

MS-DOS

LAN1 (MS-DOS) V2.0

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LAN1 (MS-DOS)

User's Guide

Edition October 1991 (V2.0)

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LAN WorkPlace® for DOS User's Guide

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ABOUT THIS MANUAL

This manual describes how to install and use the LAN WorkPlace® for DOS software. This software includes components for both Windows and standard DOS. This manual is divided into the following parts:

Part I, General Information, gives an overview of the LAN WorkPlace for DOS and provides a step-by-step procedure for installing and configuring the software.

Part II, Windows Applications, describes how to use the LAN WorkPlace utilities under Microsoft Windows 3.0.

Part III, Command-Line Utilities, describes how to use the LAN WorkPlace utilities from a standard DOS prompt.

An index is provided for easy cross-reference.

Related Publications

The following publications describe related LAN WorkPlace for DOS products:

1. *LAN WorkPlace for DOS Administrator's Guide*, Publication No. 100-000882-001, Novell, Inc., 1990.
2. *LAN WorkPlace for DOS Socket Library API Reference Manual*, Publication No. 100-000883-001, Novell, Inc., 1990.

Documentation Conventions

This manual uses the documentation conventions described below. Specifically, these conventions are used when referring to the following:

- Command lines and command-line components
- System responses
- Syntax statements
- File entry formats

The characters `< >`, `[]`, `{ }`, and `|` are normally used as metacharacters and as such you must not type these as part of user input.

Regular (that is, nonbold, nonitalicized) character strings represent system responses. Examples:

C>
Bad command or file name

Bold characters represent user input, which must be entered exactly as shown. Because DOS is not case-sensitive, you can use any combination of uppercase and lowercase letters. Example:

TNVT220

`< >` (angle brackets) enclose descriptive names for items that the system replaces with appropriate values in the actual display. An exception is `<cr>` or `<Enter>`, which represent the Enter key. Example:

Connected to `<remote_host>`

Italicized lowercase or uppercase character strings show descriptive names for items that you must replace with appropriate values. Example:

COPY *source_file destination_file*

[] (square brackets) enclose an optional item or multiple optional items that are separated by the vertical bar (|) character. If multiple items are shown, you can specify only one of them. Example:

DIR [*directory_name* | *file_name*]

{ } (braces) enclose multiple items that are separated by the vertical bar (|) character out of which you must specify only one item. Example:

TNVT220 -C {ASCII | BINARY}

| (vertical bar) separates items in a list of alternatives. If the list is enclosed in [], you can use any one and only one of the items. If the list is enclosed in { }, you must use one and only one of the items.

. . . (ellipses) indicate that the preceding item may be repeated multiple times. Example:

PRINT *file_name* . . .

^ (caret) represents the Ctrl key when shown in combination with another key. However, when shown with the Ctrl key itself, ^ represents the caret character (Shift-6). Examples:

^Z
Ctrl-^

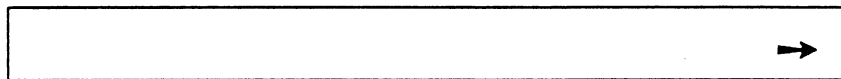
Numerical values are specified in decimal or hexadecimal bases. The decimal numbers have no prefixes or suffixes. The hexadecimal numbers are either prefixed with a 0x or 0X (zero and the letter X) or suffixed with the letter H. For example, 0xA024 and A024H both represent hexadecimal numbers.

||||➡ Important information is emphasized with an arrow, as shown to the left of this sentence.

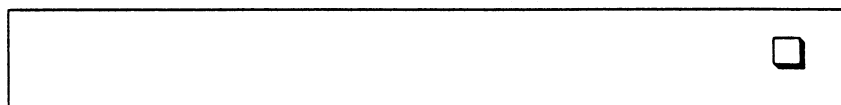
Combination key strokes are hyphenated and capitalized. Because DOS is not case sensitive, you can use upper case or lower case letters. Example:

Alt-T

Tables or figures that continue onto another page are marked with an arrow at the end of the current section of the table, as shown below.



The end of a table or figure is marked with a box, as shown below.



The installation procedure uses the following conventions:

- Paragraphs in this typeface are system messages or prompts.
- The symbol `⌘` precedes user input or system prompts that require user input.

PART I

General Information

PART I

General Information

INTRODUCTION

INTRODUCTION

The LAN WorkPlace[®] for DOS software provides TCP/IP transport system software, HostAccess[™] utilities, and NetBIOS software. The LAN WorkPlace software is designed to run on PCs, PS/2s, and compatible systems connected to a TCP/IP-based network.¹ Using the LAN WorkPlace software, you can communicate with remote hosts and other nodes on your local network. You can also communicate with other TCP/IP-based networks that are connected to your network via Internet gateways.

The TCP/IP transport system software provides TCP/IP protocol software and utilities for monitoring and administering an Ethernet network. The HostAccess utilities let PCs and PS/2s communicate with remote hosts and other nodes on your local network. The NetBIOS Application Program Interface lets you run, without modification, all PC network applications designed for the standard NetBIOS interface.

This manual focuses primarily on using the LAN WorkPlace HostAccess utilities. Some of these utilities are designed to run only in a Microsoft Windows 3.0 environment; others run in a DOS environment or in a DOS window under Windows 3.0. Although the tasks you perform in each environment are the same, the software components used to perform the tasks are different. When you install the LAN WorkPlace software, the installation procedure installs components for either the Windows or DOS environments, or for both environments.

1. In this manual, the terms *PC*, *personal computer*, and *workstation* refer to PC ATs, Compaqs, PS/2s, and compatible systems, including 80386-based systems running DOS.

Using the LAN WorkPlace HostAccess utilities, you can perform the following operations:

- Transfer files to and from remote hosts.
- Use your DOS workstation as a terminal and log in to a remote host.
- Print files on a printer attached to a remote host.
- Execute commands on a remote host.

Table 1-1 summarizes the LAN WorkPlace utilities that allow you to perform these operations.

Table 1-1

Summary of LAN WorkPlace Utilities

Type of Utility	Description
File Transfer Utilities	
File Express	File transfer utility for Microsoft Windows 3.0. Copies files, directories, and directory trees between your workstation and a remote host using the FTP protocol. Performs directory and file operations on the remote host, such as listing and changing working directories. Creates and deletes files. This application runs only under Windows 3.0.
FTP	Copies files, directories, and directory trees between your workstation and a remote host. Performs directory and file operations on the remote host such as listing or changing working directories.
RCP	Copies files, directories, and entire directory trees between your workstation and a remote host.
TFTP	Copies single files between your workstation and a remote host using the TFTP protocol.
Serving FTP	The FTP server program for Microsoft Windows 3.0 that handles requests for services from File Express and FTP clients on the network. Serving FTP can run in its own window in the background. This application runs only under Windows 3.0.



Table 1-1
Summary of LAN WorkPlace Utilities (Continued)

Utility	Description
Terminal Emulation Utilities	
TELAPI	Telnet client program required by Host Presenter and TNVT220. Also supports various third-party terminal emulators.
TNVT220	Emulates a DEC VT220, VT100, or VT52 terminal directly connected to a remote host. This means you can log in to a remote host running a TCP/IP Telnet server and perform any operations supported by the remote host.
Host Presenter	A Windows 3.0 program that emulates a DEC VT220, VT100, or VT52 terminal. Also has a script processor called Script Director. This application runs only under Windows 3.0.
TSU	TELAPI configuration program. Required by third-party terminal emulators.
Remote Printing Utilities	
RPD	Deletes a job from the print queue of a remote printer.
RPR	Prints a file on a remote printer.
RPS	Displays the status of jobs printing on a remote printer.
Remote Command Utilities	
REXEC	Executes a single command on a remote host. A password is required to access the remote host.
RSH	Executes a single command on a remote host. No password is required to access the remote host.



INSTALLATION

Prerequisites for Installation	2-1
Preparing for Installation	2-2
Installing and Configuring the Software	2-3

INSTALLATION

The LAN WorkPlace for DOS software includes components for Windows and for standard DOS. The LAN WorkPlace installation procedure allows you to install either the Windows or the DOS components, or both components.

This chapter describes the hardware and software you need to install the LAN WorkPlace software. It also provides a step-by-step procedure for installing and configuring the software. For a detailed description of the installation results, refer to the *LAN WorkPlace for DOS Administrator's Guide*.

Prerequisites for Installation

To install and use the LAN WorkPlace for DOS software, you need a workstation connected to a network through an appropriate network adapter. The connected workstation should have the following hardware and software components:

- **Computer.** For standard DOS applications, an IBM PC XT, AT, PS/2, or an 80286-based, 80386-based, or 80486-based compatible; for Microsoft Windows 3.0 programs, an IBM PC AT or PS/2, or an 80386-based or 80486-based compatible.
- **Disk Drive.** Your workstation must have at least one hard drive with a minimum of 2.8 Mbytes available disk space and either a 3.5-inch disk drive or a 5.25-inch disk drive capable of reading low-density floppy disks.

- **Operating System.** IBM DOS Version 3.3 (or later) or Microsoft DOS Version 3.3 (or later) installed and running on your system.
 - **Network Adapter.** A network adapter (Ethernet, Token Ring, or ARCnet) must be installed in your workstation.
 - **Open Data Link Interface (ODI) Workstation Software.** You must install the DOS ODI workstation software as described in the *NetWare DOS Shell for ODI* manual in this package.
- When completing the DOS ODI installation, you must create your boot disk on your hard disk. In addition, you must make the recommended modifications to your AUTOEXEC.BAT file, CONFIG.SYS file and, if necessary, NET.CFG file.

Preparing for Installation

You will need the following information while installing the LAN WorkPlace software. The installation procedure prompts you for this information:


Drive on which to install software: _____
Internet address for your workstation, if not using RARP: _____
Internet subnetwork mask, if subnetworks exist: _____
Internet router address, if applicable: _____
Domain Name, if using Domain Name Server: _____
Domain Name Server's IP Address, if applicable: _____
Local user name for the R-utilities: _____

The installation procedure also prompts you to make the following decisions:

Do you want to use the default configuration values? The default configuration provides 8 TCP connections and 4 NetBIOS sessions.
Do you want to load RFC NetBIOS during system boot?
Will you use applications written for LAN WorkPlace for DOS 3.5?
Do you want your system files updated?

Installing and Configuring the Software

This section provides the procedure for installing and configuring the LAN WorkPlace software. The procedure uses the following conventions:

- Paragraphs in this typeface are system messages or prompts.
- The symbol  precedes user input or system prompts that require user input.

The installation procedure displays help messages and prompts you for specific input. The system prompts may be either of the following types:

- Prompts that ask for specific information, such as an IP address. To respond to these prompts, type the required information and then press the Enter key.
- Prompts that display more than one option. To select a specific option, highlight it using the arrow keys and then press the Enter key.

The installation procedure copies the following software components to your hard disk:

- LAN WorkPlace for DOS, TCP/IP Transport 4.0
- LAN WorkPlace for DOS, HostAccess 4.0

Figure 2-1 depicts graphically the steps required to install the LAN WorkPlace software.

Figure 2-1

Installation Procedure

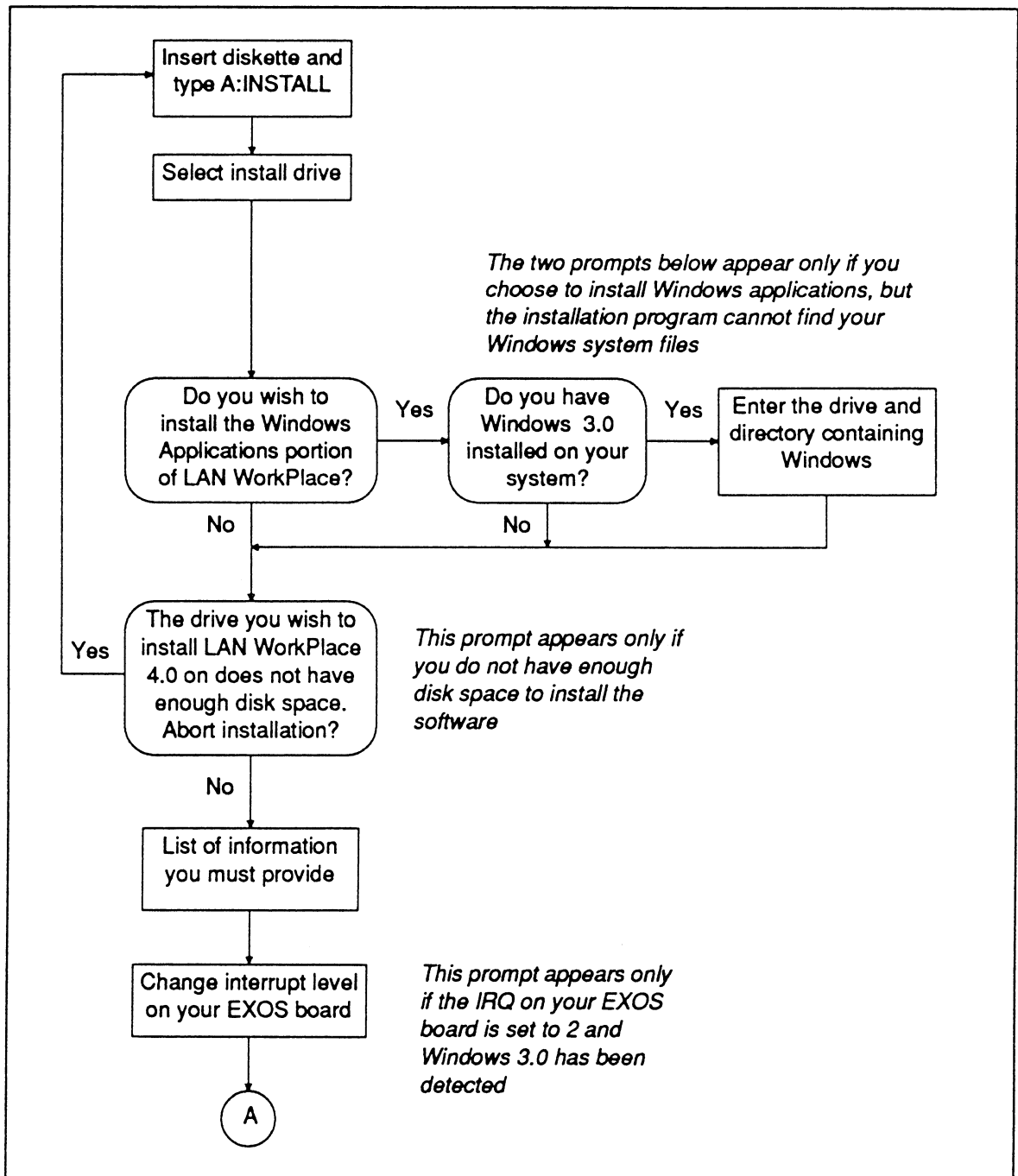


Figure 2-1
Installation Procedure (continued)

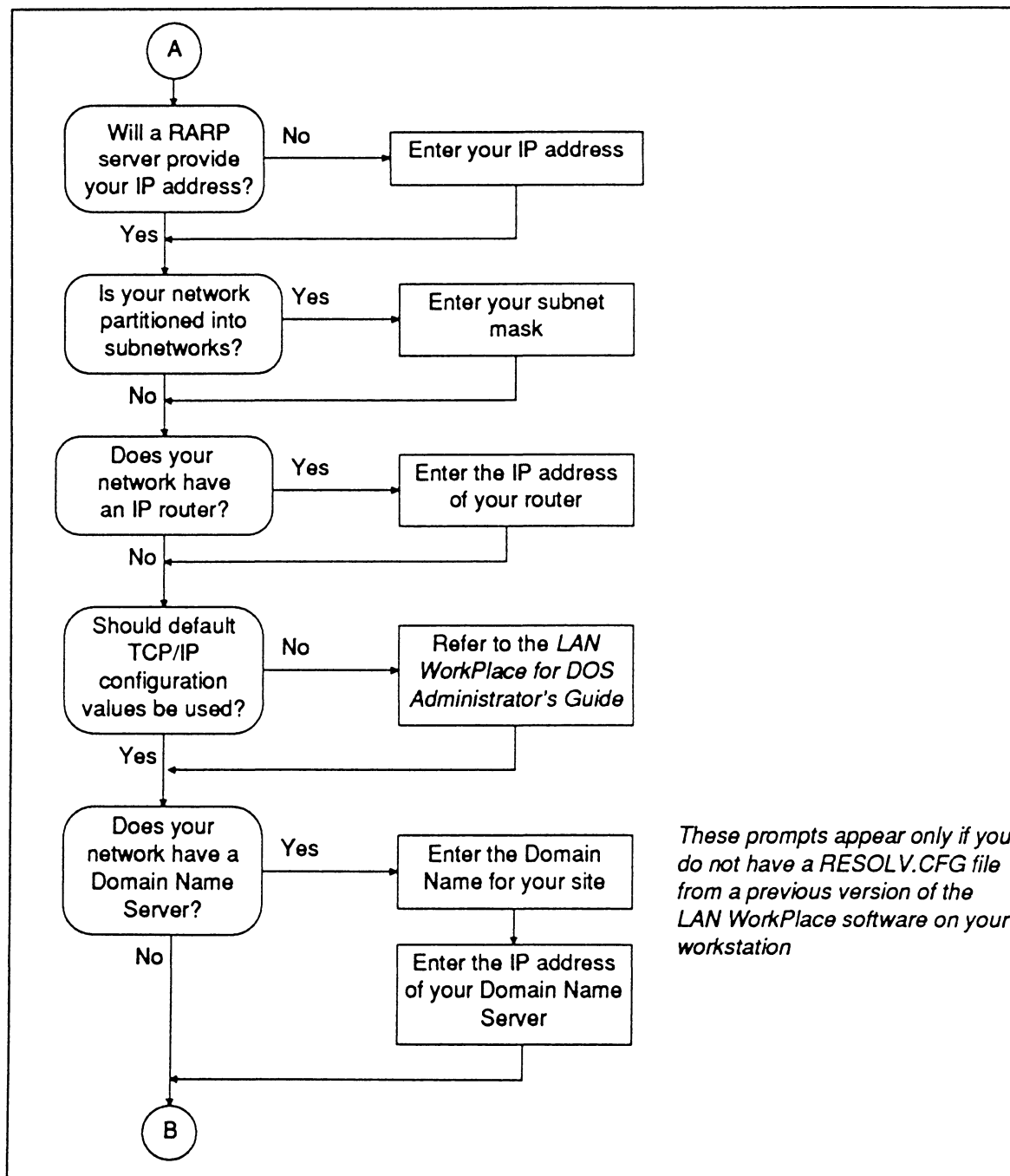
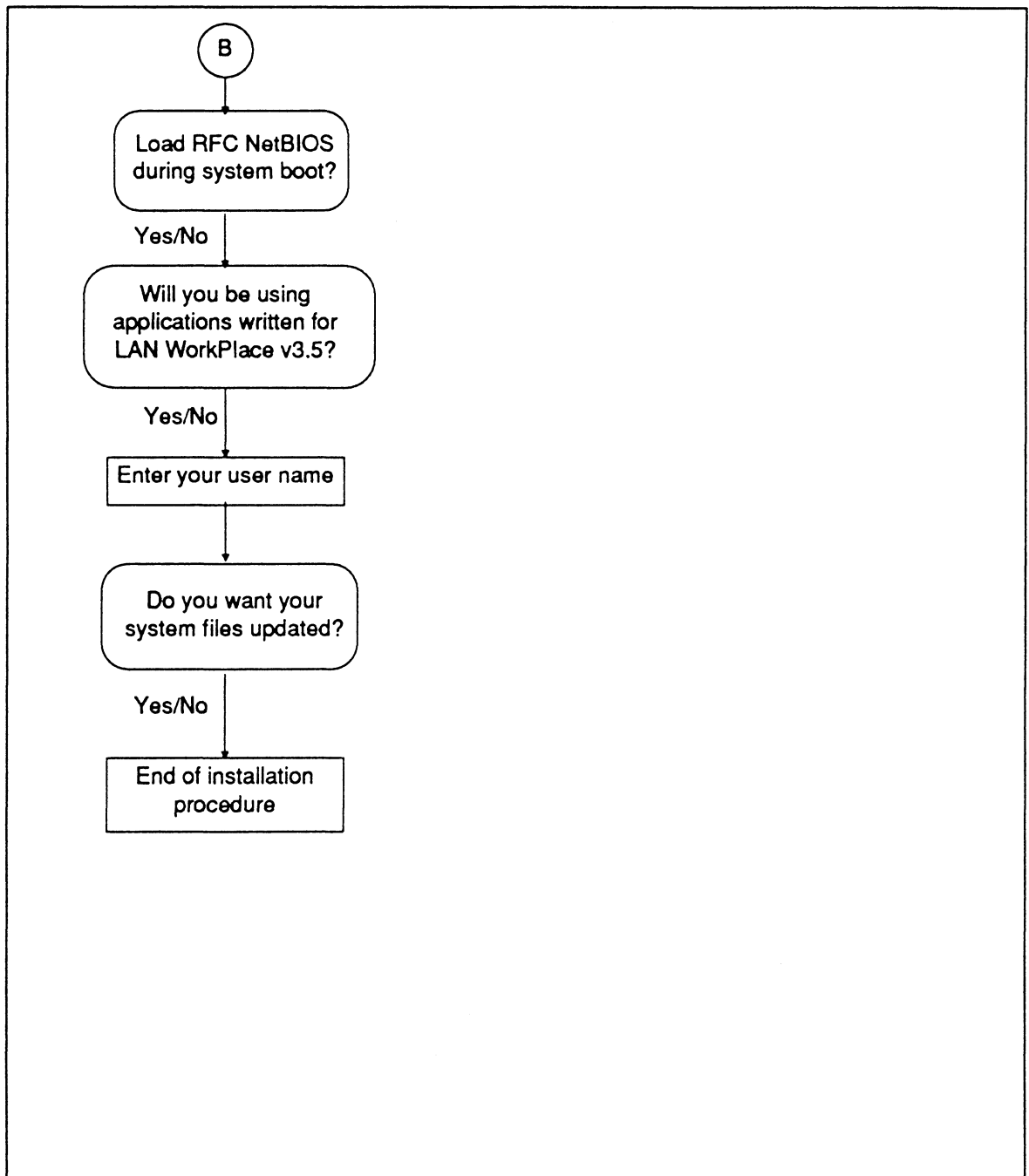


Figure 2-1

Installation Procedure (continued)



The following is a step-by-step procedure for installing and configuring the LAN WorkPlace software:

1. Insert the LAN WorkPlace distribution disk in drive A.

2. Start the installation:

■ C> **A:INSTALL** <Enter>

3. Verify drive:

■ Select install drive:

C:

D:

E:

After you select the drive and press Enter, the system copies the installation files to the selected drive.

4. Indicate if you want to install the Windows Applications portion of the LAN WorkPlace for DOS:

■ Do you wish to install the Windows Applications portion of LAN WorkPlace?

Yes No <Enter>

If you choose **No**, skip to Step 6. Otherwise, continue with the next step.

5. If you have Windows 3.0 installed on your system and the Windows directory is on your DOS path, skip to Step 6. Otherwise, continue with Step 5a.

- a. Indicate whether you have Windows 3.0 installed on your system:

■ Do you have Windows 3.0 installed on your computer?

Yes No <Enter>

If you choose **No**, skip to Step 6. Otherwise, continue with the next step.

- b. Specify the drive and full directory path where Windows 3.0 is installed on your system:

■ Enter the path (including drive) where Windows 3.0 is installed on your computer.

windows_drive_and_path<Enter>

6. If you do not have enough disk space to install the LAN WorkPlace software, you are prompted to abort the installation procedure:

■ The drive you wish to install LAN WorkPlace 4.0 on does not have enough disk space. Abort installation?

Yes No <Enter>

You may want to choose **No** if you are reinstalling the LAN WorkPlace software and you know that the installation will overwrite existing files that are taking up the required disk space.

7. You must have the following information about your system and network in order to complete the installation:

To install the LAN WorkPlace software, you must know the following information:

Internet address for your workstation, if not using RARP.

Internet subnetwork mask, if subnetworks exist.

Internet router address, if applicable.

Domain Name, if using Domain Name Server.

Domain Name Server's IP Address, if applicable.

Local user name for the R-utilities.

Do you want to use the default configuration values?

(8 TCP connections and 4 NetBIOS sessions)

Do you want to load RFC NetBIOS during system boot?

Will you use applications written for LAN WorkPlace for DOS v3.5?

Do you want your system files updated?


■ Press Enter to continue.

If you wish to end the installation procedure to gather this information, press the Escape key twice. Otherwise, continue with the next step.

8. If you have an EXOS 205 or EXOS 215 card and you have installed Windows 3.0, you must change the interrupt level on the EXOS board if it is set to 2.

Windows 3.0 and an EXOS 205 or 215 card have been detected on your system. Windows will not run if the IRQ (interrupt) on the EXOS card is 2. If your \XLN\HARDWARE\EXCELAN.HDW file has 'Signal' (interrupt) set to 2, then you should change the interrupt on the EXOS board. A good alternative is usually 5 or 7.

 Press Enter to continue.

 If you change the interrupt on your EXOS card after completing the installation procedure, you must also change the value of Signal in the EXCELAN.HDW file and the value of Interrupt for the EXOS card in the NET.CFG file.

9. Indicate if a RARP server will provide your IP address:

 Will a RARP server provide your IP address?
Yes No <Enter>

If you select **Yes**, skip to Step 11. Otherwise, continue with the next step.

10. Specify your IP address:

 Enter your IP address
IP_address <Enter>

You must enter your IP address in four-part dotted notation using either decimal or hexadecimal digits.

11. Indicate if your network is partitioned into subnetworks:

 Is your network partitioned into subnetworks?
Yes No <Enter>

If you select **No**, skip to Step 13. Otherwise, continue with the next step.

12. Specify the subnetwork mask for your workstation:

- ☐ Enter your subnet mask
subnetwork_mask <Enter>

You must enter your subnetwork mask in four-part dotted notation using either decimal or hexadecimal digits.

13. Indicate if your network has an IP router:

- ☐ Does your network have an IP router?
Yes No <Enter>

If you select No, skip to Step 15. Otherwise, continue with the next step.

14. Provide your IP router address:

- ☐ Enter your IP router address
IP_router_address <Enter>

You must enter your IP router address in four-part dotted notation using either decimal or hexadecimal digits.

15. Indicate if you accept the default configuration values:

- ☐ Do you want to use the default TCP/IP configuration parameters?
Yes No <Enter>

To accept the default values for the TCP/IP configuration parameters, press the Enter key. The default values are adequate for most installations.

If you need more than 8 TCP connections or more than 4 NetBIOS sessions, or if you have more than 8 UDP ports concurrently active, select No. Refer to Chapter 2 of the *LAN WorkPlace for DOS Administrator's Guide* for information on changing the default values before continuing with the next step.

16. If a previous version of the LAN WorkPlace software created a RESOLV.CFG file, and if that file is in the \XLN\TCP directory, the installation assumes that the information in RESOLV.CFG is correct and that you are using the Domain Name System. If this is the case, you

skip to Step 18. Otherwise, respond to the following prompt:

- ☐ Does your network have a Domain Name Server?
Yes No <Enter>

If you select **No**, skip to Step 19. Otherwise, continue with the next step.

17. Provide Domain information:

a. Enter your site's Domain Name:

- ☐ Enter the Domain Name for your site
domain_name <Enter>

b. Specify the IP address of your Domain Name Server:

- ☐ Enter your Domain Name Server's IP Address
domain_name_server's_IP_address <Enter>

You must enter your Domain Name Server's IP address in four-part dotted notation using either decimal or hexadecimal digits.

18. Indicate if you want to load NetBIOS automatically each time you boot your system:

- ☐ Do you want to load RFC NetBIOS during system boot?
Yes No <Enter>

Select **No** if you do not plan to run third-party NetBIOS applications. If you select **No**, and later you wish to run third-party NetBIOS applications, you must manually load NetBIOS.

19. Indicate if you intend to use third-party applications developed to run on LAN WorkPlace v3.5:

- ☐ Will you be using applications written for LAN WorkPlace for DOS v3.5?
Yes No <Enter>

Select **No** if you do not plan to run third-party NetBIOS applications. If you select **Yes**, the AUTOEXEC.BAT file automatically loads a converter during system boot. This converter allows third-party applications developed to run

on the LAN WorkPlace 3.5 TCP/IP transport to use the new LAN WorkPlace 4.0 transport.

20. Provide your user name:

- Enter your user name. Your user name will be used by the LAN WorkPlace HostAccess R-utilities (RCP, RSH, REXEC, RPR, RPD, and RPS) when accessing a remote host:
user_name <Enter>

21. Indicate if you want to update the system files on your workstation:

- Do you want your system files updated?
Yes No <Enter>

Select **Yes** if you want the system files on your workstation automatically updated. In this case, the installation procedure creates copies of the existing AUTOEXEC.BAT, CONFIG.SYS, NET.CFG, PROGMAN.INI, SYSTEM.INI, and WIN.INI, with the extension .SAV. Otherwise, the installation procedure creates updated system files with the extension .LWP and you must update the system files manually to run the LAN WorkPlace for DOS. Refer to the *LAN WorkPlace for DOS Administrator's Guide* for information on the system files.

- After installation, you should back up all modified system files. If you make unsuccessful changes to the files or if the files become corrupted, you can use the backup files to restore the Windows configuration for the LAN WorkPlace.

Following Step 21, the installation program prompts you for each distribution disk and copies the LAN WorkPlace files to your hard disk.

When the program completes copying the files, it modifies your system files if you requested it to do so, and displays the following:

Installation completed properly.

22. Press any key to return to the DOS prompt. Then reboot your workstation.

PART II

Windows Applications

USING THE HOST PRESENTER

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USING THE HOST PRESENTER

The Host Presenter™ program is a Microsoft Windows application that lets your workstation emulate a terminal and connect to other computers on the network. You can emulate a VT52, VT100, or VT220 terminal. Host Presenter lets you run multiple terminal emulation sessions on your workstation to one or more remote hosts simultaneously.

The Host Presenter program also processes scripts. Scripts are ASCII text files with commands that control the execution of the Host Presenter program (for example, a login script that automatically sends your user ID and password to the remote host). You can create a script with any editor that creates a text-only file, such as NOTEPAD. You cannot use files from word processors, such as Microsoft Word, unless you save them in text-only format. Refer to the *LAN WorkPlace for DOS Administrator's Guide* for information on scripts.

The Host Presenter program accesses the services of Telnet servers on other computers. To access these servers, Host Presenter uses the conventions of the Telnet Application Program Interface (TelAPI), and accesses the terminate-and-stay-resident (TSR) program TELAPI.EXE on your workstation.

The Host Presenter program runs under the Microsoft Windows 3.0 environment. Before you begin using the Host Presenter program you should be familiar with Windows and know how to perform the following operations:

- Open Microsoft Windows on your workstation
- Open application programs under Microsoft Windows 3.0
- Stop an application program

In addition, you should know how to use the mouse and keyboard to perform the following Windows operations:

- Select menus and menu items, command and option buttons, and check boxes
- Select items in windows, dialog boxes, and list boxes
- Mark and select text
- Reduce a window to an icon and restore it to a window
- Move and size windows

Refer to the *Microsoft Windows User's Guide* for information about operating Microsoft Windows.

Getting Help

If you need information about terminal emulation parameters or one of the menu items, Host Presenter, provides an online help system. The online help information is arranged in a topic index, listing the available help topics. The help information initially displayed depends on which window is active when you open the help system. If you open the help system from the session window, a menu lists the information that you can access. If you open the help system from a dialog box, the system displays information pertinent to that dialog box.

Opening the help system
from the session window

To open the help system from the session window, follow these steps:

1. Select the **Index** menu item or topic from the **Help** menu.

The help system displays the index or information about the topic selected.

To open the help system from a dialog box, click the dialog box's **Help** button. The help system displays information about the dialog box.

Opening the help system
from a dialog box

For help on the help system, pull down the help menu and select **Using Help**. **Using Help** describes help basics, help menu items, and how to use the help system.

Basic Tasks

Host Presenter lets you perform the following basic tasks:

- Open a terminal session
- Copy and paste text from a terminal window
- Close a terminal session

This section discusses these tasks.

Opening a Terminal Session

Before you can open the Host Presenter program, TCP and TelAPI must be loaded. If you requested the installation program to modify your AUTOEXEC.BAT file, TCP and TelAPI are automatically loaded when you start your workstation. Otherwise, you must manually load TCP and TelAPI before loading Windows 3.0.

To open a terminal session, follow these steps:



LAN WorkPlace



Host Presenter

1. Double-click the LAN WorkPlace program group icon in Windows 3.0 Program Manager to open the LAN WorkPlace program group.
2. Double-click the Host Presenter icon to display the Host Presenter window with an Open Session dialog box.

Open Session

Host Name

Session Name

Name of Host to log onto

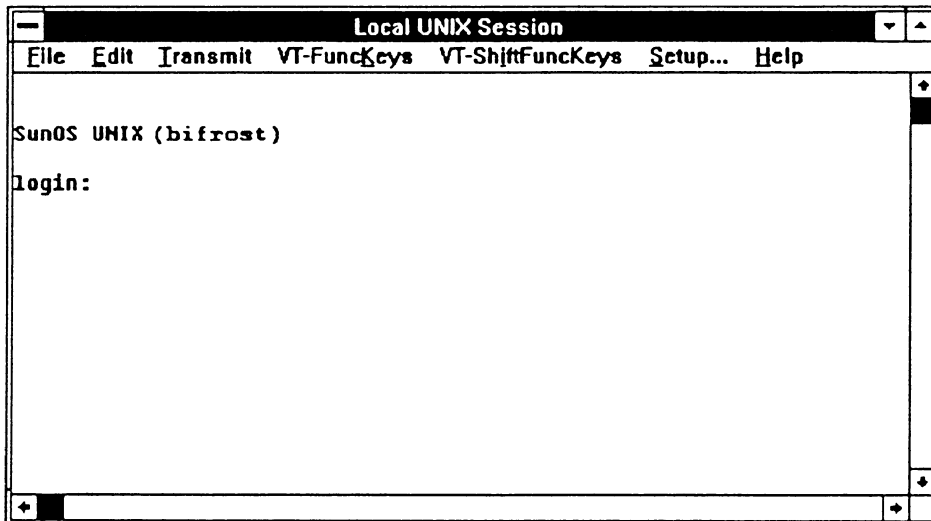
3. Enter the name of the remote host that you want access in the Host Name text box
4. Click the Session Name text box to display the text insertion point in that box.
5. Enter a descriptive name for your session.

This name appears in the title bar on the Host Presenter main window, and on an icon at the bottom of the screen when the window is minimized. If you accept the default name, Host Presenter displays the default name. If you delete the default name and leave the session name blank, Host Presenter automatically assigns the host name as the session name.

■ When you run more than one session at a time, assign each session a unique name. (For example, if you have two sessions open to one host, a database application in one and an electronic mail application in the other, you could give one session the name "Database" and the other "Mail.")

6. Click the **Open** button or press the Enter key to open a connection to the specified host.

The Open Session dialog box disappears and the Host Presenter program opens a connection to the specified host. When the connection is open, the session window displays your system prompt, as shown in the following window. You can now log in to the host computer.

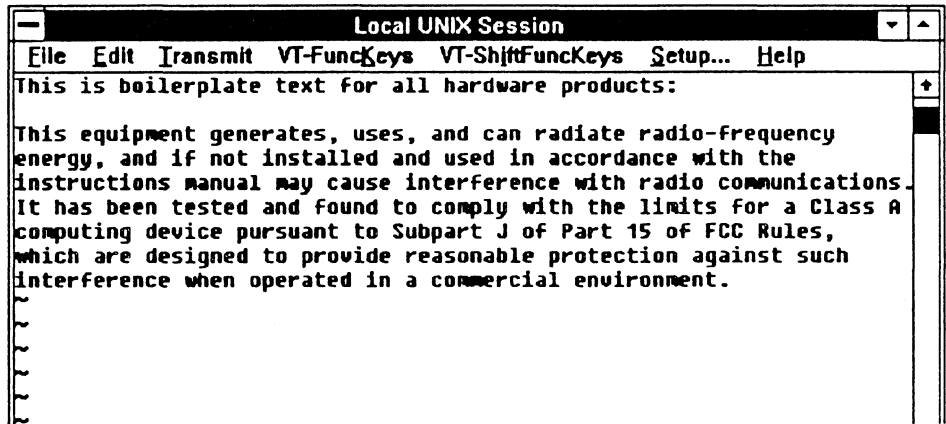


Copying Text Between Terminal Session Windows

When you are in the Host Presenter program, you can select text that appears in one window and copy it to another window. You can copy text between your workstation and a remote host or between two remote hosts.

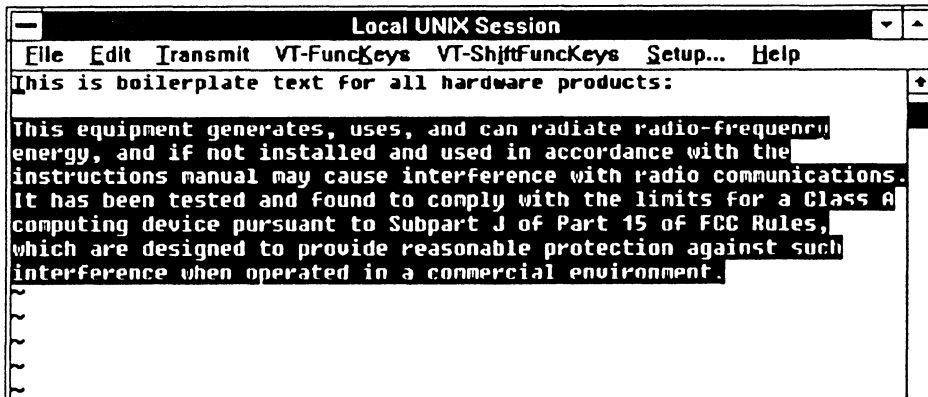
Copying and Pasting Text from a Remote Host

You can copy text from a terminal session connected to a remote host to a Windows 3.0 NOTEPAD or WRITE file on your workstation. Assume that you want to copy the following text from a session on a remote host and paste it to a NOTEPAD file on your workstation.



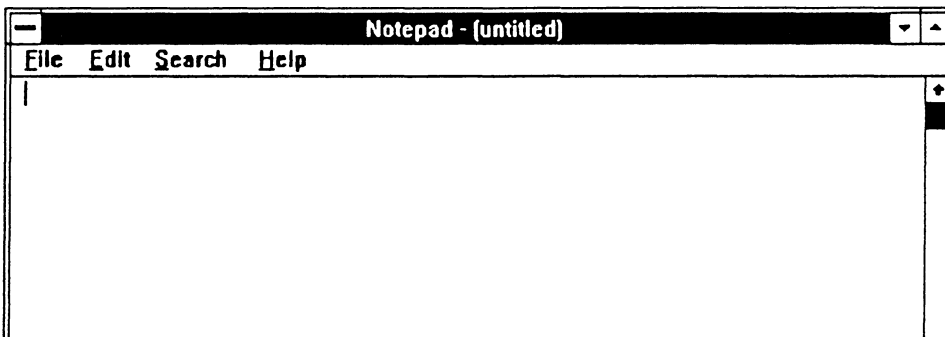
To do so, follow these steps:

1. Highlight the portion of text that you want to copy from the remote session as follows:
 - a. Move the mouse to the start of the section that you want to copy.
 - b. Hold down the mouse button and move the mouse to the end of the text that you want to copy.
 - c. Release the mouse button.

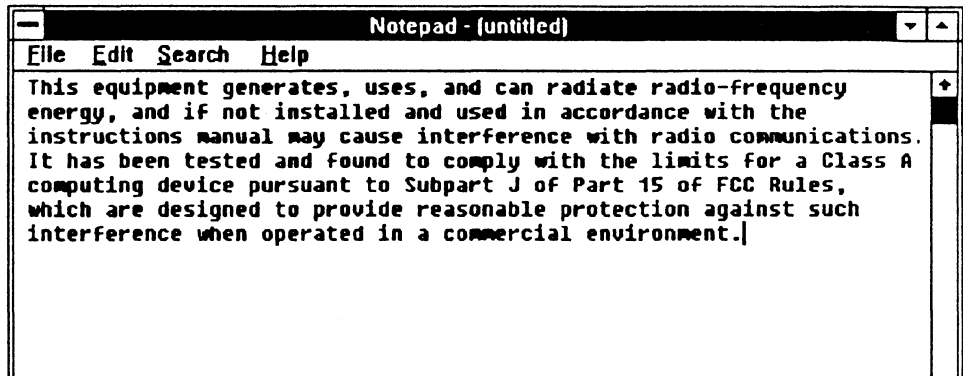


2. Pull down the **Edit** menu and click **Copy**. This copies the highlighted text to the Windows 3.0 CLIPBOARD.
3. If it is not already running, open the Windows 3.0 NOTEPAD program.

The NOTEPAD window appears with the text insertion point blinking in the upper left corner of the text area as shown below.



4. Select **Paste** from the NOTEPAD Edit menu to paste the text from the Windows 3.0 CLIPBOARD into the NOTEPAD file, as shown below.



From this point you can save the text as a NOTEPAD text file.

Copying and Pasting Text Between Remote Hosts

You can copy and paste text between terminal session windows on remote hosts. Pasting text to a Host Presenter window is much like entering the text from the keyboard.

- If the text editor is a modal editor (such as *vi* on UNIX systems), you must put it in text insertion mode before you paste text to a file. Otherwise, the copied text will be pasted either incorrectly or not at all.

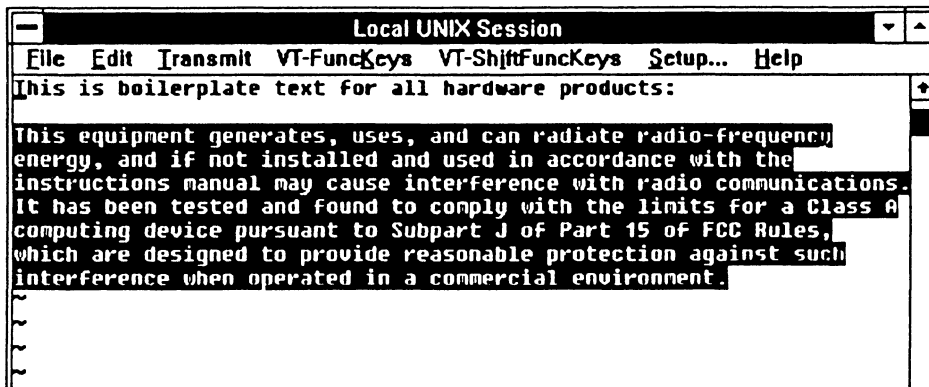
Host Presenter lets you copy and paste entire sections of text (including spaces and tabs) using line mode. If you are using the keyboard to highlight text, you must first select **Select Line Mode** from the Edit menu and then mark the text with one Shift-arrow key combination. If you are using a mouse, you must press the left mouse button while highlighting text. (The left mouse button selects line mode.)

- Selecting from the menu has no effect on the mouse operations.

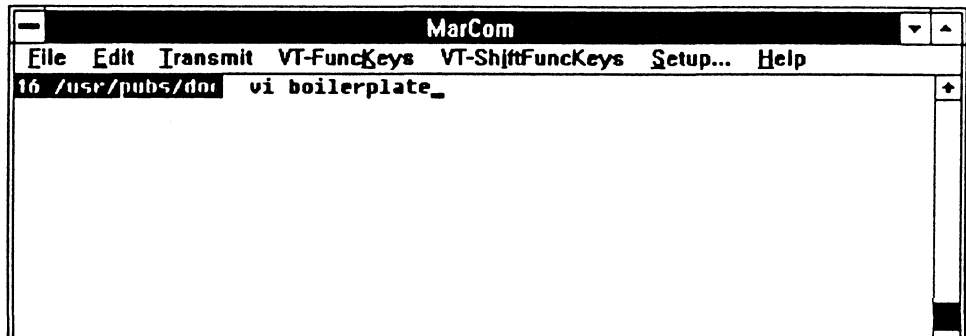
The following example uses line mode to copy and paste text.

To copy and paste text between files on remote hosts, follow these steps :

1. Highlight the portion of text you want to copy from the remote session, as follows:
 - a. Move the mouse to the start of the section that you want to copy.
 - b. Hold down the mouse button and move the mouse to the end of the text that you want to copy.
 - c. Release the mouse button.

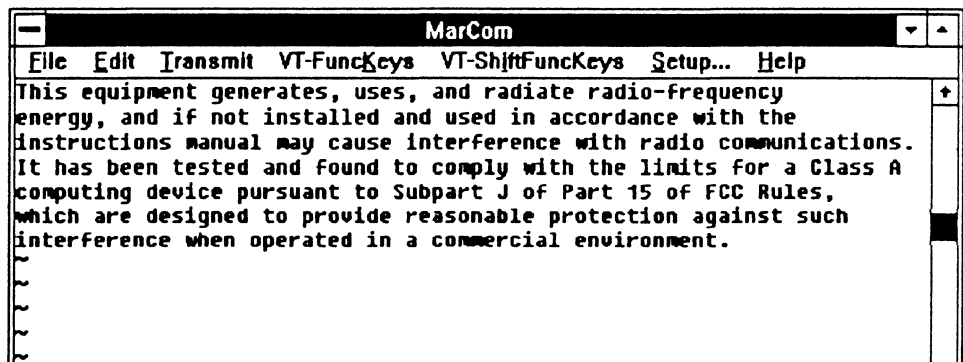


2. Select Copy from the Edit menu to copy the highlighted text to the Windows 3.0 CLIPBOARD.
3. Open a terminal session with the remote host where you want the text copied. If you have already opened a terminal session with a remote host, switch to that terminal session window.
4. Open an existing file or create a new file using the NOTEPAD editor.



5. If you are appending an existing file, scroll through the file and place the text insertion point where you want to paste the text.
- III ➡ Put the editor in insert mode, if necessary. (This example assumes the remote host is a UNIX system and the editor is *vi*. To put *vi* in insert mode, press *i*.)
6. Select **Paste** from the **Edit** menu of the terminal session where you want to paste the text.

The copied text is pasted in the remote host file.



- III ➡ If you changed the editor to insert mode, it remains in insert mode after pasting the text. You can continue adding text or you can end the insert mode and save the file.

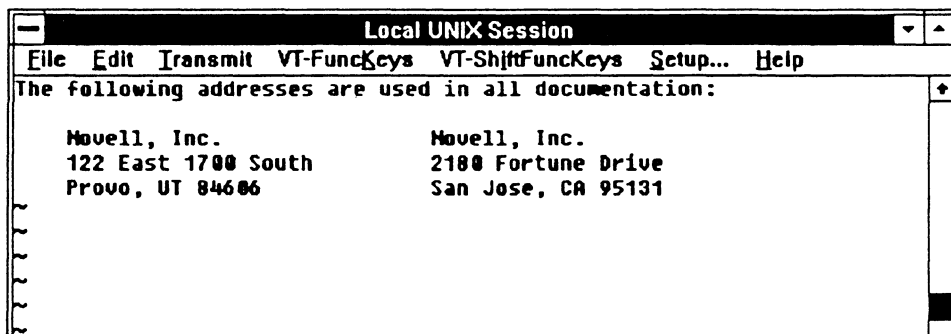
Copying a Column of a Table

If you do not want to copy an entire section, Host Presenter lets you copy a column of a table and use it in another document using block mode.

If you are using the keyboard to highlight text, you must first select **Select Block Mode** from the **Edit** menu and then mark the text using one Shift-arrow key combination. If you are using a mouse, you must press the right mouse button while highlighting the text. (Highlighting the text with the right mouse button selects block mode.)

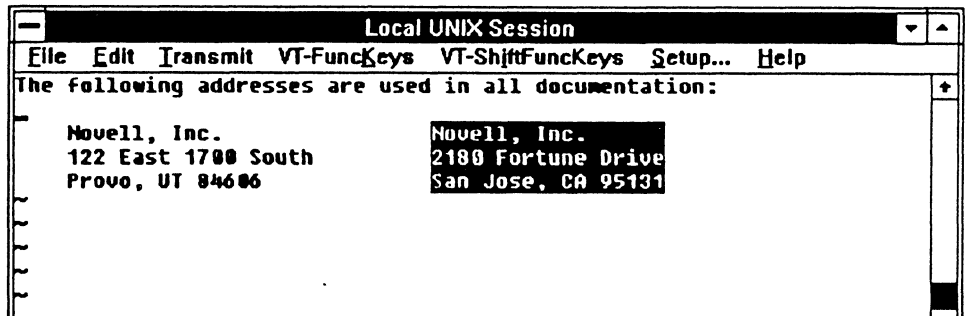
||| ➡ Selecting from the menu has no effect on the mouse operations.

Assume that you have the following text on a remote host and you want to copy only the second column to the Windows 3.0 NOTEPAD file on your workstation.



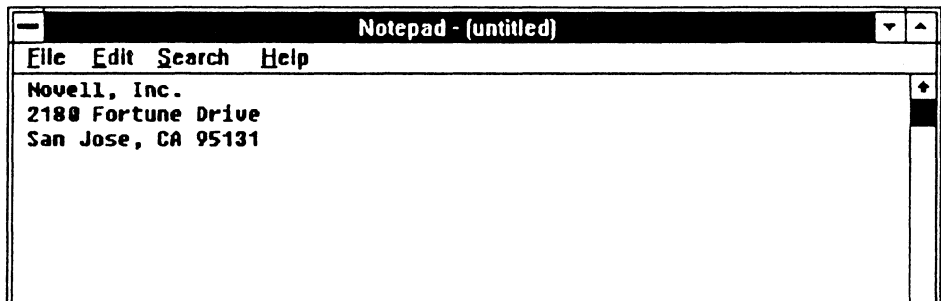
To do this, follow these steps:

1. Highlight the portion of text you want to copy from the remote session as follows:
 - a. Move the right mouse to the start of the section that you want to copy.
 - b. Hold down the mouse button and move the mouse to the end of the text that you want to copy.
 - c. Release the mouse button.



2. Select Copy from the Edit menu to copy the highlighted text to the Window 3.0 CLIPBOARD.
3. Open Windows 3.0 NOTEPAD.

NOTEPAD displays the text insertion point blinking in the upper left corner of the text area.
4. Select Paste from the NOTEPAD Edit menu.



The text copied from the remote host is pasted in the untitled NOTEPAD file. Now you can save the file using the NOTEPAD editor's commands.

Closing a Terminal Session

You can close a session with a remote host using any of the following methods:

- Log off from the remote host.
- Select **Close Session** from the **File** menu.
- Select **Exit** from the **File** menu.
- Select **Close** from the **Control-menu** box.

To close the session with the remote host but leave the Host Presenter window open for a new session, either log out from the remote host or select **Close Session** from the **File** menu.

■ Logging out is the preferred method because it informs the remote host that you have completed your session and permits the host to complete any processing necessary at the end of the session. If you do not explicitly log out, the remote host may maintain the session and block subsequent login attempts.

To close the session with both the remote host and the Host Presenter window, either select **Exit** from the **File** menu or select **Close** from the **Control-menu** box.

■ If a session is active and you close a session using either the **File** menu or the **Control-menu** box, a dialog box appears asking for your confirmation. Click the **OK** button to close the session.

Advanced Tasks

The Host Presenter program lets you perform the following advanced tasks :

- Open multiple sessions with one or more remote hosts
- Capture data from a session
- Print displayed text
- Change fonts
- Change text colors
- Change the display
- Restore the default profile settings
- Run a script file
- Attach a script file to a key
- Detach a script file from a key
- Use national terminal types

This section discusses these advanced tasks.

Opening Multiple Sessions

The Host Presenter lets you open up to ten terminal emulation sessions on one or more remote hosts simultaneously, without reducing the current session to an icon. Using Windows sizing techniques, you can arrange the terminal session windows displayed on your screen. Displaying multiple session windows is useful when you need to monitor both remote hosts when passing data between them. To open multiple sessions, follow these steps:

1. Open a session as described in the section Opening a Terminal Session.

2. Return to the Windows 3.0 Program Manager, click the LAN WorkPlace program group icon, and begin a second session by clicking the Host Presenter icon.
3. If the new session is to the same remote host, enter a unique Session Name in the Open Session dialog box.

If the new session is to a different remote host, enter the name of that host and a unique Session Name in the Open Session dialog box.

4. Repeat these steps until you open as many terminal sessions as needed.

■■■► The TELAPI.EXE program and all programs that use TELAPI.EXE (such as, Host Presenter, third-party terminal emulators, TNVT220.EXE) let you open a maximum of ten sessions. However, the number of sessions you can actually open may depend on your system's configuration and usage.

Capturing Data from a Session

You can capture data from the remote host (including the control characters sent by the remote host) and save this data in a file on your workstation. To do this, use the **Capture** command on the **File** menu. You can then review the text of the entire terminal session.

You can capture either the data in the terminal session buffer currently displayed on the screen, all the data stored in the terminal session buffer, or only the data sent by the remote host to your workstation between the time you start and end the capture session. You can also capture a specified number of characters.

To capture only the data in the terminal session buffer currently displayed on the screen, set the **Amount to Capture** field of the **Capture** command to **Screen**.

To capture all of the data stored in the terminal session buffer, set the Amount to Capture field to **Entire Buffer**. The terminal session buffer can store up to the last 240 lines displayed. You can set the size of the buffer in the **Emulator** dialog box under the **Setup** menu.

To capture data sent by the remote host to your workstation, set the Amount to Capture field of the **Capture** command to **Continuous**. To end the capture, select **Capture Off** from the **File** menu.

To capture a specified number of characters, set the Amount to Capture field to **Final** and specify the number of characters you want to capture. **Final** places the data in a buffer. This buffer holds the number of characters that you specified, and always contains the most recent characters sent. To end the capture, select **Capture Off** from the **File** menu. When you end the capture, Host Presenter transfers the buffer to the file.

Characters that you capture as they are received by your workstation can be stored in one of the following modes:

- **Untranslated text and graphic mode** – Characters are saved in the remote host's display character set. This mode saves only text and graphic characters from the remote host. Use this mode to transfer text or graphics between remote hosts that require the same character set.
- **Translated text and graphic mode** – Characters are saved in the Windows display character set. Use this mode if the characters must be understood by other Windows programs.
- **All Characters mode** – Characters are saved in the remote host's display character set. This mode saves text and graphic characters and all command or control sequences from the remote host. Use this mode to confirm and debug command and control sequences.

To capture data to a file on your workstation, follow these steps:

1. Select **Capture** from the **File** menu.

Capture

Amount to Capture	Characters to Capture
<input type="radio"/> Final <input type="text"/> Characters	<input type="radio"/> All Characters
<input type="radio"/> Continuous	<input type="radio"/> Untranslated Text/Graphics Chars
<input checked="" type="radio"/> Screen	<input checked="" type="radio"/> Translated Text/Graphics Chars
<input type="radio"/> Entire Buffer	

Capture File Name: C:\LM\HSTACC

OK Cancel Help

File to capture to (full path)

2. Select the Amount to Capture.

If you select **Entire Buffer** or **Screen**, you can only capture translated text and graphic characters.

If you select **Continuous**, you must also select a character mode from the Select Characters options.

If you select **Final**, also you must select a character mode from the Select Characters options, and enter the number of characters you want to capture in the text box.

3. Enter the name of the file for storing the captured text in the text box.
4. Click the **OK** button to start the text capture.

■▶ The process for capturing the **Entire Buffer** and **Screen** ends automatically. However, you must explicitly end the capture process for **Continuous** and **Final**.

5. To end the capture process for Continuous and Final, pull down the File menu and select Capture Off.

|||➡ When Continuous or Final capture is initiated, the **Capture Off** command replaces the **Capture** command in the File menu.

Printing Displayed Text

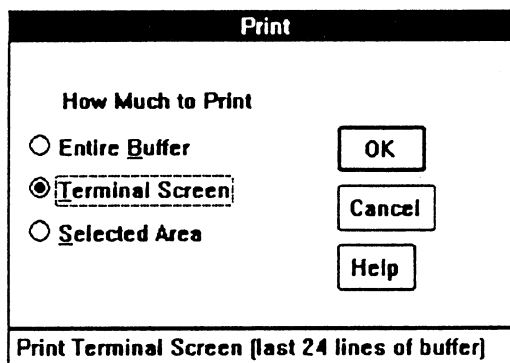
Host Presenter lets you print text directly to your printer from either the terminal scroll buffer, terminal screen, or selected area.

|||➡ Before you print text, you must specify the appropriate printer in the Windows Setup program or in the Windows Control Panel.

Printing from the buffer or
the terminal screen

To print text from the terminal scroll buffer or from the terminal screen, follow these steps:

1. Select Print from the File menu.



2. Select either Entire Buffer or Terminal Screen.
3. Click the OK button to print.

To print from a selected area, follow these steps:

1. Highlight the text that you want to print using your mouse.
2. Select Print from the File menu.

The Print dialog box appears.

3. Select **Selected Area**.

If you did not highlight an area of text, the Selected Area option appears gray, indicating it cannot be selected.

4. Click the **OK** button to print the selected area.

Printing from a selected area

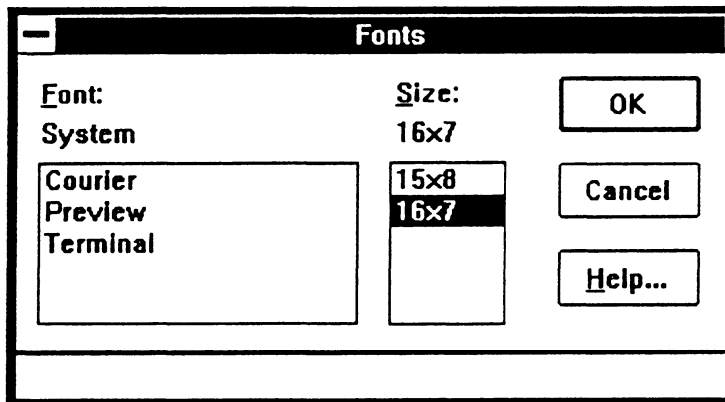
Changing Fonts

You can change the font type and size displayed on the screen. To change the font, follow these steps:

1. From the terminal session, select **Setup** on the menu bar.

The Setup window appears.

2. Select **Fonts** from the Fonts menu.



The Fonts dialog box displays the current font type and size, and a list of available font types and sizes.

3. Select the font type and size you want to use.

Your selections appear as the current type and size in the Fonts dialog box.

4. Click the **OK** button to return to the Setup window.
5. Click the **OK** button in the Setup window to apply the new font type and size to the current terminal session.

Changing the font type and size from the Fonts menu

You can also change the font type and size by pulling down the **Fonts** menu from the Setup window. To change the font type, select one of the listed fonts. To change the size, select either **Enlarge Font** or **Reduce Font**. If no larger or smaller font is available, the selection is gray, indicating the option is not available.

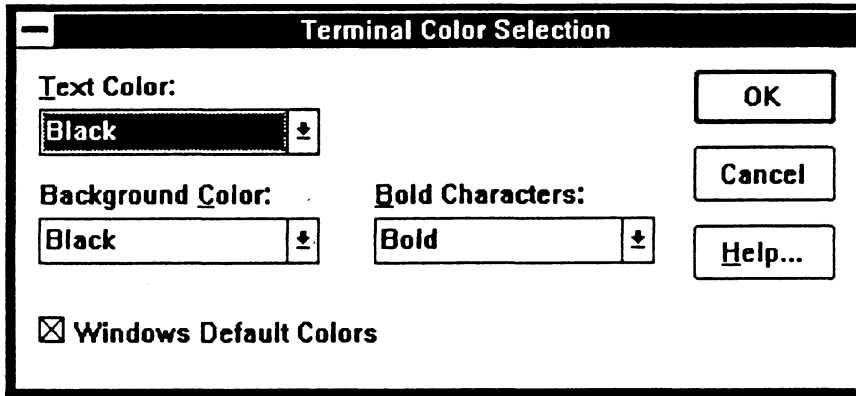
Changing Text Colors

If you have a color monitor, you can select contrasting colors for a terminal session's text, bold text, and background. If you have a monochrome monitor, you can select only black or white for the text and background. Bold text is displayed as a thicker font automatically.

To change colors from the Terminal Session window, follow these steps:

1. From the terminal session window, select **Setup** from the menu bar.
2. The Setup window appears.

3. Select the Colors menu.



The Terminal Color Selection dialog box displays the color selections for text, background, and bold text.

4. Select the colors you want for the text, bold text, and background by clicking the underlined arrow button at the right of each dialog box and then clicking on your choice in the list displayed.

■■■■► If you want to use the specified colors for other Windows applications, click the Windows Default Colors check box.

5. Click the OK button in the Colors dialog box to return to the Setup window.
6. Click the OK button in the Setup window to apply the new colors to the current terminal session.

Changing the Display

Host Presenter lets you change the way text is displayed in the terminal session window on your workstation. If the window size set by the remote host is larger than the one displayed on your workstation, the text may be scrolled off the window and

you must use the scroll bar to read the hidden text. You can set the number of lines you can scroll by specifying the size of Host Presenter's terminal buffer. The buffer can contain a maximum of 240 lines (including the lines displayed in the window). The ability to scroll is important if you perform repetitive tasks.

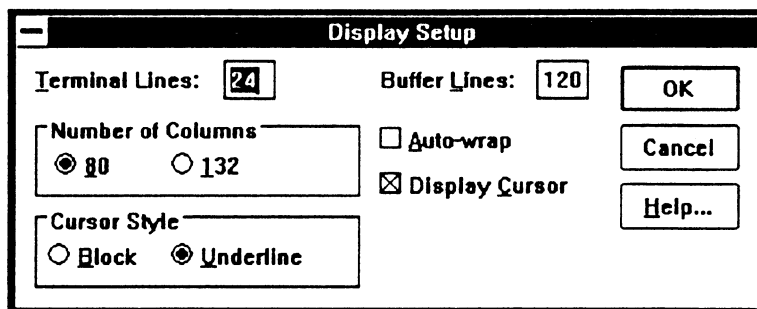
You can also change the cursor style. You can choose between a block or an underline cursor.

To change the terminal window's display, follow these steps:

1. From the Terminal Session window, select **Setup** from the menu bar.

The Setup window appears.

2. Select **Display** from the **Emulator** menu.



3. Select the number of lines you want to retain in the terminal session buffer.

▶ The number of buffer lines must be equal to or greater than the number of terminal lines set by the remote host.

4. If you want to change the cursor, select either block or underline style.
5. Click the **OK** button in the Display Setup dialog box to return to the Setup window.

6. Click the OK button in the Setup window to apply the new display parameters to the current terminal session.

Restoring the Default Profile Settings

If you changed any parameters in the terminal setup, you can restore the default profile settings.

To do so, follow these steps:

1. From the Terminal Session window, select **Setup** from the menu bar.

The Setup window appears.

2. From the Setup window, pull down the **Profile** menu and select **Reset to Default Profile**.
3. Click the OK button of the Setup window to restore the default profile settings.

The Terminal Session window will look and operate the way it did before you made any changes.

Creating a Profile

Host Presenter lets you create a profile file that opens a session to a remote host with the configuration settings (such as display fonts, screen colors, and column widths) specific to that host. To do this, you must first configure a terminal session, and then save the configuration in a profile file.

To create a profile file, follow these steps:

1. Select **Setup** from the menu bar.

The Setup Window appears.

2. Select a menu item you want to configure.

To configure more than one item, repeat this step.

3. If you want this profile to become your default profile and appear every time you start Host Presenter, select **Save as Default Profile** from the **Profile** menu. (This saves the profile in the file DEFAULT.PHP.) Skip to Step 6.

If you do not want to save this profile as the default profile, select **Save As Profile** from the **Profile** menu.

The Save Profiles dialog text box appears.

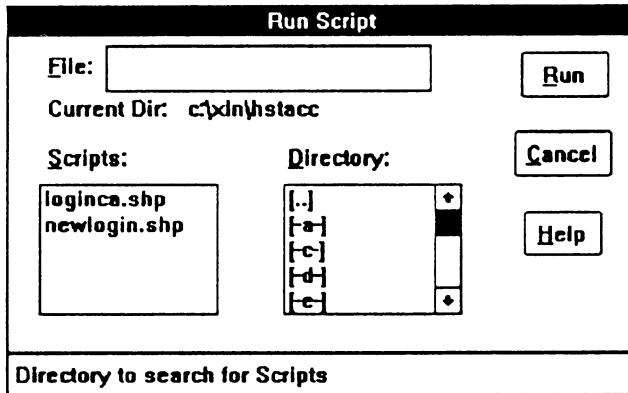
4. Type a name for the profile in the Filename text box. If necessary, choose a directory for the profile from the Directories list box.
5. Click the OK button to return to the Setup dialog box.
6. If you want to run the new profile and immediately log in to that remote host, click the OK button. If you want to return to the terminal session window without running the profile, click the Cancel button.

Running a Script File

Script files are text files that contain a series of commands. When you give a script to a script processor, it executes the commands in the script. For example, you can write a script file that automatically logs you in to a remote host or updates a file at an assigned time. Script files for the Host Presenter program are written in the ScreenPlay™ script language, and are processed by the Script Director™ script processor. Refer to the *LAN WorkPlace for DOS Administrator's Guide* for information about writing a script file and for the definition of the ScreenPlay script language.

To run a ScreenPlay script file, follow these steps:

1. From the Terminal Session window, Select **Run Script** from the **File** menu.



2. Either type the name of the script file in the text box or select the script file from the list box.
3. Click the **Run** button to return to the Script Director window.

If the Script Director does not find any errors, it runs the script. Otherwise, the Script Director reports the error to you and does not run the script.

You can pause or cancel the script while it is running. To pause the script, click the **Pause** button in the Script Director window. To continue, click the **Continue** button. To cancel the script, click the **Cancel** button in the Script Director window.

Pausing or canceling a running script

Using Logon Scripts

A logon script is a script containing a set of commands that you want executed when you connect to a remote host. Host Presenter lets you run a logon script automatically each time you start the Host Presenter program. For example, a logon script can send your user name and password to a remote host

automatically, after you establish a connection. You can run a logon script from any profile file, including the default profile.

For more information on creating logon scripts, refer to the *LAN WorkPlace for DOS Administrator's Guide*.

Selecting a Logon Script

You can select a logon script in the Setup dialog box to use with a profile. To do this, follow these steps:

1. Select **Open Profile** from the **Profiles** menu and open the profile to which you want to add a logon script.
2. Select **Logon Scripts** from the **Scripts** menu.
3. Select **Select Logon Script** from the cascade menu.
4. Select the logon script from the Logon Script dialog box.
5. Click the **OK** button to return to the Setup dialog box.
6. If you want to run the new profile and log in to that remote host, click the **OK** button. If you want to return to the terminal session window without running the profile, click the **Cancel** button.

After completing Step 6, the logon script that you selected will run automatically when you use that profile.

Clearing a Logon Script

You can clear a logon script from a profile by using the Setup dialog box.

1. Select **Open Profile** from the **Profiles** menu and open the profile from which you want to clear a logon script.
2. Select **Logon Scripts** from the **Scripts** menu.
3. Select **Clear Selected Logon Script** from the cascade menu to remove the logon script from the profile.
4. Click the **OK** button to return to the Setup dialog box.

5. If you want to run the new profile and log on to that remote host, click the **OK** button. If you want to return to the terminal session window without running the profile, click the **Cancel** button.

After completing Step 5, the logon script is cleared from the profile.

Attaching a Script File to a Key

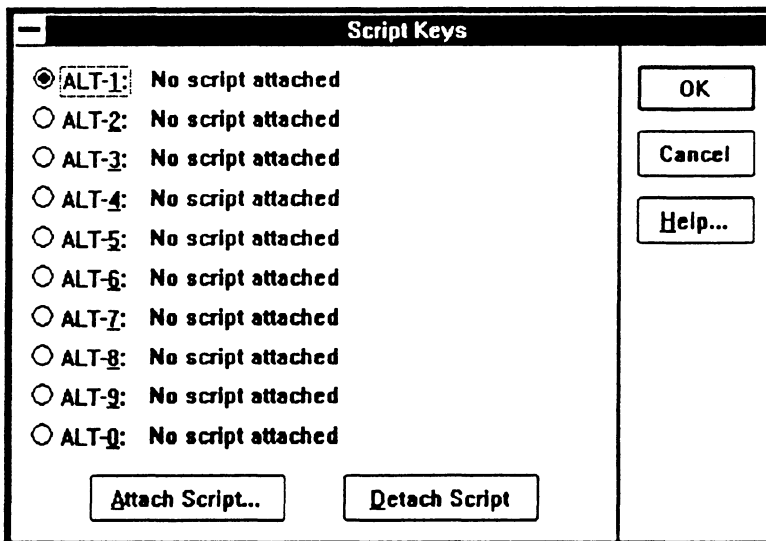
You can attach ScreenPlay script files to the shortcut keys Alt-0 through Alt-9. After attaching it to a shortcut key, you can run the script file by pressing the specified shortcut key.

To attach a ScreenPlay script file to a shortcut key, follow these steps:

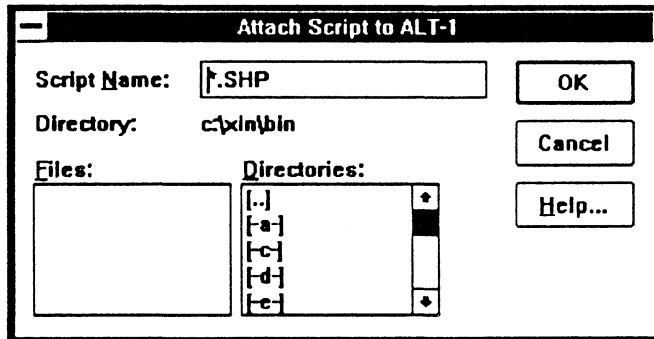
1. From the Terminal Session window, select **Setup** from the menu bar.

The Setup window appears.

2. Pull down the **Scripts** menu and select **Script Keys**.



3. Select a shortcut key.
4. Click the **Attach Script** button.



5. Either type the name of the ScreenPlay script file you want to attach in the text box or select a file name using the directory and file list boxes.
6. Click the **OK** button to return to the Script dialog box.

The name of the ScreenPlay script file appears next to the shortcut key.
7. Click the **OK** button to attach the ScreenPlay script file to the shortcut key and return to the Setup window.
8. Click the **OK** button to apply the change to the current terminal session.

Detaching a Script File from a Key

Before you can reassign a shortcut key, you must detach the current ScreenPlay script from the shortcut key.

To do so, follow these steps:

1. From the Terminal Session window, Select **Setup** from the menu bar.

The Setup window appears.

2. Select **Script Keys** from the **Scripts** menu.

The Script Keys dialog box appears.

3. Select the shortcut key you want to detach from a ScreenPlay script file.

4. Click the **Detach Script** button to detach the script.

"No Script attached" is displayed next to the shortcut key.

5. Click the **OK** button to return to the Setup window.

6. Click the **OK** button to apply the change to the current terminal session.

Using National Terminal Types

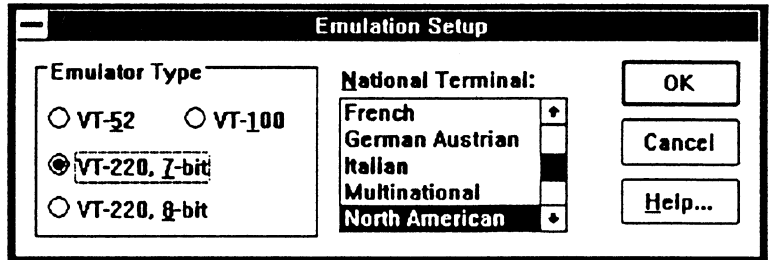
Host Presenter supports many language terminal types. Multi-language support increases the flexibility of the Host Presenter program because you can use the same terminal emulation program to communicate with remote hosts in different countries.

To change to another nation's terminal type, follow these steps:

1. From the Terminal Session window, select **Setup** from the menu bar.

The Setup window appears.

2. From the Setup window, select **Emulation** from the **Emulator** menu.



3. Select the national terminal type that you want to use.
4. Click the **OK** button in the Emulation Setup dialog box to return to the Setup window.
5. Click the **OK** button in the Setup window to apply the new national terminal type to the current terminal session.

TRANSFERRING FILES USING FILE EXPRESS

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TRANSFERRING FILES USING FILE EXPRESS

The File Express[™] program is a Microsoft Windows 3.0 application that lets users at DOS workstations transfer files between network computers. This includes computers on the local network as well as any computer on remote networks with connections to the local network. File Express uses the File Transfer Protocol (FTP) to transfer files between systems that support FTP.

Before you begin using File Express, you should be familiar with Microsoft Windows 3.0, because these operations are integrated into the File Express program. You should know how to perform the following operations:

- Open Microsoft Windows on your workstation
- Open application programs under Microsoft Windows
- Stop an application program

In addition, you should know how to use the mouse and keyboard to perform the following Windows operations:

- Select menus and menu items, command and option buttons, and check boxes
- Select items in windows, dialog boxes, and list boxes
- Mark and select text
- Reduce a window to an icon and restore it
- Move and size windows

Refer to the *Microsoft Windows User's Guide* for information on the operation of Microsoft Windows.

Overview of File Express

You can use File Express to connect to, and copy files between, two file systems. A file system is a collection of files you can access from a common point. A local file system can be the C: drive on your workstation's hard disk; a remote file system can be a minidisk on an IBM VM system or a directory tree on a UNIX system. A Network File System (NFS) can appear to be either local or remote. If NFS is mounted on a VM or UNIX system, it will appear to be another directory on that remote system. If NFS is mounted on your DOS workstation, it will appear to be another local file system.

You can copy files between file systems on the following:

- Your workstation and a remote host
- Two remote hosts
- One remote host
- Your workstation

When you use File Express to connect to two file systems, the contents of each file system are shown in the display windows. Each file in the system normally appears as an icon (indicating the file type) followed by the name of the file. You can copy files between file systems by selecting files in one window and clicking the Copy button. This copies them to the other window.

Getting Help

If you need information about file transfer parameters or one of the menu items, File Express provides an online help system. The online help information is arranged in a topic index, listing the available help topics. The help information initially displayed depends on which window is active when you open the help system.

To open the help system from the File Express window, follow these steps:

1. Pull down the **Help** menu.
2. Select the **Index** menu item or the topic.

The help system displays the index or information about the topic selected.

Opening the help system
from the File Express
window

To open the help system from a dialog box, click the dialog box's **Help** button. The help system displays information about the dialog box.

Opening the help system
from a dialog box

For help on the help system, pull down the **Help** menu and select **Using Help**. **Using Help** describes help basics, help menu items, and how to use the help system.

Basic Tasks

To connect to two file systems and copy files, you must complete certain basic tasks. File Express lets you perform the following basic tasks:

- Open the File Express program
- Copy files
- Display files within a file system
- Close a session
- Open other sessions
- Use shortcut keys
- Exit from the File Express program

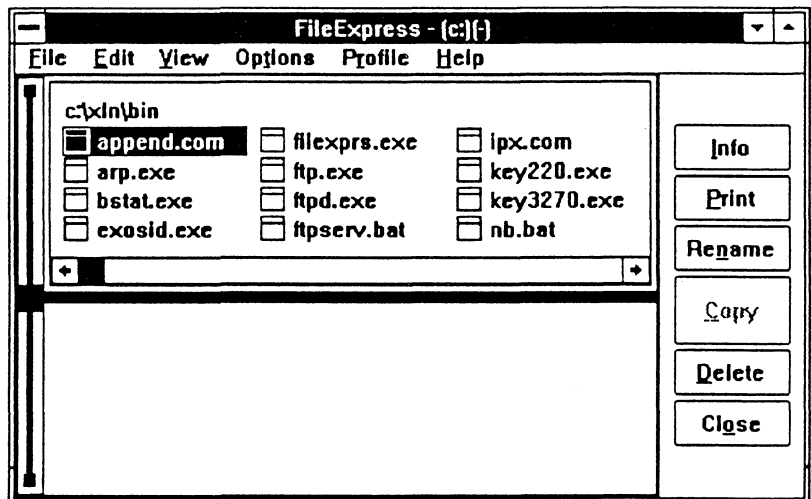
This section discusses these basic tasks.

Opening File Express

Before you can open the File Express program, TCP must be loaded. If you requested the installation program to modify your AUTOEXEC.BAT file, TCP is automatically loaded when you start your workstation. Otherwise, you must manually load TCP before loading Windows 3.0.

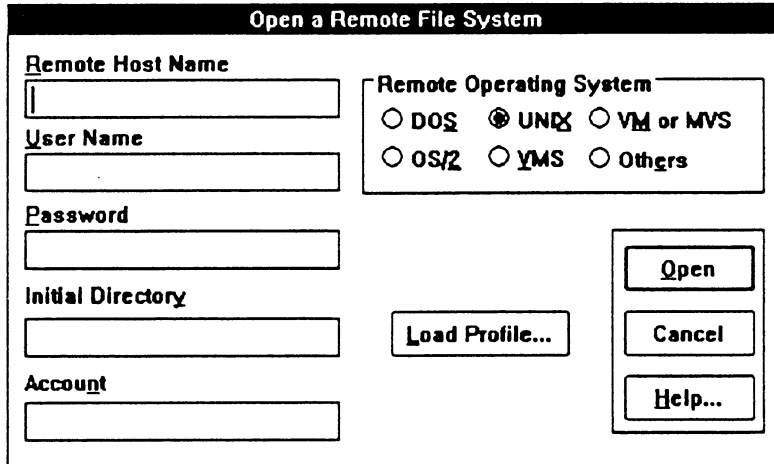
To open File Express, follow these steps:

1. Double-click on the LAN WorkPlace icon in the Windows 3.0 Program Manager to open the LAN WorkPlace program group window.
2. Double-click the File Express icon to display the File Express window that is similar to the following:



When you open the File Express program, it automatically connects to the local file system containing the File Express program, displays the file names in its upper list window.

If File Express is not set up to load a profile that opens two files systems automatically, the Open a Remote File System dialog box appears.



The dialog box titled "Open a Remote File System" contains the following fields and controls:

- Remote Host Name:** A text input field.
- User Name:** A text input field.
- Password:** A text input field.
- Initial Directory:** A text input field.
- Account:** A text input field.
- Remote Operating System:** A group box containing radio buttons for:
 - ☐ DOS
 - ☒ UNIX
 - ☐ VM or MVS
 - ☐ OS/2
 - ☐ VMS
 - ☐ Others
- Buttons:** "Open", "Cancel", "Help...", and "Load Profile..." (located between the text fields and the OS group box).

You can create a local profile which displays selected local DOS file systems only. Refer to the *LAN WorkPlace for DOS Administrator's Guide* for information on creating File Express profiles.

You can open a session with a remote file system by filling in the requested information in the dialog box or a local file system (on your workstation) by canceling this dialog box and opening a session with a local file system.

■■■➤ You cannot enter characters with ASCII values below decimal 32 or above decimal 127 in text boxes. Therefore, do not include them in filenames or passwords.

3. Click the Remote Host Name text box and type the name of the remote host.
4. Click the User Name text box and type your user name.
5. If the remote host requires a password, click the Password text box and type your password.

For security purposes, the text box displays an asterisk (the * character) for each character in your password.

6. Click the **Initial Directory** text box and type the name of the initial directory or minidisk you want to display.

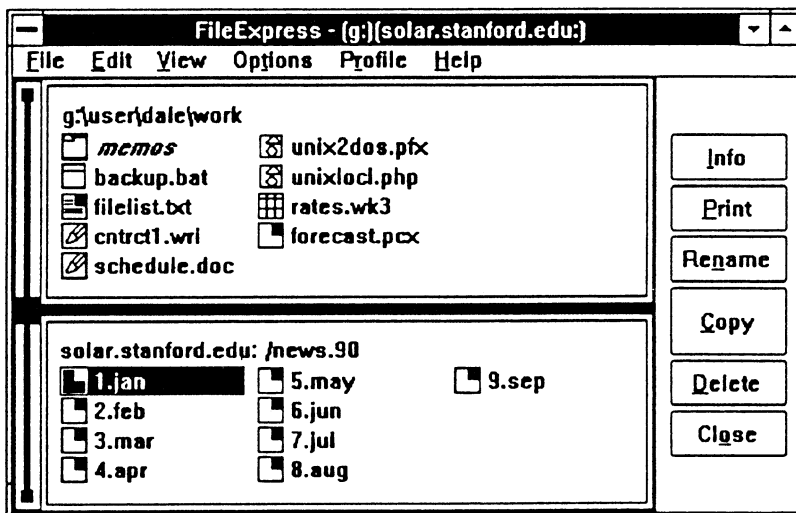
When File Express opens a session to the remote host, the name of the initial directory you specified is displayed in a list window.

7. If the operating system on the remote host requires an account name, click the **Account** text box and type the name.

Some operating systems require an account password before you can access file systems. (For VM, you must type the read/write password in the Account text box.)

8. Select the operating system used by the remote host.
9. Click the **Open** button or press the Enter key.

File Express connects you to the specified file system. The Open a Remote File System dialog box disappears, and displays the files in the lower list window.



Copying Files

You can copy files between the following file systems, regardless of the type of system:

- Local to remote
- Remote to local
- Remote to remote
- Local to local

To do this, you must open two sessions, one session to the file system containing the file you want to copy and one session to the destination file system.

The contents of each file system are listed in windows. The files in a file system can be either listed by file name or displayed as an icon (indicating the file type), followed by the file name. One list window displays the files you want to copy and the one displays the destination file system. By selecting the files you want to copy in one window and clicking the **Copy** button, you can copy them to the other window.

To copy files between two file systems, follow these steps:

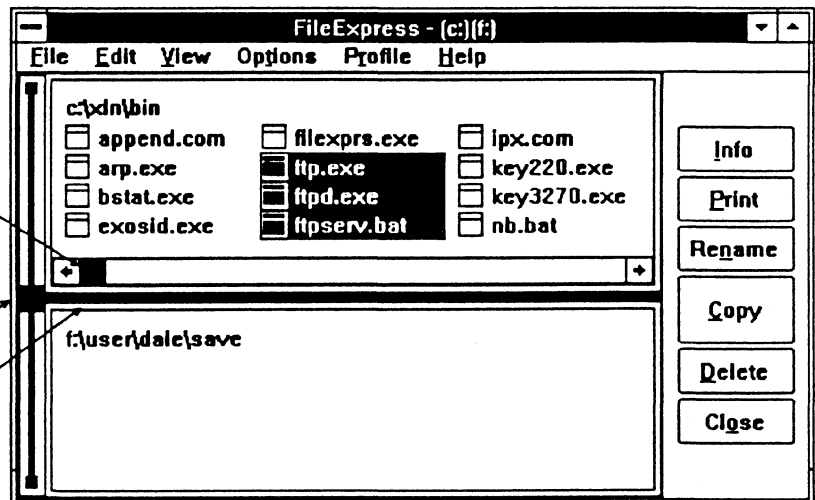
1. Select the file or files that you want to copy.

To copy files, select the files and click the Copy button.

scroll box

sizing box

sizing bar



Icon Types

directory:



executable program:



word processing file:



plain text file:



LWP profile file:



spreadsheet file:



other file type:



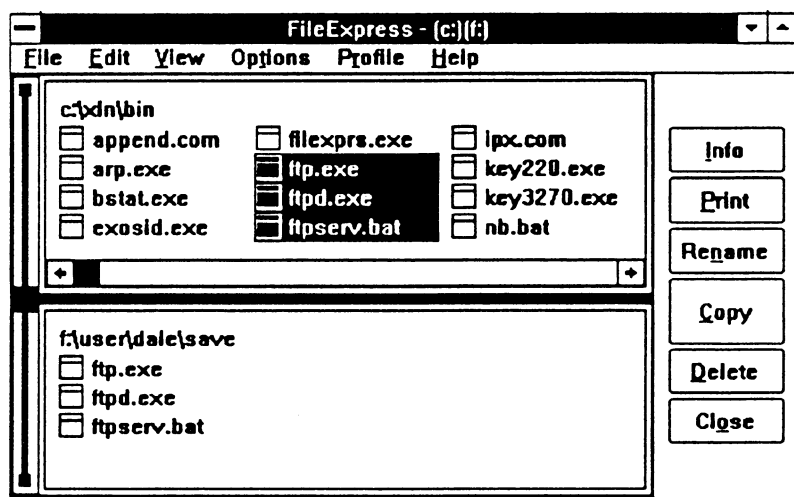
You can select one file by clicking it with the mouse, or select more than one file by holding down the Shift key while clicking on the desired files.

If the list window does not display all the files that you want to copy, you can either enlarge the window, scroll the window, or both.

To enlarge the window, move the pointer to the sizing box on the left-hand side of the window, hold down the left mouse button, and move the mouse. Moving the sizing box towards the bottom of the screen enlarges the upper list window. Moving the sizing box towards the top of the screen enlarges the lower list window.

To scroll the window to display more files, move the pointer to the scroll box at the bottom of the list window, hold down the left mouse button, and move the mouse.

2. Click the Copy button.



The files are copied to the other file system and displayed in its list window.

Displaying Files within a File System

The list window for a particular file system may not display all the files in the file system. You can display other files in all file systems using the following methods:

- **Sizing the list window** – Move the sizing bar between the windows up or down to change the relative size of the two list windows. To enlarge the window, move the pointer onto the sizing box on the left-hand side of the window or onto the sizing bar between the windows, hold down the left mouse button, and move the mouse. Moving the sizing box or bar towards the bottom of the screen enlarges the upper list window. Moving the sizing box or bar towards the top of the screen enlarges the lower list window.
- **Scrolling the list window** – Move the scroll box in either list window left or right to display other files. To scroll the

window, move the pointer onto the scroll box at the bottom of the list window, hold down the left mouse button, and move the mouse.

If the file system has a hierarchical or tree structure, such as DOS or UNIX, you can also use the following three methods to display other parts of the file system:

- **Select the Change Directory command on the File menu** – Type the name of the directory that you want to display in the text box. If you opened a DOS file system, you can type the name of the drive, the directory path, or both.
- **Double-click a directory icon** – Double-click on a directory icon to move to that directory and display the list of files in that directory. This operation moves down in the directory structure, away from the root directory (\ in DOS or / in UNIX).
- **Select part of the displayed directory name** – List windows for hierarchical file systems display the current working directory name for the file system (at the top of the list window). Double-click a part of the name with your mouse. The list window displays the directory corresponding to the name, up to and including the portion that you clicked. This operation moves up in the directory structure, towards the root directory (\ in DOS or / in UNIX).

If the list window has the following current working directory at the top of the window:

f:\user\james\save

and you move the pointer over *james* and double-click:

f:\user\james\save

the list window then displays the following directory:

f:\user\james

The last two methods are the graphical equivalents of the DOS or UNIX *cd* (Change Directory) command.

Closing a Session

When you want to copy files, you may need to close a current session before opening a new one to the remote host or your workstation.

To close a session, follow these steps:

1. Make sure the window you want to close is the active one.

The Windows Active Border Color (that you set in your Windows Control Panel) identifies the active list window. If the window you want to close is not the active window, move the pointer to it and click.

2. Click the **Close** button to close the active session.

■ If you have a small File Express window, all the buttons may not appear in the window. If the **Close** button is not visible, pull down the **File** menu and select **Close Active File System**.

Opening Other Sessions

In addition to copying files between your workstation and a remote host, you can also copy files between two remote hosts, or between two directories on the same remote host or on your workstation. Before you can do this, you may need to close one or both open sessions, and then start sessions with the desired file systems.

Opening Sessions With Two Remote Hosts

To open sessions with two remote hosts, follow these steps:

1. If necessary, close any active sessions with local file systems, as described in the previous section **Closing a Session**.
2. Select **Open a Remote File System** from the **File** menu.

The **Open a Remote File System** dialog box appears.

3. Type the host name in the **Remote Host Name** text box.

4. Click the User Name text box and type your username.
5. If the remote host requires a password, click the Password text box and type your password.

For security, the text box displays an asterisk (the * character) for every character in your password.

|||||➡ Because you cannot enter characters with ASCII values below decimal 32 or above decimal 127 in text boxes, do not include them in passwords.

6. Click the Initial Directory text box and type the initial pathname that you want to display on the remote host.
7. If the operating system on the remote host requires an account name, click the Account text box and type the name.

Some operating systems, such as VM, require an account password before you can access file systems on the system. For VM, type the read/write password (to the initial mini-disk) in the Account text box.

8. Click the operating system used by the remote host.
9. Click the **Open** button.

File Express connects you to the specified file system and displays the name of the file system in the list window.

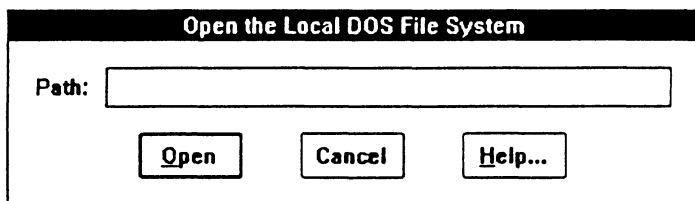
To open a session with the second remote host, repeat steps 2 through 9.

You can now transfer files between remote hosts using the procedure described in the section Copying Files, earlier in this chapter.

Opening Sessions with Two Local File Systems

To open sessions with two local file systems on your workstation, follow these steps:

1. If necessary, close any active remote sessions, as described in the section *Closing a Session* earlier in this chapter.
2. Select **Open Local File System** from the **File** menu.



3. Click the Path text box and type the path.

This is a path to the directory that you want to display in the list window. A path for a DOS file system consists of the drive name followed by the directory path (for example, C:\BIN).

4. Click the **Open** button.

To open a session with another local file system, repeat Steps 2 through 4.

You can now transfer files between the two local file systems using the procedure described in the section *Copying Files*, earlier in this chapter.

Using Shortcut Keys

The File Express program uses shortcut keys to move the cursor within a file system, switch the active list window, resize the file system windows, and select files or directories within a file system. The shortcut keys and the function they perform are listed in Table 4-1.

Table 4-1
Shortcut Keys

Shortcut Key	Function
Down arrow	Move the cursor to the next item. If at the end of a column in a multicolumn list, the cursor moves to the top of the next column.
Up arrow	Move the cursor to the previous item. If at the top of a column in a multicolumn list, the cursor moves to the bottom of the preceding column.
Right arrow	Move the cursor to the next column.
Left arrow	Move the cursor to the previous column.
Home	Move the cursor to the first item in the list.
End	Move the cursor to the last item in the list.
PgDn	Scroll the display window down when the View menu is set to the detailed display mode.
PgUp	Scroll the display window up when the View menu is set to the detailed display mode.
Ctrl-PgDn	Scroll right when the View menu is set to the brief display mode.
Ctrl-PgUp	Scroll left when the View menu is set to the brief display mode. The brief display mode displays only the file and directory names.
F2	Move the divider bar up or down, increasing or decreasing the size of the two display windows. The shortcut key sequence is: press F2 to select the divider bar, move divider bar using the up or down arrow keys, and press F2 again to set the divider bar's position.




Table 4-1
Shortcut Keys (Continued)

Shortcut Key	Function
Ctrl-F6	Switch which display window is the active window.
Arrow key	Select a single file by highlighting the file name.
Shift key+arrow key	Select multiple files. Hold down the Shift key while moving the cursor using the arrow keys.
Space bar	Remove the highlighting from a file in multiple file list. Hold the Shift key down, move the dotted box to a selected file using the arrow keys, and press the Space bar.

☐

Exiting File Express

You do not need to close the open sessions before exiting File Express. To exit from the File Express program, use either of the following methods:

- Select Exit from the File menu
- Click the **Control-menu** box to open the Control-menu window and select Close

Advanced Tasks

This section discusses the following advanced tasks you can perform using the File Express Program:

- Search for files
- Copy record files
- Copy a directory tree

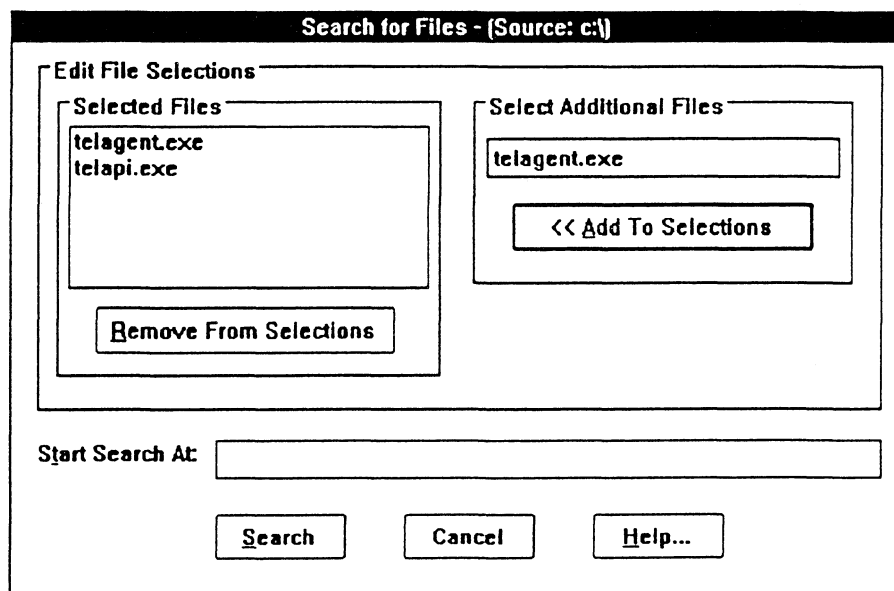
- Create a directory
- Rename files and directories
- Print files
- Delete files
- Get information about files

Searching for Files

If you have a file system containing many directories, files can be difficult to locate. The file transfer program has a search function that helps you locate files.

To find a file, follow these steps:

1. Select Search from the File menu.



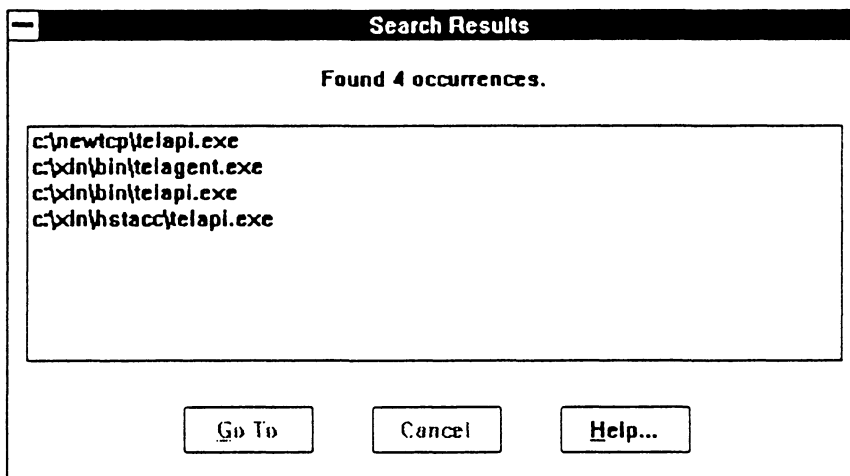
2. Click the Select Additional Files text box and type the name of the file that you want find.

3. Click the **Add to Selections** button.

The file name is displayed in the **Selected Files** list box. Repeat the Steps 2 and 3 to add additional files.

To remove a file from the list of selected files, highlight the file and click the **Remove from Selections** button.

4. If you want the search to start from a directory other than the currently displayed directory, click the **Start Search At** text box and enter a directory name.
5. Click the **Search** button.



File Express displays the name of the directories being searched. At the end of the search, it displays the number of files found and lists the file pathnames in a dialog box. If none is found, the Search Results window displays "Found 0 occurrences."

6. If you want to display that directory in the list window, select a filename and click the **Go To** button .

If you want to return to the list window for the file system without changing directories, double-click the **Control-menu** box in the upper left-hand corner of the Search Results window.

Copying Record Files

If you are transferring non-record files and if the remote host is not VM, MVS, or Other, the File Express program automatically determines whether the file being transferred is ASCII text or binary. The Program Determines File Type Option is the default mode.

If you are transferring record files or if the remote host is VM, VMS, or Other, follow the steps below to disable this option and specify the file type and structure:

1. Select Transfer Options from the Options menu.

The screenshot shows the 'FTP Transfer Options' dialog box. It has a title bar with the text 'FTP Transfer Options'. Inside the dialog, there are several fields and a section of options. The fields are: 'Host: ca.excelan.com', 'Operating System: UNDX', 'Format: non-print', and 'Mode: stream'. Below these is a section titled 'Connection Options' which contains several checkboxes and radio buttons. The 'Program Determines File Type' checkbox is unchecked. Below it, there are two radio buttons: 'ASCII' (unchecked) and 'Binary' (checked). Below that are two radio buttons: 'File' (unchecked) and 'Record' (checked). To the right of the 'Record' radio button is a 'Save As Default' button. Below the radio buttons are three more checkboxes: 'Local Byte 8 (tenex)' (unchecked), 'Program Selects FTP Port' (checked), and 'Determine If File or Directory by Parsing a Directory List' (checked). On the right side of the dialog, outside the main content area, are three buttons: 'OK', 'Cancel', and 'Help...'.

FTP Transfer Options	
Host: ca.excelan.com	<div>OK</div> <div>Cancel</div> <div>Help...</div>
Operating System: UNDX	
Format: non-print	
Mode: stream	
Connection Options	
<input type="checkbox"/> Program Determines File Type	<div>Save As Default</div>
Type: <input type="radio"/> ASCII <input checked="" type="radio"/> Binary	
Structure: <input type="radio"/> File <input checked="" type="radio"/> Record	
<input type="checkbox"/> Local Byte 8 (tenex)	
<input checked="" type="checkbox"/> Program Selects FTP Port	
<input checked="" type="checkbox"/> Determine If File or Directory by Parsing a Directory List	


2. Click the **Program Determines File Type** check box to disable the file-type checking.
3. Click the **Binary** option button to select the binary file type.
4. Click the **Record** option button to select the record file structure.
5. Click the OK button to return to the File Express window.

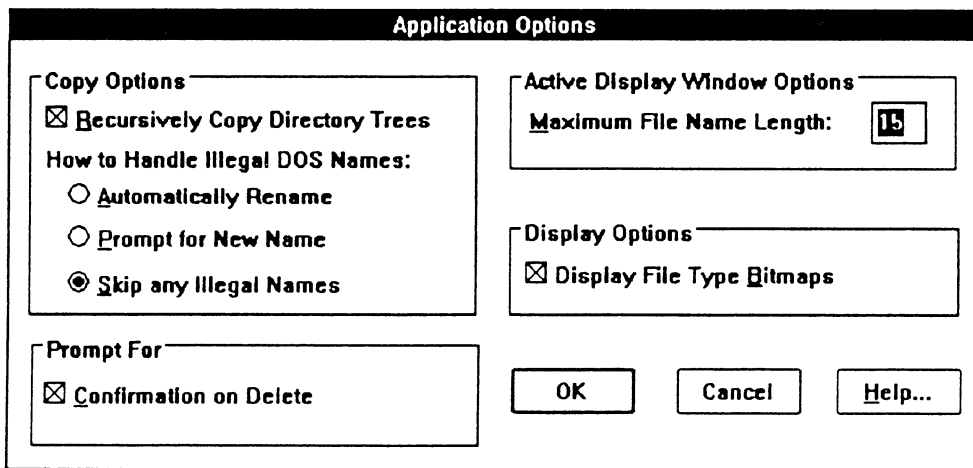
After completing Step 5 you can select files and copy them, as described in the section Copying Files earlier in this chapter.

Copying a Directory Tree

File Express lets you copy a directory recursively. This means you can copy a directory tree (including all of its subdirectories and files) between hierarchical file systems.

To copy a directory recursively, follow these steps:

1. Open connections to both file systems.
 The file system that is receiving the copy must also be a hierarchical file system.
2. Select Applications Options from the Options menu.



Application Options

Copy Options

☒ Recursively Copy Directory Trees

How to Handle Illegal DOS Names:

☐ Automatically Rename

☐ Prompt for New Name

☒ Skip any Illegal Names

Active Display Window Options

Maximum File Name Length:

Display Options

☒ Display File Type Bitmaps

Prompt For

☒ Confirmation on Delete

OK Cancel Help...

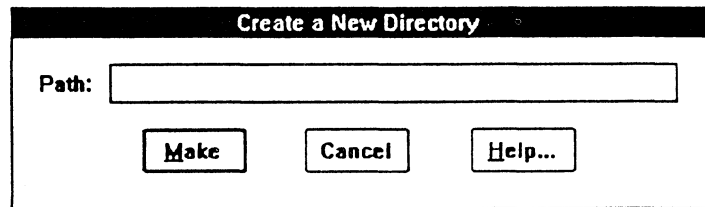
3. Click the **Recursively Copy Directory Trees** check box.
The file transfer program marks the check box.
4. Click the **OK** button to return to the File Express window.
5. Select the directory you want to copy.
6. Click the **Copy** button to copy the directory tree to the destination window.

Creating a Directory

File Express lets you create directories in any of the currently connected file systems.

To create a directory, follow these steps:

1. Click the list window containing the file system where you want to create the new directory.
2. Select **Create Directory** from the File menu.



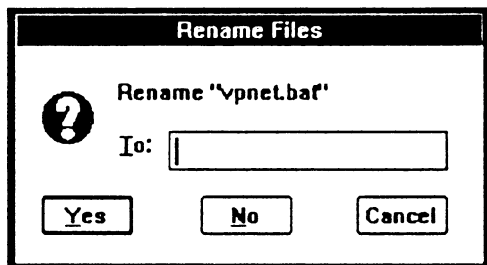
3. Enter the path and directory name in the text box.
4. Click the **Make** button to create the directory in the selected file system.

Renaming Files and Directories

File Express lets you rename a file or directory. The directories or files you rename must be in one of the file systems to which you are connected and the new names must conform to the naming conventions for that file system.

To rename files or directories from a single list window, follow these steps:

1. From the list window, select one or more files or directories that you want to rename.
2. Click the **Rename** button.



3. Type the new name in the text box.
4. If the new name is correct, click the **Yes** button.

File Express renames the file or directory. The dialog box reappears, and you repeat Steps 3 and 4 for each file that you listed.

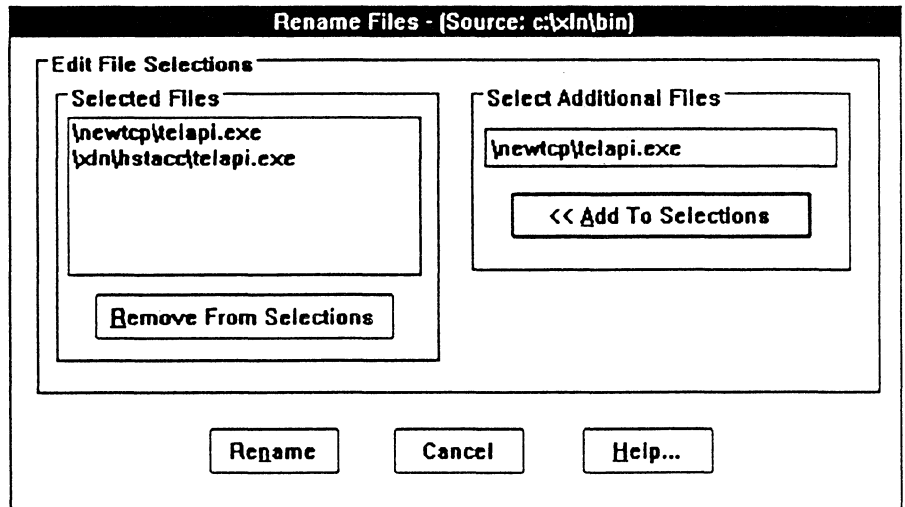
If you do not want to rename the specified file or directory, click the **No** button.

If you want to cancel the renaming procedure, click the **Cancel** button.

At the end of the list the dialog box disappears, leaving you in the File Express window. The files you renamed are displayed with their new names.

If the files that you want to rename are in different list windows, use the following procedure:

1. Select **Rename** from the File menu.



2. Click the Select Additional Files text box and type the name of a file or directory that you want to rename.
3. Click the **Add to Selections** button.

Repeat Steps 2 and 3 to add additional files or directories.

4. Click the **Rename** button.

File Express displays a Rename Files confirmation box for each file in the list.

5. Type the new name for the file or directory.
6. Click the **Yes** button to rename the file or directory.

File Express renames the file or directory. The confirmation box reappears, and you repeat Steps 5 and 6 for all the files that you listed.

If you do not want to rename the specified file or directory, click the **No** button.

If you want to cancel the renaming procedure, click the **Cancel** button.

At the end of the list the dialog box disappears, leaving you in the File Express window. The renamed files are displayed with their new names.

Printing Files

You can use File Express to print files. However, before you can print, you must install and configure the appropriate printer in the Windows Setup program or in the Windows Control Panel.

||||► The PRINT command assumes the files are ASCII text files and converts them to DOS format before printing. However, some files on remote hosts (such as EBCDIC text files on an MVS host) may not print properly.

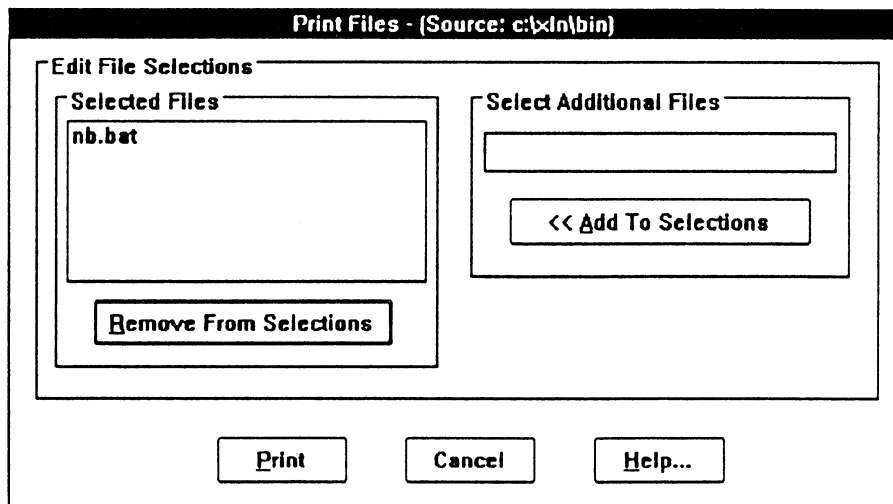
To print files from a single list window, follow these steps:

1. From the list window, select one or more files that you want to print.
2. Click the **Print** button.

File Express displays a message box for each file it sends to the printer. If you want to cancel printing, click the **Cancel** button.

If the files that you want to print are in different list windows, use the following procedure:

1. Select **Print** from the **File** menu.



2. Click the **Select Additional Files** text box and type the name of any additional file that you want to print.
3. Click the **Add to Selections** button.

Repeat Steps 2 and 3 to add additional files.

4. Click the **Print** button.

File Express sends the files to the printer. If you want to cancel printing, click the **Cancel** button.

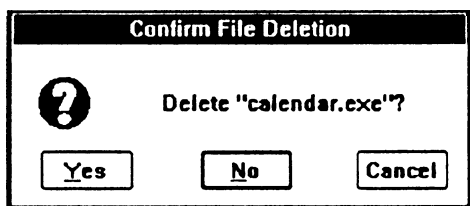
At the end of the list the dialog box disappears, leaving you in the File Express window.

Deleting Files

File Express lets you delete one or more files from a file system.

To delete files from a single list window, follow these steps:

1. Select one or more files that you want to delete from the list of file names in the list window.
2. Click the Delete button.



3. Click the Yes button to delete the file.

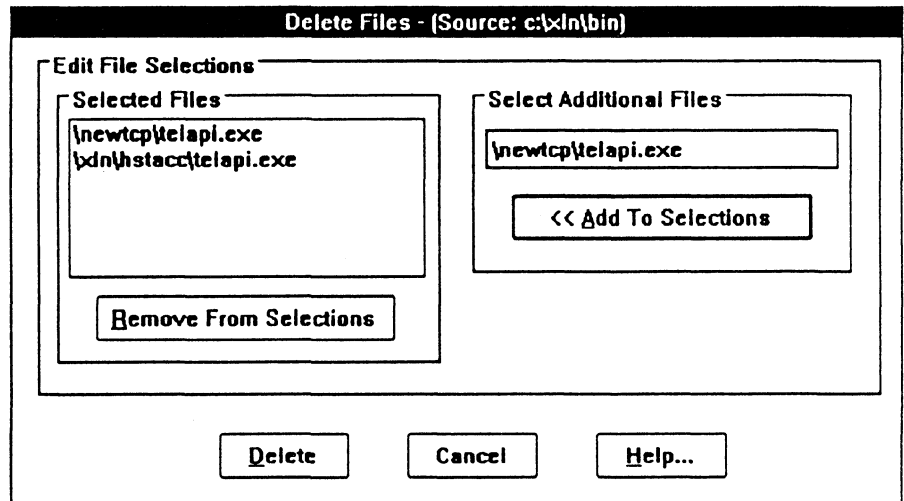
If you do not want to delete the file, click the No button.

If you want to cancel the deletion procedure, click the **Cancel** button.

The confirmation box reappears for each file listed.

If the files that you want to delete are in different list windows, use the following procedure:

1. Select **Delete** from the **File** menu.



2. Click the **Select Additional Files** text box and type the name of the file that you want to delete.
 3. Click the **Add To Selections** button.
- Repeat Steps 2 and 3 to add additional files.
4. Click the **Delete** button.

File Express displays a confirmation box for each file.

5. Click the **Yes** button to delete the file.

If you want to keep the file, click the **No** button.

If you want to cancel the deletion procedure, click the **Cancel** button.

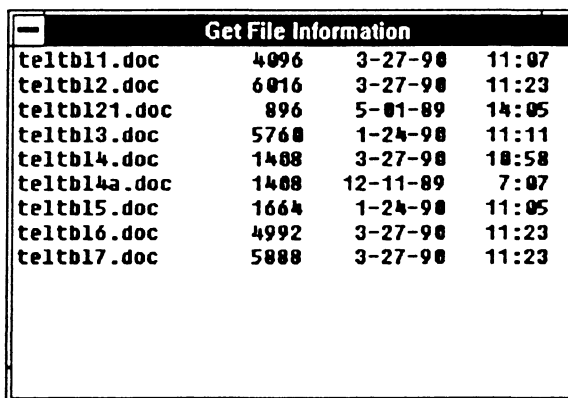
At the end of the list, File Express redisplay its main window and names of the deleted files are no longer displayed.

Getting Information About Files

File Express lets you display information about one or more files. The information displayed depends on the type of file and the information received from the remote host. The file information might include the filename, size, protection, and the date and time the file was opened previously.

To display information about one or more files in a single list window, follow these steps:

1. Select the files from the list box.
2. Click the **Info** button to display information similar to the following:



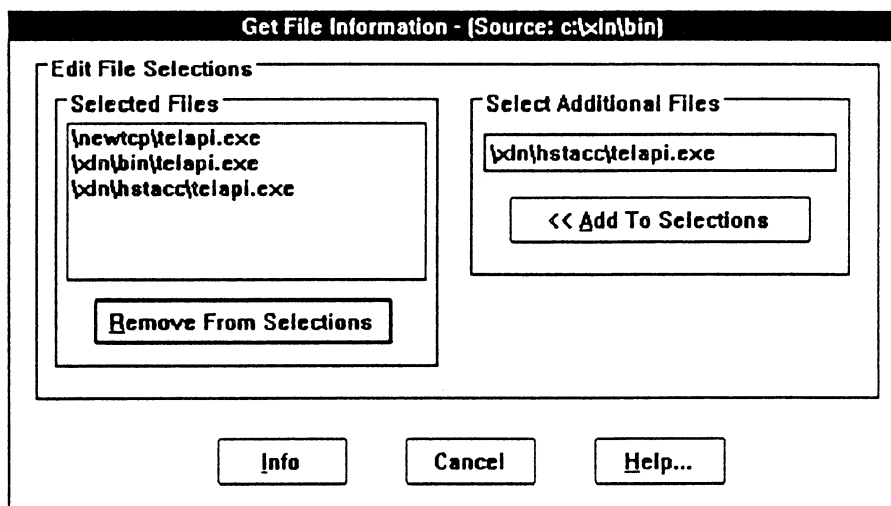
Get File Information			
teltbl1.doc	4096	3-27-90	11:07
teltbl2.doc	6016	3-27-90	11:23
teltbl21.doc	896	5-01-89	14:05
teltbl3.doc	5760	1-24-90	11:11
teltbl4.doc	1408	3-27-90	10:58
teltbl4a.doc	1408	12-11-89	7:07
teltbl5.doc	1664	1-24-90	11:05
teltbl6.doc	4992	3-27-90	11:23
teltbl7.doc	5888	3-27-90	11:23

3. Double-click the **Control-menu** box in the upper left-hand corner of the window to close the window.

The list window disappears, leaving you in the File Express window.

If the files about which you want information are in different list windows, use the following procedure:

1. Select **Get Info** from the File menu.



2. Click the Select Additional Files text box and type the name of the file about which you want information.
3. Click the **Add To Selections** button.
Repeat Steps 2 and 3 to add additional files.
4. Click the **Info** button.

The program displays a window with information about each file in the list.

5. Double-click the **Control-menu** box in the upper left-hand corner of the window to close the window.

The list window disappears, leaving you in the File Express window.

MAKING YOUR WORKSTATION AN FTP SERVER

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MAKING YOUR WORKSTATION AN FTP SERVER

The Serving FTP is an FTP server program that lets other network users archive or access files on your workstation. You can make your workstation an FTP file server by running the Serving FTP program. When your workstation is running Serving FTP, any network computer running an FTP client program can access your workstation and transfer files to or from it.

When you run Serving FTP, your workstation does not become a dedicated file server. Serving FTP runs in its own window in the background and you can run other applications simultaneously. Although the Serving FTP program supports only one FTP session at a time, when a session ends, Serving FTP continues to run and waits for other session requests.

Opening a Serving FTP Session

Before you can open the Serving FTP session, TCP must be running on your workstation. If you requested the installation program to modify your AUTOEXEC.BAT file, TCP is loaded automatically when you start your workstation. Otherwise, you must load TCP before loading Windows 3.0.

You can open a Serving FTP session using double-clicking the Serving FTP icon. You can also open a Serving FTP session automatically when you start Windows by adding the name of the executable file, SERVEFTP.EXE, to the *load=* line in the [windows] section of the WIN.INI file as follows:

```
load=wftpd.exe other_executable_files
```



Serving FTP

Restricting Access to Your Workstation

The Serving FTP program has its own authorization system to let you restrict access to the files on your workstation. To do this you must create the file \XLN\HSTACC\FTPDUSR.LOG and list the users authorized to access your files. Only the users listed in this file can log in to Serving FTP on your workstation.

When a network user tries to open an FTP connection to your workstation, Serving FTP checks for the user name entry in FTPDUSR.LOG. Each entry in the FTPDUSR.LOG file consists of a single line in the following format:

user_name [:*password*]

user_name is the name of the user.

password is an optional password for that user.

user_name and *password* are not case-sensitive. Neither can contain spaces or tab characters and they must be separated by a colon with no spaces.

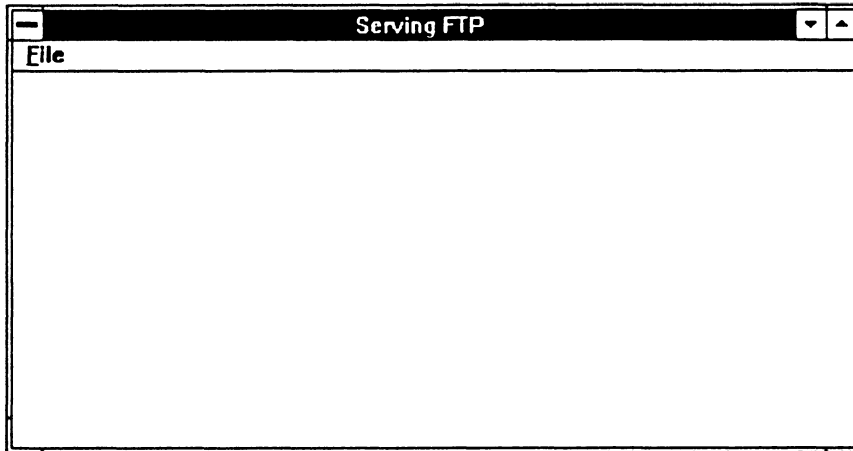
If this file does not exist, any computer on the network with an FTP client (such as FTP.EXE or File Express) can access the files on your workstation.

Creating a Log File

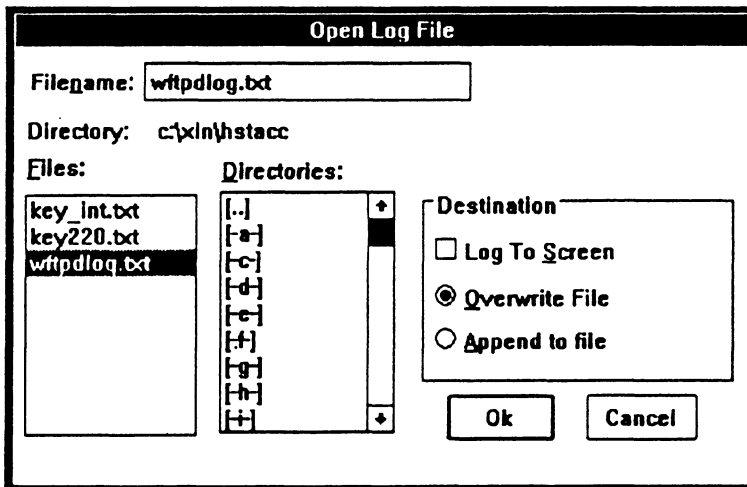
You can create a log file to record all the FTP transactions serviced by Serving FTP. A log file is a text file that records the name of the user requesting the service, the time the user logged in and out, and the FTP commands executed by the user.

To create a log file, follow these steps:

1. Double-click the **Serving FTP** icon.



2. Select **Log** from the **File** menu.



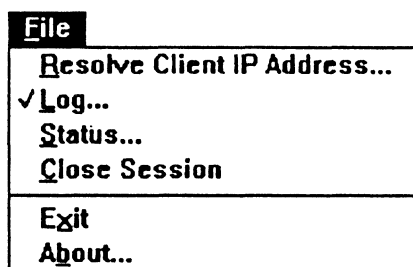
3. Select an existing log file or create a new one.

The default log file is \XLN\HSTACC\WFTPDLOG.TXT.
You can log transactions to another file by typing another name in the text box or selecting a file from the list box.

You can also send the FTP transactions to the Serving FTP window by clicking the **Log to Screen** check box. Serving FTP then records the FTP transactions in the specified log file and displays them in the Serving FTP window.

4. Click the OK button to start logging transactions.

The **Log** entry in the **File** menu shows a check mark beside it while transactions are being logged to a file.



To stop recording FTP transactions, pull down the **File** menu and select the checked **Log** entry. Serving FTP stops logging transactions, and the check mark no longer appears on the menu.

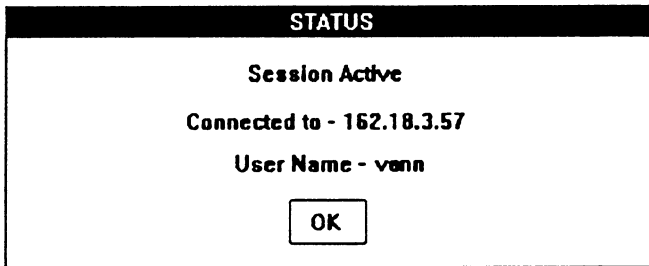
Checking Serving FTP Status

You can check the status of Serving FTP on your workstation. The status can be either active or inactive. If active, a status check displays the name of the user and the name and IP address of the remote computer connected to your workstation. The IP address is displayed in dotted notation.

To check Serving FTP status, follow these steps:

1. Double-click the **Serving FTP** icon to display the Serving FTP window.

2. Pull down the **File** menu and select **Status**.



The Status message box displays either a Session Inactive or Session Active message. If Serving FTP is active, the message lists the IP address of the remote computer and the name of the user on that remote computer.

3. Click the **OK** button to close the Status message box.

Closing a Serving FTP Session

You can close a Serving FTP session and either leave Serving FTP running or exit the Serving FTP program. To close a Serving FTP session use either of the following methods:

- Close the current Serving FTP session but leave Serving FTP running. To do this, pull down the **File** menu and select **Close Session**. Any authorized user can now open a Serving FTP session with your workstation.
- Close the Serving FTP session and exit Serving FTP. To do this, pull down the **File** menu and select **Exit**.

■■■■▶ Neither method informs the remote user that the FTP session is about to end. If a user is connected to your workstation when you close the FTP session, the user's session is closed without warning.

PART III

Command-Line Utilities

USING YOUR WORKSTATION AS A TERMINAL

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USING YOUR WORKSTATION AS A TERMINAL

The LAN WorkPlace software provides the TNVT220 terminal emulation utility that runs under standard DOS. The TNVT220 utility lets your workstation emulate a DEC VT220, VT100, or VT52 terminal directly connected to a remote host.

A terminal emulator lets you log in to a remote host as if you are using a terminal directly connected to the remote host. After you log in, you can execute any commands and perform any operations that the remote host supports. The TNVT220 utility accesses the services of Telnet clients on other computers via the Telnet Application Program Interface (TelAPI).

The LAN WorkPlace software also provides the Telnet Session Utility (TSU) that lets you use network-compatible third-party terminal emulators via TelAPI.

|||■► To connect to a remote host with TNVT220 or TSU, the remote host must be running a Telnet server program.

Using the TNVT220 Terminal Emulator

The TNVT220 terminal emulation utility lets your workstation emulate a DEC VT220, VT100, or VT52 terminal directly connected to a remote host. This section explains how to use the TNVT220 utility.

Starting TNVT220

To start TNVT220, follow these steps:

1. If not already loaded, load TelAPI by entering the following command at the DOS prompt:

C> TELAPI

A message similar to this is displayed:

TELAPI – Copyright © 1990 Novell, Inc. LAN WorkPlace for DOS

Number of Sessions: 2

Number of Stacks: 1

Refer to the *LAN WorkPlace for DOS Administrator's Guide* for information on the TelAPI options.

If you requested the installation program to modify your AUTOEXEC.BAT file, TelAPI is automatically loaded when you start your workstation.

2. Start TNVT220 by entering a command in the following format at the DOS prompt:

C> TNVT220 [remote_host]

If you omit *remote_host*, you enter command mode. The system displays the TNVT220> prompt and you can perform any TNVT220 commands.

If you specify *remote_host*, you enter terminal mode. TNVT220 prompts you to log in then establishes a session to that host. The remote host's system prompt is displayed. You can now execute any command that the remote host understands.

Status Line

When you establish a TNVT220 session with a remote host, TNVT220 displays a status line at the bottom of your screen, if the following are true:

- You are emulating a VT52, VT100, or VT220 terminal.
- You did not turn the status line off the last time you were in TNVT220 setup mode.
- You did not open TNVT220 with the `-X` option.

Figure 6-1 shows how TNVT220 displays information on the status line. Each part is explained below:

- `TNVT220 - Novell, Inc. - TNVT220` product identification.
- `remote_host` - First 19 characters of the remote host's name or IP address.
- `#` - Current session ID.
- `mode` - Indicate whether the terminal emulator is in replace (Rep) or insert (Ins) mode.
- `time` - Current time on your workstation.
- `^` (caret) - Displayed when you press the Ctrl key.
- `↑` (up-arrow) - Displayed when you press the Shift key.
- `A` - Displayed when you press the Alt key.
- `N` - Displayed when Num Lock is on.
- `C` - Displayed when Caps Lock or Shift Lock is on.
- `H` - Displayed when Scroll Lock is on. (This is equivalent to Hold Screen.)

TNVT220 - Novell, Inc. `remote_host` (#) `mode` `time` `^` `↑` ANCH

Figure 6-1
TNVT220 Status Line

Establishing Multiple Sessions

TNVT220 lets you establish up to 10 sessions with the same host or with different hosts. To establish multiple sessions, start TNVT220 (as described in the section Starting TNVT220) and establish a session with a remote host.

Before you can establish another session with a remote host, you must suspend the current session and return to TNVT220 command mode. To do this, press Alt-T. When the TNVT220 prompt is redisplayed, enter a command in the following format:

```
TNVT220> OPEN remote_host
```

TNVT220 prompts you to log in and then establishes a session to *remote_host*.

For each additional session you want to establish, you must first return to command mode and then execute the OPEN command.

Although only one session can be active (current) at a time, you can switch between sessions.

When you are in terminal mode for a particular session, you can switch from one session to another, by pressing Alt-N (NextScreen).

When you are in command mode, you can switch the current session and either resume an established session or remain in command mode. You can also display information about all established sessions.

To switch sessions and resume an established session, enter a command in the following format:

```
TNVT220> RESUME [ session_number | remote_host ]
```

If you specify *session_number* or *remote_host*, the session associated with the specified number or name becomes the current session and you resume that session. If you omit the options, this command resumes the previous current session.

To switch the current session but remain in command mode, enter a command in the following format:

```
TNVT220> SELECT { session_number | remote_host }
```

To display information about all established sessions, enter the following command:

```
TNVT220> SESSIONS
```

The system responds with a display similar to the following:

Available session(s):

Session Id	Destination	
	Internet Address	Host Name
* 1	80.24.1.132	chicago
2	80.14.1.13	atlanta

The asterisk (*) indicates the current session.

Printing a Copy of the Terminal Screen

If a printer is connected to your workstation while you are using TNVT220, you can print what an application (running on a remote host) displays on your screen.

To print, follow these steps:

1. Make sure the printer is set up properly and attached to your workstation.
2. Establish a TNVT220 session to a remote host.
3. Press Alt-S to enter TNVT220 setup mode.

TNVT220 displays the Setup Directory screen.

4. Select the printer option by highlighting it using the arrow keys.
5. Press either the grey + or the Enter key from the numeric keypad to display the Printer Setup screen.

6. Define the following printer characteristics by highlighting each field using the arrow keys. Then press either the grey + or the Enter key from the numeric keypad, until the desired characteristic is displayed:
 - a. Specify the port (either parallel or serial) to which the printer is attached. The default printer port is PRN:.
 - b. Set the number of characters the printer can print on one line. You can set this for parallel ports only. The default value is 80 characters per line.
 - c. Set the printer operating mode to normal, auto, or controller. The default mode is normal.
 - d. Set the number of lines printed per inch. You can set this for parallel ports only.

For information about printer characteristics, refer to the section Printer Setup Screen in the *LAN WorkPlace for DOS Administrator's Guide*.

7. Press Alt-P to print a screen.

■■■■► When your workstation is not emulating a terminal, normally you press Shift-PrtSc to print a screen. However, when your workstation is emulating a terminal, you must use Alt-P because the computer's ROM BIOS (which handles the printing) is not synchronized with the TNVT220 software.

Running a DOS Program While in TNVT220

You can suspend a TNVT220 session, return to the DOS prompt, and run a DOS program using one of the following methods:

- When you are in TNVT220 command mode, enter the ! (exclamation point) command and press the Enter key:

TNVT220> !

- When you are in any other mode (except setup mode), press Alt-D.

||||➡ You cannot suspend a TNVT220 session and return to the DOS prompt when TNVT220 is in setup mode.

When you suspend a TNVT220 session, TNVT220 returns you to the DOS prompt. You are on the drive and in the directory you were in before you started or last suspended TNVT220.

To return to the TNVT220 session that you suspended, enter the following command and press the Enter key:

C> EXIT

||||➡ If you execute the DOS SET command while a TNVT220 session is suspended, any characteristics you set affect only that DOS session. When you quit TNVT220 and return to the DOS prompt, all SET characteristics are restored to the values they had before you started TNVT220.

Closing or Quitting a TNVT220 Session

When you finish a TNVT220 session with a remote host, you can close the session with the remote host and either remain in TNVT220, or quit TNVT220 and return to the DOS prompt.

One way you can close a session is to log out from the remote host. If you have only one session open when you log out, TNVT220 quits and returns you to the DOS prompt. If you have more than one session open when you log out, TNVT220 returns you to the TNVT220 prompt.

You can also close a specific session and remain in TNVT220 by entering a command in the following format:

```
TNVT220> CLOSE [ session_number | session_host ]
```

If you specify the session ID, *session_number*, or the name of the remote host, *session_host*, TNVT220 closes the specified session. If you omit the options, TNVT220 closes the current session.

To close all sessions, exit from TNVT220, and return to the DOS prompt, enter the following command:

```
TNVT220> QUIT
```

TNVT220 displays the following prompt:

```
One or more sessions currently exist. Do you want to exit ( Y | N ): Y
```

If you enter Y, TNVT220 quits and returns you to the DOS prompt. You are on the drive and in the directory you were in prior to starting TNVT220. Any characteristics that you redefined with the DOS SET command are restored to the values they had prior to starting TNVT220.

Unloading TELAPI

After you exit from TNVT220, you can unload TelAPI to free the allocated data space. To do so, enter the following command at the DOS prompt:

```
C> TELAPI -u
```

Connecting to a Different National Language Host

TNVT220 lets you connect your workstation to the following national language hosts :

- British
- Danish
- Dutch
- Finnish
- Belgian
- French
- French Canadian
- German
- Italian
- North American
- Norwegian
- Spanish
- Swedish
- Swiss (French)
- Swiss (German)
- Multinational

To emulate any of the above terminals, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.

3. Select the terminal type field using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad, until the desired terminal type is displayed.

If you want TNVT220 to open sessions automatically with this terminal type, continue with Step 4. Otherwise, skip to Step 5.

4. Select the Save option using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.
5. Press Alt-S to exit from the Setup Directory screen and return to the TNVT220 session.

When you select a particular terminal type, such as German, you can send and receive German symbols and characters from the host. If you press a key that is not available in the German character set, the keyboard beeps.

For information about national language hosts, refer to the *LAN WorkPlace for DOS Administrator's Guide*.

Redefining the Back Arrow Key

When you press the Backspace key (the ← Backspace key) on the main keyboard, it deletes the character immediately preceding the cursor. Depending on the system, pressing the Backspace key generates either a backspace character or a delete character. Some hosts expect the Backspace key to generate a backspace character. Other hosts expect the Backspace key to generate a delete character. The character to the left of the cursor is deleted only if the host receives the character it expects.

By default, TNVT220 generates a backspace character when you press the Backspace key. However, when you open a session with a host that expects a delete character (such as a host running the VMS operating system), you must change the default setting of the Backspace key and set it to Delete.

To change the default setting of the Backspace key, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.
3. Select the Keyboard field using the keyboard's arrow keys.
4. Press the grey + or the Enter key on the numeric keypad to display the Keyboard Setup screen.
5. Select the field Backspace=BS, using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad, to toggle the field to Backspace=Del.

If you want TNVT220 to open sessions automatically with the selected back arrow setting, continue with Step 6. Otherwise, skip to Step 7.

6. Press the Esc key to return to the Setup Directory screen, and select the Save option using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.
7. Press Alt-S to exit from the Setup Directory screen and return to the TNVT220 session.

Other TNVT220 Features

Once you establish a TNVT220 session, TNVT220 lets you set the following features:

- Screen color
- Hardware versus ROM-BIOS screen access
- VT200 mode versus VT100 mode

This section describes how to set these features.

Screen Color

If you have a color monitor, once you have established a TNVT220 session you can define the foreground and background color of your screen. You can also define the color of the bold and underlined characters on the screen. If you established multiple TNVT220 sessions, you can specify a different set of colors for each session; however, you can save only one set as the default colors. The following colors are supported for color monitors: green, white, black, blue, cyan, red, magenta, and brown.

To change the colors of your screen display, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.
3. Select the Display field using the keyboard's arrow keys.
4. Press the grey + or the Enter key on the numeric keypad to display the Display Setup screen.
5. Select the color field you want to change, using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad, until the desired color is displayed.

If you want TNVT220 to open a session automatically with the selected colors, continue with Step 6. Otherwise, skip to Step 7.

6. Press the Esc key to return to the Setup Directory screen, and select the Save option using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.
7. Press Alt-S to exit the Setup Directory screen and return to the TNVT220 session.

For further information about screen colors, refer to the description of the Display Setup screen in the *LAN WorkPlace for DOS Administrator's Guide*.

Direct Hardware Versus ROM-BIOS Screen Access

TNVT220 lets you determine the screen-access mode when emulating a VT52, VT100, or VT220 terminal. The TNVT220 software can access the screen in either of the following modes:

- **Direct hardware** – In direct-hardware mode, you access the screen via the workstation's video adapter board. Because of this, your video adapter board must be 100% compatible with a standard display adapter (such as an MDA, a CGA, a Hercules-compatible adapter, an EGA, or a VGA board). Use this method when running TNVT220 under Windows 3.0 Enhanced mode or under DESQView.
- **ROM-BIOS** – In ROM-BIOS mode, you access the screen via the workstation's ROM BIOS. ROM-BIOS mode works with all PC compatibles, even if they have incompatible display adapters. You must use this method when running TNVT220 under Windows 3.0 Standard or Real mode.

■■■■▶ Running TNVT220 in direct-hardware mode gives the best performance. Use ROM-BIOS access mode *only* if you have compatibility problems or environmental restraints.

The default screen-access mode is the direct-hardware mode. To change to ROM-BIOS mode, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.
3. Select the Display field using the keyboard's arrow keys.
4. Press the grey + or the Enter key on the numeric keypad to display the Display Setup screen.
5. Select the HardwareAccess field, using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to toggle the field to ROM-BIOS Access.

If you want TNVT220 to open a session automatically with the selected mode, continue with Step 6. Otherwise, skip to Step 7.

6. Press the Esc key to return to the Setup Directory screen, and select the Save option using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.
7. Press Alt-S to exit the Setup Directory screen and return to the TNVT220 session.

VT200 Mode Versus VT100 Mode

The VT200 mode executes standard ANSI functions and lets you use the full range of VT220 capabilities. For application programs that expect 7-bit control characters, and either ASCII characters or national replacement characters, you must use the VT200 mode, 7-bit setting. Most VT100 application programs will run in this setting. For application programs that send and receive 8-bit control characters and DEC multinational characters, you must use the VT200 mode, 8-bit setting.

The VT100 mode executes standard ANSI functions. You must use this mode with application programs that require strict compatibility with Digital's VT100 terminal.

To change the mode, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.
3. Select the General field using the keyboard's arrow keys.
4. Press the grey + or the Enter key on the numeric keypad to display the General Setup screen.
5. Select the VT200 mode, 7-bit field, using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad, until the desired mode is displayed.

If you want TNVT220 to open a session automatically with the selected mode, continue with Step 6. Otherwise, skip to Step 7.

6. Press the Esc key to return to the Setup Directory screen, and select the Save option using the keyboard's arrow

keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.

7. Press Alt-S to exit and return to the TNVT220 session.

Using Third-Party Terminal Emulators

The Telnet Session Utility (TSU) lets third-party, LAN-compatible data communication applications use TelAPI. When using TelAPI, the third-party application can communicate with remote hosts that are running the Telnet client program.

TSU uses TelAPI to open and close Telnet sessions with remote hosts. TSU also lets you configure the Telnet session used by the application. You can configure the Telnet session by specifying command-line options when you start TSU. After you have started TSU, you can configure the Telnet session by selecting options from the TSU menus.

Using TSU, you associate a DOS serial port with a Telnet session to a remote host. The DOS serial port used is the one to which the third-party application would normally direct its data. TSU redirects the data from third-party application to the remote host via the associated DOS serial port.

You can call TSU from a batch file. Figure 6-2 shows a sample batch file that opens one Telnet session and then starts a third-party terminal emulator.

Starting TSU

To start a session with a remote host and then run a third-party terminal emulator, follow these steps:

1. Load TelAPI:

```
C> TELAPI -SN sessions
```

sessions can be a value from 0 to 10. The default value is 2.

Figure 6-2

TSU Batch File

```
echo off
rem Open a session to the host kansas with hostid k1
tsu -o kansas k1
if errorlevel 1 goto open_error
rem Attach hostid k1 to COM3
tsu -a k1 COM3
if errorlevel 1 goto attach_error
rem Start third-party terminal emulator
program_name
rem Close the session
tsu -c k1
if errorlevel 1 goto close_error
goto exit
rem
:open_error
echo Open session failed
goto exit
:attach_error
echo Attach session failed
goto exit
:close_error
echo Close session failed
:exit
tsu -c k1
```

■■■■➡ Each session requires about 1700 bytes. When using TelAPI with third-party terminal emulators, you must allocate space for at least one session.

2. Start TSU:

C> TSU

TSU displays the main menu (see Figure 6-3). This menu is divided into two areas, the Sessions List and the Session Utility Commands. The Sessions List displays all the currently open sessions. The Session Utility Commands displays the function keys you use to open, close, and configure sessions. When a function key is highlighted, a short description of it is displayed at the bottom of the Session Utility Commands.

Figure 6-3
TSU Main Menu

Sessions List			
No.	Host Name	Id	Port
1	sales	89.32.8.83	COM1

Connection established successfully

Session Utility Commands									
1 Help	3 Open	4 Close	5 Config	6 Attach	7 Reset	8 Unload	9 Update	10 Exit	

Open a Telnet session

3. Press function key F3 (*Open*) to open a session with a remote host.

The system prompts you for the name of the remote host.

4. Enter the name of the remote host and press the Enter key.

The system prompts you for a session ID.

5. Press the Enter key to accept the default value, or enter a session ID and press the Enter key.

The system prompts you for the port number.

6. Press the Enter key to accept the default port number, or enter a port number and press the Enter key.

||||➤ Specify a remote port number *only* if you know that the Telnet server on the remote host is not using the default Telnet TCP port.

||||➤ The third-party emulator must be configured to access the port associated with the TSU session.

TSU opens the session with the remote host and attaches the session to a port. (TSU automatically attaches the first session to port COM1, the second to COM2, and so on.)

7. Press function key F10 (*Exit*) to exit from TSU.
8. Enter the name of the emulator program at the DOS prompt, to run your third-party terminal emulator.

Following Step 8, you have started a Telnet session with a third-party terminal emulator.

Ending a Session with a Third-Party Terminal Emulator

To end a session with a third-party terminal emulator, log out from the remote host at the terminal emulator prompt. When you do this, TelAPI automatically closes the TSU session. However, if the session does not close, you must start TSU by entering the following command at the DOS prompt:

C> TSU

When TSU displays the main menu, press F4 (*Close*) to close the session. The system prompts you for confirmation. Enter Y to close the session. After you close the session, you can use TSU to unload TelAPI by pressing F8.

||||➤ If you unload TelAPI, you must exit TSU before you can reload TelAPI.

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TRANSFERRING FILES

The LAN WorkPlace software provides three command-line utilities that let you transfer files between your workstation and a remote host.

- **File Transfer Program (FTP)** – Lets you access files and directories on the local or remote host, transfer single or multiple files, and perform common directory and file operations. FTP performs user authentication on the remote host based on passwords.
- **Trivial File Transfer Program (TFTP)** – Lets you transfer single files. TFTP performs no user authentication.
- **Remote Copy Program (RCP)** – Lets you transfer single or multiple files. RCP performs user authentication based on entries in the HOSTS.EQUIV and .RHOSTS files. Refer to the *LAN WorkPlace for DOS Administrator's Guide* for a discussion of these files.

Using the File Transfer Program (FTP)

The FTP utility lets you transfer files between your workstation and a remote host on the local or remote network. FTP also lets you access local and remote directories and files and perform common directory and file operations. These operations include listing and changing working directories, listing directory contents, and renaming directories and files.

■■■▶ Before you can use FTP, the remote host must be running an FTP server program.

Starting FTP

You can start FTP and log in to a remote host, if the following conditions are true:

- The remote host recognizes you as a valid user.
- You can provide a password, if one is required by the remote host.
- An entry for the remote host is present in the host name database. The database is either a Domain Name System (DNS) name server (if one exists on your network) or the file \XLN\TCP\HOSTS on your workstation.

To start FTP and log in to a remote host, enter a command in the following format at the DOS prompt:

```
C> FTP [ remote_host ]
```

If you specify *remote_host*, FTP prompts you to log in and then connects you to that host. If you omit *remote_host*, FTP prompts you for the name of the remote host.

Assume that the user Evelyn wants to log in to the remote host *sales*. To do this, she can start FTP and log in to *sales* using either of the following methods.

Method 1:

```
C> FTP
ftp> OPEN sales
Connected to sales
220 sales FTP Server (<version> <date>) ready.
Remote user name: evelyn
Password: password
ftp>
```

Method 2:

```
C> FTP sales
Connected to sales.
220 sales FTP Server (<version> <date>) ready.
Remote user name: evelyn
Password: password
ftp>
```

Getting File and Directory Information

After you start FTP, you can use FTP commands for operations such as getting file and directory information, listing directory contents, and changing working directories.

The FTP HELP command lists all available FTP commands:

```
ftp> HELP
```

||||➡ There are more FTP commands available when a session is open (active) than when no sessions are open.

When you first open a connection to a remote host, you are in your home directory on that host. You can find the full pathname of this directory with the following command:

```
ftp> PWD
```

Information similar to the following is displayed.

```
"/x/sales/evelyn" is current directory.
```

You can list the contents of the current working directory on the remote host with either of the following commands:

```
ftp> DIR
```

```
ftp> LS
```

If the remote host is a UNIX system, the DIR command gives a detailed list of the directory's contents similar to the following:

-rw-r--r--	1 evelyn	425	Oct 22 16:56	calendar
drwxr-xr--	2 evelyn	512	Sep 15 16:36	general
drwxr-xr--	2 evelyn	1536	Oct 26 12:44	status
drwxr-xr--	2 evelyn	512	Jul 2 10:19	updates

The LS listing for the same directory would look like this:

```
calendar
general
status
updates
```

You can change the working directory on the remote host by entering a command in the following format:

```
ftp> CD remote_directory
```

- ||||➡ You must specify the name of the remote directory in a form that the remote host understands. For example, if the remote host is a UNIX system, separate directory names with slashes (/); if the remote host is a VMS system, separate the directory names with periods (.) and enclose them in square brackets ([]).

You can perform the same operations for files and directories on your workstation using the LPWD, LDIR, LLS, and LCD commands. The letter "L" preceding the command name indicates that the command is performed locally. To execute these commands you do not need to be connected to a remote host. The following sequence of commands illustrates the responses to these FTP commands:

```
C> FTP
ftp> LPWD
      "c:\\" is current directory.
ftp> LCD MKTG
ftp> LLS
memos
bulletin.txt
report1.doc
report2.doc
mktg.gem

ftp> LDIR
memos      <DIR>   4-23-87      12:01
bulletin.txt 6978   10-06-87     12:30   RA
report1.doc  15927  10-29-87     12:45   A
report2.doc  21734  10-30-87     1:03
mktg.gem     8133   10-29-87     1:25   A
5 File(s)
ftp>
```

The LDIR command lists the file or directory name, the length of the file (or <DIR> to indicate a directory), the date and time the file or directory was last modified. It may list whether the file has been modified since the last backup archive (A) and whether the file is read-only (R). These are DOS file attributes.

Copying Files

The FTP commands lets you copy files between your workstation and the remote host, or between two remote hosts.

|||➡ If the remote host has a case-sensitive file system, such as UNIX, all remote file names must be entered in the proper case. This is necessary for all FTP commands.

Copying Files to a Remote Host

You can use the following FTP commands to copy one or more files from your workstation to a remote host:

- **PUT** – Copy one file to a remote host
- **MPUT** – Copy one or more files to a remote host
- **COPY** – Copy one or more files or directories, or a directory tree to a remote host

The following examples show you how to use the commands PUT and MPUT. The COPY command is discussed in the section, Copying Files Between Remote Hosts.

To copy the file REPORT1.DOC from your workstation to the current directory on the remote host and retain the name REPORT1.DOC:

```
ftp> PUT REPORT1.DOC
```

To copy the file REPORT1.DOC from your workstation to the directory *reports* on the remote UNIX system and rename the file *report1.txt*:

```
ftp> PUT REPORT1.DOC reports/report1.txt
```

To copy all files with the extension .DOC from your workstation to the current directory on the remote host:

```
ftp> MPUT *.DOC
```

Copying Files to Your Workstation

You can use the following FTP commands to copy one or more files from a remote host to your workstation:

- **GET** – Copy one file to your workstation
- **MGET** – Copy one or more files to your workstation
- **COPY** – Copy one or more files or directories, or a directory tree from a remote host

The following examples show you how to use the GET and MGET commands. The COPY command is discussed in the following section, Copying Files Between Remote Hosts.

To copy the file *report1.txt* from the current directory on the remote UNIX system and retain the name *report1.txt*:

```
ftp> GET report1.txt
```

To copy the file *report1.txt* from the current directory on the remote UNIX system to the directory REPORTS on your workstation and rename it REPORT1.DOC:

```
ftp> GET report1.txt REPORTS\REPORT1.DOC
```

To copy all files that start with the name *report* (and that conform to the local naming conventions) from the current directory on the remote UNIX system to the current directory on your workstation:

```
ftp> MGET report*
```

Copying Files Between Remote Hosts

The FTP COPY command lets you copy files between two remote hosts as well as between your workstation and a remote host. It also lets you copy an entire directory and all its subtrees.

- |||➡ When you use the COPY command, FTP automatically opens connections to the remote hosts (if they are not yet open), copies the specified files, and then closes the connections when it is finished copying the files.

To copy a single file to a file or a directory, enter a command in the following format:

```
COPY source_file [destination_file | destination_directory]
```

source_file is the name of a file (on your workstation or on the remote host) that you want to copy to either the file, *destination_file*, or the directory, *destination_directory*, on your workstation or on the remote host.

To copy multiple files to a directory, enter a command in the following format:

```
COPY source_file [source_file ...] destination_directory
```

source_file is the name of a file (on your workstation or on the remote host) that you want to copy to the directory, *destination_directory*, on your workstation or on the remote host.

To copy a directory to a directory, enter a command in the following format:

```
COPY [-R] source_directory [source_directory ...]  
destination_directory
```

The -R option lets you copy directories recursively. You must specify this option if *source_directory* contains one or more directories. *source_directory* is the name of a directory (on your workstation or on the remote host) that you want to copy to the directory, *destination_directory*, on your workstation or on the remote host.

- ▶ If you use the -R option, you cannot specify names with wildcard characters in *source_directory*.
- ▶ The last file or directory on the command line is the destination.
- ▶ The COPY command assumes the files and directories are on your workstation unless you precede the file or directory name with the remote host name and an equal sign (=).

The following sections illustrate how to use the COPY command.

Copying Directories

Assume you want to copy the contents of a remote directory (DUA0:[MARCH]) from a VMS system (VENUS) to the directory REPORTS on your workstation, enter the following command:

```
ftp> COPY VENUS=DUA0:[MARCH] REPORTS
```

To copy the contents of a directory (MARCH\REPORTS) on your workstation to a directory (DUA0:[MARCH]) on the VMS system (VENUS), enter the following command:

```
ftp> COPY MARCH\REPORTS VENUS=DUA0:[MARCH]
```

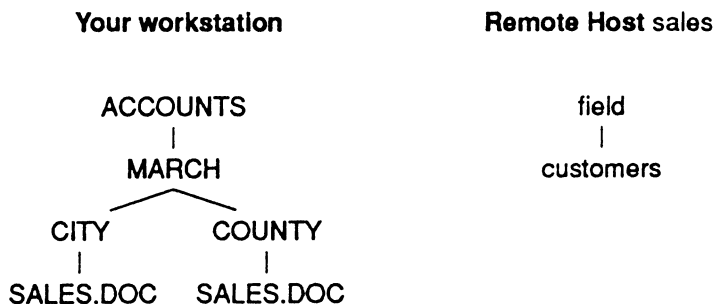
To copy the contents of a directory (DUA0:[MARCH]) from a VMS system (VENUS) to directory (*reports*) on a UNIX system (*sales*), enter the following command:

```
ftp> COPY VENUS=DUA0:[MARCH] sales=reports
```

Copying Directory Trees

The -R option of the COPY command lets you copy an entire directory tree recursively. When you specify the -R option, the destination must be a directory.

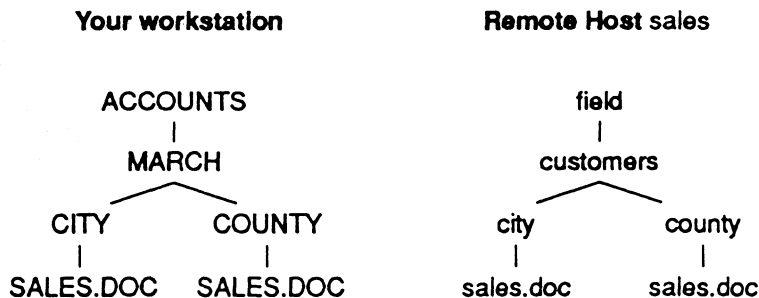
To illustrate how the -R option works, assume the following directories are present in the current directories of your workstation and the remote UNIX host *sales*:



To copy all the directories in ACCOUNTS\MARCH and place them under *field/customers*, enter the following :

```
ftp> COPY -R ACCOUNTS\MARCH sales=field/customers
```


The resultant directories look like this:



Notice that the directory MARCH is not created on *sales*.

Using Wildcard Characters

You can use the following wildcard characters with all FTP commands that have a file or directory name as a parameter:

- Asterisk (*) – Represent any number of characters in that position.
- Question mark (?) – Represent any single character in that position.

The wildcard characters are interpreted on the remote host according to the remote host's conventions.

■■■■▶ You cannot use wildcard characters with the `-R` option of the `COPY` command.

The following examples illustrate how to use the wildcard characters.

If the remote host is a DOS system, the following command lists all files in the current remote directory that have the file name ABC. If the remote host is a UNIX or VMS system, this command lists all files whose names begin with the four characters "ABC.":

```
ftp> LS ABC.*
```

If the remote host is a DOS system, the following command copies all files (with the extension OC preceded by any other single character) from the current directory on the remote host and places them in the current directory on your workstation (in files of the same name). If the remote host is a UNIX or VMS system, this command copies all files with names ending in the four-character extension ".?OC"; the ? character can be replaced by any other single character:

```
ftp> MGET *.?OC
```

Transferring Text and Nontext Files

By default, FTP transfers files in ASCII transfer mode. In this mode, FTP assumes all files being transferred are text files (even if they are not). If you are transferring nontext files, such as executable files, you must change the transfer mode to binary so that the files are transferred properly. In binary mode, FTP assumes all files being transferred are binary files (even if they are not).

To change the transfer mode to binary, enter the following command:

```
ftp> BINARY
```

To return to ASCII transfer mode, enter the following command:

```
ftp> ASCII
```

To determine the current transfer mode, enter the following command:

```
ftp> STATUS
```

You can also let FTP determine whether the file it is copying to your workstation is an ASCII or binary file (and transfer it accordingly) by executing the FORCE command. When you start FTP, FORCE is on. When it is on, FTP transfers files according to current transfer parameter setting, either ASCII or binary mode.

FORCE is a toggle command. Therefore, when you enter the following command, you turn FORCE off:

```
ftp> FORCE
```

When it is off, FTP uses the files attributes of each file it is transferring (to your workstation) to determine the transfer parameters. If a file is text, it is transferred in ASCII mode. If a file is binary, it is transferred in binary mode.

Use the FTP STATUS command to determine whether FORCE is on or off. When it is on, STATUS displays the following message:

Transfer files according to current transfer parameter settings.

When FORCE is off, the above message is not displayed.

Running a DOS Program While in FTP

You can suspend the FTP utility and run a DOS program at any time by entering either of the following commands:

```
ftp> !  
ftp> LEXEC
```

After you enter either of these commands, the DOS prompt is redisplayed. You are on the drive and in the directory that you were in prior to starting the FTP session and you can perform DOS operations.

While FTP is suspended, all connections that you have opened during the FTP session remain open (unless the remote host terminates the connection).

To return to FTP, type the word EXIT at the DOS prompt and press the Enter key. FTP redisplay the "ftp>" prompt indicating you are in FTP command mode.

■■■■► If you execute the DOS SET command while FTP is suspended, any characteristics you set affect only that DOS session. When you exit from FTP and return to the DOS prompt, all SET characteristics are restored to their previous values.

Closing FTP Sessions

When you finish an FTP session with a remote host, you can either close the current session with the remote host and remain in FTP or close all sessions, exit from FTP, and return to the DOS prompt.

To close the current connection and remain in FTP, enter the following command:

```
ftp> CLOSE
```

To close all the connections, exit from FTP, and return to the DOS prompt, enter either of the following commands:

```
ftp> QUIT  
ftp> BYE
```

When you exit from FTP and return to the DOS prompt, you are on the drive and in the directory that you were in when you started FTP. Also, all characteristics defined with the DOS SET command are restored to their previous values.

Entering FTP Commands from a Script File

FTP lets you enter commands interactively from the keyboard or from a script file. If you use a script file, autologin is disabled and you must log in with the FTP USER command. If the login requires a password and the command file does not provide one or the one provided is invalid, the remaining commands in the file are not executed. The following is an example of a script file. The italicized comments explain each line.

OPEN sales	<i>Open a connection to host sales</i>
USER evelyn kumquat	<i>User name and password</i>
LCD \XLNTCP	<i>Change directories on your workstation</i>
GET HOSTS HOSTS.NEW	<i>An FTP command</i>
CLOSE	<i>Terminate the FTP connection</i>
BYE	<i>Conclude the FTP session</i>

To execute this command file, enter either of the following:

```
C> FTP < GETHOSTS
C> FTP -X < GETHOSTS
```

- ||||➡ If you open an FTP session from a command file the command file will not abort if an error is detected while an FTP command is executing. You must specify the -X option on the FTP command line to let FTP exit if any command fails.

Using Other FTP Commands

This section provides a brief description of other FTP commands. For further information about FTP commands, refer to the *LAN WorkPlace for DOS Administrator's Guide*.

APPEND

Append a local file to a remote file.

BELL Sound a bell after completing each file transfer command. This is a toggle command.

DEBUG

Toggle debugging mode. The default setting is off.

DELETE

Delete a single file on the remote host.

EXEC Execute the specified command on the remote host.

FILE Set the file transfer structure to FILE, which is an unstructured byte stream.

FORMAT

Display the current file transfer format. The default format is NONPRINT.

HASH

Toggle printing a number sign (#) for each data block (1024 bytes) transferred. The default setting is off.

MDELETE

Delete one or more files from the remote host.

MDIR

List detailed contents of multiple directories on a remote host.

MKDIR

Create a directory on the remote host.

MLS List brief contents of multiple directories on a remote host.

MODE

Display the current file transfer mode. The default mode is STREAM.

OPEN

Open a connection to the FTP server on the remote host if no connection exists.

PROMPT

Toggle interactive prompting for multiple commands. The default setting is off.

QUOTE

Send an FTP command to an FTP server, bypassing normal command parsing.

■■■■➡ If you use this command improperly, the FTP session may be dropped or the FTP server may fail.

RECV

Copy a file from the remote host to a file of the same name on the local host. This is equivalent to the GET command.

RECORD

Set the file transfer structure to RECORD; files are viewed as being partitioned into records.

REMOTEDIR

Enable or disable transferring remote directories with the GET and PUT commands. If you omit REMOTEDIR, FTP verifies whether the transferred object is a local file or directory. If you specify REMOTEDIR, FTP turns off this verification process and FTP assumes that the transferred object is a file. This command is useful only to users accessing MVS servers that use the CWD and PWD protocol elements.

REMOTEHELP

Display help information from the remote FTP server.

RENAME

Rename files on the remote host.

RGET

Copy a file from the remote host to a file of the same name on your workstation. The file is copied with the file transfer structure RECORD.

RMDIR

Delete a directory from the remote host.

RPUT

Copy a file from your workstation to a file of the same name on the remote host. The file is copied with the file transfer structure RECORD.

SEND

Copy a file from your workstation to the current working directory on the remote host under the file's original name.

SENDPORT

Toggle the use of port commands. The default setting is on.

STATISTICS

Toggle the display of transfer statistics after each file transfer. By default, transfer statistics are displayed.

STRUCTURE

Display the current file transfer structure. The default file transfer structure is FILE.

TYPE

Display or set the current file transfer type. The default file transfer type is ASCII.

USER

Log in to the remote FTP server and identify user to remote host.

VERBOSE

Toggle verbose mode. The default setting is off.

? List all FTP commands.

Making Your Workstation an FTP File Server

You can make your workstation an FTP file server by running the FTPD utility. FTPD is an FTP server program. When your workstation is running FTPD, any network computer with an FTP client program can access your workstation to transfer and archive files.

If you run FTPD from DOS, your workstation becomes a dedicated file server. If you run it under Windows 3.0 Enhanced mode or DESQview, your workstation does not become a dedicated file server; therefore, you can run other applications simultaneously. However, you can run only one FTPD window and you cannot use FTP to copy files from your workstation to itself.

To open an FTPD session enter either of the following commands on your workstation:

```
C> FTPD
C> FTPSERV
```

You can interrupt and terminate FTPD by entering either Ctrl-Break or Ctrl-C if either of the following are true:

- You entered the BREAK ON command at the DOS prompt before starting FTPD.
- The entry "BREAK=ON" is present in your CONFIG.SYS file.

After the FTP utility has transferred one or more files and exited, FTPD automatically terminates.

The LAN WorkPlace for DOS software creates the batch file FTPSERV during installation. You can use FTPSERV to open successive FTP sessions to your workstation. FTPSERV restarts FTPD after each FTP connection is closed, thus allowing the FTPD process to run continuously.

- ▶ Even if you are using FTPSERV, only one FTP session can be active at a time.
- ▶ If you use any FTP program to connect to a workstation running FTPD, you cannot use the FTP EXEC command. If you do, FTP returns the error "Operation not supported."

To interrupt and terminate FTPSERV, enter Ctrl-Break or Ctrl-C.

FTPD User-Authorization File

If you are running FTPD, any network user can access files on your workstation unless you create the FTPD user-authorization file \XLN\HSTACC\FTPDUSR.LOG. When a network user tries

to open an FTP session on your workstation, FTPD checks FTPDUSR.LOG. Only the users listed in this file are authorized to access FTPD on your workstation.

You can create the FTPDUSR.LOG file using any ASCII editor. Each entry in the FTPDUSR.LOG file consists of one line in the following format:

user_name [:*password*]

user_name is the name of the user. *password* is an optional password for that user. *user_name* and *password* are not case sensitive. Neither can contain spaces or tab characters and they must be separated by a colon.

Each line of comments included the FTPDUSR.LOG file must be preceded by a number sign (#). The text following the number sign is interpreted as a comment.

FTPD Log File

You can record all FTP transactions serviced by FTPD, including the users requesting the service, the times they logged in and out, and the FTP commands they executed.

To create a log file, start FTPD with the -L and the -V options:

FTPD -LV [*file_name*]

file_name is the name of the log file. If it does not exist, FTP creates it in the directory \XLN\HSTACC. If it exists, the new FTPD transaction information is appended to the file. If you omit the file name, FTPD sends log file information to STDERR (usually the screen). You cannot specify a path with *file_name*.

Using the Trivial File Transfer Program (TFTP)

The TFTP utility lets you transfer files between your workstation and a remote host that is running the TFTP server program. TFTP does not require a password.

Transferring Files

The TFTP utility lets you transfer files between your workstation and a remote host.

||| ➡ Before you can transfer a file to a remote host, a file of the same name must exist on the remote host and it must have world ("other") write permission or TFTP will fail.

Copying Files to a Remote Host

To copy a file from your workstation to a remote host, enter a TFTP command in the following format:

TFTP *source_file remote_host=destination_file*

source_file is the name of the file you are copying. If it is not in the current directory, you must specify it as a partial or complete pathname.

remote_host is the name of the destination host. It must be followed immediately by an equal sign (=).

destination_file is the name given the file when it is copied. If you specify a name, it must be an absolute path name. If you omit the name, the file is copied to the current directory on *remote_host* under the same name.

The following examples show you how to copy files to a remote UNIX system (*sales*) using TFTP.

To copy the file MARCH\ACCOUNTS.TXT from your workstation to the directory */x/march/* on the remote host *sales*, enter the following command:

C> TFTP MARCHACCOUNTS.TXT sales=/x/march/accounts.txt

The destination directory (*/x/march*) must exist on the remote host and the destination file (*accounts.txt*) must exist in */x/march* and have world ("other") write permission.

Copying Files from a Remote Host

To copy a file from a remote host to your workstation, enter a TFTP command in the following format:

```
C> TFTP remote_host=source_file destination_file
```

source_file is the name of the file you are copying. It must be an absolute pathname.

destination_file is the name given the file when it is copied. If it is not in the current directory, you must specify it as a complete pathname. If you omit *destination_file*, TFTP copies it to the current directory on your workstation under the same name.

The following examples illustrate how to copy files from a remote host using TFTP.

To copy the file */february/accounts* from the remote UNIX system *sales* to the current directory on your workstation, enter the following command:

```
C> TFTP sales=/february/accounts.txt
```

To redirect the contents of the file */february/accounts* to your screen, enter either of the following commands:

```
C> TFTP sales=/february/accounts.txt -  
or
```

```
C> TFTP sales=/february/accounts.txt - | MORE
```

Making Your Workstation a TFTP File Server

You can make your workstation a TFTP file server by running the TFTP server program, TFTP.D. When your workstation is running TFTP.D, any network computer with a TFTP client program can access your workstation and transfer files. If you dedicate your workstation as a file server, network users can archive files on it.

If you run TFTP.D from DOS, your workstation becomes a dedicated file server. If you run it under Windows 3.0 Enhanced mode or DESQview, your workstation does not become a dedicated file server; therefore, you can run other applications simultaneously.

However, you can run only one TFTP window and you cannot use TFTP to copy files from your workstation to itself.

To make your workstation a TFTP server, enter the following command:

```
C> TFTP
```

You can record all TFTP transactions serviced by TFTP in a log file by entering a command in the following format:

```
TFTP -L[log_file]
```

log_file must exist on your workstation before you can specify this option. The default log file is XSYSLOG.DAT.

To terminate TFTP, press either Ctrl-Break or Ctrl-C.

Using Remote Copy Program (RCP)

The RCP utility lets you copy files and directories between your workstation and a remote host running the remote shell server, RSHD and a server RCP program.

For DOS-to-UNIX transfers, RCP converts all file and directory names to lowercase and removes the DOS drive specifiers before the names are sent to the remote host.

For UNIX-to-DOS transfers, RCP prompts for a new file name if the UNIX file or directory name is an invalid DOS file or directory name. If you specify the -I option when starting RCP, files with invalid DOS file or directory names are not copied.

Refer to the *LAN WorkPlace for DOS Administrator's Guide* for further information about file name specifications when copying files between various operating systems.

Transferring Files

The RCP command lets you transfer files between your workstation and a remote host.

|||➡ RCP determines the username from the DOS environment table. You must specify the username with the SET NAME command. The SET NAME command is appended to your AUTOEXEC.BAT file when you install the LAN WorkPlace software.

Copying Files to a Remote Host

To copy a file from your workstation to your account on a remote host, enter a command in the following format:

RCP *source_file* *remote_host=destination_file*

To copy a file to another user's account on a remote host, enter a command in the following format:

RCP *source_file* *user@remote_host=destination_file*

To copy a directory recursively from your workstation to your account on a remote host, enter a command in the following format:

RCP -R *source_directory* *remote_host=destination_directory*

source_file is the name of the file you want to copy.

source_directory is the name of the directory you want to copy.

destination_file is the name given the file when it is copied to *remote_host*.

destination_directory is the name given the directory when it is copied to *remote_host*.

remote_host is the name of the destination host; it must be followed immediately by an equal sign (=).

user is the name of another user's account to which you have access permission.

The following examples show you how to use the RCP utility to copy files from your workstation to a remote host.

To copy a file to your home directory on the remote UNIX system and rename the file:

```
RCP SALES.RPT finance=report.txt
```

To copy a file to the user EVELYN's home directory on the remote UNIX system *finance* and rename the file:

```
RCP SALES.RPT evelyn@finance=report.txt
```

To copy a directory recursively from your workstation to a directory on the remote UNIX system:

```
RCP -R C:\REPORTS\*. * finance=/x/evelyn/reports
```

Copying Files from a Remote Host

To copy a file from your account on a remote host to your workstation, enter a command in the following format:

```
RCP remote_host=source_file destination_file
```

To copy a file from another user's account to your workstation, enter a command in the following format:

```
RCP user@remote_host=source_file destination_file
```

To copy one or more files from the remote host to a directory on your workstation, enter a command in the following format:

```
RCP -R remote_host=source_directory destination_directory
```

destination_file is the name of the destination file.

destination_directory is the name of the destination directory.

source_file is the name of the file to be copied.

source_directory is the name of the directory to be copied.

remote_host is the name of the source host; it must be followed immediately by an equal sign (=).

user is the name of another user's account to which you have access permission.

The following examples show you how to use the RCP utility to copy files from a remote host to your workstation.

To copy a file from a remote UNIX system to your workstation and rename the file:

```
RCP finance=/x/evelyn/report1.txt \REPORTS \REPORT1.DOC
```

To copy all directories, subdirectories, and files from a directory on the remote UNIX system to your workstation:

```
RCP -R finance=/x/evelyn/reports/* \REPORTS
```

To copy all directories recursively from another user's home directory on a remote UNIX system to your workstation:

```
RCP -R carlyle@finance=* \REPORTS
```

Backing up and Restoring Files

RCP lets you back up the files on your hard disk to a remote host, and restore them on your workstation. The following examples show how to use RCP to backup and restore files.

To back up all files and directories from the C: drive on your workstation to a directory on the remote UNIX system *finance*:

```
RCP -R -B C:\*.* finance=/x/evelyn/backup
```

To restore all back up files and directories from the remote UNIX system to the C: drive on your workstation:

```
RCP -R -B finance=/x/evelyn/backup/* C:\
```

Terminating a File Transfer

You can terminate a file transfer before it has concluded by pressing Ctrl-C or Ctrl-Break, if either of the following is true:

- You entered the following command at the DOS prompt :
C> BREAK ON
- You included the following line in your CONFIG.SYS file:

After RCP aborts, you may need to delete partially copied target files on your workstation or the remote host.

PRINTING ON A REMOTE PRINTER

Sending a File to a Remote Printer	8-1
Checking the Status of a Print Job	8-2
Deleting a Job from the Print Queue	8-3

PRINTING ON A REMOTE PRINTER

The LAN WorkPlace software provides command-line utilities for printing DOS files on a printer connected to a remote host:

- **RPR** – lets you send a job to a remote printer.
- **RPS** – lets you check the status of a job in the remote printer's queue.
- **RPD** – lets you delete a job from the remote printer's queue.

Before you can print files on a remote printer, the printer configuration file `\XLN\HSTACC\PRINT.CFG` must exist on your workstation and an RSH server must be running on the remote host.

The printer configuration file defines the remote printers that you can access from your workstation. Refer to the *LAN WorkPlace for DOS Administrator's Guide* for information on setting up a printer configuration file.

Sending a File to a Remote Printer

The RPR utility lets you print a file on a printer connected to a remote host. To do this, enter a command in the following format:

```
C> RPR [-P remote_printer] file_name
```

||||➡ If you do not specify the **-P** option, RPR uses the first printer entry listed in the printer configuration file. The first entry is the name of the default printer.

remote_printer is the name of the remote printer you want to use.

file_name is the name of the file or files you want to print.

You can print more than one file at the same time. The following examples show two ways to do this:

```
C> RPR -P LASER1 JAN.SLS FEB.SLS MARCH.SLS
C> RPR -P LASER1 *.SLS
```

The files are grouped together and become one print job.

If the remote printer is on a VMS system, RPR displays a message similar to the following:

```
job 936 (queue 3, entry 1) queued
```

If the remote printer is on a UNIX system, RPR typically displays no message .

Checking the Status of a Print Job

The RPS utility lets you check the status of your print job. To find the status of a file that is queued for printing on a remote printer, enter a command in the following format:

```
C> RPS [ -P remote_printer ]
```

||||➡ If you do not specify the **-P** option, RPS checks the first printer entry listed in the printer configuration file. The first entry is the name of the default printer.

remote_printer is the name of the printer.

The status message displayed depends on the remote host. If the remote printer is on a UNIX BSD system, RPS displays a status message similar to the following:

```
laser1 is ready and printing
RankOwner Job    Files      Total Size
1st  evelyn  936    march.sls    333 bytes
2nd  carlyle 937    spin.c       100276 bytes
```

If the remote printer is on a VMS system, RPS displays a status message similar to the following:

```
Printer queue SYS$PRINT, running on $PRINTER, mounted on
DEFAULT
Job name   User name   Entry  Blocks  Status
march.sls  evelyn      161    1       pending
spin.c     carlyle     162    10      pending
```

Deleting a Job from the Print Queue

The RPD utility lets you delete a print job from a queue on a remote printer.

|||► Before you can delete a print job, you must find its job ID using the RPS command. If the remote printer is on a UNIX BSD system, RPS displays the job ID in the *Job* column. If it is on a VMS system, RPS displays the job ID in the *Entry* column.

To delete a file from a specified queue, enter a command in the following format:

```
C> RPD [-P remote_printer] job_ID
```

|||► If you omit the *-P* option, RPD uses the first printer entry listed in the printer configuration file. The first entry is the name of the default printer.

remote_printer is the name of the printer where the job is queued.

job_ID is the identification number of the job you want to delete.

The response displayed when a print job is deleted depends on the remote host. If the remote printer is on a UNIX BSD system, RPS displays a message similar to the following:

`evelyn_pc: dfA936sales dequeued`

If the remote printer is on a VMS system, typically no message is displayed when a print job is deleted.

EXECUTING COMMANDS ON A REMOTE HOST

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USING YOUR WORKSTATION AS A TERMINAL

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USING YOUR WORKSTATION AS A TERMINAL

The LAN WorkPlace software provides the TNVT220 terminal emulation utility that runs under standard DOS. The TNVT220 utility lets your workstation emulate a DEC VT220, VT100, or VT52 terminal directly connected to a remote host.

A terminal emulator lets you log in to a remote host as if you are using a terminal directly connected to the remote host. After you log in, you can execute any commands and perform any operations that the remote host supports. The TNVT220 utility accesses the services of Telnet clients on other computers via the Telnet Application Program Interface (TelAPI).

The LAN WorkPlace software also provides the Telnet Session Utility (TSU) that lets you use network-compatible third-party terminal emulators via TelAPI.

■■■■► To connect to a remote host with TNVT220 or TSU, the remote host must be running a Telnet server program.

Using the TNVT220 Terminal Emulator

The TNVT220 terminal emulation utility lets your workstation emulate a DEC VT220, VT100, or VT52 terminal directly connected to a remote host. This section explains how to use the TNVT220 utility.

Starting TNVT220

To start TNVT220, follow these steps:

1. If not already loaded, load TelAPI by entering the following command at the DOS prompt:

C> TELAPI

A message similar to this is displayed:

TELAPI – Copyright © 1990 Novell, Inc. LAN WorkPlace for DOS

Number of Sessions: 2

Number of Stacks: 1

Refer to the *LAN WorkPlace for DOS Administrator's Guide* for information on the TelAPI options.

If you requested the installation program to modify your AUTOEXEC.BAT file, TelAPI is automatically loaded when you start your workstation.

2. Start TNVT220 by entering a command in the following format at the DOS prompt:

C> TNVT220 [remote_host]

If you omit *remote_host*, you enter command mode. The system displays the TNVT220> prompt and you can perform any TNVT220 commands.

If you specify *remote_host*, you enter terminal mode. TNVT220 prompts you to log in then establishes a session to that host. The remote host's system prompt is displayed. You can now execute any command that the remote host understands.

Status Line

When you establish a TNVT220 session with a remote host, TNVT220 displays a status line at the bottom of your screen, if the following are true:

- You are emulating a VT52, VT100, or VT220 terminal.
- You did not turn the status line off the last time you were in TNVT220 setup mode.
- You did not open TNVT220 with the `-X` option.

Figure 6-1 shows how TNVT220 displays information on the status line. Each part is explained below:

- `TNVT220 – Novell, Inc.` – TNVT220 product identification.
- `remote_host` – First 19 characters of the remote host's name or IP address.
- `#` – Current session ID.
- `mode` – Indicate whether the terminal emulator is in replace (Rep) or insert (Ins) mode.
- `time` – Current time on your workstation.
- `^` (caret) – Displayed when you press the Ctrl key.
- `↑` (up-arrow) – Displayed when you press the Shift key.
- `A` – Displayed when you press the Alt key.
- `N` – Displayed when Num Lock is on.
- `C` – Displayed when Caps Lock or Shift Lock is on.
- `H` – Displayed when Scroll Lock is on. (This is equivalent to Hold Screen.)

TNVT220 – Novell, Inc. `remote_host` (#) `mode` `time` `^` `↑` ANCH

Figure 6-1
TNVT220 Status Line

Establishing Multiple Sessions

TNVT220 lets you establish up to 10 sessions with the same host or with different hosts. To establish multiple sessions, start TNVT220 (as described in the section Starting TNVT220) and establish a session with a remote host.

Before you can establish another session with a remote host, you must suspend the current session and return to TNVT220 command mode. To do this, press Alt-T. When the TNVT220 prompt is redisplayed, enter a command in the following format:

```
TNVT220> OPEN remote_host
```

TNVT220 prompts you to log in and then establishes a session to *remote_host*.

For each additional session you want to establish, you must first return to command mode and then execute the OPEN command.

Although only one session can be active (current) at a time, you can switch between sessions.

When you are in terminal mode for a particular session, you can switch from one session to another, by pressing Alt-N (NextScreen).

When you are in command mode, you can switch the current session and either resume an established session or remain in command mode. You can also display information about all established sessions.

To switch sessions and resume an established session, enter a command in the following format:

```
TNVT220> RESUME [ session_number | remote_host ]
```

If you specify *session_number* or *remote_host*, the session associated with the specified number or name becomes the current session and you resume that session. If you omit the options, this command resumes the previous current session.

To switch the current session but remain in command mode, enter a command in the following format:

```
TNVT220> SELECT { session_number | remote_host }
```

To display information about all established sessions, enter the following command:

```
TNVT220> SESSIONS
```

The system responds with a display similar to the following:

```
Available session(s):
Session Id          Destination
                  Internet Address  Host Name
* 1                 80.24.1.132         chicago
  2                 80.14.1.13         atlanta
```

The asterisk (*) indicates the current session.

Printing a Copy of the Terminal Screen

If a printer is connected to your workstation while you are using TNVT220, you can print what an application (running on a remote host) displays on your screen.

To print, follow these steps:

1. Make sure the printer is set up properly and attached to your workstation.
2. Establish a TNVT220 session to a remote host.
3. Press Alt-S to enter TNVT220 setup mode.

TNVT220 displays the Setup Directory screen.

4. Select the printer option by highlighting it using the arrow keys.
5. Press either the grey + or the Enter key from the numeric keypad to display the Printer Setup screen.

6. Define the following printer characteristics by highlighting each field using the arrow keys. Then press either the grey + or the Enter key from the numeric keypad, until the desired characteristic is displayed:
 - a. Specify the port (either parallel or serial) to which the printer is attached. The default printer port is PRN:.
 - b. Set the number of characters the printer can print on one line. You can set this for parallel ports only. The default value is 80 characters per line.
 - c. Set the printer operating mode to normal, auto, or controller. The default mode is normal.
 - d. Set the number of lines printed per inch. You can set this for parallel ports only.

For information about printer characteristics, refer to the section Printer Setup Screen in the *LAN WorkPlace for DOS Administrator's Guide*.

7. Press Alt-P to print a screen.

■■■■► When your workstation is not emulating a terminal, normally you press Shift-PrtSc to print a screen. However, when your workstation is emulating a terminal, you must use Alt-P because the computer's ROM BIOS (which handles the printing) is not synchronized with the TNVT220 software.

Running a DOS Program While In TNVT220

You can suspend a TNVT220 session, return to the DOS prompt, and run a DOS program using one of the following methods:

- When you are in TNVT220 command mode, enter the ! (exclamation point) command and press the Enter key:

TNVT220> !

- When you are in any other mode (except setup mode), press Alt-D.

||||➡ You cannot suspend a TNVT220 session and return to the DOS prompt when TNVT220 is in setup mode.

When you suspend a TNVT220 session, TNVT220 returns you to the DOS prompt. You are on the drive and in the directory you were in before you started or last suspended TNVT220.

To return to the TNVT220 session that you suspended, enter the following command and press the Enter key:

C> EXIT

||||➡ If you execute the DOS SET command while a TNVT220 session is suspended, any characteristics you set affect only that DOS session. When you quit TNVT220 and return to the DOS prompt, all SET characteristics are restored to the values they had before you started TNVT220.

Closing or Quitting a TNVT220 Session

When you finish a TNVT220 session with a remote host, you can close the session with the remote host and either remain in TNVT220, or quit TNVT220 and return to the DOS prompt.

One way you can close a session is to log out from the remote host. If you have only one session open when you log out, TNVT220 quits and returns you to the DOS prompt. If you have more than one session open when you log out, TNVT220 returns you to the TNVT220 prompt.

You can also close a specific session and remain in TNVT220 by entering a command in the following format:

```
TNVT220> CLOSE [ session_number | session_host ]
```

If you specify the session ID, *session_number*, or the name of the remote host, *session_host*, TNVT220 closes the specified session. If you omit the options, TNVT220 closes the current session.

To close all sessions, exit from TNVT220, and return to the DOS prompt, enter the following command:

```
TNVT220> QUIT
```

TNVT220 displays the following prompt:

```
One or more sessions currently exist. Do you want to exit ( Y | N ): Y
```

If you enter Y, TNVT220 quits and returns you to the DOS prompt. You are on the drive and in the directory you were in prior to starting TNVT220. Any characteristics that you redefined with the DOS SET command are restored to the values they had prior to starting TNVT220.

Unloading TELAPI

After you exit from TNVT220, you can unload TelAPI to free the allocated data space. To do so, enter the following command at the DOS prompt:

```
C> TELAPI -u
```

Connecting to a Different National Language Host

TNVT220 lets you connect your workstation to the following national language hosts :

- British
- Danish
- Dutch
- Finnish
- Belgian
- French
- French Canadian
- German
- Italian
- North American
- Norwegian
- Spanish
- Swedish
- Swiss (French)
- Swiss (German)
- Multinational

To emulate any of the above terminals, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.

3. Select the terminal type field using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad, until the desired terminal type is displayed.

If you want TNVT220 to open sessions automatically with this terminal type, continue with Step 4. Otherwise, skip to Step 5.

4. Select the Save option using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.
5. Press Alt-S to exit from the Setup Directory screen and return to the TNVT220 session.

When you select a particular terminal type, such as German, you can send and receive German symbols and characters from the host. If you press a key that is not available in the German character set, the keyboard beeps.

For information about national language hosts, refer to the *LAN WorkPlace for DOS Administrator's Guide*.

Redefining the Back Arrow Key

When you press the Backspace key (the ← Backspace key) on the main keyboard, it deletes the character immediately preceding the cursor. Depending on the system, pressing the Backspace key generates either a backspace character or a delete character. Some hosts expect the Backspace key to generate a backspace character. Other hosts expect the Backspace key to generate a delete character. The character to the left of the cursor is deleted only if the host receives the character it expects.

By default, TNVT220 generates a backspace character when you press the Backspace key. However, when you open a session with a host that expects a delete character (such as a host running the VMS operating system), you must change the default setting of the Backspace key and set it to Delete.

To change the default setting of the Backspace key, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.
3. Select the Keyboard field using the keyboard's arrow keys.
4. Press the grey + or the Enter key on the numeric keypad to display the Keyboard Setup screen.
5. Select the field Backspace=BS, using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad, to toggle the field to Backspace=Del.

If you want TNVT220 to open sessions automatically with the selected back arrow setting, continue with Step 6. Otherwise, skip to Step 7.

6. Press the Esc key to return to the Setup Directory screen, and select the Save option using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.
7. Press Alt-S to exit from the Setup Directory screen and return to the TNVT220 session.

Other TNVT220 Features

Once you establish a TNVT220 session, TNVT220 lets you set the following features:

- Screen color
- Hardware versus ROM-BIOS screen access
- VT200 mode versus VT100 mode

This section describes how to set these features.

Screen Color

If you have a color monitor, once you have established a TNVT220 session you can define the foreground and background color of your screen. You can also define the color of the bold and underlined characters on the screen. If you established multiple TNVT220 sessions, you can specify a different set of colors for each session; however, you can save only one set as the default colors. The following colors are supported for color monitors: green, white, black, blue, cyan, red, magenta, and brown.

To change the colors of your screen display, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.
3. Select the Display field using the keyboard's arrow keys.
4. Press the grey + or the Enter key on the numeric keypad to display the Display Setup screen.
5. Select the color field you want to change, using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad, until the desired color is displayed.

If you want TNVT220 to open a session automatically with the selected colors, continue with Step 6. Otherwise, skip to Step 7.

6. Press the Esc key to return to the Setup Directory screen, and select the Save option using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.
7. Press Alt-S to exit the Setup Directory screen and return to the TNVT220 session.

For further information about screen colors, refer to the description of the Display Setup screen in the *LAN WorkPlace for DOS Administrator's Guide*.

Direct Hardware Versus ROM-BIOS Screen Access

TNVT220 lets you determine the screen-access mode when emulating a VT52, VT100, or VT220 terminal. The TNVT220 software can access the screen in either of the following modes:

- **Direct hardware** – In direct-hardware mode, you access the screen via the workstation's video adapter board. Because of this, your video adapter board must be 100% compatible with a standard display adapter (such as an MDA, a CGA, a Hercules-compatible adapter, an EGA, or a VGA board). Use this method when running TNVT220 under Windows 3.0 Enhanced mode or under DESQView.
- **ROM-BIOS** – In ROM-BIOS mode, you access the screen via the workstation's ROM BIOS. ROM-BIOS mode works with all PC compatibles, even if they have incompatible display adapters. You must use this method when running TNVT220 under Windows 3.0 Standard or Real mode.

▮▮▮▮▶ Running TNVT220 in direct-hardware mode gives the best performance. Use ROM-BIOS access mode *only* if you have compatibility problems or environmental restraints.

The default screen-access mode is the direct-hardware mode. To change to ROM-BIOS mode, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.
3. Select the Display field using the keyboard's arrow keys.
4. Press the grey + or the Enter key on the numeric keypad to display the Display Setup screen.
5. Select the HardwareAccess field, using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to toggle the field to ROM-BIOS Access.

If you want TNVT220 to open a session automatically with the selected mode, continue with Step 6. Otherwise, skip to Step 7.

6. Press the Esc key to return to the Setup Directory screen, and select the Save option using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.
7. Press Alt-S to exit the Setup Directory screen and return to the TNVT220 session.

VT200 Mode Versus VT100 Mode

The VT200 mode executes standard ANSI functions and lets you use the full range of VT220 capabilities. For application programs that expect 7-bit control characters, and either ASCII characters or national replacement characters, you must use the VT200 mode, 7-bit setting. Most VT100 application programs will run in this setting. For application programs that send and receive 8-bit control characters and DEC multinational characters, you must use the VT200 mode, 8-bit setting.

The VT100 mode executes standard ANSI functions. You must use this mode with application programs that require strict compatibility with Digital's VT100 terminal.

To change the mode, follow these steps:

1. Establish a TNVT220 session with the desired host.
2. Press Alt-S to display the Setup Directory screen.
3. Select the General field using the keyboard's arrow keys.
4. Press the grey + or the Enter key on the numeric keypad to display the General Setup screen.
5. Select the VT200 mode, 7-bit field, using the keyboard's arrow keys. Then press the grey + or the Enter key on the numeric keypad, until the desired mode is displayed.

If you want TNVT220 to open a session automatically with the selected mode, continue with Step 6. Otherwise, skip to Step 7.

6. Press the Esc key to return to the Setup Directory screen, and select the Save option using the keyboard's arrow

keys. Then press the grey + or the Enter key on the numeric keypad to save the setting.

7. Press Alt-S to exit and return to the TNVT220 session.

Using Third-Party Terminal Emulators

The Telnet Session Utility (TSU) lets third-party, LAN-compatible data communication applications use TelAPI. When using TelAPI, the third-party application can communicate with remote hosts that are running the Telnet client program.

TSU uses TelAPI to open and close Telnet sessions with remote hosts. TSU also lets you configure the Telnet session used by the application. You can configure the Telnet session by specifying command-line options when you start TSU. After you have started TSU, you can configure the Telnet session by selecting options from the TSU menus.

Using TSU, you associate a DOS serial port with a Telnet session to a remote host. The DOS serial port used is the one to which the third-party application would normally direct its data. TSU redirects the data from third-party application to the remote host via the associated DOS serial port.

You can call TSU from a batch file. Figure 6-2 shows a sample batch file that opens one Telnet session and then starts a third-party terminal emulator.

Starting TSU

To start a session with a remote host and then run a third-party terminal emulator, follow these steps:

1. Load TelAPI:

```
C> TELAPI -SN sessions
```

sessions can be a value from 0 to 10. The default value is 2.

Figure 6-2
TSU Batch File

```
echo off
rem Open a session to the host kansas with hostid k1
tsu -o kansas k1
if errorlevel 1 goto open_error
rem Attach hostid k1 to COM3
tsu -a k1 COM3
if errorlevel 1 goto attach_error
rem Start third-party terminal emulator
program_name
rem Close the session
tsu -c k1
if errorlevel 1 goto close_error
goto exit
rem
:open_error
echo Open session failed
goto exit
:attach_error
echo Attach session failed
goto exit
:close_error
echo Close session failed
:exit
tsu -c k1
```

■■■■► Each session requires about 1700 bytes. When using TelAPI with third-party terminal emulators, you must allocate space for at least one session.

2. Start TSU:

C> TSU

TSU displays the main menu (see Figure 6-3). This menu is divided into two areas, the Sessions List and the Session Utility Commands. The Sessions List displays all the currently open sessions. The Session Utility Commands displays the function keys you use to open, close, and configure sessions. When a function key is highlighted, a short description of it is displayed at the bottom of the Session Utility Commands.

Figure 6-3
TSU Main Menu

Sessions List			
No.	Host Name	Id	Port
1	sales	89.32.8.83	COM1

Connection established successfully

Session Utility Commands									
1 Help	3 Open	4 Close	5 Config	6 Attach	7 Reset	8 Unload	9 Update	10 Exit	

Open a Telnet session

3. Press function key F3 (*Open*) to open a session with a remote host.

The system prompts you for the name of the remote host.

4. Enter the name of the remote host and press the Enter key.

The system prompts you for a session ID.

5. Press the Enter key to accept the default value, or enter a session ID and press the Enter key.

The system prompts you for the port number.

6. Press the Enter key to accept the default port number, or enter a port number and press the Enter key.

||||➡ Specify a remote port number *only* if you know that the Telnet server on the remote host is not using the default Telnet TCP port.

||||➡ The third-party emulator must be configured to access the port associated with the TSU session.

TSU opens the session with the remote host and attaches the session to a port. (TSU automatically attaches the first session to port COM1, the second to COM2, and so on.)

7. Press function key F10 (*Exit*) to exit from TSU.

8. Enter the name of the emulator program at the DOS prompt, to run your third-party terminal emulator.

Following Step 8, you have started a Telnet session with a third-party terminal emulator.

Ending a Session with a Third-Party Terminal Emulator

To end a session with a third-party terminal emulator, log out from the remote host at the terminal emulator prompt. When you do this, TelAPI automatically closes the TSU session. However, if the session does not close, you must start TSU by entering the following command at the DOS prompt:

C> TSU

When TSU displays the main menu, press F4 (*Close*) to close the session. The system prompts you for confirmation. Enter Y to close the session. After you close the session, you can use TSU to unload TelAPI by pressing F8.

||||➡ If you unload TelAPI, you must exit TSU before you can reload TelAPI.

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TRANSFERRING FILES

The LAN WorkPlace software provides three command-line utilities that let you transfer files between your workstation and a remote host.

- **File Transfer Program (FTP)** – Lets you access files and directories on the local or remote host, transfer single or multiple files, and perform common directory and file operations. FTP performs user authentication on the remote host based on passwords.
- **Trivial File Transfer Program (TFTP)** – Lets you transfer single files. TFTP performs no user authentication.
- **Remote Copy Program (RCP)** – Lets you transfer single or multiple files. RCP performs user authentication based on entries in the HOSTS.EQUIV and .RHOSTS files. Refer to the *LAN WorkPlace for DOS Administrator's Guide* for a discussion of these files.

Using the File Transfer Program (FTP)

The FTP utility lets you transfer files between your workstation and a remote host on the local or remote network. FTP also lets you access local and remote directories and files and perform common directory and file operations. These operations include listing and changing working directories, listing directory contents, and renaming directories and files.

- Before you can use FTP, the remote host must be running an FTP server program.

Starting FTP

You can start FTP and log in to a remote host, if the following conditions are true:

- The remote host recognizes you as a valid user.
- You can provide a password, if one is required by the remote host.
- An entry for the remote host is present in the host name database. The database is either a Domain Name System (DNS) name server (if one exists on your network) or the file \XLN\TCP\HOSTS on your workstation.

To start FTP and log in to a remote host, enter a command in the following format at the DOS prompt:

```
C> FTP [ remote_host ]
```

If you specify *remote_host*, FTP prompts you to log in and then connects you to that host. If you omit *remote_host*, FTP prompts you for the name of the remote host.

Assume that the user Evelyn wants to log in to the remote host *sales*. To do this, she can start FTP and log in to *sales* using either of the following methods.

Method 1:

```
C> FTP
ftp> OPEN sales
Connected to sales
220 sales FTP Server (<version> <date>) ready.
Remote user name: evelyn
Password: password
ftp>
```

Method 2:

```
C> FTP sales
Connected to sales.
220 sales FTP Server (<version> <date>) ready.
Remote user name: evelyn
Password: password
ftp>
```

Getting File and Directory Information

After you start FTP, you can use FTP commands for operations such as getting file and directory information, listing directory contents, and changing working directories.

The FTP HELP command lists all available FTP commands:

```
ftp> HELP
```

|||| ➤ There are more FTP commands available when a session is open (active) than when no sessions are open.

When you first open a connection to a remote host, you are in your home directory on that host. You can find the full pathname of this directory with the following command:

```
ftp> PWD
```

Information similar to the following is displayed.

```
"/x/sales/evelyn" is current directory.
```

You can list the contents of the current working directory on the remote host with either of the following commands:

```
ftp> DIR
```

```
ftp> LS
```

If the remote host is a UNIX system, the DIR command gives a detailed list of the directory's contents similar to the following:

-rw-r--r--	1 evelyn	425	Oct 22 16:56	calendar
drwxr-xr--	2 evelyn	512	Sep 15 16:36	general
drwxr-xr--	2 evelyn	1536	Oct 26 12:44	status
drwxr-xr--	2 evelyn	512	Jul 2 10:19	updates

The LS listing for the same directory would look like this:

```
calendar
general
status
updates
```

You can change the working directory on the remote host by entering a command in the following format:

```
ftp> CD remote_directory
```

- You must specify the name of the remote directory in a form that the remote host understands. For example, if the remote host is a UNIX system, separate directory names with slashes (/); if the remote host is a VMS system, separate the directory names with periods (.) and enclose them in square brackets ([]).

You can perform the same operations for files and directories on your workstation using the LPWD, LDIR, LLS, and LCD commands. The letter "L" preceding the command name indicates that the command is performed locally. To execute these commands you do not need to be connected to a remote host. The following sequence of commands illustrates the responses to these FTP commands:

```
C> FTP
ftp> LPWD
      "c:\\" is current directory.
ftp> LCD MKTG
ftp> LLS
memos
bulletin.txt
report1.doc
report2.doc
mktg.gem

ftp> LDIR
memos      <DIR>    4-23-87      12:01
bulletin.txt 6978     10-06-87    12:30   RA
report1.doc  15927    10-29-87    12:45   A
report2.doc  21734    10-30-87    1:03
mktg.gem     8133     10-29-87    1:25   A
5 File(s)
ftp>
```

The LDIR command lists the file or directory name, the length of the file (or <DIR> to indicate a directory), the date and time the file or directory was last modified. It may list whether the file has been modified since the last backup archive (A) and whether the file is read-only (R). These are DOS file attributes.

Copying Files

The FTP commands lets you copy files between your workstation and the remote host, or between two remote hosts.

- ||||➤ If the remote host has a case-sensitive file system, such as UNIX, all remote file names must be entered in the proper case. This is necessary for all FTP commands.

Copying Files to a Remote Host

You can use the following FTP commands to copy one or more files from your workstation to a remote host:

- **PUT** – Copy one file to a remote host
- **MPUT** – Copy one or more files to a remote host
- **COPY** – Copy one or more files or directories, or a directory tree to a remote host

The following examples show you how to use the commands PUT and MPUT. The COPY command is discussed in the section, Copying Files Between Remote Hosts.

To copy the file REPORT1.DOC from your workstation to the current directory on the remote host and retain the name REPORT1.DOC:

```
ftp> PUT REPORT1.DOC
```

To copy the file REPORT1.DOC from your workstation to the directory *reports* on the remote UNIX system and rename the file *report1.txt*:

```
ftp> PUT REPORT1.DOC reports/report1.txt
```

To copy all files with the extension .DOC from your workstation to the current directory on the remote host:

```
ftp> MPUT *.DOC
```

Copying Files to Your Workstation

You can use the following FTP commands to copy one or more files from a remote host to your workstation:

- **GET** – Copy one file to your workstation
- **MGET** – Copy one or more files to your workstation
- **COPY** – Copy one or more files or directories, or a directory tree from a remote host

The following examples show you how to use the GET and MGET commands. The COPY command is discussed in the following section, Copying Files Between Remote Hosts.

To copy the file *report1.txt* from the current directory on the remote UNIX system and retain the name *report1.txt*:

```
ftp> GET report1.txt
```

To copy the file *report1.txt* from the current directory on the remote UNIX system to the directory REPORTS on your workstation and rename it REPORT1.DOC:

```
ftp> GET report1.txt REPORTS\REPORT1.DOC
```

To copy all files that start with the name *report* (and that conform to the local naming conventions) from the current directory on the remote UNIX system to the current directory on your workstation:

```
ftp> MGET report*
```

Copying Files Between Remote Hosts

The FTP COPY command lets you copy files between two remote hosts as well as between your workstation and a remote host. It also lets you copy an entire directory and all its subtrees.

- |||➡ When you use the COPY command, FTP automatically opens connections to the remote hosts (if they are not yet open), copies the specified files, and then closes the connections when it is finished copying the files.

Table C-4
RPR, RPS, and RPD Error Messages (Continued)

Error Message	Explanation
Not processing file <file name>. Cannot determine file type: <LAN WorkPlace system message>	RPR cannot determine if the file is a text file or a binary file, and it will not print the file. RPR continues with the next file in the command line.
Not processing file <filename>. Failed to open file:<LAN WorkPlace system message>	One of the files you specified on the RPR command line does not exist. RPR skips this file and continues with the next file on the command line.
Permission denied	The .RHOSTS file does not contain an entry for the name of the user or workstation you specified.
Try to connect to remote host: <LAN WorkPlace system message>	The attempt to connect to the remote host or to the RSH server on the remote host failed. Check the status of the remote host and its RSH server.
unknown host	The remote host you specified is not in your workstations's host file.
usage: ...	You specified options incorrectly on the command line. This error messages shows the correct command-line format.
User abort of program.	You aborted the RPR command by pressing Ctrl-C or Ctrl-Break. The RPR command may not have concluded.
Your username must be in the environment table. ...SET NAME= <user_name>	Execute the DOS SET NAME command and set your DOS username to be the same as your login name on the remote host. The LAN WorkPlace for DOS software appends the SET NAME command to your AUTOEXEC.BAT file during installation.



TNVT220 Error Messages

All error messages that occur when you are using the TNVT220 utility originate from the local host. The common error messages are listed in alphabetical order and explained in Table C-5. If TNVT220 displays any messages that are not self-explanatory and that interrupt your work, contact your network administrator or refer to the *LAN WorkPlace for DOS Administrator's Guide*.

Table C-5

TNVT220 Error Messages

Message	Explanation
Ambiguous command name specified with the ? or HELP command	You specified an ambiguous abbreviation of a command name with the ? or HELP command. Command name should be more specific.
Ambiguous command, please be more specific	You entered a TNVT220 command abbreviation that matches another TNVT220 command (for example, SE could be SELECT or SESSIONS). Be more specific.
Connection refused	(1) The remote server is busy. Try again later. (2) The remote server does not have the proper server software. Contact your network administrator or the administrator of the remote host. (3) The remote server is not running. Try again later.
Connection reset by peer	The remote host may have detected an error at the remote end of the connection. Contact your network administrator or the administrator of the remote host.
Connection timed out	The attempt to communicate with the remote host failed. The remote host may not be functioning or the path to it has been severed. Try again later or contact your network administrator.
Host is down	The remote host is not functioning. Contact your network administrator or the administrator of the remote host.

→

Table C-5
TNVT220 Error Messages (Continued)

Message	Explanation
Hostname missing, entering command processor	You did not specify a hostname when you entered the TNVT220 command; therefore, TNVT220 is in command mode. To open a session with the desired host, execute the OPEN command.
Host name missing, please reenter the command with a host name	You must specify a hostname with the OPEN command.
Invalid or insufficient arguments, please check format	You specified invalid or insufficient arguments with the TNVT220 command. Enter 'HELP <i>command_name</i> ' for the correct format.
Invalid command	The command you entered at the TNVT220 prompt is invalid. Use the HELP command for a list of valid commands.
Invalid command name specified with the ? or HELP command	You specified an invalid or unsupported command name with the ? or HELP command. Check for spelling errors.
Invalid option(s) specified with the command	You specified one or more invalid options with the TNVT220 command. For the correct format, enter TNVT220 -H at the DOS prompt.
Invalid or insufficient arguments, please check format	You specified invalid or insufficient arguments with the TNVT220 command. Enter 'HELP <i>command_name</i> ' for the correct format.
Invalid VT220 function keys map file <filename>	Contents of the file name specified with the -F option are invalid and cannot be used by TNVT220. The specified file may not be a valid keyboard map file.
Keyboard selection failed, file PCTOHOST.MAP not found	TNVT220 is unable to find file PCTOHOST.MAP in LAN WorkPlace for DOS directory. TNVT220 cannot proceed without this file.



Table C-5


TNVT220 Error Messages (Continued)

Message	Explanation
Map filename too long	The name of the map file you specified with the TNVT220 -F option exceeds 50 characters.
Maximum sessions limit exceeded	You tried to open more than the 10-session maximum.
Network dropped connection on reset	Connection to the remote host was interrupted and lost, and the state of the operation in progress (if any) cannot be determined. Try again.
Network is down	Your workstation cannot communicate with the network. Try again later.
Network is unreachable	There is no known route to the remote host, the remote network, or both. Contact customer support.
No other sessions are currently established	Your attempt to switch to another session failed because currently you have only one TNVT220 session.
No route to host	No route exists to the remote host. Contact your network administrator or the administrator of the remote host.
No sessions are currently established	Currently, there are no existing TNVT220 sessions.
Not enough memory	Insufficient DOS memory to perform the specified operation.
Not sufficient privilege for operation	You do not have the proper permission(s) for the operation you attempted.
Permission denied	You do not have the proper permission(s) for the operation you attempted.
Software caused connection abort	The local system detected an error at the remote end of the connection. Contact your network administrator.



Table C-5
TNVT220 Error Messages (Continued)

Message	Explanation
The name is not unique, please use session id	Either you specified an ambiguous hostname with the command or you have more than one session to the same host. Use the session id to identify the target host.
The specified session does not exist	You specified a nonexistent session id with a TNVT220 command.
There is no session to the specified host	You specified a nonexistent hostname with a TNVT220 command.
Too many arguments specified with the command	The number of arguments specified with the command exceeds the maximum number allowed.
Unable to find VT220 function keys map file <filename>	TNVT220 was unable to find file 'filename' specified with the -F option. Check for pathname or filename errors.
Unable to open a new session	An error occurred while trying to open a new session. TNVT220 could not establish the requested session.
Unable to restore	The session screen of the resumed session can not be restored either because you or another program erased the session screen file, or TNVT220 was activated with -X option.
Unable to resume the specified session	The system failed and TNVT220 cannot resume the specified session.
Unknown host	The host you specified is not in the DNS name server's host table (if you have a name server on the local network) or in your workstation's host name database.



LAN WorkPlace System Error Messages

Some of the error messages returned by the HostAccess utilities refer to LAN WorkPlace system error messages. Table C-6 lists the most common of these messages in alphabetical order and explains them.

If the explanations given in this appendix and throughout this manual do not solve or isolate a persistent problem, refer to the *LAN WorkPlace for DOS Administrator's Guide* or contact Novell at the following address and telephone number:

Customer Support Response Center
Novell, Inc.
2180 Fortune Drive
San Jose, CA 95131
(408) 473-8700

Table C-6

LAN WorkPlace System Error Messages

Error Message	Explanation
Address already in use.	Multiple servers of the same type (such as FTPD) are running concurrently on the same network port.
Bad file number.	You tried to write to a read-only drive, or made a close request for a nonexistent socket.
Connection refused.	The remote host did not accept the connect request. The remote host may not be running the server required by the application.
Connection timed out.	The remote system is not responding. Either the remote system is not running, or there is an addressing problem.
File exists.	(1) A file with the same name already exists. (2) A bad request code was passed to the routing code (on the EXOS board). (3) An attempt was made to delete the entry for the default gateway.





Table C-6
LAN WorkPlace System Error Messages (Continued)

Error Message	Explanation
File name expansion yielded wrong number of arguments.	The file name you specified with wildcard characters expanded into more than one file name.
File name too long.	You specified an invalid DOS file name.
Host is down.	The remote host is inaccessible. It is either turned off, or TCP/IP protocol software is not running or allowing you to connect to the host.
Interrupted system call.	You pressed Ctrl-C or Ctrl-Break and stopped a network operation.
Invalid file name format.	The file name specified either was a reserved name for a DOS device or contained invalid characters.
Is a directory.	(1) The program required a file for the operation, but the name specified was not a file. (2) In FTP and RCP, you omitted the -R option to indicate a recursive operation.
Mismatch between file type and transfer parameters.	In FTP, you tried to force a transfer of a file using incompatible parameters. The file was not transferred.
No space left on device.	The disk is full.
No such file or directory.	The file or directory specified does not exist.
Not a directory.	The program required a directory for the operation, but the name specified was not a directory.
Not enough core.	Not enough memory is available to allocate data space or to run COMMAND.COM.
Read-only file system.	The program tried to write to a read-only file or device.
Unknown host name.	The host name is not found in host name database.



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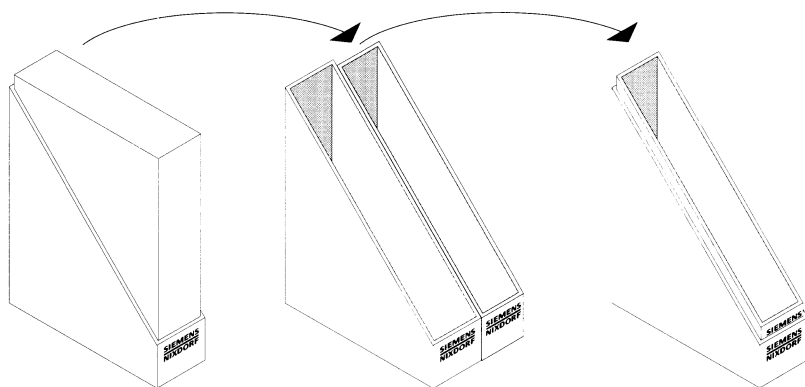
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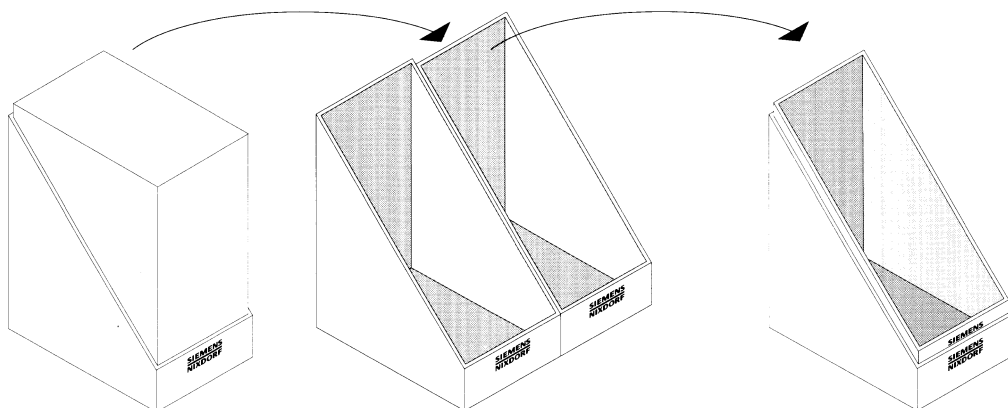
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