INSYNC

INSYNC MODEMSHARE
USER'S MANUAL

Version 7.0

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PART 1

INSTALLING AND USING
INSYNC MODEMSHARE

WELCOME TO INSYNC MODEMSHARE

CHAPTER CONTENTS

Small and growing businesses today depend on communications technology to access a wide range of electronic information quickly and economically. Fax communications, online services and the Internet have become vital business tools. For many small and growing businesses, however, making these resources available throughout the company has been cost-prohibitive, since it has meant dedicating a phone line and modem to each user. Now Artisoft® offers an easy, affordable solution with INSYNC® ModemShare™.

What is ModemShare? _____

INSYNC ModemShare is the easy software solution for sharing data/fax modems and their attached phone lines across a local area network. As a new and more powerful version of Synergy Solutions Modem Assist Plus v4.0, ModemShare gives you greater productivity and flexibility in your business communications activities.

ModemShare lets everyone on your network share a single modem and phone line to access online services and the Internet, fax from their desktops and more – without extra phone lines and expensive hardware.

Although your local area network performs many connectivity functions, it can't connect a COM port on one computer to a COM port on another. That's why you need ModemShare. Working efficiently in the background, it makes sharing communications devices like modems as easy as sharing a printer.

ModemShare works seamlessly in a DOS, Windows v3.x or Windows 95 local area network environment – or all three. This means that you can use your favorite Windows 95, Windows v3.x or DOS communications software to perform business activities like these:

- Dial out to and connect to electronic bulletin boards with communications programs such as Microsoft® HyperTerminal™, Terminal™ and WinCom PRO™.

- Connect to the Internet using a browser such as Netscape™, NetCruiser™ or Mosaic.

- Send or receive faxes with any Windows v3.x or Windows 95 fax-sharing software, such as Microsoft® Fax for Windows 95, WinFax PRO™, BitFax™ or FaxWorks.

- Dial in to the network from a remote PC or laptop with any Windows 95, Windows v3.x or DOS remote control software such as INSYNC® CoSession Remote™, pcANYWHERE™ or ReachOut.

System requirements _____

To install ModemShare, you must have:

- Network operating system

    Compatible networks are: NetWare®, LANtastic v6.0, LANtastic Power Suite, LANtastic for Windows 95, IPX/SPX, NetBEUI or NetBIOS networks.

- Communications software

    Any Windows 95, Windows v3.1 or later (v3.x), or networked DOS communications package such as fax, Internet access or remote control software.

- ModemShare server computer requirements

    IBM® PC, XT™, AT®, PS/2® or compatible computer. A dedicated 80386 processor or above is necessary if you want to share five or more modems.

    - DOS v5.0 or later, Windows v3.x, or Windows 95.
    - Hayes®-compatible modem; Class II modem for faxing.
    - 16550 buffered UART device when Windows is present for general communications over 9600 bps.
    - Nonintelligent multiport serial board support.

- ModemShare client computer requirements

    IBM PC, XT, AT, PS/2 or compatible.

    - DOS v5.0 or later, Windows v3.x, or Windows 95.

Licensing and compatibility information_____

New ModemShare licenses are available for one, two, four, eight and 32 shared COM ports divided among your ModemShare servers according to your individual needs. For example, you can use a four-port license to support a single ModemShare server with four modems attached or four ModemShare servers that have one modem each.

If you're running a previous version of ModemShare (called Modem Assist Plus) or you want to expand your current ModemShare installation, you can purchase an upgrade or add-on license for 4, 16 or 32 or more ports.

ModemShare works with NetBIOS-based network operating systems such as LANtastic® and NetBEUI-based networks such as Windows® for Workgroups and Windows 95 Client, as well as with the IPX/SPX-protocol-based Novell® NetWare®.

ModemShare supports the standard Interrupt 14 COM port interface, an extended Interrupt 14 interface, the Novell NASI interface and the Windows communications interface. Any communications program that you use with ModemShare must support one of these interfaces.

A number of ModemShare-compatible communications programs were mentioned on page 2. For a complete updated list of compatible third-party communications packages, see a file called MSHARE on Artisoft's electronic bulletin board, CompuServe® forum or FTP site. The same file can be obtained as Document 4111 on Artisoft's FaxReturn℠ service. For complete information on using these online information services, see Appendix A.

How to use ModemShare

This example shows how easy it is to share modems across your network using ModemShare's Windows v3.x interface. Here are the basic steps:

- Install the ModemShare software – on computers that don't have their own modems as well as the ones that do.

- Use ModemShare to redirect one of your client's COM ports (such as COM4) to the COM port to which the server's modem is attached. (This connection can be set up permanently, so you have to make it only once.)

- When you're ready to make an outgoing call, such as a connection to the Internet, simply tell your Internet dialer or communications program to make the connection through your redirected COM4 port. The program then dials out using the modem on the ModemShare server, just as if it were located on your desktop. (Again, you can make this COM port specification permanent in your Internet dialer or communications program.)

- When you want to receive an incoming communication, such as a remote control session, tell ModemShare the path to and program name of your host communications program. You do this in advance so you can go right on working while you're waiting for your incoming call. When a remote control

viewer calls in, ModemShare will automatically launch your host communications program.

Important… Chapter 3 contains all the information you need to get started using ModemShare.

Beyond the basic features _____

If many people in your office need to use modems frequently, you can set up a dedicated ModemShare server that has several modems installed. For speed and convenience, these modems can be selectively shared by various communications settings (such as baud rate), by groups of modems (such as the "Sales Group"), by the same types of communications programs (such as an Internet browser) or by other criteria. This is only one example of ModemShare's many sophisticated management features that keep your data, fax and Internet communications flowing as smoothly as if you had a modem and phone line attached to your own computer.

ModemShare v7.0 also lets you perform many other types of useful communications activities. Here are a few examples.

DOS, Windows v3.x and Windows 95

- For conference calls, you can set up ModemShare so any number of people can view information from online services downloaded from a single phone line.

- For call forwarding, you can set up your ModemShare servers to automatically route incoming calls to other computers.

- If your ModemShare server has a cable connecting its COM port to a mainframe, mini or printer, you can use ModemShare to directly access that device – with no modem involvement.

- Whether you're at a ModemShare server or client computer, you can view a window that shows all ModemShare servers running on your network and their available modem resources.

- To optimize your planning and maintenance, you can monitor all modem-sharing activity by both user name and node address.

Windows v3.x only

- When you start up ModemShare, a simulated status light display lets you know you're sending or receiving data.

Windows v3.x and Windows 95

- If a server's modem is busy, ModemShare offers you several options that avoid interruptions to your work. For example, your request can wait in a queue until the modem is ready – or you can tell your computer to automatically retry the modem.

Windows 95 only

- When you have more than one communications job to do, you can hold multiple inbound/outbound sessions on a single ModemShare client computer, each time specifying a different communications program.

- For on-the-fly flexibility, you can dynamically share or unshare the modems on your ModemShare server and dynamically redirect the COM ports on your ModemShare client.

Note…   For a much more detailed description of ModemShare's features, see Appendix C.

Finding the information you need _____

This section explains what's in this manual, then describes how to find the information you need if you're a Windows 95 user (page 7), or if you're running ModemShare under Windows v3.x or DOS (page 8).

Important…   It's a good idea to check the Readme text file that comes with ModemShare for update information. You can either use the Readme icon in the ModemShare program group, or open the file on Disk 1.

About this manual

If you're running ModemShare under Windows v3.x or DOS, this manual will be your main source of information. If you're running ModemShare under Windows 95, after you've installed the software most of the information you need is provided in the online Help system. (See "If you're running ModemShare under Windows 95" below.)

Hint…   Whether you're using Windows 95, Windows v3.x or DOS, you can check the comprehensive index at the end of this manual for directions to the information you need.

This manual is divided into three parts:

Part 1 – Installing and Using INSYNC ModemShare includes information for all ModemShare users, whether you're running Windows 95, Windows v3.x or DOS. It provides overview information about ModemShare's main features and functions (this chapter) and detailed instructions for installing ModemShare (Chapter 2). It also gets you started using ModemShare under Windows v3.x or DOS (Chapter 3). (For Windows 95, see page 7.)

Part 2 – Managing INSYNC ModemShare is for Windows v3.x or DOS users only. It provides detailed information about managing your ModemShare system.

Part 3 – Appendices includes information for all users, whether you're running Windows 95, Windows v3.x or DOS. The appendices provide troubleshooting tips (for Windows v3.x and DOS users only), a detailed list of ModemShare's features, sample parameter files and information about how to deal with error messages you may receive as you use ModemShare.

If you're running ModemShare under Windows 95

Refer to this manual for:

- Complete installation instructions (Chapter 2).
- Information about how to deal with error messages (Appendix B).

After the ModemShare software is installed, refer to your online Help for:

- Overview information about ModemShare's main features.
- A "How To" guide to basic setup and modem sharing.
- More advanced "How To" steps for managing your ModemShare system.
- Troubleshooting guidelines to help you solve common networking problems.
- Tips and tricks you can use to make the most of your ModemShare software.

Getting Help on a ModemShare window

The Help system also gives you detailed information about each ModemShare window. If you get stuck when you're working at a ModemShare window, just click the Help button or press the F1

key. A Help topic appears describing all the features and functions of the window. In many cases, you'll be able to click on green text to see more Help information.

Browsing ModemShare's Windows 95 Help system

To browse through ModemShare's comprehensive Windows 95 Help system at any time, click Start, Programs, INSYNC ModemShare, ModemShare Help. The Contents page of the main Help Topics window appears.

Hint… It's easy to print out any Help topic you're currently viewing. Depending on the type of Help window you're viewing, you'll find a Print Topic option in the File or Options menu. Some Help windows also include a Print button.

If you're running ModemShare under Windows v3.x or DOS

This manual is your main source of information about installing *and* using ModemShare under Windows v3.x or DOS. Refer to this manual for:

- Complete installation instructions (Chapter 2).
- A step-by-step guide to basic setup and modem sharing (Chapter 3).
- Detailed information about managing your ModemShare system (chapters 4 through 9 – Part 2 of this manual).
- Troubleshooting tips, sample configuration files and information about how to deal with error messages you may receive as you use ModemShare (appendices A through E – Part 3 of this manual).

Getting online Help on a ModemShare window

If you get stuck when you're working at a Windows v3.x ModemShare window, you can get online Help information describing all the features and functions of the window:

When you're using a Windows-based application just click the Help button on the ModemShare window or press the F1 key. The Help topic for the window appears. In many cases, you'll be able to click green text to see more Help information.

When you're using the DOS-based parameter editor program (PAREDIT) press F1 to get Help for the screen you're working on. If necessary, use the Up and Down arrow keys, or the Page Up and Page Down keys, to scroll through the Help information. To see an alphabetized list of Help topics, use the Tab key to highlight the Index button, then press Enter. Scroll down to highlight the topic you need, then press Enter. To exit Help at any time, press Esc.

ModemShare terminology

In this manual and in the online Help, the term "server" is used to indicate that a computer is running some version of ModemShare's server software. In fact, it might also be running ModemShare's client software. Such a server is sometimes referred to as a "server/client" or a "peer-to-peer server." However, these terms aren't generally used in this manual.

ModemShare programs, which are described in detail in Chapter 4, are sometimes referred to by their descriptive names (for example, ModemShare server) and by their program names (for example, MSERVER.EXE).

The terms "COM port," "line" and "port" are used interchangeably, and the term "modem" is often used to indicate any serial device.

Technical support

If you can't find the information you need in this manual or in the online Help or Readme file, you may want to use Artisoft's technical support services. Artisoft is committed to offering quality support services to our valued customers. For complete instructions on using these services worldwide, see the Directory of Support Services that's included in your package.

Artisoft's support services, policies, prices and other details vary from region to region, and are subject to change without notice. Support services or policies may not cover all features or uses of a given product. To call your nearest Artisoft office and confirm the current services available to you, refer to the telephone numbers for these offices on the back cover of this manual. Artisoft's World Wide Web address appears on the back cover as well.

INSTALLING MODEMSHARE

CHAPTER CONTENTS

This chapter explains the ModemShare installation procedure. Whether you're working in Windows 95, Windows v3.x or DOS, the installation program will guide you through the necessary steps.

Before you install ModemShare _____

Procedures for COM ports or multiport boards

If you're using the standard COM ports (COM1 and/or COM2) as opposed to multiport boards, and the ports have modems attached, the installation process will automatically create an appropriate default configuration file for the ModemShare server during installation. If your configuration uses multiport boards, the installation process will create a default parameter file based on the factory settings for the Artisoft multiport board. After installation, you should use the Parameter Editor program, described in Chapter 8, to make sure the parameter file created by the installation process correctly describes your hardware.

Upgrading from prior versions

If you've been using a previous version of ModemShare (formerly called Modem Assist Plus), you can keep your SERVER.CON and CLIENT.CON files intact for use with version 7.0. The installation program will detect the presence of existing Modem Assist Plus configuration files and automatically use them. If you're installing ModemShare in the same directory where your Modem Assist files are located, you may be prompted to confirm that you'd like to overwrite the existing program files and make the necessary adjustments for the proper operation of your new version of ModemShare.

Making copies of your diskettes

It's a good idea to make a backup copy of each of your original ModemShare distribution diskettes in case they're harmed or lost. The backup diskettes should become your working copy of the software. You can store the original diskettes in a safe place.

Choosing your interface

Each of ModemShare's interfaces – Windows 95, Windows v3.x and DOS – requires a different set of installation procedures:

- To run ModemShare under Windows 95, follow the procedures that start on page 13.
- To run ModemShare under Windows v3.x, follow the steps that start on page 17.
- To run ModemShare under DOS, go to page 21 for instructions.

Note… ModemShare will automatically detect whether you're installing under Windows 95 or Windows v3.x.

Windows 95 installation_____

1. Choose one of the following methods to start the installation:

   - Insert Disk 1 into a floppy drive, then click Start, Run.

     The Run dialog box appears.

   - Type A:\Setup where A: is the floppy drive that contains Disk 1. Click OK.

     In a few moments the Welcome window appears.

   - Go on to step 2.

     – OR –

   - Click Start, Settings, Control Panel.

   - Double-click Add/Remove Programs.

     The Add/Remove Programs Properties window appears.
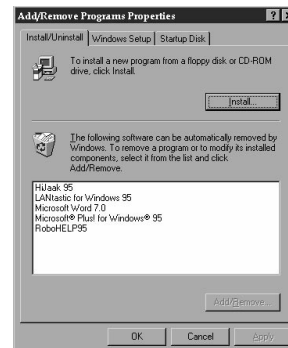
   - Click Install.

     The Install Program From Floppy Disk or CD-ROM window appears.

   - Insert Disk 1 into a floppy drive, then click Next.

The Add/Remove Programs wizard searches for the Setup program. When the wizard locates Setup, the Run Installation Program window appears.

■ Verify that the Setup program displayed in the Command line for installation field is correct. If it isn't, type in the proper information. Click Finish.

In a few moments the Welcome window, shown on page 13, appears.

2. Read the Welcome message, then click Next to continue.

Windows 95 tells you that it's building a driver information database. Then, you may see the following message:

"Setup is adding some resources to your system.
This may take a few minutes."

The Choose Destination Location window appears.

■ To use the default destination (C:\INSYNC\MSHARE), click Next.

■ To specify a different destination, click Browse. The Choose Directory window appears. Type the new location in the Path field, or use the Directories field to find the location. Click OK, then click Next.
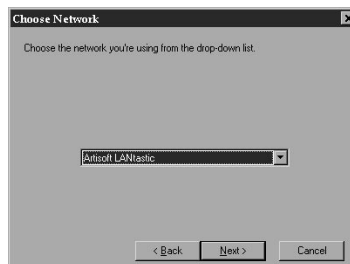
The Choose Network window appears.

The Choose Network window appears.

3. Specify the type of network you're using.

- If you're using LANtastic (the default), click Next.
- If you're using a different network, click the down arrow, click your network, then click Next.

The Share Modem window appears.

Important… If you don't have a modem of your own, or if you have a modem but choose not to share it with other users, you can still use a modem that's attached to another computer.

If you don't want to share the modem that's attached to your computer, follow the instructions below in step 4a, ModemShare client.

If you do want to share the modem that's attached to your computer, follow the instructions in step 4b, ModemShare server.

4a. ModemShare client:
- Leave the check box in the Share Modem window empty and click Next. Then go on to step 5.

4b. ModemShare server:
- Click the check box in the Share Modem window, then click Next.

The Modem Server Configuration window appears.
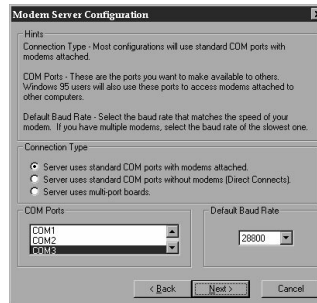
Hint…   If you need help setting the options in the above window, read the text in the Hints box.

- Click the Connection Type that matches your configuration.
- You may also need to make selections in the COM Ports box and the Default Baud Rate box, depending on the Connection Type you chose. Selections that aren't required for each Connection Type will be disabled.

  After you've made all necessary selections, click Next.

Important…   The default COM Port and Baud Rate settings may not be correct for you configuration. The COM port setting should be the same as the COM port where your modem is attached, and the baud rate should match the speed of your modem.

5. If the Port Selection window appears, click the down arrow, click the COM port that you want to use to access the modem(s) attached to other computers, then click Next.

Note…   If you're installing as a ModemShare client (not sharing a modem that's on your computer) the Port Selection will appear. If you're installing as a ModemShare server, the Port Selection window may not appear, depending on the Connection Type you chose. If it doesn't, go on to step 6.

6. Setup copies files to your hard drive, then creates a new Program Group and adds it to your Windows 95 Start menu.

   Put Disk 2 into your floppy drive when prompted.

7. When the Setup Complete window appears, click one of the restart options, then click Finish.

Important…   Remove disk 2 from the floppy drive before restarting Windows 95.

Post-installation steps, Windows 95

During installation, ModemShare assigns each computer that acts as a server the default server name MSHARE. If you have more than one ModemShare server on your network, you need to give each server a unique name. When more than one server has the same name (such as MSHARE), you won't be able to accurately monitor server activity with Remote Server Monitor.

Follow these steps to give each Windows 95 ModemShare server a unique name:

1. At the ModemShare server, click Start, Programs, INSYNC ModemShare, Parameter Editor.

2. Click Server parameters.

3. In the Other Settings field, click in the Server Name box and type in a new server name.

4. Click OK.

5. Click File, then click Save parameters and exit.

6. Restart your computer.

Windows v3.x installation _____

1. Insert Disk 1 into a floppy drive, then from Program manager click File, Run.

   The Run dialog box appears.

   ■ Type A:\Setup where A: is the floppy drive that contains Disk 1. Click OK.

   In a few moments the Welcome window appears.
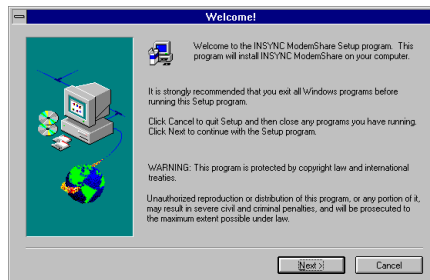
2. Read the Welcome message, then click Next to continue.

The Choose Destination Location window appears.
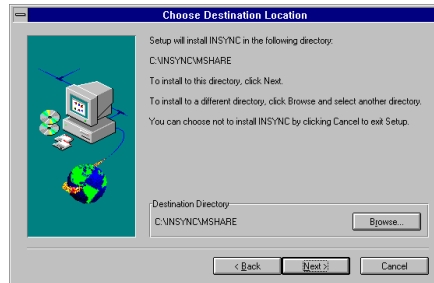
- ■ To use the default destination (C:\INSYNC\MSHARE), click Next.
- ■ To specify a different destination, click Browse. The Choose Directory window appears. Type the new location in the Path field, or use the Directories window to find the location. Click OK, then click Next.

The Choose Network window appears.

3. Specify the type of network you're using.

- ■ If you're using LANtastic (the default), click Next.
- ■ If you're using a different network, click the down arrow, click your network, then click Next.

The Share Modem window appears.
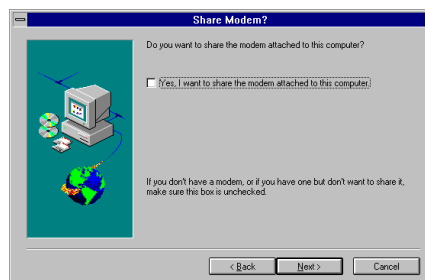
Important… If you don't have a modem of your own, or if you have a modem but choose not to share it with other users, you can still use a modem that's attached to another computer.

If you don't want to share the modem that's attached to your computer, follow the instructions in step 4a, ModemShare client.

If you do want to share the modem that's attached to your computer, follow the instructions in step 4b, ModemShare server.

4a. ModemShare client:

- Leave the check box in the Share Modem window empty and click Next. Then go on to step 5.

4b. ModemShare server:

- Click the check box in the Share Modem window, then click Next.

  The Modem Server Configuration window appears.
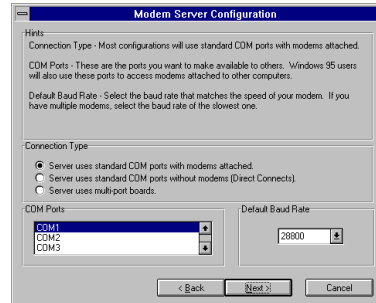
Hint… For information about setting the options in this window, read the text in the Hints box.

- Click the Connection Type that matches your configuration.

- You may also need to make selections in the COM Ports box and the Default Baud Rate box, depending on the Connection Type you chose. Selections that aren't required for each Connection Type will be disabled.

- After you've made all necessary selections, click Next and go on to step 5.

5. The Port Selection window appears.
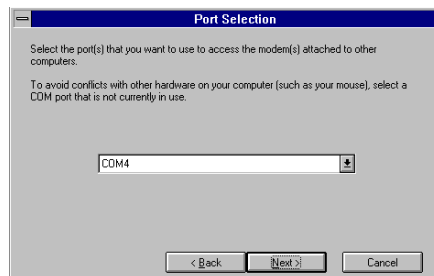
Note… It's a good idea to use COM 4 (the default), as it's typically available on most computers.

Click the down arrow, click the COM port that you want to use to access the modem(s) attached to other computers, then click Next.

6. Setup copies files to your hard drive, then creates a new Program Group called INSYNC ModemShare.

   Put Disk 2 into your floppy drive when prompted.

   The Setup Complete window appears.
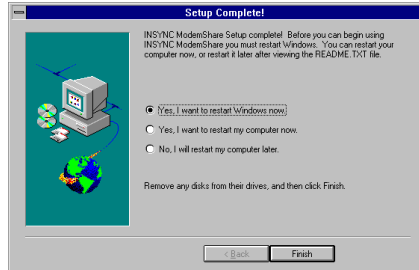
7. Click one of the restart options, then click Finish.

   After restarting the computer you can begin using ModemShare.

Important… If this computer will be sharing its modems, you must reboot the computer.

Post-installation steps, Windows v3.x and DOS

During installation, ModemShare assigns each computer that acts as a server the default server name MSHARE. If you have more than one ModemShare server on your network, you need to give each server a unique name. When more than one server has the same name (such as MSHARE) you won't be able to accurately monitor server activity with Remote Server Monitor.

Follow these steps to give each Windows v3.x and DOS ModemShare server a unique name:

1. Open the Parameter Editor on the ModemShare server. In Windows v3.x, double-click the Parameter Editor icon in the ModemShare program group. In DOS, change to the MSHARE directory and type PAREDIT <Enter>. The DOS-based Parameter Editor main screen appears.

2. Press Enter to clear the screen, then select Station Type by pressing Enter again.

3. Press Enter to select Server. The full path name for the SERVER.CON file appears. Press Enter to accept this default unless you've created another parameter file for this server.

4. The Parameter Set Selection screen appears. Press Enter to select the default set "1" unless you've created another parameter set. The Server Parameters Options screen appears.

5. Use your down arrow key to scroll down to Server Name, and press Enter.

Note… To conform with all communications interfaces, don't use a server name longer than 8 characters. Don't use spaces or other invalid characters such as underscores or question marks.

6. Type in a new server name and press Enter.

7. Select File, then press Enter. Press Enter again to save your parameter set. Press Q to quit.

8. Restart your computer.

DOS installation

Note… Throughout the installation, blinking text identifies selected options.

1. Insert Disk 1 into a floppy drive on your system. Depending on the drive you use, type A:\Install or B:\Install at the command line and press Enter to begin the installation.

2. When the opening screen appears, press any key to continue. The Install or Uninstall ModemShare screen appears.
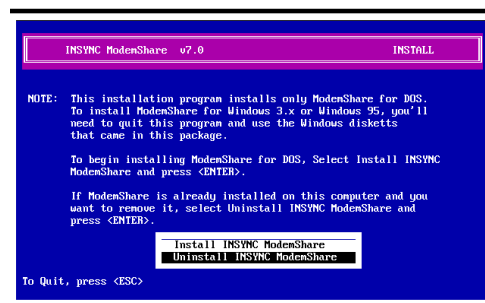
3. Select Install with your arrow keys and press Enter.

The Select Network Type screen appears.
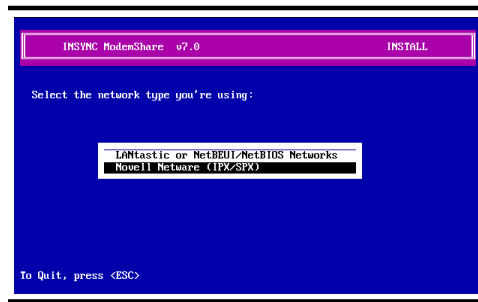
4. Use the arrow keys to select either "LANtastic or
   NetBEUI/NetBIOS Networks" or "Novell NetWare IPX/SPX"
   and press Enter.

   The Network Summary screen appears.
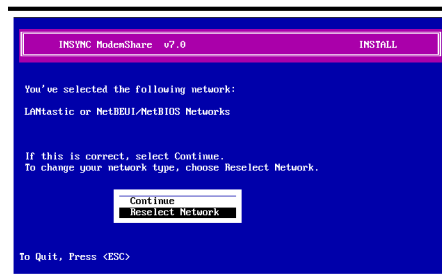
5. If the network type shown is correct, select Continue and
   press Enter. If it's incorrect, select Reselect Network and
   press Enter.

   The Connection Type screen appears.
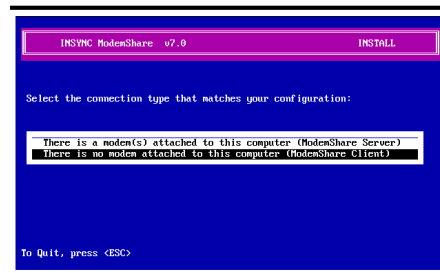
6. Select ModemShare Server or ModemShare Client (depending on which type of computer you're installing at this time) and press Enter.

   The Batch File Options screen appears.

7. Select the batch file option you prefer and press Enter. The Installation Drive screen appears.
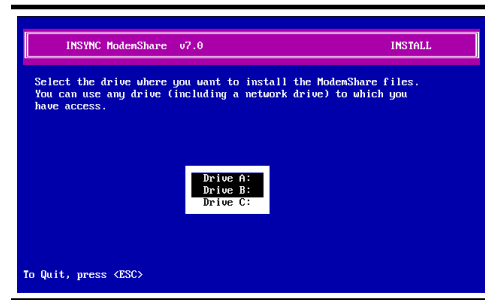
8. Select the letter of the drive (either located on your computer or a network drive) where you want to install the ModemShare files and press Enter. The Directory Location screen appears.

9. Accept the default (C:\INSYNC\MSHARE) and press Enter. Or specify a different path in the Subdirectory Name box, then press Enter.

   The Configuration Options screen appears.
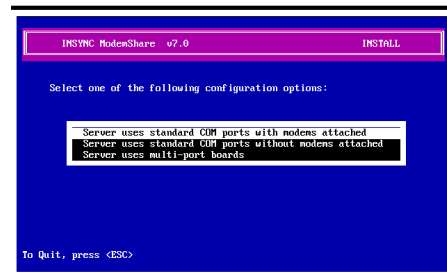
Note…   If you're installing a ModemShare client, skip to step 14.
Steps 10 – 13 are for ModemShare servers only.

ModemShare server only:

10. Select the configuration option that matches your configuration:

- If you're using a multiport serial card in the ModemShare server, select the multiport boards option and press Enter and proceed to step 13.

- If you're using standard COM ports with modems attached, press Enter and proceed to step 11.

- If you're configuring the server for a direct connection to another computer, select the standard COM ports without modems attached option, press Enter and proceed to step 11.

11. At the COM Port Selection screen, select the combination of COM ports that you're using for your modem connections and press Enter.

The Default Baud Rate screen appears.
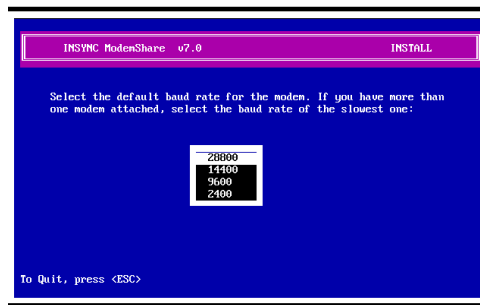
12. Select the default speed for your modem (or if you have multiple modems, choose the speed for the slowest one) and press Enter.

(Keep in mind that this selection is only used to initialize the modem. When necessary, your communications software will override this default speed during a communications session.)

13. Read the information regarding sample files and press any key to continue.

14. Install starts to copy files to your specified installation location. During this process you'll be prompted to put Disk 2 into the floppy drive. Do so, then press any key to continue.

When all of the ModemShare files have been installed, the Installation Successful screen appears.

15. Press any key to return to DOS.

16. Follow the instructions under "Post-installation steps, Windows v3.x and DOS" on page 20.

Be sure to review the Readme file before using ModemShare. It may contain important information that became available after this manual was printed.

Uninstalling ModemShare

Follow these steps to remove the ModemShare files from your computer's hard disk. Different procedures are required for Windows 95, Windows v3.x and DOS.

Note... Run Uninstall on all ModemShare clients before running it on the ModemShare server. This ensures that clients won't attempt to access files that have already been deleted from the server.

Windows 95

There are two different ways to uninstall ModemShare under Windows 95. Here's the first method:

- Click Start, Settings, Control Panel.

- Double-click Add/Remove Programs.

  The Add/Remove Programs Properties window appears.

- Click ModemShare, then click Add/Remove.

- When asked to confirm that you want to remove ModemShare, click Yes.

  The Remove Programs From Your Computer window appears.

- Wait as the ModemShare program files and other items are uninstalled from your hard disk.

- When the uninstall is completed, click Finish, then restart your computer.

  – OR follow these instructions –

- Click Start, Programs, ModemShare.

- Click Remove ModemShare, then click Yes to confirm. Restart your computer.

Windows v3.x

1. Open the ModemShare Program Group.

2. Double-click the Remove INSYNC ModemShare icon

   The Confirm File Deletion window appears.

3. Click Yes to confirm the command. Then when the Remove Programs From Your Computer window appears, click OK.

4. Restart your computer to complete the removal of all ModemShare components.

DOS

1. Insert Disk 1 into a floppy drive on your computer. At the command line, type A:\Install or B:\Install, then press Enter.

   The opening screen appears.
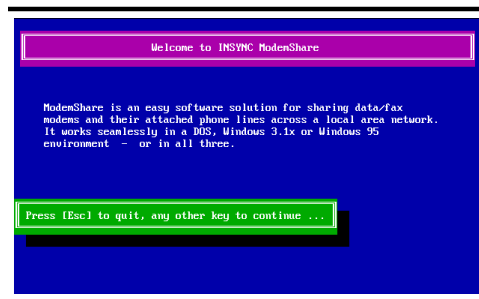
2. Press any key to continue.

The Install or Uninstall ModemShare screen appears.
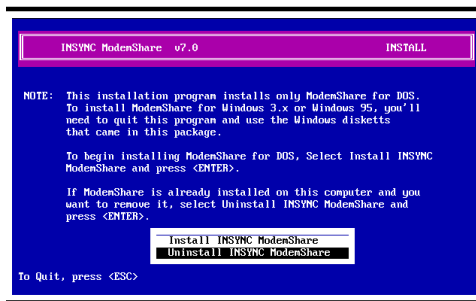
3. Select Uninstall with your arrow keys and press Enter.

   The Installation Drive screen appears.
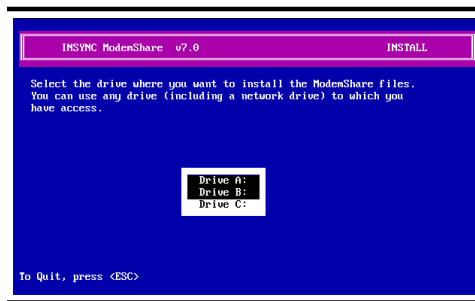
4. Select the letter of the drive where the ModemShare files are installed and press Enter.

   The Directory Location screen appears.
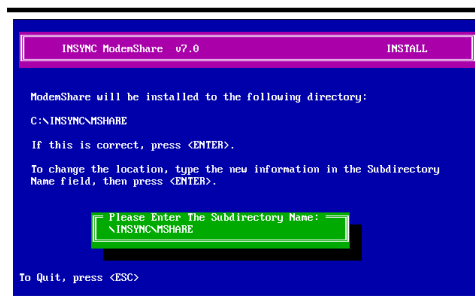
5. Accept the default (C:\INSYNC\MSHARE) and press Enter. Or specify a different path in the Subdirectory Name box, then press Enter.

6. The Uninstall Successful screen appears. Press any key to return to DOS.

7. Restart your computer to complete the removal of all ModemShare components.

Customizing your ModemShare configuration_____

ModemShare comes with predefined Line (COM port) names and Group names (groups of lines). If you're using Windows v3.x or DOS, you can customize your lines and groups by using the ModemShare Parameter Editor to edit the SERVER.CON and CLIENT.CON files. See Chapter 5 (ModemShare server) and Chapter 6 (ModemShare client) for more information. Details on the content and format of these files appear in Chapter 8, along with instructions for modifying them.

ModemShare also comes with default port addresses for COM 1, 2, 3 and 4. If you have a custom-configured communications board or a modem with configuration capabilities beyond the standard interrupts or port addresses, you may want to configure nonstandard port addresses and interrupts. You can do this by editing parameters in the SERVER.CON file.

Examples of SERVER.CON files for custom configuration of 4-port, 8-port, and 16-port multiport serial I/O cards reside in the directory in which you installed ModemShare (by default, C:\INSYNC\MSHARE). Just open the SAMPLCON subdirectory, then open any of the files in it. You can customize these sample files for your configuration by using the Parameter Editor, as explained in Chapter 8. Sample parameter files also appear in Appendix D.

If you're using Windows 95, you'll find all the information you need to customize your ModemShare software in your online Help.

SETTING UP MODEMSHARE FOR BASIC USE

This chapter tells you how to quickly set up ModemShare so that you can make and receive calls through a modem attached to another computer. it also tells you how to pool more than one modem line into a group.

In addition to general instructions, this chapter includes several practical examples that illustrate how each procedure works. These examples can serve as guidelines as you perform the procedures on your own computers.

If you're using ModemShare under Windows 95, see the ModemShare online Help for details about setting up ModemShare for basic use.

Using third-party communications software _____

Before you can use any modem, whether it's attached to your own computer or another's, you must have access to a communications program. Windows 95 and Windows v3.x come with their own communications programs called HyperTerminal and Terminal. These programs work well with ModemShare, but you can use any communications program that supports the following interfaces:

- standard Interrupt 14 (INT 14) interface
- ModemShare extended Interrupt 14 interface
- Novell® NASI interface
- Windows communications interface

Refer to your communications program manual to find out if it supports one of these interfaces.

For a complete updated list of compatible third-party communications packages, see a file called MSHARE on Artisoft's CompuServe and FTP sites. The same file can be obtained as Document 4111 on Artisoft's FaxReturn service. For complete information on using these online information services, see Appendix A.

Windows 95 and Windows v3.x software

When you installed ModemShare to share a modem attached to another computer, you chose the COM port that you wanted to use to access the network modem. You should make sure this redirected COM port is selected in your Windows v3.x or Windows 95 communications program. For example, if you accepted the default COM4 as your redirected port during Windows v3.x installation, set your communications program to COM4.

If you're using Windows v3.x Terminal or Windows 95 HyperTerminal, ModemShare automatically linked your redirected COM port to these programs. It also created a Terminal or HyperTerminal icon in the ModemShare program group. You can use these icons to dial out, as explained on page 32.

Changing your COM port selection

If for some reason you need to change the COM port you redirected during installation, COM port selections can be changed or added in the Port Status & Setup program. See "Managing your redirected ports with the Port Status & Setup program" on page 69 for more information.

If your communications program doesn't work with ModemShare

If you have trouble using your communications software with ModemShare, you may be running a non-standard Windows or DOS communications program. See Appendix E for help. You can also download a file called MSHARE from one of Artisoft's online services. MSHARE gives specific information about using communications programs with ModemShare. See Appendix A for instructions on downloading this document.

Dialing out: an example

It's easy to dial out using a modem on another computer, as this example describes. But before you use this example as a guide to making your own calls, make sure that each computer that you want to share a modem with:

- is running a supported network operating system (see page 4).
- has a communications program, such as Terminal, pcANYWHERE or Trumpet Winsock.
- has ModemShare software installed on its hard drive.

In this example, you work in a small office with four computers running a LANtastic network. You've installed ModemShare on all four computers, but only one, Liz's, has a modem. When Liz installed ModemShare, she chose the option to share her modem. Now you want to use her modem to send a fax from your own computer using Windows v3.x.

1. Make sure Liz's computer and the modem attached to it are turned on.

2. Start your computer and open your fax program. Make sure that this program supports one of the communications interfaces listed on page 30. Also make sure the COM port setting in the program is identical to the COM port you chose to redirect during ModemShare installation. For example, if you chose to use the COM4 port to access the shared modem, select COM4 in your fax program.

3. Use the fax program as if a modem was attached to your own computer.

That's all you need to do to send a fax using ModemShare. Follow a similar set of steps to dial out using any kind of communications software that supports the correct interface.

If you're using Windows v3.x and Windows 95, dialing out can be even simpler. Windows v.3x and Windows 95 come with their own communications programs called Terminal and HyperTerminal. During installation, ModemShare detected these programs and linked your redirected COM port to them.

■ If you're running Windows, simply double-click the Terminal icon in your ModemShare program group. Terminal will start up and you can proceed to use it as if a modem was attached to your computer.

■ If you're running Windows 95, you can click Start, Programs, ModemShare, HyperTerminal to start a communications session.

Note… After you click HyperTerminal, Windows 95 might ask you to "install," or point to, a modem for your redirected COM port. To do so, click Yes to install a modem. When the Install Modem Wizard window appears, click Next to let Windows 95 detect the modem you want to share. Click Finish when the correct name of the modem appears. You'll return to the HyperTerminal window.

Receiving a call: an example

In order to receive a call, you need to open and use two ModemShare programs: Parameter Editor and Inbound Service (called INHOST under DOS). In the following example, you just installed a new communications program on your computer. To make sure it works, you now want to receive an incoming call. As in the dialing-out example above, you don't have a modem attached to your computer, but Liz has one.

Setting up a server to manage an incoming call

If you're going to receive calls from the same communications program, you only have to perform this setup once. After that, ModemShare will remember how to get ready to receive any call using this program.

To set up inbound calling, you first need to use Parameter Editor on Liz's computer where the modem is attached. At Liz's computer:

1. Double-click the Parameter Editor icon in the ModemShare program group. If you're a DOS user, change to the MSHARE directory and type PAREDIT <Enter> at the prompt. The DOS-based Parameter Editor main screen appears.

2. Press Enter to clear the screen, then select Station Type by pressing Enter.

3. Use your down arrow key to select Server and press Enter. The full path name for the SERVER.CON file appears. Press Enter to accept this default.

4. The Parameter Set Selection screen appears. Press Enter to select "1." The Server Parameters screen appears.
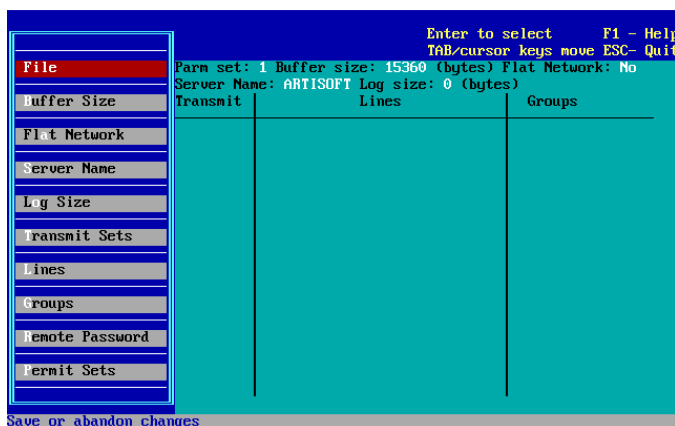
*Press **F1** for context-sensitive Help in Parameter Editor*

5. Use your arrow keys to scroll down to Groups, then press Enter.

6. Select the group you want to define (in this example, Group 1), then press Enter.

7. Use your arrow keys to scroll down to Inbound, then press Enter. A screen appears where you can specify the number of lines for which inbound calls will be received. Press Enter to accept the default "1."

8. At the Main Parameters screen, use your up arrow to select File, then press Enter. Press Enter again to save your parameter set. Type Q to quit.

9. Reboot the computer.

Liz's computer is now set up to manage an incoming call.

Now go to your own computer. The steps below tell you how to use the Inbound Service program (called the INHOST program under DOS) to receive an incoming call. Windows v3.x and DOS users will find a complete description of the program in Chapter 7. If you're a Windows 95 user, refer to the ModemShare online Help.

The steps for receiving calls are different for Windows v3.x and DOS.

Receiving a call on your computer using Windows v3.x

In the first part of this example, you set up Liz's server to manage an incoming call. You're now ready to prepare your own computer to receive a call under Windows v3.x.

Note… If you're going to receive calls from just one program, you only need to perform steps 2 – 4 once. After that, ModemShare will remember how to get ready to receive any call using this program.

1. Double-click the Inbound Service icon in the ModemShare program group. The Inbound Service window appears.
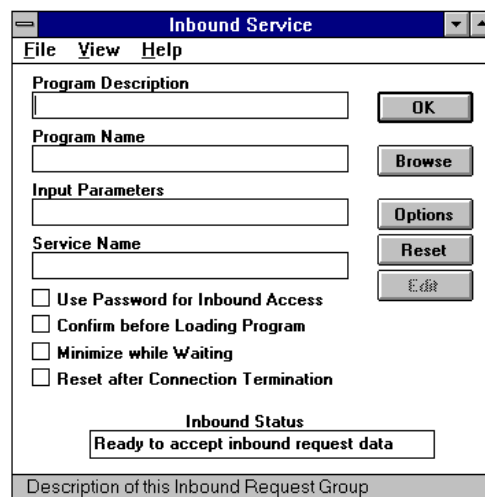
2. Type in a descriptive name for your communications program, then press the Tab key.

3. In the Program Name field, enter the path and name to launch your communications program. You can click the Browse button to locate the program, or type in the full path and name, then press Tab. You don't need to enter anything in the Input Parameters field, so press Tab once more.

4. Type in a Service Name, for instance, Tony. This could be your name, your computer's network name, or any other name that will be recognizable to the person trying to access your computer.

5. Click OK when you're finished. Notice that the Inbound Status field changes from Ready to Waiting. You're now ready to receive calls.

6. Ask an off-network caller to dial the phone number for Liz's modem. When her computer answers, the caller will see this message:

   The following services are registered with this server:

   1. Tony

   Please select a service by number, enter a service name, or enter BYE to quit

7. The external caller should type "1" or "Tony," then press Enter.

   The ModemShare server program on Liz's computer finds your computer on the network and makes a connection. Your communications program now is launched.

Note… You can minimize the Windows Inbound Service window if you want to do other work while waiting for an incoming call.

Receiving a call under DOS

In the first part of this example, you set up Liz's server to manage an incoming call. You're now ready to prepare your own computer to receive a call under DOS.

1. At the DOS prompt type INHOST program name,servicename <Enter>. The program name is the complete path and name of your communications program.

   The INHOST program screen appears. You're now ready to receive inbound calls on your DOS computer.

---

2. Ask an off-network caller to dial the phone number for Liz's modem. When her computer answers, the caller will see this message:

   The following services are registered with this server:

   1. Tony

   Please select a service by number, enter a service name, or enter BYE to quit

3. The external caller should type "1" or "Tony," then press Enter.

   The ModemShare server program on Liz's computer finds your computer on the network and makes a connection. The INHOST screen then disappears and your communications program starts.

Note… You can automate INHOST startup using your AUTOEXEC.BAT file. See page 101 in Chapter 7 for more information.

About the rest of this chapter _____

As your network grows and changes, you'll want to explore all of ModemShare's powerful features. Later chapters in this manual explain how to manage multiport cards, multiple servers and more complex networks. This chapter presents basic ModemShare functions for Windows v3.x and DOS users.

In the rest of this chapter you'll learn how to:

- start ModemShare on the computer that has the modem you want to share (the server).
- start ModemShare on the computer that will access another computer's modem (the client).
- use groups and lines.
- use multiport serial cards.

Windows 95 users will find information on these topics in the online Help.

Running ModemShare servers and clients _____

As you read this manual or look in your online Help, you'll see the words "server" and "client" used frequently to describe your ModemShare computers. A ModemShare server is a computer that allows other computers access to the modem that's attached to it. In the example above, Liz clicked "Yes, I want to share the modem on this computer" during installation. This made her computer a ModemShare server. Unless she changes her server settings, as described later in this manual, any computer running ModemShare on your network can use her modem, including her own computer.

A client computer, on the other hand, either doesn't have a modem attached to it or doesn't allow other computers to access an attached modem. If you didn't click "Yes, I want to share the modem on this computer" during installation, you made your computer a ModemShare client. It can use a modem on a server, but no one has access to your own COM ports other than the person sitting at your keyboard.

Running the server

The ModemShare server program, MSERVER, automatically starts up when you turn on your computer. However, since the program does use conventional DOS memory, you may want to shut it down when you're not sharing modems. A section in Chapter 5 explains how to shut down and restart the ModemShare server program.

Running the client

Once you install ModemShare on a Windows v3.x computer that acts as a client, ModemShare's client program usually runs smoothly and automatically. However, if you're using a DOS-based communications program under Windows v3.x or in DOS, you must run the client as a DOS TSR (terminate-and-stay-resident program). Steps for running the DOS TSR client appear in Appendix E, "Using INT 14 or NASI Communications Software with Windows v3.x"

ModemShare also allows a server to act as a client. Because of a special program called MLCLIENT, all servers can not only allow access to their modems, but also use modems on other servers as well. Whenever the standard client program MCLIENT is mentioned in this manual, you can substitute MLCLIENT on your servers.

Using groups and lines_____

ModemShare's groups and lines let you manage your shared modems. Lines are the actual physical COM ports on a server. Groups are made up of one or more lines. You can use groups to control access to your lines by defining specific values for each group. The ModemShare Parameter Editor lets you define these values.

When you installed ModemShare, at least one group and one line were automatically defined for you. You can use this default group to make and receive calls as described in this chapter. If you're using Windows v3.x or DOS computers, Chapters 4 - 9 of this manual give you details about setting up and managing multiple servers, groups and lines. Windows 95 users will find the same types of information in their online Help.The following example shows you how to manage two modems using lines and groups so that your modems are available network-wide. You'll need to open and use Parameter Editor on your ModemShare servers. Then you need to go to your ModemShare clients to connect to the modems.

In this example two computers, Alpha and Beta, each have a modem attached to them and are acting as ModemShare servers on your network. You want to allow access to both of these modems at the same time. The best way to do this is to pool the modems into a group. Before you can create a group, however, you need to define the COM port or line to each modem that will belong to the group.

Although this example only deals with two lines, you can perform the steps below on up to 16 lines and 16 groups for each server. See "Using multiport serial cards" on page 42 and "Setting up the SERVER.CON file for multiport cards" on page 121 if you'd like to learn more about multiple lines.

Note… Each server's lines must be defined at that server's keyboard. If you want to put a server's line in a group, you must go to that server to define the group. For instance, if you want to pool ten modems on ten different servers into one group, you need to perform the steps below on each of the ten servers.

Defining lines at the server: an example

Go to Computer Alpha and follow the steps for defining lines and groups. When you're finished, go to Computer Beta and repeat the same steps.

Note... You'll need to specify the base addresses and Interrupt Request settings on your servers' COM ports. If you don't know these values, refer to your computer manufacturer's manual or see the lists of standard interrupt levels and COM port addresses beginning on page 156. To find out more about line values, see "LINE statement in SERVER.CON" on page 116.

1. Open the Parameter Editor. In Windows v3.x, double-click the Parameter Editor icon in the ModemShare program group. DOS users should change to the MSHARE directory and type PAREDIT <Enter>. The DOS-based Parameter Editor main screen appears.

2. Press Enter to clear the screen, then select Station Type by pressing Enter.

3. Use your down arrow key to select Server and press Enter. The full path name for the SERVER.CON file appears. Press Enter to accept this default.

4. The Parameter Set Selection screen appears. Press Enter to select set "1." The Server Parameters Options screen appears.

5. Use your arrow keys to scroll down to Lines, then press Enter.The Line Selection screen appears. You can either edit an existing line by selecting it and pressing Enter, or choose New Line.

6. In the Line Values screen, select Name by pressing Enter.

7. Type in a Line name. In this example, type ALPHA <Enter>.

8. Use your arrow keys to select Port Address, then press Enter. You must enter a value in this field. For example, the value for COM1 is 3F8H.

Press **F1** *for context-sensitive Help in Parameter Editor.*

9. Select Interrupt, then press Enter. You must enter a value in this field. For example, the value for COM1 is 4.

10. You don't need to enter a value for Transmit Set. Go on to select Modem, then press Enter. Type Y to indicate that a modem is attached. Then type Y to match port and line speeds for inbound calls. Press Enter to accept the standard Inbound initialization string, unless your modem requires a different initialization string.

11. Finally, select Done and press Enter to return to the Server Parameters screen. You've now defined the line for Computer Alpha.

Now you can define a group on each server which will include both the Alpha and Beta lines.

Defining groups at the server: an example

You only need to enter group values for Names, Inbound and Lines in this basic example. If you'd like to find out more about each group option, see "GROUP statement in SERVER.CON" on page 118.

12. From the Server Parameters screen, use your down arrow key to select Groups, then press Enter. The Group Selection screen appears. You can either edit an existing group by selecting it and pressing Enter, or choose New Group. The Group Values screen appears.

13. Select Name, then press Enter. Type in a descriptive name for your group, such as ALPHABET, then press Enter.

14. Select Inbound, then press Enter. Type "1" to make the Alpha line available for incoming calls. Press Enter.

15. Select Lines, then press Enter. The Lines in Group screen appears. Press Enter to select Add Line. The Line Selection screen appears.

16. Use your arrow keys to select ALPHA then press Enter.

17. Notice that ALPHA is now listed in the Lines in the Group field in the Group Values screen. Select Done, then press Enter.

18. At the Main Server Parameters screen use your up arrow to select File, then press Enter. Press Enter again to save your parameter set. Type Q to quit.

19. Restart your server.

Press **F1** *for context-sensitive Help in Parameter Editor.*

20. Repeat steps 1 -19 on Computer Beta to define the line BETA and add it to the group ALPHABET.

Connecting to lines and groups: an example

Now that the lines and a group are defined, anyone in your network who's running ModemShare can use this group to access the shared modems.

The steps for using lines and groups are different for Windows v3.x and DOS clients.

Using Windows v3.x

1. Double-click the Port Status & Setup icon in the ModemShare program group. The Port Status & Setup window appears.

2. Look in the Available Groups field. The group ALPHABET will be listed. Using your mouse, drag and drop this group on to one of the available COM ports shown in the Virtual Com Port Assignments field.

Note… Although Windows v3.x supports COM ports 1 – 9, your communications program may not. Many of these programs only allow COM port settings from 1 – 4. Check your communications program manual to see if you can set a COM port higher than 4.

3. Click File, Save and Exit to quit the Port Status & Setup window. Click Yes to restart Windows and save your settings.

Using DOS

Under DOS, you use the PAREDIT program to select a line or group for connection.

1. From the MSHARE directory, type PAREDIT <Enter>. The Parameter Editor main screen appears.

2. Press Enter to clear the screen, then select Station Type by pressing Enter.

3. Use your down arrow key to select Client and press Enter. The full path name for the CLIENT.CON file appears. Press Enter to accept this default.

4. The Parameter Set Selection screen appears. Press Enter to select "1." The Client Parameters Options screen appears.

5. Use your arrow keys to select Connect Parms, then press Enter.

6. Type ALPHABET<Enter> to connect to the group.

7. You can choose to retry the connection if one of the lines is busy or to wait in a queue until your call can be processed. Type Y or N depending on your choices.

8. At the Client Parameters Options screen, use your up arrow to select File, then press Enter. Press Enter again to save your parameter set. Type Q to quit.

9. Reboot your computer.

You now have access to two lines in the group ALPHABET.

Using multiport serial cards _____

As your network expands, you might want to consider installing multiport serial cards. ModemShare will work with most third-party, nonintelligent multiport serial cards. Up to 16 ports on one ModemShare server are supported. Chapter 8 has more details about using these cards with ModemShare.

Artisoft manufactures its own high performance multiport serial cards. These cards offer an excellent way to turn a computer into a ModemShare server for your network.

For more information on the line of multiport serial cards call the Sales Consultation Center at 1 (800) 846-9726 in the U.S. and Canada, or refer to the Technical Support Directory of Services that came with your ModemShare software.

For a listing of other vendors of multiport serial cards that have been used with ModemShare, you can download MSHARE.TXT from one of our online services. See Appendix A for downloading instructions.

PART 2

MANAGING
INSYNC MODEMSHARE

MODEMSHARE'S PROGRAMS AND CONFIGURATION FILES

ModemShare is made up of a series of programs that work together to give you a full range of modem-sharing and management functions. This chapter gives you an overview of these programs – your basic tools for working with ModemShare.

Your first experience will probably be with one of the primary programs: ModemShare server, ModemShare client or ModemShare share. These primary programs are described in the section that follows.

ModemShare's primary programs _____

The following programs are the main components of the ModemShare software:

- The ModemShare server program (MSERVER) runs on a Windows v3.x or DOS computer in either a nondedicated or dedicated mode, sharing its COM ports and attached devices among clients.

- The ModemShare client program (MCLIENT) runs on a Windows v3.x or DOS client (workstation) and connects to the ModemShare server's ports through the network. MCLIENT comes in three versions that support the various communications interfaces, as described on page 47. The MLCLIENT program is a special version of the ModemShare client that runs on the ModemShare server computer.

- The ModemShare share program (MSHARE) runs on a Windows 95 computer. It allows ModemShare servers to share their COM ports and gives ModemShare clients access to those ports – all in one program.

Note…   In this manual and in the online Help, the term "server" is used to indicate that a computer is running the MSERVER program or the server portion of MSHARE. In fact it might also be running the MLCLIENT program or the client portion of MSHARE. Such a server is sometimes referred to as a "server/client" or a "peer-to-peer server." However, these terms aren't generally used in this manual.

ModemShare server

The ModemShare server program (MSERVER.EXE) allows a Windows v3.x or DOS computer to share devices attached to its COM ports. The most common devices are a modem or direct-connection cable between computers. However, you can attach any device that would normally be run from a COM port, such as a printer or plotter, and share that device using the ModemShare server software.

ModemShare server supports ports operating at speeds up to 115,200 bits per second. Clients on the network running MCLIENT or the client portion of MSHARE have access to the ports through the ModemShare server program.

The ModemShare server program is fully explained in Chapter 5.

ModemShare client programs

ModemShare clients are computer workstations that can access a ModemShare server over a network. The MCLIENT programs enable a computer to find and establish communications with a ModemShare server. Once the ModemShare client and server have established communications, the user of the client can run an INT 14 or NASI communications program or any Windows v3.x communications program.

ModemShare client as a Windows VxD

If you're running Windows v3.x and you need to use a DOS-based communications program or a program with the INT 14 or NASI interface, the ModemShare DOS TSR client provides the necessary support as a Windows Virtual Device Driver (VxD). This client program, called MCLIENT.EXE, ensures compatibility between ModemShare and Windows v3.x. MCLIENT.EXE also allows you to use ModemShare from a DOS box or from a WINSTART.BAT file.

See Appendix E for important information about running MCLIENT.EXE.

Windows v3.x ModemShare client

Windows clients are workstation computers on a network that can access the ModemShare server from a Windows v3.x environment. The Windows DLL (MCLIENT.DLL) provides seamless access to server modems for Windows programs that use the Windows communications interface – without any TSR involvement. The MCLIENT.DLL is further explained in "The client DLL and the redirector" on page 67.

Windows v.3x and DOS ModemShare local client

If you want a ModemShare server to be able to use modems that are attached to other ModemShare servers, you'll need to use the ModemShare server as a client. This is done by running the MLCLIENT program. Once you've run MLCLIENT on a ModemShare server, that computer will also support the execution of INT 14, NASI and Windows v3.x communications programs. This enables communications programs running on the ModemShare server to use locally attached shared modems as well as modems attached to other ModemShare servers on the network. The ModemShare local client program is explained in Chapter 6.

Windows 95 ModemShare share program

The ModemShare share program is called MSHARE. It allows a
Windows 95 computer to share devices attached to its COM ports. It
also provides access for Windows 95 clients to a ModemShare server
over a network. Both the server and the client functions are provided
by the MSHARE program. For more information, see your
ModemShare Windows 95 online Help.

Inbound service programs

The ModemShare inbound service programs let you set up inbound
calls to use a specific communications program. Once ModemShare
servers and clients are configured to accept incoming calls,
off-network callers can connect to the ModemShare clients and use
the clients' communications programs. For example, with
ModemShare's inbound service programs, an off-network caller can
provide technical support by accessing a remote control program on
a client. Inbound service is most useful when used with a remote
control program, or at least a communications program that offers a
"host" mode.

DOS inbound service

INHOST is a Windows v3.x and DOS inbound service program that
allows remote users to dial into a ModemShare server and be
connected to a ModemShare client for a communications session
using third-party software. When INHOST is started from the DOS
command prompt, it runs as a DOS program and can
automatically launch a DOS communications program to service
an incoming call. The DOS communications program being used
must support either the INT 14 or NASI interface. The INHOST
program is explained in Chapter 7.

Windows 95 and Windows v3.x inbound service

In Windows, the INHOST program is called Inbound Service. To run
it in Windows 95 or Windows v3.x, select the Inbound Service icon
in the ModemShare program group.

The Inbound Service window can be minimized to allow for inbound
connections without dedicating the computer to servicing inbound
calls. It can launch a Windows communications program to service
an incoming call. When Inbound Service is waiting for a call, your

computer is still available for other work, and ModemShare server modems continue to be available for outbound calls. Windows v3.x Inbound Service is explained in Chapter 7.

Local port program

The redirector for Windows (MSRCOMM.DRV) is a communications driver that allows the client to intercept Windows v3.x communications calls. You can select one or more COM ports to redirect requests to the ModemShare server. The ModemShare redirector for Windows v3.x doesn't replace the Windows COM driver. Instead, if a port isn't a redirected ModemShare port, requests are passed to the standard communications driver. This feature allows you to use any existing drivers for enhanced direct printing support and local port access.

Monitoring and management programs

The following programs work with the MSERVER, MCLIENT and MSHARE programs to provide specialized modem-sharing and management functions.

ModemShare Monitor and Remote Server Monitor

The ModemShare monitor program (MONITOR) and Remote Server Monitor program display resource use and activity status. These programs also allow you to disconnect active clients from the server, toggle lines in and out of service, and log ModemShare server activity records to a file on disk. The programs run as follows on these platforms:

- The DOS-based MONITOR program runs on DOS and Windows v3.x servers.

- The Remote Server Monitor program runs on Windows v3.x clients using the MCLIENT.DLL.

- On Windows 95 computers, the Remote Server Monitor program runs on both servers and clients.

For more information, see Chapter 9. Windows 95 users will find complete details about using Remote Server Monitor under Windows 95 in the ModemShare Windows 95 online Help.

Windows 95 and Windows v3.x Port Status & Setup

Port Status & Setup (PORTSET.EXE) is a Windows-based configuration program that allows you to view port status and change redirector settings. From the Port Status & Setup window, you can change the redirected COM ports and assign specific lines or groups of lines to each redirected port. In Windows v3.x, you can also update the SYSTEM.INI file to reactivate the client redirector if you've installed a Windows communications driver after installing ModemShare.

Information about running Port Status & Setup in Windows v3.x appears in Chapter 6. Details on running Port Status & Setup in Windows 95 appear in the ModemShare Windows 95 online Help. To redirect ports under DOS, see DOS MENU below.

Windows v3.x Modem View window

When you start a Windows v3.x communications program, a set of modem lights (MLIGHTS) appears in a pop-up Modem View window when executed. This allows you to see the current state of the server modem being used for the connection. The Modem View window returns to the minimized state when you exit from your communications program. Modem View is explained in Chapter 6.

DOS MENU

The DOS-based MENU program (MENU.EXE) is used to select a line from modem groups and lines on a modem server. Selection is made before you run a communications program that uses the INT 14 interface. You don't need to preselect a line to run a program that uses the INT 14 interface, but it's often convenient to choose from a list of available modems. For more information about the MENU program, see Chapter 6.

DOS TERMTEST

The DOS-based TERMTEST program allows you to test your ModemShare terminal functionality by making connections with a server, communicating with an off-network system, and performing ASCII and XMODEM file transfers. TERMTEST also includes a dialing directory and a modem menu. TERMTEST, explained in Appendix A, runs under ModemShare's DOS and Windows v3.x interfaces.

Parameter Editor programs_____

ModemShare's Parameter Editor programs provide the network administrator with powerful tools for editing the server and client configuration files described in the section that follows.

PAREDIT.EXE is a DOS-based program that runs in Windows v3.x and DOS. In Windows v3.x, you can run it from the Parameter Editor icon in the ModemShare program group. The Windows 95 Parameter Editor (WPAREDIT.EXE) is a 32-bit program. Specially designed to run under Windows 95, it takes care of .INI configuration files and registry changes.

In all platforms, the Parameter Editor program has context-sensitive online Help. For more information about running the Parameter Editor program in Windows v3.x or DOS, see Chapter 8. For information about the Windows 95 32-bit Parameter Editor program, see the ModemShare Windows 95 online Help.

Configuration files_____

The default files listed in this section contain all of the configuration settings for ModemShare's Windows 95, Windows v3.x and DOS interfaces. You can change these settings at any time using the Port Status & Setup window and the Parameter Editor program.

Windows v3.x and DOS parameter files

ModemShare automatically installs default parameter files (with.CON extensions) on ModemShare servers and clients to provide the information needed to share COM ports. In general, the files contain information that's used to communicate between computers on a network (such as packet size), and information required for the management of an asynchronous port (such as line speed). The parameter file on the ModemShare server is called SERVER.CON, and the client's parameter file is called CLIENT.CON.

The ModemShare server parameter file contains information describing the physical port assignments and default values for connections with ModemShare clients. For more information, see Chapter 5.

The ModemShare client parameter file contains information describing how the client will connect to the server and information about line parameters. For more information, see Chapter 6.

You can run ModemShare using the default settings in these files, or you can modify the communications parameters to best suit your needs. Detailed instructions on customizing parameter files appear in Chapter 8.

Windows 95 parameter file

This default parameter file, called MSHARE.INI, provides the information needed to share COM ports under Windows 95 for both the ModemShare client and the ModemShare server. In general, this is the same type of data that's contained in the Windows v3.x and DOS parameter files (explained above). For more information about MSHARE.INI, see the ModemShare Windows 95 online Help.

Note… If you run a communications program that provides values for items such as line speed, the values specified by the communications program will always override the default values.

Other configuration files (Windows v3.x and DOS)

In addition to parameter files, the client redirector and DLL use an .INI file (MCLIENT.INI) that defines which COM ports are to be redirected. MCLIENT.INI also contains information about the location of the parameter files and identifies the Windows v3.x communications driver that should be used for any request that isn't being redirected. For more information, see Chapter 6.

As you can see, ModemShare's programs and configuration files serve as your tools for setting up a modem-sharing system that's exactly right for your business. The rest of the chapters in this manual tell you how to use these tools to save money and enhance productivity – with a minimum of modems and phone lines.

USING THE MODEMSHARE SERVER SOFTWARE

The ModemShare server allows modems attached to its ports to be used by other computers on an IPX, NetBEUI-based or NetBIOS-based network.

Because the ModemShare server software (MSERVER.EXE) is a DOS terminate-and-stay-resident (TSR) program, the server computer doesn't have to be dedicated to the server function. Other DOS programs can run concurrently with the ModemShare server, including the ModemShare client software.

ModemShare also includes a communications monitor program (MONITOR.EXE), that displays information about port usage when the server is loaded. The communications monitor is described in Chapter 9.

This chapter provides detailed instructions on using the server.

How the server manages ports _____

On the ModemShare v7.0 server, you can manage as many as 16 ports. The ports can be any combination of the standard built-in ports and those added using non-intelligent multiport serial adapter cards, such as the INSYNC SS-554 and SS-558 cards. See "Setting up the SERVER.CON file for multiport cards" on page 121 for more information.

The ports can be connected to communication lines, with or without modems, or can be directly attached to other serial devices or computers. As the line connection is really the focus of interest rather than the port, ModemShare terminology often uses the descriptive term "line" interchangeably with the more accurate term "port" (or "COM port").

What the server parameter file does _____

The parameter file defines both the hardware facilities for the shared ports and the software attributes to be used during connections. Hardware facilities include the port addresses of each line, the interrupt level being used, and the type of equipment connected to the line (e.g., presence of a modem). Software attributes include names for the lines, names for groups of lines, names for services, and default values to use for line parameters when not specified in a connection request.

The Setup program builds a basic parameter file for both the ModemShare server and client. You can use these files without making any changes if the line parameters are suitable, or you can use them as models for more extensive files. A complete description of the structure and content of parameter files appears under "Customizing the ModemShare server parameter file" on page 109.

Types of connections _____

For a ModemShare client on the network to use a line on the ModemShare server, you must establish a connection between the client computer and the line, or COM port, on the server. The ModemShare server provides service for the following two types of connections:

Outbound connections

An outbound connection is one that's initiated by a request from a ModemShare client to the server. If the request can be satisfied, the connection is established by the server and the client then has exclusive use of the port until it disconnects. This facility is called outbound service.

Inbound connections

An inbound connection is one that's initiated by a call from an off-network device (e.g., a computer calling a dial-in telephone number). If the server can locate a client on the network that's running the INHOST program and using the same service name specified in the server parameter file, a connection is established and the off-network caller can conduct a communications session on the network using third-party software. The network client has exclusive use of the port until it disconnects. This facility is called inbound service.

Requests for outbound connections ask for a port by a name, or use a group name to ask for any port from a group of ports. Requests for inbound connections ask for a service, not a port, again by naming the service. The ModemShare server establishes service names when INHOST is loaded on a client workstation.

Shutting down and restarting the ModemShare server _____

If you're running ModemShare in Windows v3.x, every time you reboot your computer the ModemShare server software automatically runs. If you're not using it and you want to save conventional memory, shut it down by following these instructions.

Shutting down

If you want to stop sharing modems on a server or you want to save DOS memory on a server, you can unload (remove from memory) the ModemShare server software. To do so, type the command MSERVER<space>– <Enter> at the DOS command prompt. Be sure to type a space before the minus sign.

Important…   The ModemShare server can't be unloaded if another TSR has been
loaded after the server. In this case, you need to remove any TSRs
loaded after the server before you issue the above unload
command. Refer to your software documentation for instructions
on unloading other TSRs.

Restarting

The ModemShare server startup procedure will differ slightly
depending on which network topology you're using. These are the
basic steps, but you may also want to read "Running Windows v3.x
on the ModemShare server" on page 58 and "Network operating
system considerations" on page 59.

1. Turn on the server computer in DOS mode. If you're running
   Windows v3.x, exit all programs and end your Windows v3.x
   session.

2. If you have an IPX/SPX-compatible, NetBEUI or NetBIOS
   network loaded, skip to the next step. If you don't have one of
   these protocols loaded, you'll need to log on to your network
   or install the protocols. See your network administrator for
   information.

3. At the DOS prompt, change to the subdirectory where you
   installed the server. For example, type CD \INSYNC\MSHARE
   <Enter>.

4. Type MSERVER <Enter>. When the server is loaded you'll see
   the message "Initialization completed" and be returned to the
   DOS prompt.

Note…   If you installed ModemShare on a DOS computer, you may have
chosen to automate the MSERVER command by adding it to your
AUTOEXEC.BAT file. You can also automate your server startup by
creating a batch file called SERVER.BAT with a statement such as
C:\INSYNC\MSHARE\MSERVER.

During startup the ModemShare server software will verify the
statements in SERVER.CON, the default parameter file. (You can
specify another parameter file name such as MSERVER
SERVER2.CON if you want to.) If ModemShare finds errors in the
parameter file, they'll be reported in on-screen messages, and the
program will terminate. If you receive an error message, look for it
in Appendix B, which lists all ModemShare errors in alphabetical
order. Follow the instructions in Appendix B to correct the errors
and reissue the MSERVER command.

Making sure your server is ready to share modems

You can tell whether your ModemShare server is ready to share its modems by running the Monitor program.

- Double-click the Remote Server Monitor icon in the ModemShare program group if you're using Windows v3.x. DOS users should change to the MSHARE directory and type MONITOR <Enter> at the prompt. Windows 95 users should start Remote Server Monitor from the program group.

- When the DOS-based Monitor main screen appears, press the Page Down key to move to the next screen. Make sure that each line has either the Avail (Available) or Inbnd (Inbound) status. If a line's status appears as MFail (Modem Failed) or Out (Out of Service), make sure a modem is attached to your computer and that it's turned on. After connecting a modem, select the line by typing the number in the Num column and pressing Enter. If the line still appears as MFail, you may need to contact Artisoft Technical Support. Instructions appear on page 172.

Server command line parameters _____

The following server command line parameters help you manage and find information about your ModemShare server software. For example, MSERVER<space>? brings up a server Help screen.

The server command line parameters are:

?	This parameter displays the server Help screen, shown here.
i	This parameter displays the server software version number.

```
        Brief Description of Command Line Usage

           MSERVER [?] [i] [-] [Filename[=Set]]

       ?              Displays this help screen
       i              Displays copyright and version number
       -              Unloads MSERVER from memory
Filename[=Set]   Loads MSERVER with configuration file
                    as Filename and Set as PARSET number

Parameters may appear in any order and are all exclusive
```

(Continued)

– (minus sign)	This parameter unloads the server from memory. The server cannot be unloaded if the local client program is active. To unload the server in this case, you should first unload the local client by typing MLCLIENT<space>– <Enter>.
Filename[=Set]	This parameter allows you to select the parameter file name (SERVER.CON by default) and parameter set number to be used. You can also access the SERVER.CON file through the Parameter Editor as described in Chapter 8.

Controlling access to the ports

After you've started the ModemShare server, it controls all direct access to the COM ports it's sharing. This means that you must not run any program that attempts to directly access the same ports that you assigned to the server. You can only use the shared ports by running the ModemShare client (or local client). Thus, the ModemShare server needs to run the local client software to be able to use its own ports.

CAUTION! Attempting to directly access a port that's being controlled by the ModemShare server is likely to hang the system. However, if you're using a COM1, COM2, COM3, or COM4 port with the server, and you want to run a program that uses one of these ports, you can remove the port from ModemShare service using the Monitor program (see Chapter 9). When a port is removed from service, the port can be used directly by a program.

Note… This procedure won't work for multiport boards because multiple port addresses are sharing a single interrupt level.

Running Windows v3.x on the ModemShare server

To run the ModemShare server on a computer that's also running Windows v3.x, follow the instructions under "Shutting down and restarting the ModemShare server" on page 55 while considering the following restrictions and precautions:

- You must load MSERVER before loading Windows v3.x.

- If you're using a COM1, COM2, COM3 or COM4 port with the ModemShare server, the server modifies a system control block to keep Windows v3.x from directly accessing the ports used by the server. However, if the [386Enh] section of your Windows v3.x SYSTEM.INI file contains port addresses (COM1Base=, COM2Base=, etc.), this mechanism can be circumvented to allow a Windows v3.x program to directly access the port while it is being used by the server. You should remove any COMxBase= statements from the SYSTEM.INI file.

- The ModemShare server's ability to service multiple high-speed lines can be greatly impaired by the presence of Windows v3.x. The impact depends on factors such as the number and kinds of Windows v3.x programs that you run. One area of special concern is running any process that generates interrupts of a higher priority than the interrupt level used for the communication ports at the server. An example of a process with a higher interrupt priority could be a NIC (Network Interface Card) driver. See "Common installation problems" on page 156.

Network operating system considerations _____

Take the following instructions under consideration when running the ModemShare server (basic instructions appear on page 55).

IPX network description file

In an IPX network, both the ModemShare client and server build and use a special file, called NETWRX.DAT, that contains the information necessary to support non-transparent bridges and routers on your system. In a non-transparent network, broadcasts are not automatically passed through bridges and routers. ModemShare needs the information in the NETWRX.DAT file to ensure that broadcast messages are seen on all of the legs of your network. Since gathering this information requires that ModemShare send special messages during initialization, building this file can take some time. However, the information for the NETWRX.DAT file is gathered only when you start the server or client for the first time. Thereafter, the file is read during initialization and the information is used when sending broadcast messages. The

NETWRX.DAT file is built as an ASCII file and has the format:

nnnnnnnn,ssssssssssss

where-

nnnnnnnn	is an eight-hexadecimal digit network identifier
ssssssssssss	is the 12-hexadecimal digit address of the local leg bridge or router through which the network is addressed

Since the file is in standard ASCII format, you can edit the file with any standard editor, such as the Microsoft EDIT program.

Although the process of building and using the NETWRX.DAT file takes place automatically, there are a number of things that you should know about the network description file:

1. The network description file isn't needed if your network has only a single leg or if your network is transparent (bridges and routers automatically forward broadcast messages).

2. You can force the server not to build or use a NETWRX.DAT file by using the NETWORKS=1 keyword described in the server statement definition later in this chapter.

3. If the server builds a NETWRX.DAT file for a single leg or transparent network, it will contain only a single entry that contains the local network number and might look like this:

   00000000,FFFFFFFFFFFF

4. If you change your bridge or router configuration you'll need to edit the NETWRX.DAT file or delete the file to allow the server to build a new file.

5. If your bridges and routers don't obey the standard SPX diagnostic protocol, you will need to manually build the NETWRX.DAT file to correctly describe your configuration.

Windows for Workgroups network operating system

During the installation of ModemShare, you have the option to select the network operating system Windows for Workgroups (WFW). When selected, the installation program will make changes necessary to run the server in DOS prior to starting Windows for Workgroups. When the ModemShare server loads in this fashion, various WFW error messages can occur. The following information is provided to help you remedy these error conditions:

1. The ModemShare server must use NDIS 2 drivers. Attempts to use NDIS 3 drivers will result in a failure to load NetBEUI at the DOS level. See your WFW manual (Network Setup) to make this change.

2. When entering WFW you may receive Error 58. This is caused by the presence of the IPX/SPX transport when only the NetBEUI driver is needed (no Novell network present). Use the network setup in WFW and remove IPX/SPX drivers from the protocol section.

3. The default system values of WFW are sometimes insufficient to allow for all the WFW functions along with the additional load of the ModemShare server. You may receive a message in Windows v3.x recommending that you increase the NetHeapSize= in the SYSTEM.INI. Increasing this setting will help to accommodate the additional load of the server.

4. NCBs and sessions in the PROTOCOL.INI file may also need to be increased depending on how many modems are shared.

Name services for NASI

To properly configure your ModemShare servers, it's important to keep in mind the NASI application interface's requirements for naming your resources. See also the section, "Naming conventions for ModemShare and NASI" on page 62.

Lines and groups

Lines are another way to refer to COM ports. Every line, or COM port, on a ModemShare server must have a name and, within a single server, line names must be unique. Lines on different servers can have the same name although this would remove the ability to ask for a specific line. In general, if a client makes a connection request using a line name, any server having a line with the requested name can supply the connection. This assumes, of course, that the line isn't in use by some other client.

Lines must belong to one group and can belong to two or more groups. Forming groups of lines on a server provides a powerful and flexible way to increase the chances of a client getting a connection because the request can be satisfied by using any of several lines in a group. As was the case with line names, group names must be unique within a single server but can be duplicated across ModemShare servers.

If you want a certain ModemShare server to allocate a COM port for a line request from a client, you must not duplicate line names across servers. Similarly, if you want to have a certain server allocate a port for a group request from a client, no two servers should have the same group names. Keep in mind, however, that the larger the pool of potential lines, the better the chances of satisfying the request.

Note…   If a client makes a connection request using either a line or group name that's duplicated in two or more servers, the client cannot direct the request to a specific server.

Naming conventions for ModemShare and NASI _____

If you use the INT 14, the ModemShare Extended INT 14, or the Windows v3.x communications interface for communications programs running on ModemShare client computers, the maximum length for server names, group names, or line names is 16 characters.

If you choose to use the NASI interface for communications programs running on client computers, there are a number of differences in the length of names and the way that names are used to make connections.

Terms for ModemShare and NASI names

The NASI term for a ModemShare line name is "specific service name". A ModemShare group name is called a "general service name" in NASI terminology. The use of the term "server name" is the same for both ModemShare and NASI.

NASI isn't as flexible as ModemShare in the way it uses server names and forms groups (general services). The length of the names used for servers, lines and groups is shorter in NASI than in ModemShare as shown in the table below.

Resource	ModemShare	NASI
Server Name	16 Characters	8 Characters
Group Name	16 Characters	8 Characters
Line Name	16 Characters	14 Characters

Important… Since NASI can't accept names longer than those shown above, any server or group name longer than 8 characters, or line names longer than 14 characters, will never match an inquiry made by a communications program using the NASI interface. Server, group and line names that exceed the maximum allowed by NASI won't be visible to communications programs.

If you'd like to precisely mimic the behavior of NASI servers, you should assure that:

- Each group name is unique.
- Each line name is unique.

Modifying the server's parameter file _____

The ModemShare server's parameter file, SERVER.CON, allows you to perform a number of functions, including:

- Assign a name to the server
- Define the equipment attached to each port on the ModemShare server
- Assign a name to each port
- Specify the default line parameters (speed, parity, etc.)
- Set default network values

Instructions for customizing the SERVER.CON file for your site begin on page 109 in Chapter 8, "Editing Parameter Files."

Note… Any information provided in a client parameter file takes precedence over information provided in a server parameter file. In a sense, the server values are used as default values in cases where a client doesn't provide all the required values. See also "Customizing the ModemShare client parameter file" on page 122.

USING SHARED MODEMS WITH THE MODEMSHARE CLIENT

CHAPTER CONTENTS

The ModemShare client software allows a computer to use modems that are attached to ModemShare servers. Once access is established, communications programs perform the tasks of transferring data.

This chapter provides detailed instructions on using the ModemShare client (MCLIENT) program and the ModemShare local client (MLCLIENT) program. For instructions on using the ModemShare client in Windows 95, see the ModemShare Windows 95 online Help.

Differences between the client and local client _____

The client (MCLIENT) program runs on any network computer to gain access to a ModemShare server. It also allows you to access modems on your own computer.

The local client (MLCLIENT) program runs on the ModemShare server computer to allow access to shared modems on other ModemShare servers.

The client and local client function almost identically, with the few minor exceptions noted in this chapter. Both MCLIENT and MLCLIENT provide access to shared modems for a communications program that uses one of the following interfaces:

- Windows v3.x communications interface
- basic INT 14 IBM ROM BIOS interface
- ModemShare extended INT 14 interface
- Novell NASI/NCSI interface

The way you set up the client program depends on which communications interfaces your communications program supports, and whether they operate in a Windows or DOS environment or both. For more information about using communications programs with ModemShare, you can download the document MSHARE.TXT from one of Artisoft's online services. MSHARE.TXT gives specific information about using communications programs with ModemShare. See Appendix A, "Troubleshooting and Support Services" for instructions on downloading this document.

Modifying the client parameter file _____

As is the case with the ModemShare server, the ModemShare client uses a parameter file to provide information required for outbound and inbound connection requests. The information is similar to that contained in the server parameter file, but less extensive.

A basic ModemShare client parameter file, CLIENT.CON, comes with ModemShare. You can use it without making any changes if the line parameters are suitable, or you can use it as a model for a more extensive file.

A complete description of the CLIENT.CON file's structure and instructions for editing the file appear under "Customizing the ModemShare client parameter file" on page 122.

Note… Any information provided in a client parameter file takes precedence over information provided in a server parameter file. In a sense, the server values are used as default values in cases where a client doesn't provide all the required values.

Using the Windows v3.x ModemShare client_____

It's easy to use the Windows v3.x ModemShare client with its default settings. The questions you answered during installation automatically set up a group of settings in the client parameter file that let you use the modems attached to a ModemShare server for outbound calls.

During Setup you chose a COM port number that you wanted to be redirected to the ModemShare server. To use a Windows v3.x communications program, simply select the ModemShare redirected port in the Windows v3.x communications program you're using.

For example, if you selected COM4 as your redirected port during installation, simply set your communications program to COM4 and proceed with dialing out as if you had a locally attached modem.

You can change your COM port settings or assign additional COM ports to be redirected by using the Port Status & Setup program. This feature is useful if you prefer to use specific modems or groups of modems with certain communications programs.

The client DLL and the redirector

The ModemShare client for Windows v3.x communications programs (MCLIENT.DLL) provides seamless access to modems at ModemShare servers. Most Windows v3.x communications programs are supported by the client DLL (dynamic link library). The DLL, which the ModemShare redirector loads automatically, is usually all you need.

If, however, you want to run an INT 14 or NASI communications program under Windows v3.x you must use the DOS TSR client program called MCLIENT.EXE. The DLL and DOS TSR can't run at the same time. The redirector will detect the presence of MCLIENT.EXE and won't load the client DLL. The following sections explain other redirector functions.

Note…   The local client function isn't provided in the client DLL. If you want to use the local client program on a ModemShare server, you must use the MLCLIENT.EXE program.

How port redirection works _____

During installation, you select a COM port that is to be redirected to the ModemShare server. All requests by Windows v3.x communications programs to the redirected port are serviced by ModemShare. Requests to COM ports that are not redirected are passed to the communications driver that was being used before you installed ModemShare.

MSRCOMM driver and port redirection

Windows v3.x COM port redirection is made possible by the ModemShare MSRCOMM.DRV program. This driver software allows the client to intercept Windows v3.x communications calls for one or more COM ports (that you select) and redirect the requests to the ModemShare server. The ModemShare redirector for Windows v3.x doesn't replace Windows COM drivers. Instead, if a port isn't a redirected ModemShare port, requests are passed to the standard communications drivers. This feature allows you to use any existing drivers for enhanced print support and local port access.

To establish the redirector under Windows v3.x, the installation makes the following changes:

- The comm.drv= parameter in the [boot] section of the Windows v3.x SYSTEM.INI file is changed to point to the ModemShare redirector (MSRCOMM.DRV).

- Information on the redirected COM ports and the communications driver to use for non-redirected ports is placed in the MCLIENT.INI file.

It's easy to manage the Windows v3.x communications port redirector with the Port Status & Setup program, explained next.

Managing your redirected ports with the Port Status & Setup program

The Port Status & Setup program, shown below, allows you to see whether modems are available on ModemShare servers and to manage connections to those modems. Access to specific modems (lines), or groups of modems (groups) is simplified by assigning COM ports 1 – 9 to the groups and lines you want to use with various communications applications. The Port Status & Setup program also lets ModemShare clients view details about their current client configurations.
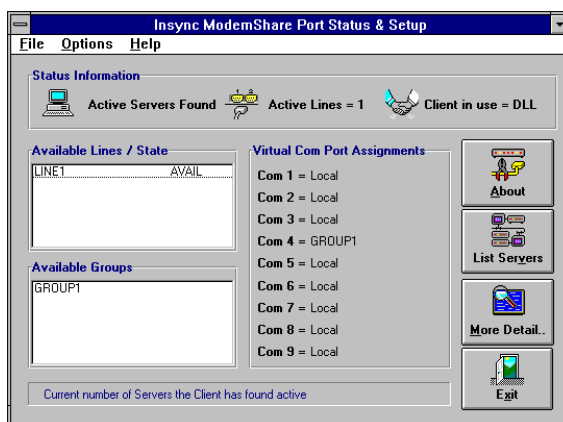
Each item in the Port Status & Setup window is explained in the following paragraphs, through page 75.

Status information

This area of the Port Status & Setup window provides you with basic information about the availability of lines and the configuration being used to access those lines.

The computer icon will indicate either "Active Servers Found" or "No Servers Found". This allows you to quickly see whether or not the ModemShare client was able to find servers. If no servers were found, you should check the ModemShare server to be sure that it was activated.

The COM port icon will display the number of lines that have been defined for use on all of the ModemShare servers that are found. If the number of lines displayed is less than what you expected, it may be an indication that a ModemShare server is down or

unavailable. You could click List Servers (discussed later in this section) to help determine if there is a problem or if a ModemShare server has been turned off.

The handshake icon will display either "TSR" for the terminate-and-stay-resident program or "DLL" for the Windows dynamic link library to indicate which client is in use. The functionality of ModemShare depends on whether the TSR or DLL client is being used.

Available lines/state

Lines are the physical ports that are attached to the server's shared modems. The Available lines/state list box in the Port Status & Setup window displays the currently defined lines for all ModemShare servers on your network. To the right of each line the state of the line is displayed. The following are descriptions of the possible line states:

AVAIL	This indicates that the line is available and ready to be used.
INUSE	This indicates that the line is currently being used by a client.
OUT	This indicates that the line is currently out of service and not available for use. This state is possible if a modem is turned off, or it may indicate that the ModemShare server administrator has toggled the line out because of phone or modem problems.
MFAIL	This indicates that there's a problem with the port. Make sure there's a modem attached to the port and that it's turned on.

Any line can be assigned to a COM port by simply clicking the desired line with the left mouse button, holding the button down, dragging the line to the desired COM port, and releasing the mouse button. You'll then see the new assignment. Any requests by a communications program to this COM port will be redirected to the selected line after Windows v3.x has restarted.

Available groups

Groups contain one or more lines. This list box in the Port Status & Setup window displays the currently defined groups for all ModemShare servers on your network.

Any group can be assigned to a COM port by simply clicking the group you want with the left mouse button, holding the button down, dragging it to the COM port you want, then releasing the mouse button. You'll see the COM port assigned to the group you selected. Any requests by a communications program to this COM port will be redirected to the specified group after Windows v3.x restarts.

Virtual COM port assignments

This area contains the current redirected port assignments for COM 1 through 9. If a COM port shows a value of LOCAL, it indicates that the port isn't being redirected by ModemShare. A line or a group value associated with the port indicates that any request made by a communications program to that port will be redirected to the line or group displayed.

A COM port that is currently assigned a group or line name can be cleared and set for local use by simply double-clicking the port with your mouse.

Note… Although Windows v3.x supports COM ports 1 - 9, this doesn't necessarily mean that all these COM ports are available to your communications program. If your Windows v3.x communications program lists only COM ports 1 - 4 in the setup, you can use only one of these ports. Check the communications program documentation to see if there are settings that allow for the use of a COM port beyond the standard 1 - 4.

About icon

Click the About icon to view version information about your ModemShare software.

List servers icon

Click List Servers to see the List Servers window, shown below. This window lists the currently active ModemShare servers on your network.

List Servers

MSHARE

✔ OK
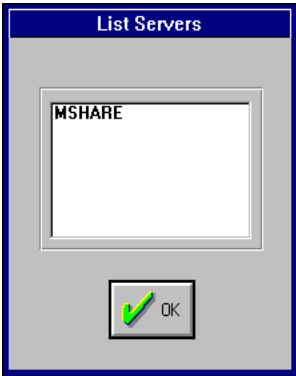
More detail icon

Click the More Detail button to view detailed information about client settings, as shown below. You can define these settings in the CLIENT.CON file and in the Port Status & Setup program.

More Details

MClient in Use	TSR
NASI and INT14 Support	Available
Comm Ports Redirected	4
Queue Modem Request if Busy	Y
Retry Modem Request if Busy	Y
Current NASI Level	2
Inactivity Timeout Set	30
Current Size of Buffer	15000
Default Connect Destination	GROUP1
Default Inbound Service Name	ANYSTATION
MClient.INI Path	C:\WINDOWS\MCLIENT.INI
MClient.DLL Path	C:\INSYNC\MSHARE\MCLIENT.DL
Client.CON Path	C:\INSYNC\MSHARE\CLIENT.CON

✔ OK
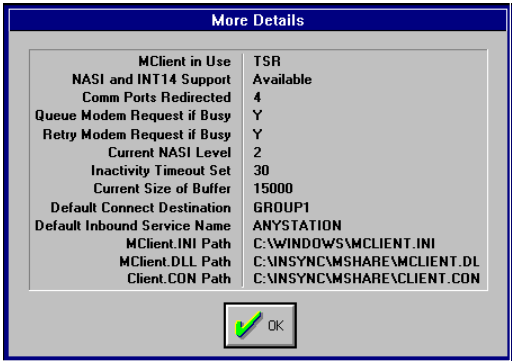
Following is a description of each field displayed in the Client Settings Detail window, along with the possible field values:

MClient in use: This field will display either "TSR" for the terminate-and-stay-resident program or "DLL" for the Windows dynamic link library to indicate which client is in use. The functionality of ModemShare depends on whether the TSR or DLL client is being used (see NASI and INT 14 Support field, next page).

NASI and INT 14 support: This field will display "Available" or "Unavailable." If the client is loaded as a TSR, NASI and INT 14 support is available. If the client DLL is loaded, NASI and INT 14 services aren't available.

Comm ports redirected field: This field will display the COM ports that are currently being redirected by ModemShare.

Queue modem request if busy: This field will display "Y" or "N" (Yes or No) to indicate if queueing is in use (see page 84). This setting can be changed by using the PAREDIT program to edit the CLIENT.CON parameter file. For more information on using PAREDIT see Chapter 8.

Retry modem request if busy: This field will display "Y" or "N" (Yes or No) to indicate if the retry dialog box will be displayed when all lines are busy. This setting can be changed by using the PAREDIT program to edit the CLIENT.COM parameter file. For more information on using PAREDIT see Chapter 8.

Current NASI level: This field displays a "2" or "3" depending on which level has been set in the CLIENT.CON file. The different levels are provided for use with various communications programs that may have been programmed using NASI level 2 or 3. Changing this setting may be necessary if the communications program being used isn't operating properly when trying to connect to an available line or group. This setting can be changed by using the PAREDIT program to edit the CLIENT.CON parameter file. For more information on using PAREDIT see Chapter 8.

Note… This setting applies only if NASI services are currently available (when the TSR is in use).

Inactivity timeout: This field will display a number from 0 to 99. This number reflects the time in minutes that a connection can be inactive (no data going to or from the line) before it's released and made available to other users. A time of 0 will provide an indefinite time and won't release the line until the user exits from the communications program. This setting can be changed by using the PAREDIT program to edit the CLIENT.CON parameter file. For more information on using PAREDIT see Chapter 8.

Current size of buffer: This field displays the size of the buffer in bytes. The buffer is used by the ModemShare client to store data as it's being serviced. The default buffer size is acceptable for most communications needs in both Windows or DOS. Additional information regarding this setting is available on page 123. This setting can be changed by using the PAREDIT program to edit the CLIENT.CON parameter file. For more information on using PAREDIT see Chapter 8.

Default service name: This is the service name that will be displayed to callers when Inbound Service is active and no service name was provided. Additional information regarding this setting is available on page 125. This setting can be changed by using the PAREDIT program to edit the CLIENT.CON parameter file. For more information on using PAREDIT see Chapter 8.

OK button: Exits the detail window.

Exit button

Click the Exit button to exit the Port Status & Setup program with an option to save any changes that may have been made. If changes are made, you're also prompted to restart Windows v3.x so that the new settings will be used.

Display bar

This dialog box is found at the bottom of the Port Status & Setup window. As the mouse cursor passes over various positions on the screen, this area displays the action or detail associated with those items.

File menu

When you click the File menu in the upper left corner of the Port Status & Setup window, the following options are available:

Refresh (F5): Click this option or press F5 if you want the Port Status & Setup program to search for available servers, lines and groups and update the screen with current information.

Save: Click this option to save any changes made to COM port assignments.

Exit: Click this option to close the Port Status & Setup program. If you've made changes to COM port assignments, you'll be given the option to save the changes before exiting.

Options menu

When you click the Options menu in the upper left corner of the Port Status & Setup Window, these options are available:

Servers: Clicking this option will open the List Communication Servers Window.

More Detail: Clicking this option will open the Client Settings Detail Window.

Help menu

When you click the Help menu in the upper left corner of the Port Status & Setup Window, these options are available:

About: Clicking this option displays Inbound Service version and copyright information.

Usage: Clicking this option provides help on using the Port Status & Setup program.

Using the modem status window (Modem View) _____

This feature enables Windows v3.x users to display simulated modem control lights in any location on the Windows screen. Using this display, you can see the state of a modem on a ModemShare server that you're using. The status lights include the following indicators:

CTS:	Clear to send	The port is ready to receive.
DSR:	Data set ready	The port is ready to send.
RI:	Ring indicator	An incoming call is detected.
CD:	Carrier detect	A connection has been established with another communications device.
TX:	Transmit	The port is currently transmitting communication.
RX:	Receive	The port is currently receiving communication.

To use the Modem View program, click the Modem View icon in the ModemShare Program Group. The MLights modem status bar shown below appears on your computer screen and displays the status of the modem.

When you start a Windows v3.x communications program, the MLights status bar allows you to see the current state of the ModemShare server modem being used for the connection. When the Modem View program is running, the MLights modem status bar appears in a pop-up window. When you exit the communications program, the MLights status bar returns to a minimized state.

You can customize the way the Modem View program functions by double-clicking the status bar lights to open the Modem Lights Options window as shown below.
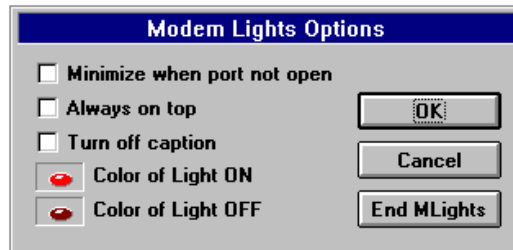
Use this window to set the following options:

Minimize when port not open: Causes the MLights status bar to be minimized at the bottom of the screen when a port isn't open.

Always on top: Causes the MLights status bar to always be displayed as the top window. When Always On Top is turned off, other windows may cover the MLights modem status bar.

Turn off caption: Removes the caption bar from the MLights modem status bar. The default is to display the caption bar.

You can also change the color of the lights displayed in the MLights status bar.

1. Click Color of Light ON or OFF. The Select color of Light when ON or OFF window appears.

2. Click a color and then click OK.

When you have specified the options you need, click OK to save the settings you have specified and return to the MLights modem status bar.

Click End MLights to close the Modem View program.

The ModemShare client initialization file _____

The client initialization file (MCLIENT.INI) contains information used by ModemShare to:

- define the redirected ports
- locate the communications driver to use for nonredirected ports
- locate the client parameter file
- locate the client DLL

The format of the MCLIENT.INI file is:

```
[Redirector]
CommDriver=drvname
RedirectPorts=port,port
COMxDest=connectname
ClientDLL=dllloc
[ClientParms]
FileName=conloc
ParSet=number
```

Redirector section of MCLIENT.INI

The redirector section contains the information necessary to redirect Windows COM ports and allows the redirector to locate the client DLL. This section of the MCLIENT.INI can be managed by using the Port Status & Setup program (described earlier in this chapter). The parameters contained in this section are:

CommDriver=drvname

where:

drvname	is the fully qualified name (disk, path, and program name) of the Windows v3.x communications driver to be used for non-redirected requests. This name is initially taken from the comm.drv= parameter of the SYSTEM.INI [boot] section during installation.
	If the Windows v3.x comm.drv driver was in your SYSTEM.INI file during installation, ModemShare copied the file as MSCOMM.DRV and put it in MCLIENT.INI.

Note… If you install a Windows v3.x communications driver after installing ModemShare, the ModemShare redirector will no longer function. You can diagnose and solve this problem by opening the Port Status & Setup program. It will automatically detect the absence of the ModemShare communications driver and will give you the option to reinstall it. Port Status & Setup will then adjust the SYSTEM.INI and MCLIENT.INI files with proper communications driver path statements. If you want to carry out these steps manually, you should reset the comm.drv= parameter in the [boot] section of the SYSTEM.INI file to point to MSRCOMM.DRV and change the CommDriver= parameter of the MCLIENT.INI file to point to the new driver you installed.

RedirectPorts=port,port

where:

port,port	is a list of COM ports to be intercepted and redirected to the ModemShare server. You can list up to nine ports, separated by commas. For example, to redirect COM3 and COM4, the parameter should look like this: RedirectPorts=3,4.
	Normally, the ports listed here don't exist on the client station since listing a port that physically exists on the station would remove your ability to access the port.

Note…   You cannot redirect a COM port being used by Windows for mouse support. Windows v3.x contains special checks for serial mouse support and will prevent you from attempting to redirect the mouse port.

COMxDest=connectname

where

x	is the redirected port and connectname is the line or group name you want to associate with the specified port. This parameter is optional and if it isn't coded for a redirected port, the client will attempt a connection using the line or group name specified in theCONNECT DEST= parameter of the CLIENT.CON parameter file. However, if you're redirecting two or more ports, using the COMxDest= parameter allows you to specify different line or group names for each redirected port.
	As an example, suppose that your ModemShare server has two lines each with a modem attached. The modem attached to the line named FAXMDM has FAX capabilities and the modem attached to line LINE1 doesn't. Both lines are in the group GROUP1. Setting the parameter like this…
	COM3Dest=GROUP1
	COM4DEST=FAXMDM
	… would allow you to use COM3 to access either modem for data transmissions, and using COM4 would guarantee that you get allocated to the FAX modem for FAX transmissions.

ClientDLL=dllloc

where

dllloc	is the fully qualified (disk and path) name of the client DLL. The redirector automatically checks to see if the MCLIENT.EXE program has been loaded and, if not, it loads the client DLL. This parameter tells the redirector where to locate the DLL if it needs to be loaded. If you installed the client on the C: drive in a subdirectory named INSYNC\MSHARE, this parameter would look like this:
	ClientDLL=C:\INSYNC\MSHARE\MCLIENT.DLL

Client parameters section of MCLIENT.INI

The client parameters (ClientParms) section of MCLIENT.INI tells the redirector where to find the client parameter file. The parameters contained in this section are:

> FileName=conloc

where

| conloc | is the fully qualified name (disk, path, and file name) of the client parameter file. The client parameter file is described later in this manual in Chapter 8. |

> Parset=number

where:

| number | is the parameter set number to use from the client parameter file. Parsets are described in this manual in Chapter 8. |

Client command line parameters

If you load the ModemShare client or local client as a DOS TSR or if you load from the WINSTART.BAT file, you can use the client command line parameters. The command line parameters for the client are:

?	This parameter displays the Help screen.
I	This parameter displays the client or local client version number.
-	This parameter unloads the client or local client from memory.
Filename[=Set]	is the name of the client parameter file. If you don't specify a file name, the client attempts to open the file CLIENT.CON in the current working directory. You can also specify the parameter set number within the file to be used by the client. The client parameter file is described in Chapter 8.

MENU	requests the client or local client to display a menu of groups/lines used to allocate a line for a communications program using the INT 14 interface.
CONNECT [Name]	requests a connection to either the default name specified in the DEST= parameter of the CLIENT.CON file or a specific group/line name that you supply. This parameter is used to allocate a line for a communications program using the INT 14 interface.
RELEASE	releases the current connection to the server port and is used to release lines used by a communications program that uses the INT 14 interface. It leaves the client in memory.
/NGI14	disables the standard (generic) interrupt interface. This switch can be used if you want to reserve the interrupt 14 interface for use by a local program or the BIOS.
/NNAS	causes the client not to intercept interrupt 6BH, so NASI requests can be handled by another resident program.
/NAC14	suppresses automatic connection for INT 14 programs.

Using a DOS batch file to start the ModemShare client

If you use only DOS communications programs, you may want to create a batch file to load the ModemShare client, start your communications program, and unload the client when you have finished using the communications program. Using a batch file in this way will return all of the DOS memory that is used by the client for use by other programs. For example, suppose you installed the client on the C: drive in a subdirectory named INSYNC\MSHARE.

The communications program you use is named EASYCOM and is installed on the C: drive in a subdirectory named COMPRGS. The following batch file could be used to load and unload the client and run your communications program:

```
C:
CD \INSYNC\MSHARE
MCLIENT
CD \COMPRGS
EASYCOM
CD \INSYNC\MSHARE
MCLIENT –
```

Be sure to include a space before the minus sign.

Using the MENU option

The MENU option works in a manner similar to the CONNECT option, except a menu of lines and groups is displayed and you can choose from the displayed list. The MENU option is also available as a separate program (MENU.EXE) that can be run independently from the client or local client. You can use either the MENU parameter or program in a batch file as shown above since either option will set the Errorlevel variable.

To understand how the menu is displayed, keep the following things in mind:

- Only lines that belong to at least one group are shown on the list. This is because the facility used to query ModemShare server resources follows the NASI specification and NASI requires that each line belong to a group.

- Group and line names that are duplicated on multiple ModemShare servers are shown once in the list. Selection of a group or line name that has been defined on multiple servers will be satisfied by the first server responding to the connection request.

- ModemShare servers with duplicate names are shown as a single entry in the server names list.

These steps describe how to use the MENU with the client:

1. Type MCLIENT MENU<Enter>.

2. The Group/Line Selection Menu appears. The window on the left of the screen displays all groups and lines being shared by modem servers.

   Select a group or line by using your up/down arrow keys, highlighting the desired item, and pressing Enter. The current line status is displayed next to each line in the list. Only lines that show a status of Avail can be used for a connection. If you're using the queueing option, you can queue (camp on) a line that shows a status of Alloc (the line has already been allocated by another user). Lines that show a status of Out have been removed from service and cannot be allocated.

3. ModemShare will test to assure a successful connection. You will either receive a message stating why a connection could not be established or you will be returned to a DOS prompt where you can start your communications software and proceed with your session.

How the ModemShare client makes a connection ____

To establish a connection, a ModemShare client sends a connection request to a ModemShare server using a line or group name. The line or group name used can come from one of the following places:

- The communications program you're using. Communications programs that use the NASI interface usually supply the name of the line or group desired.

- The value you supplied in a COMxDest= parameter in the MCLIENT.INI file for Windows v3.x communications programs.

- A connection with a line or group that you directly requested prior to using communications programs that support the INT 14 interface. You make a direct request using a parameter on the MCLIENT command or by using the MENU program.

If the line or group name isn't supplied using one of the three methods shown above, the client uses the default value supplied in the DEST= parameter of the CLIENT.CON file.

The request also contains some specification of the desired line and data transfer parameters. The parameters supplied by the communications program are used for the connection. The client uses default values from the CLIENT.CON file for any values not supplied by the communications program.

Queueing

The ModemShare queueing feature allows you to "camp on" a line that can satisfy the connection request but is in use when the request is made (see the QUEUE= parameter described on page 126). If a ModemShare server queues a client request, you will see the following message:

> Connection request queued by a server

You're then given a chance to cancel or accept the queueing. If you accept the queued request and you're running a DOS communications program, you must wait until the server allocates a line to your communications program before you can resume work at your computer.

Queued requests for Windows v3.x users running MCLIENT.DLL are processed by minimizing the window in which the communications program is running. This allows you to perform other work while you wait for the connection to be established. When a connection is established, the communications program will maximize on the screen.

Retry

The ModemShare retry feature allows you to automatically retry requests that cannot be satisfied by a server when they are made (see the RETRY= parameter described on page 127). If you're using the retry feature and no server can satisfy your request, you'll see the following message:

> All servers are busy or unavailable...

You're then given the option to cancel or retry the request.

How the server processes a connection request_____

When the ModemShare server receives a request, it determines whether to grant the request based on:

- the parameters of the request
- the current connection status
- the information supplied in the client's parameter file

The ModemShare client's parameter file has a significant effect, so it's useful to keep the following items in mind when you're modifying the file. Refer to "Modifying the client parameter file" on page 66 for more information.

The line selection process

When a ModemShare client sends a request, it's broadcast to all ModemShare servers, and all servers go through the selection process described below. If more than one server can satisfy the request, each tries to establish the connection. The connection is established by the first server the client hears from. The others then discard the request because the client won't respond to their offer of a connection.

1. All lines that match the specified line or group name are candidate lines. There will be only one candidate if a line name is used, but usually more than one for a group name.

2. Candidate lines are examined in sequence. A line is rejected if it has a PERMIT list (see page 120) and the requesting station isn't on the list.

3. A line is rejected if a modem is required and the modem doesn't appear to be connected. A modem is required for a request if the SERVER.CON file specifies that a modem is attached to the line (see page 117).

4. The request is rejected if all candidate lines are rejected.

5. If there are any remaining candidate lines, then the first one without an existing connection is selected. If all are connected, then a busy condition is generated.

6. A busy condition will cause the request to be queued if this option was selected in the client parameters (QUEUE=Y). If the request is queued, a message to that effect is sent to the ModemShare client at the station that made the request. The request will be processed when one of the candidate lines becomes available.

The IPX network description file _____

In an IPX network, both the client and server build and use a special file, called NETWRX.DAT, that contains the information necessary to support non-transparent bridges and routers on your system. In a non-transparent network, broadcasts aren't automatically passed through bridges and routers. ModemShare needs the information in the NETWRX.DAT file to ensure that broadcast messages are seen on all the legs of your network. Since gathering this information requires that ModemShare send special messages during initialization, building this file can take some time. However, the information for the NETWRX.DAT file is gathered only when you start the server or client for the first time. Thereafter, the file is read during initialization and the information is used when sending broadcast messages. The NETWRX.DAT file is built as an ASCII file and has the format:

nnnnnnnn,ssssssssssss

where-

nnnnnnnn	is an eight-hexadecimal digit network identifier
ssssssssssss	is the 12-hexadecimal digit address of the local leg bridge or router through which the network is addressed

Since the file is in standard ASCII format, you can edit the file with any standard editor, such as the Microsoft EDIT program.

Although the process of building and using the NETWRX.DAT file takes place automatically, there are a number of things that you should know about the network description file:

- The network description file isn't needed if your network has only a single leg or if your network is transparent. Bridges and routers automatically forward broadcast messages.

- You can force the ModemShare client not to build or use a NETWRX.DAT file by using the NETWORKS=1 keyword described in the server statement definition on page 112.

- If the client builds a NETWRX.DAT file for a single leg or transparent network, it will contain only a single entry that contains the local network number and might look like this:

  00000000,FFFFFFFFFFFF

- **If you change your bridge or router configuration you'll need to edit the NETWRX.DAT file or delete the file to allow the client to build a new file.**

- **If your bridges and routers don't obey the standard SPX diagnostic protocol, you will need to manually build the NETWRX.DAT file to correctly describe your configuration.**

CUSTOMIZING INBOUND SERVICE

CHAPTER CONTENTS

As explained in Chapter 3, you must use the ModemShare inbound service feature (INHOST in DOS, Inbound Service in Windows v3.x) to be able to receive incoming calls. This chapter goes into depth on the various options for configuring and customizing inbound communications.

Establishing an inbound connection is essentially the same as an outbound connection, except that the roles of client and server are reversed. The ModemShare server initiates the connection request, and any ModemShare client that responds to the request will control the connection.

Setting up a ModemShare client to receive calls_____

To set up a ModemShare client (or local client on the ModemShare server) to receive an inbound call, you use the DOS-based INHOST or Windows v3.x-based Inbound Service program that comes with ModemShare. INHOST/Inbound Service has the following primary functions:

- To associate a service name (that you select) with a communications program (that you also select). In order for the ModemShare inbound service to be useful to an off-network caller, you normally choose a remote control communications package, or at least a communications package that offers a "host" mode.

- To notify the server of the service name that you selected. The server keeps a list of all service names and provides a list of these names to an off-network caller.

- To accept a connection request from a server based on the service name.

- To load the selected communications program when a connection is established.

- To re-establish the client as an inbound service provider when the off-network call has been completed.

If you load INHOST under DOS, INHOST functions as a DOS program and will run a DOS communications program to service an inbound connection.

If you load INHOST from the ModemShare program group under Windows v3.x, INHOST runs as a Windows v3.x program and will load a Windows v3.x communications program to service inbound calls.

Handling incoming calls _____

There are two basic ways to set up your network to receive an inbound communication session.

The first method, Inbound Service, assumes that a ModemShare client or local client on the network has the INHOST program loaded. When the ModemShare server receives an inbound call, it initiates a conversation with the caller to determine what service is wanted. When the caller has entered the requested service name,

the ModemShare server broadcasts a request to all clients to see if one of them can accept the service request. If a client accepts the request, a connection is established and the client takes control of the interaction with the caller.

The second method, Outbound Answer Mode, assumes that a ModemShare client has established a connection with the server using a communications package and is waiting in the Host mode to receive a call. The table below contrasts Inbound Service and Outbound Answer Mode.

Inbound Service	Outbound Answer Mode
A ModemShare client must participate in the call.	A ModemShare client must participate in the call.
ModemShare server answers call and passes to INHOST/Inbound Service ModemShare client.	Communications program takes control of line and is responsible for answering call.
Doesn't dedicate a line to receiving calls.	Dedicates a line and modem to receiving calls.
Asks the caller to try later if a ModemShare client isn't available to take the call.	Since the communications program is responsible for answering call, the caller won't usually be notified if a client isn't available.
The line can be used for multiple services.	The line is dedicated to a single service.

The inbound service method is preferable to outbound answer mode in many situations because of its flexibility. With inbound service, lines aren't dedicated to receiving calls, nor are they dedicated to host sessions at a single computer. Inbound service also provides the off-network caller with a helpful status message when a client isn't available.

Notice that, in either case, you can allow network access to outside callers. Both methods require that you use a communications program that supports a host mode for remote upload and download operations and can enter commands to interact with the network.

Inbound service requirements _____

For inbound service to function properly, make sure the following conditions exist:

- The ModemShare server must be configured to accept a call from an off-network device by specifying the INBOUND keyword on one or more GROUP statements. To automatically connect to a client without answering the phone, the server should also include the CALLFWD keyword. See page 119 for details about the SERVER.CON Inbound= statement.

- One or more ModemShare clients must have the INHOST/Inbound Service program running and be ready to respond to a request from the server when the service name is supplied.

- The modem used on the ModemShare server must respond properly to the standard Hayes modem command set.

- The modem must not be set to auto-answer mode.

- The modem must be set to DTR normal mode. In this mode, the modem will disconnect from an online connection and return to command state when DTR is dropped.

- The modem must be set to Normal Result Codes.

- The modem must be set to Display Result Codes.

- The modem must be set to Verbal Result Codes.

- The modem must be set to return the LINE SPEED when it returns the CONNECT string if you're using the ModemShare server AUTOBAUD feature. If you've elected to fix the port speed at the server, this isn't a requirement but you must be sure to fix the port speed as high (or higher) as the highest line speed off-network callers will be able to establish.

Configuring the ModemShare server and client for inbound service _____

The ModemShare server and client prepare inbound calls independently.

ModemShare server

A ModemShare server obtains inbound configuration information from clients that have INHOST/Inbound Service running. It reads the inbound configuration information from the parameters in the CLIENT.CON file or from optional command line parameters supplied when you run the INHOST program.

A ModemShare server is conditioned to receive inbound calls by including at least one GROUP statement with the INBOUND keyword in the server parameter file. To automatically connect to a client without answering the phone, the server should also include the CALLFWD keyword. See page 119 for details about the SERVER.CON Inbound= statement.

The ModemShare server answers the telephone using the set of lines defined in the parameter file as eligible for inbound connections. The lines selected for use with inbound service can also be used for outbound service, or one or more lines can be dedicated to servicing inbound calls.

Call forwarding

You can configure your servers to automatically connect to other network computers without answering the phone. Any network computer can receive forwarded calls if it has a service name that matches the service name in the server parameter file and is running the Inbound Service or INHOST program.

LOOK ONLINE…

for details about using the Inbound Services program on Windows 95 computers

When a ModemShare server is set up to forward calls, incoming calls are answered by a communications program on the client, rather than by the server. The off-network caller is immediately linked to the client's communications program.

To set up a ModemShare server to automatically forward incoming calls to another computer on the network, open the Parameter Editor program. Select Groups in the server parameters options. Then select Call Forward. When the Call Forward Name screen appears, type in the service name that will be used to forward calls.

Note...   A ModemShare client must be running the INHOST/Inbound
Service program with a service name that matches the one defined
at the server in order to receive forwarded calls.

ModemShare client

A ModemShare client is conditioned for inbound service by
running the INHOST program in DOS, or Inbound Service program
in Windows v3.x.

Multiple clients can be configured to accept the same service name
to create an inbound group. With this type of setup, the first client
responding to the service request will receive the connection. You
specify which service names are valid and which ModemShare
clients (if any) will accept each service name.

Using the DOS-based INHOST program _____

When you run the INHOST program under DOS, you specify the
service name and the communications program to run to service
the inbound call. You can also provide execution parameters for
the communications program and require the off-network caller
to enter a password. INHOST is executed after the client or local
client software has been loaded. Here's the procedure for running
INHOST:

1. Type INHOST with the appropriate parameters (as described
    below) and press Enter.
2. The INHOST DOS Inbound Service Screen appears.

The command format you type in step 1 is as follows:

INHOST programname,servicename[:password],[blank time] [parameters]

where:

programname	is the name of an executable INT 14 or NASI Host communications program, including the extension and any necessary drive and path information, for example, C:\INSYNC\MSHARE\TERM.EXE
servicename	is the name of a service, up to 16 characters in length, that represents this service to an off-network caller. The service name is case sensitive.
password	[optional] is the password, up to 16 characters in length, that an off-network caller must provide before this client will run the communications program. Type a colon (:) and then the password immediately after the service name. Callers have two chances to type in the correct password before the connection is dropped. The password is case sensitive.
blank time	[optional] is the number of minutes that INHOST should wait from the last keystroke prior to blanking the screen. The screen is turned on if an inbound call is received or if you press the SPACE bar.
parameters	[optional] are the parameters for the DOS communications program. Notice that the parameters for the communications program, if present, are separated from the other parameters by a blank.

Some helpful hints on setting up third-party communications programs to run with INHOST can be found in a document called MSHARE.TXT. This document gives specific information about using communications programs with ModemShare and is available from various online services. See Appendix A, "Troubleshooting and Support Services" for instructions on downloading this document.

Using the Inbound Service program in Windows v3.x __

To run the Windows v3.x INHOST program, double-click the Inbound Service icon in the ModemShare group. The Inbound Service window appears.
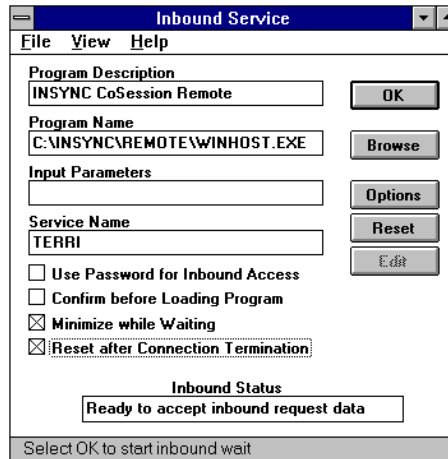
The window is divided into entry fields, option/action buttons, check boxes, a status field, and a line at the bottom of the window that provides a short description or action. Descriptions of the fields and options available in the Inbound Service window appear in the paragraphs that follow, through page 100.

File menu

When you click File in the upper left corner of the Inbound Service window, the following option is available:

Exit: Clicking this option terminates the Inbound Service program. If you have made changes to the Inbound Service setup, you'll be given the option to save the changes before exiting.

View menu

When you click View in the upper left corner of the Inbound Service window, the following option is available:

Status Bar: Clicking this option toggles the Status Bar (the last line of the window) on and off. A check mark in front of this option indicates that it's turned on, and you'll see the current inbound status at the bottom of the Inbound Service window.

Help menu

When you click Help in the upper left corner of the Inbound Service Window, the following options are available:

About: Clicking this option displays version and copyright information.

Usage: Clicking this option provides help on using the Inbound Service program.

Inbound status

Inbound Service is always in one of three states: Ready, Waiting, or Connected. The current state is displayed in the Inbound Status box.

Ready: In the Ready state, you can enter data that will be used to set up to wait for an incoming call. This is the state on entry to the program.

When you've finished entering data and selecting options, click the OK button. Inbound Service will check the consistency of the information you entered and, if the data is acceptable, Inbound Service will enter the Waiting state.

Waiting: In the Waiting state, Inbound Service is prepared to accept an incoming call.

In the Waiting state, all entry fields and buttons are inactive except the Edit button. Selection of Edit in the Waiting state causes the inbound setup to be terminated and Inbound Service will change to the Ready state. Edit has no effect if selected in the Connected state.

Connected: If an inbound call is received and accepted while in Waiting state, the Connected state is entered. The Edit button can't be selected in the Connected state.

Program description

In the Program Description field you can enter any string that describes the use or purpose of the inbound service being established. This field is optional.

Program name

In the Program Name field you must enter the name of the host communications program to be started when an inbound connection is accepted. This field is required and must contain the full path name of the file as well as the filename and extension. The name won't be accepted if it doesn't match an existing file. You can use the Browse button to find and select a communications program to load.

Input parameters

In the Input Parameters field you can enter any parameters you want passed to the program selected in the Program Name field. This field is optional.

Service name

In the Service Name field, enter the service name, up to 16 characters in length, that represents the inbound service being established. A list of all active service names is displayed by the ModemShare server to off-network callers. If you leave this field blank, the service name is taken from the SERVICE=sname parameter in the client parameter file.

Use password for inbound access

By checking this box, you can require an off-network caller to provide a password for inbound access.You won't be prompted to establish the password until the OK button is clicked. When a call is received, Inbound Service asks the caller for the specified password. The call is accepted if the caller can supply the password. If the caller cannot match the password after three attempts, the call is rejected and the Waiting state is automatically reentered.

Confirm before loading program

If this box is checked, you'll be notified that an inbound call has been received and asked if you want to accept the call. If the answer is yes, the specified program will be started. If the answer is no, the call is rejected and reentry is made to the Ready state. You can then specify a new inbound sequence. If this box isn't checked, the program specified in the Program Name field will be automatically started when the inbound call is accepted.

Minimize while waiting

If this box is checked, Inbound Service will minimize itself on entry to the Waiting state. This will allow you to continue working in Windows v3.x while waiting for an inbound call.

Reset after connection termination

If this box is checked, Inbound Service will automatically reenter the Waiting state after the program started by the inbound call terminates. This allows Inbound Service to repeatedly accept a sequence of incoming calls. If this box isn't checked, Inbound Service will reenter the Ready state after the program started by the inbound call terminates.

OK button

Clicking OK will save all of the selected values and options to a file. These values will then be used as the initial field values the next time INHOST is started, or if the Reset button is selected during the current session.

Browse button

You can use the Browse button to find and select a communications program to load when completing the Program Name field.

Options button

Selection of this button in the Ready state causes the Termination Options dialog box to appear, which allows you to specify additional termination options.
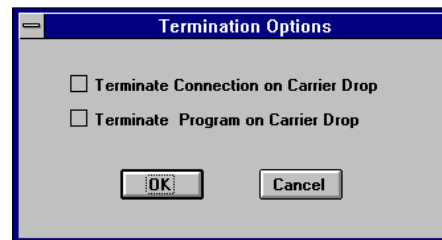
The Options button is enabled only in the Ready state. The termination options are independent, so both will be effective if both are selected. The Termination Options are:

Terminate program on carrier drop: You can use this option to control the behavior of the host communications program when a call is completed. Often, a remote control or host mode communications program will continue to hold the connection and place the modem in auto-answer mode waiting for the next call. In order to free the modem for use by others, it's necessary for the communications program to terminate. Checking the Terminate Program on Carrier Drop will cause Inbound Service to monitor the state of the carrier and force termination of the communications program when carrier drop is detected.

Terminate connection on carrier drop: If the communications program doesn't release the connection when it terminates, you can force the connection to be closed by checking this box. This is an unusual condition and most programs will release the connection when they terminate.

Reset button

Selection of this button in the Ready state causes all currently entered data to be reset to the values saved when you last selected the OK button. The Reset button is enabled only in the Ready state.

Edit button

The Edit Button is available only when Inbound Service is in a Waiting or Connected state. Selection of Edit in the Waiting state causes inbound setup to be terminated, Inbound Service to change to the Ready state, and the data and options saved by the previous selection of the OK button to be restored. Edit has no effect if selected in the Connected state.

The fields on the Inbound Service screen are now ready to accept changes to the inbound request data. If you want to change the password at this point, first remove the check from the Use Password box then restore it.

Using Inbound Service in unattended mode _____

If you want to use Inbound Service in an unattended mode, it's a good idea to follow these steps:

1. Click Reset after Connection Termination.

2. Don't click Confirm before Loading Program.

3. You should also click Terminate Program on Carrier Drop and, depending on the behavior of the program, you may need to select Terminate Connection on Carrier Drop.

Automatically restarting Inbound Service _____

You can restart Windows v3.x and Inbound Service using the AUTOEXEC.BAT file and the Windows Startup group. To facilitate this automatic restart process, Inbound Service accepts the parameter AUTO on the command line used to start Inbound Service. The AUTO parameter causes Inbound Service to function as though you had clicked OK as soon as Inbound Service loaded.

To automatically start Inbound Service, go to your Windows v3.x desktop. Click the Inbound Service icon in the ModemShare program group. In the Program Manager menu, click File then Properties. Type <space> AUTO at the end of the Command Line. Click OK.

Dialing in to the server _____

After you've established an inbound service using the Inbound Service program, an off-network caller can dial the ModemShare server. The caller sees a list of service names that have been registered with the server by the Inbound Service program.

The ModemShare server displays a message like this one:

> The following services are registered with this server:
>
> 1. LANAccess
>
> 2. Accounting
>
> Please select a service by number, enter a service name, or enter BYE to quit Enter a Service Name or enter BYE to quit.

The off-network caller can type in either the service name or number and press Enter.

Note… If the off-network call has been forwarded to the ModemShare client using the Call Forwarding program, the off-network caller won't see a menu. The client's communications program will simply launch immediately.

If the ModemShare server wasn't running when a ModemShare client declared its Inbound Service available, a remote user won't see all available services in the list of Inbound Service service names. If you don't see the service name you want on the list, try typing in the full service name and pressing Enter. If the service is available, this will establish an inbound connection to it.

If the Inbound Service parameters require a password, the off-network caller must type the password and press Enter. Once the ModemShare server locates the client, the connection is established, Inbound Service launches the host communications program, and the off-network user can proceed.

The host communications program that Inbound Service runs will find that a connection is already established. For inbound communications to work properly, the communications program must accept this as a matter of course and carry on as if it had made the call.

Hint… If your communications program immediately drops the connection on an inbound call, try setting the port option to a "direct connect" in the communications program parameters.

Third-party communications software_____

LOOK ONLINE…
for details about using the Inbound Services program on Windows 95 computers

Some helpful hints on setting up third-party communications programs to run with Inbound Service can be found in the document called MSHARE.TXT. This document gives specific information about using communications programs with ModemShare, and it's available from Artisoft's online services. See Appendix A, "Troubleshooting and Support Services" for instructions on downloading this document.

EDITING PARAMETER FILES

CHAPTER CONTENTS

As explained in Chapters 5 and 6, INSYNC ModemShare comes with a parameter file for the server (SERVER.CON) and another for the client/local client (CLIENT.CON). This chapter explains how to use the Parameter Editor program to change parameters for the ModemShare server and client, respectively.

The Parameter Editor runs:

- in Windows 95 and Windows v3.x from the Parameter Editor icon
- in DOS from the PAREDIT program

The Windows v3.x Parameter Editor and DOS PAREDIT programs are described in this appendix, while information on how to use the Windows 95 Parameter Editor program is available from your ModemShare online Help.

Why parameter files are necessary_____

The installation process created basic SERVER.CON and CLIENT.CON parameter files based on your answers to the installation questions. Even with a locally connected modem, many parameter values are needed because ModemShare uses asynchronous communication. Some of the values specified in the parameter files are:

- port addresses
- interrupt levels
- line speed
- parity
- data bits
- stop bits
- line names

When parameter files must be modified _____

If you expect to use only outbound service, most of the values in the SERVER.CON and CLIENT.CON files need to be verified only once. But if you want to institute inbound service, you must make sure the inbound options are set in the SERVER.CON file.

You can also customize parameters in both files to better suit your site. For example, instead of using the default line name of Line 1, you might want to rename a line for its location or for the name of someone in your office.

You can maintain parameter files for both the ModemShare server and client using any text editor that supports a non-document mode. But it's easiest to edit parameter files when you use the DOS-based parameter editor that comes with ModemShare, called PAREDIT (Parameter Editor).

LOOK ONLINE…

for details about using the Parameter Editor on Windows 95 computers

How ModemShare uses parameter values _____

To properly set port parameters in the server (SERVER.CON) and client (CLIENT.CON) parameter files, it's important to understand how ModemShare uses port parameter values. This section describes the parameters' hierarchy.

ModemShare uses two general types of parameter values:

1. Parameters associated with the management of network traffic between client and server, such as packet size

2. Parameters associated with the management of a modem, such as baud rate

Network parameters, such as packet size, can exist in both the server and client parameters files. In this case, the values in the client parameter file take precedence over the server values. This allows different client stations to use different settings for network parameter values, although these aren't usually changed.

Parameter values for setting line and modem related items such as line speed, parity, etc., can come from three different sources: the communications program, client parameters, and server parameters. The values are used in exactly the order listed. For example, if the communications program selected a line speed for the connection, the line speed would be used in making the connection. If the communications program didn't indicate the line speed desired, the line speed in the ALPARS parameter of the client parameter file is used. Finally, if neither the communications program nor the client parameter file selected a line speed, the line speed specified in the server parameter file for the line allocated would be used.

Using PAREDIT, the DOS Parameter Editor _____

The Parameter Editor (PAREDIT) is a DOS application that provides an easy-to-use set of menus for creating and editing parameter files.

Note… Instructions for running Parameter Editor on Windows 95 computers appear in the ModemShare online Help.

PAREDIT will prompt you for required information, suggest entry values, and check all the data entered for validity. PAREDIT provides a context-sensitive Help system to help you select appropriate values for your parameter files. Press F1 at any time for Help.

You can run PAREDIT on any computer without having the ModemShare client or server running (although either can be present). This is because the installation program places a copy of PAREDIT in the installation directory for both the server and client.

You can create and modify the parameter files either by using PAREDIT or by using any text editor capable of reading and saving text as non-document data. The advantage of using PAREDIT is that the program fills in defaults, prompts you for required values, checks all entries for validity and supplies context-sensitive online Help.

Note… If you choose to use an editor other than PAREDIT, you must use the non-document mode of the editor when modifying parameter files.

Understanding conventions used in parameter files

- Comment lines start with a semicolon (;) in position 1

- Either uppercase or lowercase letters can be used; the parameter files aren't case sensitive

In the following statement descriptions, keywords are shown in upper case and keywords shown in brackets [ ] are optional parameters. Statements are described in the order in which they appear in the file. Since many of the statements have ordering requirements, you should code your statements in the order shown.

Parameter sets

The ModemShare server parameter file consists of parameter sets (up to 99 can be defined). Each parameter set is a group of statements that defines one configuration of the ModemShare server. For instance, parameter set 1 may define four modems and four direct connects, parameter set 2 may define eight modems, etc.

Starting PAREDIT in DOS

Follow these steps to run the Parameter Editor:

1. At the DOS prompt, type **PAREDIT <Enter>**.

2. The PAREDIT screen appears. You can either:

   ■ Open the Station Type selection menu by accepting the default (press Enter), or

   ■ Exit PAREDIT by typing Q for quit.

3. Select either server or client depending on which type of parameter file you want to edit, then press Enter.
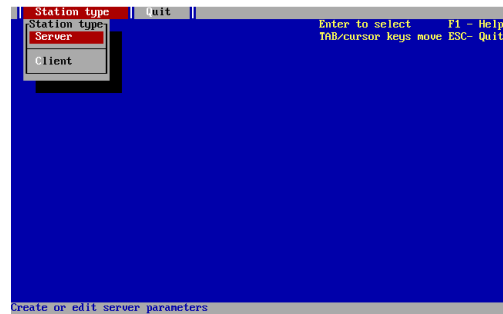
4. Confirm the path of the parameter file you want to edit. If you want to create a new parameter file you can change the file name and a new one will be created. Press Enter to proceed.
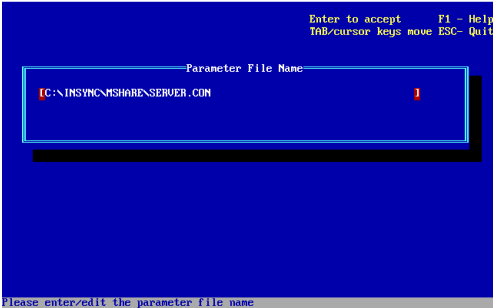
5. A menu of available parameter sets appears. Parameter set 1 is selected by default. Press Enter to edit parameter set 1 or use the Tab key to select another, then press Enter.
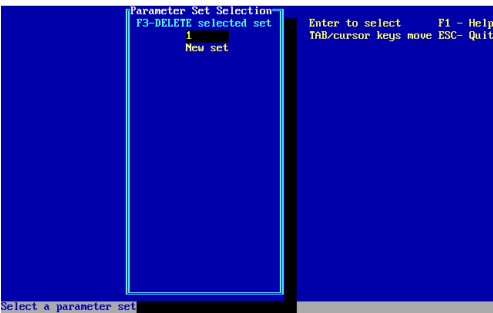
6. A menu of parameter file editing options appears.
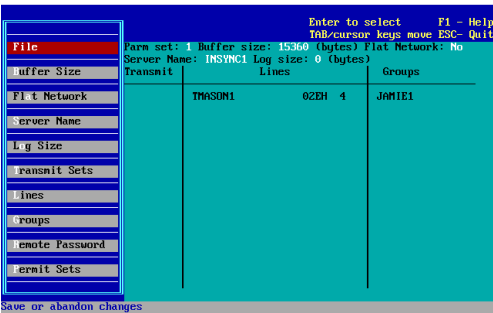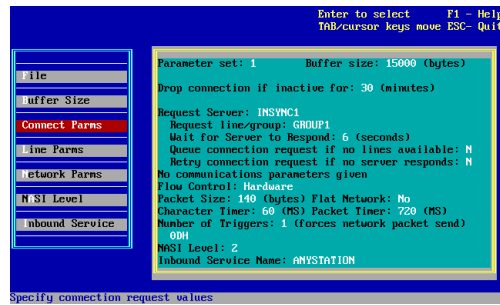
Note… Press F1 at any time to see online context-sensitive Parameter Editor Help.

There are a few things that you should know about the Parameter Editor. If you edit an existing parameter file and save the file, several things may occur:

- The order of the parameters in the file may change.
- A comment will be added indicating that you used the Parameter Editor to change the file (that includes the date and time of the change).
- Comments in the file that were previously entered with an ASCII text editor won't be preserved.

Customizing the ModemShare server parameter file

As mentioned in Chapter 5, the ModemShare server's parameter file, SERVER.CON, allows you to perform a number of functions, including:

- Assign a name to the server
- Define the equipment attached to each port on the ModemShare server
- Assign a name to each port (line)
- Specify the default line parameters (speed, parity, etc.)
- Set default network values

This section explains how to modify the server parameter file.

It's a good idea to use Parameter Editor to customize the server parameter file because the program fills in default values, prompts you for required values, checks all entries for consistency and supplies context-sensitive online Help. If you choose to use an editor other than Parameter Editor, you MUST use the non-document mode of the editor.

Instructions for using Parameter Editor begin on page 105. Be sure to read "Understanding conventions used in parameter files" on page 106 before you use Parameter Editor.

Note…　Any information provided in a client parameter file takes precedence over information provided in a server parameter file. In a sense, the server values are used as default values in cases where a client doesn't provide all the required values. See also "Customizing the ModemShare client parameter file" on page 122.

Editing specific parameter sets in the SERVER.CON file

You can modify the parameters in SERVER.CON, described under "Parameter sets" on page 106, to match your requirements.

Once you've created a parameter set, you can use a particular parameter set from the DOS prompt. Here's an example:

Type MSERVER SERVER.CON =<Setno> <Enter>

where:

Setno is the parameter set number you want to edit (a number between 1 and 99).

PARSET statement in SERVER.CON

The PARSET statement defines the start of a parameter set within a .CON file. There is only one PARSET statement per parameter set and it is always the first statement in the set. There can be multiple (1-99) PARSET statements in one .CON file.

The format of the PARSET statement is:

PARSETnn [Bspace] [,Lspace]

where:

nn	is the two-digit set number that identifies this parameter set.
Bspace	is the number of bytes to be reserved for communication buffers (default = 15,360).
Lspace	is the number of bytes to be set aside out of the communication buffers for logging activity records in memory when the monitor program isn't running. These records are kept in a wrap-around buffer and aren't written to disk until the monitor program is run. When Monitor is run, records are removed from the buffer and written to disk as a comma-separated file. (See Chapter 9, "Managing and Monitoring ModemShare Connections.") A record containing information about the resources used during the connection is placed in the logging area when a connection is ended.

Note…   The default value for Lspace is zero (0). This specifies that logging isn't active.

Important…   If the monitor isn't active and the logging space becomes full, the data records are overlaid in memory starting with the oldest entry. The size required to avoid record overlays depends on the number of connections during any given period of time and the frequency of monitor runs. As a starting point, we recommend 800 bytes.

SERVER statement in SERVER.CON

The SERVER statement defines the network name of the server. Each server must have a unique name.

The format of the SERVER statement is as follows:

SERVER [NAME=name]

[NETWORKS=legs]

[TIMEOUT=minutes]

where:

NAME=	(name) is a 16-character network name for the ModemShare server. If you use the NASI interface, your server names are limited to 8 characters or less (default=MSHARE).
NETWORKS=	(legs) for IPX, indicates whether or not you're using a "flat" network. A flat network is a network with one leg (no bridges or routers) or a network that uses transparent bridges. If you're using a flat network, you should set this value to 1 so the ModemShare server won't build or use the network description file (NETWRX.DAT). Any value other than the number 1 indicates that the server should build and use the NETWRX.DAT file. This parameter isn't used in NetBIOS networks (default = 2).
TIMEOUT=	(minutes) is the frequency that the ModemShare server will check to ensure that a client holding a connection (modem) is still active. This check will return a modem to service if, for example, a user at a client station that was holding a modem turned off the power and went home. The recommended value is 1 minute.

TRANSMIT statement in SERVER.CON

The TRANSMIT statement defines a set of transmission attributes for a communications line. These sets of attributes are used only when referenced in a LINE statement or a GROUP statement.

Note… There can be any number of TRANSMIT statements in a parameter set.

The format of the TRANSMIT statement is as follows:

TRANSMIT NAME=name
[ALPARS=(speed,parity,dbits,sbits)]
[DTPARS=(psize,ctimer,ptimer)]
[FLOW=(x,y)]
[TRIGGERS=(a,b,c,d,…)]

where:

NAME=	
(name)	is the reference name of this transmission parameter set that must appear with the TRANSMIT statement. NAME can be up to four characters long.
ALPARS=	
(speed)	an integer that specifies the transmission speed in bits per second. It can have only one of the following values: 110, 150, 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 14440, 19200, 38400, 57600, or 115200.
(parity)	can be one of the literals ODD, EVEN, MARK, SPACE, or NONE.
(dbits)	is an integer that specifies the number of data bits for transmission. It can have one of the following values: 5, 6,7, or 8.
(sbits)	is the number of stop bits. It can have only one of the following values: 1, 1.5, 2.

Only the following combinations of dbits and sbits are valid:

dbits	sbits
5	1,1.5
6	1,2
7	1,2
8	1,2

Note… If an ALPARS statement isn't defined in a TRANSMIT set, the default values are: 2400 Baud, No Parity, 8 Data bits, and 1 Stop bit.

DTPARS=	
(psize)	is the packet size in bytes. The packet size is the maximum size used for sending messages between stations on the network. It is an integer ranging from 1 to 140.
(ctimer)	is an integer that specifies the inter-character wait time. This value is the maximum time to wait for additional characters before sending a packet over the network. Its value ranges from 0 to 65,535 with each unit representing 1 ms.; 0 specifies no limit on the wait time.
(ptimer)	is an integer that specifies the packet wait time. It specifies the maximum time that can be used to fill a packet. Its value ranges from 0 to 65,535 with each unit representing 1 ms.; 0 specifies no limit on the wait time.

Notes… The accuracy of the timers is dependent on the system activity: if system activity is high, the time isn't completely accurate.

If a DTPARS statement isn't defined in a TRANSMIT set, the default values are: psize =140, ctimer=60, and ptimer=720.

FLOW=	
(x)	is a decimal or hexadecimal number whose value is the same as the data stream character to be used for XON. A hexadecimal number is specified in the form abH, where 'a' and 'b' are valid hex digits and 'H' represents that the value of a and b is a hexadecimal number.
(y)	is a decimal or hexadecimal number whose value is the same as the data stream character to be used for XOFF.
	NOTE: If this parameter isn't specified, the default flow control is XON, XOFF represented by 11H,13H. -- for example: FLOW=(11H,13H). To specify no flow control, enter FLOW=(0,0). Hardware flow control (RTS/CTS) is selected by using the value FLOW=(1,1).
TRIGGERS=	are special data transfer parameters that affect the data flow between ModemShare clients and the server. If the server receives a trigger character from a device attached to one of its ports, the server stops filling the current packet and sends it (along with the trigger characters) to the client. Up to 16 decimal or hexadecimal trigger characters can be defined.

LINE statement in SERVER.CON

The LINE statement defines the attributes of each port on the ModemShare server. Each of the keyword parameters in the LINE statement must appear on a separate line. The keywords can be in any order.

Important… There must be one LINE statement for each port on the ModemShare server (e.g., eight ports/eight LINE statements).

The format of the LINE statement is:

    LINE NAME=name
    PORT=port
    INTERRUPT=level
    [TRANSMIT=name]
    [MODEM=Y/AT…/N]
    [AUTOBAUD=Y/N]

where:

NAME=	
(name)	is the external reference name of the line (e.g., LINE1) that must appear with the LINE statement. NAME can be up to 16 characters long. The name you specify here can be used as a symbolic line identifier in connection requests. If you use the NASI interface, line names are limited to 14 characters or less (see page 126 and the CONNECT DEST=dname statement).
PORT=	
(port)	is a hexadecimal integer specifying the base port address of the line. This value must be supplied. For example, if you were using COM1, the port address would be specified as PORT=3F8H.
INTERRUPT=	
(level)	is the interrupt level for the line. This value must be supplied (e.g., the interrupt level for COM1 is INTERRUPT=4).

(Continued)

TRANSMIT=	
(name)	is the name of a set of transmission parameters defined by a valid TRANSMIT statement.
MODEM=	
(Y/AT.../N)	Y indicates that a modem is connected to the line/port. You must specify this value or supply an initialization string (see below) if you intend to use the line for inbound service. Specifying a Y value causes the server to send a default string (see below) to the modem during modem initialization. Modem initialization is performed when the server is started and each time a client returns the modem at the end of a connection.

The default initialization string is:

MODEM=ATQ0E1X1V1S0=0

AT... indicates that you're supplying the modem initialization string to be used. The string must begin with the characters AT and can be up to 32 characters long. A carriage return character is appended to the string that you supply. If you're using the line for inbound service, the initialization string you supply must properly condition the modem. The modem conditioning requirements for inbound service are shown under the INBOUND= keyword.

Note...   If you indicate that the port has a modem attached, either by specifying a Y value or by supplying an initialization string, the ModemShare server will verify the presence of the modem by checking to ensure that either the DSR or CTS signal is asserted. If neither of these signals is present, the server removes the line from service and the MONITOR will show the state of the line as MFail.

N indicates that no modem is attached to the port. The server won't check the port's operating status and won't send any initialization string (default = N).

(Continued)

AUTOBAUD=	for inbound lines. Y indicates that the ModemShare server should match the port speed to the line speed reported by the modem when a call is answered. To use this feature, you must condition the modem to return the line speed negotiated with the calling modem. N indicates that the port speed should be fixed at the value specified in the TRANSMIT set being used by the line. Generally, fixing the port speed provides more reliable inbound connections, but you should ensure that the port speed is fixed at a rate as high as or higher than that of the incoming line speeds. If, for example, you fix the port speed at 9600 baud, you cannot successfully communicate with a connection that negotiates a line speed of 14,400.

GROUP statement in SERVER.CON

The GROUP statement defines a name that's used to access a line or set of lines. For instance, if five lines on the ModemShare server are identically configured (e.g., five lines are each connected to a 9600 baud Hayes-compatible modem), you can specify a group name for all five lines. When you select the group name in a connection request (CONNECT DEST=GROUP_NAME), you're connected to the first available line in the group. You can define the same group name for multiple communications servers, in which case the connection request will be serviced by the first ModemShare server to respond.

The format of the GROUP statement is:

```
GROUP NAME=gname
LINES=(line1,line2,...,lineN)
[CONFERENCE=F/H]
[INBOUND=(snum)]
CALLFWD=(sname)
[PHONE=telno]
[TRANSMIT=xname]
```

where:

NAME=	
(gname)	is the external reference name of the group. This value must be supplied with the GROUP statement. NAME can be up to 16 characters long. It can be used as a symbolic line identifier in connection requests. See page 126 and the CONNECT DEST=dname statement. If you use the NASI interface, group names are limited to eight characters or less.
LINES=	
(line)	are the names of the lines to be included in the group. All line names must have previously been defined in a LINE statement. Line names must be enclosed in parentheses and if more than one, separated by commas, i.e., LINES=(LINE1,LINE2). Each line must be in at least one group.

Note… You must specify at least one line name to form a valid group.

CONFERENCE=	
(F/H)	specifies that multiple ModemShare clients can connect to the same physical line and view the same data received. The duplex option controls whether or not the server should echo characters input from one client station in the conference to the other client stations in the conference. F specifies full duplex line protocol for the group (echo characters); H specifies half duplex (do not echo characters). The default is no conference.
INBOUND=	
(snum)	is an integer specifying the number of lines in the group for which incoming calls will be answered by the server. If the value is greater than the number of lines, then the number of lines will be used.
CALLFWD=	
(sname)	is the service name to which calls will be forwarded.

PHONE=	
(telno)	is a telephone number that's automatically dialed when a connection is made to one of the lines in the group. Telno can be up to 24 characters long.

Note…   The ModemShare server software doesn't check the validity of phone strings.

TRANSMIT=	
(xname)	is the name of a valid TRANSMIT parameter set. If this value isn't specified, the default transmission parameters associated with the line selected will be used.

PERMIT statement in SERVER.CON

The PERMIT statement defines the ModemShare clients which can use a specified line.

The format of the PERMIT statement is:

PERMIT LINE=lname

STATIONS=(nodeAdd1,nodeAdd2,...,nodeAddN)

where:

PERMIT LINE=	
(lname)	is the name of the line whose use you want restricted. The line name must match the name specified on a previous LINE statement.
STATIONS=	
(nodeAdd)	is the network node address of the ModemShare clients permitted to use the line. A node address is a 12-digit hexadecimal ID assigned to the network adapter installed in a client computer.

Note…   There can be any number of PERMIT statements in a parameter set.

Setting up the SERVER.CON file for multiport cards

As mentioned in Chapter 3 on page 42, you can use any nonintelligent multiple port board with contiguous port addressing with ModemShare. If the board includes driver software, don't load the driver because ModemShare will control the ports.

In the SERVER.CON file, make the following change:

1. In the asynchronous line definition section, add an individual port assignment for each port on the board.

2. In the line definition, each line should have the exact port and interrupt reference for the multiport board. The interrupt will remain the same for each line, but the port address in each case will increment by the hexadecimal amount specified in the board's setup.

Sample setup for multiport cards

Following is an example of a setup for a four-port serial card with a starting address of 300h in the asynchronous line definition section of the SERVER.CON file.

```
;EXAMPLE:    LINE NAME=LINE1              PORT 1
------->     PORT=300H                    PORT ADDRESS
            INTERRUPT=5                   IRQ LEVEL
            TRANSMIT=T9600                TRANSMIT SPEED
            MODEM=Y                       MODEM PRESENT
            ;
            LINE NAME=LINE2               PORT 2
------->     PORT=308H                    PORT ADDRESS
            INTERRUPT=5                   IRQ LEVEL
            TRANSMIT=T9600                TRANSMIT SPEED
            MODEM=Y                       MODEM PRESENT
            ;
            LINE NAME=LINE3               PORT 3
------->     PORT=310H                    PORT ADDRESS
            INTERRUPT=5                   IRQ LEVEL
            TRANSMIT=T9600                TRANSMIT SPEED BPS
            MODEM=Y                        MODEM PRESENT
            ;
            LINE NAME=LINE4               PORT 4
------->     PORT=318H                    PORT ADDRESS
            INTERRUPT=5                   IRQ LEVEL
            TRANSMIT=T9600                TRANSMIT SPEED BPS
            MODEM=Y                        MODEM PRESENT
```

This information is provided in case you would like to use a DOS editor to make changes. By using the Parameter Editor program, the SERVER.CON will be built for you if you supply the correct information.

Customizing the ModemShare client parameter file ___

Chapter 6 pointed out that the ModemShare client parameter file comes with basic default settings that allow you to make outbound and inbound requests to the ModemShare server. This section explains the ModemShare client parameter file in detail, and shows how to modify it to suit your needs.

The ModemShare client parameter file that comes with ModemShare, CLIENT.CON, selects the line or group name for making a connection, specifies your line parameters (speed, parity, etc.), and sets appropriate operating values.

You can modify the client parameter file by using Parameter Editor or any text editor that can read and save text as non-document data. The Parameter Editor program will fill in defaults, prompt you for required values, check all entries for validity and supply context-sensitive Help.

The parameters in CLIENT.CON, described below, can be modified to match your requirements. If you use the Parameter Editor program to create and modify your parameter files Parameter Editor will guide you through creation and editing of parameter sets.

Note... Any information provided in a client parameter file takes precedence over information provided in a server parameter file. In a sense, the server values are used as default values in cases where a client doesn't provide all the required values. See also "Customizing the ModemShare server parameter file" on page 109.

Parameter sets in CLIENT.CON

Comment lines start with a semicolon (;) in position 1. Upper or lower case characters can be used since the parameter files aren't case sensitive.

In the following statement descriptions, keywords are in upper case and keywords shown in brackets [ ] are optional parameters.

Statements are described in this section in the order in which they appear in the file.

The ModemShare client parameter file consists of parameter sets (up to 99 can be defined). Each parameter set is a group of statements that defines one configuration of the ModemShare client. For instance, parameter set 1 may connect to LINE1, parameter set 2 may connect to GROUP1, etc.

Once you've created a parameter set, you can use a particular parameter set from the DOS prompt. Here's an example:

1. Type M(L)CLIENT [Parfile [= Setno]].

    where:

Parfile	is the name of the parameter file.
Setno	is the parameter set number that must be between 1 and 99.

2. Press Enter.

PARSET statement in CLIENT.CON

The PARSET statement defines the start of a parameter set within a .CON file. There is only one PARSET statement per set and it's always the first statement in the set. There can be multiple (1-99) PARSET statements in one .CON file.

The format of the PARSET statement is:

PARSETnn [Bspace] [,Atime]

where:

nn	is the two-digit set number that identifies this parameter set.
Bspace	is the number of bytes to be reserved for communications buffers (default = 8192).
Atime	is the maximum time, in minutes, that the ModemShare client software will maintain a connection to the server when no communications activity is present. A zero value specifies no timeout (default = 30).

SERVER statement in CLIENT.CON

The SERVER statement defines the time to wait for completion of a connection request and the NASI interface level to be provided. The format of the SERVER statement is as follows:

SERVER

[NETWORKS=legs]

[TIMEOUT=time]

[NASI=level]

where:

NETWORKS=	
(legs)	for IPX, indicates whether or not you're using a "flat" network. A flat network is a network with one leg (no bridges or routers) or a network that uses transparent bridges. If you're using a flat network, you should set this value to 1 so the ModemShare client won't build or use the network description file (NETWRX.DAT). Any value other than the number 1 indicates that the client should build and use the NETWRX.DAT file. This parameter isn't used in NetBIOS networks (default = 2).
TIMEOUT=	
(time)	is an integer ranging from 1 to 65,535 with each unit representing 1 second. A value of 0 specifies no limit on the waiting period (default = 6). The TIMEOUT value specified is the maximum time a client will wait to hear from a server when attempting to allocate a modem.

NASI=	
(2/3)	specifies the NASI interface level that ModemShare should follow. An error in the Novell NASI API Reference Manual, published in September 1988, caused some confusion about which bits should be returned from the NASI EXTERNAL STATUS call. This call returns a set of modem status bits in register AL, but the documentation reversed the correct order of the bits (which is CTS, DSR, and DCD). As a result, some NASI servers returned the bits shown in the documentation. Later versions of the Novell documentation corrected the error and show the returned bits in the correct order. You may, however, have communications programs that use the NASI interface written to the September 1988 specification and work with NASI servers that implemented the incorrect bit order.
	To allow you to circumvent this problem when using ModemShare, you can specify NASI=2 in the SERVER statement of the client parameter file to have the bits returned as shown in the September 1988 manual, or specify NASI=3 to have the bits returned in the order shown in all later documentation. If you don't specify this parameter, the default is NASI=2.

CONNECT statement in CLIENT.CON

The CONNECT statement defines a connection request that can be made to the ModemShare server.

The format of the CONNECT statement is:

    CONNECT [DEST=dname]

    [PHONE=telno]

    [SERVICE=sname]

    [QUEUE=Y/N]

    [RETRY=Y/N]

where:

DEST=	
(dname)	is the default line or group name to be used in a connection request. NAME can be up to 16 characters long and must match the name of a line or group in a ModemShare server. If you use the NASI interface, group names are limited to 8 characters and line names are limited to 14 characters.

PHONE=	
(telno)	specifies that the NULL group be used as the destination identifier and that the telephone number given be dialed when a line is assigned by a ModemShare server (telno can be up to 24 characters long).

Note... You cannot specify both DEST and PHONE. A NULL group must be defined in a SERVER.CON file in order to connect to a server when using the PHONE= parameter.

SERVICE=	
(sname)	specifies the default service name, up to 16 characters long, that the ModemShare client will respond to when INHOST is loaded. To prepare a client for inbound service, you must use the INHOST/Inbound Services program described in Chapter 7.

QUEUE=	
(Y/N)	Y indicates that a connection request is to be queued by a server if the line or all lines in the group requested are in use. If a server queues your connection request, you'll receive a message that queueing has occurred and a connection will be established as soon as a line becomes available. You can terminate the queued request if you don't want to wait. N indicates that a server isn't to queue your request if a line isn't available (default = Y).

RETRY=	
(Y/N)	Y indicates that the ModemShare client will periodically retry your connection request if no server responds. If you choose this option you'll receive a message indicating that the request will be retried. N indicates that the client isn't to retry the connection request (default = Y).

TRANSMIT statement in CLIENT.CON

The TRANSMIT statement defines a set of transmission attributes for a line when a connection is established. The transmission attributes related to items such as line speed, parity, etc., are used only if the communications program doesn't provide the values.

The format of the TRANSMIT statement is:

> TRANSMIT [ALPARS=(speed,parity,dbits,sbits)]
>
> [DTPARS=(psize,ctimer,ptimer)]
>
> [FLOW=(x,y)]
>
> [TRIGGERS=(a,b,c,d,...)]

where:

ALPARS=	
(speed)	is an integer that specifies the transmission speed in bits per second. It can have only one of the following values: 110, 150, 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 14440, 19200, 38400, 57600, or 115200.
(parity)	can be one of the literals ODD, EVEN, MARK, SPACE, or NONE.
(dbits)	is an integer that specifies the number of data bits for transmission. It can have one of the following values: 5, 6,7, or 8.
(sbits)	is the number of stop bits. It can have only one of the following values: 1, 1.5, 2.

Only the following combinations of dbits and sbits are valid:

dbits	sbits
5	1,1.5
6	1,2
7	1,2
8	1,2

DTPARS=

(psize)	is the packet size in bytes. The packet size is the maximum size used for sending messages between stations on the network. It's an integer ranging from 1 to 156.
(ctimer)	is an integer that specifies the inter-character wait time. This value is the maximum time to wait for additional characters before sending a packet over the network. Its value ranges from 0 to 65,535 with each unit representing 1 ms.; 0 specifies no limit on the wait time.
(ptimer)	is an integer that specifies the packet wait time, i.e., the maximum time that can be used to fill a packet. Its value ranges from 0 to 65,535 with each unit representing 1 ms.; 0 specifies no limit on the wait time.

Note... The accuracy of the timers is dependent on the system activity; if system activity is high, the time isn't completely accurate.

FLOW=

(x)	is a decimal or hexadecimal number whose value is the same as the data stream character to be used for XON. A hexadecimal number is specified in the form abH, where 'a' and 'b' are valid hex digits and 'H' represents that the value of a and b is a hexadecimal number.
(y)	is a decimal or hexadecimal number whose value is the same as the data stream character to be used for XOFF.

Note...   If the FLOW parameter isn't specified, the default flow control is XON, XOFF represented by 11h,13h -- for example: FLOW=(11h,13h). To specify no flow control enter FLOW=(0,0). Hardware flow control (RTS/CTS) is selected by using the value FLOW=(1,1).

| TRIGGERS= | are special data transfer parameters that affect the data flow between ModemShare clients and the ModemShare server. If the server receives a trigger character from a device attached to one of its ports, the server stops filling the current packet and sends it (along with the trigger characters) to the client. Up to 16 (decimal or hexadecimal) trigger characters can be defined. |

LOOK ONLINE...

for details about using the Parameter Editor on Windows 95 computers

MANAGING AND MONITORING MODEMSHARE CONNECTIONS

This chapter explains how to use the ModemShare programs that help you manage and monitor your connections.

- The DOS-based Monitor program runs on Windows v3.x and DOS servers.

- The Remote Server Monitor program runs on Windows v3.x clients.

- On Windows 95 computers, the Remote Server Monitor program runs on both servers and clients. Windows 95 users will find complete details about Remote Server Monitor in the ModemShare online Help.

Understanding Monitor and Remote Server Monitor___

The Monitor and Remote Server Monitor programs both allow you to view and modify connections to ModemShare servers. The difference between the two programs is the interface – Monitor runs in DOS and Remote Server Monitor runs in Windows v3.x.

- Monitor, which runs on DOS and Windows v3.x ModemShare servers, displays information about client connections to the computer at which you're sitting.

- Remote Server Monitor, which runs only on Windows v3.x ModemShare clients using MCLIENT.DLL and all Windows 95 computers, allows you to view client connections to any ModemShare server on your network.

If you want to monitor and manage ModemShare connections from a:

- DOS or Windows v3.x server, the information you need begins on this page and continues to page 145.

- Windows v3.x client, see "Using the Remote Server Monitor program" beginning on page 145.

- Windows 95 client or server, refer to the ModemShare online Help for detailed screen-by-screen information.

How the Monitor program works_____

The ModemShare DOS-based Monitor program displays resource usage and activity state for ModemShare clients using the ModemShare server at which you're sitting. In addition, the Monitor program can be used to:

- Disconnect clients from the server (break connections)

- Remove communication lines from service

- Place communication lines that have been removed from service back into service

- Collect the server activity logging records, convert them to comma-delimited ASCII records, and write the records to a file on disk. These records can be used as input to an application you write to produce system activity and accounting reports. The format of the file is suitable for importing into a data base or spreadsheet program. Information on the content and format of the file produced by Monitor can be found at the end of this chapter.

Since the state of the server can change very quickly, the DOS-based Monitor program was written to be as efficient as possible without interfering with the execution of the server. Monitor is written in assembler language and uses interrupt 10 (hexadecimal) for displaying information on the screen. This allows Monitor to maintain current information on the screen.

Since Monitor is a foreground program and the server is an interrupt-driven process, the server always has priority. While this means that Monitor will not impact the performance of the server, it also means that Monitor may not be updated on a regular basis if the server is constantly servicing connections.

Assuming that Monitor receives control on a regular basis, the entire screen is constantly re-displayed. This is not obvious since the cursor is turned off and the only perceptible change is that of the screen values.

Starting the Monitor program

Monitor runs as a foreground program on the same computer being used as a ModemShare server. The command format for starting Monitor is:

MONITOR [blanktime] [,logname]

Where:

blanktime	is the number of minutes since the last keystroke that Monitor should wait before blanking the screen. If Monitor has blanked the screen, you can restore the screen by pressing the space bar. This parameter is optional and, if omitted, Monitor does not blank the screen.
logname	is the fully qualified name of the file used to hold the log. This parameter is optional. If you are using the logging feature and you do not specify a log file name, Monitor writes the log records to the file ACTLOG.DAT in the current working directory. Information about selecting the log feature and using log file records is contained later in this chapter.

The ModemShare server must be active before you run the Monitor program. In the event that the server has not been activated when Monitor is started, the following message is displayed:

Communication server is not active

If this occurs, you should first start the server and then run Monitor.

If Monitor is started on a computer that's running as a ModemShare client, the following message is displayed:

This station is not a communication server

If this occurs, you should go to a machine that is running as a ModemShare server.

The following two screens can be displayed by Monitor:

1. Connection Display, that shows the active connections being serviced. The Connection Display is the opening screen and is displayed when Monitor is started.

2. Line Display, that shows the state of all the lines as well as the communication parameters being used for active lines.

Each of the displays shows a list of possible commands at the bottom of the screen. Commands are used to switch between displays, terminate connections, remove lines from service, place lines back in service, and terminate execution of Monitor. Details of using commands are provided in each of the individual display sections of this chapter.

The Connection Display

The Connection Display screen appears as soon as Monitor is started. The information on this display relates to client connections, data transfer activity, error conditions, and the current XOFF status.

Header section

The header section of all displays shows the number of available buffers in the ModemShare server buffer pool and indicates whether (Y) or not (N) a buffer shortage exists. A buffer shortage is a critical condition in which the server has recognized that the amount of free buffer space has fallen to a level where normal service of data transfer may not be possible. You should avoid this situation whenever possible. A buffer shortage can be caused by the following conditions:

1. Specifying too little total buffer space for the number and speed of the concurrent connections that will be serviced.

2. Connection to an off-network system that does not honor flow control.

When the ModemShare server recognizes a buffer shortage, it attempts to halt the receipt of additional data at the server (both from clients and from off-network systems) until the condition is cleared. Since this is not always possible, data overruns may occur. This type of overrun is called a buffer overrun and indicates that the server has discarded data because no buffer space is available.

The header display also indicates whether (Y) or not (N) activity logging records are being collected by the ModemShare server.

Active connections are shown in the data area of the display. The Monitor program can display only 16 active connections at a time.

Note… Even though only sixteen ports are supported on a server, more than sixteen connections are possible if you are using the Conference Call feature. Queued connections are also shown on this screen and occupy one of the sixteen available display lines.

Display fields

The following fields are displayed in the Connection Display Screen:

Stn Num	This field shows the number assigned by Monitor to each active connection. The number assigned is not necessarily sequential and is used only as a reference when canceling connections. The section "Command options" on page 138 describes the commands for the Connection Display screen.

(Continued)

Station name	This field shows the network address of the ModemShare client that is connected to the ModemShare server.
Lne Num	This field shows the line number used by the connection and is provided so that you can correlate the information from both Monitor displays. This field can also display ***QUEUED*** to indicate that an appropriate port exists to service the connection requested by the client but it is being used by another connection. The client is waiting for the port that will be assigned when other connections are released.
Bytes Sent	This field shows the number of bytes transmitted from the server to the off-network system. This is a wraparound counter that resets to zero when reaching 65,536.
Bytes Recvd	This field shows the number of bytes transmitted from the off-network system to the server. This is a wraparound counter that resets to zero when reaching 65,536.
Data Errs	This field shows the total number of data errors for the connection. Data errors include overruns (both asynchronous line overruns and buffer overruns), parity errors and framing errors.
Data Ovrn	This field shows the count of errors that were caused by asynchronous line overruns. This number is included in the total number of data errors.
Buf Ovrn	This field shows the count of data errors that were caused by either a total shortage of buffer space or by the server refusing to assign additional buffer space to a client because the station had exceeded its "fair-share" buffer limit. This number is included in the total number of data errors.
Bk	This field shows the number of "breaks" received during the connection.

(Continued)

Cr Ls	This field shows the number of "carrier lost" conditions sensed during the connection.
Net Bufs	This field shows the number of buffers that contain data sent by the off-network system and are awaiting transmission from the ModemShare server to the ModemShare client.
OL Bufs	This field shows the number of buffers that contain data sent by the ModemShare client to the off-network system and are awaiting transmission to the off-network system.
XOFF STATUS	
	This set of flags shows the current XOFF conditions for the connection. There are two separate types of XOFF conditions possible. The first is ModemShare's internal XOFF that is used to communicate a buffer shortage condition between a ModemShare client and a ModemShare server. The second is XOFF activity between an off-network system and the application running in the client.
SW	This field shows that the ModemShare server has sent a ModemShare internal XOFF to the ModemShare client either because the client has exceeded the fair-share buffer count or a general shortage of buffers has been recognized by the server.
SO	This field shows that the ModemShare server has sent an XOFF to the off-network system because the ModemShare client has exceeded the fair-share buffer count or a general shortage of buffers has been recognized by the server.
WS	This field shows that the ModemShare client has sent a ModemShare internal XOFF to the ModemShare server because the client has a shortage of buffers.

(Continued)

WO	This field shows that the application running in the ModemShare client has sent an XOFF signal to the off-network system.
OW	This field shows that the off-network system has sent an XOFF signal to the application running in the ModemShare client.
BC	This field shows that the buffer cutoff has occurred for this ModemShare client. Buffer cutoff means the ModemShare server is refusing to allocate additional buffer space to the client because it has exceeded the fair-share buffer count and has used the additional buffer count allowed prior to buffer cutoff. This is done by the server to prevent a single station from utilizing all the available buffer space and impacting the operation of the other connections being serviced.

Command options

The following commands can be entered from the Connection Display screen:

ESC	Terminates the Monitor program and returns to DOS.
PgDn	Toggles to the Line Display screen.
#(CR)	Terminates the connection associated with the number (#) entered.

You may experience a delay in the response to the commands, as the ModemShare server has processing priority over Monitor.

The Line Display

The Line Display screen is accessed from the Connection Display screen. It shows the status of the ports defined in the parameter file when the ModemShare server was started. In addition to showing the state of the ports, this display also provides information on the communications parameters being used for connections.

Header section

The header section of the display shows the number of available buffers in the ModemShare server buffer pool and indicates whether (Y) or not (N) a buffer shortage exists. A buffer shortage is a critical condition in which the server has recognized that the amount of free buffer space has fallen to a level where normal service of data transfer may not be possible. You should avoid this situation whenever possible. A buffer shortage can be caused by the following conditions:

1. Specifying too little total buffer space for the number and speed of the concurrent connections that will be serviced.

2. Connection to an off-network system that does not honor flow control.

When the ModemShare server recognizes a buffer shortage, it attempts to halt the receipt of additional data at the server (both from ModemShare clients or from off-network systems) until the condition is cleared. Since this is not always possible, data overruns may occur. This type of overrun is called a buffer overrun and indicates that the server has discarded data because no buffer space is available. The header section also indicates whether (Y) or not (N) activity record logging is active.

Display fields

The first sixteen asynchronous ports defined in the parameter file of the ModemShare server are shown in the data area of the screen.

Note… Even though only sixteen ports are supported on a ModemShare server, more than sixteen connections are possible if you're using the Conference Call feature.

The fields in this display are as follows:

Num	This field shows the reference number assigned by Monitor to each asynchronous port. This number is used for removing a line from service or for placing a line back in service. The number shown here can be correlated with the number shown in the Lne Num column of the Connection Display screen. The section "Command options" on page 138 describes the commands for this display.
Line Name	This field shows the name of the line as defined in the LINE statement of the server parameter file.
State	Avail: the line is available for assignment by the ModemShare server for an outbound connection. Out: Monitor removed the line from service at your request. InBnd: the line is available for assignment by the ModemShare server for an outbound connection and, if a call is received on this line, is eligible for servicing an inbound connection. Alloc: the line is currently allocated to a connection. MFail: the parameter file specified that this port has a modem connected (MODEM=Y or MODEM=AT...) but neither the CTS nor the DSR signal is asserted on the port. This indicates that the modem is not present, is turned off, or is not functioning properly. The port cannot be allocated for a connection until the problem is corrected.
XO	This field shows whether or not the connection is using flow control between the ModemShare client and the off-network system. If this field is blank, no flow control is being used. If this field is not blank, the hexadecimal character being used to signal XON is shown or the characters HW appear. HW indicates that hardware flow control is being used.

(Continued)

XF	This field shows whether or not the connection is using flow control between the ModemShare client and the off-network system. If this field is blank, no flow control is being used. If this field is not blank, the hexadecimal character being used to signal XOFF is shown or the characters HW appear. HW indicates that hardware flow control is being used.
C Time	The character timer being used by the ModemShare server in 20ms units. The character timer sets a maximum time between placing characters in the buffer. If the time expires between receipt of characters, the contents of the buffer are sent by the server to the ModemShare client. A blank field indicates that no character timer is being used.
P Time	The packet timer being used by the ModemShare server in 20ms units. The packet timer sets a maximum time for filling a buffer with data and begins when the first character is placed in a buffer. If the packet time expires before the buffer is completely filled, the server will transmit as much data as is currently in the buffer. A blank field indicates that no packet timer is being used.
First six	Shows one to six characters being used as "trigger" characters. Receipt of any of these characters causes the ModemShare server to transmit the buffer being filled. A blank field indicates that no trigger characters are being used. It is possible to have more trigger characters than can be shown in this field.
Baud	Shows the current baud rate for the connection.

(Continued)

DB	The number of data bits being used for communication with the off-network system.
PT	The parity being used for communication with the off-network system. This value can be E for even parity, O for odd parity, N for no parity, M for mark, or S for space.
SB	The number of stop bits being used for communication with the off-network system.
PK Siz	The size of the data packets being sent to the ModemShare client. Note that the packet size sent by the ModemShare server does not have to be the same as the packet size sent by the client.

Command options

The following command options are available while the Asynchronous Line Display screen is active:

Esc	Terminates the Monitor program and returns to DOS.
PgUp	Toggles to the Connection Display screen.
Line# Enter	Toggles the state of the line associated with the number (#) entered between in-service and out-of-service. A line removed from service is not available for connection to the ModemShare server.

You may experience a delay in the response to the commands, as the ModemShare server has processing priority over Monitor.

Collecting activity logging records _____

If you have requested that activity logging records be collected by the ModemShare server (see Lspace parameter on page 111), Monitor will format these records and write them to a comma-delimited file on disk. The Monitor program automatically checks to see if activity logging records are being collected by the server and, if so, begins writing them to disk. Monitor writes the records to the file you specified when you started Monitor or, if you

did not specify a file name, uses the file ACTLOG.DAT to hold the data. If the file does not exist, Monitor will create it and begin writing records. If the file exists, Monitor begins writing records at the end of the file. In order for Monitor to successfully collect activity logging records, the following requirements apply:

1. The PARSET statement in the parameter file must specify that activity logging is to be used (see page 110).

2. You must have enough space in the activity logging buffer to hold the records until Monitor can write them to disk. If you do not have enough space, the buffer area is reused by the ModemShare server and data is lost. If this happens, Monitor will write a data lost record to the ACTLOG.DAT file.

3. You must run Monitor often enough to collect the records or the ModemShare server will lose data when the logging buffer becomes full. If the server is dedicated, we recommend that you leave the Monitor program running to continuously write records.

4. Monitor must have access to disk space, including write access, in the same drive and directory that is used to hold the log records.

5. You must empty (copy and delete) the log file on a regular basis to ensure that the disk does not become full. When you empty the log file, the Monitor program must not be active.

6. If you run more than one ModemShare server, Monitor must be given a different log file for each server.

Format of activity logging records

The content of the activity logging records is designed to allow you to account for, and possibly bill for, use of the resources being controlled by the ModemShare server. One record is placed in the activity logging buffer by the server each time a connection is ended. All of the information in the record is in ASCII characters. Each field in the record is separated by commas. Fields enclosed with double quote marks (" ") are intended to be processed as character data. Fields not enclosed with double quote marks are intended to be processed as numeric data.

The format and content of the logging record is:

> "Type","LineName","NetworkID","StationID","Start","End",
> "Baud",Received,Sent

where:

Type	is a character field containing either the value N, indicating that the connection was not a conference connection, or C, indicating that the connection was a conference connection. Conference connections simply attach to existing sessions and are not the originators of off-network communications.
LineName	is the 16-byte line name used to service the connection. The line name is padded to the right with blanks if it is less than 16 bytes long.
NetworkID	is the 8-hexadecimal digit network identification. This field is used only if you have interconnected multiple networks; otherwise it is set to zeros.
StationID	is the 12-hexadecimal digit network adaptor card address of the station making the connection. This field, in combination with the NetworkID field, will always uniquely identify a station.
Start	is the date and time when the connection started in the form YYYYMMDDHHMMSS.
End	is the date and time when the connection ended in the form YYYYMMDDHHMMSS.
Baud	is the baud rate used for the connection. This field is six bytes long and is padded to the right with blanks if the baud rate used is less than six characters.
Received	is a 10-byte field containing a count of the number of characters received during the connection. The field is padded to the left with zeros.
Sent	is a 10-byte field containing a count of the number of characters sent during the connection. The field is padded to the left with zeros.

Error messages

There are two error messages that you can receive while Monitor is collecting activity logging records. They are:

> **Log file cannot be opened, logging function terminated- Press any key to continue**

This message indicates that Monitor does not have write access to the disk or that the disk has no room to create the logging file.

> **Log file write error, logging function terminated- Press any key to continue**

This message indicates that Monitor detected an error while writing a logging record to the disk. This could be caused by the disk being full or because a hardware error occurred during the write operation.

In both cases, logging is terminated and no records will be collected until the problem is corrected.

Using the log for billing

You can correlate the time of the connection and line used with your telephone bills if you want to include phone calling charges in your report. To facilitate this correlation, you can include the phone number of the lines being used by the ModemShare server as part of the line name. Usually, only the last four digits of the number need to be incorporated into the line name to uniquely identify the line used on the phone bill.

Using the Remote Server Monitor program_____

While the DOS-based Monitor program lets you view client connections to the ModemShare server at which you're sitting, the Remote Server Monitor program allows you to view client connections to all ModemShare servers. Remote Server Monitor displays details about client connections and line status and can be set up to collect log records.

Note... Remote Server Monitor runs on Windows v3.x clients using the MCLIENT.DLL, Windows 95 servers, and Windows 95 clients, but it won't run on DOS and Windows v3.x servers. Instead, these servers should use the DOS-based Monitor program.

If you have trouble using Remote Server Monitor on your Windows v3.x clients, you may need to disable the MCLIENT program that runs as a TSR (terminate-and-stay-resident). To disable the program, exit Windows v3.x and at the DOS prompt type mclient<space>– <Enter>. Restart Windows v3.x. You'll now be able to use Remote Server Monitor.

Starting Remote Server Monitor

To run the Remote Server Monitor on Windows v3.x computers, double-click the Remote Server Monitor in the ModemShare program group. The Remote Server Monitor main window appears, which displays a list of ModemShare servers with a summary of the line activity for each one.
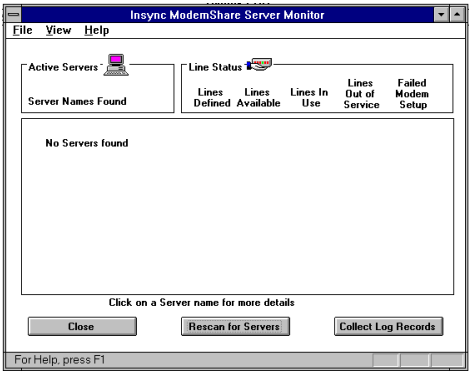
Note…   It's a good idea to frequently refresh the window information by clicking the Rescan for Servers button. This ensures all the active ModemShare servers on your network will be displayed.

The following Line Status information is displayed in the Remote Server Monitor main window:

Lines Defined	The number of lines that have been defined to this ModemShare server. This number will equal the sum of the remaining columns for this server.
Lines Available	The number of lines that are available for use by ModemShare client computers.
Lines in Use	The number of lines that are being used by ModemShare client computers.

(Continued)

Lines Out of Service	The number of lines that have been manually removed from service.
Failed Modem Setup	The number of lines that have been automatically removed from service because the line was defined as having a modem attached but the ModemShare server could not get a response from the modem. This indicates that the modem is turned off or malfunctioning.

Collecting server log records

When you click the Collect Log Records button in the main window, an Open window appears, allowing you to specify the name of the file you want to use to collect log records. Once you have selected the log file, log records from all ModemShare servers will be automatically added until you exit the Remote Server Monitor program.

Station address names

A station address is a unique 12-character address that identifies the network adapter card on each computer - or station - in your network. Unless one of your network computers has had a new adapter installed, you should not change this address.

By default, the station name is the same as the station address. However, you may want to edit the station name so you can more easily identify the computer it belongs to. For example, you might change the station name for Sharon's computer to Sharon, or change the name for the computer in the accounts department to Accounts.

The Edit Station Names option lists the station names and addresses of all ModemShare client computers that are connected to active ModemShare servers. You can use this list to remotely check who has been using your servers. Entries remain in the list until you delete them. You can also add a new station name and address if a new computer is added to the network.

Note… The Edit Station Names file will dynamically update the list of station names and addresses as ModemShare clients connect to the ModemShare server.

To add a station address name:

1. Click File in the Remote Server Monitor main window, and then click Edit. The Edit Station Names window appears.

2. Click Add. The Edit Station Address Name Entry window appears.

3. Type in the station address and station name you want to add, then click OK.

To delete or modify a station address name:

1. Click File in the Remote Server Monitor main window, and then click Edit. The Edit Station Names window appears.

2. Click the station address name you want to delete or modify. The Edit Station Address Name Entry window appears.

   ■ To delete the station address name, click Delete Entry, then click OK.

   ■ To modify the station address name, type in the new name, then click OK.

Note…   You can also change the actual station addresses that identify the network adapters on each computer. However, you should do this only if one of your network computers has had a new adapter installed.

Server Line Status

Double-click one of the ModemShare server names in the Remote Server Monitor main window to view more detailed line information for that server. The Server Line Status window will appear. From this window, you can not only view line information, but manage the lines to a server.

The top of the window shows the ModemShare server name and version number, and the number of free buffers. There are also Buffer shortage and Logging active indicators. The Buffer shortage indicator shows that the ModemShare server has discarded data due to inadequate buffer space. Buffer shortage is a critical situation. The Logging active indicator shows whether or not the server is collecting log records. When a ModemShare server is collecting log records, you can retrieve the records and write them to a file by clicking the Collect Log Records button on the ModemShare Remote Server Monitor main window.

Viewing line information

The display fields in the Server Line Status window are:

Name	The name of the line.
Status	The status of the line. Possible status conditions for a line include: Available, Out of service, Modem failure, and Allocated.
Allocated to	The station address or name of the station holding the line (for lines being used).
Errors	The number of error conditions that have occurred during the connection.

Note… If any errors are displayed, you need to investigate the cause of the problem. Click the line name, then click the Show Details button. Errors may be caused by using incorrect communications parameters or by data overrun conditions.

You can view the lines in each group available on this ModemShare server by clicking on the Show Groups button. To see detailed information about a specified line, click a line in the Server Line Status window and then click the Show Details button. The information shown is divided into the following separate fields:

Communications Settings	Shows the current communications setting for the baud rate, parity, data bits, stop bits, and flow control. If software flow control is being used, the XON and XOFF characters are also shown.

Note… It is not unusual for a communications program to dynamically change these settings while holding a connection. For example, many communications programs will initialize a modem at 2400 baud and then switch to a higher baud rate.

Data Transmission Status	Shows number of bytes sent and received and the number of buffers waiting at the ModemShare server for transmission to the ModemShare client computer (Net buffers) or to the off-LAN computer (OL buffers).

(Continued)

Modem Status	Shows the current modem status for Carrier Detect (CD), Clear To Send (CTS), and Data Terminal Ready (DTR).
Packet Settings	Shows information related to the transmission of data between the ModemShare server and the ModemShare client computer, including the packet size, packet timers, and trigger characters. Buffers are sent when they become full, when a timer expires, or when a trigger character is encountered.
XOFF Status	Shows the current XOFF status for the line. There are two general types of XOFF controls used: The normal internal XOFF that is used to communicate a buffer shortage between a client and a server, and the XOFF control between the communications program and the off-network program. These are shown as client to off-LAN and off-LAN to client. In addition, both the ModemShare server and ModemShare client generate XOFF conditions to maintain adequate free buffer space to service the connection. If the server determines that a client has used its allocation of buffer space, a Server to Client XOFF is generated. If the server determines that the number of free buffers is low, it generates a Server to off-LAN XOFF. If the client determines that the number of free buffers is low, it generates a Client to Server XOFF. There are also Buffer shortage and Buffer cutoff indicators. See page 135 for information about buffer shortages.

(Continued)

Errors	Shows the total number of errors that have occurred during the connection and the number of data overruns and buffer overruns. Data overruns occur when the ModemShare server is unable to read data as fast as it arrives and indicate that your UART or computer is too slow. This condition can also be caused by attempting to run too many programs at the same time that the server is active. Buffer overruns are caused by a shortage of buffer space and can generally be cured by increasing the buffer size. If the number of data overruns and buffer overruns is less than the total number of errors, the errors are being caused by improper communications parameters that are causing framing or parity errors.
Other	Shows the number of breaks and the number of times that the carrier has been lost during the connection. These conditions are not considered errors as they can occur during normal processing. This group also shows the number of free buffers at the ModemShare server.

Note… The line details information is constantly updated so that you can monitor the current line activity.

Managing lines on the ModemShare server

To manage the lines on the ModemShare server, click a line name. Then click one of the following buttons:

Break Connection	The server will terminate the current connection and return the line to service.
Remove From Service	Removes the line from service. If the line has a connection, the connection will be terminated.
Return To Service	The server will try to return the line to service. If the line has been defined as having a modem attached and the modem is turned off or malfunctioning, the line will be placed in the Modem Failure state.

Note… You may need a password to perform some of these line management functions.

PART 3

APPENDICES

TROUBLESHOOTING AND SUPPORT SERVICES

This appendix offers solutions to installation problems and answers to commonly asked questions. It also explains how to test your ModemShare connections, how to find out what other products are compatible with ModemShare and how to obtain technical support.

Other troubleshooting resources. More troubleshooting information may be available in the Readme file, which you can open from an icon in the ModemShare program group or from Disk 1. Also be sure to check Appendix B if you receive an error message. The Directory of Support Services that came in your package explains how to find helpful technical documents on Artisoft's Web site, BBS and other online sources.

Common installation problems_____

The most common problems encountered while installing ModemShare on a DOS or Windows v3.x computer are discussed in this section. It includes these topics:

Multiple devices assigned to an interrupt level (IRQ)

If you use standard computer communications (asynchronous) ports, you'll be limited to two lines because each needs a separate IRQ to operate properly. This is true even though most current boards are capable of being addressed at one of four different addresses. This restriction doesn't apply to users of IBM PS/2 computers since the interrupt scheme allows multiple boards to share an IRQ. The following table shows which interrupts are used on which ports:

Common name	Interrupt level (IRQ)
COM1	4
COM2	3
COM3	4
COM4	3

Even though four different addresses are used, only two IRQs (3 and 4) are selected. This means that, for example, you couldn't use COM1 and COM3 together on the ModemShare server.

You also have the option to use a nonintelligent (no processor on board) multiport board that contains either four or eight external connections. A multiport board uses only one IRQ. Because two IRQs are normally reserved for asynchronous ports (you can use any IRQ that's not in use), you can install two in each ModemShare

server. In any case, you must know the correct hardware address and IRQ for each port, or the ModemShare server won't function properly. Consult the hardware manuals that came with your equipment to determine the proper values to specify.

Always check (from the Windows control panel) to make sure that a single IRQ isn't used by more than one board. The possible IRQs and their most common uses are shown in the following table. Note that the system handles the lowest number first and progresses upward.

IRQ	Standard use
0	Not available, used for timer.
1	Not available, used for keyboard.
2	Available, generally used for network cards and devices such as tape drives. If possible, don't run your network at a higher priority than your lines. When this occurs, the network activity may cause data overruns in high-activity systems.
3	Available, the standard COM2/COM4 level.
4	Available, the standard COM1/COM3 level.
5	In an 8088 or 8086 computer, not available if you have a hard disk. In an AT (286/386/486), available if you aren't using LPT2 (the second parallel port). This is a good choice for your network card.
6	If you have a floppy drive, not available. Available for systems without a floppy.
7	Available if you aren't using LPT1, the primary parallel port.

Notes...   Remember that standard COM boards each require an IRQ, and that all of the ports on a multiport board can share a single IRQ.

For more information about checking modem settings, see the Readme file.

Duplicate hardware addresses

Every board in the system must have a different address. Each line port being shared by a ModemShare server must have a hardware address that's unique and isn't being used by any other device in the system.

The standard COM port addresses are listed below.

Common name	Address
COM1	3F8
COM2	2F8
COM3	3E8
COM4	2E8

Incorrect program parameters

It's easy to forget that communications values specified by the ModemShare client program will override the ModemShare server program's parameters when a connection is made.

The order for collection and use of parameters is as follows:

- Any value supplied by a communications program in use will override the ModemShare client and ModemShare server parameters (i.e., baud rate, parity, etc.).
- Any value supplied by the ModemShare client will override the server parameters.
- Any value not supplied by the ModemShare client program is obtained from the ModemShare server parameter file for the allocated line.
- Any value not supplied in either parameter file is defaulted based on values internally kept in the ModemShare server program.

Modem set to auto-answer mode when using Inbound Service

The ModemShare server controls modem conditioning for receiving calls. For the Inbound Service feature to work properly, your modem must have auto-answer turned off and DTR (data terminal ready) set to Normal mode. Many newer, high-speed modems have switch settings and commands that can be used to change DTR behavior. ModemShare requires the modem to drop any active connection and return to command state when DTR is dropped.

Not enough buffer space

Buffers are used to hold information sent to and received from the ModemShare server. Generally, the movement of information between the server and ModemShare client is much faster than the movement of data across communications lines. Data is saved in buffers until it can be sent by the server or received by the communications program being run with the client. Providing more buffer space in a computer allows the system to process your communications data more efficiently. This occurs because the system usually doesn't have to wait for buffer space to process data. The default buffer space value is 8,192 bytes in the client and 15,360 bytes in the server.

Incorrect communications parameters

When you specify a parameter that can't be supported by the equipment attached to your ModemShare server, you could experience processing problems. A common error is to specify the wrong baud rate. A 2400 baud modem will usually go more slowly if the baud parameter is set to 1200 baud, but not faster if the baud rate is set at a higher value.

Wrong type of flow control

The type of flow control you select is dependent on the hardware capabilities of your modem and the type of flow control supported by and selected in your communications software. ModemShare's default flow control is XON/XOFF, which is represented by 11H,13H (FLOW=(11H,13H)). For no flow control, specify FLOW=(0,0). For hardware flow control (RTS/CTS), specify FLOW=(1,1).

Incorrect parity, data bit, and stop bit combination

The choice of parity, data bit and stop bit is dictated by the communications software you're using. Make sure that you've specified the correct combination of these parameters in the ModemShare client and server.

Network adapter card priority set too high

Setting a network adapter card at a higher priority IRQ (lower numeric value) than that of the communications ports can cause data overruns on the communications lines during periods of high network activity.

Commonly asked questions _____

This section explains how to solve problems using ModemShare's DOS interface. If you're running the Windows v3.x or Windows 95 interface, simply use the ModemShare Windows or Windows 95 programs that are comparable to the DOS ones. For a descriptive listing of ModemShare's programs, see Chapter 4.

Q. When I run MCLIENT CONNECT I get the message "All communication servers are busy or unavailable." I know that no one is using the modem, so why can't I get connected?

A. Even though the message "Initialization completed" appeared when the MSERVER program was run on the ModemShare server, this doesn't mean that the modem is available for use.

Run the Monitor program and press the Page Down key. Look at the state field and see if it displays the state OUT, which means it was manually removed from service, or MFAIL, which means that the modem is turned off or isn't functioning. Check the following items:

- The modem is properly connected and turned on.
- The modem is attached to the correct port as specified in the SERVER.CON file.
- The modem works properly when accessed directly through the port without the use of ModemShare.

Set the MODEM=N parameter in the LINE statement for the port and try to access the modem again.

When the modem is properly initialized by the MSERVER program, the Monitor program will reflect the state of the modem as AVAIL or INBD. At this point, it's ready for connection.

Another possibility is that you've used the wrong CONNECT DEST= in the CLIENT.CON FILE. See page 125 for information on formatting the CONNECT statement.

Q. When I use my third-party INT 14 communications program and I connect to a BBS, the connection is dropped immediately and I get the message "No Carrier." What am I doing wrong?

A. You need to check the FLOW control that's set in your communications program and confirm that ModemShare is set the same way. If the communications program is set for hardware flow control, you'll need to use PAREDIT to edit the CLIENT.CON file to specify hardware flow control. You must then unload and reload the MCLIENT program so the parameter file changes take effect.

Q. When I load the MSERVER program I immediately get a Network error and I can't go any further.

A. The IRQ setting on the network adapter card is probably the same as the setting on the communications port you're using. To resolve the problem, change the card's IRQ setting. (See "Multiple devices assigned to an interrupt level (IRQ)" on page 156.)

Q. When I'm looking at the Monitor screen on the ModemShare server I see that I'm getting frequent data overruns. What can I do to avoid these?

A. The IRQ setting on the network adapter card is probably set at a higher priority than the communications port you're using. If you change the IRQ of the adapter card to a lower priority (a higher numeric value such as 5 or 7), this should resolve your data overruns.

Q. I'm trying to use an old computer as the ModemShare server, but when I load MSERVER the computer locks up. What's wrong?

A. Check the BIOS date of the computer. If the date of the BIOS is before 1988 it probably won't support the functions of the version of INT 14 that ModemShare uses. If this is the case, don't use this computer as the ModemShare server.

Q. I have a high-speed modem. However, the INT 14-compatible communications software I'm using will allow a setting of up to only 9600 baud. Doesn't ModemShare go up to 115,200 baud?

A. Yes, ModemShare does support speeds up to 115,200 baud, but the communications software that you're using supports only the basic INT 14 specification. If you want to go faster than 9600, you'll need to get a communications program that supports the extended INT 14 specification that ModemShare uses or a NASI-compatible software that will allow you to achieve speeds of 115,200.

Q. I have a 286 computer that I would like to use as my ModemShare server to share four modems. Is the 286 computer going to be able to handle four 9600-baud modems?

A. Yes, the 286 can easily handle up to four modems as long as the computer is dedicated to the task and isn't also being used as a desktop workstation.

Q. I have a 386 computer and would like to share two 9600-baud modems on COM 1 and COM 2. I'd also like this computer to function as a Windows v3.x desktop workstation. Is there going to be a noticeable speed loss for the user of this computer?

A. The user of the 386 won't notice any major speed difference, but the users of the modems will notice a slight decrease in performance when using the modems at 9600 baud.

Q. Can I load the MSERVER and MCLIENT programs in upper memory?

A. Yes, using any DOS memory manager for version 5.0 or later, you can load the programs into upper memory.

Q. I would like to write a batch file that will automatically load the MCLIENT program, then run my communications program when a modem is connected. Is there a way to ensure I have a modem connection?

A. Yes, when the MCLIENT CONNECT command is issued, ModemShare will set a DOS Error level so that it can be tested in a batch file. You can also test connections with TERMTEST (see page 163).

Q. When I use a NASI communications program for Inbound Service and try to connect through INHOST, the port locks up. What's wrong?

A. Some NASI communications software won't load when a connection is already established. It will try to make its own connection to the ModemShare server and will end any current connection. Programs like this won't work for Inbound Service using INHOST. If the program has an INT 14 option, it should be used instead. For information about specific third-party compatible software, see "Obtaining product compatibility information" on page 173.

Q. After I load MCLIENT CONNECT and go into my NASI program, I get the error message "Cannot open channel". What's wrong?

A. When using NASI programs, you don't need to use the "CONNECT" statement or the menu programs. NASI has the connection and menu options built in.

Q. Sometimes my communications sessions suddenly shut down. What's wrong?

A. You might be using a server as a ModemShare client by running MLCLIENT, and the server is sharing more than one modem. If a remote control program is running on this computer in INHOST, your communications sessions might abruptly shut down. Some remote control programs, for example, have an option to reboot your computer when the session ends. If this option is used by an external caller, your server will reboot and disconnect all active sessions.

Testing connections with the DOS-based TERMTEST program

ModemShare comes with the TERMTEST program, which lets you test the modem connections between your ModemShare servers and clients. This section explains how to use the TERMTEST program's features.

TERMTEST lets you test modem connectivity and make sure a modem is responding to AT commands. With TERMTEST, you make a connection with a ModemShare server, communicate with an off-network system, and perform ASCII and XMODEM file transfers. TERMTEST also includes a dialing directory that you can use to make connections. It's meant only for testing and isn't to be used as an everyday communications program.

ModemShare's TERMTEST is a simple ASCII terminal program that's usually used to verify that you've correctly installed ModemShare. This may suit your requirements if you're looking for a simple communications package. For a more powerful, full-featured package, you can use a third-party communications program.

Running TERMTEST

The TERMTEST program runs on a ModemShare client and uses the ModemShare extended INT 14 interface for all communications functions. To run it, make sure the ModemShare client is running, then type TERMTEST <Enter> at the DOS prompt. No parameters are accepted on the command line.

If the client isn't active when you run TERMTEST, this message appears:

Client is not installed, terminating

If this occurs, start the ModemShare client program and run TERMTEST again.

Note…   When loading the MCLIENT program, you don't have to use the CONNECT statement, since the TERMTEST program makes the connection for you.

When you run TERMTEST, it first determines whether an inbound connection already exists. If so, TERMTEST bypasses the normal connection process and immediately displays the message:

Asynchronous communications ready.

In this case you can begin communicating with the off-network system.

TERMTEST menus

The TERMTEST program is menu-driven for most operations. It includes two types of menus. The first type is a selection menu that displays a list of possible choices for you to select from. The second type is a data-entry menu that allows you to enter information such as baud rate and telephone numbers.

Opening menu

If no inbound connection exists when TERMTEST is run, the Opening Menu appears.


```
           Please Select an Option

  Make a Connection
  Revise Dialing Directory
  Quit

 Send a Connection Request to a Server
```
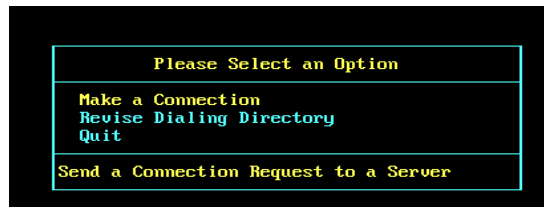
This menu contains three choices. You select a choice by using the arrow keys to move to one of the options and pressing the **Enter** key. The selected item becomes highlighted.

Selecting the Quit option terminates operation of the TERMTEST program and returns you to DOS. You can also close the TERMTEST program by pressing the Esc key.

Revising the dialing directory

Select the Revise Dialing Directory option to view this menu.
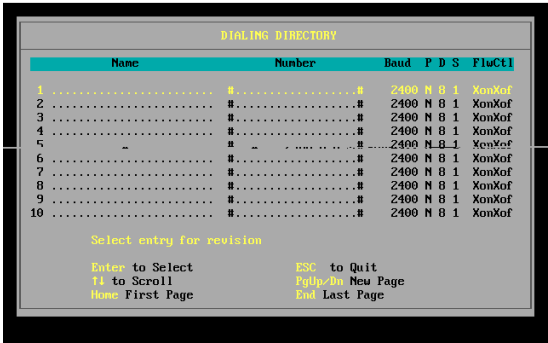
The Dialing Directory Revision menu allows you to enter and update data in each of the 64 dialing directory entries kept by TERMTEST. To update an entry, select it and press Enter. The update menu appears with a prompt for each of the values contained in a dialing directory entry. If you decide not to enter or update the information, you can press the Esc key to exit the menu.

Making a connection

Select the Make a Connection option on the Opening Menu to view the Connection Options menu, which is shown on the next page.

The Connection Options menu contains four possible choices. If you want to return to the Opening Menu, press the Esc key. Notice that the bottom of the screen shows you the line (port) parameters that will be used for making a connection. These parameters aren't used if you make a connection using the Dialing Directory, since the line parameters are part of a dialing entry. If, however, you want to connect to a ModemShare server without using the Dialing Directory, you should review the line parameters for suitability.

Note… If you choose to make a connection using the Dialing Directory, the ModemShare server must contain a group or line named NULL.
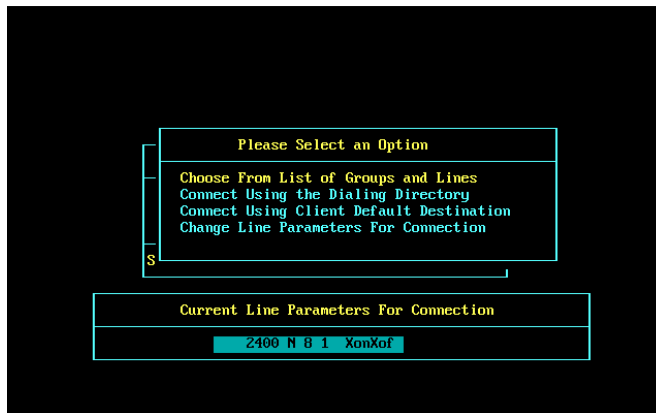
Changing line parameters

If the parameters need modification, select the Change Line Parameters For Connection option. The Change Line Parameter Update menu appears.
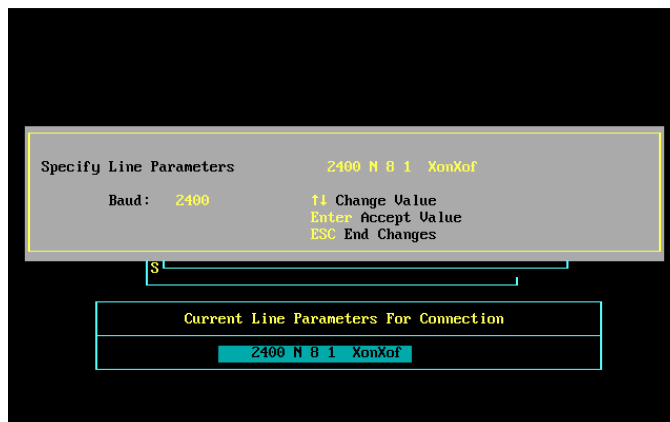
The Change Line Parameter menu allows you to select appropriate values from a list of possible choices. For each item, use the up and down arrow keys to display the value you want, then press Enter. When you're finished making changes, press the Esc key to return to the Connection Options menu, where your updated line values now appear at the bottom of the screen.

Selecting groups and lines

When you select the Choose from List of Groups and Lines option on the Connection Options menu, the TERMTEST program queries all active ModemShare servers and displays a list of currently available group and line names for a connection. TERMTEST then displays a message indicating that no ModemShare servers have responded or displays the Group/Line Selection menu.
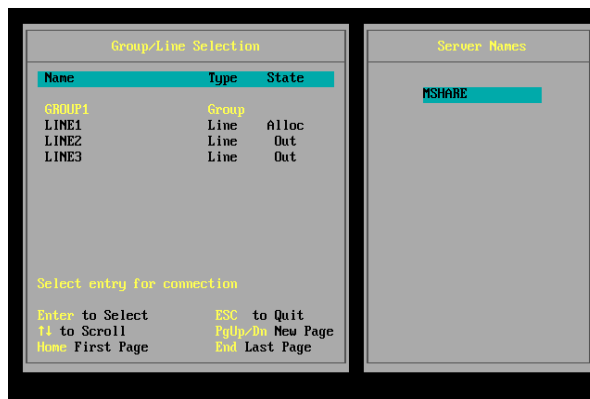
The window on the left of the screen displays all of the groups and lines available for a connection request. Select a group or line by moving to the desired entry and pressing Enter. The window on the right shows the names of the ModemShare servers that have responded to the internal request for a list of available groups and lines. When you're viewing the list, consider that:

- Only lines that belong to at least one group are listed. This is because the facility used to query ModemShare server resources follows the NASI specification. NASI requires each line to belong to a group.

- Group and line names that are duplicated on multiple ModemShare servers are shown once in the list. Selection of a group or line name that's been defined on multiple ModemShare servers will be satisfied by the first ModemShare server responding to the connection request.

- ModemShare servers with duplicate names are shown as a single entry in the Server Names list.

Determining the result of a connection request

When you make a connection request, one of the following messages appears:

Communications link established

> This message indicates that the connection has been made. You can now begin communicating with an off-network system.

All Communication Servers are busy or unavailable.

Request will be retried periodically unless you press F2 to terminate.

> This message indicates that no ModemShare server has responded to the connection request, but retries will be regularly made.

Connection request has been queued by Server.

Please wait or press F2 to cancel request.

> This message indicates that a ModemShare server has accepted the connection request but that no port is currently available to make a connection. You can either wait for a connection to be made as soon as an appropriate port becomes available, or press the F2 key to terminate the request.

Connection messages

After a communications link has been established, you'll receive one of the following messages.

The server dialed for us

> This message indicates that the ModemShare server has dialed a phone number as part of the connection service.

The server did not dial

> This message indicates that the ModemShare server didn't dial a phone number as part of the connection service.

Error-No connection

> This message indicates that a negative response has been received from one or more ModemShare servers.

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Error-Invalid connection ID

Error-Invalid vector

Error-Unknown return code

> All of these messages indicate that an error occurred. When you see one of them, you need to retry your connection request.

Status messages

TERMTEST normally sends any keystrokes entered to the off-network system and displays all characters received from the off-network system. The TERMTEST program always removes the high-order bit from all characters prior to displaying the character on the screen.

There's always a possibility that the status of your session may change after you've established your communications session. Any error conditions or changes in connection status received by TERMTEST are indicated on the screen at the time they're received.

The error conditions are as follows:

Framing error

Parity error

Data overrun

The status messages are as follows:

No Carrier

Carrier On

The last two messages are displayed only if the state of the carrier has changed since the last carrier state message was received.

XON/XOFF support

While TERMTEST doesn't issue an XOFF to the off-network system for any reason, it does honor the receipt of an XOFF signal from the off-network system. If TERMTEST receives an XOFF, the following message is displayed:

Received XOFF, all transmission suspended

> This message indicates that no further transmission will take place until TERMTEST receives an XON character. When XON is received, the following message is displayed:

Received XON, transmission resumed

TERMTEST responds only to the standard XON and XOFF characters:

11h, 13h

Using function keys

When a connection is established, the TERMTEST program displays the following message:

Press F1 for function key usage

Pressing F1 displays the Function Key Usage menu.
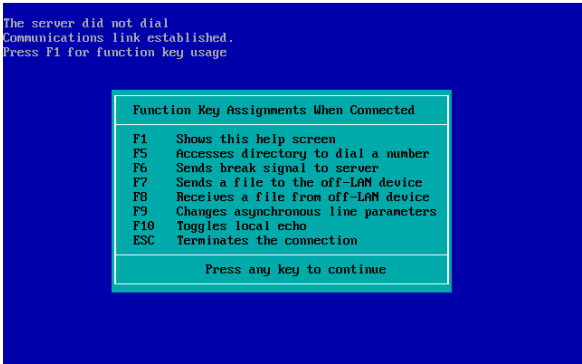
Available functions

Press the function keys listed in the table below to activate various operations while TERMTEST is running.

Key	Operation	Explanation
F1	Online Help	Help information is displayed.
F5	Directory Dial	Dials a number using the Dialing Directory.
F6	Send Break	Sends a break to the off-network system.

| F7 | Send File | Initiates a file transfer from a local or logical drive to the host (upload function). You'll be asked to choose ASCII or XMODEM transfer protocol and the name of the file to be sent. Enter the full DOS filename, including drive letter and path. |
| F8 | Receive File | Initiates a file transfer from a host. You'll be asked to choose either ASCII or XMODEM transfer protocol. |

Note… The send (F7) and receive (F8) functions assume that you have the off-network system ready for the send and receive operation.

| F9 | Change Parms | Dynamically changes the line parameters being used for the connection. |
| F10 Local Echo | Local Echo | Controls local echo of transmitted characters. Note that the F10 key must be pressed after a connection is made. This key acts as a toggle between Local Echo and No Local Echo. (The default status is local echo.) Pressing the F10 key displays one of the following messages:

LOCAL echo on
LOCAL echo off

The F10 key can't be used until after a connection to a ModemShare server has been made. Once Echo is set, TERMTEST continues to use that setting until you return to DOS. |

Terminating a connection

You can terminate a connection by pressing the Esc key unless you're in a file send or receive operation.

If the current session is an outbound connection and you press Esc, you're returned to the Connection Options menu.

If the current session is an inbound connection and you press Esc, your TERMTEST session comes to a close, and you're returned to DOS. The INHOST program then launches and waits for the next inbound session.

Obtaining technical support

A variety of award-winning technical support services are available for Artisoft products. For complete instructions on using these services worldwide, see the Directory of Support Services that's included in your package.

Many of the services listed below provide technical bulletins and product news, along with software patches and enhancements. To get regularly updated information about ModemShare and other Artisoft products, contact these sources.

Complimentary technical support for registered users

Registered users can obtain complimentary technical support through the following services:

- Arti-Facts electronic bulletin board system (BBS). Refer to the Directory of Support Services for the BBS number of the Artisoft office nearest you.

- The World Wide Web. To download files and bulletins, check out our Home page at http://www.artisoft.com.

- Anonymous FTP server on the Internet. To download files and technical bulletins, log in to ftp.artisoft.com.

- FaxReturn[SM] system. To have technical bulletins and other information sent directly to your fax machine, refer to the Directory of Support Services for instructions.

- Sales Consultation Center. For product information and sales referrals, refer to the Directory of Support Services for the number of the Artisoft office nearest you.

Telephone technical support

To receive limited complimentary telephone technical support for the current versions of Artisoft products, refer to the Directory of Support Services.

World Wide Web

Technical support information is also available from the World Wide Web at http://www.artisoft.com.

Obtaining product compatibility information_____

The ModemShare third-party compatibility document discusses INT 14, NASI and tips on using third-party communications packages. This document is available from the following online services:

- Arti-Facts bulletin board system (BBS)

  Look under the technical documents or notes section. Instructions for using the BBS appear in the Directory of Support Services that came in your package.)

- Home Page on the World Wide Web

  Look under the technical documents or notes section at http://www.artisoft.com.

- Anonymous FTP server on the Internet

  Log in to ftp.artisoft.com and look under the technical documents or notes section.

- 24-hour FaxReturn℠ service

  Download document #2 to see a list of all available documents. (See instructions on page 172.)

- Sales Consultation Center

  For product information and sales referrals, refer to the Directory of Support Services for the number of the Artisoft office nearest you.

APPENDIX B

UNDERSTANDING ERROR MESSAGES

The table in this appendix lists error messages you may receive while installing or using ModemShare. The messages are listed alphabetically in the left column with possible causes in the middle column and a suggested solution on the right.

When you receive error messages, always note them exactly. Try to troubleshoot the first message you receive before dealing with any others. If you need to contact Technical Support, first try to reproduce the error and note exactly when it occurs. Have your list of messages ready with a brief description of the activity that prompted the message.

For a discussion of common problems and troubleshooting techniques, see Appendix A.

Error Message	Possible Cause	Suggested Solution
Activity time-out is not a valid number.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
Attempt to return data with a non-data status.	An unspecified network error occurred.	Call Technical Support.
Bad interrupt level, set to 2.	Occurs when a line has been defined with an interrupt level not supported by ModemShare.	Use Parameter Editor to set the appropriate interrupt level. See page 156 for a discussion of interrupt level.
Bad value for keyword.	The keyword shown has a bad value.	Fix the value (depends on the keyword).
Broadcast completion failure, cannot proceed.	Network reported an error while broadcasting a message.	Check for normal network operation. If the network appears to be operating normally, call Technical Support.

(Continued)

Error Message	Possible Cause	Suggested Solution
Broadcast setup or completion failure, cannot proceed.	Network reported an error while preparing for a broadcast.	Check for normal network operation.
Buffer has invalid size or list pointer.	An unspecified network error occurred.	Call Technical Support.
Buffer space allocation failure, cannot continue:	An unspecified network error occurred.	Call Technical Support.
Buffer termination error, selectors lost.	An unspecified network error occurred.	Call Technical Support.
Cannot create a file to save your changes.	The Windows 95 Parameter Editor is unable to create a file to disk.	Ensure that you have write capabilities to the disk and that the disk isn't full.
Cannot create the requested file.	Can't create the requested file to receive a file transfer.	Make sure the disk isn't full and that you have write access to the disk; make sure that the filename is correct.
Cannot delete the old copy of	The original file still exists.	Check your disk and make sure you have write access.
Cannot get a system timer.	An unspecified network error occurred.	Call Technical Support.
Cannot load or access the Client DLL.	Occurs when you try to run Remote Server Monitor while the ModemShare client isn't running.	Ensure that the MCLIENT.DLL is installed correctly on Windows v3.x or in Windows 95; ensure that the MSHARE.VxD is installed. See page 67 for information on the MCLIENT.DLL.
Cannot locate the Windows directory.	The Microsoft Windows v3.x or Windows 95 installation might be incorrect.	You may need to reinstall Windows v3.x or Windows 95.
Cannot obtain a Server handle for.	An unspecified network error occurred.	Call Technical Support.
Cannot open archive file.	An unspecified network error occurred.	Call Technical Support.

(Continued)

Error Message	Possible Cause	Suggested Solution
Cannot open log file, log recording ended.	Occurs when Remote Server Monitor is executed and cannot open existing log file.	Ensure computer has rights to open files and that the file exists.
Cannot open the requested file.	User specified a filename for file transfer that could not be found.	Respecify filename.
Cannot rename	DOS won't allow you to rename the new file.	Check your disk and make sure you have write access.
Cannot return the line to service. The line may be in use by a process other than the Server.	Occurs when a line can't be returned to service by Remote Server Monitor.	Ensure that no other programs are using the line in question.
Cannot terminate when Windows is active.	Occurs when trying to shut down the client with the command **MCLIENT**–, when the client was loaded before Windows v3.x was loaded.	Exit Windows v3.x and at the DOS prompt, type the command **MCLIENT– <Enter>** (where the minus sign appears after MCLIENT with no spaces between). See page 220 for instructions on how to run the client software.
Can't create the parameter file.	Parameter Editor can't create the file.	Ensure that you have proper rights to create files on the drive and that the drive isn't full.
Can't delete the NEW set.	An unspecified network error occurred.	Call Technical Support.
Can't erase existing parameter file.	Parameter Editor can't erase the file.	Ensure that you have proper rights to delete files on the drive.
Can't get a Windows timer to refresh your display.	An unspecified network error occurred.	Call Technical Support.
Can't get memory to read name file.	An unspecified network error occurred.	Call Technical Support.
Can't get the full path name.	An unspecified network error occurred.	Call Technical Support.

(Continued)

Error Message	Possible Cause	Suggested Solution
Can't open file.	ModemShare can't find the file.	Check to make sure the file exists. If it does, check hardware to make sure it's operating properly.
Can't open the logging file.	Occurs when Remote Server Monitor attempts to open logging file to write new entries and can't.	Ensure that you have read, write and open rights to the disk and that the file exists.
Can't open the parameter file.	Parameter Editor can't open the file to read.	Ensure that you have proper rights to open files on the drive and that the file exists.
Can't open the station name file, station names not in use.	Occurs when Monitor attempts to open the station name file and can't.	Ensure that you have read, write and open rights to the disk.
Can't open the station name file, your changes have been lost.	Occurs when Remote Server Monitor attempts to open the station name file and cannot.	Ensure that you have read, write and open rights to the disk.
Can't read the parameter file.	Parameter Editor can't read the file.	Ensure that you have proper rights to read files on the drive. Check the drive for errors.
Can't rename temporary parameter file.	The Parameter Editor makes changes by saving your work in a new file. If you choose to save your work it deletes the existing (old) file and renames the new file. The rename failed. You have no parameter file.	First, ensure that DOS has renaming rights. Then you will have to rebuild the parameter file. See page 109 for instructions on customizing the parameter file.
Can't write to the log file.	Occurs when Remote Server Monitor attempts to open logging file to write new entries and can't.	Ensure that you have read, write and open rights to the disk and that the file exists.
Can't write to the parameter file.	Parameter Editor can't open the file to write.	Ensure that you have proper rights to read files on the drive and that the file exists.

(Continued)

Error Message	Possible Cause	Suggested Solution
Can't write to the station name file, your changes have been lost.	Occurs when Remote Server Monitor attempts to write to the station name file and can't.	Ensure that you have read, write and open rights to the disk. Check for disk errors.
Change parameters default is too long.	An unspecified network error occurred.	Call Technical Support.
Client detected a bad Server handle.	An unspecified network error occurred.	Call Technical Support.
Client detected an invalid connection ID.	An unspecified network error occurred.	Call Technical Support.
Client DLL not loaded because Client TSR is resident.	The TSR is already active in the system.	You can't run both the TSR and the CLIENT.DLL. If you want to run the CLIENT.DLL, remove the TSR. See page 221 for instructions on shutting down the DOS TSR client.
Client DLL not loaded because Server TSR is resident. Use Local Client TSR.	The TSR is already active in the system.	You can't run both the TSR and the CLIENT.DLL. If you want to run the CLIENT.DLL, remove the TSR. See page 221 for instructions on shutting down the DOS TSR client.
The Client interface is busy.	Another program is using the API interface.	Try again later.
Command line contains invalid parameter syntax.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
COMMON section must be first if BUFFERSPACE keyword used.	The correct format is not used.	BUFFERSPACE must be typed in after COMMON.
CONNECT statement has no IDEN= keyword.	ModemShare found a connect statement without a name while parsing the parameter file.	You must redefine the connect statement. See page 125 for instructions on formatting a CONNECT statement.

APPENDIX B. UNDERSTANDING ERROR MESSAGES

(Continued)

Error Message	Possible Cause	Suggested Solution
Control function refused, bad password.	You tried to issue a control function (e.g., break a connection) but the password you gave is not valid.	Type the password in again.
Could not activate all lines, select CANCEL to terminate.	The ModemShare initialization failed to activate defined lines.	Ensure that the lines are defined correctly. See page 116 for information on formatting the LINE statement.
Could not execute specified program.	Occurs when Inbound Service attempts to launch specified program and program doesn't execute.	Check path and executable name specified.
Could not get NCB for receive.	During server or client operation you couldn't get a network control block.	Increase the number of NCBs available.
Could not initialize line for inbound service.	Modem failed to respond to inbound setup string.	Check the modem for normal operation. Also check to be sure the port address and interrupt number in the parameter file point to a valid serial port.
Could not open file for write, try another.	Can't open the requested file for write access to receive a file transfer.	Make sure the file isn't in use by another program and that you have write access to the disk; check the file name.
Could not open parameter file, select OK to use defaults.	Occurs when client is loaded and the parameter file specified, or the default parameter file can't be found.	Ensure that the parameter file name is spelled correctly and/or there is a valid server or client parameter file present.
Could not open the requested parameter file.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.

(Continued)

Error Message	Possible Cause	Suggested Solution
Couldn't load dynamically linked library.	The API DLL can't find or load the CLIENT.DLL or the Windows 95 VxD.	You should make sure ModemShare has been installed and it hasn't been removed. If it is installed, check for a read error. If it still isn't working, reinstall ModemShare.
Couldn't load MCLIENT.DLL from	Occurs when a connection is attempted and the DLL can't be found.	Check the MCLIENT.INI file for a proper path location to the MCLIENT.DLL. See the redirector section on page 78 for information on locating the DLL.
Couldn't open MCLIENT.INI.	Occurs when the client is unable to open the MCLIENT.INI.	Ensure that the MCLIENT.INI file is located in the Windows v3.x subdirectory.
Couldn't read CLIENT.CON.	ModemShare is unable to read the file.	This typically indicates that the hard drive might have file allocation errors. You may want to run a disk utility.
Couldn't read file.	ModemShare can't read the file.	This typically indicates that the hard drive might have file allocation errors. You may want to run a disk utility.
Couldn't set file pointer.	An unspecified network error occurred.	Call Technical Support.
Data value is not enclosed in parens.	Occurs when a value specified in a parameter file is not defined by parentheses.	Use the Parameter Editor program for editing instead of a text editor.
Default vector invalid.	An unspecified network error occurred.	Call Technical Support.
Default vector invalid, initialization terminated.	An unspecified network error occurred.	Call Technical Support.
DPMI stack overflow.	An unspecified network error occurred.	Call Technical Support.
ECB allocation error, cannot proceed.	An unspecified network error occurred.	Call Technical Support.

(Continued)

Error Message	Possible Cause	Suggested Solution
ECB shortage may reduce performance.	(IPX only) IPX reports that ECB is not available for use (a control block needed to do network transmission).	Try increasing the number of ECBs in the network control file (how you do this depends on which IPX network you're using).
Error attempting to load requested program.	This occurs when Inbound Service tries to launch the specified program.	Make sure the program is executable and that, if it isn't in the current directory, you supplied the correct path. See page 94 for instructions on using the DOS-based INHOST program.
Error attempting to release memory.	This occurs when trying to unload the server or the client.	Remove any TSRs loaded after MCLIENT.EXE or server/client.
Error-Buffer shortage.	Insufficient buffer space exists for the requested operation.	Increase the buffer size in the parameter file. See page 104 for information on editing parameter files.
Error calling function CMApiCall( ).	An unspecified network error occurred.	Call Technical Support.
Error closing connection.	An unspecified network error occurred.	Call Technical Support.
Error-corrupt buffer.	An unspecified network error occurred.	Call Technical Support.
Error creating network descriptor file.	The NETWRX.DAT file could not be accessed or created.	Be sure the client or server has write access to the disk and that the disk is not full.
Error-Data Error on send or receive.	A data error (parity, framing, or overrun) occurred.	Check data transmission parameters (speed, data bits, stop bits, parity) and flow control to be sure they match the off-network system.
Error in parameter file statement.	Occurs when there is an error in the parameter file.	Use Parameter Editor to correct the error. See page 104 for information on editing parameter files.
Error-Invalid connection ID	An unspecified network error occurred.	Call Technical Support.

Error Message	Possible Cause	Suggested Solution
Error-Invalid vector	An unspecified network error occurred.	Call Technical Support.
Error-No connection	Normal message if server or client drops connection (e.g., for inactivity) or if the server is stopped or if someone used the monitor to dump the connection.	Make another connection.
Error reading network descriptor file.	The NETWRX.DAT file could not be accessed or created.	If you're getting a read error, you should recreate the file and try again.
Error reading network protocol message.	Improper installation.	Check the NIC card for proper operation.
Error reading network status message.	Improper installation.	Check the NIC card for proper operation.
Error reading the name file.	The name file is not found.	Ensure that the file exists. If it does, check your hardware to make sure it's operating properly.
Error reading the parameter file.	The file can't be read.	Ensure the file exists. If it does, check your hardware to make sure it's operating properly.
Error reading the remote password file.	The file can't be read.	Ensure the file exists. If it does, check your hardware to make sure it's operating properly.
Error reading the version/serial number file.	The version/serial number file is not found.	Ensure that the file exists. If it does, check your hardware to make sure it's operating properly.
Error-Unknown return code.	An unspecified network error occurred.	Call Technical Support.
Error writing the remote password file.	Occurs when Parameter Editor can't write the remote monitor password file to disk.	Ensure that you have rights to write to the disk.

(Continued)

Error Message	Possible Cause	Suggested Solution
Failure condition - error message routine reentered.	An unspecified network error occurred.	Call Technical Support.
Failure to establish inbound service, internal error.	An unspecified network error occurred.	Call Technical Support.
Failure to establish inbound service, return code =.	This occurs when Inbound Service is not able to register its service with the server.	Restart server and try again.
File has data but no parameter sets.	A parameter file has no PARSET statement.	Use Parameter Editor and create a parameter set. See page 123 for information on formatting a PARSET statement.
The file is missing a line terminator character.	A line terminator character is missing from the file.	Recreate or edit the file and make sure the terminating character is there.
File name given is a directory.	Filename is the same as the directory name.	Change the filename.
The following section is missing the xxxxxxx= entry.	A required section is missing in the .INI file.	Add the missing section.
GET DATA ERROR, receive function terminated.	A disk read error occurred while reading a file (being sent) from disk.	Typically indicates the hard drive might have file allocation errors. Run a disk utility.
GROUP contains an undefined line.	Occurs when the parameter file contains a group statement with a line that is undefined.	Use Parameter Editor to define the line or remove the line from the group. See page 118 for instructions on formatting a GROUP statement.
GROUP statement needs IDEN.	ModemShare found a group statement without a name while parsing the parameter file.	You must redefine the group.
GROUP statement needs NAME and LINES.	GROUP statement must have these values.	Use Parameter Editor to define the required parameters. See page 118 for information on formatting the GROUP statement.

(Continued)

Error Message	Possible Cause	Suggested Solution
Hexadecimal value can only contain 0-9 and A-F.	You entered a non-hexadecimal value in a field that will accept only hexadecimal values.	Enter the value again as a hexadecimal.
I14 received an invalid input buffer.	An unspecified network error occurred.	Call Technical Support.
Ignoring name file duplicate station address.	Occurs when Remote Server Monitor detects the same station address in the name file.	Edit station name file and remove duplicate entry. See page 147 for instructions on how to edit the station name file.
Inbound request rejected by Server.	An unspecified network error occurred.	Call Technical Support.
Inbound Service is already active.	Occurs when Inbound Service has been executed previously.	Inbound Service is already active; no further action is needed.
Inbound setup failed due to Client busy condition.	Occurs when Inbound Service is executed and client is already in use.	Ensure no other software programs are accessing client.
Inbound setup failed due to DPMI failure.	An unspecified network error occurred.	Call Technical Support.
Inbound setup failed due to internal error.	An unspecified network error occurred.	Call Technical Support.
Inbound setup failed due to resource shortage.	Occurs when Inbound Service is executed and not enough resources are available.	Increase NCBs, sessions or buffers.
Inbound setup failure, cannot access Connection Client.	Occurs when Inbound Service is executed and cannot access client.	Unload and reload client. See page 67 for instructions on loading the client.
Inbound setup failure, cannot get a timer.	An unspecified network error occurred.	Call Technical Support.
Inbound setup failure, Connection Client not present.	Occurs when Inbound Service is executed and client is not loaded.	Load client. See page 67 for instructions on loading the client.

APPENDIX B. UNDERSTANDING ERROR MESSAGES

(Continued)

Error Message	Possible Cause	Suggested Solution
Inbound setup terminated by Client.	An unspecified network error occurred.	Call Technical Support.
INHOST cannot be used with a server.	MCLIENT. EXE isn't loaded.	Run the client software (MCLIENT.EXE). See page 219 for instructions on loading MCLIENT.EXE.
Initialization failure.	ModemShare is not established in the system.	Call Technical Support.
Insufficient storage available.	Not enough memory is available on your computer to run the program.	You need to free up memory by unloading other programs or TSRs.
Internal error - could not send keystroke to VM.	An unspecified network error occurred.	Call Technical Support.
Internal error - Invalid status.	An unspecified network error occurred.	Call Technical Support.
Internal error - prompt value out of range.	An unspecified network error occurred.	Call Technical Support.
Internal error, Windows initialization terminated.	Occurs when trying to use a redirected port in Windows v3.x for the first time and the MCLIENT.DLL fails to load.	Ensure that server name is unique and not being used anywhere else on the network. Also check to ensure presence of NETBIOS in Windows v3.x.
Invalid data/stop bit combo, stop bits set to 1	Occurs when the combination of start bit, stop bit and parity are set incorrectly.	Use parameter editor to appropriately set. See page 113 for information on formatting a TRANSMIT statement.
Invalid function request.	An unspecified network error occurred.	Call Technical Support.
Invalid message number.	An unspecified network error occurred.	Call Technical Support.
Invalid message number passed to message routine.	An unspecified network error occurred.	Call Technical Support.
Invalid NTCE deletion request.	An unspecified network error occurred.	Call Technical Support.

(Continued)

Error Message	Possible Cause	Suggested Solution
Invalid numeric value.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
Invalid open request detected by Server.	An unspecified network error occurred.	Call Technical Support.
Invalid reference to Local Client.	An unspecified network error occurred.	Call Technical Support.
Invalid request to access active NTCE list.	An unspecified network error occurred.	Call Technical Support.
Invalid selector used as pointer.	An unspecified network error occurred.	Call Technical Support.
IPX socket not available, cannot proceed.	An unspecified network error occurred.	Call Technical Support.
Keyword value is too long.	The value entered is too long.	Enter a shorter keyword value.
LINE keyword must precede STATIONS keyword in PERMIT section.	Occurs when a parameter file doesn't have keywords in the correct order.	Use the Parameter Editor to edit the file and save the file again. See page 120 for information on formatting the PERMIT station.
A line must belong to at least one group.	Occurs when a parameter file has lines defined that are not a member of a group.	Use the Parameter Editor to add lines to a group. See page 118 for instructions on formatting a GROUP statement.
LINE statement needs NAME, PORT, and INTERRUPT.	LINE statement must have these values.	Use Parameter Editor to define the required values. See page 116 for information about formatting a LINE statement.
LINE statement required.	Occurs when a parameter file doesn't contain the required line information.	Use Parameter Editor to define required line(s).See page 116 for information about formatting a LINE statement.

(Continued)

Error Message	Possible Cause	Suggested Solution
Log file write error, log recording ended.	Occurs when Remote Server Monitor is executed and tries to write an entry to the log file.	Ensure that the computer has write capability. Check for disk errors.
Maximum number already defined.	You are trying to create more than 17 groups or define more than 17 lines.	Only 17 lines or groups can be defined at one time. You must delete an existing line or group to create another one.
Maximum parameter set is 99.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
Maximum stations per PERMIT is 16.	Occurs when more than 16 stations have been defined for a permit set.	Use Parameter Editor to remove excess stations so there are 16 or less.
MCLIENT is not active.	This will happen when Inbound Service TERMTEST is executed without the client loaded.	Run the client software (MCLIENT.EXE). See page 219 for instructions on loading MCLIENT.EXE.
MCLIENT not resident, port redirection cancelled.	Occurs when a communication program attempts to make a connection but the client isn't available.	Ensure that the client TSR or DLL is installed and loaded. Reinstall if necessary. See page 67 for instructions on loading the DLL.
MCLIENT termination failed, could not unload.	Occurs when unable to unload MCLIENT.EXE.	Ensure all TSRs loaded after MCLIENT.EXE are removed first. Memory manager may be causing conflict. Don't use memory manager and retry. If loading high there may be a conflict with upper memory blocks. Don't load high and retry.
Message reception error.	Network reported an error while receiving a message.	Check for normal network operation.
Message sequence number error.	Occurs during a communications session between client and server where a packet is missing.	Ensure that network drivers are up to date and that network is not experiencing high transmission errors (i.e., cabling problems).

(Continued)

Error Message	Possible Cause	Suggested Solution
Message sequence number gap.	Occurs during a communications session between client and server where a packet is missing.	Ensure that network drivers are up to date and that network is not experiencing high transmission errors (i.e., cabling problems).
The modem string must begin with AT.	Occurs when a parameter file contains a modem= statement that doesn't begin with AT when a modem string is being defined.	Use the Parameter Editor to edit the modem statement for a given line. See page 116 for information on formatting the LINE statement.
ModemShare has not been installed on this machine. Please run the install program.	ModemShare has not been installed.	Install ModemShare.
ModemShare must be run in Enhanced Mode only.	Occurs when trying to use the Client.DLL and Windows v3.x isn't running in enhanced mode.	Ensure Windows v3.x is running in enhanced mode.
ModemShare not loaded, API initialize failure.	ModemShare failed to initialize.	Call Technical Support.
ModemShare not loaded, buffer management failure.	ModemShare failed to initialize.	Call Technical Support.
ModemShare not loaded, line control failure.	ModemShare failed to initialize.	Call Technical Support.
ModemShare not loaded, network setup failure.	ModemShare failed to initialize.	Check for proper network operation.
ModemShare not loaded, port driver initialization failure.	ModemShare failed to initialize.	Call Technical Support.
ModemShare not loaded, protocol management error.	ModemShare failed to initialize.	Call Technical Support.
ModemShare not loaded, time management error.	ModemShare failed to initialize.	Call Technical Support.
ModemShare not loaded, transaction log failure.	ModemShare failed to initialize.	Call Technical Support.

APPENDIX B. UNDERSTANDING ERROR MESSAGES

(Continued)

Error Message	Possible Cause	Suggested Solution
ModemShare returned an unknown value.	An unspecified network error occurred.	Call Technical Support.
ModemShare terminated, activation failure.	ModemShare isn't established in the system.	Call Technical Support.
ModemShare VxD requires MCLIENT or MSERVER to be loaded before Windows.	If you are using the server, client TSR, or local client TSR with the Windows v3.x DLL, you must load them before invoking Windows v3.x.	Load the TSRs before starting Windows v3.x.
More than one data byte on data status return.	An unspecified network error occurred.	Call Technical Support.
MSERVER termination failed, could not unload.	Occurs when unable to unload MSERVER.EXE.	Ensure all TSRs loaded after MSERVER.EXE are removed first. Memory manager may be causing a conflict. Don't use memory manager and retry. If loading high there may be a conflict with upper memory blocks. Don't load high and retry.
MSERVER unload aborted.	Occurs when unable to unload MSERVER.EXE.	Ensure all TSRs loaded after MSERVER.EXE are removed first. Memory manager may be causing conflict. Don't use memory manager and retry. If loading high there may be a conflict with upper memory blocks. Don't load high and retry.
The name was too long and was truncated.	The name entered was too long.	Enter a shorter name.
Names cannot contain _ or ?	The name entered contains an underscore ("_") or question mark ("?").	Type in a new name without using either of these invalid characters.
The names file is not formatted correctly.	Occurs when Remote Server Monitor detects that the name file is incorrectly formatted.	Delete name file and reconstruct using the Remote Server Monitor program. See page 147 for information about the name file.

(Continued)

Error Message	Possible Cause	Suggested Solution
NETBIOS network error or inconsistency.	Occurs when server and client are connected but having a problem communicating via NETBIOS.	Ensure that NETBIOS drivers are up to date.
NETBIOS resource shortage encountered.	Occurs during connection to a server and implies a shortage of either NCBs or sessions.	Increase NCBs and sessions (typically by five).
NETBIOS session termination failure, shortage may occur.	Client is trying to close down communication with the server.	Ensure that the NETBIOS network driver is set up correctly and is up to date.
Network rejected vector, invalid network ID.	An unspecified network error occurred.	Call Technical Support.
No buffer for inbound conversation.	Occurs when not enough buffers are available in the server.	Increase buffers in the server.
No buffer for open communication.	Occurs when client tries to establish communication with server.	Increase buffers in CLIENT.CON file.
No buffer to send break or RTS change to Server.	This occurs when no more buffers are available on the server.	Increase the buffers on server.
No CCB for a connection request.	An unspecified network error occurred.	Call Technical Support.
No data.	The Remote Server Monitor knows about this server but the server didn't respond to the request for information.	Make sure the server is still active.
No data for keyword.	No data was entered for the keyword.	You need to enter data.
No inbound lines in selected group.	You tried to perform an inbound operation on a group that has no inbound lines.	Select a group that contains inbound lines.
No keywords supplied on this statement.	A bad statement was found in the parameter file.	Respecify the keyword.

(Continued)

Error Message	Possible Cause	Suggested Solution
No line statements, server will not be active.	Occurs when the ModemShare server is running but no lines have been defined.	Use the Parameter Editor to define at least one line if server is to be used. See page 116 for information on formatting the LINE statement.
No Match, Reenter Password.	The password entered is not correct.	Try typing in the password again.
No parameter file found.	ModemShare can't find the file.	Make sure the file exists and try again.
No redirected ports, port driver will not be active.	Occurs when no ports have been defined for redirection.	Use the Parameter Editor or Port Status and Setup to define at least one redirected port. See page 69 for instructions on redirecting COM ports.
No resources available to service your request, please try later.	There are no more buffers available.	Try later or contact the network administrator to increase the amount of buffer space in the server.
No response to information request from Server.	The Remote Server Monitor knows about this server but the server didn't respond to the request for information.	Make sure the server is still active.
No room in vector for queued request.	An unspecified network error occurred.	Call Technical Support.
No servers responded to service connection request.	Normal message when no server can be located to display the list of lines.	Try again.
No storage can be allocated.	An unspecified network error occurred.	Call Technical Support.
No TERB for inbound service.	An unspecified network error occurred.	Call Technical Support.
No TERB for locating stations.	An unspecified network error occurred.	Call Technical Support.
No timing control block for activity timing.	An unspecified network error occurred.	Call Technical Support.

(Continued)

Error Message	Possible Cause	Suggested Solution
No timing control block for connection request.	An unspecified network error occurred.	Call Technical Support.
No timing control block for input message timing.	An unspecified network error occurred.	Call Technical Support.
No timing control block for request timing.	An unspecified network error occurred.	Call Technical Support.
No transmit sets defined.	Occurs when a parameter file contains no transmit sets.	Use Parameter Editor to define transmit sets. See page 113 for information on formatting a TRANSMIT statement.
Non-hexadecimal value(s) removed from entry.	A non-hexadecimal value was entered.	You need to enter another value using only hexadecimal values.
Non-numeric value(s) removed from entry.	A non-numeric value was entered.	You need to enter another value using only numeric characters.
Open vector will not fit in buffer.	An unspecified network error occurred.	Call Technical Support.
Open vector will not fit in large buffer.	An unspecified network error occurred.	Call Technical Support.
Packet size mismatch, data lost.	Occurs when the client and server have packet sizes defined that don't match.	Use Parameter Editor to ensure that both the server and client are using the same packet size. See page 104 for information on editing parameter files.
Parameter file contains an invalid statement.	Occurs when a parameter file has an invalid statement defined.	Use the Parameter Editor program for editing instead of a text editor.
Parameter file is a read only file.	Occurs when Parameter Editor is to write changes to a parameter file.	Ensure that you have proper rights to write to the drive.
Parameter file length not valid.	An unspecified network error occurred.	Call Technical Support.

(Continued)

Error Message	Possible Cause	Suggested Solution
Parameter file source line too short.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
A parameter supplied on the command line is invalid.	You specified invalid command parameters during Inbound Service.	Respecify the command parameters.
The password you entered is not correct.	An incorrect password was entered.	Try typing the password again.
PERMIT set contains an undefined line.	Occurs when the parameter file contains a permit statement with a line that is undefined.	Use Parameter Editor to define the line or remove the line from PERMIT. See page 120 for information on formatting the PERMIT statement.
PERMIT statement needs LINE and STATIONS.	Occurs when the Remote Server Monitor contains a PERMIT statement that doesn't have both LINE and STATIONS.	Use Parameter Editor to define the required parameters. See page 120 for information on formatting the PERMIT statement.
Program execution failed notification setup.	An unspecified network error occurred.	Call Technical Support.
Put Device=[path]MCLIENT in SYSTEM.INI [386enh]	ModemShare has determined that a required DEVICE= parameter is missing from the SYSTEM.INI file. This error prevents the client from running under Windows v3.x.	Insert the requested DEVICE= statement in the SYSTEM.INI file.
Put Device=[path]MSERVER in SYSTEM.INI [386enh]	ModemShare has determined that a required DEVICE= parameter is missing from the SYSTEM.INI file. This error prevents the client from running under Windows v3.x.	Insert the requested DEVICE= statement in the SYSTEM.INI file.
Read error processing the parameter file.	Read error.	This typically indicates that the hard drive might have file allocation errors. You might want to run a disk utility to correct the problem.

(Continued)

Error Message	Possible Cause	Suggested Solution
The remote Monitor is already in use.	Occurs when you try to run Remote Server Monitor a second time.	Remote Server Monitor is already in use so you don't need to take any action.
The requested parameter set does not exist.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
The requested password exceeds 16 characters.	The password entered is too long.	Type in another password using 16 characters or less.
The requested service name exceeds 16 characters.	The service name entered is too long.	Type in another name using 16 characters or less.
Required keyword has been duplicated.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
Required keyword is missing or has invalid value.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
A resource/buffer shortage has occurred.	Occurs when the client attempts to allocate resources/buffers and cannot.	Increase buffers in parameter file.
Resource shortage prevented set up for inbound service.	Not enough NCBs or sessions available.	Increase NCBs or sessions.
The screen saver time value cannot end with a comma.	The screen saver time value entered has a comma at the end.	Type the screen saver time value again without a comma.
The screen saver time value too long or is not numeric.	The screen saver time value is set too high or is not numeric.	Type in a lower, numeric value.
Section brackets not properly paired.	Brackets are not placed properly.	Place the brackets properly around the section.
Server is busy or unavailable	You're running Windows 95 and using the NetBIOS or NetBEUI network protocol., and you haven't set the default network protocol.	Go to each ModemShare server and client computer that's running Windows 95 and &&&

(Continued)

Error Message	Possible Cause	Suggested Solution
Server did not respond, may be inactive.	During communications the client is no longer receiving data from the server.	Check to make sure that server wasn't shut off or that the server module was unloaded or increase network packet retries in case of high transmission errors on network.
Server Not Present.	Occurs when DOS Monitor is executed and server is not loaded.	Run the server software (MSERVER.EXE). See page 55 for instructions on running MSERVER.EXE.
Server reports that line does not exist.	An unspecified network error occurred.	Call Technical Support.
The service name or password cannot end with a comma.	The service name or password entered ends with a comma.	Type in another name that doesn't end with a comma.
Stack overflow imminent, system may become unstable.	The client or server has run out of stack space.	Try removing TSRs, don't load drivers high and test again. If resolved reintroduce each driver until culprit driver found.
Stack overflow occurred, system will crash any moment.	An unspecified network error occurred.	Call Technical Support.
Stack overflow, system will crash any moment.	The client or server has run out of stack space.	Try removing TSRs, don't load drivers high and test again. If resolved reintroduce each driver until culprit driver found.
Statement has invalid hex value.	Hex value entered is invalid.	Enter a valid hex value.
Statement has invalid keyword.	A keyword entered is invalid.	Enter a valid keyword.
Statement has no keywords.	A statement entered doesn't contain any keywords.	Enter a statement containing valid keywords.

(Continued)

Error Message	Possible Cause	Suggested Solution
Station address contained non hex digits the bad values were removed.	Occurs when name file contains an invalid value for a station address.	Edit bad station address using Remote Server Monitor program and put in proper hex values. See page 147 for instructions on editing station addresses.
Station address must be 12 digits long.	The station address entered is less than 12 digits long.	Type in another name using exactly 12 digits.
Station name cannot be longer than 12 characters.	The station name entered is too long.	Type in another name using 12 characters or less.
Station name not 12 characters, set to FFFFFFFFFFFF.	Station name must be 12 characters or less.	Type in a new station name that is 12 characters or less.
Syntax error.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
Termination error, IPX may hang up.	Occurs when trying to unload the client and unable to close IPX socket.	Make sure network drivers are up to date and also remove drivers from high memory; try again.
Termination error, NETBIOS may hang up.	Occurs when trying to unload MCLIENT.EXE or MSERVER.EXE.	This is usually caused by older NETBIOS drivers loaded high. Either update NETBIOS driver or don't load it high and try again.
A test for active inbound call has failed.	An unspecified network error occurred.	Contact Technical Support.
There are too many parameters on the PARSET statement.	Too many parameters exist on the PARSET statement.	Reduce the number of parameters.
There is a syntax error in this keyword.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
This data value is not a number and was ignored.	The data value entered wasn't a number.	Enter a numerical data value.
This data value is not enclosed in ( ) and was ignored.	The data value entered is not enclosed in parentheses.	Enter the data value enclosed in parentheses.

APPENDIX B. UNDERSTANDING ERROR MESSAGES

(Continued)

Error Message	Possible Cause	Suggested Solution
This data value is not hex or did not end with H and was ignored.	The data value entered isn't a hexadecimal or it did not end in H.	Enter a data value that is a hexadecimal or that ends in H.
This data value is not properly terminated and was ignored.	A bad data value was detected in the .INI file.	Respecify the value.
This data value is too large and was set to the maximum allowable size.	The data value entered is too large.	Enter a smaller data value.
This data value is too long and was ignored.	The data value entered is too long.	Enter a data value with fewer characters.
This data value should contain only Y or N, it was ignored.	The data value contains a character(s) other than Y or N.	Enter a data value of Y or N.
This is an invalid keyword.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
This line has invalid format.	The line isn't formatted correctly.	Type the line again with the correct format.
This name contains a _ or ? and was ignored.	The name entered contains an underscore ("_") or question mark ("?").	Type in a new name without using either of these invalid characters.
This statement is invalid.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
This version of ModemShare does not support the remote Monitor. Open Monitor Access failed return code =.	Occurs when Remote Server Monitor is executed and the client TSR is loaded or on a DOS server or a previous version of ModemShare is in use.	Remote Server Monitor can be run only on Windows v3.x using the client DLL or Windows 95. Do not load any TSRs.
Time interval too small on re-issue.	An unspecified network error occurred.	Call Technical Support.
Too many attempts, connection terminated.	Password was entered incorrectly too many times by remote caller.	Try again or contact your system administrator to get the correct password.

(Continued)

Error Message	Possible Cause	Suggested Solution
Too many parameters on the PARSET statement.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
Too many values for keyword.	Too many values were entered.	Enter fewer values for the keyword.
Too many values specified for this keyword.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
Too much data for default vector, initialization terminated.	An unspecified network error occurred.	Call Technical Support.
Transmit set with the name xxxxxx does not exist.	The transmit set with the name xxxxxx doesn't exist.	Make sure the transmit set with that name exists or create a transmit set with that name.
TRANSMIT statement has no NAME= keyword.	Occurs when a parameter file contains a TRANSMIT statement that is not defined.	Use Parameter Editor to define transmit set. See page 113 for information on formatting the TRANSMIT statement.
Two servers were active, station is now dormant.	Two servers with single server licenses have been installed.	Remove second server or upgrade to multiple server license.
Unable to redirect port.	An unspecified network error occurred.	Call Technical Support.
Unload error releasing MCLIENT memory block.	Occurs when unable to unload MCLIENT.EXE.	Ensure all TSRs loaded after MCLIENT.EXE are removed first. Memory manager may be causing conflict. Don't use memory manager and retry. If loading high there may be a conflict with upper memory blocks. Don't load high and retry.

(Continued)

Error Message	Possible Cause	Suggested Solution
Unload error releasing MSERVER memory block.	Occurs when unable to unload MSERVER.EXE.	Ensure all TSRs loaded after MSERVER.EXE are removed first. Memory manager may be causing conflict. Don't use memory manager and retry. If loading high there may be a conflict with upper memory blocks. Don't load high and retry.
Use decimal digits or hex value followed by H.	Occurs when a port value is specified incorrectly.	Use proper value of hex or decimal. Hex will be followed by an h (i.e., 100h).
A value supplied on this keyword is not valid.	Parameter keyword error or parameter value error.	Check the item displayed for spelling and value specification.
VCMGR loads from Interrupt 2FH, please remove any reference to it from SYSTEM.INI.	Cannot load VCMGR using a DEVICE= statement in the SYSTEM.INI.	Remove all references to VCMGR from the SYSTEM.INI file.
VxD with same Device ID as ModemShare already loaded.	Occurs when MSHARE.VxD is loading and the device ID assigned to ModemShare is in use by another device in the system.	Try removing third-party programs that are loading at start time one at a time to determine program that is using the ModemShare assigned ID; contact vendor of third-party product for device ID information.
WARNING-group name too long for use by NASI interface.	Occurs when a group name has been defined that exceeds eight characters.	Define the group name with eight characters or less if NASI interface is to be used.
WARNING-server name too long for use by NASI interface.	Occurs when a server name exceeds eight characters.	Ensure that the server name is eight characters or less if NASI interface is going to be used.
A write error occurred while saving your data.	Typically indicates that you are out of disk space.	Clean up your hard drive.
WRITE ERROR, receive function terminated.	Disk write error occurred while writing a file (being received) to disk.	Typically indicates that you are out of disk space. Clean up hard drive.
xxxxxxx detected an internal error.	An unspecified network error occurred.	Call Technical Support.

(Continued)

Error Message	Possible Cause	Suggested Solution
You have more than one Server with the name.	Occurs when Remote Server Monitor is executed and it finds more than one server with the same server name.	Ensure that each server has a unique name.
You must have a line.	Occurs when the parameter file contains no defined lines.	Use Parameter Editor to define a line. See page 116 for information on formatting a LINE statement.
You must supply a name.	This is displayed in a dialog that requires a name.	Enter a name.
You must supply a station address.	This is displayed in a dialog that requires a station address.	Enter a station address.
You must supply the external name.	This is displayed in a dialog that requires a name.	Enter a name.
You must supply the interrupt level.	Occurs when a parameter file has a line defined without an interrupt level.	Use Parameter Editor to fully define line. See page 116 for information on formatting a LINE statement.
You must supply the port address.	Occurs when a parameter file has a line defined without a port address.	Use Parameter Editor to fully define line. See page 116 for information on formatting a LINE statement.

DETAILED LIST OF MODEMSHARE FEATURES

APPENDIX CONTENTS

This appendix describes some of the modem-sharing enhancements that were recently a part of Modem Assist Plus, the software technology from which ModemShare was developed. It then goes on to cover the important new features that are now available in ModemShare v7.0, the new, more powerful version that supports Windows 95.

Previous modem-sharing enhancements_____

In previous versions of ModemShare (called Modem Assist Plus), you could take advantage of the following enhancements to basic modem-sharing functions. These features have now been incorporated into ModemShare v7.0, along with the new features listed beginning on page 206.

Line names

You can assign names and specific communications attributes (e.g., data rate and parity) to each port being shared by a server. Users at a ModemShare client can select a specific line name when connecting to the ModemShare server.

Group names

You can also assign names to groups of lines or to specific lines. If a user requests a group name, any available line in the group will be assigned.

ModemShare has optional connection features to assist you when the line or group name requested for a connection isn't available.

Queueing

When a user at a ModemShare client makes a request to use one of the ModemShare server's COM ports, it's possible that a port may not be available at the time of the request. If the port is busy, the connection request is placed in a queue. When the port becomes available, the queued request is processed automatically.

Background queueing for Windows

When a Windows communications program attempts to access a COM port and all of them are busy, you're given the option to queue the request. If you do this, ModemShare minimizes the communications program and allows you to continue working in Windows. When a port becomes available, ModemShare pops up the minimized communications program indicating that a connection has been established.

Automatic retry

Rather than queue a request that can't be filled by a ModemShare server, you can request that your client automatically retry the connection request.

Conference calling

Conference calling allows ModemShare clients to simultaneously share one COM port so that data received or transmitted is accessible to all participating clients. This feature is particularly useful when a number of clients want to view the same information being transmitted by an off-network station, such as stock quotation information.

Redirector for Windows

This program allows a client to intercept and redirect Windows communications calls to the ModemShare server. You choose which COM ports are to be redirected. Note that the ModemShare redirector for Windows doesn't replace Windows communications drivers. Instead, if a port isn't a redirected ModemShare port, driver pass-through technology sends the request to the communications driver that you were using when you installed ModemShare. This feature allows you to continue using replacement drivers for print functions and to service local ports.

Client DLL

ModemShare supports seamless access to the ModemShare server's COM ports from Windows communications programs that use the standard Windows communications interface. If, however, you need support for running DOS communications programs or if you want to run a Windows program that uses the INT 14 or NASI interface, you can still load the MCLIENT program.

DOS and Windows v3.x Inbound Service

The INHOST program provides inbound service in DOS. The Windows v3.x version of the program is Inbound Service. Both let you select an inbound host communications program in advance of a call, then minimize the program window so you can do other work on your computer. Inbound Service will automatically launch the selected communications program when an inbound call is received.

Modem View window

When you start a Windows v3.x communications program, a set of simulated modem lights appears in the Modem View pop-up window. This makes it easy for you to follow the state of the ModemShare server modem you're using. When you exit from the communications program, the Modem View window returns to its minimized state.

Port Status & Setup window

The Port Status & Setup window allows users to see the detailed status of both your ModemShare servers and of the redirected COM ports on your ModemShare clients. From this window, COM port assignments can be made to specific modems or groups of modems, and the client redirector can be reinstalled if needed. Here are some of the things the Port Status/Setup window will show you:

- names of all active servers
- names of all server groups (modem pools)
- names and states of all server lines
- directed COM port assignment (1-9)
- whether DLL or TSR/Windows VxD is running
- default Inbound Service name
- whether NASI or INT 14 services are available
- buffer size allocated
- whether the queueing option is selected
- whether the retry option is selected

New features available with ModemShare v7.0 _____

ModemShare v7.0 contains several significant new features. If you've been using a previous version (called Modem Assist Plus), you may want to review this section to see which of these new features you want to use.

Remote Server Monitor

The Remote Server Monitor program allows you to view the activity of all ModemShare servers from Windows and DOS clients. Like the Monitor program, Remote Monitor displays details about computer connections and line status, and it can be set up to send all log records to a central location.

See Chapter 9 for information about Monitor and Remote Server Monitor on Windows v3.x and DOS computers. For details about running Remote Monitor on Windows 95 servers and clients, see your ModemShare Windows 95 online Help.

Note… Remote Server Monitor runs on Windows 95 servers and clients but won't run on DOS and Windows v3.x servers. Instead, these servers should use the Monitor program.

Call forwarding

You can configure your ModemShare servers to automatically route calls to other network computers. Any network computer can receive forwarded calls if it has a unique service name and is set up to receive inbound calls. See Chapter 7 for a description of service names and information about setting up inbound calls.

Windows 95 features

ModemShare's Windows 95 interface provides several time-saving new features, including:

- The ability to simultaneously use multiple shared modems on several ModemShare servers.

- Dynamic sharing/unsharing of the modems on your ModemShare server.

- Dynamic redirection of the COM ports on your ModemShare client.

- The ability to access multiple services simultaneously. For example, you can start downloading files from an on-line service, then start an Internet dialer to browse the World Wide Web while waiting for the download to complete.

- The ability to dial in from off-site for a remote control session on an office PC, then initiate a call to a third computer from the office. This allows the long distance charges to be incurred by the office, even when you're working at home or in the field.

As you can see, ModemShare v7.0 gives you greater productivity and efficiency from your network. It also offers total interoperability among Windows 95, Windows 3.x and DOS operating systems, making it easy to share resources in mixed operating environments.

Instructions for installing and using ModemShare appear in Part 1 of this manual. Part 2 tells network administrators how to manage the ModemShare system.

SAMPLE PARAMETER FILES

ModemShare comes with two parameter files: SERVER.CON configures the ModemShare server, and CLIENT.CON configures the ModemShare client. Sample parameter files that show examples of what each file might contain appear in this appendix.

You can also view sample parameter files for a Windows v3.x ModemShare installation in the INSYNC\MSHARE\SAMPLCON directory on any ModemShare computer.

Important…   The following parameter files are samples. It isn't necessary for your parameter files to contain the same information indicated.

Examples of ModemShare parameter files _____

SERVER.CON

SERVER.CON is the default parameter file that comes with the ModemShare server. The following parameter set is a sample. The actual parameter set that's copied to your system depends on the options you chose during installation.

```
;*********************************************
; STANDARD PARAMETER FILE FOR MULTI-PORT
; SERIAL CARD 8 PORTS @ 19200 BAUD
;*********************************************
PARSET1  64000                              BUFFER SPACE 64K
;
SERVER NAME=MSHARE
;
;*********************************************
; Transmit sets  (Used in Lines & Groups)
;*********************************************
;
TRANSMIT NAME=T120                          THE 1200 BAUD SET
ALPARS=(1200,NONE,8,1)                      SPEED,PARITY,FORMAT
FLOW=(1,1)                                  HARDWARE FLOW
                                            CONTROL
;
TRANSMIT NAME=T240)                         THE 2400 BAUD SET
ALPARS=(2400,NONE,8,1)                      SPEED,PARITY,FORMAT
LOW=(1,1)                                   HARDWARE FLOW
                                            CONTROL
;
TRANSMIT NAME=T960                          THE 9600 BAUD SET
ALPARS=(9600,NONE,8,1)                      SPEED,PARITY,FORMAT
FLOW=(1,1)                                  HARDWARE FLOW
CONTROL
;
TRANSMIT NAME=T192                          THE 19200 BAUD SET
ALPARS=(19200,NONE,8,1)                     SPEED,PARITY,FORMAT
FLOW=(1,1)                                  HARDWARE FLOW
                                            CONTROL
;
TRANSMIT NAME=T384                          THE 38400 BAUD SET
```

```
ALPARS=(38400,NONE,8,1)                 SPEED,PARITY,FORMAT
FLOW=(1,1)                              HARDWARE FLOW CONTROL
;
TRANSMIT NAME=T576                       THE 57600 BAUD SET
ALPARS=(57600,NONE,8,1)                  SPEED,PARITY,FORMAT
FLOW=(1,1)                               HARDWARE FLOW CONTROL
;
;********************************************
; The line (port) definitions
;********************************************
;
;
LINE NAME=LINE1                          NAME OF THE LINE
PORT=100H                                PORT 1 ADDRESS
INTERRUPT=5                              IRQ5
MODEM=ATQ0E1X1V1S0=0                     MODEM ATTACHED
TRANSMIT=T192                            19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE2                          NAME OF THE LINE
PORT=108H                                PORT 2  ADDRESS
INTERRUPT=5                              IRQ5
MODEM=ATQ0E1X1V1S0=0                     MODEM ATTACHED
TRANSMIT=T192                            19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE3                          NAME OF THE LINE
PORT=110H                                PORT 3 ADDRESS
INTERRUPT=5                              IRQ5
MODEM=ATQ0E1X1V1S0=0                     MODEM ATTACHED
TRANSMIT=T192                            19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE4                          NAME OF THE LINE
PORT=118H                                PORT 4  ADDRESS
INTERRUPT=5                              IRQ5
MODEM=ATQ0E1X1V1S0=0                     MODEM ATTACHED
TRANSMIT=T192                            19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE5                          NAME OF THE LINE
```

```
PORT=120H                                              PORT 5 ADDRESS
INTERRUPT=5                                            IRQ5
MODEM=ATQ0E1X1V1S0=0                                   MODEM ATTACHED
TRANSMIT=T192                                          19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE6                                        NAME OF THE LINE
PORT=128H                                              PORT 6  ADDRESS
INTERRUPT=5                                            IRQ5
MODEM=ATQ0E1X1V1S0=0                                   MODEM ATTACHED
TRANSMIT=T192                                          19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE7                                        NAME OF THE LINE
PORT=130H                                              PORT 7 ADDRESS
INTERRUPT=5                                            IRQ5
MODEM=ATQ0E1X1V1S0=0                                   MODEM ATTACHED
TRANSMIT=T192                                          19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE8                                        NAME OF THE LINE
PORT=138H                                              PORT 8  ADDRESS
INTERRUPT=5                                            IRQ5
MODEM=ATQ0E1X1V1S0=0                                   MODEM ATTACHED
TRANSMIT=T192                                          19200 BAUD DEFAULTS
AUTOBAUD=N
;
;********************************************
; The group definitions
;********************************************
;
GROUP NAME=GROUP1                                       NAME OF THE GROUP
LINES=(LINE1,LINE2,LINE3,LINE4,LINE5,LINE6,LINE7,LINE8) ALL LINES IN GROUP
INBOUND=(8)                                             INBOUND SUPPORT IF # >
0
;
;********************************************
; END OF PARAMETER FILE
;********************************************
```

CLIENT.CON

CLIENT.CON is the default parameter file that comes with the
ModemShare client. The following parameter set is a sample. The
actual parameter set that's copied to your system depends on the
options you chose during installation.

```
;***************************************
; SAMPLE CLIENT PARAMETER FILE
;***************************************
PARSET1 15000,30                  BUFFER SPACE 15K/TIMEOUT 30 MIN
SERVER NAME=MSHARE
TIMEOUT=6
NASI=2
NETWORKS=2
CONNECT DEST=GROUP1          DEFAULT GROUP NAME
SERVICE=ANYSTATION           DEFAULT SERVICE NAME
QUEUE=Y
RETRY=Y
TRANSMIT FLOW=(1,1)
TRIGGERS=(0DH)
;***************************************
; END OF SAMPLE CLIENT PARAMETER FILE
;***************************************
```

Advanced parameter files_____

Sample ModemShare server parameter file (SERVER.CON)

```
;**********************************************
; STANDARD PARAMETER FILE FOR MULTI-PORT
; SERIAL CARD 4 PORTS @ 19200 BAUD
;**********************************************
PARSET1  64000               BUFFER SPACE 64K
;
SERVER NAME=MSHARE
;
;**********************************************
; Transmit sets  (Used in Lines & Groups)
;**********************************************
;
TRANSMIT NAME=T120           THE 1200 BAUD SET
ALPARS=(1200,NONE,8,1)       SPEED,PARITY,FORMAT
FLOW=(1,1)                   HARDWARE FLOW CONTROL
;
TRANSMIT NAME=T240           THE 2400 BAUD SET
ALPARS=(2400,NONE,8,1)       SPEED,PARITY,FORMAT
FLOW=(1,1)                   HARDWARE FLOW CONTROL
;
TRANSMIT NAME=T960           THE 9600 BAUD SET
ALPARS=(9600,NONE,8,1)       SPEED,PARITY,FORMAT
FLOW=(1,1)                   HARDWARE FLOW CONTROL
;
TRANSMIT NAME=T192           THE 19200 BAUD SET
ALPARS=(19200,NONE,8,1)      SPEED,PARITY,FORMAT
FLOW=(1,1)                   HARDWARE FLOW CONTROL
;
TRANSMIT NAME=T384           THE 38400 BAUD SET
ALPARS=(38400,NONE,8,1)      SPEED,PARITY,FORMAT
FLOW=(1,1)                   HARDWARE FLOW CONTROL
;
TRANSMIT NAME=T576           THE 57600 BAUD SET
```

```
ALPARS=(57600,NONE,8,1)          SPEED,PARITY,FORMAT
FLOW=(1,1)                        HARDWARE FLOW CONTROL
;
.********************************************
;
; The line (port) definitions
.********************************************
;
;
LINE NAME=LINE1                   NAME OF THE LINE
PORT=100H                         PORT 1 ADDRESS
INTERRUPT=5                       IRQ5
MODEM=ATQ0E1X1V1S0=0              MODEM ATTACHED
TRANSMIT=T192                     19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE2                   NAME OF THE LINE
PORT=108H                         PORT 2  ADDRESS
INTERRUPT=5                       IRQ5
MODEM=ATQ0E1X1V1S0=0              MODEM ATTACHED
TRANSMIT=T192                     19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE3                   NAME OF THE LINE
PORT=110H                         PORT 3 ADDRESS
INTERRUPT=5                       IRQ5
MODEM=ATQ0E1X1V1S0=0              MODEM ATTACHED
TRANSMIT=T192                     19200 BAUD DEFAULTS
AUTOBAUD=N
;
LINE NAME=LINE4                   NAME OF THE LINE
PORT=118H                         PORT 4  ADDRESS
INTERRUPT=5                       IRQ5
MODEM=ATQ0E1X1V1S0=0              MODEM ATTACHED
TRANSMIT=T192                     19200 BAUD DEFAULTS
AUTOBAUD=N
.********************************************
;
; The group definitions
.********************************************
;
```

```
;
GROUP NAME=GROUP1                          NAME OF THE GROUP
LINES=(LINE1,LINE2,LINE3,LINE4)            ALL LINES IN GROUP
INBOUND=(4)                                INBOUND SUPPORT IF # > 0
;
;*******************************************
; END OF PARAMETER FILE
;*******************************************
;
```

USING INT 14 OR NASI COMMUNICATIONS SOFTWARE WITH WINDOWS V3.X

APPENDIX CONTENTS

This appendix discusses ways of using non-Windows v3.x communications programs with Windows v3.x.

Special considerations for using communications programs_____

Most Windows v3.x communications programs are supported by ModemShare's client DLL (dynamic link library). This program runs automatically after installation. It makes access to modems on ModemShare servers possible, and it's usually all you need.

If, however, you want to run an INT 14 or NASI communications program under Windows v3.x you must also run the DOS TSR called MCLIENT.EXE. See "Running the DOS TSR client" on page 219 for ways to load the ModemShare client so that your DOS communications software will run under Windows v3.x.

Note… ModemShare includes a special program called MLCLIENT that allows a server to act as a client. Whenever the standard client program MCLIENT is mentioned in this manual, you can substitute MLCLIENT on your ModemShare servers.

The following sections mention two special considerations for running non-standard Windows v3.x or DOS communications programs.

Changing the communications interface

You may need to manually change the communications interface to INT 14 or NASI if you're using a DOS communications program. Open your program or refer to your software manual to make sure it supports INT 14 or NASI. This information is usually displayed along with your standard COM port selections. When possible, choose the NASI interface.

Note… If your program doesn't support INT 14 or NASI, the program will bypass ModemShare and try to access the local port. You won't be able to access a shared modem with this communications software.

Using ModemShare with an INT 14 communications program

The INT 14 interface, unlike NASI and the Windows v3.x communications interface, doesn't provide functions to acquire and release a port on the ModemShare server. To overcome this restriction, ModemShare provides you with parameters on the client (MCLIENT) and local client (MLCLIENT) commands to acquire and release a modem. You should use these parameters to

ensure that a modem is available before you start a communications program that uses the INT 14 interface and after execution to release the modem so that others can use it.

The CONNECT keyword can be added to the MCLIENT or MLCLIENT command to allocate a modem. If a modem isn't available, the command will return a code that can be tested in a batch file. Similarly, you should use the RELEASE keyword to give the modem back when you're finished. If you unload the client, any modems being held are automatically returned for use by others.

As an example, suppose you installed the client on the C drive in a subdirectory named MSHARE. Further, suppose that your communications program was named INT 14PGM and existed on the C drive in a subdirectory named COMM. The following sample batch file could be used to load the client, allocate a modem, load your communications program, unload the client and release the modem when you're finished:

```
C:
CD \MSHARE
MCLIENT CONNECT
IF ERRORLEVEL 1 GOTO NOLINE
CD \COMM
INT14PGM
GOTO END
:NOLINE
ECHO NO MODEM AVAILABLE, PLEASE TRY LATER
:END
CD \MSHARE
MCLIENT -
```

Running the DOS TSR client

The DOS TSR client, MCLIENT.EXE, provides all the interfaces necessary for ModemShare to function properly with your DOS communications programs. However, as it uses a significant amount of memory, you might want to run it only when you're using your communications program. Steps for shutting down the DOS TSR client appear later in this section.

ModemShare client as a Windows v3.x Virtual Device Driver (VxD)

Before you can run the DOS TSR under Windows v3.x or load it using a WINSTART.BAT file, you must add the following statement in the [386enh] section of the Windows v3.x SYSTEM.INI file:

    device=disk:\directory\MCLIENT.EXE

Because the ModemShare server must always be started before loading Windows v3.x and the local client (MLCLIENT) uses the same virtual device as the server, this statement isn't required on a server station.

This statement allows the client DOS TSR to function as a Windows v3.x VxD and ensures compatibility between ModemShare and Windows v3.x.

Two ways to run the client as a DOS TSR

If you want to run a DOS communications program under Windows v3.x, you can use two methods:

- Load the client (MCLIENT) or local client (MLCLIENT) program before starting Windows v3.x.

- Load the client from a DOS box under Windows v3.x. If you open a DOS box in Windows v3.x and type MCLIENT<Enter>, you'll be able to use only DOS communications programs in this DOS box. You won't be able to start the client in multiple DOS boxes simultaneously. Don't use this approach to running MCLIENT.EXE if you're also running the client DLL.

Note… You must add a statement to your Windows v3.x SYSTEM.INI file to use WINSTART.BAT. See "ModemShare client as a Windows v3.x Virtual Device Driver (VxD)" above.

To load MCLIENT or MLCLIENT before starting Windows v3.x, follow the steps below. When you load one of these programs, you can run ModemShare from DOS, from Windows v3.x, and from a DOS box in Windows v3.x.

LOOK ONLINE…

The online Help supplies additional DOS client information.

1. Start the computer that will be your ModemShare client.

2. If you have an IPX/SPX-compatible or NetBIOS network protocol loaded, skip to the next step. If you don't have one of these protocols loaded, you'll need to log on to your network or install the protocols. See your network administrator for information.

3. At the DOS prompt, change to the subdirectory where you installed the server. For example, type CD \INSYNC\MSHARE <Enter>.

4. Type MCLIENT <Enter>. When the client is loaded you'll see the message "Initialization completed" and be returned to the DOS prompt.

5. You now have interface support for your DOS communications program.

Note… If you need INT 14 or NASI support for DOS and Windows v3.x communications programs, you must load the client using this method. However, in order to save memory, you might want to unload the client when you're not using your communications programs. See "Shutting down the DOS TSR client" below for instructions.

Shutting down the DOS TSR client

You may want to run the TSR client only when you're using a DOS communications program to free up DOS memory. You can easily shut down the client by following these steps:

1. Change to the subdirectory where you installed the client.

2. Type MCLIENT–<Enter>. When the client is shut down you'll see the message "MCLIENT Unloaded from Memory", and be returned to the DOS prompt.

To learn how to automatically run and shut down the client, see "Using a DOS batch file to start the ModemShare client" on page 81.

Using WINSTART.BAT to load the ModemShare client

If you need to use a Windows v3.x communications program with an INT 14 or NASI interface under Windows v3.x, you can load the MCLIENT.EXE program by using a WINSTART.BAT file. This batch file prevents the DOS TSR client from using DOS conventional memory. Instead, the client will use Windows memory.

Once this file is created and placed in your Windows directory, you just need to type WIN<Enter> at the DOS prompt to launch it.

1. Open Notepad or another text editor.

2. Open the WINSTART.BAT file if you already have it, or save the current file as WINSTART.BAT.

3. Type a command line at the end of the file (or at the beginning if it's a new file) that states the full path and points to the client parameter file. For example:

   C:\INSYNC\MSHARE\MCLIENT C:\INSYNC\MSHARE\CLIENT.CON

4. Save your changes and exit the text editor.

5. Restart Windows v3.x. The MCLIENT program will automatically start as a VxD to support your communications program.

Note… You must add a statement to your Windows v3.x SYSTEM.INI file to use WINSTART.BAT. See "ModemShare client as a Windows v3.x Virtual Device Driver (VxD)" on page 220.

Important… LANtastic will not run with WINSTART.BAT. In addition, if you use the WINSTART.BAT to load the client software, you'll be able to use only Windows v3.x communications programs.

USING MODEMSHARE WITH INSYNC COSESSION REMOTE

APPENDIX CONTENTS

Using INSYNC ModemShare with INSYNC CoSession Remote™ software, you can dial in from a home computer or remote laptop and control a computer in your office that's connected to a shared modem. To call a ModemShare client from a CoSession Remote Viewer computer, use the instructions in this appendix.

These instructions apply only to Windows 95 and Windows v3.x computers.

Setting up CoSession Remote and ModemShare to work together_____

First make sure that ModemShare and the CoSession Remote Host are properly installed on the computer you want to control. Then make sure that CoSession Remote Viewer is installed on the remote computer. You also need to know which COM ports are redirected on the ModemShare client.

You'll need to perform a few simple steps using these four programs, as described in the remainder of this appendix:

- ModemShare Parameter Editor
- ModemShare Inbound Service
- CoSession Remote Host
- CoSession Remote Viewer

Setting up the ModemShare Parameter Editor

There are separate instructions for setting up the Parameter Editor in Windows 95 and in Windows v3.x.

Windows 95 instructions   Go to the ModemShare server that has the modem you want to use and follow these steps:

1. Click Start, Programs, INSYNC ModemShare, Parameter Editor.

2. Click Server parameters, then click Group Definitions.

3. Click the Group containing the lines that will receive incoming calls. The Edit Group Definition window appears.

4. Click the check box at the bottom of the screen so the lines in this Group will accept incoming calls.

5. Click OK and Done to return to the Server Parameters window.

6. Click Line Definitions, then click the line that will be receiving inbound calls, such as LINE1.

7. In the Modem Attached - Modem Setup field, you should see the modem initialization string ATZ.

Important…   Although ATZ is suitable for most modems, if you have problems placing inbound calls, follow these steps again and change the initialization string to ATQ0E1V1X1S0=0.

8. Click OK, Done and OK again to return to the main Parameter Editor window.

9. Click File, Save parameters and exit.

10. Restart Windows 95.

Windows v3.x instructions Go to the ModemShare server that's has the modem you want to use and follow these steps.

1. Double-click the Parameter Editor icon. Press Enter to clear the screen, then select Station Type by pressing Enter again.

2. Press Enter to select Server. The full path name for the SERVER.CON file appears. Press Enter to accept this default unless you've created another parameter file for this server.

3. The Parameter Set Selection screen appears. Press Enter to select the default set "1" unless you've created another parameter set. The Server Parameters Options screen appears.

4. Use the down arrow key to scroll to Groups, then press Enter. Select the group containing the lines that will receive incoming calls, and press Enter.

5. Select Inbound, then press Enter. A screen appears where you can specify the number of lines for which inbound calls will be received. Press Enter to accept the default "1," or type in another number of lines, then press Enter.

6. At the main Parameter Editor screen, use your up arrow to select File, then press Enter. Press Enter again to save your parameter set. Press Q to quit, and reboot the computer.

Setting up ModemShare Inbound Service

The steps for setting up ModemShare Inbound Service to accept a CoSession Remote communications session are the same under Windows 95 and Windows v3.x. Refer to your *INSYNC ModemShare User's Manual* and online Help for details about Inbound Service.

1. On the ModemShare client, open Inbound Service. In Windows 95, click Start, Programs, INSYNC ModemShare, Inbound Service. In Windows v3.x, double-click the Inbound Service icon in the ModemShare program group.

2. Type in a descriptive name for CoSession Remote in the Program Description field, then press the Tab key. This field is optional.

3. In the Program Name field, type the path and name to launch CoSession Remote. You can click the Browse button to locate the program, but you must enter the full and correct path, ending with CSWH.EXE. Then press **Tab**.

4. Type -M (hyphen M with no spaces) in the Input Parameters field. Press **Tab**.

5. Type in a service name. This name must start with CS- (CS hyphen with no spaces). For example, CS-TEST. Then press **Tab**.

6. Click the Reset after Connection Termination box.

7. Click Options, then click the Terminate Connection on Carrier Drop box. Click OK.

8. You don't have to select any other options, but if you'd like to minimize the Inbound Service window while waiting for a call, click that box.

9. Click OK. You're now ready to receive an incoming call.

Setting up CoSession Remote Host

The steps for setting up CoSession Remote Host for a remote control session on a ModemShare client are the same under Windows 95 and Windows v3.x.

1. Open CoSession Remote Host. Under Windows 95, click Start, Programs, INSYNC CoSession Remote, CoSession Remote Host. Under Windows v3.x, double-click the CoSession Remote Host icon.

2. When the Control Center window appears, click Phone Book.

3. Click Call-Out and Call-In Security Records, then click OK.

4. Make sure the COM port displayed is identical to the redirected COM port under ModemShare. For example, if COM 4 is the port you chose to access a shared modem, select COM 4 in the Phone Book Setup window.

5. Make sure that the baud rate matches the shared modem's baud rate that's defined for the server in Parameter Editor.

6. In the Modem Name drop-down list box, scroll to Direct-Connect.

7. Click Save, then Close.

8. Click Phone Book again. This time click Wait for Call Settings. Click OK.

9. Again, make sure the COM port and baud rate match your redirected COM port and shared modem's baud rate. Select Direct-Connect for the Modem Name.

10. Click Save, then Close.

11. Back in the Control Center window, click Setup in the menu, then click Options. Make sure both Auto Answer On Loading and Unattended Access are checked.

12. Click Save if necessary, then click Close.

13. Close the Control Center window. CoSession Remote Host is now set up.

Setting up CoSession Remote Viewer

The steps for setting up CoSession Remote Viewer for a remote control session are the same under Windows 95 and Windows v3.x.

1. Open CoSession Remote Viewer. Under Windows 95, click Start, Programs, INSYNC CoSession Remote, CoSession Remote Viewer. Under Windows v3.x, double-click the CoSession Remote Viewer icon.

2. In the Control Center window, select the default Phone Book name, then click Phone Book.

3. Make sure the Communication Type is set to Serial/Modem, then click Setup next to the Terminal Type field.

4. Make sure Enable ACS Detection is checked.

5. Click Save, then Close.

You're now ready to dial in to the modem that the Host is sharing. After you dial in, you'll see a list of service names. Select the service name that begins with CS- and press Enter. After a short pause, you'll be connected to and in control of the Host computer.

Note… If you're using ModemShare, you must hang up before you can connect to another computer.

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