

# PATHWORKS for DOS

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Microsoft Windows Support  
Guide



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## Microsoft Windows Support Guide

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**Digital Equipment Corporation  
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# Preface

## Purpose

This guide introduces the Microsoft Windows support software for Microsoft Windows Version 3.0. The guide tells you how to install and use this software in the PATHWORKS for DOS environment.

## Audience

This guide is directed to the Microsoft Windows user who wants to use PATHWORKS for DOS in a Windows environment. Some of the procedures described in this book, such as installing the network version of the support components, require a system administrator.

The guide assumes that you are familiar with basic windowing techniques and procedures. If you are a novice Microsoft Windows user, use this guide with the *Microsoft Windows User's Guide*.

The guide also assumes that you have installed PATHWORKS for DOS. If PATHWORKS has not been installed on your system, see your *Client Installation and Configuration Guide* for installation information. You should also be familiar with the *User's Handbook*.

# Organization

This guide consists of the following chapters:

Chapter 1	Introduces PATHWORKS for DOS support software for Microsoft Windows Version 3.0.
Chapter 2	Contains information on installing the Windows support software and customizing your system.
Chapter 3	Tells you how to install Digital printer drivers and set up options for Digital printers.
Chapter 4	Introduces the VT320 terminal emulator and describes how to access, set up, and use it.
Chapter 5	Contains information about using the VT320 emulator Set-Up utility and the Set-Up screens and selections.
Chapter 6	Explains how to do network file transfers and other operations using the NFT and FAL utilities.
Chapter 7	Contains information about messages you could encounter while using PATHWORKS Windows support components. Each message is accompanied by a severity level, an explanation, and a corrective action.
Appendix A	Contains information about using a keyboard with the VT320 emulator.
Glossary	Contains terms and definitions used in this guide.

## Related Documents

Consult the following manuals for more information on topics presented in this guide.

<b>Topic</b>	<b>Manual</b>
Microsoft Windows	<i>Microsoft Windows User's Guide</i> supplied by Microsoft
Installing PATHWORKS for DOS	<i>Client Installation and Configuration Guide</i>
Network connections	<i>User's Handbook</i>
MS-DOS	Vendor-supplied DOS manual
SETHOST terminal emulator and character sets	<i>SETHOST Terminal Emulation Guide</i>
Creating and using script files	<i>SETHOST Terminal Emulation Guide</i>
Terminal Access Library Socket Library DECnet Library	<i>DECnet Programmer's Reference</i>
TCP/IP Library	<i>TCP/IP Programmer's Reference</i>
Using network utilities from the DOS command line	<i>DECnet User's Guide</i>

# Conventions

This guide uses the following conventions:

Convention	Meaning
<code>Return</code>	Press the key that executes commands or terminates a sequence. This key is labeled <code>Return</code> , <code>Enter</code> , or <code>↵</code> , depending on your keyboard.
“enter”	Type all required text, spaces, and punctuation marks; then press <code>Return</code> , <code>Enter</code> , or <code>↵</code> , depending on your keyboard.
MB1, MB2, MB3	MB1 indicates the left mouse button, MB2 indicates the middle mouse button, and MB3 indicates the right mouse button. (The buttons can be redefined by the user.)
UPPERCASE	In VMS, DOS, and OS/2 syntax, uppercase letters indicate commands and qualifiers. You can enter commands and qualifiers in any combination of uppercase or lowercase, unless otherwise noted.  ULTRIX commands are case-sensitive. You must enter commands in the correct case, as printed in the text.
lowercase	Lowercase letters in VMS, DOS, and OS/2 syntax indicate parameters. You must substitute a word or value, unless the parameter is optional.
teal blue type	In examples of dialog between you and the system, teal blue type indicates information that you enter. In online (Bookreader) files, this information appears in boldface.
<b>boldface</b>	Boldface type indicates a new term that appears in the glossary. In online (Bookreader) files, boldface indicates information you enter.
<code>kpr</code>	Press the specified key on the numeric keypad of your keyboard.
NOTE	Notes provide information of special importance.
CAUTION	Cautions provide information to prevent damage to equipment or software.

# Terminology

Throughout the guide, the term “Windows” refers to Microsoft Windows Version 3.0.

Microsoft Windows allows you to use either the keyboard or the mouse to select menus and commands. This guide generally uses mouse techniques to illustrate how to select Microsoft Windows menus and commands. See your Windows user documentation for help on using the keyboard for these functions.

The terms “personal computer” (PC) and “PC workstation” refer to standalone systems. The term “client” refers to a PC, connected to the network by PATHWORKS software, that can access resources on a server. A server is a system that offers services to clients.

The term “PATHWORKS” refers to PATHWORKS for DOS software. PATHWORKS is a trademark of Digital Equipment Corporation.





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# Introducing PATHWORKS Support Software for Windows

The Windows support software included with PATHWORKS for DOS gives the Microsoft Windows user increased network capabilities from within Windows. You now can, for example, create or edit a VMS file as if you were logged into your VMS account, send that file to a coworker, and then print it out using a network printer — all without ever leaving your Windows environment.

The Windows support software is located in the \MSWINV30 subdirectory of the PCSAV41 system service. The components include:

*Windows' Terminal option, included in the retail Windows Version 3.0, lets you use serial communications only to emulate a VT100 terminal.*

- **VT320 terminal emulator**

The VT320 terminal emulator is a Windows application. Use the VT320 terminal emulator to run a VMS or ULTRIX session as if you were working at a VT100, VT220, or VT320 terminal.

You can connect to your VMS or ULTRIX account using asynchronous communications or network transports like DECnet or TCP/IP.

- **A Windows network driver for PATHWORKS**

This driver lets you manage both file and disk services from within the Windows File Manager. Also included are virtual mode drivers that let you use the DECnet transport in Windows 386 Enhanced Mode.

- Two DECnet network utilities to manage your network files. These utilities are both Windows applications. They are:
  - A file transfer utility  
NFT (Network File Transfer), a DECnet utility tailored for Windows, safely transfers your PC files to any VMS, ULTRIX, DOS, or OS/2 node on the DECnet network.
  - A file access utility  
FAL (File Access Listener), another DECnet utility that has been adapted to run under Windows, listens for file requests from other DECnet nodes. By running FAL, you can make files on your PC available to other users on a DECnet network.
- Printer, mouse, and keyboard drivers  
The Digital printer drivers contain the instructions necessary to print single- or double-sided documents or use optional installed cartridge fonts.  
  
In addition to printer drivers, Windows support software contains drivers for the Digital DEPCA mouse and the Digital LK250 keyboard for the U.S. and all supported foreign countries. The DEPCA mouse driver supports both Digital's proprietary data link and NDIS, an industry-standard protocol. The DEPCA mouse support for NDIS is required for TCP/IP and NetWare coexistence.
- PIFs (Program Information Files)  
PATHWORKS contains PIFs for networked applications that you want to run under Windows. For example, the SETHOST.PIF file supplied by PATHWORKS contains settings that let you run the SETHOST emulator (usually run from the command line) under Windows.
- Software libraries  
Windows support software contains a Terminal Access Library (TRMNLAXS.DLL), the DECnet Socket Library, and the TCP/IP Library. Programmers can access these libraries to help write networked Windows applications for PATHWORKS.  
  
In addition to these libraries, programmers have access to Digital-enhanced NETBIOS (Network Basic Input/Output Services) functions to include in their applications.

*The Digital (DEPCA) mouse is round with three buttons.*

---

# Setting Up Your Windows Environment for PATHWORKS

This chapter tells you how to install the Windows support software and how to get ready to use Windows in a networked environment. Table 2-1 is a checklist of the procedures you must follow to set up a complete PATHWORKS Windows environment.

**Table 2-1 Checklist for Setting up a PATHWORKS Windows Environment**

---

- Complete the prerequisite installations.
  - Install the Windows support software using the WIN3SETU utility.
  - Connect to the file, disk, and printer services you need.
- 

The rest of the chapter describes the following configuration-dependent tasks:

- Using remote boot to run Windows in 386 Enhanced Mode
- Running non-Windows applications

The final section describes how a system administrator can create a shared network directory for Windows.

## Step 1: Prerequisite Installations

*Is PATHWORKS installed?*

Be sure the following installations are completed on your system:

- Install PATHWORKS, making sure that your network transport is loaded.

See your *Client Installation and Configuration Guide* for installation instructions.

*Is Windows installed?*

- Install Windows from the floppy disks or the network, following your Windows documentation.

If you want to install Windows from a shared network directory, be sure your system administrator has installed Windows and the Windows support components in the shared directory. For more information, see *Creating a Shared Network Directory for Windows* in this chapter.

*Note the directory name.*

Note the name of the directory where you install Windows. You need this information when you run WIN3SETU, the setup utility that installs the Windows support software.

*The Digital (DEPCA) mouse is round with three buttons.*

---

### Note

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If you are using the Digital DEPCA mouse or the Digital LK250 keyboard, accept all the hardware defaults on the Windows setup screen describing the hardware. You can make the necessary adjustments to these hardware settings when you run WIN3SETU.

---

You can complete these two installations in any order. For example, if you are already running Windows, you need to install only the PATHWORKS for DOS software on your system and load your network transport.

## Step 2: Install the Windows Support Software

*You must run WIN3SETU after you install Windows or upgrade to a new release of Windows.*

You install the Windows support software by running the setup utility, WIN3SETU, after you have installed Windows. You must run WIN3SETU before you can use the individual components, such as the VT320 terminal emulator or NFT.

To install the Windows support software:

1. At the DOS prompt, enter:

```
C:\> WIN3SETU
```

The initial utility screen appears, with a drive letter for the system service already entered.

2. Press **Return** if the drive letter is correct, or enter the correct drive letter.
3. At the next prompt, verify the directory where Windows is installed.

This is the directory name you specified during the Windows installation. Correct the directory name if necessary.

*Is this where you installed Windows?*

---

**Note**

---

You can install the Windows support components in any directory where Windows is installed:

- You can install them in a Windows directory on your hard disk to run with Windows from your PC.
- You can install them in a personal network directory to run with Windows from the network. This would be necessary if your PC does not have a hard disk. For example, F:\WINDOWS could be the name of your personal network directory located on network drive F.

*Verify the type of mouse and keyboard you are using.*

*The Digital (DEPCA) mouse is round with three buttons.*

4. You are now prompted for a response regarding the:

- DEPCA mouse
- LK250 keyboard
- If you have a Digital DEPCA mouse or a Digital LK250 keyboard, answer **Yes**.

WIN3SETU changes the default mouse or keyboard information created by Windows Setup in your SYSTEM.INI file.

- If you have a Microsoft mouse or an IBM or compatible keyboard, answer **No**.

WIN3SETU keeps the default Windows mouse or keyboard information.

If you are installing the LK250 keyboard, specify the keyboard language. If your system has a code page loaded for international character sets, select the appropriate code page used.

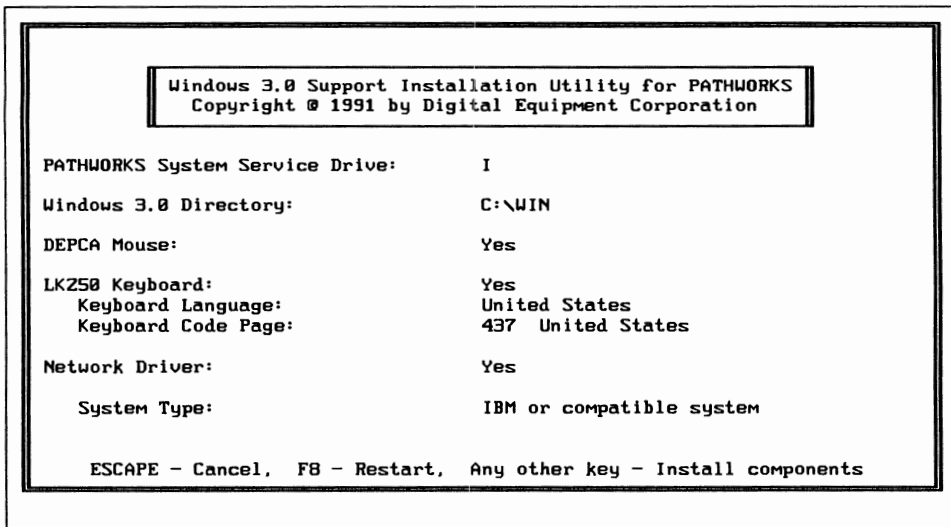
5. At the next prompt, select the appropriate response regarding connections to the PATHWORKS network.

Answer **Yes** to install the PATHWORKS network driver.

6. Finally, indicate if you are using an IBM or HP Vectra PC.

The utility displays a confirmation screen summarizing your responses to the prompts. Figure 2-1 shows a typical confirmation screen.

**Figure 2-1 WIN3SETU Confirmation Screen**



7. Review the information on the screen.

*Pay special attention to the mouse and keyboard data.*

- If the information is correct, press any key (except **F8** and **Esc**).
- If any information is incorrect, press **F8**. Your entries are canceled and you are returned to the initial WIN3SETU screen. Repeat the above steps to enter the correct information.
- If you want to exit from the utility without installing the components, press **Esc**. Your entries are canceled, you exit the utility and you return to the system prompt.

---

#### Note

---

If you cannot use your mouse or keyboard in Windows after you have run WIN3SETU, you may have chosen the wrong mouse or keyboard. Follow these steps to correct the mouse or keyboard information:

1. Exit from Windows
  2. Change to your Windows directory if necessary
  3. Rerun Windows Setup and choose your mouse or keyboard from the list
- 

## Step 3: Connect to File, Disk and Printer Services

Connect to file and disk services you need on a PATHWORKS server by using either of the following methods:

- With the USE command before you run Windows
- With the File Manager from within Windows

You can connect to network printer services by using the Control Panel. See Chapter 3 for instructions on connecting to network printers.

## Using Remote Boot to Run Windows in 386 Enhanced Mode

*You only have to do this once.*

Before you run Windows in 386 Enhanced Mode for the first time from a remote boot client, you must load the **terminate-and-stay-resident (TSR)** program called RPLMEM. This TSR informs Windows that the area at the end of conventional memory is being used by the operating system and is unavailable to Windows.



Follow these steps to load the TSR:

1. Change your directory to the system service where the network files are located, for example:  
`C:\> J:`
2. Change directory to the \MSWINV30 directory by entering:  
`J:\> cd \MSWINV30`
3. Start the TSR by entering:  
`J:\MSWINV30> REIMEM`

## Running Non-Windows Applications Under Windows

*Windows automatically runs an application's PIF if one exists on the path.*

Whenever you start a non-Windows application in Windows, Windows looks for that application's Program Information File (PIF) in the directory path. All PATHWORKS PIF files are in the \MSWINV30 directory.

For example, the Windows support software includes a PIF to run the SETHOST emulator in Windows. If you want to use SETHOST in Windows, be sure the \MSWINV30 directory is somewhere in your path. Check your path by entering:

```
C:> PATH
```

*SETHOST runs under Windows.*

---

### Note

---

To ensure that SETHOST runs correctly in a Windows environment, set the NVTWIN environment variable by entering the following command in a SETHOST script, your AUTOEXEC.BAT file, or from the DOS command line:

```
SET NVTWIN=1
```

See the *SETHOST Terminal Emulation Guide* for more information.

---

## Creating a Shared Network Directory for Windows

A system administrator can create a shared directory for Windows. A shared directory lets users save disk space because the Windows files are stored on a server, not on individual PCs.

To create a shared network directory for Windows:

1. Create a shared network directory. See your *Server Administrator's Guide* for more information.
2. Copy all the Windows files to the shared network directory. See your Microsoft documentation for more information.
3. Run WIN3SETU to copy all the Windows support components to the shared network directory. See Step 2: Install the Windows Support Software in this chapter for more information.

WIN3SETU prompts you only for the source and destination directories. Since you are installing the complete set of Windows support software, you are not prompted for user-specific hardware information.

4. Give the shared directory READ-ONLY access only for multiple users. See your *Server Administrator's Guide* for more information.



---

# Setting Up Network Connections to Digital Printers

This chapter tells you how to install, configure, and connect to Digital printers, including printers that are not included on the retail Windows diskettes.

You need to take the following steps:

*Each step is described in this chapter.*

1. Locate the printer driver for your printer.  
Find out if you need to install a printer driver or if the correct one is already installed.
2. If necessary, install the printer driver.  
When you install a printer within Windows, you are copying a printer driver file and setting up configuration information.
3. Connect to a Digital printer using PATHWORKS.
4. Set up Digital printer options.  
This procedure lets you choose among your printer's options (for example, if you want to use double-sided printing).

## Step1: Locate Your Printer Driver

Table 3-1 lists Digital printers, their printer driver names, and the printer driver location. The printer drivers are located either on the Windows List of Printers or on the \MSWINV30 system service.

**Table 3–1 Digital Printers, Printer Drivers, and Location**

<b>If you have this Digital printer...</b>	<b>Select this driver...</b>	<b>From this location...</b>
DECLaser 2100	dec2100.drv	\MSWINV30
DECLaser 2100 with the CaPSL cartridge	Canon LBP8 III	Windows List of Printers
DECLaser 2150 with the Postscript cartridge	Apple LaserWriter Plus	Windows List of Printers
DECLaser 2200	dec2200.drv	\MSWINV30
DECLaser 2200 with the CaPSL cartridge	Canon LBP8 III	Windows List of Printers
DECLaser 2250 with the Postscript cartridge	Apple LaserWriter Plus	Windows List of Printers
LA70	la70.drv	\MSWINV30
LA75 Companion	la70.drv	\MSWINV30
LA210	IBM Graphics	Windows List of Printers
LA324	la324.drv	\MSWINV30
LJ250\LJ252 Companion	lj250.drv	\MSWINV30
LN03R ScriptPrinter	Digital LN03R ScriptPrinter	Windows List of Printers
LN03	dec2100.drv	\MSWINV30
LN03 PLUS	dec2200.drv	\MSWINV30
LPS PrintServer 40	Digital LPS PrintServer 40	Windows List of Printers

Find your printer on the table.

- If your printer driver is on the Windows List of Printers, you can install the printer driver from the Windows installation diskettes. Follow your Microsoft user documentation to finish installing and configuring these printers.
- If your printer driver is on the \MSWINV30 system service, follow the directions in the next section.

---

**Note**

---

If your printer uses a printer driver designed for another printer (as does the LA210, for example), it is operating in **emulation mode**. Follow your Microsoft user documentation to install the printer driver. Then

consult your printer documentation for further instructions on using your printer in emulation mode.

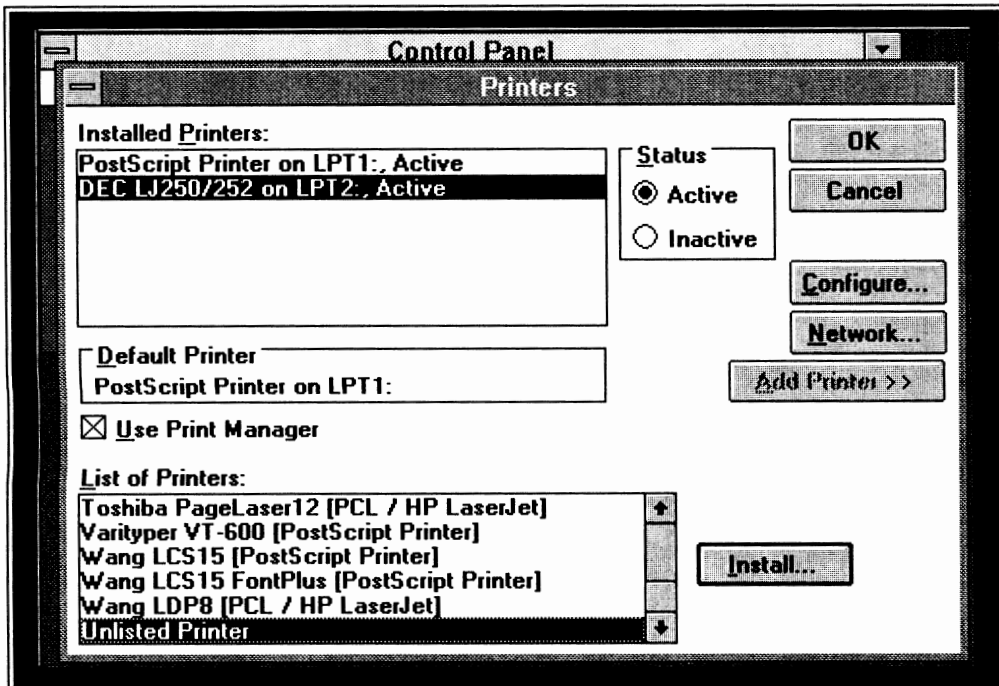
## Step 2: Install a Printer Driver from the System Service

*This section uses a sample installation of the DEC Laser 2200 printer.*

Use the Printers option on the Control Panel to install your Digital printer driver from the system service.

Follow the directions in your Microsoft documentation to install a printer until you are at the Printers screen, as shown in Figure 3-1.

Figure 3-1 Add Printer Window



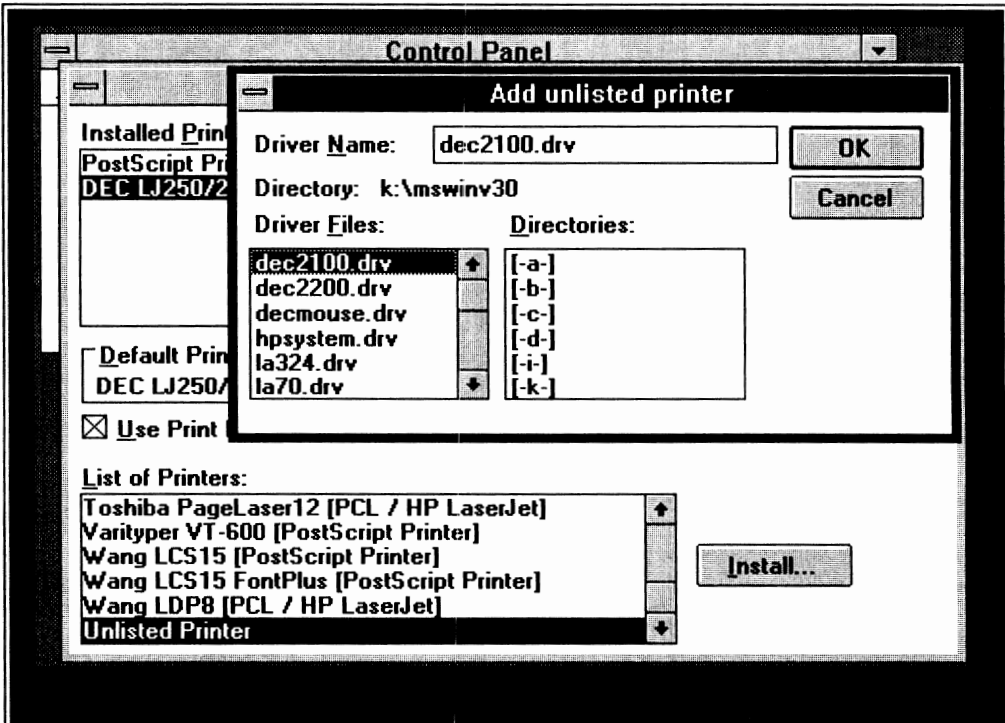
1. Choose the **Unlisted Printer** option at the bottom of the Windows List of Printers.

2. Select your system service drive letter and the \MSWINV30 directory.

The dialog box displays the driver files it finds in that directory.

3. Select the appropriate driver file from Table 3-1. Figure 3-2 shows **dec2100.drv** has been selected.

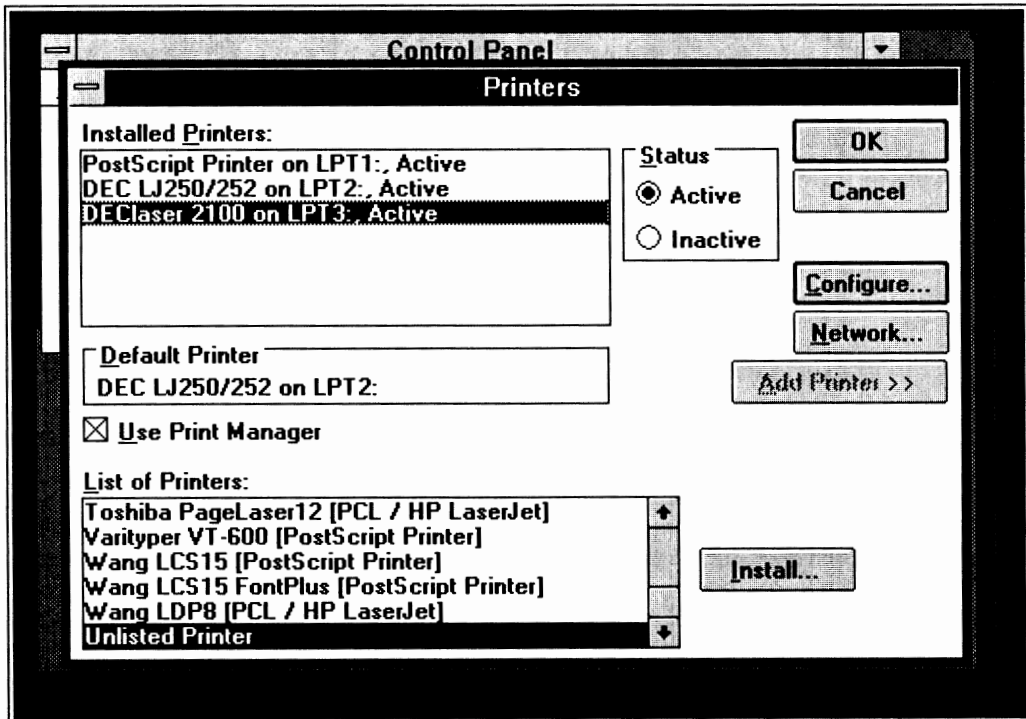
Figure 3-2 Add Unlisted Printer Dialog Box



4. Configure the driver to a port, as described in your Microsoft user documentation.

When you are done, your Printers Window looks like Figure 3-3.

Figure 3-3 Installed Printers Box



### Step 3: Connect to a Digital Printer Using PATHWORKS

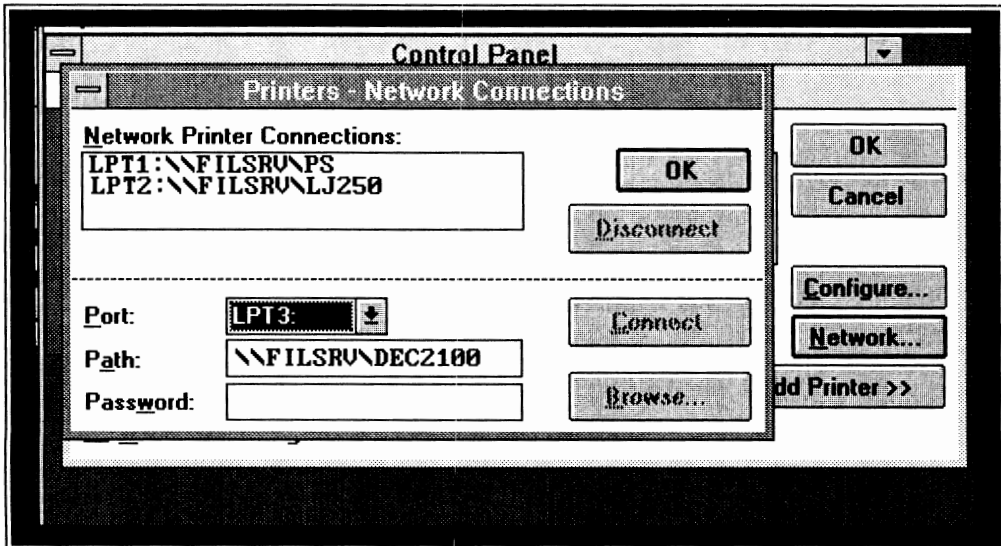
After you have installed and configured the printer software on your PC:

1. Use the Printer option on the Control Panel to connect to printers.  
See your Microsoft documentation for more information.



2. Enter your printer path in the dialog box as shown in Figure 3-4.  
See your *Server Administrator's Guide* for help with network printer paths or ask your system administrator for this information.

Figure 3-4 Printers Network Connections



3. If your system requires it, append “%” and your username to the path shown in Figure 3-4.

For example, if your username is USER1, then you would enter the following as your printer path:

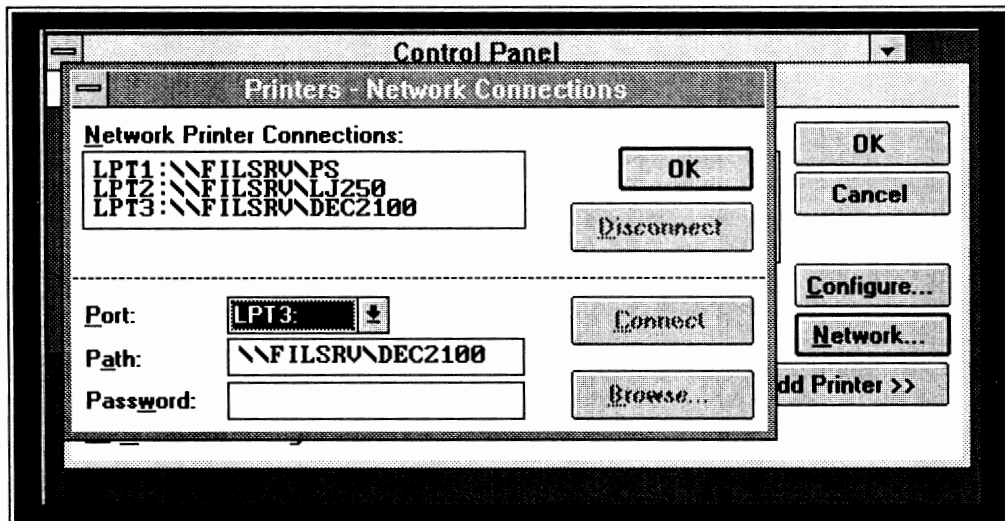
```
\\FILSRV\DEC2100%USER1
```

Choose the **Print** option on the **File** menu to use network printers.

4. If your system requires it, add your password.
5. Click on **Connect**.

Your network connection appears in the Network Printer Connection box as shown in Figure 3-5.

**Figure 3-5 Completed Printer Network Connection**



---

#### Note

These network printer connections are established for the current session only. The next time you start Windows you must make your connections again.

If you want to make a permanent connection to a network printer to use under Windows, add the following line at the end of your AUTOEXEC.BAT file:

```
USE LPTn:\\your_node_name\printer_path
```

---

If you need more information on connecting to a network printer, see *User's Handbook* or your Microsoft user documentation.

## Step 4: Set Up Printer Options

Each Digital printer supports different options. Figure 3–6 shows the printer options screen for the DEClaser 2200.

Figure 3–6 DEClaser 2100/2200 Printer Options

DEClaser 2100/2200 v0.05

Graphics:  
300 × 300  
150 × 150

Copies: 1

OK  
Cancel  
gen 1.48T

Paper source:  
Upper  
Lower  
Manual  
Envelope

Cartridge or optional fonts:  
C.G. Times  
C.G. Triumvirate  
ITC Souvenir, English Embassy  
Monospaced

Orientation:  
 Portrait  
 Landscape

Paper size:  
Letter 8½ × 11 in  
Legal 8½ × 14 in  
A4 210 × 297 mm  
Executive 7¼ × 10 in

Duplex printing:  
Single sided  
Duplex top binding  
Duplex left binding

The DEClaser 2100 and 2200 printers support up to two optional installed cartridge fonts. To select and use this option:

1. Find out what optional cartridges have been installed.
2. Access Printer Setup from either the Control Panel or your application.
3. Select the cartridge name from the printer options screen.
4. Select the font from within your application. For example, if you want to use C.G. Times in Windows' Write application:
  - Click on **Character** on the Write menu.
  - Click on **Fonts** on the drop-down menu.
  - Click on **C.G. Times** on the Fonts menu.

---

## Using the VT320 Terminal Emulator

The VT320 **terminal emulator** lets you work at your PC as if you were working directly on another computer system. You can, for example, use the VT320 emulator to access your VMS files, edit them with your familiar VMS editor, and process them just as if you were sitting at your terminal, all without ever leaving your Windows environment.

PATHWORKS for DOS provides both the VT320 emulator and the SETHOST emulator. The VT320 emulator is designed specifically to be run in a Windows environment. The SETHOST emulator is designed for the DOS environment. For more information on the SETHOST emulator, see the *SETHOST Terminal Emulation Guide*.

When you use the VT320 terminal emulator, your personal computer can:

- Perform like a VT52, VT100, VT200, or VT300 terminal with 7- and 8-bit control that supports both DEC and ISO Latin-1 character sets.

See the *SETHOST Terminal Emulation Guide* for more information on these supported character sets.

- Run applications located on your host system, for example, ALL-IN-1 Calendar.

See your specific application documentation for more information on running an application.

- Use the same Digital printers as a Digital terminal.

See Chapter 3 in this manual for more information about printers.

- Automatically set up a personalized VT320 terminal environment to suit your individual work needs.

For example, the VT320 emulator can:

- Customize how you communicate with the host system (with Set-Up parameters)
- Automate your connections to your host system (with configuration files)
- Automate application tasks like running a billing procedure (with script processing)

Chapter 5 gives you more information on the first two features. The VT320 emulator uses the same scripting language as SETHOST. See the *SETHOST Terminal Emulation Guide* for more information about script processing and the scripting language.

This chapter describes:

- Preparing to use the VT320 emulator
- Starting the VT320 emulator
- Setting up your VT320 emulator environment
- Defining your VT320 emulator host system
- Using the VT320 emulator window
- Running multiple VT320 emulator sessions

## Before You Start the VT320 Emulator

Before you can start the emulator, you must complete the following procedures:

*Have you run WIN3SETU?*

- Run WIN3SETU to load the support components into Windows.

Every PATHWORKS client must run WIN3SETU. See Chapter 2 for instructions on using this support component setup utility.

*Has the network transport been loaded?*

- Load a network transport in Netsetup (unless you are using asynchronous communications).

If you do not have a network transport loaded, you can only connect to a remote host by using asynchronous communications. If you want to use LAT, CTERM, or TELNET to connect to your host, the appropriate transport must be loaded. Exit from Windows and re-run Netsetup to load the relevant network transport.

See your *Client Installation and Configuration Guide* for more information on the Netsetup procedure and loading network transports, or see your system administrator.

*Is your node name defined?*

- Define your host system's node name and address in the relevant database (if you want to use a network transport). See *Defining Your Host System and Other Nodes* in this chapter for more information.

## Starting the VT320 Emulator

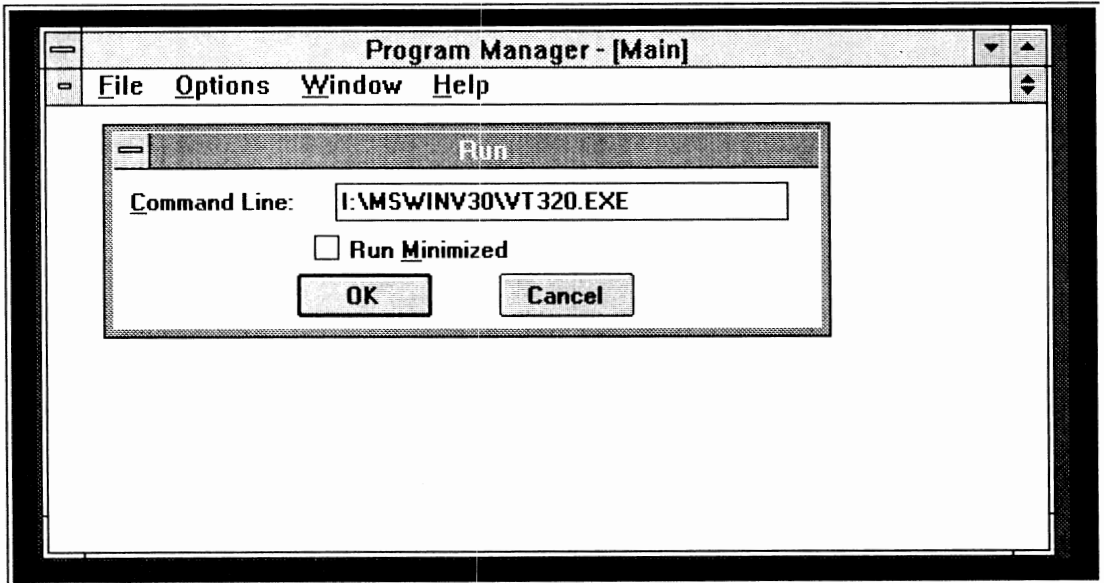
You can start the VT320 emulator by:

- Double-clicking on the VT320 Program icon
- Using the Run option located on the Program Manager or File Manager



If you want to use the Run option, follow the steps in your Microsoft user documentation to start an application. Enter the directory path for the VT320 emulator in the dialog box as shown in Figure 4-1.

Figure 4-1 Using the Run Option to Start the Emulator



Click on **OK**.

You are ready to set up your VT320 terminal emulator environment. Go to Setting Up Your VT320 Emulator Environment in this chapter.

---

**Note**

---

The first time you use it, the VT320 terminal emulator window is blank except for a blinking cursor. After you set it up to use a network transport, this screen displays a login prompt.

---

## Setting Up Your VT320 Emulator Environment

The VT320 emulator is shipped with default settings so that you can use it right away. You can change these settings at any time by using the VT320 Set-Up utility.

See Chapter 5 to change other default VT320 emulator settings.

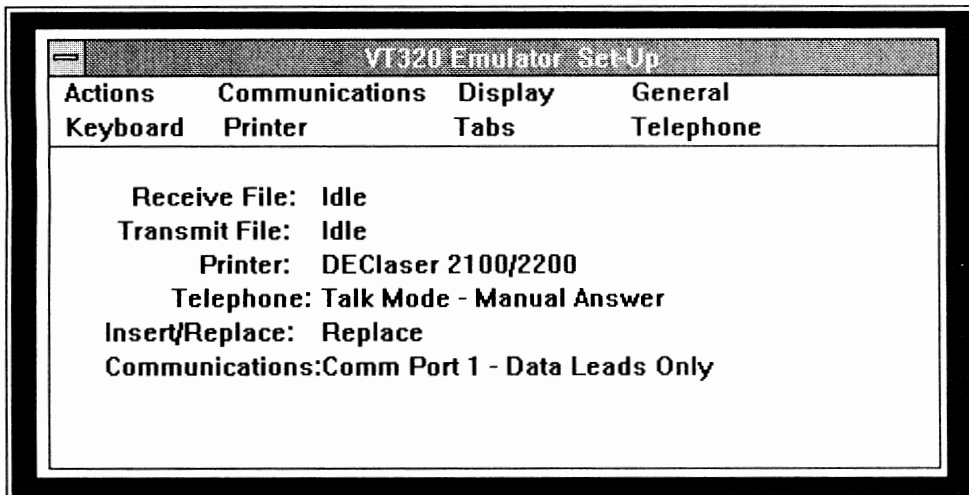
The only emulator setting you probably have to change before you run the VT320 emulator for the first time is the Communications option on the VT320 Set-Up screen. By default the VT320 emulator uses the “Comm Port 1 Data Leads Only” setting from this option. This is the setting you could use for a type of asynchronous communications.

Check your *Client Installation and Configuration Guide* for the type of communications setting you should set for this option, or see your system administrator. If you must change the default communications setting:

1. Start the VT320 emulator as instructed in the previous section.
2. Access the Set-Up utility in one of the following ways:
  - Clicking on Set-Up from the VT320 Emulator System Menu
  - Pressing the **F3** key

Figure 4–2 shows the VT320 Set-Up screen.

**Figure 4–2 VT320 Set-Up Screen**

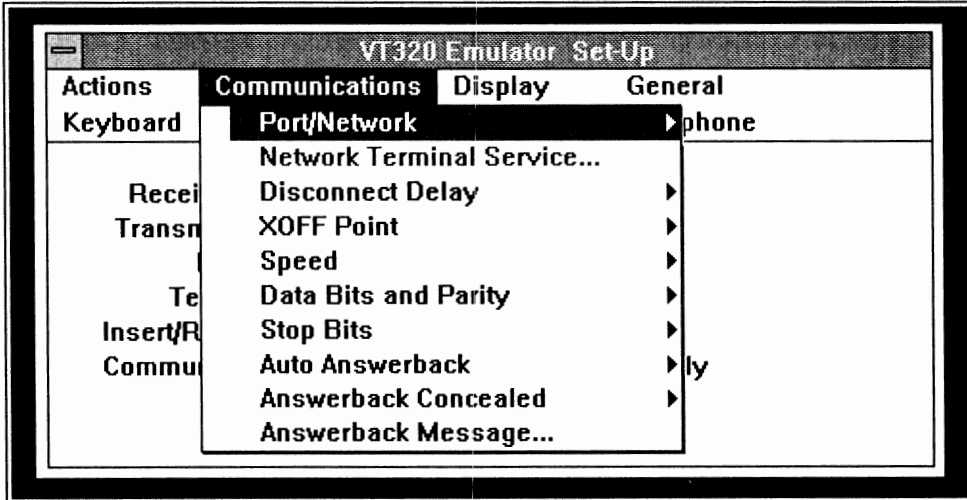




3. Click on **Communications**.

Figure 4–3 shows the VT320 Communications screen.

Figure 4–3 VT320 Communications Screen



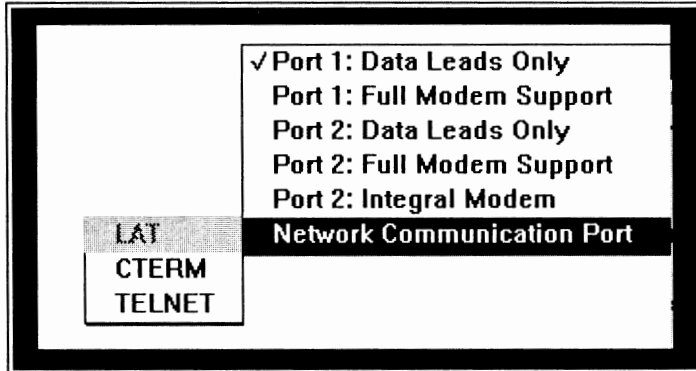
4. Click on **Port/Network**.

Another small menu pops up.

5. Click on **Network Communication Port**.

Another small pop-up menu appears as shown in Figure 4–4.

**Figure 4-4 LAT/CTERM/TELNET Screen**



Your next step depends on whether you use DECnet or TCP/IP as your network transport.

6. Click on the communications protocol you want to use:
  - If your transport is DECnet, select either LAT or CTERM.
  - If your transport is TCP/IP, select TELNET.
7. Enter your host system name.

---

**Note**

---

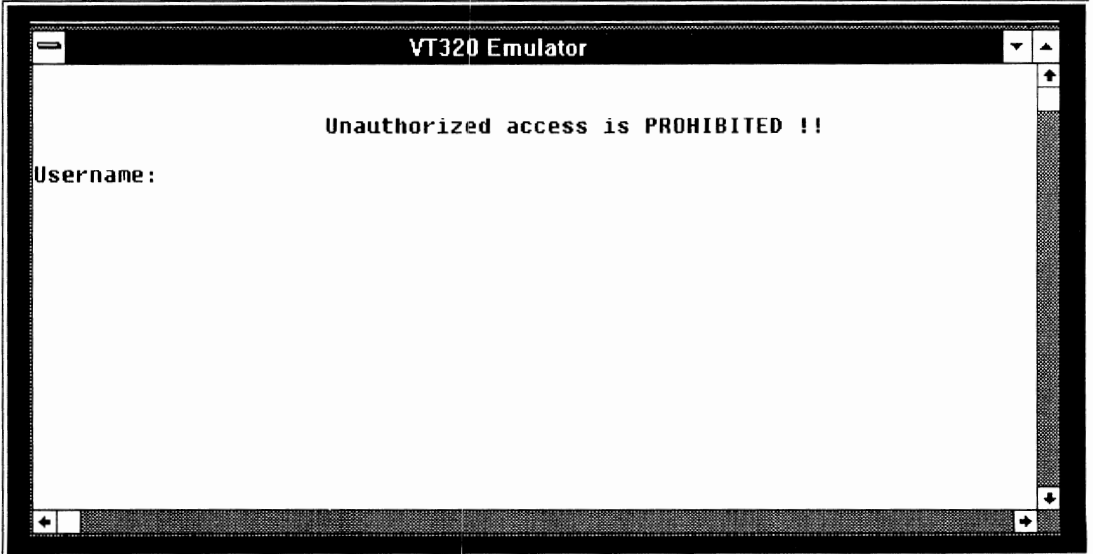
See *Defining Your Host System and Other Nodes* for more information on host system names.

---

- If you chose CTERM or TELNET, enter your host system name in the pop-up dialog box.
  - If you chose LAT, select your host system name from the displayed list of available services.
8. Click on **OK**.
  9. Close the Set-Up utility by choosing Close from the VT320 Emulator Set-Up menu, or pressing **F3**.

Figure 4–5 shows the VT320 emulator screen with a login prompt from the host system, indicating a successful connection.

**Figure 4–5 VT320 Emulator Screen with Host System Login**



## Defining Your Host System and Other Nodes

You may need to define the host system and other nodes you want to access. To define a node means to enter the node name and address in the relevant database. Complete the steps in this section so your personal computer can recognize the node names of nodes you want to access.

---

### Note

---

If you cannot connect to the network after you have defined your node name, check that your system is configured correctly. See your *Client Installation and Configuration Guide* or your system administrator.

---

This section tells you how to:

- Define DECnet node names to use with CTERM  
If you use CTERM with the DECnet network transport protocol, use the **Network Control Program (NCP)** to define a DECnet node name in your personal computer's database.  
For instructions, see Defining DECnet Node Names for CTERM in this section.
- Define DECnet node names to use with LAT  
If you use LAT with the DECnet network transport protocol, use the **Local Area Transport Control Program (LATCP)** to add a service in your personal computer's database.  
For instructions, see Adding a Local Area Transport (LAT) Service in this section.
- Define TCP/IP Internet node names to use with TELNET  
If you use the TCP/IP network transport protocol, edit the HOSTS. file to define the Internet node name.  
For instructions, see Defining Internet Node Names in this section.

## Defining DECnet Node Names for CTERM

To define DECnet node names for CTERM:

*Is the node name already defined?*

1. Determine whether the DECnet node name for the node you want to access is already defined in your personal computer's DECnet database:

```
C:\> NCP LIST KNOWN NODES
```

If the DECnet node name is listed, it is already defined.

If the DECnet node name for the node you want to access is not listed, go to step 2.

*Defining the node*

2. To define a node in your personal computer's DECnet database, enter:

```
C:\>NCP DEFINE NODE nodeaddress NAME nodename  
[USER "username" PASSWORD "password"]
```

**Table 4-1 NCP Define Command Elements**

Command Element	Explanation
nodeaddress	The DECnet node number that identifies the node.
nodename	The name that uniquely identifies the node.
username and password	Optional.  Enter ULTRIX and UNIX user names and passwords in lowercase letters and enclose the letters with quotation marks.

The following example defines the VMS node SRVR1 with the DECnet node address 13.99:

```
C:\> NCP DEFINE NODE 13.99 NAME SRVR1
```

The next example defines the ULTRIX node name SRVR3 with the DECnet node address 13.46; it specifies a username (user1) and password (secret):

```
C:\> NCP DEFINE NODE 13.46 NAME SRVR3 USER  
"user1" PASSWORD "secret"
```

3. Repeat step 2 for each node name you want to add to the DECnet database.

You can access on-line help for NCP for more information.

### **Adding a Local Area Transport (LAT) Service**

To add a service to the LAT service table:

1. Invoke the LATCP utility by entering the following command at the DOS prompt:

```
C:\>LATCP
```

2. To list the available services, enter this command at the LATCP> prompt:

```
LATCP>ADD
```

When LATCP finishes listening for the service announcements, a screen appears listing the available LAT services. You can stop LATCP at any time by pressing the space bar.

3. To select services from this listing, move the highlighted video bar to the service using `↑` and `↓` and then press `Return`. The selected service appears on the left side of the screen.
4. After selecting one or more services, press `Esc` to leave the selection screen and return to the LATCP prompt.

A message appears at the bottom of the screen reminding you to restart LAT when you exit. To save your changes, press `Return`.

5. To exit LATCP, enter the following command at the LATCP> prompt:

```
LATCP>EXIT
```

6. After exiting the LATCP program, reload LAT so that the new entries appear in the LAT service table. To reload LAT, enter the following command at the DOS prompt:

```
C:\>LAT
```

For a complete description of LATCP, see *Client Commands Reference* or enter LATCP HELP at the DOS prompt.

## Defining Internet Node Names

To define Internet node names in the HOSTS. file:

1. Using any text editor, open the HOSTS. file, located in your \TCP/IP subdirectory.
2. Determine whether the node name is already defined by looking for the node name and node address for the node you want to access.

If the node name and node address are listed, the node name is already defined.

If the node name and node address are not listed in the file, go to step 3.

*Is the node name already defined?*

*Defining the node*

3. Edit the file to add the Internet node address and node name of each node you want to access.

For example, to add the node names `srvr2` (Internet address 13.130.192.98) and `srvr3` (Internet address 13.140.198.22) add the following lines to your `HOSTS`. file:

```
13 130.192.98  srvr2
13 140.198.22  srvr3
```

---

**Note**

---

If you do not know the Internet node address for the node you are defining, see your system administrator.

---

4. Exit the editor, saving the changes.

## Using the VT320 Emulator Window

Because you are running the VT320 emulator as a Windows application, you can use Window commands as you normally do. For example, you can put the emulator on temporary hold (by using the Windows Minimize command) while you switch to another Windows application.

*These commands are located on the VT320 emulator system menu.*

How you navigate with your editor through the VT320 emulator window depends on the type of keyboard you have.

This section summarizes how to:

- Use your keyboard to scroll in the VT320 emulator window
- Use VT320 emulator system menu options

## Scrolling in the VT320 Emulator Window

Use Table 4–2 to see hidden sections of the VT320 window when it is not full size.

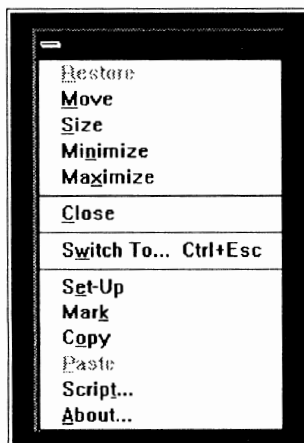
**Table 4–2 Scrolling Keys**

<b>If you want to scroll</b>	<b>IBM Keyboard</b>	<b>LK250 Keyboard</b>
To the left	Ctrl/Home	Ctrl/Find
To the right	Ctrl/End	Ctrl/Select
Up	Ctrl/Page Up	Ctrl/Prev
Down	Ctrl/Page Down	Ctrl/Next

## Using VT320 Emulator System Menu Options

The VT320 system menu is shown in Figure 4–6. You access this menu by clicking on upper left button on the VT320 emulator menu bar.

**Figure 4–6 VT320 System Menu**



The first seven options on this menu are standard Microsoft Windows application menu items. The last six options are specific to the VT320 emulator.

Table 4–3 introduces the Set-Up, Script, and About options and tells you where in this manual to get more information. The following section explains how to use the Mark, Copy, and Paste options.



**Table 4–3 VT320 System Menu Options**

Option	Function	See
Set-Up	Change default or established settings	Chapter 5
Mark, Copy, Paste	Move text between systems	
Script	Run script files automatically. Script files are similar to VMS command files; they contain commands and data that an operating system accepts in lieu of the user typing the commands individually at a terminal. After you create a script file, you can use it to start many types of procedures on remote hosts.	<i>SETHOST Terminal Emulation Guide</i>
About	Displays version number and copyright information	

*You can only transfer text files using these options*

Use these options to transfer text between the VT320 emulator and Windows Clipboard. For example, you could use the **Mark** option to choose text from a mail file on your remote system, choose **Copy** to move the text to the Clipboard, and finally choose **Paste** to put the text into a report that you are creating on your PC.

---

**Note**

---

If you want to transfer other types of information, for example, graphics files, use the NFT utility. See Chapter 6 for more information.

---

*Press any key or click on Mark again to disable marking*

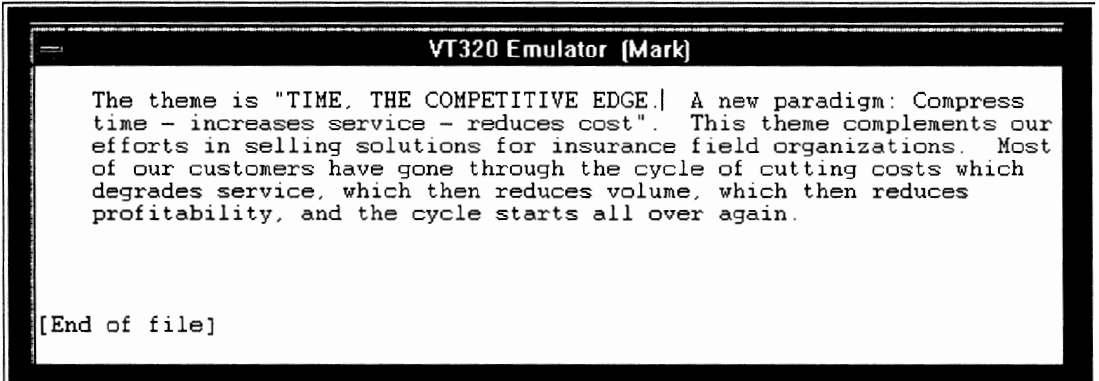
To copy text from your host system to the Clipboard:

1. Access your host system using the VT320 emulator.
2. Using your editor, open the file you want to copy from.
3. Click on **Mark** from the VT320 system menu.

As shown in Figure 4–7, the word “**Mark**” is displayed in parentheses next to the VT320 emulator title in the title bar.

Notice the special vertical bar, the insertion point, located next to **EDGE** on the first line.

**Figure 4-7 Mark Option**



4. Drag the insertion point across the text you want to copy.  
Your selected text is shown in reverse video.
5. Click on **Copy** from the VT320 system menu.  
The text is sent to the Clipboard.

To move text from the Clipboard to a file on the host system using the VT320 emulator:

1. Access your host system using the VT320 emulator.
2. Using your editor, open the file you want to copy from.
3. Position the cursor where you want to insert the text.
4. Click on **Paste** from the VT320 system menu.

The contents of the Clipboard are sent to the file on the host computer.

# Running Multiple VT320 Emulator Sessions

You can run more than one VT320 emulator sessions concurrently from your personal computer. This feature lets you:

- Edit a file in one session and use another session to read your mail
- Compile a program in one session and edit a memo in another

*You can change the window title to any 30-character string; see Chapter 5*

When you start a second VT320 emulator session, the title bar displays square brackets next to the VT320 emulator title. A number is displayed in these brackets to indicate the emulator session you are running.

If you have started and minimized more than one VT320 window, the icons are numbered in the icon area.

If you are using LAT as your communication protocol, you can increase the number of VT320 terminal emulator sessions you can run by increasing the number of session control blocks (SCBs). Each increase in SCBs allows you to run an additional VT320 emulator session.

*You can define up to 10 SCBs*

To increase the number of SCBs:

1. Call the LAT Control Program (LATCP) from the DOS command line by entering the following command:

```
C:\> LATCP
```

2. Enter the number of additional SCBs you want after the DEFINE command. For example, if you want to be able to run five VT320 emulator sessions, enter the following command:

```
LATCP> DEFINE 5
```

---

# Customizing Your VT320 Terminal Emulator Environment

You can customize the VT320 terminal emulator to suit your individual work requirements or personal style. For example, you can change the title bar in your window or have your host system display printer and modem messages in a status line.

The VT320 emulator Set-Up utility offers you eight options with a choice of settings that you can use to tailor your work environment. The first time you start the VT320 emulator, it uses default settings. If you are using asynchronous communications, you can use the emulator with these settings unchanged or you can use the VT320 Set-Up utility to change them.

After you have chosen and saved your settings, the VT320 emulator arranges your network connections, modem settings, keyboard, and any other settings each time you start a VT320 session.

This chapter tells you how to:

- Access and control the VT320 Emulator Set-Up utility
- Choose a setting from a Set-Up option
- Save your settings with configuration files

## Accessing and Controlling the VT320 Emulator Set-Up Utility

This section tells you how to:

- Start the Set-Up utility
- Choose a Set-Up menu option and change a setting
- Exit the utility

## Starting the VT320 Emulator Set-Up Utility

To start the VT320 emulator Set-Up utility:

1. Click on the VT320 icon.
2. Access the initial Set-Up menu in one of two ways:
  - Click on the System-menu box and then click on the **Set-Up** option from the VT320 system menu.
  - Press the **F3** (Set-Up) key on the top line of your keyboard.

You see the VT320 Emulator Set-Up screen, as shown in Figure 5–1.

Figure 5–1 Initial VT320 Emulator Set-Up Screen

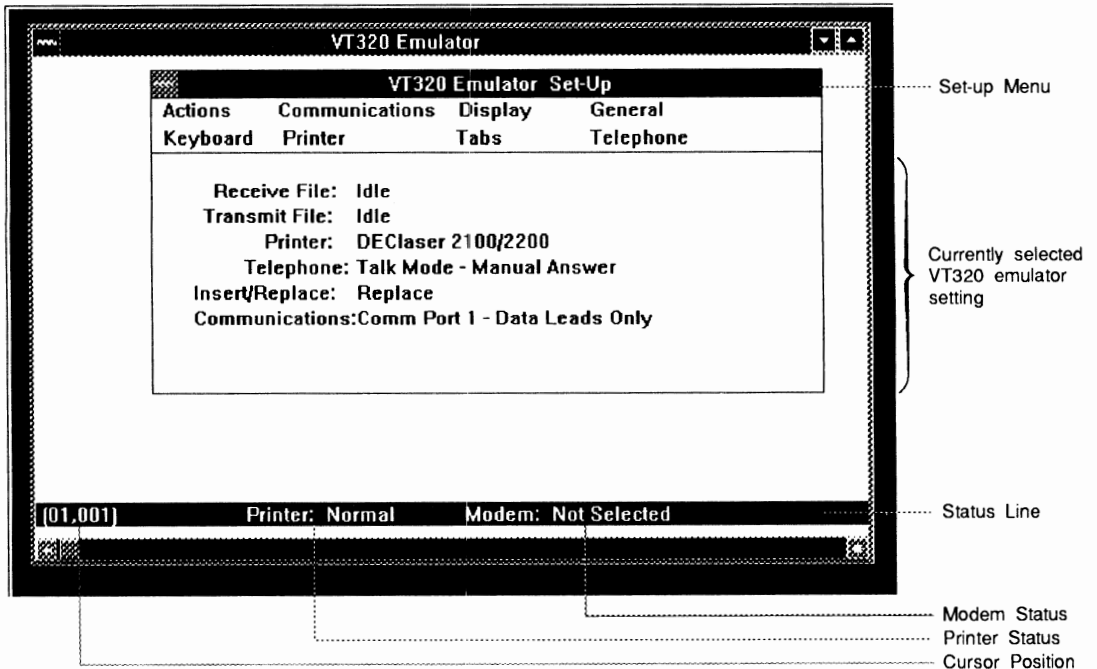


Table 5–1 describes the each option on the VT320 Set-Up menu and tells you why you would want to use it.

**Table 5–1 VT320 Menu Bar Options**

<b>Option</b>	<b>Function</b>
Actions	Clear the screen and reset the emulator, save and recall Set-Up settings, send or receive files, use script processing, and choose the mode of host communication.
Communications	Define the communications environment, such as speed, parity, disconnect, and answerback messages. The Port/Network Network option is one you choose to make a network transport connection using LAT, CTERM, or TELNET
Display	Select screen display characteristics such as columns, cursor style, background, fonts, window title, status line, and color.
General	Customize windows environment with local echo, character sets, terminal ID, and user defined keys.
Keyboard	Define keyboard operating characteristics, such as margin bell, break, compose key, delete character key, country keyboards, and keyboard type.
Printer	Define printer characteristics, such as print size or type of printer.
Tabs	Set tabs.
Telephone	Define how the modem dials the telephone. Enter the telephone numbers you want to use with the modem.

## **Choosing a Set-Up Option and Changing a Setting**

To choose a Set-Up option and change a setting:

1. Click on the desired option from the Set-Up menu.  
A drop-down menu appears. For most options, these menu items have an arrow indicating another drop-down menu.
2. Choose the menu item you want. Another drop-down menu appears.
3. Choose the desired setting.

Some menu items have additional drop-down menus. Repeat the preceding two steps to choose one of these settings.

The middle portion of the Set-Up screen shows your new communications setting

Some choices that you make affect what other choices are subsequently available to you in the Set-Up utility. For example, if you change your communication option from a network terminal service to a serial connection, you can choose the previously unavailable speed and data bits options on the Communications menu.

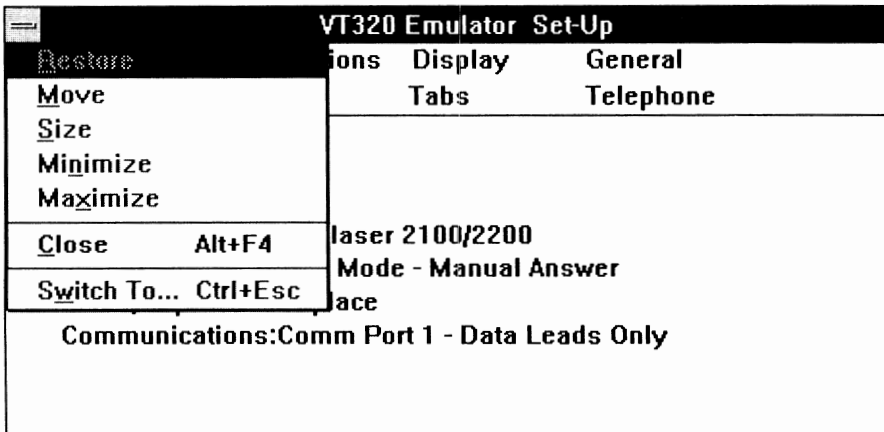
All your settings take effect when you exit from Set-Up.

## Exiting the VT320 Emulator Set-Up Utility

You can also press the **F3** (Set-Up) key

To exit Set-Up, choose **Close** from the VT320 Emulator Set-Up Control menu, shown in Figure 5-2:

Figure 5-2 VT320 Emulator Set-Up Menu



## Choosing a Setting from a Set-Up Option

The following sections describe the options and settings you can change on the VT320 Emulator Set-Up menu.

The information for each option includes a table containing:

- Option definitions
- Setting descriptions for each choice
- Default settings

## Actions

Whenever you choose the Action option from the Menu bar, you see the Actions option screen as shown in Figure 5–3.

**Figure 5–3 VT320 Actions Screen**

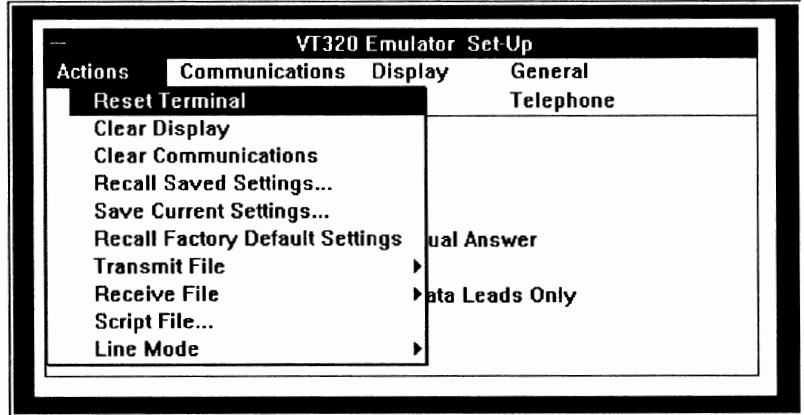


Table 5–2 describes the function of each Actions option.

**Table 5–2 VT320 Actions Options**

Option	Function
<b>Reset Terminal</b>	Resets your terminal if the system hangs (the system is not responding in its normal way). Resetting the terminal does not affect some setting like multinational modes, user-defined keys, or communications. Resetting takes effect immediately.
<b>Clear Display</b>	Clears data from your screen, either to keep others from seeing it or to delete garbled data. It clears the display and positions the cursor to the upper-left corner of the screen.

(continued on next page)



**Table 5-2 (Cont.) VT320 Actions Options**

Option	Function
<b>Clear Communications</b>	Applies to data transmission and is used if communications are garbled. It clears communication lines immediately and stops any print operation in progress. See the Printer section for information on the printer controller mode. This operation does not affect LAT, CTERM, or TELNET communications. It only affects asynchronous communications.
<b>Recall Saved Settings</b>	Replaces all existing settings with values you saved in a configuration file you created. For more information on configuration files, see <i>Creating and Using Configuration Files</i> .
<b>Save Current Settings</b>	Saves the Set-Up settings in a configuration file. When you click on this option, a dialog box displays the default file name or the name of the last file name you entered. You can edit or replace this file name. For more information on configuration files, see <i>Creating and Using Configuration Files</i> . To save your settings in the new or selected file, click on <b>Ok</b> .

---

**Note**

---

If you select a currently displayed file, any new settings you made replace any existing settings in that file.

---

**Recall Factory Default Settings**

Replaces all current Set-Up settings with system default settings. When you click on this option, the cursor is returned to the upper-left corner of the Actions Set-Up screen.

**Transmit File**

Allows you to send characters from an MS-DOS text file to a host, or the network server to which you are connected, as though you entered them from a keyboard. To send or transmit characters to a host, click on this option and a drop-down menu displays the Transmit File options available to you: Open File and Close File.

This option does not check file contents. It is only a character transmitting mechanism.

See *Receiving, Logging and Sending Characters* for information on how to transmit files.

(continued on next page)

**Table 5–2 (Cont.) VT320 Actions Options**

	<b>Note</b>
	<p>As you are transmitting a file, if you are losing characters from your EDT editing session, either reduce the baud rate or place EDT in line mode rather than command mode before transmitting.</p> <p>EDT is the only editor that can display this problem.</p>
Open File	Displays a dialog box and asks you to enter a file name. When you open a file from the dialog box, sending begins after you select Ok and exit Set-Up. When the file is opened, this setting is displayed in a lighter shade until the file is closed. File transmission ends when the end of the file is reached or if you choose the Close File option.
Close File	Displayed in a lighter shade until you open a file. Closes the file.
<b>Receive File</b>	Controls the receiving of characters from a host into a specified file. To receive or log characters from a host, click on this option and a drop-down menu displays the Receive File options available to you: Open File, Open File and Append, Close File, On, or Off.
	This option does not check file contents. It is only a character receiving mechanism.
Open File	Displays a dialog box and asks you to enter the name of the file that is to receive the characters. If a file of the same name already exists, it is replaced.
	For specific information on receiving files, see Receiving, Logging and Sending Characters.
Open File and Append	This is identical to Open File except that text is appended to a file of the same name if it exists. If not, a new file is created.
Close File	File logging is ended and the file is closed. File logging means that the file has not been closed. Instead, it has been put into a suspended state and is waiting for more data.
On	File logging resumes.
Off	File logging is suspended but the file remains open.

(continued on next page)

**Table 5–2 (Cont.) VT320 Actions Options**

<b>Option</b>	<b>Function</b>
<b>Script File</b>	Displays a dialog box and asks you to enter a script filename. When Set-Up is exited, the file is opened and transmission begins. For more information about scripting, see the <i>SETHOST Terminal Emulation Guide</i> .
<b>Line Mode</b>	Lets you choose the mode of operation.
On Line (default)	Lets the PC communicate with a host.
Off Line	Puts a host on hold. Data entered at the keyboard goes directly to the PC screen.

### **Receiving, Logging and Sending Characters**

You can receive, log, or send characters from and to a network service using session logging and autotyping. When session logging is activated, anything on your screen is also entered into a log file. For example, if you want a permanent record of your files in a host system directory, you could activate screen logging and then issue a directory listing command. As the file names are displayed on the screen, they are also listed in the log file.

The status portion of your screen indicates whether session logging or autotyping is active.

### **Using Session Logging to Receive or Log Characters**

To receive or log characters from a host into a file using session logging:

1. Choose the **Actions** screen.
2. Click on **Receive File**.  
A drop-down menu displays the Receive File options.
3. Choose **Open File** or **Open and Append File**.  
A dialog box asks for the name of the file you want to receive the characters.
4. Enter the file name.
5. To begin receiving characters into the file, click on **Ok**.

6. To stop receiving and close the file, choose **Close File** from the Receive File option.

To suspend reception of characters without closing the file, you can alternately choose On and Off from the Receive File menu.

### Using Autotyping to Send Characters to the Host

This option gives you another way to transfer data to a host.

For example, you can autotype a file on your PC into an EDT editing session on a VAX. When a file is autotyped to VMS, you must enable HOSTSYNC under VMS by entering:

```
$ SET HOSTSYNC/ENABLE
```

This setting prevents data overruns on a VMS host. Data overruns occur when a host machine loses characters as they are being transmitted from a remote sender.

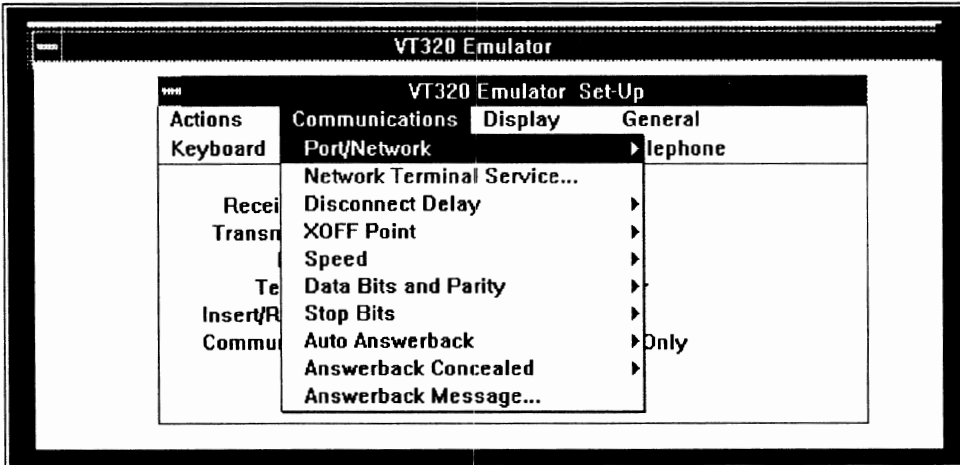
To autotype characters to the host from a file, as if you entered them from the keyboard:

1. Choose the **Actions** screen.
2. Choose **Transmit File**.
3. Choose **Open File**.  
A dialog box is displayed asking for the name of the file you want to autotype.
4. Enter the file name.
5. To begin autotyping the specified file to the host, click on **Ok**.  
File autotyping stops when the end of the file is reached.  
You can also stop autotyping the file by choosing **Close File** from the Transmit File option.

## Communications

The Communications option lets you define the communications environment between the client and the host (see Figure 5-4).

Figure 5-4 VT320 Communications Screen



Microsoft Windows users can specify the communications environment in the Port/Network option of the Communications menu to use:

- Asynchronous serial communications port  
The first five options are for asynchronous serial communications over a dedicated serial line or from a modem
- Network Communication Port  
This last option is for communicating over Ethernet or Token Ring.

The Network Communication Port lets you choose either:

- LAT
- CTERM
- TELNET

Make your choice of your Network Communication Port according to these guidelines:

- If you chose DECnet as your network transport in Netsetup, you can choose between the following two protocols:
  - LAT (Digital's Local Area Transport)

If you are using the terminal emulator by running DECnet over the Ethernet, choose LAT. LAT can be used for sessions to nodes on the LAN (local area network). Since a LAN is connected by a physical wire, a LAN is geographically limited to a small area, usually one building or a small cluster of buildings.
  - CTERM (Digital's Command Terminal Services Architecture)

If you are going to use the terminal emulator as part of a wide area network running DECnet, use CTERM. A WAN (wide area network) is usually much larger than a LAN, and CTERM can connect, for example, all users on a world-wide network.

If you are going to use the terminal emulator for asynchronous communications over DECnet, use CTERM.
- If you chose TCP/IP as your network transport in Netsetup, choose TELNET. This protocol is the Internet standard protocol for remote terminal connection service. The TELNET protocol allows users to interact with remote systems connected to the Internet.

*If you are running DECnet over a Token Ring, select CTERM for your network transport*

Table 5–3 defines the Communications options and, where applicable, the settings.

**Table 5–3 VT320 Communications Options**

Option	Function
<b>Port/Network</b>	Use this to indicate if you are connecting to the host using a dedicated serial line or the Network Terminal Service. Your choices are either serial or Network Terminal Service communications. The options you choose are dependent on your machine and configuration. Refer to your <i>Client Installation and Configuration Guide</i> or system administrator for more information.
<hr/> <b>Note</b> <hr/>	
If you are using asynchronous communications over a serial line or a modem, you need to know which port you are using, either Comm Port 1 or Comm Port 2. The VT320 emulator may not function correctly with certain external modems due to timing inconsistencies under Microsoft Windows. To avoid problems with external modems, use the SETHOST emulator.	
Comm Port 1: Data Leads Only (default)	Choose this option when you connect to the host using a dedicated serial line on Comm 1 or Comm 2.
Comm Port 1: Full Modem Control	Choose this option if your PC is connected to the host through an external modem on communications port 2 and requires modem control.
Comm Port 2: Data Leads Only	Choose this option when you connect to the host using a dedicated serial line.
Comm Port 2: Full Modem Control	Choose this port if your PC is connected to the host through the external modem on communications port 2 and requires modem control.

(continued on next page)

**Table 5–3 (Cont.) VT320 Communications Options**

Option	Function
Network Communication Port	<p data-bbox="374 286 1018 315">Establishes the connection to Network Terminal Service.</p> <ol data-bbox="374 338 1126 534" style="list-style-type: none"><li data-bbox="374 338 1126 534">1. Click on either LAT or CTERM if you are using the DECnet transport, or TELNET if you are using the TCP/IP transport: If you choose:<ul data-bbox="426 445 1126 534" style="list-style-type: none"><li data-bbox="426 445 1126 534">• LAT A drop-down menu displays LAT service names. Click on the service name for your host system.</li></ul></li></ol>

**Note**

If you previously made a LAT service connection, the drop-down menu does not appear. If you want to change your LAT service name, select the Network Terminal Service option and follow the instructions.

Before running the VT320 emulator over LAT for the first time, check the number of terminal sessions that have been configured for your system. You can use the LAT Control Program (LATCP), a DOS utility, to define additional terminal sessions by increasing the number of SCBs. See Chapter 4 in this manual for more information on LATCP.

- CTERM  
The system displays a dialog box. Enter your host system's DECnet node name. If you are running over a Token Ring architecture, this is the only network transport you can use.
- TELNET  
The system displays a dialog box. Enter your host system's name.

2. Click on **Ok**.

The network must be installed before you can access this service. If you get an error message after you designate your host system's node name, see your system administrator or check that the Network Terminal Service has been installed.

(continued on next page)



**Table 5–3 (Cont.) VT320 Communications Options**

Option	Function
<b>Network Terminal Service</b>	<p>For more information on defining service names and defining additional terminal sessions, see the Chapter 4 in this manual.</p> <p>Lets you switch your current LAT, CTERM or TELNET session to another service.</p> <p>If Network Terminal Service is displayed in a lighter shade, you are using serial communications.</p> <p>If you set the Network option under Port/Network, all items related to serial communications are displayed in a lighter shade, and you are connected to services available under Network Terminal Service.</p>
<b>Disconnect Delay</b>	<p>If you are connected to the host with a modem and you lose the connection, this setting determines how long the client waits before it disconnects from the communications line. Unless you are in the United Kingdom, where the 60-millisecond delay is used, accept the default of two-second delay.</p>
<b>XOFF Point</b>	<p>The system uses this setting for error checking. Use this setting to choose the XOFF point or to disable the automatic XON/XOFF flow control.</p> <p>For most applications you should set XOFF at 64 (the default value) or 256. If you set XOFF greater than 256 and have a buffer overflow problem, set XOFF to the next lower value.</p> <p>The choices for XOFF are: 64, 256, 512, and 1024.</p>
<b>Speed</b>	<p>If you choose No XOFF, characters are received continuously from the host with no error checking. Some characters can be lost.</p> <p>Establishes the rate at which characters are received or transmitted. Check with your system administrator for the correct baud rate for your communication device. This speed must match your modem baud rate for a modem connection. The default is 9600.</p>
<b>Data Bits and Parity</b>	<p>Establishes the character format used for communication with the host. Check with your system administrator for the correct data bits and parity setting for your communication device. The default is 8 bits — No Parity.</p>
<b>Stop Bits</b>	<p>Establishes the number of stop bits (1 or 2) required for use by the host port. Check with your system administrator for the correct stop bits setting for your communication device. The default is 1 stop bit.</p>

(continued on next page)

**Table 5–3 (Cont.) VT320 Communications Options**

Option	Function
<b>Auto Answerback</b>	Establishes whether the answerback message is automatically sent to a host after a communication line connection.
	An answerback is a shortcut you can use to execute commands. It works like a UDK in that you can specify a series of commands in the message that is sent to the host system. Although an answerback message can be used to enter a username and password, this is not a recommended procedure. Your password is embedded in a file and can cause a security risk.
Enabled (default)	Turns on the answerback message.
Disabled	Turns off the answerback message.
<b>Answerback Concealed</b>	Establishes whether your answerback message entry is displayed on the screen.
Concealed	Your answerback message is not displayed on the screen. You can only change this setting to Not Concealed by entering a new answerback message.
Not Concealed (default)	Displays the answerback message you entered.
<b>Answerback Message</b>	Lets you enter an answerback message. A dialog box is displayed that asks for the answerback string.
	The emulator sends an answerback message when it receives an ENQ (enquiry control character) or if you or the host send a Ctrl/Break. In the case of ENQ, the message you enter is sent to a host without affecting screen data or requiring further operator action.
	You can enter any keyboard characters, up to 30 characters for the answerback message limit. To enter a control sequence, enter a caret (^) followed by the control letter. For example, a control C would be entered as ^C.

# Display

The Display option lets you define screen display characteristics (see Figure 5-5).

**Figure 5-5 VT320 Display Option**

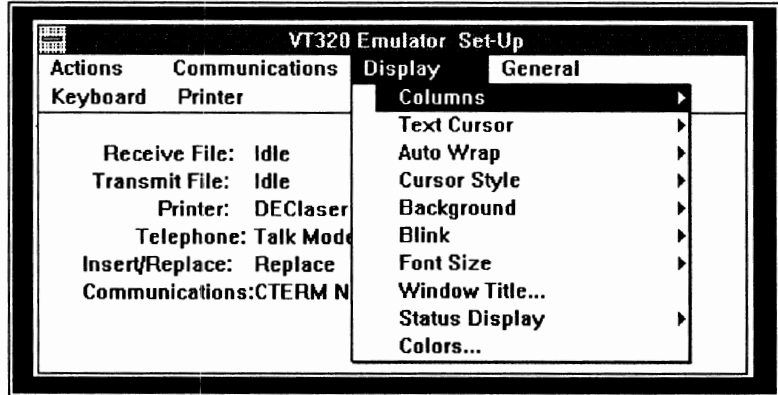


Table 5-4 defines the Display options and, where applicable, the settings.

**Table 5-4 VT320 Display Options**

Option	Function
<b>Columns</b>	Establishes an 80- or 132-column screen for text. The default is 80 column.
<b>Text Cursor</b>	Establishes whether to display a text cursor. The default is to display the cursor.
<b>Auto Wrap</b>	Establishes whether text automatically wraps on the screen.
On	Causes characters that reach the right margin to be displayed automatically in the first character position of the next line.
Off (default)	Causes each successive character that you enter after the right margin boundary to be displayed at the right margin boundary of the current line.
<b>Cursor Style</b>	Establishes the text cursor style.
Block (default)	Displays block cursor.

(continued on next page)

**Table 5–4 (Cont.) VT320 Display Options**

<b>Option</b>	<b>Function</b>
Underline	Displays underline cursor.
<b>Background</b>	Establishes the screen display type.
Light (default)	Establishes reverse video screen display (dark text on a light background).
Dark	Establishes a dark screen display (light text on a dark background).
<b>Blink</b>	Use this setting to choose how you want the system to show blinking characters (the emulator cannot show characters as blinking). Your choices are in normal video (default), reverse video, or underscored.
<b>Font Size</b>	Changes the font size of characters displayed on the screen. The settings are: Normal (default), Small, or Automatic. If the line is too long for the width of the current window, Automatic establishes the Small font size.
<b>Window Title</b>	Displays a dialog box asking you to enter a title. The maximum number of characters you can use is 30. When you press <b>[Enter]</b> the title bar changes to reflect your entry.
<b>Status Display</b>	Use this setting to determine how and when the status line is used. The status line displays the cursor position and the state of the printer and modem.
No Status Display (default)	The status line is displayed only in Set-Up.
Indicator	The status line is displayed at all times.
Host Writable	Host applications can display messages in place of the status line.
<b>Colors</b>	Displays a dialog box with the following display attributes: Background, Foreground, Bold, Reverse, and Underline. Click on the display attribute, then click on the color.

---

**Note**

This option is available only if you have a color monitor. If this option is shown in lighter type, it means you do not have a color monitor.

---

## General

Use the General option to define a group of commonly used general operating settings (see Figure 5–6).

Figure 5–6 VT320 General Option

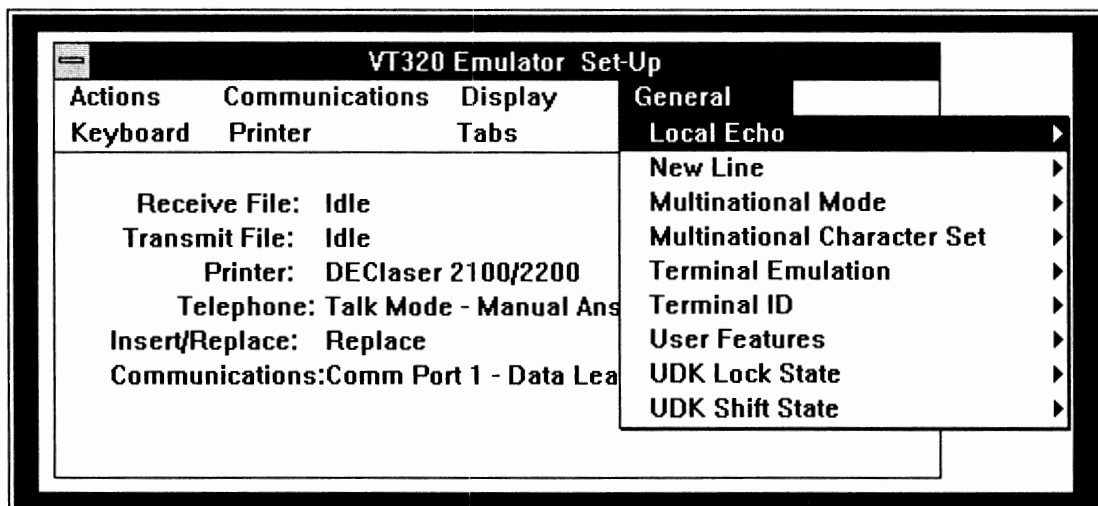


Table 5–5 defines the General options and, where applicable, the settings.

Table 5–5 VT320 General Options

Option	Function
<b>Local Echo</b>	Use this setting to choose local echo.
On	Directs characters from the keyboard to be displayed on the screen as well as to be entered onto the host system. Use this setting when the host system does not send the characters back to the screen.
Off (default)	Directs characters from the keyboard to the host system only. With this option you are unable to see on the screen what you have entered, unless the host system returns the characters as you enter them.

(continued on next page)

**Table 5–5 (Cont.) VT320 General Options**

Option	Function
<b>New Line</b>  Enabled (Return = CR/LF)  Disabled (Return = CR) (default)	Chooses whether <b>Return</b> generates a carriage return only or a carriage return and a line feed.  Generates a carriage return and a line feed. Received carriage returns cause a new line operation. When autotyping, any line feeds in an autotyped file are sent. When using Clipboard, any pasted lines are separated by carriage returns and line feeds.  Generates a carriage return only. Received carriage returns do not cause a new line operation. When autotyped or Clipboard pasted lines are separated by carriage returns, line feeds are not sent.
<hr/> <p style="text-align: center;"><b>Note</b></p> <hr/> <p style="text-align: center;">When the VT320 emulator is in numeric keypad mode, this setting affects <b>Enter</b> in the same way it does <b>Return</b>.</p> <hr/>	
<b>Multinational Mode</b>  National  Multinational (default)	Determines character set mappings for the terminal.  Chooses the 7-bit National mode. The National set is set by the system and is determined by the country keyboard you chose during Microsoft Windows configuration Set-up.  Chooses the 8-bit MCS (Multinational Character Set), including the 7-bit ASCII character set.
<hr/> <p style="text-align: center;"><b>Note</b></p> <hr/> <p style="text-align: center;">This choice is disabled when you choose NRC mode.</p> <hr/>	
<b>Multinational Character Set</b>  ISO Latin-1  DEC Multinational (default)	Allows you to choose either the ISO Latin-1 or the DEC Multinational character set.  Chooses the 8-bit ISO Latin-1 character set.  Chooses the 8-bit DEC Multinational character set.
<b>Terminal Emulation</b>	Determines how the VT320 emulator acts. It can act like a VT52, VT100, VT300 with 7-bit controls (default), or VT300 terminal with 8-bit controls.  <p style="text-align: right;">(continued on next page)</p>

**Table 5–5 (Cont.) VT320 General Options**

<b>Option</b>	<b>Function</b>
<b>Terminal ID</b>	Identifies your terminal as a VT320 (default), VT220, VT102, VT101, or VT100 terminal. Terminal ID can be chosen in any mode except when emulation is set for VT52 mode. If you are in VT52 mode, Terminal ID is displayed in a lighter shade (not available).
<b>User Features</b>	Chooses whether a host can change certain user features.
Locked	Prevents a host from changing certain user features.
Unlocked (default)	Lets a host change certain user features. The user features are: Light/Dark Screen, Tab Stops, and Keyboard Lock.
<hr/> <b>Note</b> <hr/>	
Some applications are designed to control these user settings. If this applies to your application, choose Unlocked.	
<hr/>	
<b>UDK Lock State</b>	If you have defined a function key that conflicts with the way a host wants to use the key, this setting allows you to specify whether a host can change your user-defined key (UDK) definitions. Your UDKs are saved in a configuration file.
Locked	Prevents UDKs from being changed.
Unlocked (default)	Allows UDKs to be changed.
<b>UDK Shift State</b>	Allows you to choose unshifted user-defined keys (UDKs).
Shifted	Allows UDKs to be invoked from a shifted state.
Unshifted (default)	Allows UDKs to be invoked from an unshifted state.

(continued on next page)

**Table 5–5 (Cont.) VT320 General Options**

<b>Option</b>	<b>Function</b>
	<p>User defined keys allow you to use a single key to define multiple key strokes, or to redefine key functions to suit your personal needs. For example, you could define a key to make it change your editing mode from insert to overstrike.</p> <p>To program the 15 user-definable function keys (UDKs), you have 256 available bytes. Space is defined on a first-come, first-serve basis. After the 256 bytes are used, you cannot define additional keys or redefine existing keys until the entire buffer is cleared.</p> <p>Keys are loaded sequentially, so once the limit is reached, you cannot load another key definition. The VT320 emulator does not inform you when the limit is reached.</p> <p>In addition, because the keys are saved in the Set-Up file, the 256-byte limit carries over from one session to the next until you clear the buffer.</p>



# Keyboard

Use the Keyboard option to define keyboard operating features (see Figure 5–7).

**Figure 5–7 VT320 Keyboard Option**

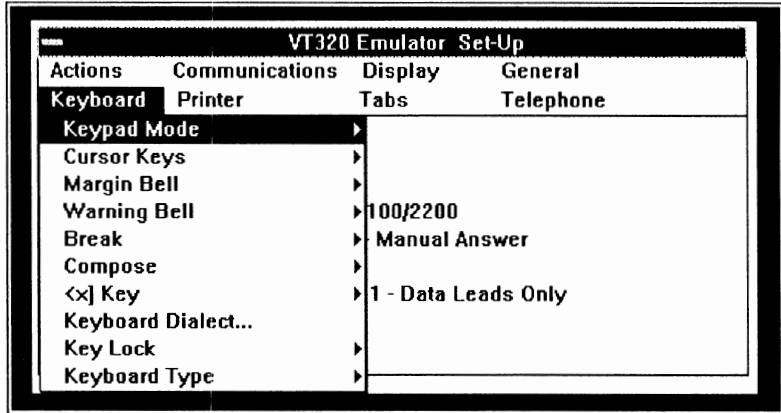


Table 5–6 defines the Keyboard options and, where applicable, the settings.

**Table 5–6 VT320 Keyboard Options**

Option	Function
<b>Keypad Mode</b>	Sets the numeric keypad for generating either numbers or ASCII codes. The numeric keypad is the one all the way to the right of the keyboard.
Numeric (default)	Sends numbers from the numeric keypad.
Application	Sends escape sequences from the numeric keypad.
<b>Cursor Keys</b>	These are the arrow keys in the middle of the keyboard. This setting determines the kind of control codes sent by the cursor keys. They are disabled if the terminal is in VT52 mode.
Normal Control (default)	Sends ANSI cursor control sequences for cursor keys (up, down, left, and right).

(continued on next page)

**Table 5–6 (Cont.) VT320 Keyboard Options**

<b>Option</b>	<b>Function</b>
Application Control	Sends specific application program control functions for cursor keys.
<b>Margin Bell</b>	Determines whether the terminal sounds a bell tone when the text cursor approaches the right margin. The default is enabled.
<b>Warning Bell</b>	Determines whether the terminal generates a bell tone, such as for operating errors, mail messages, or system messages. The default is enabled.
<b>Break</b>	Enables or disables the Break key function. The default is enabled.
<b>Compose</b>	Enables or disables the Compose key function. Use this key to compose a character not on your keyboard, for example, fractions. The default is enabled.
<b>&lt;X&gt; key</b>	Determines whether the delete character key sends a delete (DEL) character or a backspace (BS) character. The default is to send a DEL character.
<b>Keyboard Dialect</b>	Displays a dialog box asking you to choose the appropriate country keyboard.

**Note**

Your country choice must match the one you specified while running the Microsoft Windows Setup utility.

**Key Lock**

Caps Lock  
(default)

Chooses the function of the Lock key.

After you press the Lock key, only the alphabetic keys send their uppercase character.

Shift Lock

After you press the Lock key, all keys send the top character on their keycap.

(continued on next page)

**Table 5-6 (Cont.) VT320 Keyboard Options**

Option	Function
<b>Keyboard Type</b>	Chooses the type of keyboard you have and what keypad functionality is available.
DEC LK250	Chooses the standard LK250 keyboard with the editing and numeric keypad keys. This is the default keypad.
Standard 84 keys	Chooses the AT keyboard with the numeric keypad keys.
Standard 83 keys	Chooses the XT keyboard with the numeric keypad keys.
Standard 101 keys	Chooses the enhanced keyboard with the editing and numeric keypad keys.

## Printer

Use the Printer option to choose printer (or auxiliary device) operations for the emulators (see Figure 5-8).

**Figure 5-8 VT320 Printer Option**

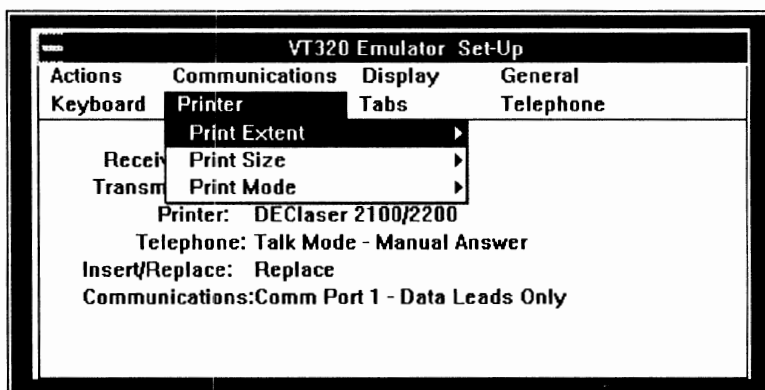


Table 5–7 defines the Printer options and, where applicable, the settings.

**Table 5–7 VT320 Printer Options**

<b>Option</b>	<b>Function</b>
<b>Print Extent</b>	Determines how much of the screen is printed during a print screen operation.
Full Page (default)	Prints the full screen.
Scroll Region	Prints only the scrolling region.
<b>Print Size</b>	Determines the size of the printed characters.
Normal (default)	Prints 80 characters on a line.
Compressed	Prints 132 characters on a line.
<b>Print Mode</b>	Chooses the operating mode for the printer.
Normal (default)	Only sends information to the printer when you invoke print functions from the keyboard.
Auto	Prints the current text line when the terminal receives a line feed, form feed, or vertical tab code from a host.
Controller	Treats the device connected to the printer port as a terminal, while the VT320 emulator monitors traffic. (The printer and host transfer data without displaying the data on the screen.)

# Tabs

Use the Tabs screen to set the terminal tab stop interval settings (see Figure 5–9).

**Figure 5–9 VT320 Tabs Option**

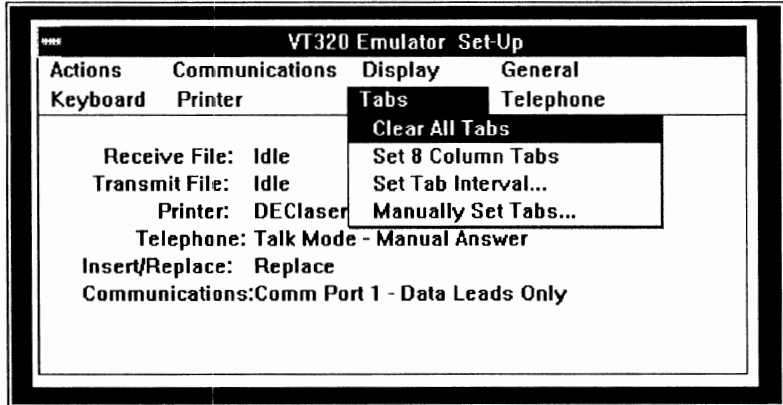


Table 5–8 defines the Tabs options and, where applicable, the settings.

**Table 5–8 VT320 Tabs Options**

Option	Function
<b>Clear All Tabs</b>	Clears all tab settings.
<b>Set 8 Column Tabs</b>	Sets tabs every 8 columns, starting with column 9.
<b>Set Tab Interval</b>	Displays a dialog box containing the current tab stop setting. You enter a new interval in the dialog box by typing the desired number.
<b>Manually Set Tabs</b>	Allows you to change individual tab stops. The tab intervals are updated in a displayed ruler.

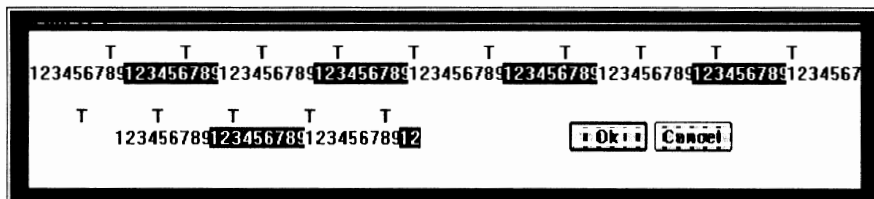
## Setting VT320 Emulator Tabs Manually

To set tabs manually for the VT320 emulator:

1. Click on **Manually Set Tabs**.

A tabs ruler and blinking cursor are displayed below the Tabs screen where the Icon area was located. Figure 5–10 shows the current tab settings.

Figure 5–10 Manually Setting VT320 Tabs



2. To move the blinking cursor to the desired tab setting, use the mouse pointer.
3. Click on the desired tab setting.  
A “T” is displayed where you clicked.  
To erase a tab stop, click on the “T.”
4. Repeat steps 2 and 3 until you have marked all desired tab stops.

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### Note

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To cancel the tab settings you made and leave the tab settings unchanged, click on **Cancel**.

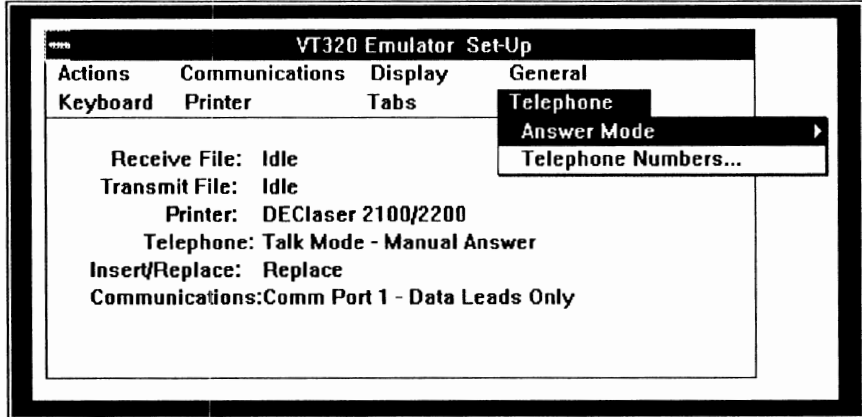
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5. To exit the tabs ruler and save the tab settings, click on **Ok**.  
You are returned to the Tabs option.

# Telephone

Use the Telephone option to store and display telephone numbers for your integral modem to use in automatic dialing (see Figure 5–11).

**Figure 5–11 VT320 Telephone Option**



To use the Telephone options you should have:

- Installed the integral modem option. (This is not available for all countries.)
- Chosen and saved from the Communications options:
  - The Integral Modem choice from the Port/Network option
  - The appropriate transmit and receive speeds from the Speed option

For more information on telephone settings, refer to the documentation that came with your modem.

Table 5–9 defines the Telephone options and, where applicable, the settings.

**Table 5–9 VT320 Telephone Options**

<b>Option</b>	<b>Function</b>
<b>Answer Mode</b>	Chooses automatic telephone answering by the terminal, or manual telephone answering by the user. This option is determined by the receiving modem. See your modem documentation for more information.
Manual (default)	Leaves the integral modem in talk mode after disconnecting from the host and allows you to answer the incoming call. Manual answer is required for normal telephone operation.
Automatic	Leaves the integral modem in data mode after disconnecting from the emulator session and the host system. It allows the terminal to automatically answer the incoming call.
<b>Telephone Numbers</b>	<p>Displays a dialog box requesting you to enter phone numbers. Any previously entered phone numbers (A–J) are recalled and displayed.</p> <p>To enter phone numbers, click to the right of the desired letter. An insertion point is displayed indicating where to enter the phone number.</p> <p>Enter a phone number or type over an existing phone number.</p> <p>Repeat the process until you have entered or changed all the desired phone numbers.</p> <p>After you enter the phone number(s), click on <b>Ok</b>. You can save these settings by using <b>Save Current Settings</b> from the Actions option before exiting from Set-Up.</p>



## Creating and Using Configuration Files

When you first call up the VT320 emulator, it uses system default settings to configure how the client communicates with a network. If you change a default setting during an emulator session and do not save it, the next time you use the emulator it once again uses the system default setting. This allows you to make temporary changes, which are effective for the current session only.

However, there is some set-up information, such as node names or keyboard setup, that you want to use most of the time. You can save these settings in a configuration file.

You can create as many configuration files as you want. You can have different configuration files for certain circumstances: for example, if you want to connect to more than one host, or if you alternate using a modem and the Ethernet to connect to the host. In these situations you would want a different configuration file for each host that you connect to, and a different configuration file for a modem and for an Ethernet connection.

This configuration section explains:

- Saving settings
- Changing settings

### Saving Settings

To save the settings you chose during the current Set-Up session:

1. Click on the **Actions** option.
2. Choose **Save Current Settings** in **Actions**.  
The system displays a dialog box.
3. Enter a configuration file name with a .320 extension in the dialog box.

Note that you may have to enter a directory specification. You must create your configuration files in a directory that is on your path and is not on the system service.

For example, if the C:\WIN directory is located anywhere on your path, you could use the following configuration file name:

```
C:\WIN\DEFAULT.320
```

The next time you use the emulator it automatically finds, loads and uses the settings that it finds in the DEFAULT.320 file.

If you name your configuration file something other than DEFAULT.320, see the next section, Specifying Settings on Startup.

*Use the PATH command at the DOS prompt to see your path.*

---

**Note**

---

If you get an error message saying “Cannot open: DEFAULT.320”, you are probably trying to create your configuration file on the system service. If you get this error, enter a configuration file name using a drive and directory that is on your path.

---

## Specifying Settings on Startup

The VT320 emulator looks for a DEFAULT.320 configuration file when it starts up. You can specify another configuration file when you start the VT320 emulator in one of three ways:

- Using the VT320 emulator Set-Up utility
- Using the Run command
- Clicking on a configuration file listing

### Using the VT320 Emulator Set-Up Utility

Follow these steps:

1. Enter the Set-Up utility.
2. Click on the **Actions** option.
3. Click on the **Recall Saved Settings** choice.  
The system displays a dialog box.
4. Enter the name of the desired configuration file.
5. Click on **Ok**.

### Using the Run Command

This section describes two ways you can start the terminal emulator with the Run command:

- Entering **VT320**, a space, and the name of your configuration file in the dialog box
- Entering just the name of the configuration file in the dialog box

If you make the modification to your WIN.INI file as explained in this section, this method saves keystrokes.

To start the emulator by the first method:

1. Choose **File** on the Program Manager or File Manager.
2. Choose **Run**.  
A dialog box requests the name of the application you want to run.
3. Enter **VT320** followed by a space and the name of the desired configuration file. The default extension is **.320** if you do not enter one.
4. Click on **Ok**.

Follow these steps if you want to use the second method:

1. At the DOS prompt, locate your WIN.INI file. It is in the directory where you installed Windows.
2. Find the [**Extensions**] section of the file.
3. Using your editor, add the following line:  
`320=VT320 EXE * .320`
4. Start Windows
5. Choose **File** on the Program Manager or File Manager.
6. Choose **Run**.  
A dialog box requests the name of the application you want to run.
7. Enter the full name and .320 extension of the desired configuration file. If you created the configuration file in a directory on your path, you do not have to enter the full path.
8. Click on **Ok**.

*The special  
^ symbol  
tells Windows  
to find and  
execute a VT320  
configuration file.*

### Clicking on a Configuration File Listing

You can show the listing of a configuration file using the File Manager. See your Microsoft documentation for more information. When you double-click on a VT320 configuration file listing, the VT320 emulator starts using the settings in that file.

## Changing Settings

You can change the settings in any configuration file by following these steps:

1. Use the Set-Up options to change a setting.
2. Choose the **Actions** screen.
3. Click on **Save Current Settings**.

The dialog box displays either the default file name or the last file name you entered. Accept this name or enter a new configuration file name. If you choose the currently displayed file name, any settings you made replace any existing settings in that file.

4. Click on **Ok**.



---

## Transferring Files

From within Windows, you can directly share files with any other DECnet node, including personal computers (PCs) over a DECnet network. For example, you can send a marketing report to a coworker or copy a spreadsheet from your supervisor to update some financial data without leaving Windows.

*These utilities can only be used over a DECnet network*

Two DECnet network utilities, File Access Listener (FAL) and Network File Transfer (NFT) work together to make file transfer possible over the network. These utilities are available to you after you run WIN3SETU (see Chapter 2).

- FAL allows other users to access your PC's files
- NFT allows you to transfer files between your PC and other network users

This chapter is composed of the following sections:

- Allowing Access to Your PC's Files
- Transferring Files with NFT
- Sample Activities
- NFT Options

### Allowing Access to Your PC's Files

To let others on the network copy from your PC, you need to start FAL. To access the files of other network users, be sure they are running FAL.

---

### Caution

---

Running FAL allows others to copy from and to your files. This makes it possible for others to overwrite your PC files. Protect your files by using the NCP DEFINE ACCESS command at the system prompt.

For example, the following command gives USER1 read-only access to your files:

```
NCP>DEFINE ACCESS USER1 PASSWORD READ
```

Consult the online help for NCP for more information.

---

## Starting FAL

You start FAL by either:

- Double-clicking on the FAL icon within a Program Group. Double-clicking is the fastest way to run FAL.
- Specifying **FAL.EXE** in the Run option dialog box.

You select the Run option from either the Program Manager or File Manager File menu.

You must specify the location of the FAL.EXE file to start FAL this way. The FAL.EXE file is located in the \DECNET subdirectory. This subdirectory is in one of these locations:

- On the system file server if PATHWORKS for DOS client software was installed on the server. For example, your path could be:

```
J:\DECNET\FAL.EXE
```

- On your boot drive if you installed PATHWORKS for DOS client software on your hard disk. For example, you could find the utility at:

```
C:\DECNET\FAL.EXE
```

When you start FAL, an icon appears. If you double-click on the icon, a window appears. FAL keeps a record of all file transfer activities in this window. You know immediately who is accessing your files.



*The FAL icon appears in the icon area, indicating that FAL is running*

---

## Note

---

If you have not started FAL on your PC, a user who attempts to access one of your files receives the following error message:

```
Error opening file: user2::myfile.slk
Unrecognized object
```

---

## Choosing FAL Menu Options and Help

*Click on Help for a brief explanation of FAL options.*

FAL offers you some choices on how you want NFT to handle file transfer requests. For example, FAL lets you specify the file type you want NFT to use when transferring files. For more information, click on Help on the menu bar of the FAL window.

If you need more information about FAL, see the *User's Handbook* or *DECnet User's Guide*, where FAL is discussed as a DECnet utility run from the system command line.

## Transferring Files with NFT

Use NFT to copy files between PCs and between a PC and a group network account. For example, a coworker can use NFT to send you a file to include in your monthly report. A staff member located in another city can use NFT to copy and print out your monthly report from a group network account, using a remote printer.



To process a file using NFT:

1. Get node information.
2. Start FAL, if necessary, on the remote system.
3. Start NFT.
4. Specify the file you want processed.
5. Select the activity you want performed.
6. Specify the destination file.
7. Complete the transfer.

The remainder of this section explains how to complete these steps. The next section describes sample activities.



## Step 1: Get Node Information

To prepare for the file transfer:

1. Get the node name of the PC or network account you want to transfer a file to or from.
2. Determine if the remote node name (either a PC or network server) is already defined in your NCP or other database. These databases contain lists of nodes that your system recognizes and can access. See *Defining Your Host System and Other Nodes* in Chapter 4 for information on querying these databases.

## Step 2: Start FAL

*FAL must be running to copy PC files; you can copy files to and from the server without running FAL*

If you are copying a file to or from a remote PC, the remote PC must have FAL activated. If the remote PC does not have FAL activated, ask the remote PC user to start FAL.

See *Allowing Access to Your PC's Files* in this chapter for more information about starting FAL.

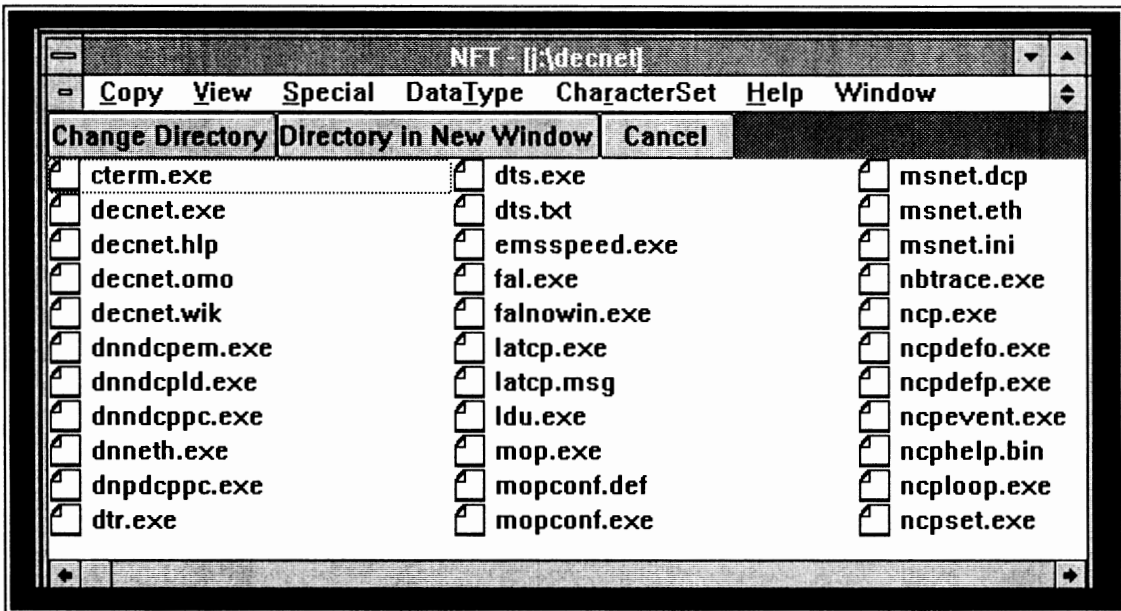
## Step 3: Start NFT

You start NFT by either:

- Double-clicking on the NFT icon within a Program Group. This is the fastest way to run NFT.
- Specifying **NFT.EXE** in the Run option dialog box. You select the Run option from either the File Manager or Program Manager File menu. See *Starting FAL* in this chapter for information on using the Run option. Like FAL.EXE, the NFT.EXE file is located in the \DECNET subdirectory.

Whatever method you use, NFT displays Figure 6–1 when you start the utility.

Figure 6-1 NFT Window



This window lists the files in the directory named at the top of the NFT window. For example, Figure 6-1 shows the J:\DECNET directory. DECnet is the default NFT directory.

#### Step 4: Specify the File

If you know the exact file specification, you can go directly to Step 5, Select an Activity.

*Change Directory replaces the current directory window*

To specify the file, look at the directory displayed on your screen. Check if the file you want processed is in that directory.

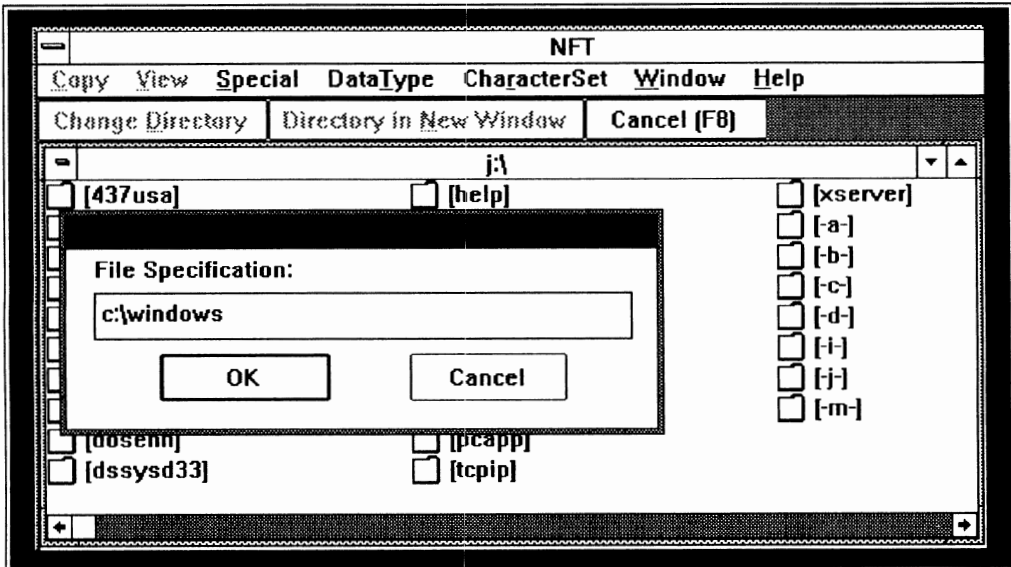
- If it is, click on it and go to Step 5, Select an Activity.  
The file is highlighted in the directory to show that you have selected it.
- If the file is not in the directory, change to the directory where the file is located:

*Directory in New Window gives you a second directory window.*

1. Click on **Change Directory** or **Directory in New Window**.  
If you click on **Change Directory**, the default directory is replaced by the directory you specify. If you click on **Directory in New Window**, the new directory appears in a window overlaying the default directory.
2. Enter the directory path where the file is located in the dialog box that appears.

Figure 6–2 shows the completed file specification box.

**Figure 6–2 Completed File Specification Box for Change Directory**

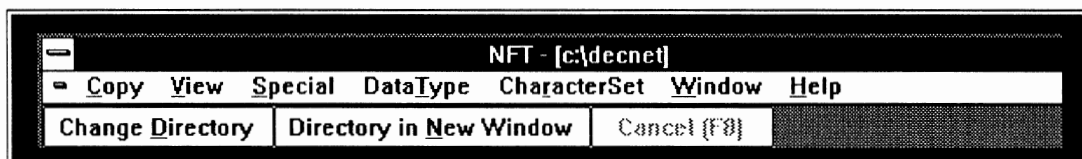


3. Click on **OK**.  
The new directory is displayed on the screen.
4. Click on the desired file in the displayed directory.

## Step 5: Selecting an Activity

Specify what processing you want done, making your choice from the NFT Menu bar shown in Figure 6-3.

Figure 6-3 NFT Menu Bar



1. Choose an activity by clicking on the associated option.  
A drop-down menu appears.

---

### Note

---

If the option includes an underlined letter, such as the C in the Copy option, you can select it by holding down the **Alt** key and pressing the underlined letter.

For example, to choose the Copy option, hold down the **Alt** key and press **C**.

---

2. Choose an option from the drop-down menu.  
NFT displays a file specification box. If you selected a file as described in Step 4: Specify the File, the box already contains the name of the file.
3. Click on **OK** to accept the file name or enter a new file name.

---

### Note

---

For some options you must enter both a source file name and destination file name in the dialog box. See *DECnet User's Guide* for information on file specifications and defaults.

---

## Step 6: Specify the Destination File

The destination file specification minimally consists of the node name followed by a double colon. You can add a drive and subdirectory if you want, followed by the file name that you want created on the remote PC.

For example, you could enter the following destination file specification to transfer a file to another PC:

```
NODE1::C:\FINANCES\APR_REP.TXT
```

---

### Note

---

If you just enter NODE1::, the file is copied to the remote PC's default directory. If the PC is running DOS, this is FAL's working directory; if the PC is running OS/2, this is the top-level directory on the boot drive.

---

To transfer a file from a PC to a server account, you must enter the complete file specification that you want created on the remote system. You must specify the:

*All server accounts require user names and passwords to transfer a file*

- User name and password for the account
- Device name
- Directory name

The following example shows the destination file specification you would use to transfer a file on a PC to an account on a server with the node name of SERVR5:

```
SERVR5"USER2 PASSWORD"::DISK3:[USER2.WINGZ]
```

## Step 7: Complete the Transfer

Click on **OK** to start the file transfer process.

You get a message confirming the successful transfer, or an error message is displayed. When the transfer is complete, the highlighting disappears from the file listing.

---

### Note

---

The first time you try to copy a file with NFT you can get an error message suggesting that you increase the DNETHeapSize in your SYSTEM.INI file. If you receive this message, edit your SYSTEM.INI file to specify the recommended DNETHeapSize value, and restart Windows. You can use the system configuration editor from your Main program group.

The SYSTEM.INI file is located in the directory in which you installed Windows. Use the Search option in the File Manager to help locate your SYSTEM.INI file.

---

See *DECnet User's Guide* for explanations and recovery actions for other error messages you could encounter while using FAL and NFT.

## Sample Activities

This section presents three typical copy activities:

- Copying a file from your PC to another PC on the network
- Copying a file to your PC from the server
- Moving a file from one directory to another within your account

## Sending a File to Another PC

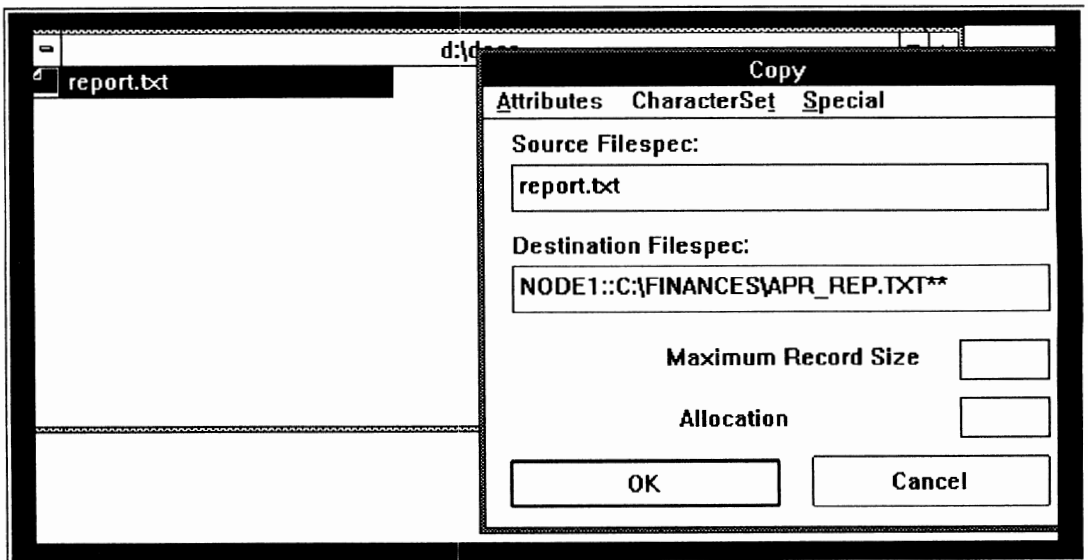
If you want to copy a file called *REPORT.TXT* from your PC to another PC on the PATHWORKS for DOS network, follow these steps:

1. Make sure the destination node name is defined in NCP.
2. Make sure the destination PC has FAL activated.
3. Select **NFT** from the Program Group.
4. Click on the file you want copied, changing directories if necessary to locate the file.

The file is highlighted in the directory.

5. Click on **Copy** on the NFT menu.  
Click on **Copy** on the Copy drop-down menu.  
The Copy dialog box appears with the selected file in the Source Filespec box.
6. Enter the destination filespec at the blinking cursor.  
Figure 6–4 shows you a completed Copy option file specification box. Notice that the source file (report.txt) was selected from the directory, as indicated by the shading. Because it was selected, the file name is automatically listed on the Source Filespec line.

**Figure 6–4 Copy File Specification Box**



7. Click on **OK**.  
The utility indicates the file is being processed by displaying a message. When the transfer is complete, the highlighting disappears from the file listing.

## Copying a File From a Server

If you want to copy a file from a network account to your PC:

1. Make sure:
  - Your node name is defined in your pc's database.
  - You know the location of the file you want on the server (network drive, directory, and file name).
2. Be sure you have permission to copy the file. You do not have to have FAL activated on the server, but you must have valid access to the file.
3. Choose **NFT** from the Program Group.
4. Click on the network drive directory. If you do not have a current connection to the network drive, see the *User's Handbook* for information on how to connect to a network drive.

Click on the file you want to copy. For example, you can select a file called SALES.TXT in the \FINANCE directory on the M network drive.

The file is highlighted.

5. Click on **Copy** on the NFT menu.

Click on **Copy** on the drop-down menu.

A file specification dialog box appears with the selected file name inside

6. Enter your node name and a double colon. You can add a drive and subdirectory if you want. Enter the name of the file you want created.

For example, you can specify the destination file specification for SALES.TXT to be:

```
MYPC: : \DATA\APR_SALE.TXT
```

7. Click on **OK**.

A message at the bottom of the screen tells you the copying is being done. When the transfer is complete, the highlighting disappears from the file listing.

*It is faster to enter only the local file specification*



## Using Drag and Drop to Move a File Within Your Account

The “drag and drop” feature of NFT copies a file to and from any local or network directory on your PC.

For example, to move your MAY\_REPT.TXT file from your local D drive directory to your network directory:

1. Choose **NFT** from the Program Group.
2. Bring up the source directory that contains the file you want to move, clicking on **Change Directory** if necessary.

In this example, the file is located in:

D: \DOCS

3. Click on **Directory in New Window** and enter the name of the destination directory you want the file moved to.

In this example, the destination directory is:

M: \FINANCES

4. Click on **OK**.

The destination directory appears in a new window.

---

### Note

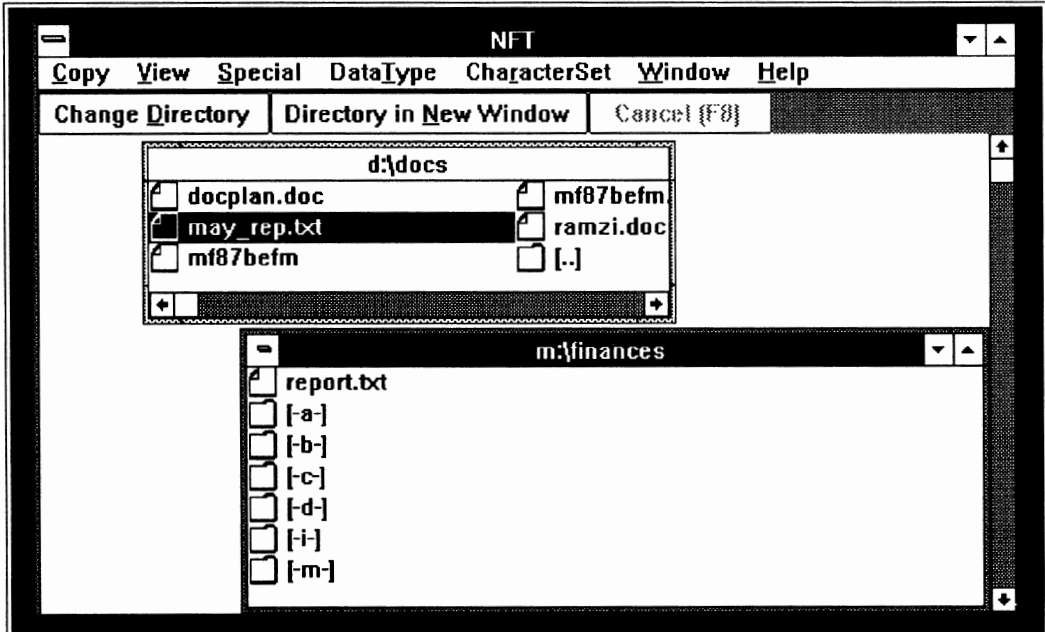
---

Size the directory windows if necessary to see the file on the source directory.

---

5. Click on the desired file in the source directory.  
The file is highlighted in the directory; see Figure 6–5.

Figure 6-5 NFT Drag and Drop Option - Screen 1



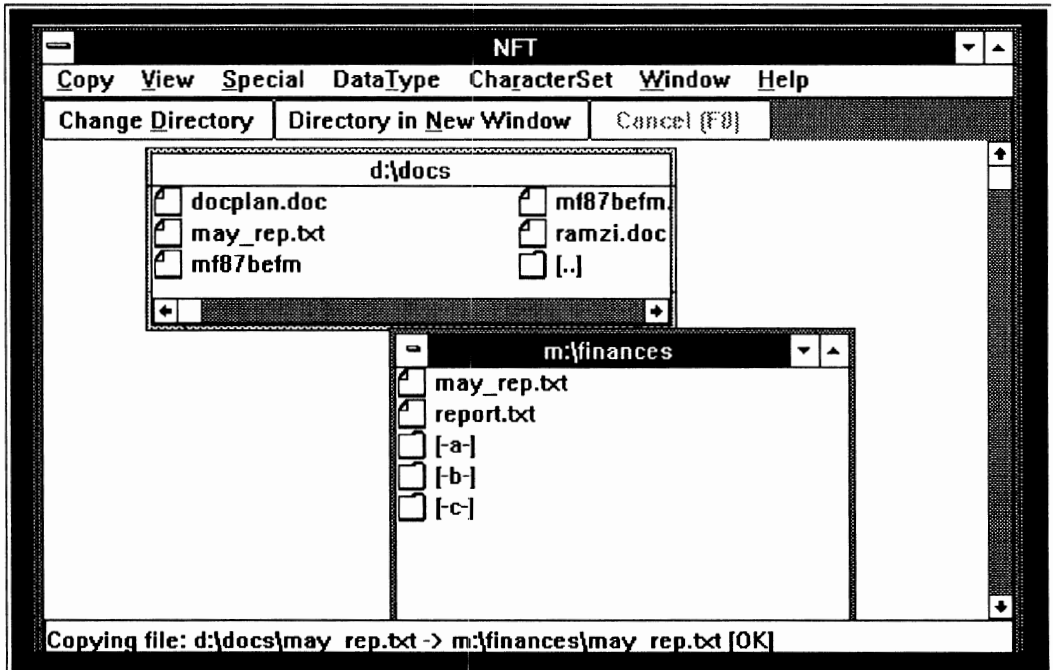
6. Press and hold down the mouse button and drag the pointer to the destination directory. Notice the pointer changes shape as you drag it from the source file directory to the destination directory.

7. Release the mouse button.

NFT displays the destination filespec dialog box with the source filespec and destination filespec filled in. You can change the destination file name if you want or accept the name by clicking on **OK**.

A message appears at the bottom of the NFT window telling you that the file is being copied. When the move is completed, the shading disappears from the source file and the file is displayed in the destination directory; see Figure 6-6.

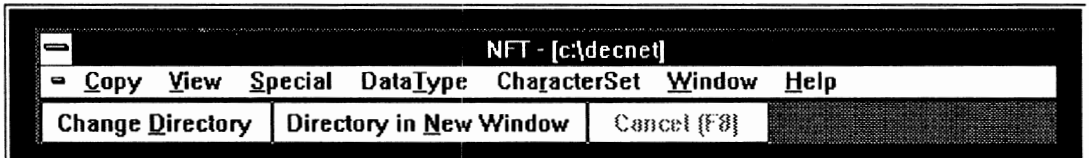
Figure 6-6 NFT Drag and Drop Option - Screen 2



## NFT Options

The following section describes NFT options listed on the NFT Menu Bar, as shown in Figure 6-7

Figure 6-7 NFT Menu Bar



## Copy

This is the option you probably use most of the time. Use this option to:

- Copy files to a network account or another PC on the network
- Copy files from a network account or PC on the network

If you are sending many files to the same location, NFT simplifies the task. After you have completed a file transfer, NFT uses the destination file specification as the default and lists it in the dialog box for the next file transfer. You only have to enter the source file specification.

If you select your file before clicking on the Copy option, the source file is then also listed in the dialog box. You only have to click on **OK**.

- Append a file to an existing file on a remote PC
- Copy a remote file to Windows Clipboard

## View

Use this option to see file information or file contents. This option works like the DOS **DIRECTORY** command.

When you choose the View option, a drop-down menu appears, displaying the options described in Table 6-1.

**Table 6–1 View Options**

Option	Function
Brief	List file names for the current directory
Verbose	List file names, file size, and the file creation dates for the current directory
Get Full Info	Lists all additional information for a file
File Text	List text file contents
Show Defaults	Shows the temporary default table of remote access information. You need access control information when you copy files to and from the server.  If you defined remote access for SRVR1"USR1 PASSWORD":: for example, the Show Defaults window contains the following message:  SRVR1"USR1"::  Notice that the password is omitted from the information displayed. If you have not defined any remote access information, the Show Defaults window is empty.  Remote access information is temporary and is lost when you exit from a NFT session.

## Special

Use this option to delete a file or start a protocol trace.

When you choose the Special option, a drop-down menu appears, displaying the options described in Table 6–2.

**Table 6–2 Special Options**

Option	Function
Delete	Delete a local or remote file
Trace	Start a protocol trace (used primarily by system programmers for debugging). Tracing allows a user or system manager to see how messages appear on a communications line.  You can specify a file for the trace output or choose to have the information displayed in the NFT window. If you choose the file option, the default is NFT.TRA.

*You cannot use these special options if the destination system is running MS-DOS.*

## Data Type

Use this option to specify the type of data that a source file contains. The NFT utility needs this information to transfer the file correctly.

Most source file transfers use either binary (image) or ASCII data types. However, you can click on any of the following choices from the Data Type pull-down menu:

- **AUTO**  
If you select this option, NFT tries to determine the data type. However, some binary files can appear to NFT as ASCII files and they are transferred incorrectly. To avoid this, select the Image data type for use with binary files.
- **ASCII**  
If the data type is ASCII and the remote system is DOS, OS/2, ULTRIX, TOPS-10 or TOPS-20, then the record format is stream.  
If the data type is ASCII for all other systems, then the record format is variable, with carriage-control set to implied CRLF.
- **Image**  
All other data types are presumed to be Image, record format is fixed, and the maximum record size is 128.
- **Block mode (the file is transferred in its current format with no translation)**  
If the data type is DDIF, DTIF, or DOTS, then the appropriate record format and file is copied in block mode.
- **Macy11 (binary interchange format used on TOPS-10 and TOPS-20 cross-compilers)**
- **Line numbers**
- **DDIF (created by DECwrite)**

For more information on these data types, see the *DECnet User's Guide*.

*NFT uses block mode as the default data type if the remote system is running DOS or OS/2*

## Character Set

Use this option to select the type of character set that is used during a convert and copy operation on an ASCII source file.

The only time you change character sets while using NFT is if the source or destination file is not in the same language.

When you are copying a file to or from a remote system, the Copy menu option lets you specify another character set to convert a file. You would convert a character set only on the file on the remote system and only if the source file and the destination file use different character sets.

For example, if you are copying file written in Finnish to the US, use this option to specify that you want to convert and copy the Finnish file on the remote system to USA, the character set specified for your client.

---

### Note

---

Do not confuse this with the character set used inside Windows. The default character set used in Windows is ISO Latin-1.

---

If you are converting and copying a USA file from your client to Finland, specify the Finnish character set for the remote file only.

If you do not choose a character set, NFT assumes the source and destination files use the same character set and uses the No translation option as the default.

---

**Note**

---

The \*.CHR files must be in a directory on your path. They do not have to be in the Windows directory.

These files should already exist in their own directories on the system file server if you installed PATHWORKS for DOS on the system file service on the server; if you installed PATHWORKS for DOS to your hard disk, these directories are located on your boot drive.

Typical CHR directory names are \437USA and \850MUL. If these directories are not in your path, see your *Client Installation and Configuration Guide*.

---

NFT offers the character set options listed in Figure 6–8.

**Figure 6–8 Character Set Options**





## **Window**

This option performs standard windows operations in NFT, for example, arranging icons and closing windows.

## **Help**

The online Help option displays information about NFT and its options.

For more information on NFT discussed as a DOS command line utility, see the *DECnet User's Guide*.

## **Directory Buttons**

These options are described in Step 4: Specify the File in this chapter.

## **Cancel**

Use this option to cancel a requested NFT file transfer.

---

## Responding to System Messages

This chapter helps you to resolve error conditions you might encounter while running Windows support components.

The chapter lists error messages alphabetically. When a service or node name begins a message, you can find the message alphabetized under “servicename.”

The entry for each message:

- Tells you the severity level of the message (Informational, Warning, Error, Fatal).

You can continue using the component with an informational or warning level, with the understanding that your application or utility may not run as you expect. Error and fatal levels cause your application or utility to terminate.

- Explains the error condition
- Suggests one or more actions

Error messages you encounter while running Microsoft Windows with the support components could be generated by either:

- Microsoft Windows operating system

If an operating system error occurs at any time during a command or program, Windows displays a dialog box.

For information and suggested recovery actions on errors you could encounter using the Windows operating system, see your Windows documentation.

- Windows support components

These messages can be generated by:

- VT320 terminal emulator

These messages are displayed in dialog boxes with an OK and a Cancel option. If you want to proceed with the operation you are performing, choose the OK option. If you want to correct the error indicated in the message, choose the Cancel option. Some dialog boxes give you a Retry option to retry an operation.

- FAL and NFT network utilities

See the *DECnet User's Guide* for these messages and suggested recovery procedures.

## Messages

%SCR - Error. Check ERROR.LOG for explanation.

**Severity:** Informational

**Explanation:** You have an error in your script file.

**User Action:** Review the ERROR.LOG file to see what command in your script file generated the error. See the *SETHOST Terminal Emulation Guide* to help you correct the script command and rerun the script.

Cannot access comm port 'portnumber' [- Exit Set-up?]

**Severity:** Fatal

**Explanation:** The indicated serial communications port is not installed or cannot be initialized.

**User Action:** Make sure the modem or communications line is physically connected to the port. Make sure you have indicated the right serial port.

If this message occurs while you are exiting Set-Up, you have the option of remaining in Set-Up or exiting Set-Up. If you remain in Set-Up, no connection is made.

Cannot access printer port

**Severity:** Fatal

**Explanation:** The VT320 emulator cannot open the printer port. The printer might be unable to allocate the necessary queue or the hardware might not be installed.

**User Action:** Use the Printer option on the Control Panel to verify your printer connections. You may have to establish a printer connection or you may have to close some of your

applications to use the printer. See Chapter 3 in this manual for information on network printer connections.

Cannot find 'filename'

**Severity:** Error

**Explanation:** The VT320 emulator cannot find the file in the directory or on the disk.

**User Action:** Make sure you entered the file name correctly. You may need to change directories to locate the file or you may need to enter a path name before the file name. If you are using diskettes, make sure the diskette containing the file is in the drive. Select the command and try again.

Cannot get full info on local file

**Severity:** Error

**Explanation:** NFT cannot access full information on a local file.

**User Action:** Use the DOS DIR command to get this information.

Cannot open 'filename'

**Severity:** Error

**Explanation:** The VT320 emulator cannot find the file you specified or you tried to open a file that is in a protected area.

**User Action:**

- Make sure the file exists by using the DIR command or by using the Search option on the File Manager or Program Manager.
- If the file exists, be sure the directory that contains the file is on your path.
- Make sure you entered the file name correctly in the dialog box.
- If you are creating a configuration file, enter the full directory path for either a directory on your hard disk or your personal network directory in the dialog box. You cannot create a configuration file on the system service (the network drive).

Cannot read 'filename'

**Severity:** Error

**Explanation:** An error occurred while the VT320 emulator was reading the specified file. The file being listed or backed up could not be read. This could happen if another user is reading the file. If the file is a configuration file, it is possibly corrupted.

**User Action:** If this is a configuration file, delete it and create a new one. If this is any other type of file, try again later.

Cannot write 'filename'

**Severity:** Error

**Explanation:** An error occurred while the VT320 emulator was writing the specified file or the disk is full.

**User Action:** Make sure there is enough room on the disk and try again.

Comm port 'portnumber' is in use [- Exit Set-up?]

**Severity:** Warning

**Explanation:** The indicated serial communications port is being used by some other application, for example, a modem or a printer program.

**User Action:** Select another port or close the application currently using the port.

If this message occurs while you are exiting Set-Up, you have the option of remaining in Set-Up or exiting Set-up. If you remain in Set-Up, no connection is made to the indicated port.

Comm port 'portnumber' unavailable

**Severity:** Warning

**Explanation:** No communications port exists.

**User Action:** Do not try to use this port for communications.

### CTERM not installed

**Severity:** Warning

**Explanation:** You did not install the CTERM software before starting Microsoft Windows.

**User Action:**

1. Close the VT320 emulator session.
2. Run Netsetup.
3. Load the transport at the Memory Configuration Menu.
4. Write the key disk.
5. Reboot your system

See your *Client Installation and Configuration Guide* for more information on Netsetup.

### Do you wish to connect to 'servicename'

**Severity:** Informational

**Explanation:** The Network Terminal Service session ended because it was idle.

**User Action:** To reestablish the terminal service, click on Yes (or press the Return key). The host prompt appears.

### Error opening file 'filename'

**Severity:** Error

**Explanation:** You cannot access the file you requested.

**User Action:** Be sure FAL is running on the PC that contains the file you want.

### LAT not installed

**Severity:** Warning

**Explanation:** You did not install the LAT software before starting Microsoft Windows.

**User Action:**

1. Close the VT320 emulator session.
2. Run Netsetup.
3. Load the transport at the Memory Configuration Menu.
4. Write the key disk.

5. Reboot your system.

See your *Client Installation and Configuration Guide* for more information on Netsetup.

No available Session Control Blocks

**Severity:** Warning

**Explanation:** There are no control blocks for LAT to use in managing the terminal session.

**User Action:** Close the session, define the Session Control Blocks, and restart the session. See the Running Multiple VT320 Emulator Sessions section in Chapter 4 in this book for information on defining SCBs.

Node name undefined

**Severity:** Fatal

**Explanation:** The node name of the remote PC is not defined in your NCP database.

**User Action:** Use the NCP DEFINE command to define the node name and address of the remote PC. See the Defining Your Host System and Other Nodes section in Chapter 4 in this book for more information on defining nodes.

No printer installed

**Severity:** Fatal

**Explanation:** The VT320 emulator cannot open the printer port. The printer might be unable to locate the print queue or the printer might not be installed.

**User Action:**

- Use the Printer option on the Control Panel to verify your printer connections. Correct the printer queue name if necessary. See Chapter 3 and your Microsoft documentation for more information on connecting to a network printer and printer queues.
- Check the VT320 Emulator Set-Up screen to see if you have a printer installed. See Chapter 5 for more information on accessing the VT320 Emulator Set-Up screen.

If your printer is not installed, see Chapter 3 for information on installing a printer.

Object unknown

**Severity:** Error

**Explanation:** You are attempting to access a file on a PC that does not have FAL running.

**User Action:** Tell the user of the remote PC to activate FAL on the PC and try again.

Printer port is in use

**Severity:** Warning

**Explanation:** You are trying to use the printer while it is busy.

**User Action:** Try again after the current print job is finished.

'servicename' not available

**Severity:** Fatal

**Explanation:** You entered an invalid or inaccessible network name.

**User Action:** Make sure you entered a valid service name. If the service is not available, try again later.

Set-Up file 'filename' is incompatible and will be ignored

**Severity:** Error

**Explanation:** You are trying to load a Set-Up configuration file that is the wrong version or in the wrong format. This can occur when starting the emulator or using the **Recall Saved Settings** option in Set-Up.

**User Action:** Delete the Set-Up configuration file and create a new one. See Chapter 5 for more information.

TELNET not installed

**Severity:** Warning

**Explanation:** You did not install the TELNET/BAPI software before starting Microsoft Windows.

**User Action:**

1. Close the VT320 emulator session.
2. Run Netsetup.
3. Load the transport at the Memory Configuration Menu.
4. Write the key disk.



5. Reboot your system.

See your *Client Installation and Configuration Guide* for more information on Netsetup.

Unable to open file

**Severity:** Error

**Explanation:** You are trying to write to a file that is write-protected, for example, a file located on the system service.

**User Action:** Write to a file that allows you access.

---

## Using Your PC Keyboard with the VT320 Emulator

This appendix describes how to use your PC keyboard with the VT320 emulator. In addition, the appendix contains keyboard mappings for IBM and the compatible keyboards mentioned in the PATHWORKS for DOS software product description (SPD)

### Using an LK250 Keyboard

When you use the VT320 emulator with an LK250 keyboard, your keyboard functions in the same way as if you were at a VT320 terminal. The only differences are:

- The function of some top-row function keys
- Addition of an Alt key
- Location of the ‘, ~, <, and >, and Compose key

This appendix refers to the function key labels on the standard United States legend strip. Other countries are supplied with the legend strips for their countries. Be sure to use the appropriate strip with the VT320 emulator.

### VT320 Emulator Top-Row Function Keys

This section describes the correlation of VT320 to the LK250 keys.

Table A-1 describes function keys that have fixed meanings for the VT320 emulator. The labels in parentheses are the labels on the standard United States legend strip for Digital keyboards.

**Table A-1 How Top-Row Function Keys Work with the VT320 Emulator**

<b>Key</b>	<b>Function</b>
<b>F1</b> (Hold Screen)	Freeze the screen display and stop any new characters from being displayed. Pressing the F1 key again returns the emulator to normal operation. When you press the F1 key, the emulator title bar displays the word <b>Hold</b> .
<b>F2</b> (Print Screen)	Send the screen text to a Digital-compatible printer.
<b>CTRL/F2</b>	Set or reset Auto Print Mode. See the Keyboard section in Chapter 5 for information on Auto Print Mode.
<b>F3</b> (Set-Up)	Enter and exit from Set-Up.
<b>F4</b> (Data/Talk)	Operate the optional integral modem or external modem.
<b>F5</b> (Break)	Transmit a break if you enabled Break in Set-Up. You can use it with other key combinations when the optional integral modem is installed. Use the <b>Shift/F5</b> keys to disconnect a communications line. Use the <b>Ctrl/F5</b> keys to send an answerback message as defined in Set-Up.
<b>F11</b> (Esc)	<ul style="list-style-type: none"><li>• For VT52 and VT100 modes, generates an escape character</li><li>• For VT220 and VT300 modes, F11 is a function key</li></ul>
<b>F12</b> (BS)	<ul style="list-style-type: none"><li>• For VT52 and VT100 modes, generates a backspace character</li><li>• For VT220 and VT300 modes, F12 is a function key</li></ul>

(continued on next page)

**Table A-1 (Cont.) How Top-Row Function Keys Work with the VT320 Emulator**

<b>Key</b>	<b>Function</b>
<b>F13 (LF)</b>	<ul style="list-style-type: none"><li>• For VT52 and VT100 modes, generates a line-feed character</li><li>• For VT220 and VT300 modes, F13 is a function key.</li></ul>

Table A-2 lists a label for the VT320 emulator and its LK250 counterpart.

**Table A-2 LK250 Enhanced Keyboard**

<b>VT320 Edit Keypad Key</b>	<b>LK250 Keypad Key</b>
PF2	Alt/PF1

## Using Keyboard Mappings for IBM and Compatible Keyboards

When you use the VT320 emulator with an IBM or a compatible keyboard, a number of keys perform functions that are different from their labels. To assure the correct keyboard mappings, you must define the keyboard and the country settings in the same way in the both the VT320 and Windows. (For more information on the keyboard type and dialect, see Chapter 5, Customizing Your VT320 Terminal Emulator Environment, in this guide.)

Some VT320 function keys, (F11, F12, F13) are unavailable on the IBM keyboard. If you want to use these functions on an IBM keyboard, you can use keyboard mappings and, in some cases, key combinations.

For example, if you or the application you are running defined the F11 function key to change your editor to overstrike mode, and you are using the IBM Enhanced keyboard, you would press the following keys to change your editing mode:

**Alt F1**

Tables A-3 through A-5 list the labels for the VT320 emulator and their IBM counterparts.

---

**Note**

---

To enter 0 through 9 on the numeric keypad, enable the NumLock key by pressing it. The NumLock LED is turned on.

To use the keypad for editing functions, disable the NumLock key by pressing it a second time. The NumLOCK LED is turned off.

---

**Table A-3 IBM Enhanced Keyboard**

<b>VT320 Function Key</b>	<b>IBM Key Sequence</b>
F11	Alt/F1
F12	Alt/F2
F13	Alt/F3
F14	Alt/F4
F15	Alt/F5
F16	Alt/F6
F17	Alt/F7
F18	Alt/F8
F19	Alt/F9
F20	Alt/F10

<b>VT320 Edit Keypad Key</b>	<b>IBM Numeric Keypad Key</b>
PF1	/
PF2	Alt/ /
PF3	*

(continued on next page)

**Table A-3 (Cont.) IBM Enhanced Keyboard**

<b>VT320 Edit Keypad Key</b>	<b>IBM Numeric Keypad Key</b>
PF4	-
Minus	Alt/ +
Enter	Alt/Enter
Compose	Esc

**Table A-4 IBM Personal Computer AT Keyboard**

<b>VT320 Function Key</b>	<b>IBM Alt Key Sequence</b>
F11	Alt/F1
F12	Alt/F2
F13	Alt/F3
F14	Alt/F4
F15	Alt/F5
F16	Alt/F6
F17	Alt/F7
F18	Alt/F8
F19	Alt/F9
F20	Alt/F10
PF1	Esc
PF2	Alt/Esc
PF3	Scroll
PF4	Alt/Scroll
Compose	Alt/ 0

**Table A-5 IBM PC/XT Keyboard**

<b>VT320 Function Key</b>	<b>IBM Alt Key Sequence</b>
F11	Alt/F1
F12	Alt/F2
F13	Alt/F3
F14	Alt/F4
F15	Alt/F5
F16	Alt/F6
F17	Alt/F7
F18	Alt/F8
F19	Alt/F9
F20	Alt/F10

<b>VT320 Edit Keypad Key</b>	<b>IBM Numeric Keypad Key</b>
PF1	Scrl Lock
PF2	Alt/Scrl Lock
PF3	Shift/Scrl Lock
PF4	Alt/Shift/Scrl Lock
Compose	Esc
,	Alt/ -

---

# Glossary

## **asynchronous communications (n.)**

The method of transmitting data one character at a time over a serial interface. Asynchronous communications can work locally or by using a modem. Timing between bits is constant; timing between characters is variable. Also called start-stop transmission

## **click (v.)**

To quickly press and release a mouse button.

## **click on (v.)**

To point to an active object and quickly press and release the mouse button.

## **client (n.)**

A personal computer or workstation connected to the network that can access resources on a server. A client can have DOS, OS/2, or Macintosh software. See also *server*.

## **communications protocol (n.)**

A set of hardware and software standards for transmitting data between terminals and computers.

## **CTERM (n.)**

Digital Command Terminal. Network protocol that provides local and wide area network services to DOS computers for VT terminal emulation. CTERM is one of the possible protocols used in the Windows Version 3.0 VT320 terminal emulator.



**DECnet (n.)**

Digital networking protocol that runs on server and client nodes in both local area and wide area networks. With DECnet, different types of computers that have different operating systems can be connected and users can access information and services on a remote computer over the network connections.

**device driver**

See *driver*.

**disk server (n.)**

A network program that allocates space on a VMS disk where DOS users can store, create, and maintain DOS files. This space is called a *virtual disk*. Disk services are available only on VMS servers accessed with DECnet transport.

**disk service (n.)**

A service located on a VMS server that appears as a VMS file on a server, and lets users access it as if it were a local disk drive. A disk service gives users fast access to read-only files, and gives one user fast access to read-write files.

Note that Microsoft Windows makes no distinction between file and disk services, although PATHWORKS for DOS does. You must use the prescribed drive letter for a file service or disk service to connect to it. See the *User's Handbook* for more information about prescribed drive letters and connecting to network services.

**driver (n.)**

A background software program typically dedicated to the control of a device or resource on a personal computer.

**EMS**

See *expanded memory*.

**emulation mode (n.)**

When a hardware or software device runs like another; for example, a printer running in emulation mode uses software that was written to be used by another machine.

**expanded memory (EMS) (n.)**

Physical memory outside the addressing range of a processor that can be accessed through a 64 Kbyte frame. Portions of expanded memory, called pages, are switched into a designated area of upper memory for execution.

**File Access Listener (FAL) (n.)**

A DECnet utility that places the client in a listening state to monitor incoming requests such as an NFT copy command from another client.

**host system (n.)**

A computer, such as a server, that provides services to clients.

**icon (n.)**

A symbol that represents an application, object, process, or window.

**key disk (n.)**

A disk that is used to start up the personal computer or workstation and make network connections. The key disk stores files with configuration information, optional user-specific information, and some DOS utilities. The key disk is a type of boot media that can be created.

**LAN (n.)**

Local area network. A self-contained network that offers a high-speed, reliable communication channel. LANs span a limited distance, such as a building or cluster of buildings, but can be connected to wide area networks (WANs) with bridge devices.

**LAT (n.)**

Local Area Transport. A communications protocol that operates on a local area network (LAN) to permit communication between nodes and other devices such as terminals, printers, and modems.

**LAT node (n.)**

A computer that has LAT software and can offer services, access services, or both. A LAT node can be either a terminal server or a service node. See also *terminal server* and *service node*.

**LAT service (n.)**

Any service offered on LAT; for example, a terminal service is the most common type.

**LATCP (n.)**

LAT Control Program. A utility that allows you to manage LAT services from the client.

**library (n.)**

A collection of prewritten subroutines that provides processing functions. The programmer provides a call (reference) in the program to a particular subroutine in order to use it.

**load file (n.)**

A file with information about the Ethernet controller that is installed in a specific client. The load file is used for remote boot.

**Local area network**

See *LAN*

**Local Area Transport**

See *LAT*

**local boot (n.)**

A process in which a client operating system is loaded and started locally from either the hard disk or from a key disk. See also *remote boot*.

**Network File Transfer (NFT) (n.)**

A program that allows users to access or delete files residing on DECnet host system that provide network file access capabilities. NFT initiates the service requests that will be carried by the FAL program.

**network key disk (n.)**

A virtual disk that downline loads an operating system and network startup information to a client over the network. A network key disk is a type of boot media that can be created. See also *remote boot*.

**Program Information File (PIF) (n.)**

A file that provides information about how a non-Windows application uses client resources. The system service uses the appropriate PIF when you run an application.

**protocol (n.)**

A set of rules that govern the operation of a communication link. For example, DECnet and TCP/IP are network protocols.

**RAM**

Random access memory. Memory from which information can be read and to which new information can be written.

**Random access memory**

See *RAM*.

**remote boot (n.)**

A process by which a client operating system is loaded and started from a network key disk. See also *network key disk*.

**SCB**

See *session control block*

**script (n.)**

In the VT320 terminal emulation application, a text file containing sets of commands to perform a function automatically.

**serial (adj.)**

In data transmission, a method of data transfer in which each bit of information is sent sequentially on a single channel.

**serial port (n.)**

On a personal computer or workstation, the hardware component that connects the computer to a serial communication device, such as a modem, terminal, or serial printer. See also *serial*.

**serial printer (n.)**

A printer that has a serial communications interface. See also *serial* and *serial port*.

**session (n.)**

The link between a client or terminal and a server.

**session control block (SCB) (n.)**

A system data structure that must be provided to LAT by an application whenever the application wants to create a session. The SCB contains all the interrupt and exception vectors known to the system.

**shell (n.)**

An outer layer of a program that provides the user interface, or way of commanding the computer. Shells are typically add-on programs created for command-driven operating systems, such as UNIX and Microsoft's DOS. The shell provides a menu-driven or graphical icon-oriented interface to the system in order to make it easier to use.

**status line (n)**

Part of a VT320 emulator Set-Up screen. The emulator is an application that runs under Microsoft Windows. The status line displays information about the cursor position and the status of the printer and modem while you are using the emulator. In addition, it can display messages from the host system.

**status section (n)**

Part of a VT320 emulator Set-Up screen. The emulator is an application that runs under Microsoft Windows. The status section displays setup values for specific emulator parameters. For example, it displays what printer has been set up for use by the emulator.

**string (n.)**

In a command line, an entry that contains more than one number or word and is enclosed in parentheses or quotation marks. In the commands described in this book, the words in a string are joined with underscores. In the following example, a string follows the equals sign:

```
NET PRINT/NOTE=(Final_draft_of_fiscal_report).
```

**system file service (n.)**

A file service offering system software, including PATHWORKS support components for Microsoft Windows Version 3.0 network software, DECwindows/Motif software and applications, and the DOS operating system and utilities.

**system service**

See *system file service*.

**terminal emulator (n.)**

A program that lets you use the client as if it were a terminal connected to a host computer.

**terminate-and-stay-resident (TSR) (adj.)**

A program that stays in memory, running in the background, even after the user closes the application.

**utility (n.)**

A general-purpose program included in a system to perform common tasks.

**virtual disk (n.)**

Space the disk server program sets aside on a VMS disk. The virtual disk, actually a VMS container file, functions like a DOS-formatted disk. Users can connect to the virtual disk through a DOS drive and can store, create, and maintain DOS files. (Same as *local area disk*, *disk service*.)

**WAN (n.)**

Wide area network. Two or more standard or extended local area networks (LANs) that are joined by the use of DECnet routers, gateways, or Packet System Interface (PSI) software.

**Wide area network (n.)**

See *WAN*.

**window (n.)**

An area within a display that is specifically defined and dedicated to a certain application or portion of an application.



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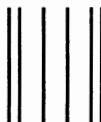
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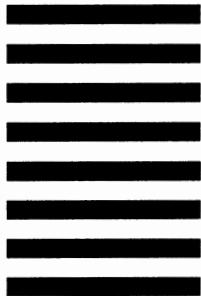


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