



This manual covers installation and operating instructions for the following U.S. Robotics modems:

- **Sportster Voice 56K* internal and external modems**

U.S. Robotics, the USRobotics logo, and Sportster are registered trademarks and *Connections*, Total Control, Courier, RapidComm, x2, and the x2 logo are trademarks of U.S. Robotics. Windows is a registered trademark of Microsoft Corp. CompuServe is a registered trademark of CompuServe Inc. America Online is a registered trademark of America Online Inc. Any other trademarks, trade names, service marks, or service names owned or registered by any other company and used in this manual are the property of their respective companies.

© 1997 U.S. Robotics
7770 North Frontage Road
Skokie, IL 60077-2690
All Rights Reserved

* **IMPORTANT!** This modem is 56Kbps capable. However, current FCC rules limit download speeds to 53Kbps. See page 3 for details.

TABLE OF CONTENTS

U.S. Robotics: The Intelligent Choice in Information Access	1
Welcome to x2 Information Access	2
Product Features	4
Read This First!	6
Part I - Internal Modem Installation	6
Section A: Internal Modem Installation with Windows 3.x	7
A Word about COM Ports and IRQs	8
How to Use ComTest to Determine Your Modem's Settings	9
What to Do with ComTest's Recommendation	13
How to Change the Factory Settings	16
How to Insert the Modem	17
Installing RapidComm Voice with the Setup Wizard	24
Sending Your First Fax	37
Section B: Internal Modem Installation with Windows 95	40
Plug and Play Installation	40
How to Prepare for Plug and Play Installation	41
How to Insert the Modem	42
How to Move Through the "New Hardware Found" Screens	46
Installing RapidComm Voice with the Setup Wizard	49

TABLE OF CONTENTS

Sending Your First Fax	63
Part II - External Modem Installation	66
Section A: External Modem Installation with Windows 3.x	67
How to Determine Which Serial Cable to Buy	67
How to Hook Up the Modem	69
Installing RapidComm Voice with the Setup Wizard	70
Sending Your First Fax	83
Section B: External Modem Installation with Windows 95	86
How to Determine Which Serial Cable to Buy	86
How to Hook Up the Modem	88
How to Move Through the “New Hardware Found” Screens	89
Installing RapidComm Voice with the Setup Wizard	92
Sending Your First Fax	106
Part III - Beyond Setup	109
Section A: Installing Other Fax/Data/Voice Software	110
Type of Modem	110
Initialization String	110
Flow Control	111
UART (External Modems Only)	111
Section B: Troubleshooting and Online Help Resources	112

TABLE OF CONTENTS

Internal Modem Users Only	118
If You Are Running DOS 6.0 or Higher	118
Online Help Resources	119
Are You Still Having Problems?	123
If You Must Return the Modem to Us	123
RapidComm Voice Troubleshooting Tips	124
A Note to Users with Older Versions of RapidComm on Their Systems	125
Section C: Glossary	126
Section D: Technical Quick Reference	139
Front Panel Lights	140
Command Summary	141
DIP Switches (Modems with DIP Switches Only)	156
S-Registers	158
The Serial Interface	169
Section E: Regulatory Information	171
Manufacturer's Declaration of Conformity	171
Caution to the User	172
IC (Canada)	172
UL Listing/CUL Listing	173
Connecting to the Telephone Company	173

TABLE OF CONTENTS

Fax Branding	173
Radio and Television Interference	174
For Canadian Modem Users	175
Limited Warranty	179
Index	181

U.S. ROBOTICS: THE INTELLIGENT CHOICE IN INFORMATION ACCESS™

Congratulations! You have just purchased the Sportster® Voice 56K faxmodem. Since 1976, U.S. Robotics has grown to become a key manufacturer and developer of information access technology. U.S. Robotics' advanced technology allows you to use your faxmodem to open up a new world of information access. And now you can take advantage of the highest transfer rates available today with our new x2™ technology!

As an innovator in the data communications field, U.S. Robotics has a history of bringing the latest technology to market at an affordable price.

U.S. Robotics owns the core technology, known as the data pump, that works in its access products. This allows U.S. Robotics to bring new technologies and features to market faster and at a lower cost while passing the savings on to you.

Be sure to read the following section to learn more about the latest U.S. Robotics breakthrough, x2 technology. Your new Sportster takes advantage of this technology to make connecting over analog lines faster than ever before.

For more information on U.S. Robotics, visit the U.S. Robotics World Wide Web Home Page at: <http://www.usr.com>.

WELCOME TO X2™ INFORMATION ACCESS



The latest breakthrough in online communications

Until now, 33.6 Kbps was thought to be the practical limit for speed over standard phone lines. Now, x2 shatters that barrier, to bring you download speeds of up to 56 Kbps.

However, due to FCC rules which restrict power output of your service provider's modems, current download speeds are limited to 53Kbps. This modem is easily upgradable to new features and enhancements as they become available.

An integrated end-to-end solution from the leader

U.S. Robotics is well positioned to bring you x2 technology. Our Sportster modems are the world's number one seller, and our Total Control™ and Courier™ product lines are favored by many Internet service providers. This widespread acceptance allows U.S. Robotics to offer x2 technology to virtually anyone.

WELCOME TO X2 INFORMATION ACCESS

Taking advantage of the modern telephone network

x2 technology uses the increasingly digital telephone network to bring you faster downloads, by eliminating the analog-to-digital conversion in the downstream path.

x2 takes advantage of the typical network configuration found when an analog subscriber connects to a digitally connected server. Because it bypasses the analog-to-digital conversion in the downstream path, x2 can use nearly all of the available 64K network bandwidth. (Upstream data, typically less speed sensitive, travels at the standard V.34 rate.)

The result is a completely new kind of transmission technique. Based on “encoding” rather than “modulation,” it can give you download speeds that you never thought possible. What’s more, with standard V.42 *bis* compression, x2 can download at speeds up to a blistering 115.2 Kbps.

The new standard for online speed

U.S. Robotics has already submitted x2 to the ITU-T standards committee for acceptance as the next online standard.

For more information on U.S. Robotics’ x2 technology, see our World Wide Web page at <http://x2.usr.com>.

PRODUCT FEATURES

Your new x2 modem provides many advanced features. Here are just a few:

Modulation Schemes

x2 technology
ITU-T V.34+
ITU-T V.34
ITU-T V.32bis
ITU-T V.32
ITU-T V.22bis
ITU-T V.22
ITU-T V.23
Bell 212A
ITU-T V.21
Bell 103

Error Control and Data Compression Schemes

ITU-T V.42
ITU-T V.42bis

MNP 2-5

Fax Modulation Schemes

ITU-T V.17
ITU-T V.29
ITU-T V.27ter
ITU-T V.21

Fax Standards

EIA 578 Class 1 FAX
EIA 592 Class 2.0 FAX

Front Channel Link Rates

33333, 37333, 41333, 42666,
44000, 45333, 46666, 48000,
49333, 50666, 52000, 53333,
54666, 56000, 57333

Back Channel Link Rates

14400, 16800, 19200, 21600,
24000, 26400, 28800, 31200

V.34+ Link Rates

4800, 7200, 9600, 12000, 14400,
16800, 19200, 21600, 24000,
26400, 28800, 31200, 33600

V.32bis Link Rates

4800, 7200, 9600, 12000, 14400

Additional Link Rates

300, 1200/75 (V.23), 1200, 2400

Fax Link Rates

2400, 4800, 7200, 9600, 12000,
14400

PRODUCT FEATURES

Speakerphone

With the addition of an inexpensive set of externally powered speakers, your new Sportster Voice modem provides all the convenience of a full-duplex speakerphone.

Unlike many half-duplex speakerphones, your Sportster allows you to converse normally without annoying echoes and distortion. Simply plug the speakers into the SPEAKER jack on the modem and you're ready to go.

Personal Voice Mail

Personal Voice Mail turns your modem into a full-featured messaging system. Enjoy the convenience of professional voice mail in your home or office for a fraction of the cost.

If you have an internal modem and are using the Windows 3.x operating system, start at

With Personal Voice Mail, you can record custom greetings, receive messages, and set up multiple voice "mailboxes". You can even access your voice messages remotely.

Your modem will automatically detect incoming fax/voice/data calls and route them appropriately. The included fax-on-demand feature allows callers to select information from a list and have it automatically faxed to them.

PART I - INTERNAL MODEM INSTALLATION

READ THIS FIRST!

Part I, Section A: Internal Modem Installation with Windows 3.x (page 7).

If you have an internal modem and are using the Windows 95 operating system, start at **Part I, Section B: Internal Modem Installation with Windows 95** (page 40).

This part of the manual covers the installation of your internal Sportster and the accompanying fax/data/voice software. The instructions are provided for both Windows 3.1/ 3.11 (hereafter jointly referred to as Windows 3.x) and Windows 95 users. Please refer to the section dealing with the operating system you use. The two sections are:

If you have an external modem and are using the Windows 3.x operating system, start at **Part II, Section A: External Modem Installation with Windows 3.x** (page 69).

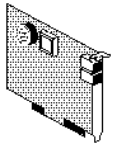
If you have an external modem and are using the Windows 95 operating system, start at **Part II, Section B: External Modem Installation with Windows 95** (page 89).

**Section A: Internal Modem Installation
with Windows 3.x** (page 7)

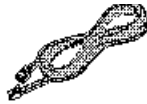
**Section B: Internal Modem Installation
with Windows 95** (page 40)

SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

You'll need these items from your Sportster box:



modem



phone cord



Connections CD



manual



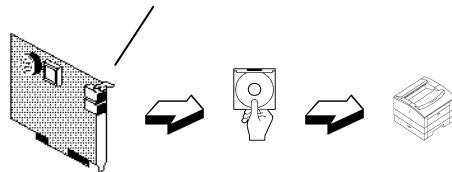
microphone

Plus:



a screwdriver (not included)

THIS FIRST SECTION WILL WALK YOU THROUGH THE STEPS INVOLVED IN CONNECTING YOUR SPORTSTER TO YOUR COMPUTER.



HARDWARE

SOFTWARE

TESTING

A Word about COM Ports and IRQs

Most computer accessories — a mouse, sound card, enhanced graphics card, scanner, etc. — require a special connection through which they can communicate with the computer. For an internal modem, it's called a communications (COM) port. Most computers have 1 or 2 COM ports but can have up to 4. On an internal modem, the COM port is represented by the modem itself.

Each COM port uses an IRQ (interrupt request). An accessory uses an IRQ to get the attention of your computer's CPU (central processing unit) so that the accessory can perform a task. The computer stops what it's doing, depending on the priority of the request, to help the accessory perform its task. When two accessories share an IRQ, it's like two people asking different questions in unison to a third person. Just as the person being asked the two questions cannot understand either request, a computer can lock up or otherwise fail to communicate properly with your modem when there is an IRQ conflict.

D KEY POINT: Accessories cannot share COM ports and should not share IRQs. When accessories try to share settings, they will either not work properly or not work at all. This section of the manual will help you understand the COM/IRQ settings on your new Sportster.

U.S. Robotics has set your Sportster to use COM 2 and IRQ 3. This is the industry standard for modem settings. In most cases, these settings will work. In some instances, however, these settings are already being used by another accessory, such as a sound card or another COM port. We recommend that you run the ComTest program (on the *Connections* CD) to determine what settings your modem should use.



NOTE: Some communications software programs require a particular setting for your modem. (RapidComm Voice, which shipped with your modem, does not.) If you wish to use a program other than RapidComm Voice, now is a good time to read that software's manual to determine what setting is required.

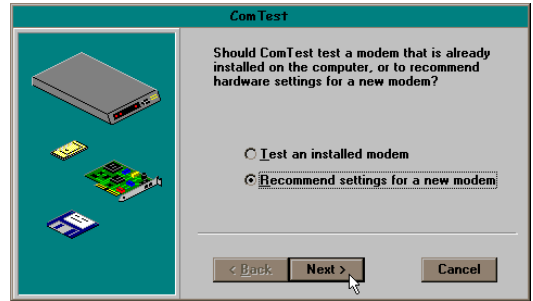
How to Use ComTest to Determine Your Modem's Settings

1. Insert your *Connections* CD into your CD-ROM drive.
2. In the Windows *Program Manager*, select Run from the File menu. Enter the file name as **d:\comtest.exe**. This starts ComTest,

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

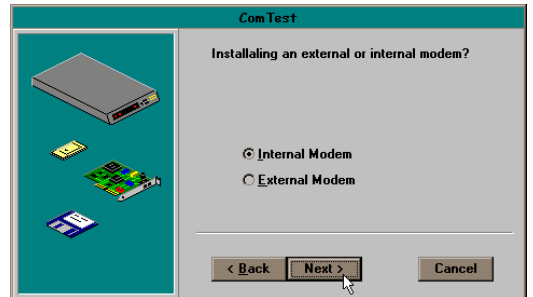
the program that determines which COM ports and IRQs are available for use by your modem.

3. The screen at the top of the next page appears when ComTest starts.
 - If there is a modem in your computer which you are replacing with your new Sportster, you need to go to “Testing an Installed Modem” on page 13 to determine which options to select so that ComTest can detect what the older modem’s COM and IRQ settings are.
 - If a modem is not currently installed in your computer, choose the *Recommend settings for a new modem* option.



Then click on the *Next* button.

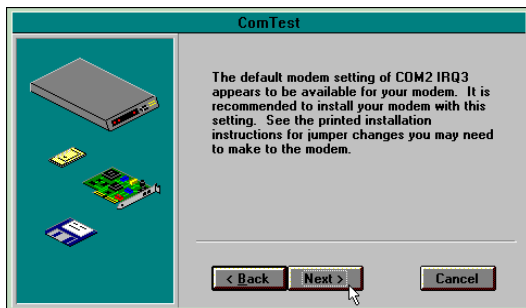
4. If it’s not already selected, choose the *Internal Modem* option.



Then click on the *Next* button.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

5. If you have a free setting, you will see a screen like this.

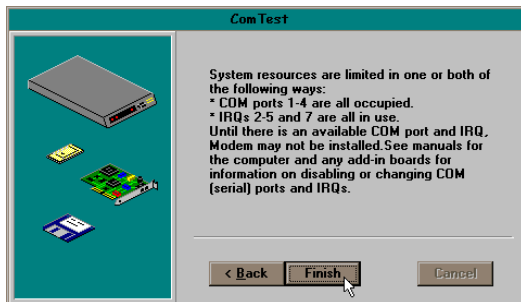


COM2/IRQ3 is free in this example. ComTest might instead recommend COM1/IRQ4, COM3/IRQ4, or COM4/IRQ3 for your modem.

Write down the settings you're given in the spaces provided on the first page of this manual. You'll need to know the settings later.

Click on the *Next* button.

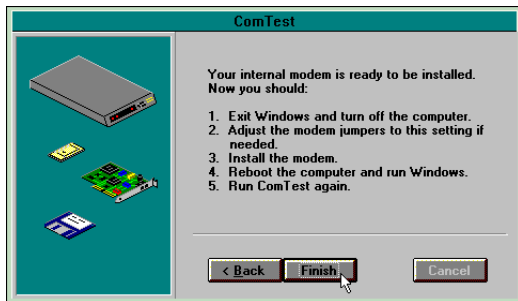
If you *DO NOT* have a free setting, you will see a screen like this.



Click on the *Finish* button to exit ComTest. Go to "What to Do with ComTest's Recommendation" on page 14.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

- When you see this screen, click on the *Finish* button to exit ComTest.



Go to “What to Do with ComTest’s Recommendation” on page 14.

Testing an Installed Modem

If there is a modem already installed in your computer, you can determine its COM and IRQ settings by selecting the *Test an installed modem* option. Follow the instructions on

screen until you see the screen that tells you “Testing is complete.” This screen will also tell you which COM and IRQ settings your present modem is using. These are the settings you want to use for your new Sportster. Write the settings down in the spaces provided on the first page of this manual.

Turn off your computer and remove your present modem.

- If your present modem is using COM2/IRQ3, go to “How to Insert the Modem” on page 19.
- If your present modem uses settings other than COM2/IRQ3, go to “How to Change the Factory Settings” on page 17.

What to Do with ComTest's Recommendation



NOTE: If your communications software requires a setting for your modem that ComTest does not recommend, there is a good chance that the setting is being used by another device in your system. To find out how to free that setting in your system, consult your computer manufacturer's manual. If the communications software requires COM2/IRQ3, go to "How to Insert the Modem" on page 19. If the communications software requires different settings, go to "How to Change the Factory Settings" on page 17.

If ComTest recommended COM1/IRQ4
You will have to change the factory settings on your modem.

Write "COM1" and "IRQ4" in the spaces provided on the first page of this manual. Go to "How to Change the Factory Settings" on page 17.

If ComTest recommended COM2/IRQ3
You can insert the modem, as is, into your computer.

Write "COM2" and "IRQ3" in the spaces provided on the first page of this manual. Go to "How to Insert the Modem" on page 19.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

If ComTest recommended COM3/IRQ4 or COM4/IRQ3

Do not use either of these settings.

While the COM port part of the setting is acceptable (ComTest only recommends COM ports that are not being used), the IRQ part of the setting is not acceptable. When ComTest recommends either COM3/IRQ4 or COM4/IRQ3, the IRQ in the setting is being used by another accessory. You could use the suggested IRQ for the modem, but you run the risk that the modem and/or the other accessory sharing the IRQ might not work properly.

If you do not have a sound card, use COM3/IRQ5. Write “COM3” and “IRQ5” in the spaces provided on the first page of

this manual. You will have to change the factory settings on your modem. Go to “How to Change the Factory Settings” on page 17.

If you do have a sound card, use COM2/IRQ3. To use this setting, you have to first disable your computer’s second serial port (COM2). This is a pronged socket on the back of your computer.

Go to your computer manufacturer’s manual.

- Find out which of the sockets on the back of your computer is the second serial port.
- If you have something plugged into that port, find out if you can plug it in somewhere else. Any accessory plugged into that port after the port has been disabled will not work.
- Find out how to disable the COM port.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

- Then return to this point in this manual to continue.

After disabling COM2, you can use the COM2/IRQ3 setting.

Write “COM2” and “IRQ3” on the first page of this manual and go to “How to Insert the Modem” on page 19.

If ComTest tells you that You do not have any available COM ports and/or IRQs

We recommend you disable COM1 or COM2. When you disable one of these COM ports, you can use it and its default IRQ for your modem. Go to your computer manufacturer’s manual.

- Find out which socket is COM1 and which is COM2.
- If nothing is plugged into either port, you can disable either of the ports. Your

computer manufacturer’s manual will tell you how to disable the COM port.

- If one of the ports is being used by an accessory, choose the unused port. Note if the port is COM1 or COM2. This is the port you should disable for your modem.
- If both ports are being used, you may be able to attach one of the accessories elsewhere so that you can disable that COM port for use by your modem. The accessory will not work once its port is disabled.

If you’ve disabled COM1, you can now use the COM1/IRQ4 setting. Write this setting down on the first page of this manual. Go to “How to Change the Factory Settings”.

If you’ve disabled COM2, you can now use the COM2/IRQ3 setting. Write this setting

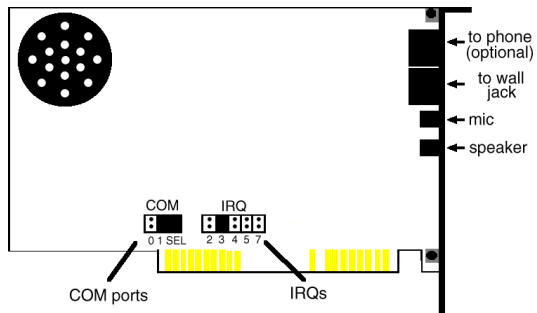
PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

down on the first page of this manual. Go to “How to Insert the Modem” on page 19.

How to Change the Factory Settings


(NOTE: If ComTest recommended COM2/IRQ3 for your modem, you can skip this section.)

1. Always touch an unpainted metal part of your computer (the back is usually unpainted) to discharge static electricity before handling the modem. Static can damage your modem.
2. Take the modem out of its plastic bag.
3. Find the COM port and IRQ shunts (small black plastic pieces) on your modem. They should be in roughly the area indicated in the following illustration.

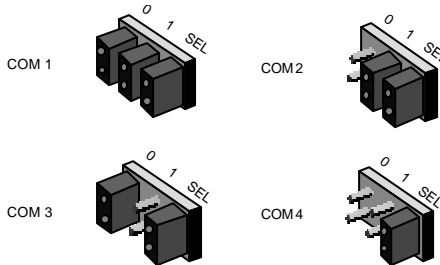


4. To change the COM port and IRQ settings, you must move the shunts on the COM port and IRQ pins. To do this, lift the shunts off the pins.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X


 **TIP:** Grasp the shunts with a tweezers or needle-nosed pliers. DO NOT grasp too firmly, as you may crush the shunts. If a shunt seems stuck, gently rock it back and forth as you lift. Do not touch any other part of the modem or your computer with the tweezers/pliers.

5. Move the shunt to the new setting.
- The COM port setting can involve one to three shunts. The four possible COM port settings are as follows:



- Unlike most COM port settings, the IRQ setting involves only one shunt. Simply move the shunt to the pin labeled with the IRQ you want.

How to Insert the Modem

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

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

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

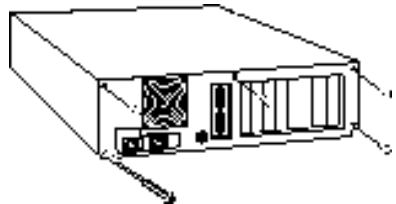


TIP : Before you unplug anything, label the cords or make a sketch of how things are connected. This can be helpful when you plug things back in later.



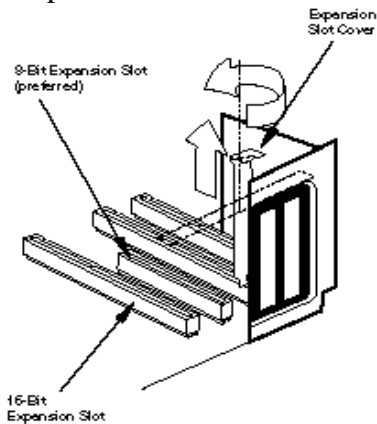
CAUTION : To avoid risk of electric shock, make sure your computer and all peripheral devices are turned off and unplugged.

3. Remove the screws from your computer's cover and then remove the cover, as shown in the following diagrams. Your computer may differ in appearance from these diagrams, but the basic principle for removing the cover should be the same. Refer to your computer manufacturer's manual if you need further instructions.

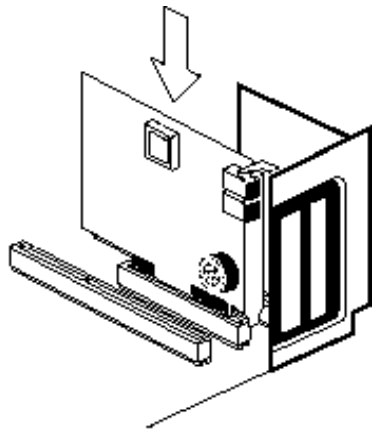


PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

4. Find an empty ISA expansion slot that's at least as long as the gold edge of your modem. ISA slots are black plastic grooves lined with silver. Unscrew and remove the expansion slot cover (the long narrow piece of metal that keeps dust from entering through the opening perpendicular to the slot). Be careful not to drop the screw into the computer.



5. Holding the modem at each corner, with the gold edge facing the slot, push the modem down as gently as possible until it snaps into the expansion slot. (NOTE: The drawings show horizontally aligned expansion slots. Some computers have vertically aligned slots. The instructions apply to both styles.)



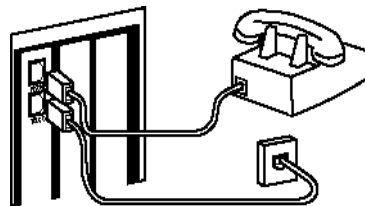
PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

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

6. Once the modem is in place, fasten it firmly into place using the screw that you removed in step 4.
7. Put the computer's cover back on and fasten it with the screws you removed in step 3.
8. If you currently have a phone plugged into the wall jack you intend to use for the modem, disconnect the phone from the jack.
9. Plug one end of the phone cord that came with the modem into the TELCO jack on

the modem. Plug the other end of the cord into the wall jack.

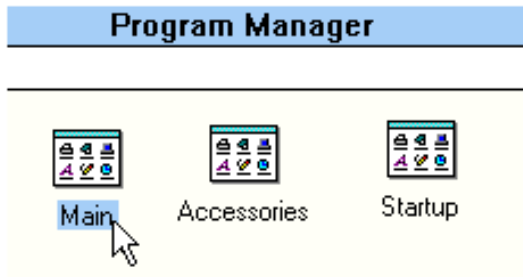
(If you want to use a telephone on the same line when you're not using the modem, plug the telephone's cord into the modem's PHONE jack.)



WARNING : The phone jack you use must be for an ANALOG phone line. Most offices use digital lines. Be sure you know what type of line you have. The modem will be damaged if you use a digital phone line.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

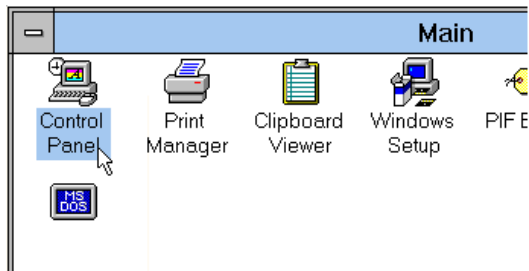
10. Plug the microphone into the MIC jack on the modem. Place the microphone where it will pick up your voice.
11. Plug the power cords, cables, and peripherals back into the computer and turn the computer on.
12. Start Windows.
13. If you have your modem set to one of these settings.
 - COM1/IRQ4
 - COM2/IRQ3
 - COM3/IRQ4
 - COM4/IRQ3
14. If you have your modem set to a setting that is not in the preceding list, enter your *Program Manager* and double-click on the *Main* icon.



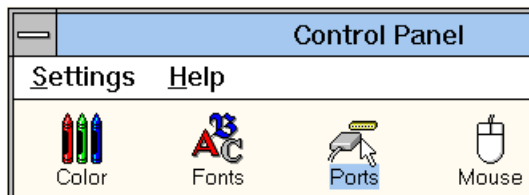
Go to “Installing RapidComm Voice with the Setup Wizard” on page 25.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

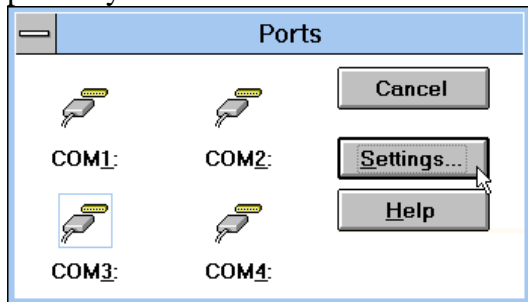
15. Double-click on the *Control Panel* icon.



16. Double-click on the *Ports* icon.

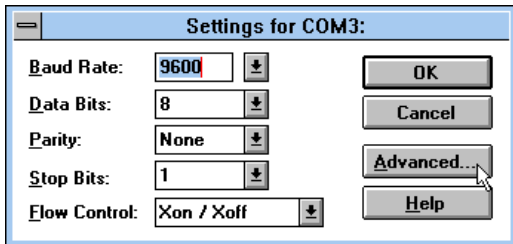


17. If it's not already selected, select the COM port for your modem.



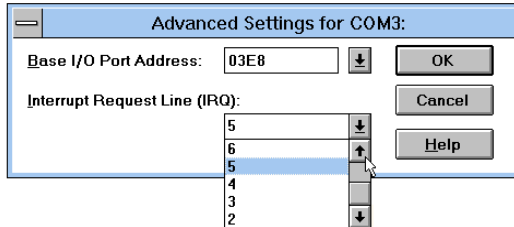
Click on the Settings button.

18. Click on the Advanced button.

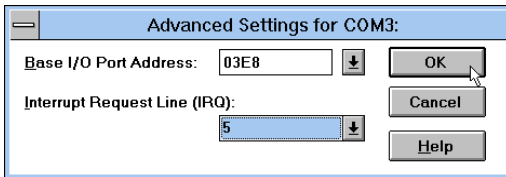


PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

19. Scroll to select the IRQ you set your modem for.



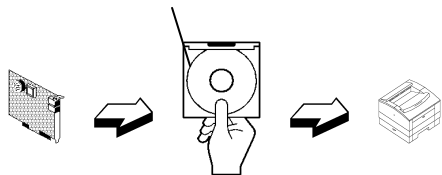
20. Click the *OK* button.



You will see a brief series of screens after the preceding screen. Click on each screen's *OK* button until you see a screen with a *Close* button. Click on the *Close* button to exit *Program Manager*.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

THIS NEXT SECTION WALKS YOU THROUGH THE STEPS INVOLVED IN INSTALLING THE FAX/DATA/VOICE SOFTWARE FROM THE CONNECTIONS CD ONTO YOUR COMPUTER.



HARDWARE

SOFTWARE

TESTING

Installing RapidComm Voice with the Setup Wizard

This section will walk you through the basics of running the U.S. Robotics Setup Wizard, which installs RapidComm Voice (fax/data/voice software) and other useful software programs. It also helps you register your new Sportster modem.

RapidComm Voice simplifies sending and receiving faxes directly from your computer desktop. You can send faxes to specified groups of numbers after building your own fax directory, specify individual cover pages when necessary, and send individual faxes without exiting your word processing program.

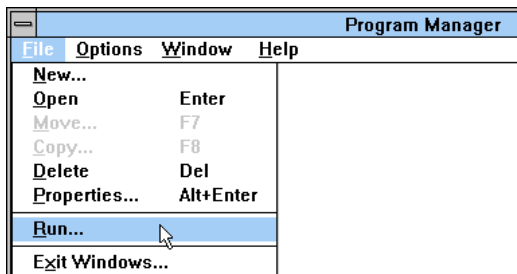
Additionally, RapidComm Voice works to turn your desktop into a powerful voice message center with multiple mailboxes.



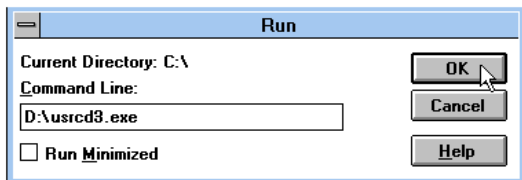
NOTE: If you have an older version of RapidComm or RapidComm Voice installed on your system, uninstall it before continuing.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

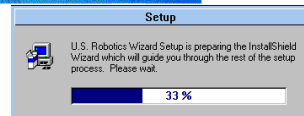
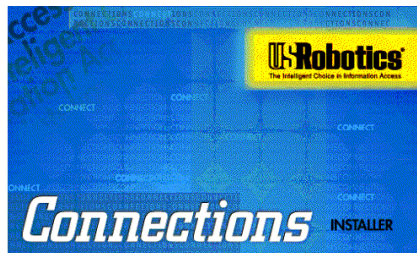
1. In Program Manager, click on the *File* menu and select *Run*.



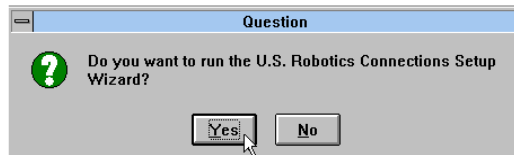
2. In the text box, type **D:\usrcd3.exe** (If your CD-ROM drive has a letter name other than **D**, type that letter in place of **D**.) Then click the *OK* button.



3. You will see a screen that looks like this.



4. After you read this screen, click on the *Yes* button.



PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

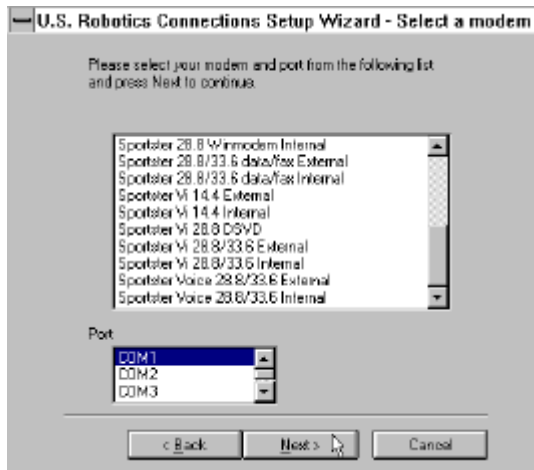
5. After reading the following screen, click on the *Next* button.



6. You will see this screen for a moment.



7. When you see this screen, select the correct modem, verify that the port setting is correct, and then click on the *Next* button.



PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

8. When you see the following two screens, fill in the blank boxes with the appropriate information, using the *Tab* key to move between fields. Click on each screen's *Next* button when you have filled in all of the necessary information.

U.S. Robotics Connections Setup Wizard - Local Demographics

Please enter the following information.

First Name Middle Initial

Last Name

Organization

Department

Street Address

City State

Zip Country

Phone Number Extension

Fax Number

Email address

< Back Next > Cancel

U.S. Robotics Connections Setup Wizard - Local Demographics

Please enter your address and phone number.

What kind of modem did you buy?

Date of purchase [MM/DD/YY]

Where did you buy your modem?

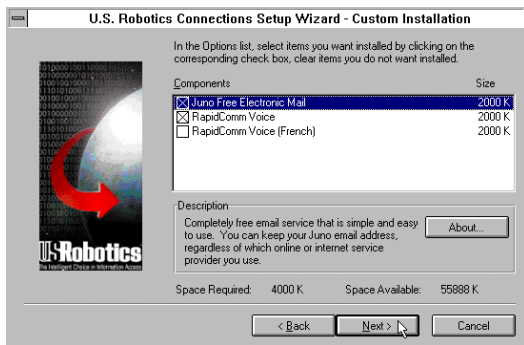
Product Serial Number

You can find your serial number on the white sticker on the modem and on the outside of the box.

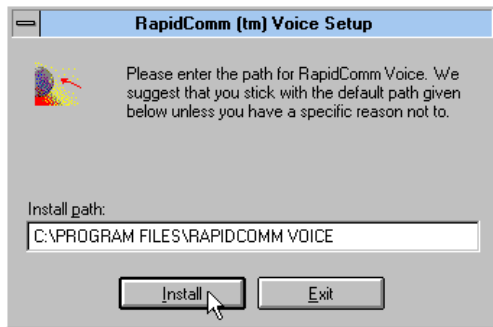
< Back Next > Cancel

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

9. In the following screen, un-check any software you do not want by clicking on the name of the software. An “x” in the box to the left of each application indicates that software will be installed. We recommend that you install all of the software listed. (NOTE: Make sure you select the correct translation of RapidComm Voice.) Then click on the *Next* button.

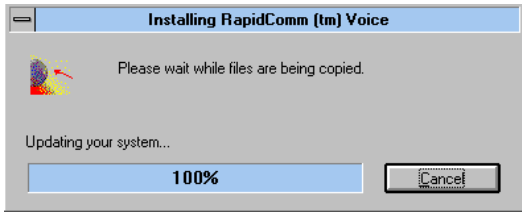


10. As the CD installs the software on your system, you will see a series of screens that guide you through the installation. Please follow the on-screen directions.
11. This is the first screen of the RapidComm Voice Setup program. The RapidComm Voice files will be saved to the location listed in the dialog box. If you wish to save the files to another location, enter the path in place of the path listed in the dialog box. Then click on *Install*.



PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

12. You will see this screen for a moment as the Setup Wizard installs the RapidComm Voice files.



13. After you read this screen, click on either the *Yes* or *No* button.

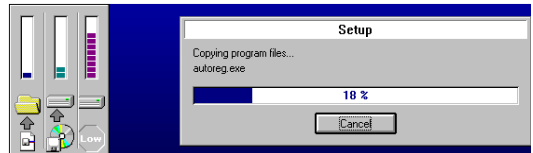


- If you click on the *Yes* button, every document you print will be treated as a fax unless you change the printer

selection in the program from which you're trying to print.

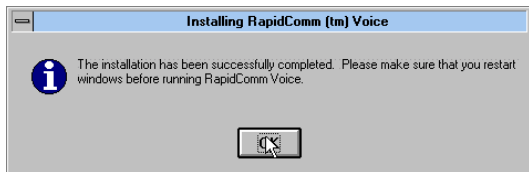
- If you click on the *No* button, RapidComm Voice will not be chosen as the default printer. When you want to send a fax, you will have to select RapidComm Voice as the printer in the program from which you're trying to print.

14. You will see this screen for a moment.



15. After you read this screen, click on the *OK* button.

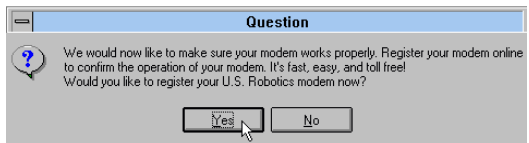
PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X



16. After you read this screen, click on the *OK* button.

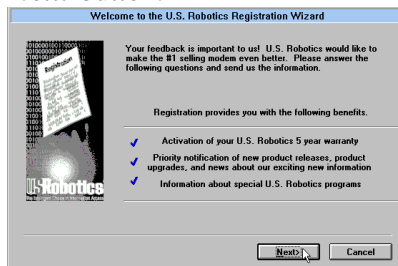


17. When you see this screen, we recommend you click on the *Yes* button.



NOTE: If you click on “No,” the registration screens will appear upon your next restart.

18. After you read the following three screens and verify that the information you typed earlier is correct, click on each screen’s *Next* button.



PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

User Information

Please verify the following information.

First Name: John Middle Initial: Q
Last Name: Public
Organization: ACME Products
Department: Advertising or marketing
Street Address: 1234 Pleasant Drive
City: Springfield State: IL
Zip: 60123 Country: United States
Phone Number: (123) 456-7890 Extension: 123
Fax Number: (123) 987-6543
E-mail address: public@acme.com

<Back Next > Cancel

Product Information

Please fill out the following information about your product.

What kind of modem did you buy?
Snootie Voice SIX Internal
Date of Purchase: 01/01/97
Where did you buy your modem?
Bob's Compu-Mart
Product Serial Number: 1234567890123456
You can find the serial number on the white sticker on the modem and on the outside of the box.
 Check here if you would like information on product upgrades from time to time to be sent to you.

<Back Next > Cancel

19. When you see this screen, *By Modem* will already be selected. We recommend you choose the *By Modem* option because it's a great way to try out your Sportster. Choose *By Modem* by clicking on the *OK* button.

You are now ready to register your U.S. Robotics modem

To take advantage of U.S. Robotics' registration program, you may send this information to us by modem, fax, mail, or e-mail.

Please choose one of the following registration methods. For more information, select one method and click on the details box.

By Modem
 By Fax
 By Mail
 By E-mail

Details...

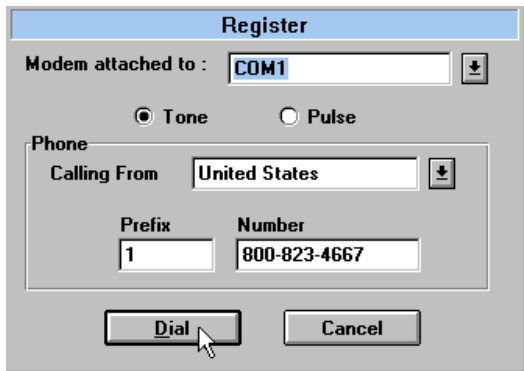
<Back Ok > Cancel

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

20. After you read this screen, we recommend you click on the *Yes* button.



21. When you see this screen

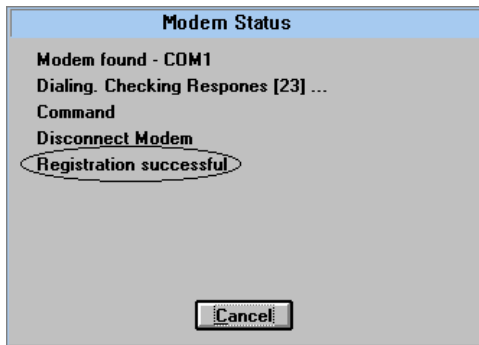


- If you have to dial a prefix (such as 9) to make a call outside your building, type

the prefix before the 1 in the Prefix box and then click on the *Dial* button.

- If you do NOT have to dial a prefix, simply click on the *Dial* button.

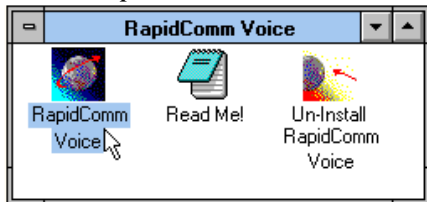
22. Finally, you will see a screen indicating that the registration information has been sent (see circled text in the screen below).



23. Restart Windows.

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

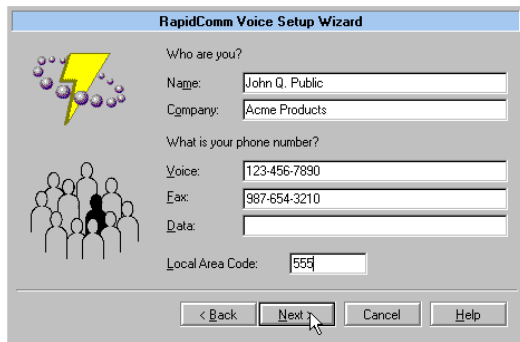
24. When your desktop appears, double-click on the *RapidComm Voice* icon.



25. The following screen is the first in the RapidComm Voice Setup Wizard. After you read this screen, click on the *Next* button.



When you see this screen, you should only have to verify that the information shown is correct and then fill in the *Data* box (if you have a third phone number for your modem) and the *Local Area Code* box. Then click on the *Next* button.



PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

27. After you verify the information on this screen, click on the *Next* button.



28. When you see this screen...



Check the COM port your modem is connected to.

- If you know your modem is on COM 2 (which is selected by default), click on the *Next* button. Then go to step 29.
- If you know your modem is connected to another COM port, select that port

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

on screen and then click on the *Next* button. Then go to step 29.

- If you're not sure which port your modem is on, click on the *Auto Detect* button. The Auto Detect program will search your system to see which COM port your modem is attached to. You'll see a screen like this.



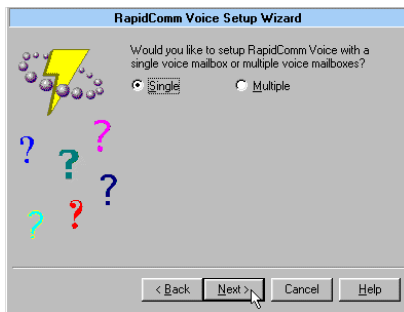
Click on the *Next* button. Then go to step 29.

- If you get this screen instead



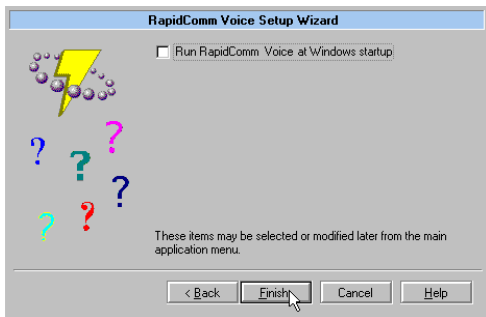
Go to the "Troubleshooting and Online Help Resources" section.

29. When you see the following screen, select single or multiple mailboxes for your personal voice mail system. Then click on *Next*.



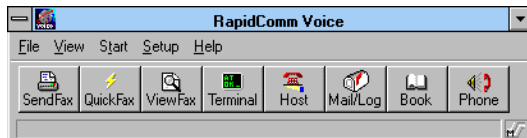
PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

30. When you see this screen



- If you want RapidComm Voice to start up every time you start Windows, select the box to the left of *Run RapidComm Voice at Windows startup*. Then click on the *Finish* button.
- If you do not want RapidComm Voice to start up every time you start Windows, simply click on the *Finish* button.

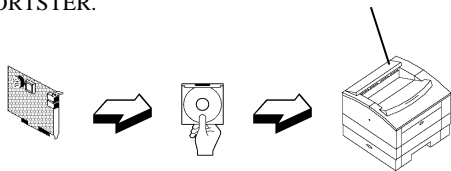
31. After a moment, you will see this screen.



This is the main RapidComm Voice screen. For sending your first fax, keep this screen open. (After this initial run, RapidComm Voice will not need to be running in order to send a fax.)

PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

THIS SECTION WALKS YOU THROUGH TESTING THE MODEM AND THE FAX/DATA/VOICE SOFTWARE WHILE SENDING YOUR FIRST FAX WITH YOUR NEW SPORTSTER.



HARDWARE

SOFTWARE

TESTING

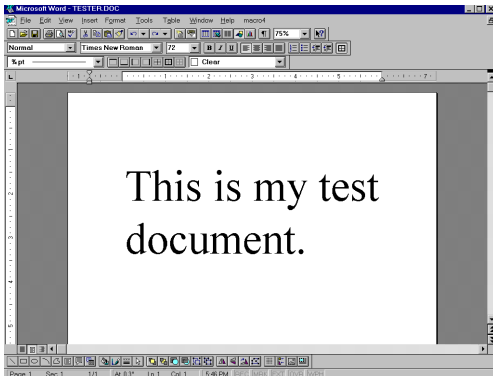
functions are explained in the electronic RapidComm Voice manual on your *Connections* CD.) This chapter will walk you through sending your first fax.

1. Open an application in which you can create documents that you might want to fax (e.g. a word processing application). Create a document containing only a sentence or two. Name the document "tester". Keep the document open.

Sending Your First Fax

Using RapidComm Voice, you can send and receive faxes directly from your computer and eliminate the need for an expensive fax machine. Once you learn the basics of sending faxes, you can learn more involved fax functions (such as sending documents to groups of numbers at assigned times) and how to transfer data files. (These more advanced

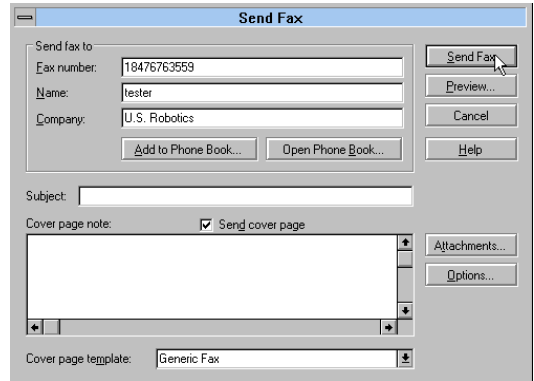
PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X



2. From the File menu, select Print.
3. If it's not already selected as the printer driver, select *RapidComm Voice* as the printer. This can be changed in the Control Panel or in the print dialog box of most Windows applications.
4. Click on the *OK* button or the *Print* button (the button you click in that application to

indicate you're ready to print) in the Print dialog box.

5. When you see this screen, fill in the information shown in the text boxes in the following screen. The U.S. Robotics fax number is 847-676-3559. This will send your "tester" document to a U.S. Robotics fax machine.

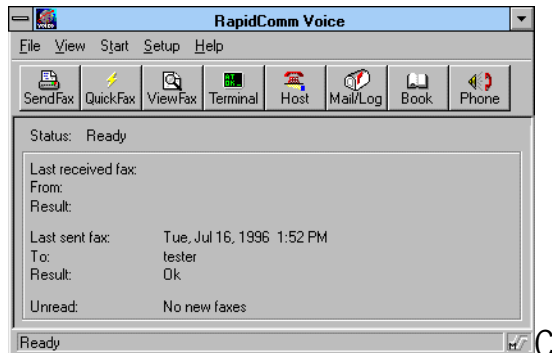


PART I: SECTION A: INTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

NOTE: If you have to dial a special prefix (such as 9) to connect to a telephone number outside of your building, make sure you type that prefix in before the telephone number.

When you've finished, click on the *Send Fax* button.

6. You will see a series of screens as the fax is being transmitted. When the fax has been successfully transmitted, you will see a screen that looks like this.



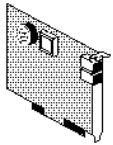
Congratulations —you are ready to start using your Sportster!

You can now go to the “Troubleshooting and Online Help Resources” section of this guide for information on how to contact U.S. Robotics using your Sportster.

You can also go to the electronic RapidComm Voice manual on your *Connections* CD for more detailed instructions on sending faxes and other things you can do with your Sportster and RapidComm Voice.

SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

You'll need these items from your Sportster box:



modem



phone cord



Connections CD



manual



microphone

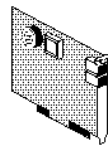
Plus:



a screwdriver (not included)

40

THIS FIRST SECTION WILL WALK YOU THROUGH THE STEPS INVOLVED IN CONNECTING YOUR SPORTSTER TO YOUR COMPUTER.



HARDWARE



SOFTWARE



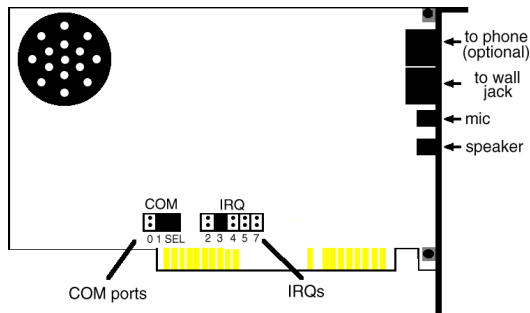
TESTING

Plug and Play Installation

With Windows 95, you should be able to simply plug your new modem into your computer, power up, and be ready to work. The operating system does all the work of recognizing the modem for you. This section will walk you through this “Plug and Play” installation.

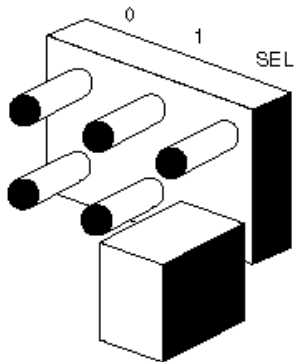
How to Prepare for Plug and Play Installation

1. Touch an unpainted metal part of your computer (the back is usually unpainted) to discharge static electricity. Static can damage your modem.
2. Take the modem out of its plastic bag.
3. Find the COM port and IRQ shunts (small black plastic pieces) on your modem. They should be in roughly the area indicated in the illustration at the right.



4. When doing a “Plug and Play” installation, you need to take all the shunts off of the COM and IRQ jumpers. Remove them, and then replace them so each is sitting on one jumper pin as shown in the illustration on the next page.

PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95



4. Once you have placed all the shunts on single jumper pins, you should be ready to insert the modem into your computer.

How to Insert the Modem



TIP: Grasp the shunts with a tweezers or a needle-nosed pliers. DO NOT grasp too firmly, as you may crush the shunts. If a shunt seems stuck, try gently rocking it back and forth as you lift. Do not touch any other part of your computer with the tweezers/pliers.



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

PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

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



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



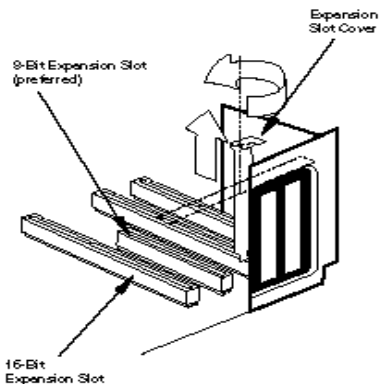
CAUTION : To avoid risk of electric shock, make sure your computer and all peripheral devices are turned off and unplugged.

3. Remove the screws from your computer's cover and then remove the cover, as shown in the following diagrams. Your computer may differ in appearance from these diagrams, but the basic principle for removing the cover should be the same. Refer to your computer manufacturer's manual if you need further instructions.

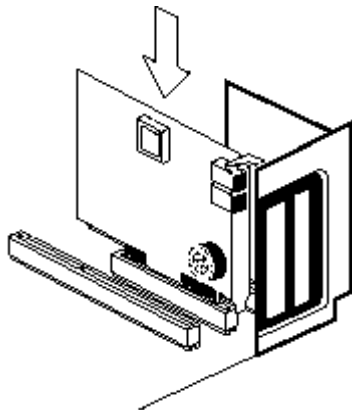


PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

4. Find an empty ISA expansion slot that's at least as long as the gold edge of your modem. (ISA slots are black plastic grooves lined with silver.) Unscrew and remove the expansion slot cover (the long narrow piece of metal that keeps dust from entering through the opening perpendicular to the slot). Be careful not to drop the screw into the computer.



5. Holding the modem at each corner, with the gold edge facing the slot, push the modem down as gently as possible until it snaps into an expansion slot. (Note: The drawing shows horizontally aligned expansion slots. Some computers have vertically aligned slots. The instructions apply to both styles.)

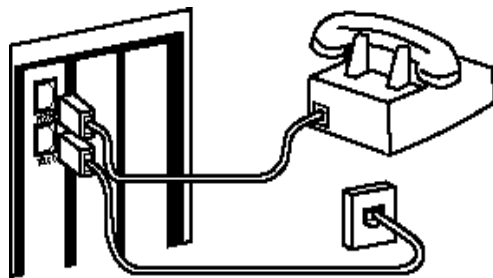


PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

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

6. Once the modem is in place, screw the modem firmly into place using the screw that you removed in step 4.
7. Put the computer's cover back on and fasten it with the screws.
8. If you currently have a phone plugged into the wall jack you're going to use for the modem, disconnect the phone's cable from the jack.
9. Plug one end of the phone cable that came with the modem into the TELCO jack at

the rear of the modem. Plug the other end of the cable into the wall jack. (If you want to use a telephone on the same line as the modem, plug the telephone's cable into the modem's PHONE jack.)



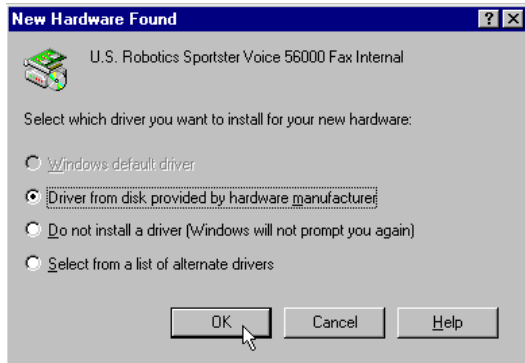


WARNING : The phone jack you use must be for an ANALOG phone line. Most office phones are wired through digital lines. Be sure you know what type of line you have. The modem will be damaged if you use a digital phone line.

10. Plug the microphone into the MIC jack on the modem. Place the microphone where it will pick up your voice.
11. Plug the power cords, cables, and peripherals back into the computer and turn the computer on.

How to Move Through the “New Hardware Found ” Screens

1. When Windows restarts, after about a minute you will see this screen pop up automatically.

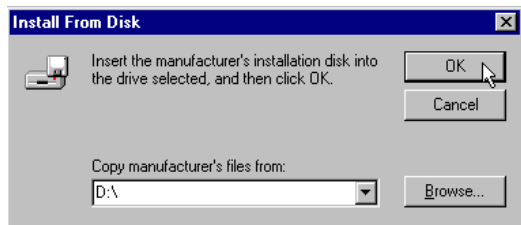


If the *Driver from disk...* option is not already selected, select it.

Click on the *OK* button.

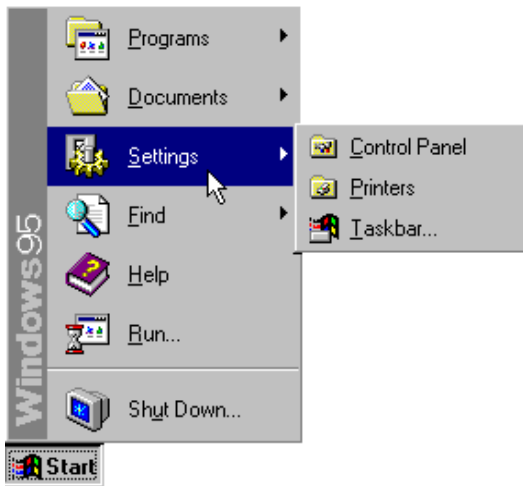
PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

2. Insert the *Connections* CD into your CD-ROM drive.
3. When you see this screen, type in **D:** to replace the **A:**. (Note: If your CD-ROM drive has a different letter name, type that letter instead of **D**.)



Click on the *OK* button. Windows will install the drivers for your new modem.

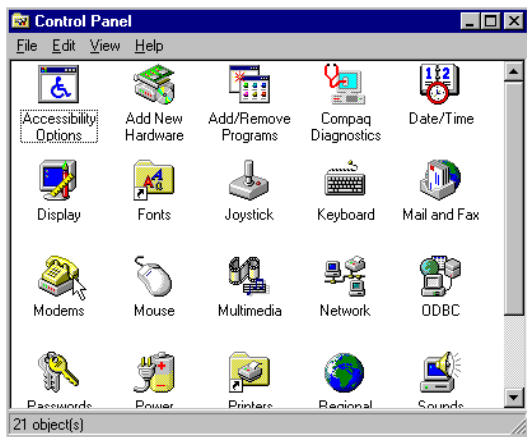
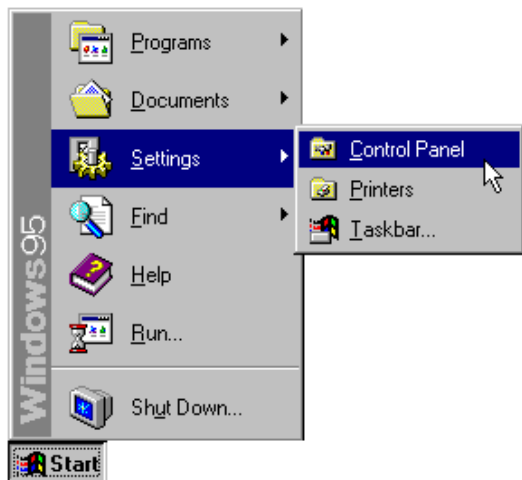
4. Now you can verify that the install was a success. When your desktop returns, click on the *Start* button and scroll up to *Settings*.



PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

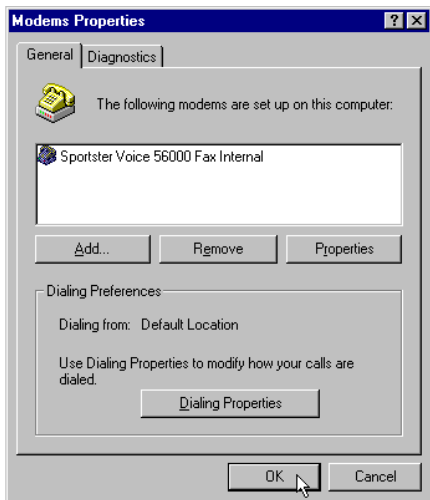
5. Scroll over to select *Control Panel*.

6. Double-click on the *Modems* icon.



PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

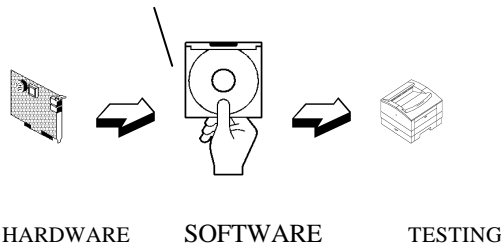
7. In the *Modems Properties* screen, you should see *Sportster Voice 56000 Fax Internal* listed. This indicates that your new Sportster is installed correctly.



Click on the *OK* button.

Now you are ready to install the software for your modem.

THIS NEXT SECTION WALKS YOU THROUGH THE STEPS INVOLVED IN INSTALLING THE FAX/DATA/VOICE SOFTWARE FROM THE CONNECTIONS CD ONTO YOUR COMPUTER.




Installing RapidComm Voice with the Setup Wizard

This section will walk you through the basics of running the U.S. Robotics Setup Wizard, which installs RapidComm Voice (fax/data/voice software) and other useful software programs. It also helps you register your new Sportster modem.

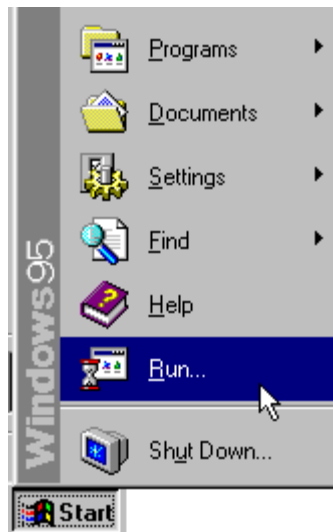
PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

RapidComm Voice simplifies sending and receiving faxes directly from your computer desktop. You can send faxes to specified groups of numbers after building your own fax directory, specify individual cover pages when necessary, and send individual faxes without exiting your word processing program.

Additionally, RapidComm Voice works to turn your desktop into a powerful voice message center with multiple mailboxes.

 **NOTE:** If you have an older version of RapidComm or RapidComm Voice installed on your system, uninstall it before continuing.

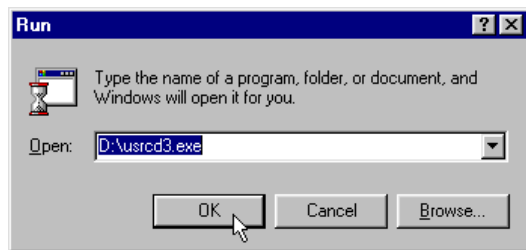
1. From the Windows 95 desktop, click on the *Start* button and then *Run*.



PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

2. In the box, type **D:\usrcd3.exe**

(If your CD-ROM drive has a letter name other than **D**, type that letter in place of **D**.)



3. You will see a screen that looks like this.

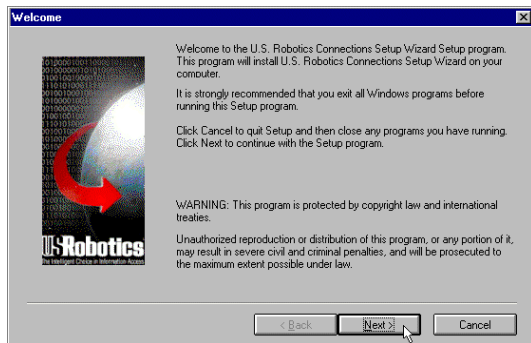


4. After you read this screen, click on the *Yes* button.



PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

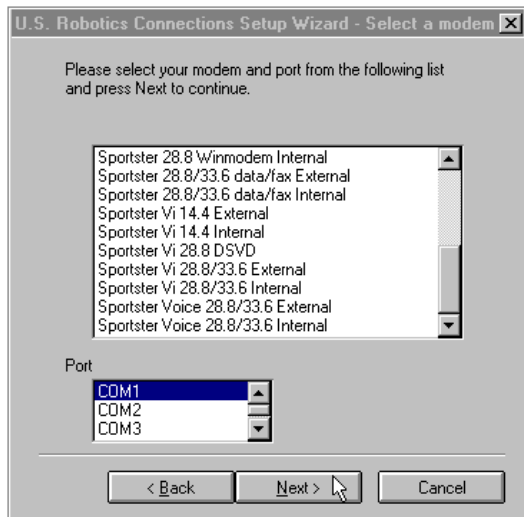
5. After you read this screen, click on the *Next* button.



6. You will see this screen for a moment.



7. When you see this screen, select the correct modem, verify that the port setting is correct, and then click on the *Next* button.



PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

8. When you see the next two screens, fill in the blank boxes with the appropriate information, using the *Tab* key to move between fields. Click on each screen's *Next* button when you have filled in all of the necessary information.

U.S. Robotics Connections Setup Wizard - Local Demographics

Please enter the following information:

First Name: John Middle Initial: A
Last Name: Public
Organization: ACME Products
Department: Advertising or marketing
Street Address: 1234 Pleasant Drive
City: Springfield State: IL
Zip: 60123 County: United States
Phone Number: 1234567890 Extension: 123
Fax Number: 123-860-4543
Email address: public@acme.com

< Back Next > Cancel

U.S. Robotics Connections Setup Wizard

Please enter your address and phone number.

What kind of modem did you buy?
[Dropdown menu]

Date of purchase (MM/DD/YY) [01] [01] [96]

Where did you buy your modem?
Bob's Compu-Mart

Product Serial Number
1234567890123456

You can find your serial number on the white sticker on the modem and on the outside of the box.

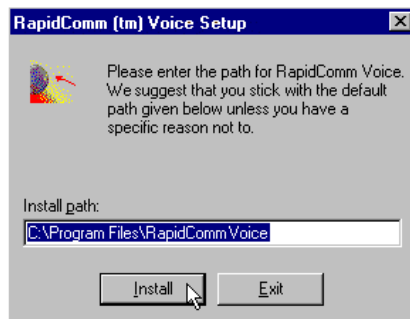
< Back Next > Cancel

PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

9. In the following screen, un-check any software you do not want by clicking on the name of the software. An “x” in the box to the left of each application indicates that the software will be installed. We recommend that you install all of the software listed. (NOTE: Make sure you select the correct translation of RapidComm Voice.) Then click on the *Next* button.

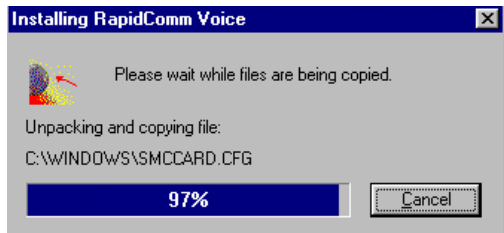


10. As the CD installs the software on your system, you will see a series of screens guiding you through the installation. Please follow the on-screen directions.
11. This is the first screen of the RapidComm Voice Setup program. The RapidComm Voice files will be saved to the location listed in the dialog box. If you wish to save the files to another location, enter the path in place of the path listed in the dialog box. Then click on *Install*.

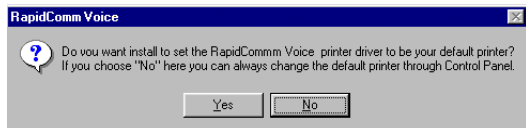


PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

12. You will see this screen for a moment as the Setup Wizard installs the RapidComm Voice files.



13. When you see this screen, click on either the *Yes* or *No* button.

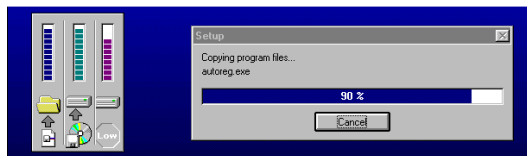


- If you click on the *Yes* button, every document you print will be treated as a fax unless you change the printer

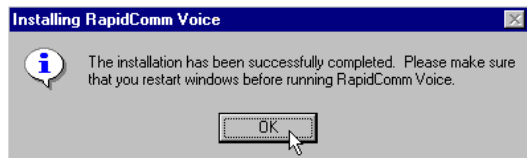
selection in the program from which you are printing.

- If you click on the *No* button, RapidComm Voice will not be selected as the default printer. When you want to send a fax, you must select RapidComm Voice as the printer in the program from which you are printing.

14. You will see this screen for a moment.

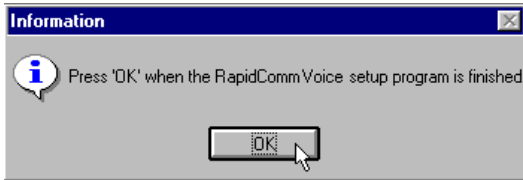


15. After you read this screen, click on the *OK* button.

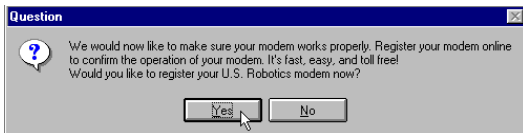


PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

16. After you read this screen, click on the *OK* button.

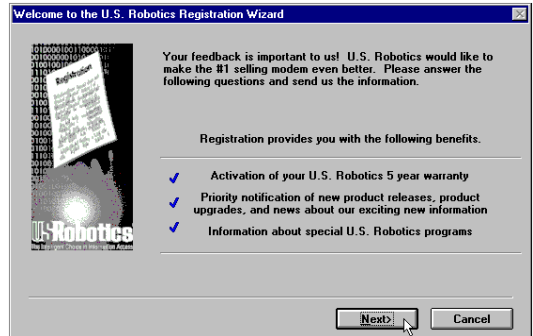


17. After you read this screen, we recommend you click on the *Yes* button.

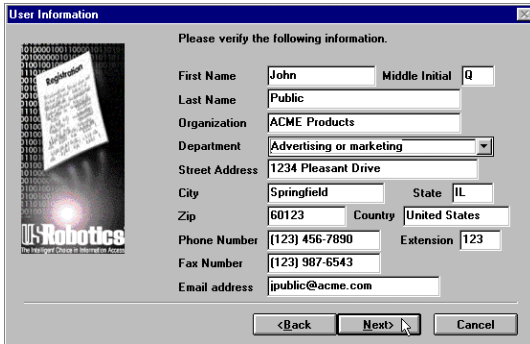


NOTE: If you click on “No,” the registration screens will appear upon your next restart.

18. After you read the following three screens and verify that the information you typed earlier is correct, click on each screen’s *Next* button.



PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

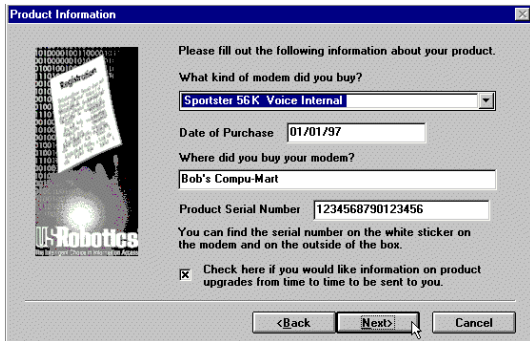


User Information

Please verify the following information.

First Name: John Middle Initial: Q
Last Name: Public
Organization: ACME Products
Department: Advertising or marketing
Street Address: 1234 Pleasant Drive
City: Springfield State: IL
Zip: 60123 Country: United States
Phone Number: (123) 456-7890 Extension: 123
Fax Number: (123) 987-6543
Email address: jpublic@acme.com

<Back Next> Cancel



Product Information

Please fill out the following information about your product.

What kind of modem did you buy?
Sportster 56K Voice Internal

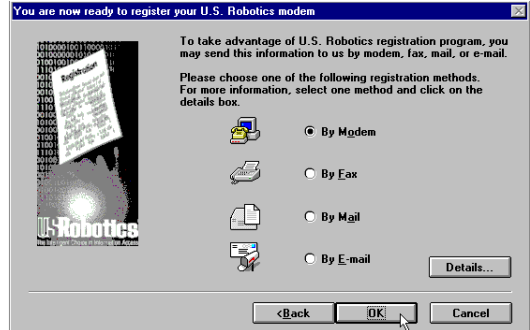
Date of Purchase: 01/01/97
Where did you buy your modem?
Bob's Compu-Mart
Product Serial Number: 1234568790123456

You can find the serial number on the white sticker on the modem and on the outside of the box.

Check here if you would like information on product upgrades from time to time to be sent to you.

<Back Next> Cancel

- When you see this screen, you are ready to register your new Sportster. *By Modem* will already be selected. We recommend you choose the *By Modem* option because it's a great way to try out your Sportster. Choose *By Modem* by clicking on the *OK* button.



You are now ready to register your U.S. Robotics modem

To take advantage of U.S. Robotics registration program, you may send this information to us by modem, fax, mail, or e-mail.

Please choose one of the following registration methods. For more information, select one method and click on the details box.

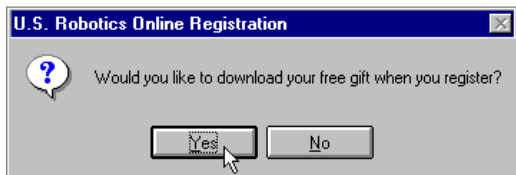
By Modem
 By Fax
 By Mail
 By E-mail

Details...

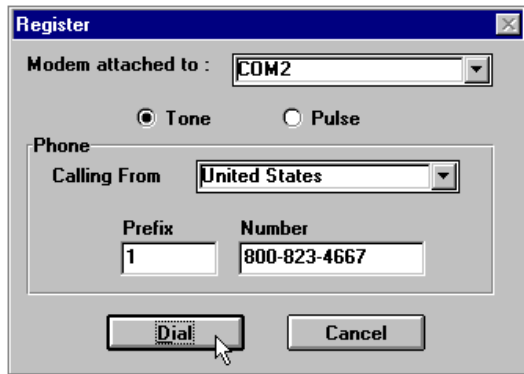
<Back OK Cancel

PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

20. After you read this screen, we recommend you click on the *Yes* button.

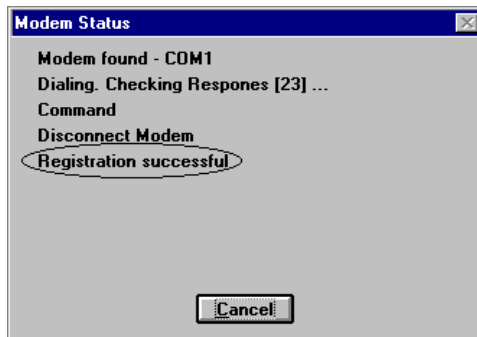


21. When you see this screen...



- If you have to dial a prefix (such as 9) to make a call outside your building, type the prefix before the 1 in the *Prefix* box and then click on the *Dial* button.
- If you do NOT have to dial a prefix, simply click on the *Dial* button.

22. Finally, you will see a screen indicating that the registration information has been sent (see circled text in the screen below).

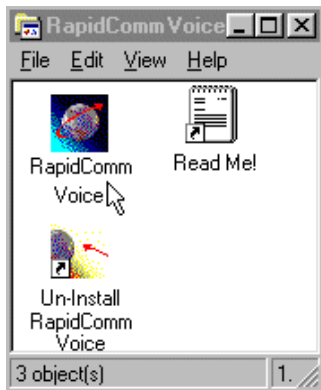


23. Restart Windows.

PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95



24. When you desktop appears, double-click on the *RapidComm Voice* icon.



25. The following screen is the first screen of the RapidComm Voice Setup Wizard. After you read the screen, click on the *Next* button.



PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

26. When you see this screen, you should only have to verify the information shown, and then fill in the *Data* box (if you have a third phone number just for your modem) and the *Local Area Code* box. Then click on the *Next* button.

RapidComm Voice Setup Wizard

Who are you?

Name:

Company:

What is your phone number?

Voice:

Fax:

Data:

Local Area Code:

< Back Next > Cancel Help

27. After you verify the information on this screen, click on the *Next* button.

RapidComm Voice Setup Wizard

The following information is needed for sending faxes, creating cover pages, and placing calls...

Address 1:

Address 2:

City:

State:

Country:

Zip/Post Code:

E-Mail Address:

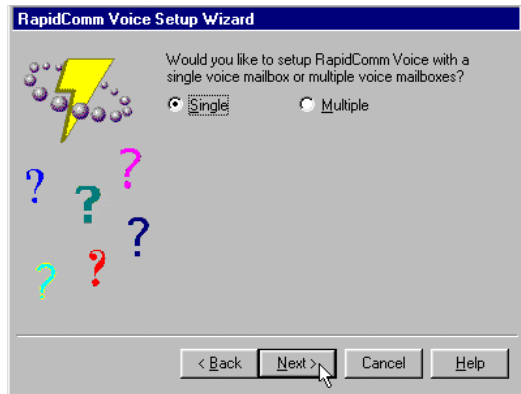
< Back Next > Cancel Help

PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

28. When you see the following screen, make sure the correct modem is selected. Then click on the *Next* button.

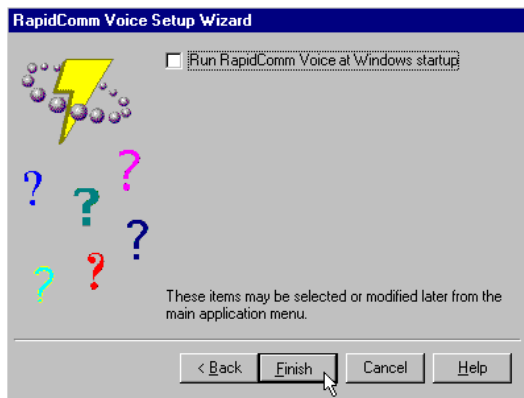


29. When you see the following screen, select single or multiple mailboxes for your personal voice mail system.



PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

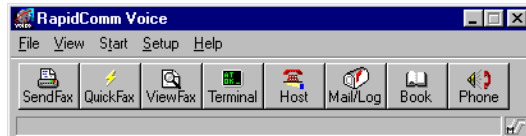
30. When you see this screen...



- If you want RapidComm Voice to launch with every Windows startup, click on the box to the left of *Run RapidComm Voice at Windows startup*. A check will appear in the box. Then click on the *Finish* button.

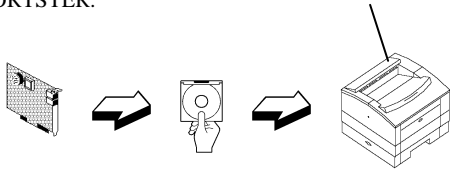
- If you do not want RapidComm Voice to start every time you start Windows, simply click on the *Finish* button.

31. You will see this screen.



This is the main RapidComm Voice screen. To send your first fax, keep this screen open. (After this initial run, RapidComm Voice will not need to be running in order to send a fax.)

THIS SECTION WALKS YOU THROUGH TESTING THE MODEM AND THE FAX/DATA/VOICE SOFTWARE WHILE SENDING YOUR FIRST FAX WITH YOUR NEW SPORTSTER.



HARDWARE

SOFTWARE

TESTING

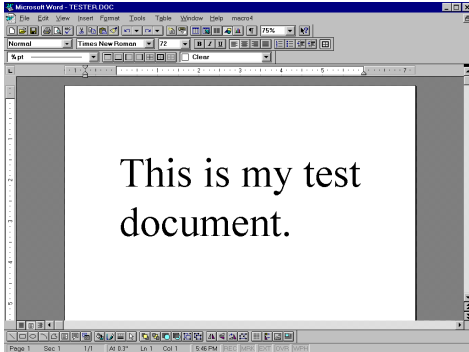
functions are explained in the electronic RapidComm Voice manual that's on your *Connections* CD.) This chapter will walk you through sending your first fax.

1. Open an application in which you can create documents that you might want to fax (e.g. a word processing application). Create a document containing only a sentence or two. Name the document "tester". Keep the document open.

Sending Your First Fax

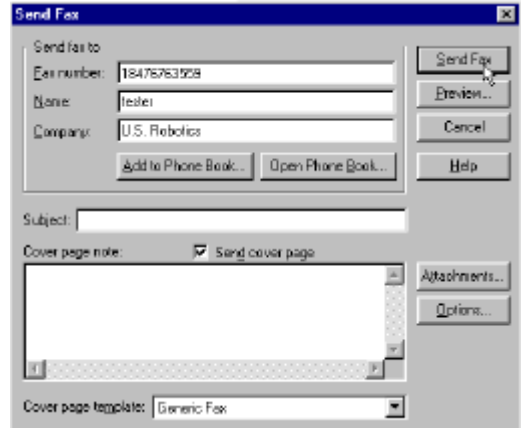
Using RapidComm Voice, you can send and receive faxes directly from your computer and eliminate the need for an expensive fax machine. Once you learn the basics of sending faxes, you can learn more involved fax functions (such as sending documents to groups of numbers at assigned times) and how to transfer data files. (These more advanced

PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95



2. From the *File* menu, select *Print*.
3. If it's not already selected as the printer, select *RapidComm Voice*. This can be changed in most Windows applications in the print dialog box.
4. Click the *OK* button or the *Print* button (whichever button you click in that application to indicate you're ready to print) in the print dialog box.

5. When you see this screen, fill in the information shown in below in the white boxes. For testing purposes, send your “tester” document to the U.S. Robotics fax number, 847-676-3559.



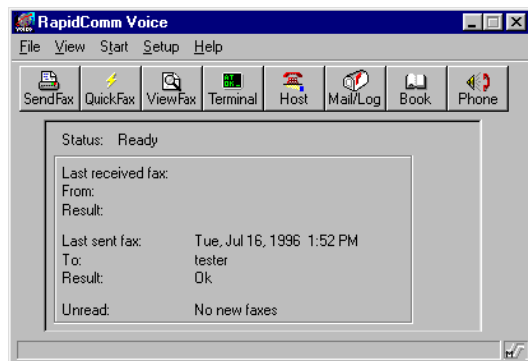
NOTE: If you have to dial a special prefix (such as 9) to connect to a telephone number outside of your building, make sure

PART I: SECTION B: INTERNAL MODEM INSTALLATION WITH WINDOWS 95

you type that prefix in before the telephone number.

When you've finished, click on the Send Fax button.

- You will see a series of screens as the fax is being transmitted. When the fax has been successfully transmitted, you will see a screen that looks like this.



Congratulations —you are now ready to start using your Sportster!

You can now go to the “Troubleshooting and Online Help Resources” section in this guide for information on how to contact U.S. Robotics using your Sportster.

Go to electronic RapidComm Voice manual on your *Connections* CD for more detailed instructions on sending faxes and other things you can do with your Sportster and RapidComm Voice.

PART II - EXTERNAL MODEM INSTALLATION

This part of the manual covers the installation of your external Sportster and the accompanying fax/data/voice software. The instructions are provided for both Windows 3.1/ 3.11 (hereafter jointly referred to as Windows 3.x) and Windows 95 users. Please refer to the section dealing with the operating system you use. The two sections are:

**Section A: External Installation with
Windows 3.x** (page 69)

**Section B: External Installation with
Windows 95** (page 89)

SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

You'll need these items from your Sportster box:



modem



phone

cord



Connections CD



manual

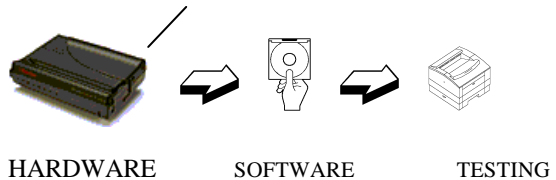


power adapter

Plus:

A serial cable. (This must be purchased separately. See column to the right.)

THIS FIRST SECTION WILL WALK YOU THROUGH THE STEPS INVOLVED IN CONNECTING YOUR SPORTSTER TO YOUR COMPUTER.

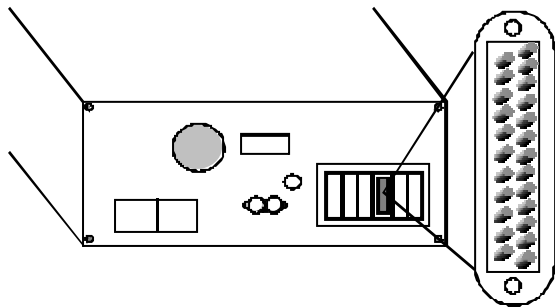


How to Determine Which Serial Cable to Buy

Before you can begin installation, you need to purchase an RS-232 serial cable. The following section will help you to determine which serial cable to purchase.

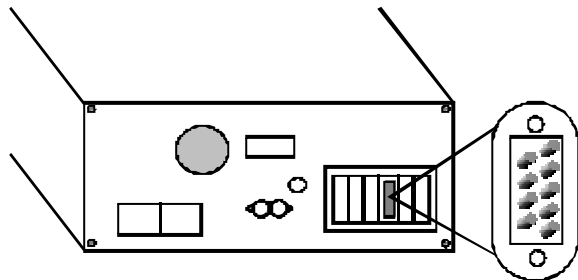
PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

If your PC's serial connector looks like this



you need a shielded serial cable with a 25-pin female to 25-pin male connector.

If your PC's serial connector looks like this



you need a shielded serial cable with a 9-pin female to 25-pin male connector.



NOTE: Your computer's rear panel may not be identical to the diagrams above. However, you should look for connectors that match the enlarged portions of the diagrams. If you cannot locate the proper connector, refer to your computer's manual.

How to Hook Up the Modem

1. Turn off your computer and any attached devices, such as a printer.
2. Connect the serial cable to the modem and to the computer. When looking for the serial port label on the back of your computer, look for ports labeled COM, MODEM, RS-232, or SERIAL. **DO NOT** select AUX, GAME, LPT, or PARALLEL.



NOTE: Remember which serial port you selected. This information will be necessary when installing your communications software.

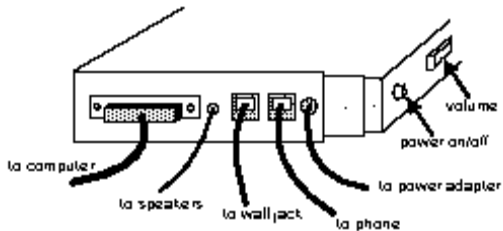
3. Plug the power adapter into the power jack on the modem and into a standard wall outlet.
4. Plug one end of the phone cord into the telephone jack (labeled with a wall plug icon on the bottom of the case) and the other end into a phone wall jack.



WARNING : The phone jack you use must be for an ANALOG phone line. Most office phones are wired through digital lines. Be sure you know what type of line you have. The modem will be damaged if you use a digital phone line.

PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

- If you wish to use your modem and phone through the same phone wall jack, plug your phone's cord into the modem's phone jack (labeled with a phone icon on the bottom of the case). Use an adapter cable if necessary. (NOTE: You cannot use the modem and phone at the same time if they are sharing a line.)



- Turn your modem on.
- Turn your computer on.
- Start Windows.

THIS NEXT SECTION WALKS YOU THROUGH THE STEPS INVOLVED IN INSTALLING THE FAX/DATA/VOICE SOFTWARE FROM THE CONNECTIONS CD ONTO YOUR COMPUTER.

HARDWARE SOFTWARE TESTING

The diagram illustrates the installation process in three stages. Stage 1, 'HARDWARE', shows a modem. Stage 2, 'SOFTWARE', shows a hand inserting a CD-ROM into a drive. Stage 3, 'TESTING', shows a stack of papers. Arrows indicate the flow from hardware to software to testing.


Installing RapidComm Voice with the Setup Wizard

This section will walk you through the basics of running the U.S. Robotics Setup Wizard, which installs RapidComm Voice (fax/data/voice software) and other useful software programs. It also helps you register your new Sportster modem.

PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

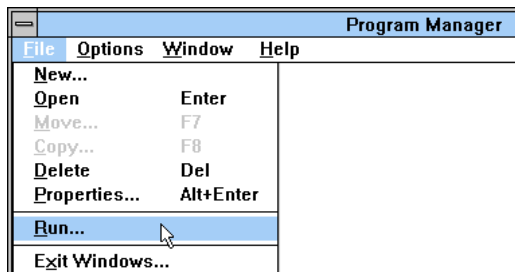
RapidComm Voice simplifies sending and receiving faxes directly from your computer desktop. You can send faxes to specified groups of numbers after building your own fax directory, specify individual cover pages when necessary, and send individual faxes without exiting your word processing program.

Additionally, RapidComm Voice works to turn your desktop into a powerful voice message center with multiple mailboxes.

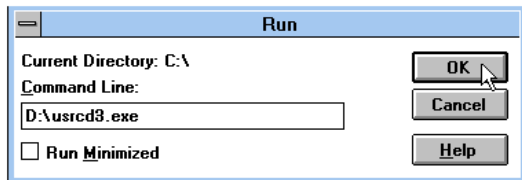


NOTE: If you have an older version of RapidComm or RapidComm Voice installed on your system, uninstall it before continuing.

1. In Program Manager, click on the *File* menu and select *Run*.

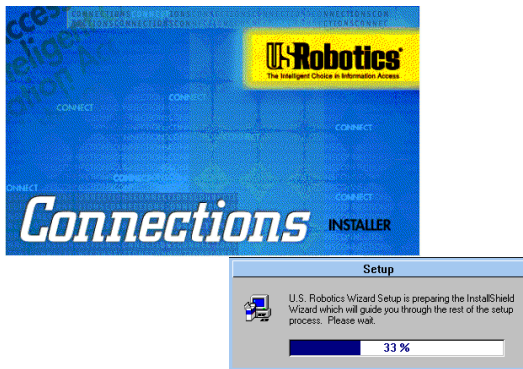


2. In the text box, type **D:\usrcd3.exe** (If your CD-ROM drive has a letter name other than **D**, type that letter in place of **D**.) Then click the *OK* button.

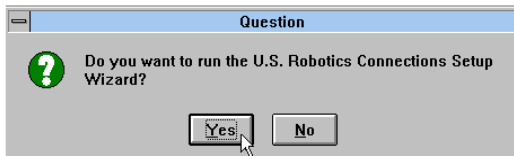


PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

3. You will see a screen that looks like this.



4. After you read this screen, click on the *Yes* button.



5. After reading the following screen, click on the *Next* button.

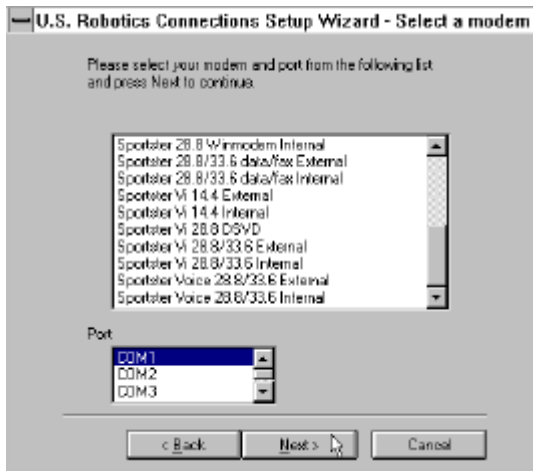


6. You will see this screen for a moment.

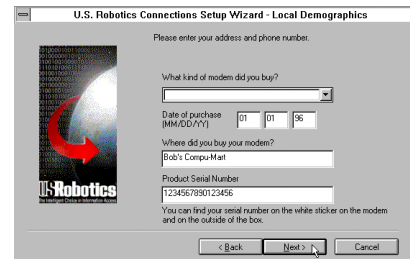
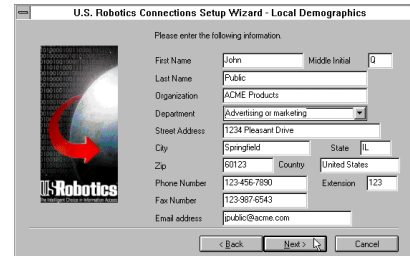


PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

- When you see this screen, select the correct modem, verify that the port setting is correct, and then click on the *Next* button.



- When you see the following two screens, fill in the blank boxes with the appropriate information, using the *Tab* key to move between fields. Click on each screen's *Next* button when you have filled in all of the necessary information.



PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

9. In the following screen, un-check any software you do not want by clicking on the name of the software. An “x” in the box to the left of each application indicates that the software will be installed. We recommend that you install all of the software listed. (NOTE: Make sure you select the correct translation of RapidComm Voice.) Then click on the *Next* button.

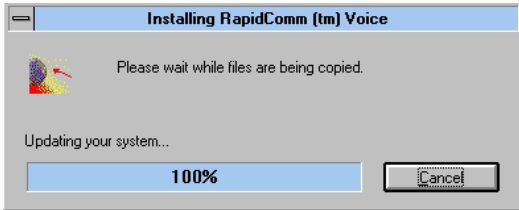


10. As the CD installs the software on your system, you will see a series of screens that guide you through the installation. Please follow the on-screen directions.
11. This is the first screen of the RapidComm Voice Setup program. The RapidComm Voice files will be saved to the location listed in the dialog box. If you wish to save the files to another location, enter the path in place of the path listed in the dialog box. Then click on *Install*.

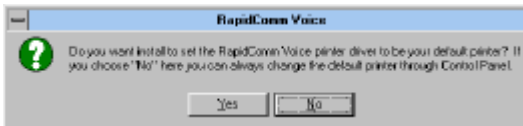


PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

12. You will see this screen for a moment as the Setup Wizard installs the RapidComm Voice files.

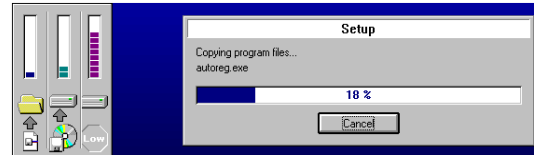


13. After you read this screen, click on either the *Yes* or *No* button.

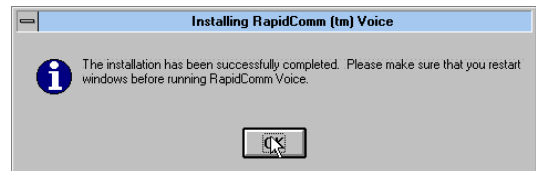


- If you click on the *No* button, RapidComm Voice will not be chosen as the default printer. When you want to send a fax, you will have to select RapidComm Voice as the printer in the program from which you're trying to print.

14. You will see this screen for a moment.



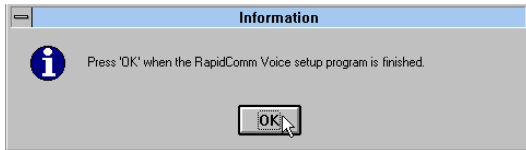
15. After you read this screen, click on the *OK* button.



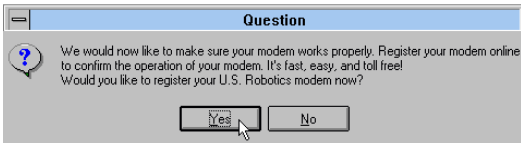
- If you click on the *Yes* button, every document you print will be treated as a fax unless you change the printer selection in the program from which you're trying to print.

PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

16. After you read this screen, click on the *OK* button.



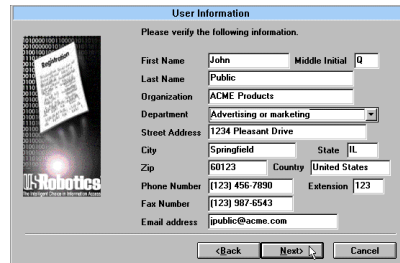
17. When you see this screen, we recommend you click on the *Yes* button.



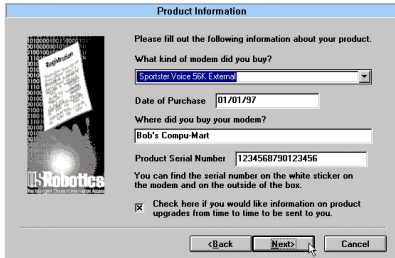
NOTE: If you click on "No," the registration screens will appear upon your next restart.

18. After you read the following three screens and verify that the information you typed

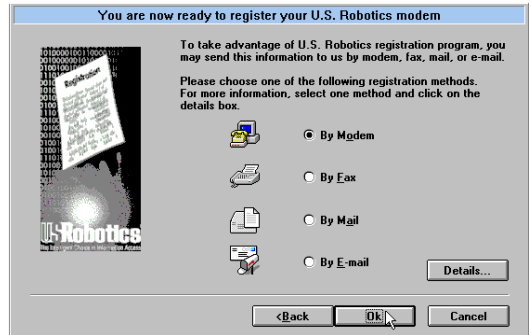
earlier is correct, click on each screen's *Next* button.

A "User Information" form with a blue title bar. It contains a U.S. Robotics logo on the left and a form titled "Please verify the following information." The form fields are: "First Name" (John), "Middle Initial" (Q), "Last Name" (Public), "Organization" (ACME Products), "Department" (Advertising or marketing), "Street Address" (1234 Pleasant Drive), "City" (Springfield), "State" (IL), "Zip" (60123), "Country" (United States), "Phone Number" (123) 456-7890, "Extension" (123), "Fax Number" (123) 987-6543, and "Email address" (jpublic@acme.com). At the bottom are "<Back", "Next", and "Cancel" buttons, with a mouse cursor pointing to the "Next" button.

PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X



19. When you see this screen, *By Modem* will already be selected. We recommend you choose the *By Modem* option because it's a great way to try out your Sportster. Choose *By Modem* by clicking on the *OK* button.

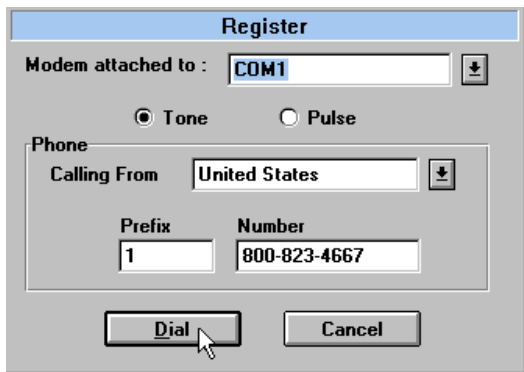


PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

20. After you read this screen, we recommend you click on the *Yes* button.



21. When you see this screen

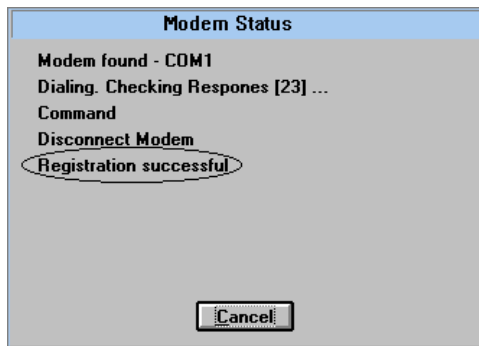


- If you have to dial a prefix (such as 9) to make a call outside your building, type

the prefix before the 1 in the Prefix box and then click on the *Dial* button.

- If you do NOT have to dial a prefix, simply click on the *Dial* button.

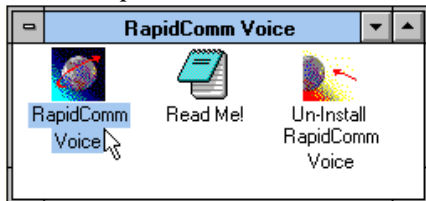
22. Finally, you will see a screen indicating that the registration information has been sent (see circled text in the screen below).



23. Restart Windows.

PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

24. When your desktop appears, double-click on the *RapidComm Voice* icon.



25. The following screen is the first in the RapidComm Voice Setup Wizard. After you read this screen, click on the *Next* button.



When you see this screen, you should only have to verify that the information shown is correct and then fill in the *Data* box (if you have a third phone number for your modem) and the *Local Area Code* box. Then click on the *Next* button.



PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

27. After you verify the information on this screen, click on the *Next* button.



28. When you see this screen...



Check the COM port your modem is connected to.

- If you know your modem is on COM 2 (which is selected by default), click on the *Next* button. Then go to step 29.
- If you know your modem is connected to another COM port, select that port

PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

on screen and then click on the *Next* button. Then go to step 29.

- If you're not sure which port your modem is on, click on the *Auto Detect* button. The Auto Detect program will search your system to see which COM port your modem is attached to. You'll see a screen like this.



Click on the *Next* button. Then go to step 29.

- If you get this screen instead



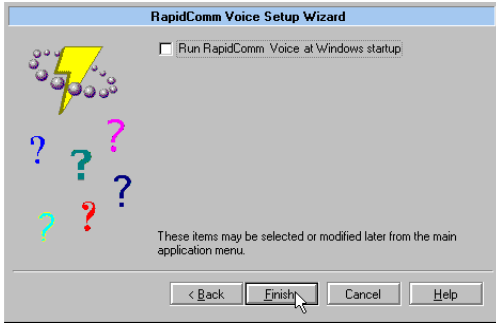
Go to the "Troubleshooting and Online Help Resources" section.

29. When you see the following screen, select single or multiple mailboxes for your personal voice mail system. Then click on *Next*.



PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

30. When you see this screen



- If you want RapidComm Voice to start up every time you start Windows, select the box to the left of *Run RapidComm Voice at Windows startup*. Then click on the *Finish* button.
- If you do not want RapidComm Voice to start up every time you start Windows, simply click on the *Finish* button.

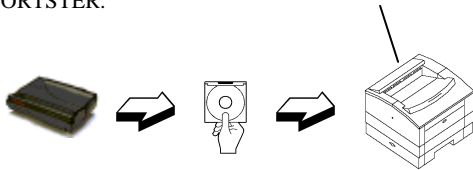
31. After a moment, you will see this screen.



This is the main RapidComm Voice screen. For sending your first fax, keep this screen open. (After this initial run, RapidComm Voice will not need to be running in order to send a fax.)

PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

THIS SECTION WALKS YOU THROUGH TESTING THE MODEM AND THE FAX/DATA/VOICE SOFTWARE WHILE SENDING YOUR FIRST FAX WITH YOUR NEW SPORTSTER.



HARDWARE

SOFTWARE

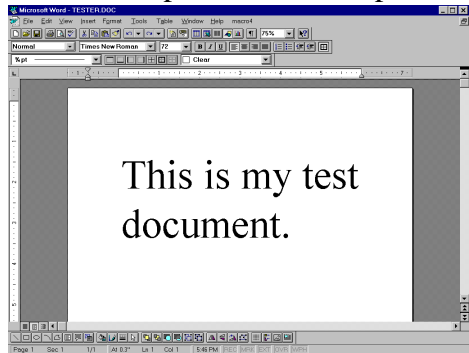
TESTING

Sending Your First Fax

Using RapidComm Voice, you can send and receive faxes directly from your computer and eliminate the need for an expensive fax machine. Once you learn the basics of sending faxes, you can learn more involved fax functions (such as sending documents to groups of numbers at assigned times) and how to transfer data files. (These more advanced

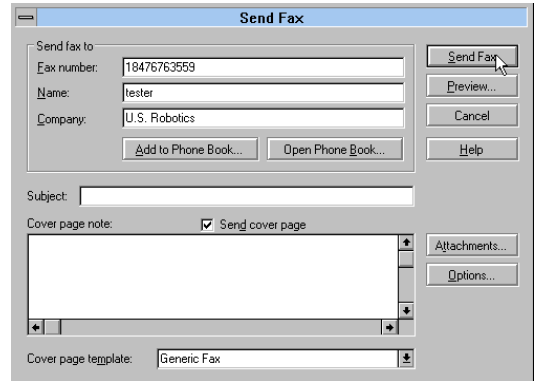
functions are explained in the electronic RapidComm Voice manual on your *Connections* CD.) This chapter will walk you through sending your first fax.

1. Open an application in which you can create documents that you might want to fax (e.g. a word processing application). Create a document containing only a sentence or two. Name the document "tester". Keep the document open.



PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

- From the File menu, select Print.
- If it's not already selected as the printer driver, select *RapidComm Voice* as the printer. This can be changed in the Control Panel or in the print dialog box of most Windows applications.
- Click on the *OK* button or the *Print* button (whichever button you click in that application to indicate you're ready to print) in the print dialog box.
- When you see this screen, fill in the information shown below in the white boxes. The U.S. Robotics fax number is 847-676-3559. This will send your "tester" document to a U.S. Robotics fax machine.



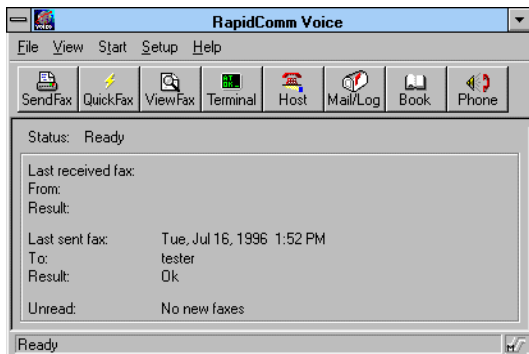
NOTE: If you have to dial a special prefix (such as 9) to connect to a telephone number outside of your building, make sure you type that prefix in before the telephone number.

When you've finished, click on the *Send Fax* button.

- You will see a series of screens as the fax is being transmitted. When the fax has been

PART II: SECTION A: EXTERNAL MODEM INSTALLATION WITH WINDOWS 3.X

successfully transmitted, you will see a screen that looks like this.



Congratulations —you are ready to start using your Sportster!

You can now go to the “Troubleshooting and Online Help Resources” section of this guide for information on how to contact U.S. Robotics using your Sportster.

You can also go to the electronic RapidComm Voice manual on your *Connections* CD for more detailed instructions on sending faxes and other things you can do with your Sportster and RapidComm Voice.

SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

You'll need these items from your Sportster box:



modem



phone cord



Connections CD



manual

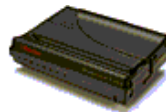


power adapter

Plus:

A serial cable. (This must be purchased. See column to the right.)

THIS FIRST SECTION WILL WALK YOU THROUGH THE STEPS INVOLVED IN CONNECTING YOUR SPORTSTER TO YOUR COMPUTER.



HARDWARE

SOFTWARE

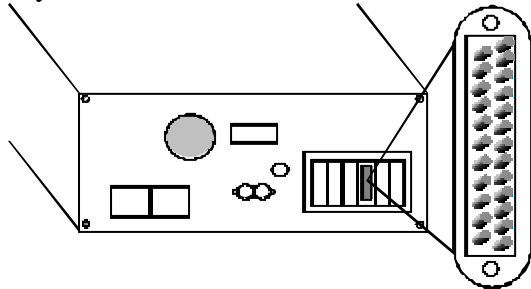
TESTING

How to Determine Which Serial Cable to Buy

Before you can begin installation, you need to purchase an RS-232 serial cable. The following section will help you to determine which serial cable to purchase.

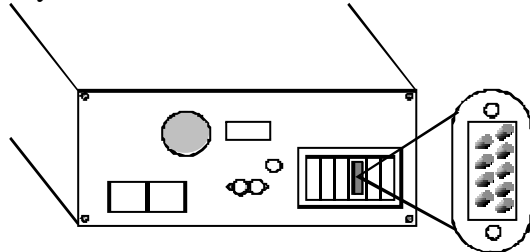
PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

If your PC's serial connector looks like this



you need a shielded serial cable with a 25-pin female to 25-pin male connector.

If your PC's serial connector looks like this



you need a shielded serial cable with a 9-pin female to 25-pin male connector.



NOTE: Your computer's rear panel may not be identical to the diagrams above. However, you should look for connectors that match the exploded portions of the diagrams. If you cannot locate the proper connector, refer to your computer's manual.

How to Hook Up the Modem

1. Turn off your computer and any attached devices, such as a printer.
2. Connect the serial cable to the modem and to the computer. When looking for your serial port label on the back of your computer, select COM, MODEM, RS-232, or SERIAL. **DO NOT** select AUX, GAME, LPT, or PARALLEL.



Note: Remember which serial port you selected. This information will be necessary when installing your communications software.

3. Plug the power adapter into the power jack and into a standard wall outlet.

4. Plug one end of the phone cord into the telephone jack (labeled with a wall plug icon on the bottom of the case) and the other end into a phone wall jack.

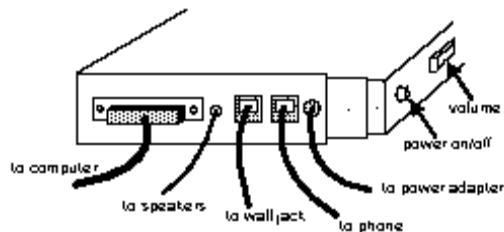


WARNING : The phone jack you're going to use must be for an ANALOG phone line. Most office phones are wired through digital lines. Be sure you know what type of line you have. The modem will be damaged if you use a digital phone line.

5. If you wish to use your modem and phone through the same phone wall jack, plug your phone's cord into the modem's phone jack (labeled with a phone icon on the bottom of the case). Use an adapter cable

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

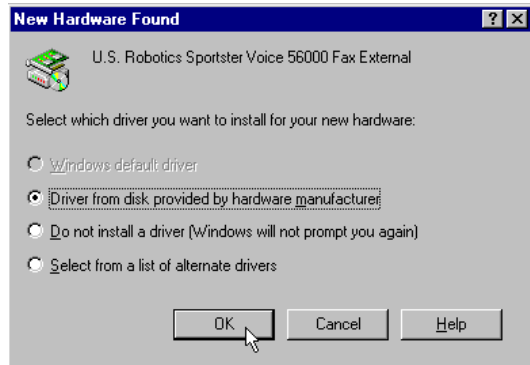
if necessary. (NOTE: You can not use the modem and phone at the same time if they share the same line.)



6. Turn your modem on.
7. Turn your computer on.
8. Start Windows.

How to Move Through the "New Hardware Found" Screens

1. When Windows restarts, after about a minute you will see this screen pop up automatically.

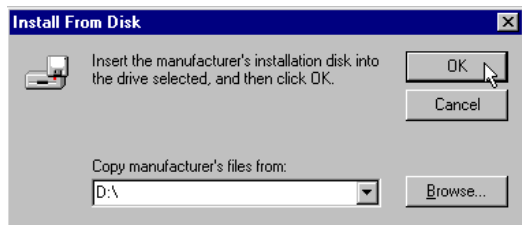


If the *Driver from disk...* option is not already selected, select it.

Click on the *OK* button.

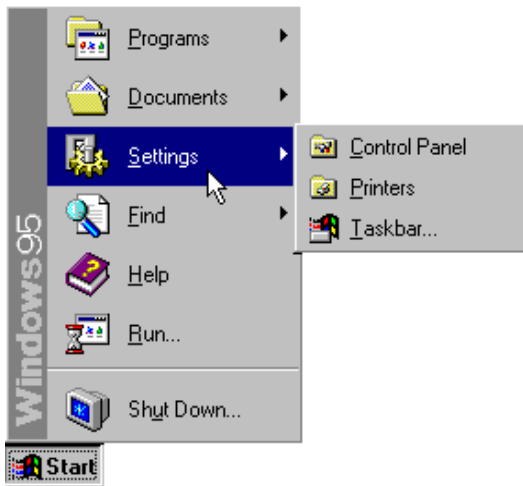
PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

2. Insert the *Connections* CD into your CD-ROM drive.
3. When you see this screen, type in **D:** to replace the **A:**. (If your CD-ROM drive has a different letter name, type that letter instead of **D**.)



Click on the *OK* button. Windows will install the drivers for your new modem.

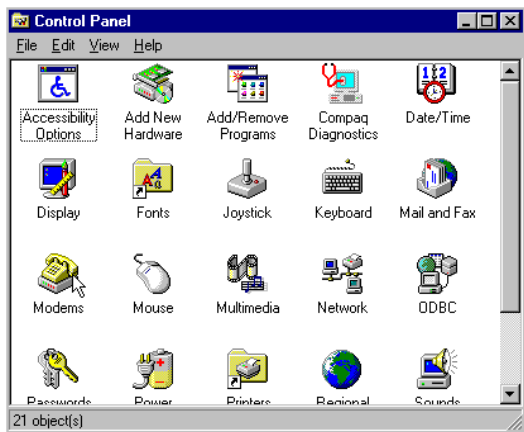
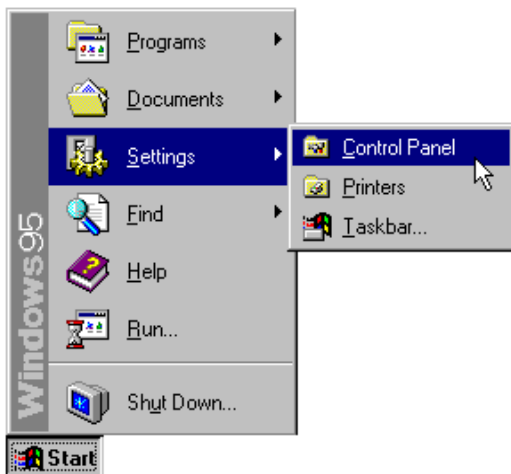
4. Now you can verify that the install was a success. When your desktop returns, click on the *Start* button and scroll up to *Settings*.



PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

5. Scroll over to select *Control Panel*.

6. Double-click on the *Modems* icon.



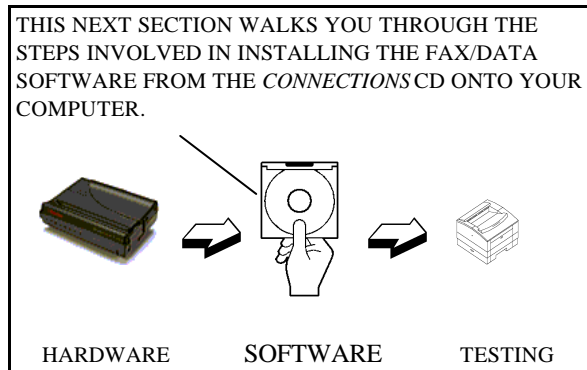
PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

7. In the *Modems Properties* screen, you should see *Sportster Voice 56000 Fax External* listed. This indicates that your new Sportster is installed correctly.



Click on the *OK* button.

Now you are ready to install the software for your modem.



Installing RapidComm Voice with the Setup Wizard

This section will walk you through the basics of running the U.S. Robotics Setup Wizard, which installs RapidComm Voice (fax/data/voice software) and other useful

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

software programs. It also helps you register your new Sportster modem.

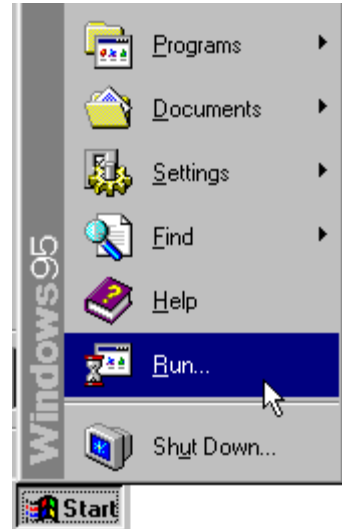
RapidComm Voice simplifies sending and receiving faxes directly from your computer desktop. You can send faxes to specified groups of numbers after building your own fax directory, specify individual cover pages when necessary, and send individual faxes without exiting your word processing program.

Additionally, RapidComm Voice works to turn your desktop into a powerful voice message center with multiple mailboxes.



NOTE: If you have an older version of RapidComm or RapidComm Voice installed on your system, uninstall it before continuing.

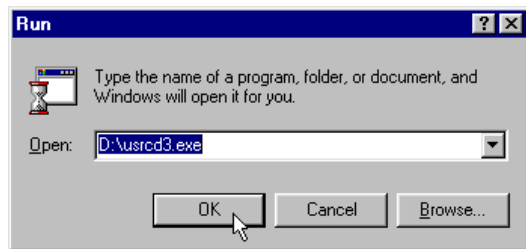
1. From the Windows 95 desktop, click on the *Start* button and then *Run*.



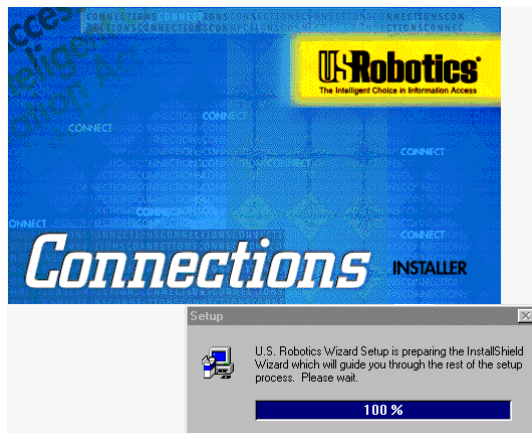
PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

2. In the box, type **D:\usrcd3.exe**

(If your CD-ROM drive has a letter name other than **D**, type that letter in place of **D**.)



3. You will see a screen that looks like this.

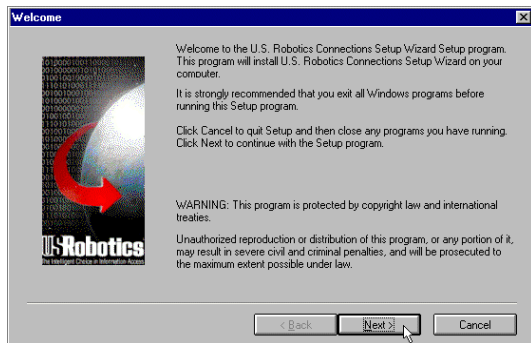


4. After you read this screen, click on the *Yes* button.



PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

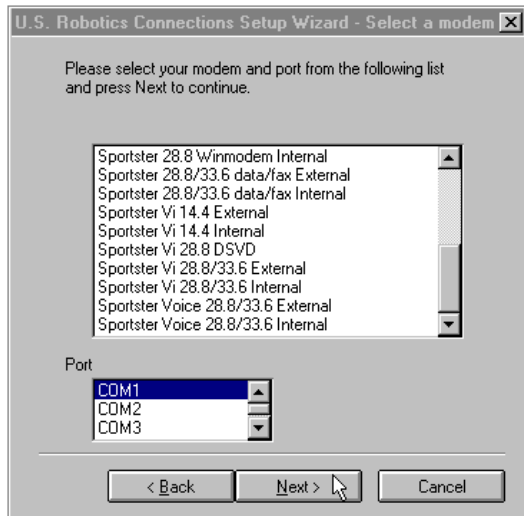
5. After you read this screen, click on the *Next* button.



6. You will see this screen for a moment.



7. When you see this screen, select the correct modem, verify that the port setting is correct, and then click on the *Next* button.



PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

8. When you see the following two screens, fill in the blank boxes with the appropriate information, using the *Tab* key to move between fields. Click on each screen's *Next* button when you have filled in all of the necessary information.

U.S. Robotics Connections Setup Wizard - Local Demographics

Please enter the following information:

First Name	John	Middle Initial	
Last Name	Public		
Organization	ACME Products		
Department	Advertising or marketing		
Street Address	1234 Pleasant Drive		
City	Springfield	State	IL
Zip	60123	Country	United States
Phone Number	1234567890	Extension	123
Fax Number	123-860-4543		
E-mail address	public@acme.com		

< Back Next > Cancel

U.S. Robotics Connections Setup Wizard

Please enter your address and phone number.

What kind of modem did you buy?

Date of purchase (MM/DD/YY) 01 01 96

Where did you buy your modem?
Bob's Compu-Mart

Product Serial Number
1234567890123456

You can find your serial number on the white sticker on the modem and on the outside of the box.

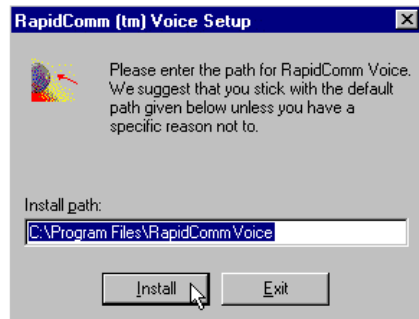
< Back Next > Cancel

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

9. In the following screen, un-check any software you do not want by clicking on the name of the software. An “x” in the box to the left of each application indicates that the software will be installed. We recommend that you install all of the software listed. (NOTE: Make sure you select the correct translation of RapidComm Voice.) Then click on the *Next* button.

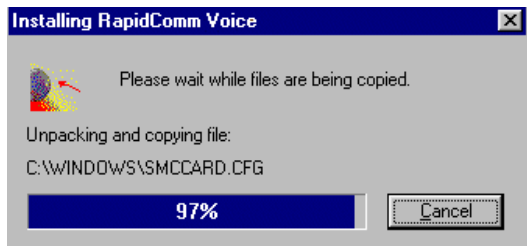


10. As the CD installs the software on your system, you will see a series of screens guiding you through the installation. Please follow the on-screen directions.
11. This is the first screen of the RapidComm Voice Setup program. The RapidComm Voice files will be saved to the location listed in the dialog box. If you wish to save the files to another location, enter the path in place of the path listed in the dialog box. Then click on *Install*.

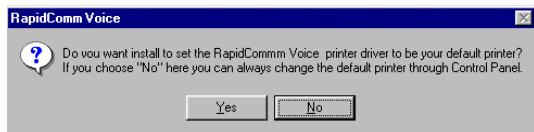


PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

12. You will see this screen for a moment as the Setup Wizard installs the RapidComm Voice files.



13. When you see this screen, click on either the *Yes* or *No* button.

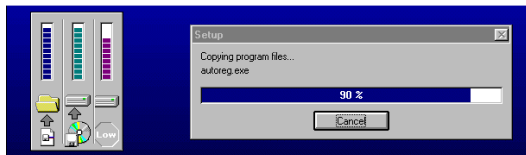


- If you click on the *Yes* button, every document you print will be treated as a fax unless you change the printer

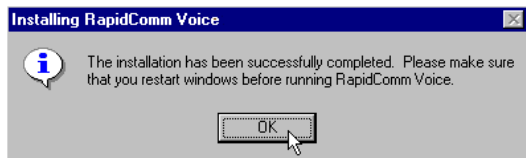
selection in the program from which you are printing.

- If you click on the *No* button, RapidComm Voice will not be selected as the default printer. When you want to send a fax, you must select RapidComm Voice as the printer in the program from which you are printing.

14. You will see this screen for a moment.

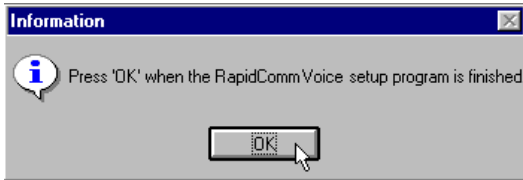


15. After you read this screen, click on the *OK* button.

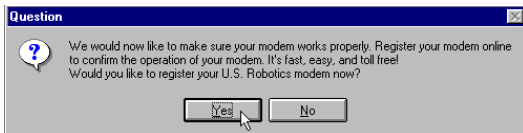


PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

16. After you read this screen, click on the *OK* button.

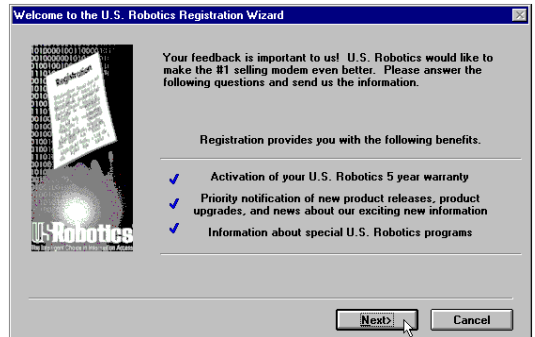


17. After you read this screen, we recommend you click on the *Yes* button.



NOTE: If you click on “No,” the registration screens will appear upon your next restart.

18. After you read the following three screens and verify that the information you typed earlier is correct, click on each screen’s *Next* button.



PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

User Information

Please verify the following information.

First Name: John Middle Initial: Q
Last Name: Public
Organization: ACME Products
Department: Advertising or marketing
Street Address: 1234 Pleasant Drive
City: Springfield State: IL
Zip: 60123 Country: United States
Phone Number: (123) 456-7890 Extension: 123
Fax Number: (123) 987-6543
Email address: jpublic@acme.com

<Back Next> Cancel

Product Information

Please fill out the following information about your product.

What kind of modem did you buy?
Spotster Voice 56K External

Date of Purchase: 01/01/97
Where did you buy your modem?
Bob's Compu-Mart
Product Serial Number: 1234568790123456
You can find the serial number on the white sticker on the modem and on the outside of the box.

Check here if you would like information on product upgrades from time to time to be sent to you.

<Back Next> Cancel

19. When you see this screen, you are ready to register your new Sportster. *By Modem* will already be selected. We recommend you choose the *By Modem* option because it's a great way to try out your Sportster. Choose *By Modem* by clicking on the *OK* button.

You are now ready to register your U.S. Robotics modem

To take advantage of U.S. Robotics registration program, you may send this information to us by modem, fax, mail, or e-mail.

Please choose one of the following registration methods. For more information, select one method and click on the details box.

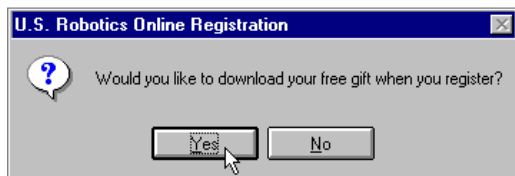
By Modem
 By Fax
 By Mail
 By E-mail

Details...

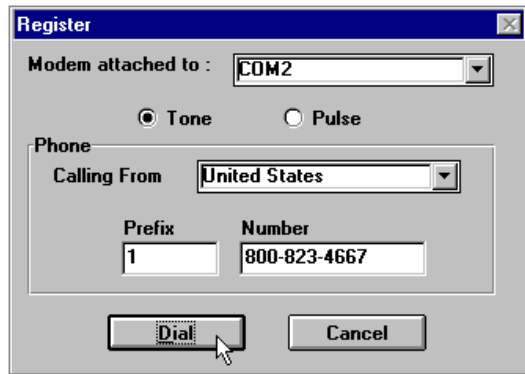
<Back OK Cancel

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

20. After you read this screen, we recommend you click on the *Yes* button.

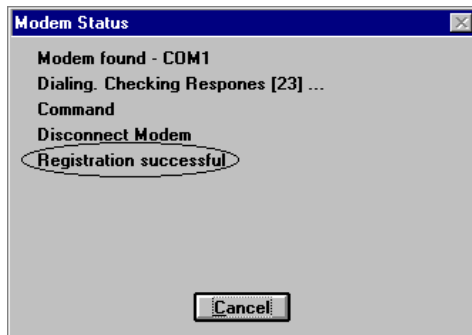


21. When you see this screen...



- If you have to dial a prefix (such as 9) to make a call outside your building, type the prefix before the 1 in the *Prefix* box and then click on the *Dial* button.
- If you do NOT have to dial a prefix, simply click on the *Dial* button.

22. Finally, you will see a screen indicating that the registration information has been sent (see circled text in the screen below).

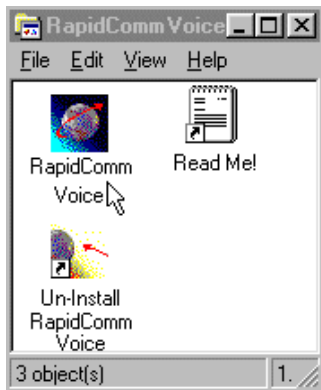


23. Restart Windows.

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95



24. When you desktop appears, double-click on the *RapidComm Voice* icon.



25. The following screen is the first screen of the RapidComm Voice Setup Wizard. After you read the screen, click on the *Next* button.



PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

26. When you see this screen, you should only have to verify the information shown, and then fill in the *Data* box (if you have a third phone number just for your modem) and the *Local Area Code* box. Then click on the *Next* button.

RapidComm Voice Setup Wizard

Who are you?

Name:

Company:

What is your phone number?

Voice:

Fax:

Data:

Local Area Code:

< Back **Next >** Cancel Help

27. After you verify the information on this screen, click on the *Next* button.

RapidComm Voice Setup Wizard

The following information is needed for sending faxes, creating cover pages, and placing calls...

Address 1:

Address 2:

City:

State:

Country:

Zip/Post Code:

E-Mail Address:

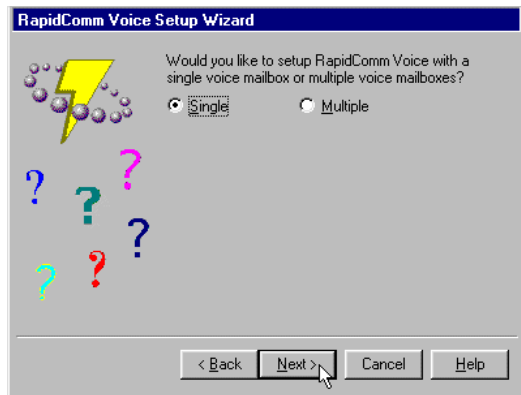
< Back **Next >** Cancel Help

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

28. When you see the following screen, make sure the correct modem is selected. Then click on the *Next* button.

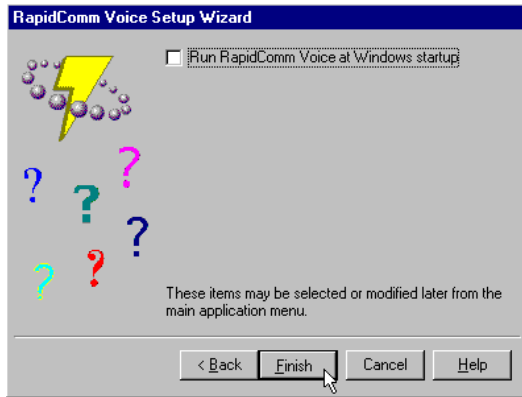


29. When you see the following screen, select single or multiple mailboxes for your personal voice mail system. Then click on *Next*.



PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

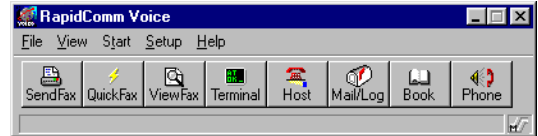
30. When you see this screen...



- If you want RapidComm Voice to launch with every Windows startup, click on the box to the left of *Run RapidComm Voice at Windows startup*. A check will appear in the box. Then click on the *Finish* button.

- If you do not want RapidComm Voice to start every time you start Windows, simply click on the *Finish* button.

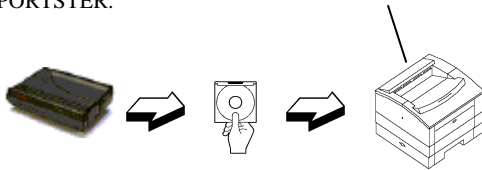
31. You will see this screen.



This is the main RapidComm Voice screen. To send your first fax, keep this screen open. (After this initial run, RapidComm Voice will not need to be running in order to send a fax.)

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

THIS SECTION WALKS YOU THROUGH TESTING THE MODEM AND THE FAX/DATA/VOICE SOFTWARE WHILE SENDING YOUR FIRST FAX WITH YOUR NEW SPORTSTER.



HARDWARE

SOFTWARE

TESTING

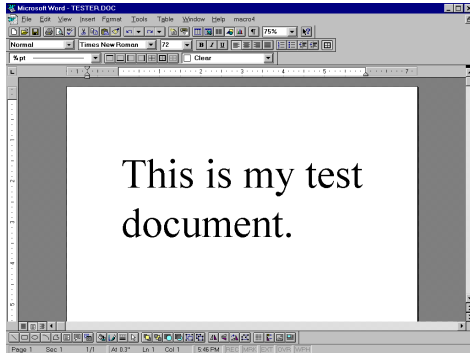
functions are explained in the electronic RapidComm Voice manual on your *Connections* CD.) This chapter will walk you through sending your first fax.

1. Open an application in which you can create documents that you might want to fax (e.g. a word processing application). Create a document containing only a sentence or two. Name the document “tester”. Keep the document open.

Sending Your First Fax

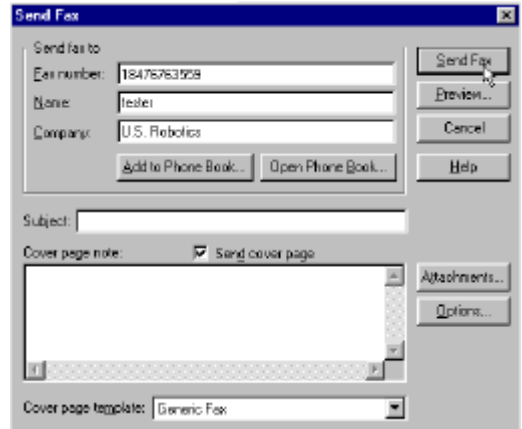
Using RapidComm Voice, you can send and receive faxes directly from your computer and eliminate the need for an expensive fax machine. Once you learn the basics of sending faxes, you can learn more involved fax functions (such as sending documents to groups of numbers at assigned times) and how to transfer data files. (These more advanced

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95



2. From the *File* menu, select *Print*.
3. If it's not already selected as the printer, select *RapidComm Voice*. This can be changed in most Windows applications in the print dialog box.
4. Click the *OK* button or the *Print* button (whichever button you click in that application to indicate you're ready to print) in the print dialog box.

5. When you see this screen, fill in the information shown in below in the white boxes. For testing purposes, send your "tester" document to the U.S. Robotics fax number, 847-676-3559.



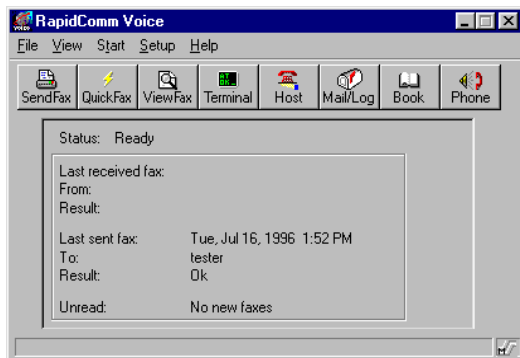
NOTE: If you have to dial a special prefix (such as 9) to connect to a telephone number outside of your building, make sure

PART II: SECTION B: EXTERNAL MODEM INSTALLATION WITH WINDOWS 95

you type that prefix in before the telephone number.

When you've finished, click on the Send Fax button.

6. You will see a series of screens as the fax is being transmitted. When the fax has been successfully transmitted, you will see a screen that looks like this.



Congratulations —you are now ready to start using your Sportster!

You can now go to the “Troubleshooting and Online Help Resources” section in this guide for information on how to contact U.S. Robotics using your Sportster.

Go to electronic RapidComm Voice manual on your *Connections* CD for more detailed instructions on sending faxes and other things you can do with your Sportster and RapidComm Voice.

PART III - BEYOND SETUP

This part includes information which may not be necessary for installing your modem or the fax/data/voice software included with it, but will help to expand your knowledge of the modem and its capabilities. The sections are:

Section A: Installing Other Fax/Data/Voice Software (page 115)

Section B: Troubleshooting and Online Help Resources (page 117)

Section C: Glossary (page 131)

Section D: Technical Quick Reference (page 141)

Section E: Regulatory Information (page 171)

SECTION A: INSTALLING OTHER FAX/DATA/VOICE SOFTWARE

You do not have to use the RapidComm Voice fax/data/voice software included with your new Sportster. Your modem has been designed and tested using a wide range of communications software packages on the market. This section will walk you through some of the details you may need to know when installing other communications software packages.

Type of Modem

Most communications software programs will ask you to select the type of modem you are using. Select a *U.S. Robotics Sportster high speed modem*. If that selection is not listed, pick *Courier Dual Standard, V.32bis, or V.34*.

D KEY POINT: Refer to the manual that came with your software for its installation instructions. The software's installation program will ask you questions about the modem you are using.

Initialization String

For hardware flow control, a fixed serial port rate and full result codes type:

AT&F1<Enter>

If you must use software flow control, type:

AT&F2<Enter>

Flow Control

- For hardware flow control (highly recommended), select *RTS/CTS*.
- For software flow control, select *XON/XOFF*.



NOTE: Disable the type of flow control (hardware or software) that you are not using.

UART (External Modems Only)

1. In **DOS**, at the Windows directory type:
MSD
2. At the next prompt, type:
C

Find the **UART Chip Used** line and match it with the **COM port** column that your modem is attached to. That is your UART type.

<u>If this is your UART...</u>	<u>Select this serial rate</u>
16550*	115.2 or 57.6 Kbps
16450	38.4 Kbps
8250	19.2 Kbps

*All Sportster internal modems have a 16550 UART.



NOTE: DO NOT select a 28,800, 14,400, or 12,000 bps serial port rate if offered. Your modem will NOT work correctly with any of these settings. Fix or lock the serial port (baud) rate (if it's referred to as autobaud, select OFF).

SECTION B: TROUBLESHOOTING AND ONLINE HELP RESOURCES

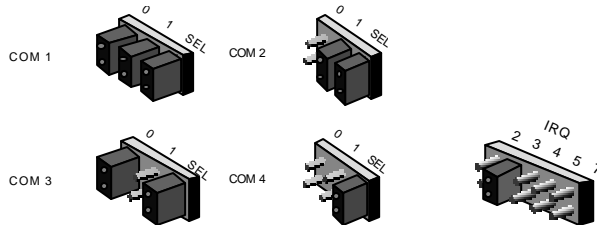
PROBLEM	DIAGNOSIS	POSSIBLE SOLUTION
a The computer or software will not recognize the modem.	D Your modem might not be turned on.	1 Make sure the modem is turned on. The power switch is on top of external modems. The CS light on the front panel should be lit. If you installed an internal modem, it should power up when the computer is turned on.
	D You may have a COM/IRQ conflict.	1 Check to make sure you have the correct COM port and IRQ settings in your software and/or in the Windows Control Panel.
	D You might not be entering modem commands in the proper manner.	1 Type in all upper (AT) or lower (at) case.
	D You may need to reset your COM and IRQ settings.	1 Refer to the Internal Modem Installation section or the diagram on the following page.
	D If using an external modem, the COM port may not be enabled.	1 Refer to your computer's manual for information concerning enabling COM ports (usually involves altering the bios settings or motherboard jumpers).

PROBLEM

POSSIBLE SOLUTION

a The computer or software will not recognize the modem.

1 To reset the COM port and IRQ settings, lift the black plastic shunts off the modem and replace the COM port shunt to 3 and the IRQ shunt to 5. Once you've changed the settings, be sure to make the same changes to your software and Windows settings. The illustration below shows various COM port and IRQ settings. If the computer or software still will not recognize the modem after these changes are made, try using a different software application.



d **POWER USER TIP:** Running a self-diagnostics test on your computer is an easy way to figure out whether or not you have a COM port/IRQ conflict. Go to the DOS or Windows directory located on your boot disk (typically C:\) and type MSD. From here, type Q to see the IRQ (Interrupt Request) information. Note the COM port and IRQ your modem is using. If your modem is sharing an IRQ with another device, you need to assign it to another IRQ through your software and Windows settings.

PROBLEM	DIAGNOSIS	POSSIBLE SOLUTION
<p>d The modem displays double characters on your monitor.</p>	<p>D Both the modem and software's local character echoes are probably turned on.</p>	<p>1 You can turn the local echo off on the modem by typing ATEO <enter> in your software's terminal mode. To turn the local echo off in the software, refer to your software's documentation.</p>
<p>d The modem won't go off hook to dial or doesn't answer the phone.</p>	<p>D You might have a bad phone cord connection to your modem.</p>	<p>1 Make sure the phone cord is connected to the jack on the modem labeled TELCO on one end and to the wall phone jack at the other end.</p>
<p>d Both modems exchange carrier signals but fail to establish a link.</p>	<p>D The software you are using might not have auto answer enabled.</p>	<p>1 Check to make sure the auto answer feature is enabled. In RapidComm Voice, type ATS0=1 in terminal mode.</p>
<p>d Both modems exchange carrier signals but fail to establish a link.</p>	<p>D You may have a poor line connection.</p>	<p>1 Try placing the call again. The phone company routes calls differently each time.</p>

PROBLEM	DIAGNOSIS	POSSIBLE SOLUTION
<p>a Your modem won't connect at 2400 bps with a 2400 bps modem.</p>	<p>D The modem you're trying to connect with could be an older model that doesn't support error control.</p>	<p>1 You can disable error control on your modem with the following command entered in the terminal mode: AT&M0 <Enter>. Now try placing the call to the remote modem again. When finished, reset your modem to enable the error control features. Type ATZ <Enter> in terminal mode.</p>
<p>a Your screen keeps displaying random garbage characters.</p>	<p>D You could have a conflict with the remote modem's settings for word length, parity, and stop bits.</p>	<p>1 Set your modem's word lengths, parity, and stop bits the same as the remote modem or BBS you are calling.</p>
	<p>D Your software and modem might not be set to the same flow control settings.</p>	<p>1 Make sure the software and modem have the same flow control rate settings.</p>
	<p>D The best flow control settings might not be enabled on your modem.</p>	<p>1 Type this command in terminal mode to load the optimal settings: AT&F1 <enter>.</p>

PROBLEM	DIAGNOSIS	POSSIBLE SOLUTION
<p>Ⓐ Your communications software is reporting many cyclic redundancy check (CRC) errors and low characters per second (CPS).</p>	<p>D You may have a bad phone line.</p>	<p>1 Try placing the call again. The phone company routes calls differently each time.</p>
	<p>D Optimum flow control settings may not be enabled on your modem.</p>	<p>1 Type this command in terminal mode to load the optimum settings: AT&F1 <enter>.</p>
	<p>D The serial port rate in your communications software may be set too high for your modem's UART or your area's phone lines.</p>	<p>1 Lower the serial port rate in your communications software to 38,400 bps or 19,200 bps.</p>
	<p>D The remote site you are dialing into may have trouble with the file transfer protocol.</p>	<p>1 Try using a different file transfer protocol. Do not use Xmodem if other protocols are available.</p>
	<p>D There may be a Terminate and Stay Resident (TSR) program running in the background, interfering with data communications.</p>	<p>1 Disable any TSR programs running in the background.</p>

PROBLEM	DIAGNOSIS	POSSIBLE SOLUTION
<p>Ⓐ Errors are constantly occurring in your V.17 fax transmissions.</p>	<p>D Your modem initialization string could be insufficient for fax transmissions.</p>	<p>1 Enter the following initialization string in your software setup screen: AT&H3&I2&R2S7=90.</p>
	<p>D You could have a disruptive Terminate and Stay Resident (TSR) program running in your background.</p>	<p>1 Disable any Terminate and Stay Resident (TSR) programs running in the background.</p>
	<p>D You could have an outdated comdriver on your system.</p>	<p>1 Load the comdriver that came with your fax software. This may require you to re-install your internal modem.</p>
	<p>D Your baud rate may be set too high.</p>	<p>1 Lower baud rate to 9600.</p>
<p>Ⓐ RapidComm Voice fails to initialize the modem.</p>	<p>D RapidComm Voice's port settings may be incorrect.</p>	<p>1 Make sure RapidComm Voice's port settings are correctly set for your system..</p>

Internal Modem Users Only

If you use DOS 6.0's DoubleSpace program, you may want to do the following before running any fax software.


1. Open the Windows SYSTEM.INI file.
2. Add the following line under the [386 Enh] header:

EMMEXCLUDE=C800-D1FF

When you are finished, reboot your computer.

If You Are Running DOS 6.0 or Higher

You may want to run the MEMMAKER DOS program before you run your fax software. Run the program MEMMAKER.EXE from the DOS directory prompt. This program loads all of your Terminate and Stay Resident (TSR) programs in the most efficient order.

 NOTE: Type VER at the DOS prompt if you are unsure which version of DOS you are using.

Online Help Resources

Connecting to the U.S. Robotics BBS

To connect to the U.S. Robotics Bulletin Board System, follow these steps:

1. Start RapidComm Voice. The software settings for the BBS are:

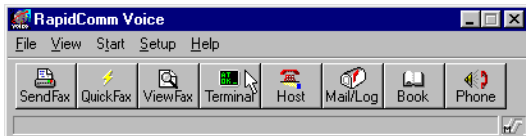
ANSI terminal emulation

Data Bits: 8


Parity: None

Stop Bits: 1

2. Put RapidComm Voice in Terminal mode by clicking on the *Terminal* button.



3. Enter the following command: **ATDSO**
<Enter>

 NOTE: ATDSO automatically dials 1-847-982-5092, the U.S. Robotics BBS.

If this is your first time connecting to our BBS, you will be asked to enter your name and a password and to fill out a questionnaire.



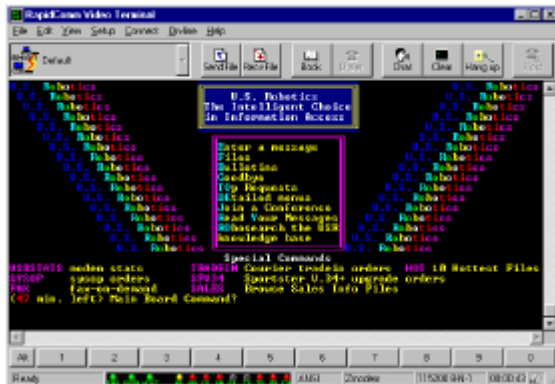
PART III: SECTION B: TROUBLESHOOTING AND ONLINE HELP RESOURCES

The preceding screen shot is what the introduction screen of the U.S. Robotics BBS will look like. Follow the on-screen prompts to enter your name and other relevant information to register your Video Modem and have access to the BBS library. The library contains hundreds of helpful files and tips to make using your modem and computer a breeze.

Downloading the Technical Reference Guide

To download the Technical Reference Guide, follow these steps:

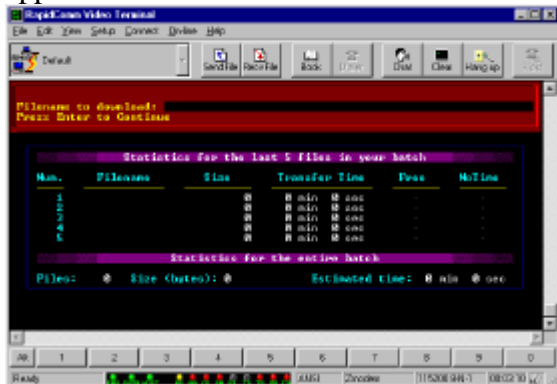
1. From the main menu, select **D** for Download a file.



(This is what the main menu will look like.)

PART III: SECTION B: TROUBLESHOOTING AND ONLINE HELP RESOURCES

2. A *Filename to Download*: text box appears on the screen.



3. Type the name of the file you wish to receive. You have three manual formats from which to choose:
 - x2v_WORD.ZIP—The Guide in a zipped Word for Windows v6.0 format. You will need PKUNZIP.EXE to

uncompress this file. PKUNZIP.EXE is also available on the BBS.

- x2v_HELP.ZIP—The Guide in a zipped Windows Help format.
 - x2v_ASCII.TXT—The Guide in an uncompressed ASCII format.
4. *Protocol Type for Transfer*. Your selection depends on what your software supports. If possible, make Zmodem your first choice. Xmodem should be your last choice since it is very slow.
 5. Depending on the software you are using, you will either be prompted where you want the file placed, or the file will be placed in the directory where your communications software is loaded.
 6. When the file transfer is complete, and you are ready to leave the BBS, select **G** for Good-bye from the main menu.

PART III: SECTION B: TROUBLESHOOTING AND ONLINE HELP RESOURCES

U.S. Robotics offers a number of other online technical support options. Choose any one of the following if you need help with your new Sportster or want to learn more about it.

Internet FTP

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

Internet on Demand

Provides automatic technical support through a library containing product information, quick reference cards, and installation help. To obtain an index of available documents, send a blank e-mail to **support@usr.com**. To have a document e-mailed to you, send a document's 3-digit number as the subject.

World Wide Web

A U.S. Robotics Home Page containing the same information as the Internet on Demand listing as well as information about U.S. Robotics. Log on to **<http://www.usr.com>**.

CompuServe

Access the same information as the Internet FTP site. Connect through the **Modem Vendor** Forum or e-mail us through CompuServe Mail for a response within 24 hours. Modem vendor forum address is **GO USROBOTICS**, Modem Vendor Section #4. Address message to **76711,707**.

America Online

Connect to U.S. Robotics through America Online. Go to the **Keyword** field and type **USROBOTICS** to connect to the U.S. Robotics BBS.

PART III: SECTION B: TROUBLESHOOTING AND ONLINE HELP RESOURCES

Fax and Technical Support Hotline

Technical questions about U.S. Robotics modems can also be answered via fax or by technical support representatives.

Fax (847) 676-7323

Hotline (847) 982-5151

Priority “No Hold” Service

U. S. Robotics also staffs its own 900 toll number for immediate assistance. These lines are staffed from 8 a.m. - 6 p.m. CST Monday through Friday.

“No Hold” line 900-555-USR1

Are You Still Having Problems?

- Review this manual.
- Call or visit your modem dealer. They will be able to give you assistance. This is

much more efficient and time-saving than returning the modem to U.S. Robotics.

- If your dealer can't help you, contact U.S. Robotics Customer Support. When you call, specify your modem serial number (found on the modem and on the outside of the box), the software being used, and, if possible, the contents of your ATI7 screen.

If You Must Return the Modem to Us

Contact U.S. Robotics Customer Support. If the support representative determines that you need to return the modem, you will receive an SRO (Service Repair Order) number. You must have an SRO number before returning the modem to us. Ship the unit, postage paid, in a strong box made of corrugated cardboard with

PART III: SECTION B: TROUBLESHOOTING AND ONLINE HELP RESOURCES

plenty of packing material. Include your SRO number, name, and address on the shipping label as well as inside the package.

Ship to the following address:

3Com
U.S. Robotics, Inc.
6201 W. Oakton
East Dock
Morton Grove, IL. 60053
SRO# _____

RapidComm Voice Troubleshooting Tips

PROBLEM: *The lights in RapidComm Voice's modem light monitor do not correspond to the modem's actual lights.*

DIAGNOSIS: Under certain circumstances, the modem light monitor does not correctly report the activity of the modem. We are

aware of this problem and are working to rectify the situation in upcoming versions of the software.

PROBLEM: *The station ID works intermittently.*

DIAGNOSIS: Under certain circumstances (including receiving a fax), the station ID may not work properly.

PROBLEM: *RapidComm Voice does not work properly at 115.2 Kbps.*

DIAGNOSIS: The presence of disk compression software on your system hampers RapidComm Voice's ability to work properly at 115.2 Kbps. Removal of the disk compression software from your system will allow RapidComm Voice to operate at 115.2 Kbps.

A Note to User's with Older Versions of RapidComm on Their Systems

You must uninstall older versions of RapidComm or RapidComm Voice from your system before installing the most recent version (contained on the CD-ROM that came with your new 56K modem). Otherwise you may introduce conflicts in your system that will hamper RapidComm's ability to work properly.

SECTION C: GLOSSARY

Cross references are printed in **boldface**. Cross references with items in the Command Summary, found in the Technical Quick Reference (Section D), are printed in *italics*.

analog loopback

A modem self-test in which data from the keyboard or an internal test pattern is sent to the modem's transmitter, turned into analog form, looped back to the receiver, and converted back into digital form.

analog signals

A variety of signals and wavelengths that can be transmitted over communications lines such as the sound of a voice over the phone line. Contrast with **digital signals**.

answer mode

The mode used by your modem when answering an incoming call from an originating modem. The transmit/receive frequencies are the reverse of the originating modem, which is in **originate mode**.

application

A computer program designed to perform a specific function, such as a word processing or organizing data into a spreadsheet.

ARQ

Automatic Repeat reQuest. A general term for a function that automatically allows your modem to detect flawed data and retransmit it. See **MNP** and **V.42**.

PART III: SECTION C: GLOSSARY

ASCII

American Standard Code for Information Interchange. A code used to represent letters, numbers, and special **characters** such as \$, !, and /.

asynchronous transmission

Data transmission in which the length of time between transmitted **characters** may vary. Because the time lapses between transmitted characters are not uniform, the receiving modem must be signaled as to when the data bits of a character begin and when they end. The addition of **start/stop bits** to each character serves this purpose.

Auto Answer

Sets the modem to pick up the phone line when it detects a certain number of rings. See S-register S0 in the “Technical Quick Reference.”

auto dial

A process where your modem dials a call for you. The dialing process is initiated by sending an *ATDT* (dial tone) or *ATDP* (dial pulse) command followed by the telephone number to dial. Auto dial is used to dial voice numbers. See command *Dn*.

baud rate

A term used to measure the speed of an analog transmission from one point to another. Although not technically accurate, baud rate is commonly used to mean **bit rate**.

binary digit

A 0 or 1, reflecting the use of the binary numbering system. Used because the computer recognizes either of two states, OFF or ON. Shortened form of binary digit is bit.

PART III: SECTION C: GLOSSARY

bit rate

Also referred to as transmission rate. The number of **binary digits**, or bits, transmitted per second (**bps**). Communications channels using telephone channel modems are established at set bit rates, commonly 2400, 4800, 9600, 14,400, 28,800 and higher.

bits per second (bps)

The bits (**binary digits**) per second rate. Thousands of bits per second are expressed as kilobits per second or Kbps.

buffer

A memory area set aside to be used as temporary storage during input and output operations. An example is the modem's command buffer.

byte

A group of **binary digits** stored and operated upon as a unit. In user documentation, the term usually refers to 8-bit units or **characters**. One kilobyte (KB) is equal to 1,024 bytes or characters; 640 KB indicates 655,360 bytes or characters.

carrier

A tone signifying a connection the modem can alter to communicate data across telephone lines.

character

A representation, coded in **binary digits**, of a letter, number, or other symbol.

PART III: SECTION C: GLOSSARY

characters per second (CPS)

A data transfer rate generally estimated from the **bit rate** and the **character** length. For example, at 2400 bps, 8-bit characters with **start/stop bits** (for a total of ten bits per character) will be transmitted at a rate of approximately 240 characters per second (cps). Some **protocols**, such as error-control protocols, employ advanced techniques such as longer transmission **frames** and **data compression** to increase cps.

class 1 and 2.0

International standards used between fax **application** programs and faxmodems for sending and receiving faxes.

cyclic redundancy checking (CRC)

An error-detection technique consisting of a test performed on each block or **frame** of data by both sending and receiving modems. The sending modem inserts the results of its tests in each data block in the form of a CRC code. The receiving modem compares its results with the received CRC code and responds with either a positive or negative acknowledgment.

data communications

A type of communications in which computers are able to exchange data over an electronic medium.

PART III: SECTION C: GLOSSARY

data compression table

A table containing values assigned for each **character** during a call under **MNP5** data compression. **Default** values in the table are continually altered and built during each call: The longer the table, the more efficient **throughput** gained.

data mode

The mode in which the faxmodem is capable of sending and receiving data files. A standard modem without fax capabilities is always in data mode.

DCE

Data Communications (or Circuit-Terminating) Equipment, such as dial-up modems that establish and control the data link via the telephone network.

default

Any setting assumed, at startup or reset, by the computer's software and attached devices. The computer or software will use these settings until changed by the user or other software.

detect phase

In the **ITU-T V.42** error-control **protocol**, the first stage in establishing if both modems attempting to connect have **V.42** capability.

dictionary

The term used for compression codes built by the **V.42 bis** data compression algorithm.

PART III: SECTION C: GLOSSARY

digital loopback

A test that checks the modem's RS-232 interface and the cable that connects the **terminal** or computer and the modem. The modem receives data (in the form of **digital signals**) from the computer or terminal, and immediately returns the data to the screen for verification.

digital signals

Discrete, uniform signals. In this manual, the term refers to the **binary digits** 0 and 1. Contrast with **analog signals**.

DTE

Data **Terminal** (or Terminating) Equipment. A computer that generates or is the final destination of data.

duplex

Indicates a communications channel capable of carrying signals in both directions. See **half duplex**, **full duplex**.

Electronic Industries Association (EIA)

Group which defines electronic standards in the U.S.

error control

Various techniques that check the reliability of **characters (parity)** or blocks of data. **V.42** and **MNP** error-control **protocols** use error detection (**CRC**) and retransmission of flawed **frames (ARQ)**.

facsimile

A method for transmitting the image on a page from one point to another. Commonly referred to as fax.

PART III: SECTION C: GLOSSARY

fax mode

The mode in which the faxmodem is capable of sending and receiving files in a **facsimile** format. See definitions for **V.17**, **V.27ter**, **V.29**.

flow control

A mechanism that compensates for differences in the flow of data into and out of a modem or other device. See commands *&Hn*, *&In*, *&Rn*.

frame

A **data communications** term for a block of data with header and trailer information attached. The added information usually includes a frame number, block size data, error-check codes, and Start/End indicators.

full duplex

Signal will flow in both directions at the same time over one line. In microcomputer communications, may refer to the suppression of the online **local echo**.

half duplex

Signals will flow in both directions, but only one way at a time. In microcomputer communications, may refer to activation of the online **local echo**, which causes the modem to send a copy of the transmitted data to the screen of the sending computer.

Hz

Hertz, a frequency measurement unit used internationally to indicate cycles per second.

PART III: SECTION C: GLOSSARY

ITU-T

An international organization that defines standards for telegraphic and telephone equipment. For example, the Bell 212A standard for 1200-bps communication in North America is observed internationally as ITU-T **V.22**. For 2400-bps communication, most U.S. manufacturers observe **V.22 bis**. The initials ITU-T represent the French name. In English it is known as the International Telegraph and Telephone Consultative Committee.

LAPM

Link Access Procedure for Modems. An error-control **protocol** defined in **ITU-T Recommendation V.42**. Like the **MNP** protocols, LAPM uses **cyclic redundancy checking (CRC)** and retransmission of corrupted data (**ARQ**) to ensure data reliability.

local echo

A modem feature that enables the modem to display keyboard commands and transmitted data on the screen. See command *En*.

MNP

Microcom Networking Protocol, an error-control **protocol** developed by Microcom, Inc., and now in the public domain. There are several different MNP protocols, but the most commonly used one ensures error-free transmission through error detection (**CRC**) and retransmission of erred **frames**.

modem

A device that transmits/receives computer data through a communications channel such as radio or telephone lines. It also changes signals received from the phone line back to **digital signals** before passing them to the receiving computer.

PART III: SECTION C: GLOSSARY

nonvolatile memory (NVRAM)

User-programmable random access memory whose data is retained when power is turned off. On the Sportster, it includes four stored phone numbers and the modem settings.

off/on hook

Modem operations that are the equivalent of manually lifting a phone receiver (taking it off-hook) and replacing it (going on-hook).

online fall back/fall forward

A feature that allows high-speed, error-control modems to monitor line quality and fall back to the next lower speed in a defined range if line quality diminishes. As line conditions improve, the modems switch up to the next higher speed.

originate mode

The mode used by your modem when initiating an outgoing call to a destination modem. The transmit/receive frequencies are the reverse of the called modem, which is in **answer mode**.

parity

A simple error-detection method that checks the validity of a transmitted **character**. Character checking has been surpassed by more reliable and efficient forms of error checking, including **V.42** and **MNP 2-4 protocols**. Either the same type of **parity** must be used by two communicating computers, or both may omit parity.

PART III: SECTION C: GLOSSARY

protocol

A system of rules and procedures governing communications between two or more devices. Protocols vary, but communicating devices must follow the same protocol in order to exchange data. The format of the data, readiness to receive or send, error detection and error correction are some of the operations that may be defined in protocols.

RAM

Random Access Memory. Memory that is available for use when the modem is turned on, but that clears of all information when the power is turned off. The modem's RAM holds the current operational settings, a **flow control buffer**, and a command **buffer**.

remote digital loopback

A test that checks the phone link and a remote modem's transmitter and receiver.

remote echo

A copy of the data received by the remote system, returned to the sending system, and displayed on the screen. Remote echoing is a function of the remote system.

ROM

Read Only Memory. Permanent memory, not user-programmable.

serial transmission

The consecutive flow of data in a single channel. Compare to parallel transmissions where data flows simultaneously in multiple channels.

start/stop bits

The signaling bits attached to a **character** before and after the character is transmitted during **asynchronous transmission**.

PART III: SECTION C: GLOSSARY

terminal

A device whose keyboard and display are used for sending and receiving data over a communications link. Differs from a microcomputer or a mainframe in that it has little or no internal processing capabilities.

terminal mode

Software mode that allows direct communication with the modem. Also known as command mode.

throughput

The amount of actual user data transmitted per second without the overhead of **protocol** information such as **start/stop bits** or **frame** headers and trailers. Compare with **characters per second**.

V.8

The **ITU-T** standard specification that covers the initial handshaking process.

V.17 fax

An **ITU-T** standard for making **facsimile** connections at 14,400 bps, 12,000 bps, 9,600 bps, 7,200 bps.

V.21

An **ITU-T** standard for modems operating in asynchronous mode at speeds up to 300 bps, **full-duplex**, on public switched telephone networks.

V.22

An **ITU-T** standard for modem communications at 1200 bps, compatible with the Bell 212A standard observed in the U.S. and Canada.

PART III: SECTION C: GLOSSARY

V.22 bis

An **ITU-T** standard for modem communications at 2400 bps. The standard includes an automatic link negotiation fallback to 1200 bps and compatibility with Bell 212A/V.22 modems.

V.27 ter

An **ITU-T** standard for **facsimile** operations that specifies modulation at 4800 bps, with fallback to 2400 bps.

V.29

An **ITU-T** standard for **facsimile** operations that specifies modulation at 9600 bps, with fallback to 7200 bps.

V.32

An **ITU-T** standard for modem communications at 9600 bps and 4800 bps. V.32 modems fall back to 4800 bps when line quality is impaired.

V.32 bis

An **ITU-T** standard that extends the V.32 connection range: 4800, 7200, 9600, 12,000, and 14,400 bps. V.32 *bis* modems fall back to the next lower speed when line quality is impaired, fall back further as necessary, and also fall forward (switch back up) when line conditions improve (see **online fall back/fall forward**).

V.34

An **ITU-T** standard that currently allows data rates as high as 28,800 bps.

PART III: SECTION C: GLOSSARY

V.34+

An enhancement to **V.34** that enables data transfer rates as high as 33,600 bps.

V.42

An **ITU-T** standard for modem communications that defines a two-stage process of detection and negotiation for **LAPM error control**.

V.42 bis

An extension of **ITU-T V.42** that defines a specific data compression scheme for use during V.42 connections.

Xmodem

The first of a family of **error control** software **protocols** used to transfer files between modems. These protocols are in the public domain and are available from many bulletin board services.

XON/XOFF

Standard **ASCII** control **characters** used to tell an intelligent device to stop/resume transmitting data.

Ymodem

An error-checking **protocol** that can send several files of data at a time in 1024-**byte** (1K) blocks. This protocol can use either checksums or CRC for error checking.

Ymodem G

Similar to **Ymodem**, except it includes no error checking, which makes it faster.

Zmodem

Similar to **Xmodem** and **Ymodem**, except it includes batch transfer, the ability to recover from a partially complete transfer, an autostart feature, and improved efficiency.

SECTION D: TECHNICAL QUICK REFERENCE

This section includes information about:

- *Front Panel Lights*
- *Command Summary*
- *Dip Switches*
- *S-Registers*
- *The Serial Interface (cable information)*

Front Panel Lights (external modems)

Symbol	Meaning	Status
AA	Auto Answer.....	Answer mode: ON when register S0 is set to 1 or higher (Auto Answer), and when answering a call; OFF when modem originates a call. Light flashes when there is an incoming call.
CD.....	Carrier Detect	ON if modem receives a valid data signal (carrier) from a remote modem, indicating that data transmission is possible. Always ON if CD override is ON (&C0).
RD.....	Received Data.....	Flashes when modem sends result codes or passes received data bits from remote.
SD	Send Data	Flashes when computer sends a data bit to modem.
TR	Data Terminal Ready	ON if modem receives a DTR signal from computer. Always ON (modem ignores DTR) if the DTR override is ON (&D0).
CS	Clear to Send.....	ON until modem lowers CTS when Transmit Data hardware flow control is enabled (&H1, &H3).
ARQ/	Error Control/	
FAX.....	Fax Operations	Data Mode: Automatic Repeat Request. ON if modem is set to &M4 or &M5 and successfully establishes an error control connection. Flashes when modem retransmits data to remote modem. Fax Mode: Flashes to indicate fax mode.

Command Summary

- Type commands in either upper or lower case, not a combination. Use the Backspace key to delete errors. (You cannot delete the original AT command since it is not stored in the modem buffer.)
- If a command has numeric options and you don't include a number, zero is assumed. For example, if you type ATB, the command ATB0 is assumed.
- Every command except A/ and +++ must begin with the AT prefix and be entered by pressing **<Enter>**.
- The maximum command length is 58 characters. The modem doesn't count the AT prefix, carriage returns, or spaces.



Note: All defaults are based on the &F1—Hardware Flow Control template loaded in NVRAM when the modem is shipped. Defaults are listed in italics.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Command Set

\$ Use in conjunction with *D*, *S*, or *&* commands (or just *AT*) to display a basic command list; online help.

A Manual Answer: goes off hook in answer mode. Pressing any key aborts the operations.

A/ Re-executes the last issued command. Used mainly to redial. This does not require the *AT* prefix or a Carriage Return.

Any key Aborts off-hook dial/answer operation and hangs up.

AT Required command prefix, except with *A/* and *+++*. Use alone to test for OK result code.

Bn **U.S./ITU-T answer sequence.**

B0 *ITU-T answer sequence*

B1 U.S. answer tone

Dn **Dials the specified phone number. Includes the following:**

L Dials the last dialed number.

P Pulse (rotary) dial

R Originates call using answer (reverse) frequencies.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Sn	Dials the phone number string stored in NVRAM at position n (n = 0–3). Phone numbers are stored with the &Zn=s command.	!	(Exclamation point) Flashes the switch hook.
		/	Delays for 125 ms. before proceeding with dial string.
T	Tone dial	W	Wait for second dial tone (X2 or X4);
,	(Comma) Pause, See S8 definition; which it's linked to.		linked to S6 register.
		@	Dials, waits for quiet answer, and continues
;	(Semicolon) Return to Command mode after dialing.		(X3 or higher).
		\$	Displays a list of Dial commands.
“	Dials the letters that follow (in an alphabetical phone number).	En	Sets local echo.
		E0	Echo OFF
		E1	<i>Modem displays keyboard commands</i>

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Fn Sets online local echo of transmitted data ON/OFF.

F0 Local echo ON.
Modem sends a copy of data it sends to the remote system to your screen.

F1 Local echo OFF.
Receiving system may send a remote echo of data it receives.

Hn Controls ON/OFF hook.

H0 Hangs up (goes on hook).

H1 Goes off hook.

In Displays the following information.

I0 Four-digit product code

I1 Results of ROM checksum

I2 Results of RAM checksum

I3 Product type

I4 Current modem settings

I5 Nonvolatile memory (NVRAM) settings

I6 Link diagnostics

I7 Product configuration

Ln Controls speaker volume (internals only).

L0 Low volume

L1 Low volume

L2 Medium volume

L3 High volume

Mn Operates speaker.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

M0	Speaker always OFF.	Q2	Displays result codes only in Originate mode.
M1	Speaker ON until CONNECT.	Sr.b=n	Sets bit .b of register r to n (0/OFF or 1/ON).
M2	Speaker always ON.	Sr=n	Sets register r to n.
M3	Speaker ON after dial, until CONNECT.	Sr?	Displays contents of S-Register r.
On	Returns online.	S\$	Displays a list of the S-Registers.
O0	Returns online.	T	Sets tone dial.
O1	Returns online and retrains.	Vn	Displays verbal/numeric result codes.
P	Sets pulse dial (for phone lines that don't support touch-tone dialing).	V0	Numeric codes
Qn	Displays/suppresses result codes.	V1	Verbal codes
Q0	Displays result codes.		
Q1	Quiet mode; no result codes.		

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Xn Sets result code displayed. Default is X4.

Result Codes	Xn Setting				
	X0	X1	X2	X3	X4
0/OK	•	•	•	•	•
1/CONNECT	•	•	•	•	•
2/RING	•	•	•	•	•
3/NO CARRIER	•	•	•	•	•
4/ERROR	•	•	•	•	•
5/CONNECT 1200		•	•	•	•
6/NO DIAL TONE			•		•
7/BUSY				•	•
8/NO ANSWER*				•	•
9/Reserved					
10/CONNECT 2400		•	•	•	•
11/RINGING					•
13/CONNECT 9600		•	•	•	•
18/CONNECT 4800		•	•	•	•
20/CONNECT 7200		•	•	•	•
21/CONNECT 12000		•	•	•	•
25/CONNECT 14400		•	•	•	•
43/CONNECT 16800		•	•	•	•
85/CONNECT 19200		•	•	•	•
91/CONNECT 21600		•	•	•	•
99/CONNECT 24000		•	•	•	•
103/CONNECT 26400		•	•	•	•
107/CONNECT 28800		•	•	•	•
151/CONNECT 31200		•	•	•	•

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Xn (continued)

<i>Xn</i>	Result Codes (cont.)	X0	X1	X2	X3	X4
	155/CONNECT 33600	•	•	•	•	•
	180/CONNECT 33333	•	•	•	•	•
	184/CONNECT 37333	•	•	•	•	•
	188/CONNECT 41333	•	•	•	•	•
	192/CONNECT 42666	•	•	•	•	•
	196/CONNECT 44000	•	•	•	•	•
	200/CONNECT 45333	•	•	•	•	•
	204/CONNECT 46666	•	•	•	•	•
	208/CONNECT 48000	•	•	•	•	•
	212/CONNECT 49333	•	•	•	•	•
	216/CONNECT 50666	•	•	•	•	•
	220/CONNECT 52000	•	•	•	•	•
	224/CONNECT 53333	•	•	•	•	•
	228/CONNECT 54666	•	•	•	•	•
	232/CONNECT 56000	•	•	•	•	•
	236/CONNECT 57333	•	•	•	•	•
	Adaptive Dialing			•	•	•
	Wait for 2nd Dial Tone (W)			•		•
	Wait for Answer (@)				•	•
	Fast Dial			•		•
	*Requires @ in dial string; replaces NO CARRIER					

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Yn **Selects power-on/reset default configuration.**

- Y0 *Default is profile 0 setting in NVRAM*
- Y1 Default is profile 1 setting in NVRAM

Z **Resets modem.**

- Z0 Resets modem to NVRAM profile selected by Y command or dip 7.
- Z1 Resets modem to NVRAM profile 0
- Z2 Resets modem to NVRAM profile 1
- Z3 Resets modem to factory default profile 0 (&F0)

- Z4 Resets modem to factory default profile 1 (&F1)
- Z5 Resets modem to factory default profile 2 (&F2)

&A **Displays a list of ampersand (&) commands. &An enables/disables additional result code subsets (see Xn).**

- &A0 ARQ result codes disabled
- &A1 ARQ result codes enabled
- &A2 V.32 modulation indicator added
- &A3 *Protocol indicators added^{3/4}*

PART III: SECTION D: TECHNICAL QUICK REFERENCE

*LAPM/MNP/NONE
(error control) and
V42bis/MNP5 (data
compression)*

&Bn **Manages modem's serial port rate.**

&B0 Variable, follows connection rate

&B1 *Fixed serial port rate*

&B2 Fixed in ARQ mode, variable in non-ARQ mode

&Cn **Controls Carrier Detect (CD) signal.**

&C0 CD override

&C1 *Normal CD operations*

&Dn **Controls Data Terminal Ready (DTR) operations.**

&D0 *DTR override*

&D1 DTR toggle causes online *Command* mode

&D2 *Normal DTR operations*

&D3 Resets on receipt of DTR

&Fn **Loads a read-only (non-programmable) factory configuration.**

&F0 Generic template

&F1 *Hardware flow control template*

&F2 Software flow control template

PART III: SECTION D: TECHNICAL QUICK REFERENCE

&Gn Sets Guard Tone.

&G0 No guard tone, U.S. and Canada

&G1 550 Hz guard tone, some European countries, requires B0 setting.

&G2 1800 Hz guard tone, U.K., requires B0 setting.

&Hn Sets Transmit Data (TD) flow control (see also &Rn).

&H0 Flow control disabled

&H1 Hardware flow control, Clear to Send (CTS)

&H2 Software flow control, XON/XOFF

&H3 Hardware and software flow control

&In Sets Receive Data (RD) software flow control (see also &Rn).

&I0 Software flow control disabled

&I1 XON/XOFF signals to your modem and remote system

&I2 XON/XOFF signals to your modem only

&Kn Enables/disables data compression.

&K0 Data compression disabled

&K1 Auto enable/disable

PART III: SECTION D: TECHNICAL QUICK REFERENCE

&K2	Data compression enabled	&Un is greater than 0. See &Un.
&K3	MNP5 compression disabled	<i>&N0 Variable rate</i>
&Mn	Sets Error Control (ARQ) for connections at 1200 bps and higher.	&N1 300 bps
&M0	Normal mode, error control disabled	&N2 1200 bps
&M1	Reserved	&N3 2400 bps
&M2	Reserved	&N4 4800 bps
&M3	Reserved	&N5 7200 bps
<i>&M4</i>	<i>Normal/ARQ</i>	&N6 9600 bps
&M5	ARQ mode	&N7 12,000 bps
&Nn	Sets connect speed. If connection cannot be established at this speed, the modem will hang up. Sets ceiling connect speed if	&N8 14,400 bps
		&N9 16,800 bps
		&N10 19,200 bps
		&N11 21,600 bps
		&N12 24,000 bps
		&N13 26,400 bps
		&N14 28,800 bps
		&N15 31,200 bps
		&N16 33,600 bps

PART III: SECTION D: TECHNICAL QUICK REFERENCE

&N17 33,333 bps

&N18 37,333 bps

&N19 41,333 bps

&N20 42,666 bps

&N21 44,000 bps

&N22 45,333 bps

&N23 46,666 bps

&N Continued

&N24 48,000 bps

&N25 49,333 bps

&N26 50,666 bps

&N27 52,000 bps

&N28 53,333 bps

&N29 54,666 bps

&N30 56,000 bps

&N31 57,333 bps

**&Pn Sets pulse (rotary) dial
make/break ratio.**

*&P0 U.S./Canada ratio,
39%/61%*

&P1 U.K. ratio, 33%/67%

**&Rn Sets Receive Data (RD)
hardware flow control,
Request to Send (RTS) (see
also &Hn).**

&R0 Reserved

&R1 Modem ignores RTS

*&R2 Received Data to
computer only on
RTS*

**&Sn Controls Data Set Ready
(DSR) operations.**

*&S0 DSR override; always
ON*

&S1 Modem controls DSR

PART III: SECTION D: TECHNICAL QUICK REFERENCE

&Tn Begins test modes.

- &T0 Ends testing
- &T1 Analog Loopback
- &T2 Reserved
- &T3 Local Digital Loopback
- &T4 Enables Remote Digital Loopback
- &T5 *Prohibits Remote Digital Loopback*
- &T6 Initiates Remote Digital Loopback
- &T7 Remote Digital with self-test and error detector
- &T8 Analog Loopback with self-test and error detector

&Un Sets floor connect speed when &Un is set greater than 0. &Nn is the ceiling connect speed. See &Nn.

- &U0 Disabled*
- &U1 300 bps
- &U2 1200 bps
- &U3 2400 bps
- &U4 4800 bps
- &U5 7200 bps
- &U6 9600 bps
- &U7 12,000 bps
- &U8 14,400 bps
- &U9 16,800 bps
- &U10 19,200 bps
- &U11 21,600 bps
- &U12 24,000 bps
- &U13 26,400 bps
- &U14 28,800 bps

PART III: SECTION D: TECHNICAL QUICK REFERENCE

&U15 31,200 bps

&U16 33,600 bps

&U17 33,333 bps

&U18 37,333 bps

&U19 41,333 bps

&U20 42,666 bps

&U21 44,000 bps

&U22 45,333 bps

&U23 46,666 bps

&U24 48,000 bps

&U25 49,333 bps

&U26 50,666 bps

&U Continued

&U27 52,000 bps

&U28 53,333 bps

&U29 54,666 bps

&U30 56,000 bps

&U31 57,333 bps

&Wn Writes current configuration to NVRAM templates.

&W0 Modifies the NVRAM 0 template (Y0)

&W1 Modifies the NVRAM 1 template (Y1)

&Yn Sets break handling.

&Y0 Destructive, but doesn't send break

&Y1 *Destructive, expedited*

&Y2 Nondestructive, expedited

&Zn=s Writes phone number string *s* to NVRAM at position *n* (*n* = 0–3).

PART III: SECTION D: TECHNICAL QUICK REFERENCE

- &Zn=L** Writes last executed dial string to NVRAM at position n (n = 0–3).
- &Zn?** Displays the phone number stored at position n (n = 0–3).
- &ZL?** Displays the last executed dial string.
- +++** Escapes to online-command mode.

DIP Switches (Modems with DIP Switches Only)

Note: If a DIP switch is on, it is down. If a DIP switch is off, it is up. *Defaults are in italics.*

Switch	Factory Setting	Function
1	OFF	Data Terminal Ready (DTR) Override OFF Normal DTR operations: computer must provide DTR signal for modem to accept commands; dropping DTR terminates a call ON Modem ignores DTR (Override)
2	OFF	Verbal/Numeric Result Codes OFF Verbal (word) results ON Numeric results
3	ON	Result Code Display OFF Suppresses result codes ON Enables result codes
4	OFF	Command Mode Local Echo Suppression OFF Displays keyboard commands ON Suppresses echo
5	ON	Auto Answer Suppression OFF Modem answers on first ring, or higher if specified in NVRAM ON Disables auto answer

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Switch	Factory Setting	Function
6	OFF	Carrier Detect (CD) Override OFF Modem sends CD signal when it connects with another modem, drops CD on disconnect ON CD always ON (Override)
7	OFF	Power-on and ATZ Reset Software Defaults OFF Loads Y or Y1 configuration from user-defined nonvolatile memory (NVRAM) ON Loads &F0—Generic template from read only memory (ROM)
8	ON	AT Command Set Recognition OFF Disables command recognition (Dumb Mode) ON Enables recognition (Smart mode)

S-Registers

To change a setting, use the `ATSr=n` command, where *r* is the register and *n* is a decimal value from 0 – 255 (unless otherwise indicated).

Register	Default	Function
S0	0	Sets the number of rings on which to answer in Auto Answer Mode. When set to 0, Auto Answer is disabled.
S1	0	Counts and stores the number of rings from an incoming call. (S0 must be greater than 0.)
S2	43	Stores the ASCII decimal code for the escape code character. Default character is +. A value of 128 – 255 disables the escape code.
S3	13	Stores the ASCII code for the Carriage Return character. Valid range is 0 – 127.
S4	10	Stores the ASCII decimal code for the Line Feed character. Valid range is 0 – 127.
S5	8	Stores the ASCII decimal code for the Backspace character. A value of 128 – 255 disables the Backspace key's delete function.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function
S6	2	Sets the number of seconds the modem waits before dialing. If Xn is set to X2 or X4, this is the time-out length if there isn't a dial tone.
S7	60	Sets the number of seconds the modem waits for a carrier. May be set for much longer duration if, for example, the modem is originating an international connection.
S8	2	Sets the duration, in seconds, for the pause (,) option in the Dial command.
S9	6	Sets the required duration, in tenths of a second, of the remote modem's carrier signal before recognition by the Sportster.
S10	7	Sets the duration, in tenths of a second, that the modem waits to hang up after loss of carrier. This guard time allows the modem to distinguish between a line disturbance from a true disconnect (hang up) by the remote modem. While we don't recommend connecting the modem to a line with call waiting, if you have it, you may wish to adjust this setting upward to prevent the modem from misinterpreting the second call signal as a disconnect by the remote modem.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function															
S10 (<i>cont.</i>)	7	<p>A better alternative is to ask your phone company how to temporarily disable call waiting (usually *70W). For example: ATDT *70W <i>phone number</i>.</p> <p>Note: If you set S10 = 255, the modem will not hang up when carrier is lost. Dropping DTR hangs up the modem.</p>															
S11	70	Sets the duration and spacing, in milliseconds, for tone dialing.															
S12	50	Sets the duration, in fiftieths of a second, of the guard time for the escape code sequence (+++).															
S13	0	<p>Bit-mapped register. Select the bit(s) you want on and set S13 to the total of the values in the Value column. For example, ATS13 = 17 enables bit 0 (value is 1) and bit 4 (value is 16).</p> <table><thead><tr><th>Bit</th><th>Value</th><th>Result</th></tr></thead><tbody><tr><td>0</td><td>1</td><td>Reset when DTR drops.</td></tr><tr><td>1</td><td>2</td><td>Reset non-MNP transmit buffer from 1.5K to 128 bytes.*</td></tr><tr><td>2</td><td>4</td><td>Set backspace key to delete.</td></tr><tr><td>3</td><td>8</td><td>On DTR signal, auto dial the number stored in NVRAM at position 0.</td></tr></tbody></table>	Bit	Value	Result	0	1	Reset when DTR drops.	1	2	Reset non-MNP transmit buffer from 1.5K to 128 bytes.*	2	4	Set backspace key to delete.	3	8	On DTR signal, auto dial the number stored in NVRAM at position 0.
Bit	Value	Result															
0	1	Reset when DTR drops.															
1	2	Reset non-MNP transmit buffer from 1.5K to 128 bytes.*															
2	4	Set backspace key to delete.															
3	8	On DTR signal, auto dial the number stored in NVRAM at position 0.															

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function		
S13 (cont.)		Bit	Value	Result
		4	16	At power on/reset, Auto Dial the number stored in NVRAM at position 0.
		5	32	Reserved
		6	64	Disable quick retrains.
		7	128	Disconnect on escape code.

* The 1.5K-byte non-ARQ buffer allows data transfer with Xmodem- and Ymodem-type file transfer protocols without using flow control.

The 128-byte option lets remote users with slower modems keep data you're sending from scrolling off their screens. When remote users send your computer an XOFF (Ctrl-S) and you stop transmitting, the data in transit from your modem's buffer doesn't exceed the size of their screen. This is also very helpful in situations when a remote modem/printer application is losing characters.

S14 0 Reserved

S15 0 Bit-mapped register setup. To set the register, see instructions for S13.

Bit	Value	Result
0	1	Disable ARQ/MNP for V.22.
1	2	Disable ARQ/MNP for .22bis.
2	4	Disable ARQ/MNP V.32/V.32bis/V.32terbo.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function
S15 (<i>cont.</i>)		Bit Value Result
		3 8 Disable MNP handshake.
		4 16 Disable MNP level 4.
		5 32 Disable MNP level 3.
		6 64 MNP incompatibility.
		7 128 Disable V.42 operation.
		8 136 Disable V.42 detect phase.
		S16
		Bit Value Result
		0 1 Reserved
		1 2 Touch tone dialing test.
		2-7 4-128 Reserved
S17	0	Reserved
S18	0	Test timer for &T loopback testing. Sets the time in seconds of testing before the modem automatically times out and terminates the test. When set to 0, the timer is disabled. Valid range is 1-255.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function
S19	0	Sets the duration, in minutes, for the inactivity timer. The timer activates when there is no data activity on the phone line; at time-out the modem hangs up. S19 = 0 disables the timer.
S20	0	Reserved
S21	10	Sets the length, in 10-millisecond units, of breaks sent from the modem to the computer; applies to MNP or V.42 mode only.
S22	17	Stores the ASCII decimal code for the XON character.
S23	19	Stores the ASCII decimal code for the XOFF character.
S24	0	Reserved
S25	20	Sets the duration, in hundredths of a second, that DTR must be dropped so that the modem doesn't interpret a random glitch as a DTR loss. (Most users will want to use the default; this register is useful for setting compatibility with older systems running under older operating software.)
S26	0	Reserved

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function
S27	0	Bit-mapped register setup. To set the register, see instructions for S13.
		Bit Value Result
	0	1 Enables ITU-T V.21 modulation at 300 bps for overseas calls; in V.21 mode, the modem answers both overseas and domestic (U.S. and Canada) calls, but only originates V.21 calls. (Default Bell 103)
	1	2 Enables unencoded (non-trellis coded) modulation in V.32 mode.
	2	4 Disables V.32 modulation.
	3	8 Disables 2100 Hz answer tone to allow two V.42 modems to connect faster.
	4	16 Enables V.23 fallback mode.
	5	32 Disables V.32 <i>bis</i> mode.
	6	64 Disable V.42 selective reject.
	7	128 Software compatibility mode. This setting disables the codes and displays the 9600 code instead. The actual rate of the call can be viewed on the ATI6 screen. Used for unusual software incompatibilities. Some software may not accept 7200, 12,000, and 14,400 bps or greater result codes.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function
S28	0	Eliminates the V.32 answer tones for a faster connection.
	8	Default item, all times are in tenths of seconds.
	255	Disables all connections except V.32 at 9600 bps.
S29	20	Sets the duration, in tenths of a second, of the V.21 answer mode fallback timer.
S30	0	Reserved
S31	128	Reserved
S32	2	Bit mapped register setup. To set the register, see the instructions for S13.
	Bit	Value Result
	0	1 V.8 Call Indicate enabled.
	1	2 Enables V.8 mode.
	2	4 Reserved.
	3	8 Disable V.34 modulation.
	4	16 Disable V.34+ modulation.
	5	32 Disable x2 modulation.
	6-7-	64-128 Reserved

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function
S33	0	Bit mapped register setup. To set the register, see the instructions for S13.
		Bit Value Result
		0 1 Disable 2400 symbol rate.
		1 2 Disable 2743 symbol rate.
		2 4 Disable 2800 symbol rate.
		3 8 Disable 3000 symbol rate.
		4 16 Disable 3200 symbol rate.
		5 32 Disable 3429 symbol rate.
		6 64 Reserved
		7 128 Disable shaping.
S34	0	Bit mapped register setup. To set registers, see instructions for S13.
		Bit Value Result
		0 1 Disable 8S-2D trellis encoding.
		1 2 Disable 16S-4D trellis encoding.
		2 4 Disable 32S-2D trellis encoding.
		3 8 Disable 64S-4D trellis encoding.
		4 16 Disable non-linear coding.

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function		
S34 (<i>cont.</i>)		Bit	Value	Result
		5	32	Disable TX level deviation.
		6	64	Disable Pre-emphasis.
		7	128	Disable Pre-coding.
S35		Reserved		
S36-S37		Reserved		
S38	0	Sets an optional delay, in seconds, before a forced hang-up and clearing of the Transmit buffer when DTR drops during an ARQ call. This allows time for a remote modem to acknowledge receipt of all transmitted data before it is disconnected. The modem immediately hangs up when DTR drops.		
		This option only applies to connections terminated by dropping DTR. If the modem receives the ATH command, it ignores S38 and immediately hangs up.		

PART III: SECTION D: TECHNICAL QUICK REFERENCE

Register	Default	Function
S39-S40	Reserved	
S41	0	Bit mapped register setup. To set registers, see instructions for S13.
		Bit Value Result
		0 1 Distinctive ring enabled.
S42	0	Reserved

The Serial Interface

The serial interface is a standard developed by the Electronic Industries Association (EIA). It defines the signals and voltages used when data is exchanged between a computer and a modem or serial printer.

The entire standard covers many more functions than are used in most data communications applications. Data is transmitted between the devices over a shielded serial cable with a 25-pin male (DB-25P) connector to the modem and a 25-pin, 9-pin, 8-pin, or custom-built connector to the computer.

FCC regulations require the use of a shielded cable when connecting a modem to a computer to ensure minimal interference with radio and television.

Pin assignments are factory-set in the Sportster modem to match the standard DB-25 assignments in the following table. DB-9 connectors for IBM/AT-compatible computers should be wired at the computer end of the cable as shown in the DB-9 column.

Serial Interface Pin Definitions

DB-25	DB-9	Circuit	Function	Signal Source Computer/Modem
1	—	AA	Chassis Ground	Both
2	3	BA	Transmitted Data	Computer
3	2	BB	Received Data	Modem
4	7	CA	Request to Send	Computer
5	8	CB	Clear to Send	Modem
6	6	CC	Data Set Ready	Modem
7	5	AB	Signal Ground	Both
8	1	CF	Carrier Detect	Modem
12	—	SCF	Speed Indicate	Modem
20	4	CD	Data Terminal Ready	Computer
22	9	CE	Ring Indicate	Modem

SECTION E: REGULATORY INFORMATION

Manufacturer's Declaration of Conformity

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

declares that the product *U.S. Robotics Sportster Voice 56K Faxmodem* conforms to the FCC's specifications:

Part 15:

Operation is subject to the following two conditions:

- (1) this device may not cause harmful electromagnetic interference, and
- (2) this device must accept any interference

received including interference that may cause undesired operations.

Part 68:

This equipment complies with FCC Rules Part 68. Located on the bottom of the modem is the FCC Registration Number and Ringer Equivalence Number (REN).

RINGER EQUIVALENCE = 0.2B

You must provide this information to the telephone company when requested.

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

PART III: SECTION E: REGULATORY INFORMATION

determine the maximum REN for your calling area.

This equipment uses the following USOC jacks: RJ11C.

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

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

Caution to the User

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

IC (Canada)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled *Digital Apparatus*, ICES-003 of Industry Canada. Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: *Appareils Numériques*, NMB-003 édictée par l'Industrie Canada.

PART III: SECTION E: REGULATORY INFORMATION

UL Listing/CUL Listing

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

Connecting to the Telephone Company

It is not necessary to notify the telephone company before installing the modem. However, the telephone company may request the telephone number(s) to which the Sportster is connected and the FCC information printed on this page.

Be sure that the telephone line you are connecting the modem to is a standard analog line and not a digital (PBX), party, or coin telephone line.

If the modem is malfunctioning, it may affect the telephone lines. In this case, disconnect the modem until the source of the difficulty is traced.

Fax Branding

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

PART III: SECTION E: REGULATORY INFORMATION

other number for which charges exceed local or long-distance transmission charges.)

In order to program this information into your Sportster, refer to the RapidComm manual on the CD-ROM that shipped with your modem. If you're using a different communications software program, refer to its manual.

Radio and Television Interference

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

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

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

PART III: SECTION E: REGULATORY INFORMATION

If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may find the following booklet, prepared by the Federal Communications Commission, helpful:

How to Identify and Resolve Radio-TV Interference Problems
Stock No. 004-000-0345-4
U.S. Government Printing Office
Washington, DC 20402

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

For Canadian Modem Users

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

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single-line, individual service may be extended by means of a certified connector assembly (telephone

PART III: SECTION E: REGULATORY INFORMATION

extension cord.) The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Currently, telecommunication companies do not allow users to connect their equipment to jacks except in precise situations that are spelled out in tariffing arrangements with those companies.

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

For your own protection, make sure that the electrical ground connections of the power utility, telephone lines, and internal metallic

water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Do *NOT* attempt to make such connections yourself. Instead 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.”

REN: _____

PART III: SECTION E: REGULATORY INFORMATION

WARRANTY AND REPAIR SERVICE CENTER:

(Repair/service center name and address)
(phone number)

AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme à certaines normes de protection, d'exploitation et de sécurité des réseaux de télécommunications. Cette information est indiquée dans le document suivant: "Equipment Technical Requirements". Toutefois, le Ministère ne garantit pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

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

télécommunications. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. Dans certains cas, le réseau interne de la compagnie associé avec une ligne individuelle peut être étendue en utilisant un connecteur conforme aux réglementations (rallonge de corde téléphonique). L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations. Actuellement, les entreprises de télécommunication ne permettent pas que l'on raccorde leur matériel à des jacks d'abonné, sauf dans les cas précis prévus par les tarifs particuliers de ces entreprises.

Les réparations de matériel homologué doivent être effectuées par un centre d'entretien canadien autorisé et désigné par le fournisseur.

PART III: SECTION E: REGULATORY INFORMATION

La compagnie de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur, ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

AVERTISSEMENT: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours aux services d'un électricien.

NOTICE: le Ringer Equivalence Number (REN) de chaque appareil donne une indication du nombre maximal de terminaux qui peut être branché à l'interface téléphonique. La termination d'une interface peut consister de n'importe quelle combinaison d'appareils sur le réseau, seulement si la somme du Ringer Equivalence Numbers de tous les appareils n'excède pas 5."

REN: _____

Centre de garantie et de service après-vente:

(adresse et numéro de téléphone.)

PART III: SECTION E: REGULATORY INFORMATION

Limited Warranty

U.S. Robotics Access Corp. warrants to the original end-user purchaser that this product will be free from defects in materials and workmanship for a period of five years from the date of purchase. During the limited warranty period, and upon proof of purchase, the product will be repaired or replaced (with the same or a similar model, which may be a refurbished model) at U.S. Robotics' option, without charge for either parts or labor. This limited warranty shall not apply if the product is modified, tampered with, misused, or subjected to abnormal working conditions (including, but not limited to, lightning and water damage).

THIS LIMITED WARRANTY DOES NOT GUARANTEE YOU UNINTERRUPTED SERVICE. REPAIR

OR REPLACEMENT AS PROVIDED UNDER THIS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. U.S. ROBOTICS SHALL IN NO EVENT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES OF ANY KIND OR CHARACTER, INCLUDING, WITHOUT LIMITATION, LOSS OF REVENUE OR PROFITS, FAILURE TO REALIZE SAVINGS OR OTHER

PART III: SECTION E: REGULATORY INFORMATION

BENEFITS, LOSS OF DATA OR USE,
DAMAGE TO EQUIPMENT, AND
CLAIMS AGAINST THE PURCHASER
BY ANY THIRD PERSON, EVEN IF
U.S. ROBOTICS HAS BEEN ADVISED
OF THE POSSIBILITY OF SUCH
DAMAGES.

This limited warranty gives you specific legal rights. You may have others, which vary from state to state. Some states do not allow limitations on duration of an implied warranty, or the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

To obtain service under this limited warranty, contact the U.S. Robotics Technical Support Department at 847-982-5151 or by mail at U.S. Robotics, 7770 N. Frontage Road, Attn.: Technical Support Dept., Skokie, Illinois 60077-2690. You will be given a Service Repair Order (“SRO”) number to help U.S. Robotics keep track of your limited warranty request. Once you have received your SRO number, take or send the product, postage prepaid and insured, to U.S. Robotics at 8100 N. McCormick Blvd., U1 Receiving, Skokie, Illinois 60076-2999. Include proof of the date of purchase. **IMPORTANT:** If you send your unit, pack it securely, and be sure that your SRO number is visible on the outside of the package.

INDEX

A

America Online, U.S. Robotics online support and, 127-128
American Standard Code for Information Interchange. *See* ASCII
analog loopback, 131
analog phone lines, vs. digital, 22, 46, 71, 91
analog signals, 131
answer mode, 131
AOL. *See* America Online, U.S. Robotics online support and
ARQ. *See* Automatic Repeat reQuest
ASCII (American Standard Code for Information Interchange), 131
asynchronous transmission, 131
auto answer, 132
auto answer (AA) light, 142

auto dial, 132

Automatic Repeat reQuest (ARQ) light, 142

B

baud rate, 132

binary digit, 132

bit rate, 132

bits per second (bps), 132

buffer, 132

byte, 132

C

carrier, 133

carrier detect (CD) light, 142

character, 133

Index

characters per second (cps), 133
 low, errors and, 121

class 1 and 2.0 faxing standards, 133

clear to send (CS) light, 142

COM ports, 9-10
 conflicts with IRQs, 117-118
 and Plug and play installations, 41-42

comdrivers, outdated, 122

command summary, 143-156

communications software
 and flow control, 116
 installation, 115-116
 UART, 116

CompuServe, U.S. Robotics online support
 and, 127

comtest, 11-17
 evaluating recommendations, 14-17
 using, 11-14

CRC. *See* Cyclic Redundancy Checking

Cyclic Redundancy Checking (CRC), 121,
133

D

data compression table, 133

data mode, 134

data terminal (terminating) equipment (DTE),
 134

data terminal ready (TR) light, 142

default settings, 134

detect phase, 134

dictionary, 134

digital loopback, 134

digital signals, 134

DOS
 and DoubleSpace, 123
 and faxing, 123

DoubleSpace, 123

Index

DTE. *See* data terminal (terminating)
equipment
duplex, 134

E

EIA. *See* Electronic Industries Association
Electronic Industries Association (EIA), 135
error control, 135
 disabling, 120
error control/ (ARQ/) light, 142
external modems
 faxing with, 85-87, 108-111
 hardware installation, 69-72, 89-95
 and serial cable, 69-70, 89-90
 software setup Wizard, 72-84,
 95-108

F

facsimile (fax), 135
fax mode, 135
fax operations (FAX) light, 142
faxing
 and DOS, 127
 with RapidComm Voice, 38-40, 63-
 66, 85-87, 108-111
flow control, 116, 121, 135
frame, 135
front panel lights, summary, 142
FTP, U.S. Robotics online support and, 127
full duplex, 135

G

glossary, 131-140

Index

H

half duplex, 135
hertz (Hz), 136

I

internal modems
 and comtest recommendations, 14-17
 factory settings, changing, 17-19
 faxing with, 38-40, 63-66
 hardware installation, 19-24, 43-47
 and Plug and Play installation, 41-43
 software setup Wizard, 25-37, 50-63
International Telegraph and Telephone
Consultative Committee (ITU-T), 136
IRQs, 9-10
 conflicts, 117-118
ISA expansion slots, 20, 45

ITU-T. *See* International Telegraph and
Telephone Consultative Committee

L

LAPM. *See* Link Access Procedure for
Modems
Link Access Procedure for Modems (LAPM),
 136
local echo, 136

M

Microcom Networking Protocol (MNP), 136
microphone installation, 22, 47
MNP. *See* Microcom Networking Protocol

Index

N

nonvolatile memory (NVRAM), 136
NVRAM. *See* nonvolatile memory

O

off/on hook, 137
online fallback/fall forward, 137
originate mode, 137

P

parity, 120, 137
personal voice mail, 5
Plug and Play installation, 41-43
protocol, 137

R

RAM (random access memory), 137
random access memory. *See* RAM
RapidComm Voice
 faxing with, 38-40, 63-66, 85-87,
 108-111
 installing, 25-37, 50-63, 72-84, 95-
 108
 troubleshooting, 129
read only memory (ROM), 138
received data (RD) light, 142
remote digital loopback, 138
remote echo, 138

Index

S

s-registers, 159-169
send data (SD) light, 142
serial cable, 69-70, 89-90
serial number, modem, 19, 43
serial (COM) ports, 69-72, 89-92
serial transmission, 138
speakerphone, 5
start/stop bits, 120, 124, 138

T

Technical Reference Guide, downloading,
125-126
terminal mode, 124, 138
Terminate and Stay Resident programs, errors
and, 121-122
throughput, 138

troubleshooting, 117-122
RapidComm Voice, 129
TSR. *See* Terminate and Stay Resident
programs

U

UART, 116
U.S. Robotics
BBS, 124-125, 127-128
fax number, technical support, 128
online help resources, 124-128
Technical Reference Guide,
downloading, 125-126
Technical Support Hotline, 128

Index

V

V.17 fax transmissions, errors and, 122

W

Windows 3.x

external modems and, 69-88

internal modems and, 9-40

Windows 95

external modems and, 89-112

internal modems and, 41-66

World Wide Web (WWW), U.S. Robotics

online support and, 127

X

x2 technology, 3-4

Xmodem, 140

xon/xoff, 140

Y

Ymodem, 140

Ymodem G, 140

Z

Zmodem, 140