Modem User Guide

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.

Installation Road Map

Please follow the installation instructions appropriate to your operating system:

- **For Windows 95/98/Me/2000/XP:** Go to **Key Steps** on page 4.

- **For all other computers, operating systems and terminals:** Go to **Connecting your Faxmodem** on page 10.

Key Steps for Windows 95/98/Me/2000/XP

Getting Started

Insert the enclosed CD in your computer's CD-ROM drive. Wait for it to auto-run.

> *If the CD does not auto-run:* Right-click on **My Computer** and then click on **Explore**. In the left panel click on the CD icon of the drive that has your modem CD in it. In the right panel, double-click **Launch.exe** or **Setup.exe**.

When the main interface appears, click **Install Drivers**. When the **Install Drivers** screen appears, select the modem type you are installing. Click **Next**. Follow the prompts. Click **Finish**.

Leave the CD in the drive, exit any running programs, and shut down your computer.

Installing the Faxmodem

Go to **Connecting your Faxmodem**, page 10, to install your modem hardware.

Completing the Installation

Turn your computer back on. Windows will detect your new modem and drivers and add the drivers to its database. **Note:** If the Plug and Play setup does not proceed properly, see **Plug and Play Setup Problems with Windows 95/98** on page 19.

You should now verify the COM port setting of your faxmodem. This last operation also tests your faxmodem by querying it with **AT** commands. A list of responses means that the faxmodem is properly connected.

1. Open **Start | Settings | Control Panel** and double-click on the **Modems** icon. Fill in the **Location Information** screen if it appears. Click on the entry for your new faxmodem and then click on **Properties**.
2. Set the **Maximum speed** to the highest speed available (e.g., 115,200). This sets the speed at which the computer communicates with the faxmodem. **Note:** Do not check **Only connect at this speed**. Click **OK**.

3. Click on the **Diagnostics** tab. Highlight the port next to the entry for your new faxmodem and click on **More info**. If Windows is unable to communicate with your modem, consult the **Troubleshooting** section on page 19.

4. Note the **Port** and **Interrupt** entries under **Port Information**.

5. Click **OK**. Click **Close**. Close the **Control Panel**.

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. Turn to page 19 for instructions.

Installing the 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 for Owners of 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.

Key Steps for Windows NT 4.0

You should have already installed your modem hardware.

Turn your computer back on.

Insert the enclosed CD in your computer's CD-ROM drive. Wait for it to auto-run.

> *If the CD does not auto-run:* Right-click on **My Computer** and then click on **Explore**. In the left panel click on the CD icon of the drive that has your modem CD in it. In the right panel, double-click **Launch.exe** or **Setup.exe**.

1. When the main interface appears, click **Install Drivers**. When the next screen appears, select the modem type you are installing. Click **Install Drivers**. When the **Modem Installation Setup** screen appears, click **Next**. Follow the prompts. Click **Finish**.

2. Open **Start | Settings | Control Panel** and double-click on **Modems**. **Important:** If the **Modem Properties** screen appears, click **Add**.

3. At the **Install New Modem** box, click **Next**. Let Windows NT detect your modem and install the drivers.

4. Your modem will be detected as a "Standard Modem". Click **Change**. The **Install New Modem** dialog box will appear. In the **Manufacturers** box, scroll to the name of your modem manufacturer and select it. In the **Models** box, scroll to the name of your modem and select it. Click **OK**.

5. In the **Install New Modem** screen, the correct modem will now be displayed. Fill in the **Location Information** screen if it appears. Click **Next**.

6. At the **Modem Properties** box, select the newly installed modem and then click **Properties**.

7. Set the **Maximum speed** to the highest speed available (e.g., 115,200). This sets the speed at which the computer communicates with the faxmodem. **Note:** Do not check **Only connect at this speed**. Click **OK**. Click **Close**.

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. Turn to page 19 for instructions.

Installing the 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 for Owners of 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.

Key Steps for Windows 3.1, 3.11

You should have already installed your computer hardware.

Turn your computer back on.

1. From **Program Manager**, select **Window | Main | Control Panel | Ports**.
2. Click **Settings** for your COM port number.
3. Change the baud rate to the highest possible setting.
4. Click **OK**.

Now test your modem:

1. From **Program Manager**, select **Window | Accessories**.
2. Click **Terminal**. Select the COM port you are connected to and click **OK**.
3. Type "**at**" and hit <Enter>. You'll see a confirming **OK** message.

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. Turn to page 19 for instructions.

Installing the 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 for Owners of 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.

Key Steps for Linux

You should have already installed your computer hardware.

Turn your computer back on.

You need to verify that your modem is configured and working properly by issuing an AT command. You'll need to use a data communications program such as Minicom, which comes with most versions of Linux, or a similar alternative. To use Minicom, you will need to know the serial port the modem is connected to.

Consult your on-line LINUX-HOWTO Documentation if you need assistance. The section **Communicating with your Faxmodem** on page 16 contains additional information about using your faxmodem.

Please continue reading the **Important Information** for Owners of V.92 section of this manual on page 12.

Connecting your Faxmodem

1. Make sure your computer is shut down. Locate the faxmodem's serial number on the bottom of the case and make a note of it for future reference. Depending on your modem model, your setup should look like one of the illustrations below.

Power   Computer   Telephone Line   Telephone (Optional)

On/Off Switch   Power   Computer   Telephone Line   Telephone (Optional)

On/Off Switch   Power   Computer   Telephone Line   Telephone (Optional)
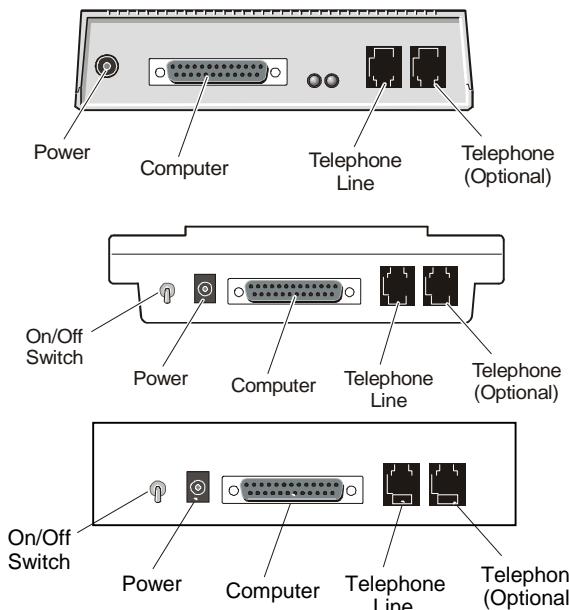
2. Connect the faxmodem-to-computer serial cable. Plug one end of the cable into the matching connector on the back of your modem, and plug the other end of the cable into your computer's serial port. Some cables have an extra connector; you should leave one unconnected. Tighten the screws at both ends. Make a note of the COM port you plug the modem into.

3. Connect the telephone cord. Plug one end of the cord into the phone line jack on the back of the faxmodem. Plug the other end into the wall jack just as you would a standard telephone.

4. Connect your telephone (optional). You may also connect your regular telephone to the back of the faxmodem, in the jack labeled **PHONE**. If your phone cord doesn't have an RJ-11 plug, you may need an adapter for your cord, or, if possible, to use an RJ-11 phone cord for your phone. The faxmodem works with or without a telephone connected to it.

5. Connect the power cube. Plug one end of the power cube into the back of the faxmodem. Plug the other end into an electrical outlet. **Note:** Use only the power cube that came with your faxmodem. Other power cubes may damage the faxmodem.

6. Turn the faxmodem on. Depending on the model, there may be a toggle switch on the back panel or a pushbutton on the front panel. The faxmodem will perform a brief self-test and then the **MR** or **PWR** light (depending on the model) will go on, indicating that the faxmodem is ready for use.

Now return to the appropriate section to complete the installation:

- **Windows 95/98/Me/2000/XP:** Go to **Completing the Installation** on page 4.

- **Windows NT 4.0:** page 6

- **Windows 3.1., 3.11:** page 8

- **Linux:** page 9

- **Macintosh:** Refer to your Macintosh and software documentation to configure your computer and software, which completes installation.

- **Other computers and operating systems:** Refer to your computer and software documentation to configure your computer and software, which completes installation.

- **Terminals:** For most terminals, installation is complete.

Important Information for Owners of V.92 Modems

With V.92, as with the earlier V.90 standard, your connection speed will depend 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.

- **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 will 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 ask for 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.

Modem Upgrades

Your modem's software, or "firmware," can be easily upgraded. This is useful for code updates and feature upgrades. To upgrade your modem's firmware, you simply download the new firmware files and then run a program we provide. Because V.92 technology is new, you may want to download the latest firmware before calling your first V.92 site. Upgrades are available from our Web site.

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

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

Light*	Description
HS (High-speed)	Lights when communicating at 48000 bps or faster.
AA (Auto-Answer)	Lights when Auto-Answer is activated. Blinks when detecting an incoming ring.
RI (Ring Indicate)	Blinks when detecting incoming ring.
CD (Carrier Detect)	Lights when the Data Carrier Detect (DCD) signal from the modem to the computer is on.
OH (Off Hook)	Lights when the modem is off hook.
TD (Transmit Data) or **SD** (Send Data)	Flashes whenever data or commands are transmitted from the serial port of your computer or other device to the modem.
RD (Receive Data)	Flashes when data is sent from the modem to your computer or other serial device. At high speeds light may appear continuously on.
TR (Terminal Ready)	Lights when the computer is ready to send or receive data. Indicates the status of the DTR signal from the terminal or computer.
CS (Clear to Send)	Lights when the faxmodem can accept data from the computer.
MR (Modem Ready) or **PWR** (Power)	Lights when the modem is turned on. Flashes when the modem is in self-test mode.
DC (Data Compression)	Lights when using V.44, V.42bis, or MNP 5 data compression.
EC (Error Correction)	Lights when sending data using V.42 or MNP 4 error correction.
FAX	Lights when fax connection has been made to a remote faxmodem.

MSG	Used by some software products. May light when faxes or voicemail messages are waiting.
V.34	Lights when operating in V.34 mode.
V.92	Lights when operating in V.92 mode.
56K	Lights when communicating in V.90 or V.92 mode.
HOLD (Modem On Hold)	Lights when a call is detected. If you accept the call, the light stays on for the duration of the call; if you refuse the call, the light goes off.

*__*Note:__ Not all lights may be present in some models.*

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 faxmodem.

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 faxmodem 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(s) included with your modem package, which contains Internet and 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.

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 de-

Modem User Guide

scriptive 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 there is a section of your software called "Terminal Settings," make sure that **Hardware Flow Control (RTS/CTS** is **ON** (or **YES**).

Set **auto baud detect** to **OFF** (or **NO**).

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

Finally, some programs ask **Send init if CD high?**, which you should set to **YES**. Otherwise, the faxmodem may not receive the proper initialization string.

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 having to be 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 on **Reference** and then on **AT Command Sets**.

Here are two of the more useful commands:

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. You can include that code, followed by a comma, in the dial string or dial prefix in your software. Refer to the **Troubleshooting** section for more tips.

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.

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 hit **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 hit **Enter**.

Modem User Guide

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 on the new V.92 modem you've installed. Click **OK** and then **Close**.

Plug and Play Setup Problems with Windows 95/98

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

1. Double-click the **My Computer** icon on your desktop.
2. Choose the **Help Topics** command in the **Help** menu. Windows displays the **Windows Help** dialog box.
3. Select the **Contents** tab.
4. Click on **Troubleshooters**. (For Windows 98, you will also have to click on **Windows 98 Troubleshooters**.) Then click on 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 4 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.

Changing the COM Settings in BIOS under Windows 95/98

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 on 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** and **Interrupt Request 03**. 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

Your modem seems to install under Windows, but Windows cannot find it later…

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.

The software cannot find the modem and the modem does not respond to AT commands…

The most common error 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 and ensure

that the software's COM port setting matches the modem's COM port setting.

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 sound card.

In terminal mode, be sure you type **AT** at the beginning of the command line.

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 **AT E1 Q0** and hit **Enter**.

You encounter communications problems with your modem…

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.

The modem speaker volume is too low or too high…

Your modem has a small speaker on its board that gives you 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 of the on-board speaker, 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 completely
M1 to turn the speaker back on

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

The modem does not automatically dial a call when you send a Dial command…

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.

Your modem disconnects while communicating with a remote system…

The remote system has hung up. You need to reconnect.

The telephone line disrupted your call. If your telephone service includes Call Waiting, turn it off if possible before making modem calls.

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

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

Your modem does not make a connection…

If your modem places calls but never makes a connection, make sure you are dialing the right number. The remote modem may be turned off.

The modem can connect to some modems, but not to others…

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 command & hit 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**
V.92 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 pressing 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 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 choose, followed by **&W**, and hit **Enter**. For example, if you type **AT &C1 &D2 &W** and hit **Enter**, the **&C1** and **&D2** parameter settings are stored.

To force	Type command & hit 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**

The modem does not connect reliably at V.92…

To modify your Internet Connection string in Windows 95/98/Me/2000: Double-click **My Computer**, and then double-click **Dial-up Networking**. Right-click the existing Internet Connection and select **Properties**. Click **General | Configure | Connection | Advanced**. You can add initialization (init) strings on the line labeled **Extra Settings**. Enter *one* of the 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 phone 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

Appendix A: How to Uninstall Your Modem Drivers

The following instructions should work for your new modem as well as older modems. If not, please refer to your original modem manufacturer's documentation for removal instructions.

If your computer has a modem, you may choose to keep it or to remove it. We recommend that you remove it. Removing your old modem ensures that your computer will have enough resources to run your new modem without conflicts with other devices.

Follow these steps to uninstall your modem drivers.

1 From the desktop, open the **Control Panel**, and then click **Add or Remove Programs**. In the dialog box that opens, select the modem that you want to uninstall and click **Remove**.
(Depending on your operating system, some of these buttons may have slightly different labels.)

2 Follow the on-screen instructions and click **Finish**.

3 *Windows 95/98/Me/2000/XP Users:* In one of the following dialog boxes (depending on your operating system): **Modems**, **Phone and Modem Options**, or **Modem Properties**, select the modem you want to uninstall and click **Remove**.

Appendix B: Regulatory Information

FCC 47CFR, Part 68 Statement

This equipment complies with 47CFR, Part 68 of the rules. The unit bears a label which contains, among other information, the certification 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 47CFR, Part 15 Emissions Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 47CFR, part 15 of the 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.

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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 (1992 A1-A11)	electrical safety
89/336/EEC-EMC	EN 55024 (1998)	EMC – immunity
89/336/EEC-EMC	EN 55022 (1998)	EMC – emissions

The product is CE marked.

Electrostatic Discharge (ESD) Statement

This unit may require resetting after a severe ESD event.