendix A

Troubleshooting

This section provides tips to troubleshoot your cable modem in the event of minor problems. By referring to these tips, you may be able to quickly find a solution and avoid a call to Technical Support or your cable service provider. You may also want to refer to the Frequently Asked Questions, or FAQs, located on the CD, or visit our Web site.

There is also a section describing our Zoom cable modem Monitor Utility (see page 20). This utility is intended to help technicians assist customers quickly and easily.

Note: If your cable modem is not responding, the first step should be to reset it. This may take a few minutes, but it is frequently the quickest and easiest solution.

IMPORTANT:

If your cable modem's Ethernet interface is plugged into one computer and you unplug it and plug it into another computer, you must turn the modem off and then on again. If you don't, the modem will be unable to recognize the new computer's NIC card MAC Address, and will be unable to assign IP address information to the computer via DHCP.

You also may need to give your cable service provider the new computer's NIC card MAC address.

Problem: I cannot access my Internet service or send or receive email.

Solutions: Check all physical connections. The modem's front panel LEDs, **SYNC**, **PWR**, and **10/100** or **USB**, must all be a solid green before your modem will work.

Check to see that your cable TV is working.

Call your cable service provider to verify that the cable service is up and running.

Ethernet option users: Check that your NIC Card is functioning correctly. Refer to the NIC documentation if necessary.

Check that TCP/IP is configured correctly. Refer to page 30 to verify that the TCP/IP parameters supplied by your cable company are correct and up to date.

Problem: The power to my cable modem goes on and off.

Solution: Check that you are using the correct power supply, the one packaged with your cable modem.

If the modem is plugged directly into a wall socket, check that the connection is secure.

If the modem is plugged into a power strip, try using a different plug on the power strip, or plug the power strip into a different wall socket.

Does the power loss occur at certain times of the day or night? Cable service providers have the authority to force a modem reset, which may resemble a power off/on cycle.

Problem: I want to connect multiple PCs to my cable modem but I don't know how.

Solution: There are numerous ways to do so—for example, Zoom offers wireless and wired Gateway products that serve this purpose—but you should first contact your cable service provider.

Problem: I receive the message “Unknown Network Adapter.”

Solution: This problem can result if a NIC or USB adapter is physically present and recognized by Plug-and-Play, but the proper drivers were not installed; Windows may have added the device to the **Other Devices** list under **Device Manager**. Reinstall the device.

Problem: I receive the message “Undetected Network Adapter.”

Solution: The NIC or USB adapter was not installed correctly. Reinstall the device.

Problem: I receive the message “Missing Internet Protocol.”

Solution: Refer to page 30 for instructions on configuring network settings.

Problem: I receive the message “Configure TCP/IP Failure Error.”

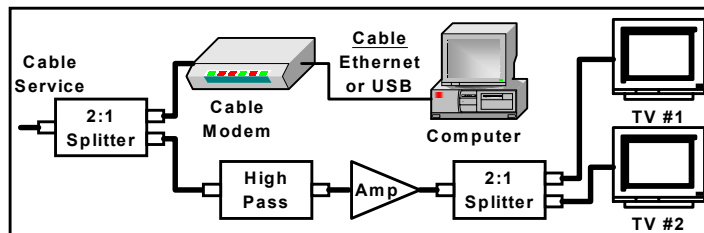
Solution: Make sure that your Ethernet cable is plugged in: Unplug your modem from the electrical outlet for several seconds, and then plug it back in. Be aware it will take time for the modem to re-register itself and synchronize itself with the cable system.

Problem: I receive the message “Cannot Find Files; Insert Operating System Disk.”

Solution: Your computer is looking for the files included on the original operating system CD or disks that came with your computer. Remove your modem CD or disk (if any) and insert your operating system CD or disk. Be sure to remove the Windows CD when you’re done and reinsert your modem CD or disk if applicable.

Problem: The cable modem's SYNC light blinks for 5 minutes, goes off, comes on again, and repeats.

Solution: Make sure the connection is secure.
Check with your cable service provider to make sure that high speed access is available and running.
In rare instances, the cable signal may be weak or noisy. Be sure the modem is attached to one of the ports on the first splitter after the cable enters your home or office. Refer to the following diagram or contact your cable provider.



Make sure there is no video amplifier on the same line with the cable modem. (A video amplifier prevents data from returning to the cable service provider's central office.)

Note: Sometimes, when your cable modem service is restored after a disruption, you may experience difficulty communicating. If this happens, disconnect and reconnect the power, and let the modem perform the automated synchronization process again.

Appendix **B**

Windows 95, Macintosh, and Linux Users: Configuring Your Network Settings

If you are using the Windows 95 or Linux operating system, or if you are using a Macintosh computer, you must ensure that your computer's network, or TCP/IP, settings are configured correctly. Otherwise, you will not be able to connect to the Internet. Windows 98, 2000, Me, and XP automatically configure your network settings, so you don't have to perform this additional task.

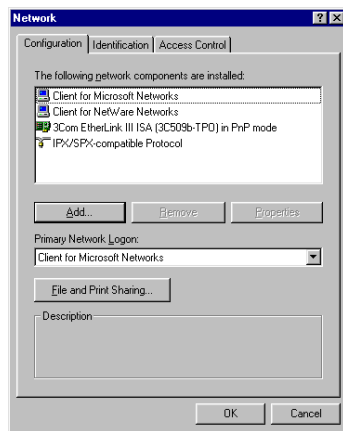
- *Windows 95 Network Settings, page 31.*
- *Macintosh Network Settings, page 33.*
- *Linux Network Settings, page 37.*

Windows 95 Network Settings

To configure network settings on a computer running Windows 95, follow these steps. Remember: Windows 95 does not support USB, so you must use the cable modem's Ethernet option.

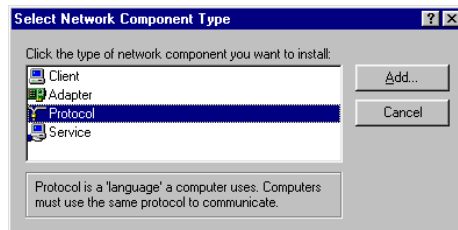
Note: The screens depicted in these steps are representative of a typical computer. Individual computer screens may vary.

- 1 Click **Start | Settings | Control Panel** and then double-click the **Network** icon. The **Network** dialog box displays.



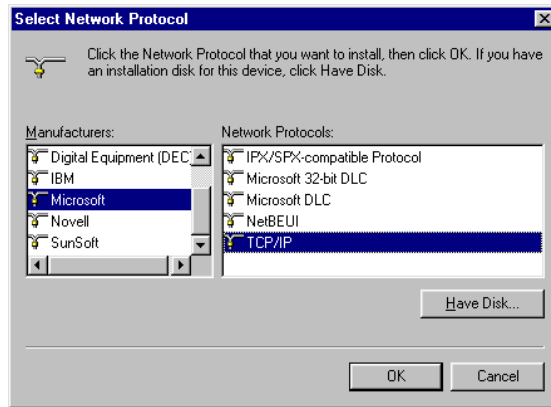
Click the **Configuration** tab. You will see a list of installed network components. If you see a line that includes **TCP/IP**, skip to Step 5. If you don't see the line, continue with Step 2.

- 2 If you don't see TCP/IP listed, click the **Add** button to display the **Select Network Component Type** dialog box.
- 3 Click to highlight **Protocol** and click **Add**.



The **Select Network Protocol** dialog box displays.

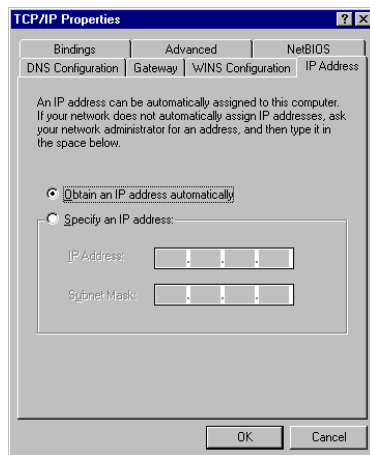
- 4** Click to highlight **Microsoft** and then click to highlight **TCP/IP** in the Network Protocols list. Then click **OK**.



The **Network** dialog box from Step 1 displays. There should now be an entry for **TCP/IP**. Click **NO** if you are asked to restart your computer. Note: Don't click **OK** yet.

- 5** Click to highlight **TCP/IP** and click **Properties**.

The **TCP/IP Properties** dialog box displays. Make sure you are at the **IP Address** tab, and that **Obtain an IP address automatically** is selected.



- 6** You will see the **Network** dialog box again. Click **OK** to enable your settings.

If prompted to do so, insert your Windows 95 CD-ROM and click **OK**.

If a dialog box appears indicating that it is necessary to restart the computer, do so at this time.

This completes the installation of the modem. Most likely, your web browser is set so that the cable modem connects to the Internet correctly—it must connect via a LAN. If you need to adjust your browser settings, however, turn to **Chapter 2** (page 17) for instructions. Otherwise, skip to **Chapter 3** (page 20) to learn how to get the most out of your modem.

Macintosh Network Settings

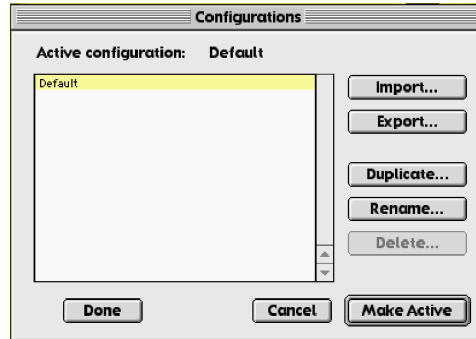
Depending on your Mac OS, the directions to configure your Macintosh's network settings will differ. For OS X, follow the instructions on page 36. Otherwise, continue directly below.

Note: Your modem's USB option is incompatible with the Macintosh. You must use the Ethernet option.

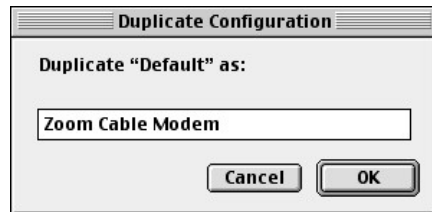
For Mac OS 7.6.1 - 9.2.2 and Above but not OS X

- 1** From the **Apple** menu, choose **Control Panels** and then **TCP/IP** to display the **TCP/IP** dialog box (you will use this dialog box in Step 6).
- 2** On the main toolbar, from the **File** menu, choose **Configurations**.

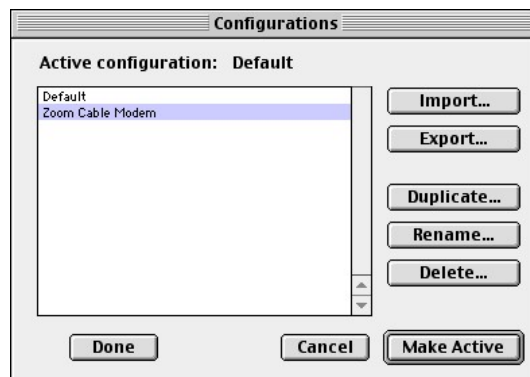
- 3** In the **Configurations** dialog box, click **Duplicate**.



- 4** The **Duplicate Configuration** dialog box appears. Type a name, such as **Zoom Cable Modem**, and click **OK**.

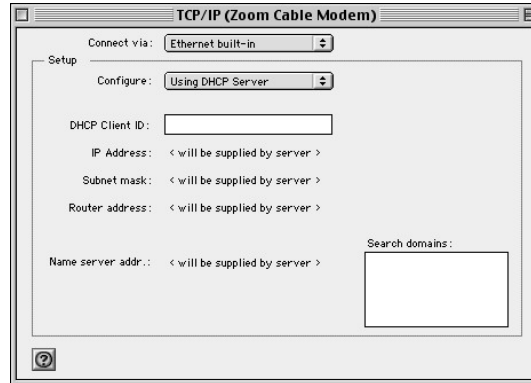


- 5** The **Configurations** dialog box appears again. Highlight your new configuration—in our example, **Zoom Cable Modem**—and click **Make Active**.



- 6 In the **TCP/IP** dialog box, in the **Connect via** pop-up menu, select **Ethernet**. In the **Configure** pop-up menu, select **Using DHCP Server**.

Do not enter anything in the **DHCP Client ID** field.



- 7 Close the **TCP/IP** dialog box. You will be asked if you want to save the changes. Click **Save**.

This completes the installation of the modem. Most likely, your web browser is set so that the cable modem connects to the Internet correctly—it must connect via a LAN. If you need to adjust your browser settings, however, turn to **Chapter 2** (page 17) for instructions. Otherwise, skip to **Chapter 3** (page 20) to learn how to get the most out of your modem.

For Mac OS X

- 1 From the **Dock**, choose **System Preferences** and then **Network**. The **Network** pane appears.
- 2 From the **Location:** drop-down list box, select **New Location...** In the dialog box, type a name of your choosing, such as “**Zoom Cable Modem**,” and click **OK**.



- 3 Under the **Configure** drop-down tab, choose **Built-in Ethernet** or **Ethernet**, depending on your computer type.
- 4 Make sure that the **TCP/IP** tab is foremost and make sure that **Using DHCP** is highlighted in its **Configure:** drop-down list box. Do not enter anything into the **DHCP Client ID** field.



- 5 Click **Save** and close the **Network** pane.

This completes the installation of the modem. Most likely, your web browser is set so that the cable modem connects to the Internet correctly—it must connect via a LAN. If you need to adjust your browser settings, however, turn to **Chapter 2** (page 17) for instructions. Otherwise, skip to **Chapter 3** (page 20) to learn how to get the most out of your modem.

Linux Network Settings

The instructions for setting up boot-time DHCP vary dramatically by distribution, so you may want to refer to your particular version's documentation. We have included instructions for RedHat, SuSE, and Debian.

Note: If you have other network cards installed, you will need to pick distinct Ethernet identifiers for each (eth0, eth1, eth2, etc.). If you select an identifier other than eth0 for your cable modem, use that identifier throughout.

For RedHat

Edit or create `/etc/sysconfig/network-scripts/ifcfg-eth0` so that it contains the following three lines:

DEVICE=eth0

ONBOOT=yes

BOOTPROTO=dhcp

Your computer should now come up on the cable network.

Note: If your computer won't always be on a network with working DNS at boot-time, set `ONBOOT=no`. If you don't, RedHat 6.2 (and possibly other versions) might hang. To activate the card by hand when you have attached your computer to the network, at root, run the command: `/sbin/ifup eth0`.

For SuSE

Edit the file `/etc/rc.config`; search for the variables **NETCONFIG**, **NETDEV_0**, and **IFCONFIG_0**.

Set them as follows (see the instructions near each one in rc.config):

```
NETCONFIG="_0"
```

```
NETDEV_0="eth0"
```

```
IFCONFIG_0="dhcpclient"
```

Reboot with this command: **/sbin/shutdown -r now**.

Your computer should now come up on the cable network.

For Debian

Add the following line to the file **/etc/network/interfaces**: **iface eth0 inet dhcp**.

Reboot with this command: **/sbin/shutdown -r now**.

Your computer should come up on the cable network.

This completes the installation of the modem. Most likely, your web browser is set so that the cable modem connects to the Internet correctly—it must connect via a LAN. If you need to adjust your browser settings, however, turn to **Chapter 2** (page 17) for instructions. Otherwise, skip to **Chapter 3** (page 20) to learn how to get the most out of your modem.

Appendix C

How To Locate Your Ethernet MAC Address

If you are using the Ethernet port of your cable modem, you must provide your cable company with your computer's Ethernet MAC address. If you are unsure how to determine this MAC address, this Appendix explains how. The instructions vary depending on your computer type and operating system.

For Windows 95/98/Me:

From the desktop, click **Start | Run**, type **winipcfg**, and click **OK**. Click **more info**, then select the NIC card you are using. The 12-digit Adapter Address is your NIC card's MAC address. Make a note of it in the table on page 1.

For Windows 2000/XP:

From the desktop, click **Start | (All) Programs | Accessories | Command Prompt**. Then type **ipconfig/all** and press **Enter**. Make a note of the 12-digit Adapter Address in the table on page 1.

For Windows NT:

From the desktop, click **Start | Run | Programs | MS-DOS Prompt**. At the command prompt, type **ipconfig/all** and press **Enter**. Make a note of the 12-digit Ethernet Adapter's IP address in the table on page 1.

For Macintosh Operating Systems:

Macintoshes are sold with an Ethernet ID label affixed to them. If this label is missing from your Macintosh, you can determine the E-MAC address by following the steps below.

For Mac OS 7.6.1 - 9.2.2 and Above but not OS X:

- 1** From the **Apple** menu, choose **Apple System Profiler**.
- 2** In the **Apple System Profiler** window, click the **Network Overview** arrow and then the **AppleTalk** arrow. Find the 12-character Hardware Address (**E-MAC address**) and make a note of it in the table on page 1.

For Mac OS X:

- 1** From the **Dock**, choose **System Preferences** and then **Network**. The **Network** pane appears.
- 2** Under the **Configure** drop-down tab, choose **Built-in Ethernet** or **Ethernet**.
- 3** Make sure that the **TCP/IP** tab is foremost. Find the 12-character Hardware Address (**E-MAC address**) and note it in the table on page 1.
- 4** Click **Save** and close the **Network** pane.

Appendix D

Regulatory Information

FCC Part 15 Emissions Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency 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.

Industry Canada Emissions Statement

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

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Electrostatic Discharge Statement

This unit may require resetting after a severe electrostatic discharge event.

Declaration of Conformity

The manufacturer declares under sole responsibility that European models of this equipment comply to Directive 1999/5/EC (R&TTE Directive) via the following:

Directives

73/23/EEC

89/336/EEC

89/336/EEC

Standards

EN 60950 (1992) with the following
Amendments: A1, A2, A3, A4, and A11

EN 55024 (1998)

EN 55022 (1998)

The product is CE marked.

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