USB Modem User Guide

NOTICE

The manufacturer does not warrant that the hardware will work properly in all environments and applications, and makes no warranty and representation, either implied or expressed, with respect to the quality, performance, merchantability, or fitness for a particular purpose of the software or documentation. The manufacturer reserves the right to make changes to the hardware and User's Manual content without obligation to notify any person or organization of the revision or change.

Contents

Introduction

This Modem User Guide expands the Quick Start included with your faxmodem package and contains all the information you should need to use and troubleshoot your new modem. The Table of Contents shows the various useful sections of this User Guide.

What You Need to Use Your Faxmodem

Make sure that you have received the following items in addition to this manual:

- USB faxmodem
- Phone cord
- USB cable
- CD-ROM disc or floppy diskette containing installation software and communications software.

You also need the following:

- IBM PC-compatible Pentium® 133 or faster (or equivalent), with 16 megabytes of RAM equipped with either a USB port or a PCI USB adapter
- An available USB port on your computer
- Windows® 98, Me, or 2000 or equivalent operating system
- For software supplied on a CD-ROM disc, a CD drive
- A telephone jack to plug the modem into, so the modem can dial out and receive calls.

Installing Your USB Faxmodem

Note: If you have a PC and are replacing an existing *internal* modem, turn to **Appendix A: Removing an Internal Modem** (**page 30**) for instructions.

Installing the Drivers

We have streamlined the installation of your modem by including an InstallShield® program. **You must first run this program before you connect your faxmodem hardware.**

Follow these steps.

1 Your computer should be turned on. Close any applications you have running.

Insert the CD-ROM disc that came with your faxmodem into your CD-ROM drive. The CD-ROM disc should automatically start after a few seconds and display an installation screen.

If the CD does not auto-run:

- Click the **My Computer** icon on your desktop; then double-click the icon for your CD-ROM drive. If the installation program doesn't start right away, double-click **launch.exe** or **setup.exe**.

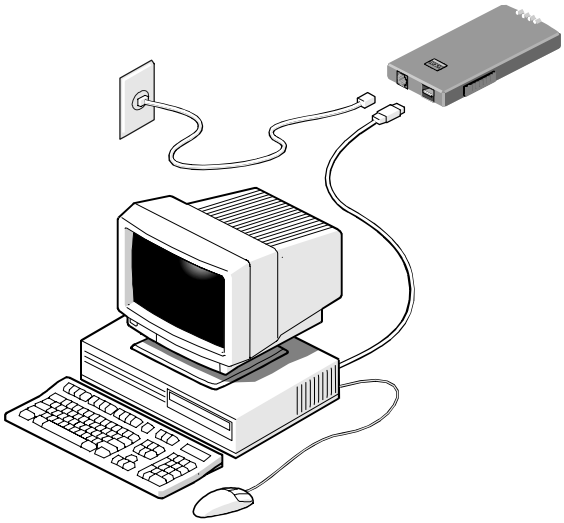
2 When the installation screen appears, click **Install Drivers** and then **Install USB Drivers**. The installation program will run and automatically copy driver files to your hard drive. Click **Finish**.

3 Continue with the instructions for **Connecting the Faxmodem to Your Computer** below.

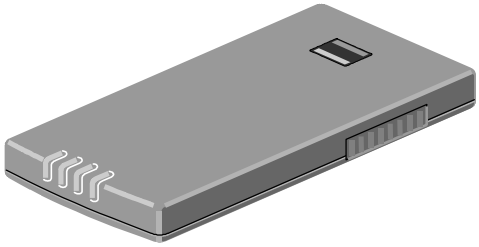
Connecting the Faxmodem to Your Computer

1. Find the serial number of your faxmodem on the bottom of the case, just under the bar code. Write the number in the **Reference Information** table on the last page of this manual.
2. Shut down your computer.
3. Connect the USB cable by plugging the cable's square end into the USB jack on the back of the modem. Plug the other rectangular end into the USB connector on your computer.
4. Turn your computer back on.

   Note to Windows 2000 users: You may see a dialog box stating **Digital Signature Not Found**. You can safely ignore this message and click **Yes**.
5. Connect the phone cord. Plug one end of the cord into the phone jack on the back of the modem. Plug the other end into the wall jack just as you would a telephone. See the following illustration.



6 On the front of the modem, the **ON** light should go on, indicating that the faxmodem is ready for use.



Note: If the computer goes into power-save mode (also referred to as "going to sleep"), the modem's **ON** light will go off. The light will go on automatically whenever the modem is in use.

Confirming the Installation

1 Turn your computer back on.
From the computer's desktop, go to **Start | Settings | Control Panel** and double-click the **Modems** icon. For Windows 2000, double-click the **Phone and Modems** icon and then click the **Modems** tab.

- When prompted, enter your location information.
- Click the entry for your modem and then click **Properties**.
- Set the **Maximum speed** to the highest speed available (probably 115,200). This sets the speed at which the computer communicates internally with the modem.

2 Click the **Diagnostics** or **Modem** tab and click **More info** or **Query Modem**. Record the **Port** and **Interrupt** entries in the table on the last page of this manual.

This step also tests the modem. You will see a list of AT commands and responses, indicating that your modem is properly connected.

IMPORTANT: If you already have a modem installed in your computer, you'll need to redirect your application software so that it recognizes your new modem. Please turn to page 19 for instructions. Otherwise, continue below.

Tip:	If you determine that your modem is not working, first try turning off your computer and restarting it. If restarting your computer doesn't work, please consult the **Troubleshooting** section on page 19.

Installing the Modem's Communications Software

The modem's CD describes the communications software package and online service included with your modem and provides easy point-and-click installation. If necessary, consult the CD's online help. Please run the modem's CD now. You should not install the drivers again, but you should install any application software you like.

If you have a V.92 modem, after you've installed the CD software, you should read the **Important Information about V.92 Modems** section of this manual on page 12. If you don't have a V.92 modem, you're done! Enjoy your modem.

Changing Your Country Setting

Our World Traveler™ country select software, also included on the CD, provides configuration information so that your modem automatically works with the telephone system in your country.

To change your country setting, follow these steps:

1. From your computer's desktop, click **Start | Programs | World Traveler**.
2. Select the country of your choice from the list and click **Set**.

Removing Your USB Faxmodem

If you ever want to remove your USB modem, follow these steps:

1. From your computer's desktop, go to **Start | Settings | Control Panel** and double-click **Add/Remove Programs**. Delete your USB faxmodem.

2. Return to **Start | Settings | Control Panel** and double-click the **System** icon. The **System Properties** dialog box displays.
   Windows 98/Me Users: Click the **Device Manager** tab. If your USB faxmodem is listed, highlight it and click **Remove**.
   Windows 2000 Users: Click the **Network Identification** tab and then the **Device Manager** tab. Right-click your mouse and select **Uninstall** from the dropdown list.

3. Shut down your computer and unplug your modem.

Important Information about V.92 Modems

With V.92, as with the earlier V.90 standard, your connection speed depends on your phone line and your Internet Service Provider (ISP). To enhance compatibility, this modem automatically detects whether to use V.92, V.90, or a slower mode when it connects to your ISP.

Your V.92 modem includes the following capabilities.

- **QuickConnect:**
  A V.92 modem remembers the line conditions of the last number called, and uses this information to try to reduce connection times.
- **Modem-on-Hold:**
  You have the option of receiving voice calls while online. You can answer the call and put your Internet session on hold if your ISP supports this capability and you have Call Waiting service compatible with the modem.
- **Faster Upload Speeds:**
  Upload speeds may be increased, from 33.6K bps to a maximum of 48K bps. (Actual rates vary, depending on line conditions.)
- **V.44 Data Compression:**
  The V.44 standard lets you browse the Web and transfer data at higher speeds.

To make the most of your V.92 modem, follow these steps:

1. Contact your ISP and get the phone number of a V.92 connection to the ISP.
2. Check our web site for news of any V.92 updates. If an update is available, follow the directions below for upgrading your modem.

Note: If you want to manually change the way your modem connects, please consult the AT command tables beginning on page 25 in the **Troubleshooting** section.

Modem Upgrades

Your modem's software, or "firmware," can be easily upgraded. This is useful for code updates and feature enhancements. To upgrade your modem's firmware, you simply download the new firmware files from our Web site and then run a program we provide. Before calling your first V.92 site, we strongly suggest that you download the latest firmware.

We also suggest that you register your modem with us so that we can notify you via e-mail when new firmware releases are available.

Indicator Lights

Your USB faxmodem has a set of indicator lights on the front. A chart defining the lights appears below.

Light	Description
ON	Lights when the faxmodem is turned on; is unlit when the computer is in power-save mode.
CD (Carrier Detect)	Lights when the Data Carrier Detect (DCD) signal from the faxmodem to the computer is on.
TR (Terminal Ready)	The computer (or terminal) is sending a “ready” signal to say that it is ready to provide data to the modem.
OH (Off Hook)	Lights when the faxmodem is off hook.

Communicating with your Faxmodem

The faxing and communications software that came with your faxmodem sets itself up automatically and takes care of sending any necessary commands to the modem.

You should read this section, however, if you want to learn some general facts about how software works with your faxmodem, or if you intend to use your new modem with other software.

Accessing the Internet

To access the Internet and the World Wide Web, you need an online service such as America Online (AOL) or CompuServe, or an Internet Service Provider (ISP). The best place to start is the CD included with your modem package, which contains online services for you to try.

Online services provide installation software that makes signing up almost automatic. ISPs typically supply or suggest the browser software needed to access their service. They also provide additional instructions and software for setting up your account.

Note: You may need to redirect your application software to recognize your new modem; refer to the **Troubleshooting** section, page **19**, if you need assistance.

Making the Most of the Fax Features

Your faxmodem includes software on the enclosed CD that enables you to send, receive, and schedule faxes. The software will also let you set up fax-back, sometimes called fax-on-demand, and issue fax broadcasts.

If you use your faxmodem for receiving faxes, keep in mind the following:

- Your computer must be running, and the communications software must be active.

- If you want to connect to your online service or ISP, you must exit the communication software first. While you are on line, you cannot receive calls or faxes.

- Some computers have a power saving option that stops the hard drive from spinning after a period of inactivity. If a call comes in, it may fail to connect while the hard drive restarts and activates the software. If this happens, you should deactivate the feature of your power saving option that stops the hard drive. See your computer's documentation for details.

Communication Setup Options

If you run into configuration difficulties with your communication software, it may be helpful to read the following section.

In setting up some older software programs, you may be asked to enter certain information. Most programs have default settings that are correct for use with this modem, and there is no need to change them. However, you should be aware of the following items:

If you are asked to select the “modem type” from a menu, and you don’t see this modem listed by name, select the most descriptive name such as **V.92 modem**, **56K modem**, or generic **Class 1 Modem**.

In the dialing directory, set all entries to the highest possible baud rate, if your software and serial port support these speeds (do not go over 115,200 bps). All communications between the computer and the faxmodem take place at this higher speed, independent of the modem-to-modem speed.

If your fax software gives you the option of selecting **Class 1** or **Class 2** fax drivers, select **Class 1**.

Initialization Strings and AT Commands

An initialization string is a group of **AT** command settings that is sent to the faxmodem as soon as you start up the software. The software determines which commands should be included in the initialization string, based on the device you select during installation. The commands remain in effect throughout the communications session, unless the software sends other commands to override them.

The software uses other **AT** command strings for all commands sent to the modem. This is transparent to you—the software does this in the background without you being aware of it.

It is sometimes necessary, however, to add other **AT** commands to initialization strings. You can find a table of **AT** commands on the World Wide Web at **www.modems.com**. Click **Reference** and then on **AT Command Sets**.

If your software suggests an initialization string for this modem, you should use it. If your software does not list this modem and no initialization string is suggested, use the following: **AT &F**.

Your telephone service may include Call Waiting that you can temporarily suspend by using your phone to dial a special code. (For example, in the U.S., you can disable call waiting by adding *70 to your dialing prefix; please check with your local phone company for the correct code for your area.) You can include that code, followed by a comma, in the dial string or dial prefix in your software.

If your software does not handle **AT** commands automatically, it should provide a place to enter **AT** commands in its setup menus. However, in some cases you may need to enter **AT** commands directly to the faxmodem. You must do so from a data program's terminal mode.

Refer to the **Troubleshooting** section for more tips about AT commands.

Using Terminal Mode to Enter AT Commands

Start your data communications program.

Change to terminal mode (also called command, local, direct, or dumb mode). Check your software documentation for additional instructions.

Type **AT** plus the command you need and press **Enter**. You will see an **OK** response.

When you finish, you can return to the data communications program's standard user interface. See the software program's documentation if you need help.

To return to the factory default settings for the modem, in terminal mode, type **AT &F** and press **Enter**.

Using Video

Your faxmodem supports video applications through the V.80 standard protocol so that it can be used for high-quality modem-to-modem videoconferencing. The modem is compatible with H.324 point-to-point and H.323 Internet video conferencing standards. To send videos, you need a camera and video software.

Troubleshooting

If your modem stops working, please read this section carefully before calling Customer Support. In addition, your modem CD includes a list of Frequently Asked Questions (FAQs).

Important—If Your Computer Has an Existing Modem

You must redirect your application software so that it recognizes your new modem. To do so, follow these instructions:

- **Dial-up Networking Users:**
  From your computer's desktop, double-click the **My Computer** icon and then the **Dial-up Networking** icon. Double-click the **Make New Connection** icon, select your new V.92 modem from the dropdown list, and follow the prompts.

- **America Online Users:**
  From within AOL, click the **Setup** button; then click the **Expert Setup** button. Select the **Devices** tab and double-click the new V.92 modem you've installed. Click **OK** and then **Close**.

Plug and Play Setup Problems with Windows

Under some circumstances, the Plug and Play setup under Windows may not resolve all installation problems. The Windows Help system has an excellent tool for thoroughly diagnosing and solving many problems.

1. On your desktop, double-click the **My Computer** icon.
2. Choose the **Help Topics** command in the **Help** menu. Windows displays the **Windows Help** dialog box.
3. Select the **Contents** tab. Note: Windows Me and 2000 include a Help Search option, which you can use instead; search for "hardware conflict," for example.

4. Click **Troubleshooters**. (For Windows 98, you will also have to click **Windows 98 Troubleshooters**.) Then click the hardware conflict help entry.
5. Follow the instructions for determining and resolving a hardware conflict.

This should solve your problem. Remember to write down your COM port setting. Return to page 11 to complete the installation.

If you still have problems, it probably means that although you are running a version of Windows that supports Plug and Play, you may have an older computer that is not completely compatible with this feature. Try the steps in the next section.

Freeing up Resources in BIOS under Windows

This procedure is a little more difficult than the previous one, but with the help of your computer's documentation you should be able to clear up any remaining problems.

1. Close all running programs. Shut down your computer and restart it: Click **Start** and then **Shut Down**. Shut down your computer completely. Turn the power off, wait about 5 seconds, and turn the power back on.
2. As your computer goes through the startup process, it should display a key or key combination that you can use to enter the **BIOS Setup** program. Enter the BIOS Setup program and disable COM2. Consult your computer's documentation if the procedure is not clear based on the on-screen prompts. **Note:** Some computers may not use the BIOS settings to control the COM ports. Check your computer's documentation to see if you have to reset the computer's jumpers or switches instead.
3. Write down and save the new COM port setting and exit **Setup**.
4. The BIOS automatically reboots your computer.
5. Choose **Control Panel** from the **Settings** command in the **Start** menu.
6. Double-click the **System** icon.

7. Click the **Device Manager** tab.
   Find the **Ports** (COM & LPT) device and click the **+** sign. This expands the device list under **Ports**.
8. Select **Communications Port** (COM2). Click the **Remove** button in the **Device Manager** window. This removes the device currently assigned to COM2.
9. When Windows displays the **Confirm Device Removal** warning, click **OK**.
10. Double-click **Modem** in the **Device Manager** window.
11. Double-click the Faxmodem icon for your model.
12. Click the **Resources** tab.
13. Uncheck the **Use automatic settings** checkbox.
14. Scroll through the Basic configuration options until you find the one that displays the **Input/Output Range 02F8 - 02FF**. This is COM2. The **Conflicting device** list box should say **No conflicts**. If there are conflicts, call Tech Support.
15. If there are no conflicts, close the **Modem Properties** window, **System Properties** window, and **Control Panel** window by clicking **OK** for each.
16. Shut down your computer, turn off the power, and restart it. **Going through this power cycle can be important.** Merely restarting Windows may not allow the BIOS to register the changes properly.

If Windows finds your other serial port, it may try to assign the port to COM2, but won't be able to because your faxmodem is already using that system resource.

Other Troubleshooting Tips

Problem: **Your modem seems to install under Windows, but Windows cannot find it later.**

Solution: If your computer has a built-in modem on the motherboard, Windows may reinstall it the next time you start up. Consult your computer's documentation or call your computer's manufacturer to get instructions on how to disable the built-in modem.

Problem: **The software cannot find the modem and the modem does not respond to AT commands. (The following comment applies to many other problems as well.)**

Solution: The most common problem with modems is that the communications software is not configured for the same COM port as the modem.

Check which COM port the modem is using. Make sure that the software's COM port setting matches the modem's COM port setting. From the Windows Toolbar, go to **Start | Settings | Control Panel | Modems | Diagnostics**. Click the **COM port** for your modem, then click **More info**. If Windows displays the modem's ATI responses, the modem is working.

Another problem is that COM port resources may be in use by another device. Make sure that the COM port resources used by the modem are not being used by any other device, such as a soundcard.

Problem: **You type an AT command line in a terminal application and press Enter, but your modem fails to execute the command line. Or there was no response after executing a command.**

Solution: Be sure you type **AT** at the beginning of the command line.

Make sure the communications software is configured for the same COM port as your modem.

Be sure your modem is not in data mode when you type the command. Use the escape character sequence to switch to terminal mode (The default escape sequence is to wait at least one second, type **+++**, and wait another second or more.)

If you typed a command but did not receive an **OK** response from your modem, the **E0** and **Q1** commands may be in effect, disabling echo and responses. Verify this with the **&V** command. To enable echo and responses, type **ATE1Q0** and press **Enter**.

Problem: **The modem speaker volume is too low or too high.**

Solution: Your modem has a small speaker on board that provides audible feedback of dial tones and remote connection signals (" handshaking"). This is not the same as the speaker that you may have connected to your sound card.

If the software allows you to control the volume, make sure the speaker is enabled and set to a comfortable volume.

If the software does not have speaker settings, add one of the **AT** commands listed below to the initialization string:

L1 for low volume
L2 for medium volume
L3 for highest volume
M0 to turn the speaker off entirely

For example, if you want the volume low and the software uses the initialization string
AT &F, change it to **AT &F L1**.

Problem: **The modem does not automatically dial a call when you send a Dial command.**

Solution: Make sure the modem speaker is turned on in your software so that you can hear dialing sounds. Also, make sure that the phone line is plugged in.

Make sure that you are dialing a valid phone number, including any required dial prefixes.

If you are using tone dialing on a line that requires pulse dialing, the line may not be able to accept tone-dialed calls. Select Pulse dialing in your software, or make sure software dialing prefix is **ATDP** (for pulse dialing).

Make sure your communications software and modem are configured for the same COM port.

Make sure your modem has hung up from the previous call. Select **Hang Up** in your software; or type **ATH** in terminal mode.

Problem: **The modem can connect to some modems, but not to others.**

Solution: A remote modem does not respond because of the extended negotiation process by which modems determine the best common connection between them. If this is the case, you may have to disable part or all of the negotiation process. In the following table, “protocol” means error correction and data compression.

To force different communication speeds	Type these AT commands and press Enter
Negotiate speed and protocol (default setting)	**AT &F**
To force protocol	**AT \N3**
Dualmode (V.90 or V.92)—56000 bps	**AT+MS=V92,1**
V92 only (disable V.90)—56000 bps	**AT+MS=V92,0**
V.90 only (disable V.92)—56000 bps	**AT+MS=V90,0**
Disable both 56K and autorate on V.34—33600 bps	**AT+MS=V34,1**
V.34—33600 bps	**AT+MS=V34,0**
V.32bis—14400 bps	**AT+MS=V32B,0**
V.32—9600 bps	**AT+MS=V32,0**
2400 bps	**AT+MS=V22B,0**
1200 bps	**AT+MS=V22,0**

Notes: Some software allows these commands to be added to the list of dial prefixes or the initialization string.

When the protocol is forced, the modem will not attempt to connect at other protocols if it cannot connect at the forced protocol. It will try to connect at the fastest speed available within the forced protocol.

There are other configurations that can be forced as well. If you need to select a particular configuration, use the AT command strings shown below. You can always return to the modem's default configuration by typing **AT &F** and pressting the **Enter** key.

Remember that if you do this, the modem will not have received the commands in your software's initialization string as it normally would. Using the **ATZ** command overcomes this problem if you have saved all of your setup parameters in nonvolatile memory. (To save setup

parameters in nonvolatile memory in **AT** terminal mode: Type **AT**, followed by the parameter settings you desire, followed by **&W**, and press **Enter**. For example, if you type **AT &C1 &D2 &W** and press **Enter**, the **&C1** and **&D2** parameter settings are stored.)

To force	Type command & press Enter
MNP 5/MNP 4 operation	**AT \N5**
LAPM only (V.42)	**AT \N4**
MNP 4 only	**AT \N5%C0**
V.42bis data compression	**AT+DCS=1,0**
V.44 data compression only	**AT+DCS=0,1**
Auto-answer	**AT S0=1**

Problem: **Your V.92 modem does not connect reliably at V.92.**

Solution: First be sure that you have the latest modem firmware downloaded from our Web site, as discussed on page 12. Also make sure that your ISP offers V.92 at the number you are calling.

If you still have a V.92 problem, you may want to modify your Internet Connection string in Windows: On your desktop, double-click the **My Computer** icon, and then double-click **Dial-up Networking**. Right-click the existing Internet Connection that you wish to modify and select **Properties**. Click **General | Configure | Connection | Advanced**.

You can add initialization (init) strings on the line labeled **Extra Settings**. Enter *one* of the init strings listed below. Try these commands one at a time until you find the one that gives you the highest possible connection rate for your telephone line conditions.

Init String	Definition	
ATW2S7=150+MS=V90 **OR** AT&F+MS=V92	S7	Sets wait time for remote carrier, wait time can be 1-255 seconds
AT&FS7=150	&F	Sets factory defaults
AT&F&C1&D2\N5\A2=1S7=100	&C1	DCD (Data Carrier Detect) follows the remote carrier signal
	&D2	DTR (Data Terminal Ready) reacts with a disconnect, sends “OK” response and disables auto-answer while DTR signal is OFF
	\N5	MNP Error Correction Only
	\A2	Maximum block size: 192 characters

Problem: **Your modem disconnects while communicating with a remote system.**

Solution: The remote system has hung up, and you need to reconnect. The other most common sources of interruptions are Call Waiting or someone picking up an extension phone.

If you have Call Waiting, you can usually temporarily disable it by including ***70,** (including the comma), or by selecting it as a prefix, in the software’s dialing directory.

Depending on your service, you may not be able to disable Call Waiting for incoming calls. If your incoming data calls are frequently disrupted by Call Waiting, you should consider dropping the service or installing a separate phone line without Call Waiting.

Problem: **Your modem does not make a connection.**

Solution: If your modem places calls but never connects, make sure you are dialing the right number and that the remote modem is turned on.

Problem: **You receive bursts of errors occasionally, but otherwise data quality is good.**

Solution: The connection may have been established on poor-quality or noisy telephone lines. Hang up and place the call again to try to obtain a better connection.

Someone may be picking up an extension connected to the line that your modem is using. If your modem is sharing a telephone line with other telephones, inform the other users when you will be making a data call, or install a separate line dedicated to data calls.

Your telephone line may have a Call Waiting feature and a call is being received. See the Call Waiting discussion above.

Problem: **Random errors occur or data is missing in transmitted data.**

Solution: Use the MNP or V.42 protocol if the remote modem supports one of these protocols. See the table on page 26 for more information.

Select a lower baud rate in your communications software and place the call again.

If both modems are using the MNP or V.42 protocol, the only way this can occur is if your modem and communications software are not using the appropriate flow control. Configure your communications software for **RTS/CTS** (hardware) flow control. Your computer will now pause for the transmission to be stored.

Problem: **Modem performance seems sluggish.**

Solution: If you are connected to the Internet, there may be a lot of "traffic" at the Web sites you are visiting. Other possible causes are lack of sufficient memory in your computer (16 megabytes of RAM required) or a slow processor (you need a Pentium® 133 or faster, or equivalent).

Problem: **Data appears garbled on the screen.**

Solution: Your communications software character set-up (start bit, data bits, stop bits, and parity bit) does not match that of the remote system. Check your settings against those used by the remote system and make sure they match. Pay particular attention to the parity setting, as this is the most common difference among systems. You should normally use 8 data bits, NO parity, and 1 stop bit (**8, NONE, 1** or **8N1**). Another common setting is 7 data bits, EVEN parity, and 1 stop bit (**7, EVEN, 1** or **7E1**).

Problem: **You encounter communications problems with your modem.**

Solution: Check that your communications software has been set up properly. Recheck the initialization string and dial string specified in your software manual.

Memory-resident programs can cause a variety of problems. Try starting up your computer without them. Programs that can cause problems include antivirus programs and screen savers.

Appendix A: Removing an Internal Modem

If you are replacing an external modem or if your computer does not have an internal modem installed, you do not need this section.

Note:	Although you do not have to remove your internal modem, we strongly recommend that you do so. Removing your old modem frees up resources.

1 **Before you take out the modem**, **you must inform Windows that you are going to remove it:**

- Click on **Start | Settings | Control Panel**. When the **Control Panel** displays, double-click the **Modems** icon.
- Now click the **Remove** button. Click **OK** to confirm that you are removing the modem.

Windows has now been informed of your intention to remove the old modem.

2 **Remove the old modem as follows:**

- Shut down and turn off the computer.
- Remove any cables connected to the modem.
- Open the case of the computer.
- Remove the screw that attaches the modem bracket to the computer.
- Pull the modem out of its slot.
- Replace the computer's case.

Return to **Installing the Drivers** on page **6** to continue with the installation.

Appendix B: Regulatory Information

FCC Part 68 Statement

This equipment complies with Part 68 of the FCC rules. The unit bears a label which contains the FCC registration number and Ringer Equivalence Number (REN). If requested, this information must be provided to the telephone company.

This equipment uses the following standard jack types for network connection: RJ11C.

This equipment contains an FCC compliant modular jack. It is designed to be connected to the telephone network or premises wiring using compatible modular plugs and cabling which comply with the requirements of FCC Part 68 rules.

The Ringer Equivalence Number, or REN, is used to determine the number of devices which may be connected to the telephone line. An excessive REN may cause the equipment to not ring in response to an incoming call. In most areas, the sum of the RENs of all equipment on a line should not exceed five (5.0).

In the unlikely event that this equipment causes harm to the telephone network, the telephone company can temporarily disconnect your service. The telephone company will try to warn you in advance of any such disconnection, but if advance notice isn't practical, it may disconnect the service first and notify you as soon as possible afterwards. In the event such a disconnection is deemed necessary, you will be advised of your right to file a complaint with the FCC.

From time to time, the telephone company may make changes in its facilities, equipment, or operations which could affect the operation of this equipment. If this occurs, the telephone company is required to provide you with advance notice so you can make the modifications necessary to obtain uninterrupted service.

There are no user serviceable components within this equipment.

It shall be unlawful for any person within the United States to use a computer or other electronic device to send any message via a telephone facsimile unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message and the telephone number of the sending machine or 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. Telephone facsimile machines manufactured on and after December 20, 1992, must clearly mark such identifying information on each transmitted message. Facsimile modem boards manufactured on and after December 13, 1995, must comply with the requirements of this section.
This equipment cannot be used on public coin phone service provided by the telephone company. Connection to Party Line Service is subject to state tariffs. Contact your state public utility commission, public service commission, or corporation commission for more 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.

Industry Canada CS03 Statement

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets 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 the 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 concern. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

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

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. **Caution**: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

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.

Additional Test Information

This equipment has been tested to the requirements of TBR 21: January 1998 revision.

Austria	Belgium	Denmark	Finland
France*	Germany	Greece	Ireland
Italy	Luxembourg	Netherlands	Portugal
Spain	Sweden	UK	

Note: *EU member states with restrictive use for this device are indicated by an asterisk (*) in the table above. This device is also authorized for use in all EFTA member states (**Switzerland, Iceland, Liechtenstein, Norway**).*

Important Notice for Users in France

This product should only be used on France Telecom (FT) phone lines where current limiting is not required. This is approximately 78% of all FT phone lines.

Declaration of Conformity

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

Directives	Standards	Test Reports Issued
73/23/EEC-Low Voltage	EN 60950	electrical safety
89/336/EEC-EMC	EN 50082-1	EMC – immunity
89/336/EEC-EMC	EN 55022	EMC – emissions

The product is CE marked.

Electrostatic Discharge (ESD) Statement

This unit may require resetting after a severe ESD event.

Appendix C: Reference Information

We recommend that you take a few moments to fill in the following information for your future reference. In the event you need to call Technical Support or Customer Service, you will need the information below.

Faxmodem Model _____

(located on the box)

Serial Number _____

(located on the bottom of the modem under the bar code)

COM Port _____

Date of Purchase _____

Store or Dealer _____