
VT320W/32 Telnet Terminal Emulator

Getting Started Guide

Software Version 1

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Chapter 1: Introduction

Overview

VT320W is a high quality DEC VT320 emulator for IBM and IBM-compatible computer systems running Microsoft Windows NT, Windows 95, and Windows 3.1. The software duplicates virtually all functions of the DEC VT320, VT220, VT102, VT100, VT52, SCO ANSI and BBS ANSI terminals. In VT102 mode, the emulator performs all functions of a DEC VT102 terminal including scrolling regions, video attributes, double-width characters, local printer support, character insert/delete, and full keyboard emulation.

In VT320 mode, VT320W emulates the expanded VT320 keyboard, user-defined function keys, compose key, multinational character sets, and 8-bit control sequences. The emulator offers many extended features, including:

- Kermit, ASCII, XMODEM, YMODEM, and ZMODEM file transfer
- Extensive command (script) language
- Keyboard mapping and Mouse mapping
- Screen scrollbar
- Data logging and replay
- WordPerfect mode
- Color support

VT320W Versions

VT320W is available in two versions:

- 32-bit version for Windows 95 and Windows NT version 4.0
- 16-bit version for Windows 3.1 and Windows NT version 3.51

You can install either version using the installation procedure described in this chapter.

Documentation Layout

This Getting Started Guide documents the 32-bit version of VT320W and is composed of the four chapters listed below.

Note:

The *VT320W/16 Getting Started Guide* describes how to use the 16-bit version of VT320W. This online guide is installed in the VT320W program group when you install the 16-bit version. See the “Installation” section of this chapter for more information.

Chapter 1 Introduction — Overview, installation, and general description of the application window.

Chapter 2 Getting Started — Describes the connection process and standard emulator operating mode.

Chapter 3 Drop Down Menus — Describes the drop down menus, dialog boxes, and each of the menu options.

Chapter 4 Keyboard and Mouse Mappers — Describes the configuration and use of the Keyboard and Mouse Mapping features.

The online help system contains the above information and also information on the following topics:

Extended Features — Describes VT320W/32 features not directly related to terminal emulation.

File Transfer — Describes ASCII, Kermit, XMODEM, YMODEM, and ZMODEM file transfers.

Emulation Command Language — Describes the use of the Emulation Command Language and each command.

Command File Programming — Describes programming features of the Emulation Command Language.

VT320 Programming — Describes programming control sequences for the VT320 Terminal.

Notation

All emulator documentation uses the following notation:

COMMAND/OPTIONS arguments

Emulator commands appear in uppercase letters in bold text, and as user input in examples. Additional options are preceded by a forward slash (/) and also appear in uppercase letters. Arguments may or may not follow commands. A descriptive word in lowercase letters represents command arguments.

[optional]

Options or arguments appearing in square brackets are optional.

Menu - Submenu - Tab

Drop down menus and the menu fields appear in italics and are separated by hyphens.

PC

A general descriptor for all types of personal computers.

PROMPT>

Prompts appear in Courier type and are used in examples to illustrate where certain commands are given, or features used.

TOKEN

Tokens are either emulator or VT320 functions that can be remapped to different keys. They appear in uppercase and bold letters.

USER INPUT

Input required from the user is shown in uppercase and bold letters.

Note: All instructions in this documentation assume that you are using a mouse. If you do not have a mouse, follow the Microsoft Windows instructions for accelerator keys.

Examples

Examples are given throughout the manual. They have the following format:

Example: CMD> **WRITE HOST**

CMD> represents the command line prompt. The command is shown as user input.

Emulator Commands

Throughout the manual, you will see the phrase, “Enter the xxxx command to...”. Emulator commands are entered by pressing **CMD** (default is Alt C), clicking *Execute - Command Line* or by clicking the C> button on the *CMD Toolbar*. The command line CMD> prompt appears on the screen. Enter the command at the command prompt. Many functions that are not assigned to keys are available through emulator commands.

Package Contents

The VT320W package includes:

- Getting Started Guide
- Program Disks
- Registration Card

Minimum Requirements

For VT320W/32 (32-bit version):

- Intel 486 or Pentium processor
- Microsoft Windows 95 or Windows NT (version 4.0)
- 8 MB Memory (Windows 95 only) 16 MB recommended, NT requires 16 MB
- 15 MB Hard Disk space
- A Mouse
- One of the following: a) serial port directly connected to host; b) serial port connected to modem; c) network connection to host

For VT320W/16 (16-bit version):

- Intel 386, 486, or Pentium processor
- Microsoft Windows 95, Windows NT 3.51 or greater, Windows 3.1, or Windows for Workgroups 3.11
- A Mouse
- One of the following: a) serial port directly connected to host; b) serial port connected to modem; c) network connection to host

Registration

There is a registration number on your program disks. Please record this number for future reference, updates, and technical support. Please take a few moments to fill out your product registration card and send it in. This will ensure that you receive prompt service and update notices.

Installation

VT320W is available in two versions:

- 32-bit version for Windows 95 and Windows NT (version 4.0)
- 16-bit version for Windows 3.1 and Windows NT (version 3.51)

Use the procedure described in this section to install either the 32-bit or the 16-bit version.

VT320W files are stored in compressed format on the disk(s). The installation procedure decompresses the files and copies them into the correct directory. To install VT320W, you must be running Windows, but close all other programs.

1. Select **Start - Run**. Select from **Browse**, or enter **A:\INSTALL**. (Where **A** is the floppy drive containing the program disk.)
2. Click the **OK** button. The installation program begins.
3. Follow the on-screen instructions to install VT320W.
 - The installation program asks you to select the version to install. For Windows 95 and Windows NT (version 4.0) systems, you can choose either the 32-bit version (which is recommended) or the 16-bit version.
 - For Windows 3.1 and Windows NT (version 3.51) systems, the 16-bit version is installed. You will not be prompted to choose a version.

See the remaining sections of this guide for information on how to use the 32-bit version of VT320W.

If you install the 16-bit version, the *VT320W/16 Getting Started Guide* (*vt320w16.pdf*) will be installed in the VT320W program group. Refer to this online guide for information on how to use the 16-bit version. You can read this online guide using the Adobe® Acrobat® Reader.

You can download a free version of the Acrobat Reader from Adobe's web site at:

<http://www.adobe.com/acrobat>

Or from the Ipswitch web site at:

<http://www.ipswitch.com/downloads/acrobat.html>

Creating an Icon (for VT320W/32)

The Program Group and Icon are automatically created once the installation program is complete. To select a different icon follow the steps listed below.

1. Click the VT320W32 icon with the right mouse button.
 2. Select *Properties* from the drop down list.
 3. From the *Properties* dialog box, select the *Shortcut tab*.
 4. Click the *Change Icon...* button.
 5. Select a new icon, then click *OK*.
-

Emulator and VT320 Functions Keys

The mouse activates most emulator and VT320 functions. These functions are also assigned to keys.

PC keys activate emulator functions and send VT320 control sequences to the host. Normally, when describing a function activated by a key, it can be written "Press Alt K to display the KERMIT> prompt." However, all function key assignments in the emulator can be reassigned by the user. A function other than Kermit may have been assigned to Alt K. This creates a documentation problem.

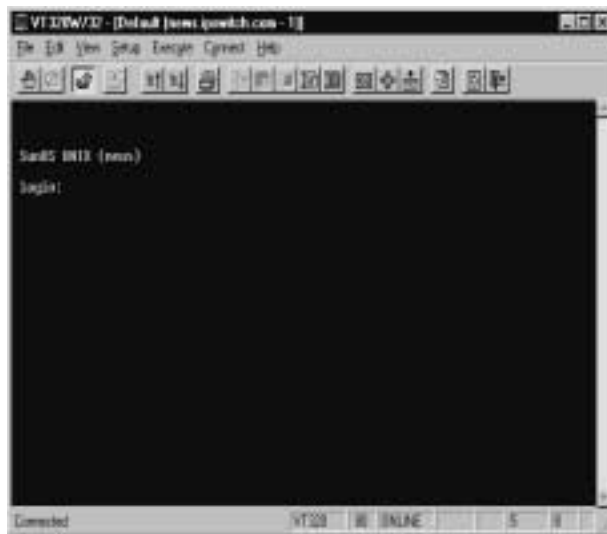
The emulator uses the concept of keys and tokens. Keys are physical PC keys while tokens are mnemonics that represent VT320W/32 or VT320 functions.

VT320 functions exist on the VT320 keyboard and are emulated by VT320W/32. PF1 and Setup are examples of VT320 function keys. VT320W/32 functions are unique to VT320W/32, and do not exist on a DEC VT320. For example, Kermit is a VT320W/32 function. When describing the activation of a VT320 or emulator function, the manual refers to the function key by its token name. To locate the physical key assigned to the token, refer to the Default Key Assignments topic in Chapter 3.

Example: Press **KERMIT** to display the KERMIT> prompt.

Application Window

The application window displays many standard Microsoft Windows features such as scrollbars, maximize/minimize buttons, and a Control Menu icon.



The menu bar lists common Microsoft Windows features and emulator specific features. Chapter 3 (Drop Down Menus) describes the menu bar options.

The Status Line displays terminal settings and messages indicating active features such as LOG and PRINT.

All host communications scroll through the window as they are received.

Line Recall and Editing

Input lines can be recalled and edited in the command window.

Command Line Editing is available on all input to emulator commands. This includes input entered in response to the CMD> prompt or emulator functions activated by function keys.

The following keys are available for Command Line Editing:

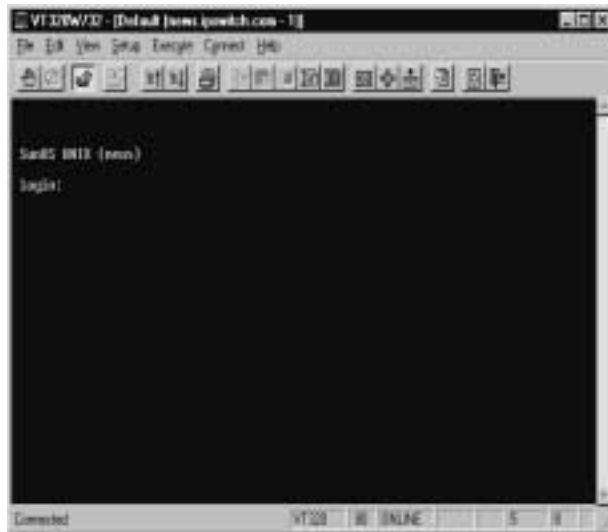
Key	Function
Up Arrow	Recall previous line
Down Arrow	Recall next line
Left Arrow	Move cursor left
Right Arrow	Move cursor right
Del	Delete character
Backspace	Delete character left of cursor
Ins	Toggle Insert/Overstrike mode
Ctrl U	Delete entire line

Chapter 2: Getting Started

This chapter describes the connection process and standard emulator operating mode.

Emulator Application Window

The Emulator Application Window displays whenever the emulator is started, unless the emulator is configured to start as an icon.



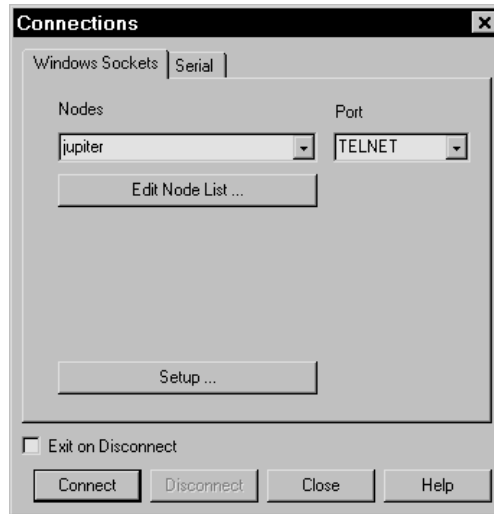
Connecting

There are two ways to connect; through the Connections dialog box or through the Session Manager.

Connections

To make a connection through the Connections dialog box:

1. Click on **Connect - Connect**. The Connections dialog box appears.



2. Select the tab defining the desired mode of connection to the host.
3. Enter a **Node Name**, a **Phone Number** or select a serial port, depending on the tab selected.
4. Click the **Setup...** button if available. Make any desired parameter changes, then click **OK**.
5. Click the **Connect** button. Status messages regarding the progress of the connection appear on the status line.

Session Manager

VT320W/32 provides a Session Manager which allows you to set the Properties of different sessions for the emulator and set up an automatic connection to the desired host. For example, you can save multiple network sessions that have different connection requirements, and save them with each assigned a unique name. Similarly, you can set up **Modem (TAPI)** connections as well as **Serial** port connections. Connecting is simply a matter of selecting a session from the list and then clicking the **Start** button. Each connection type is assigned an identifying icon, so for example, you can easily distinguish between a network connection and a modem connection.

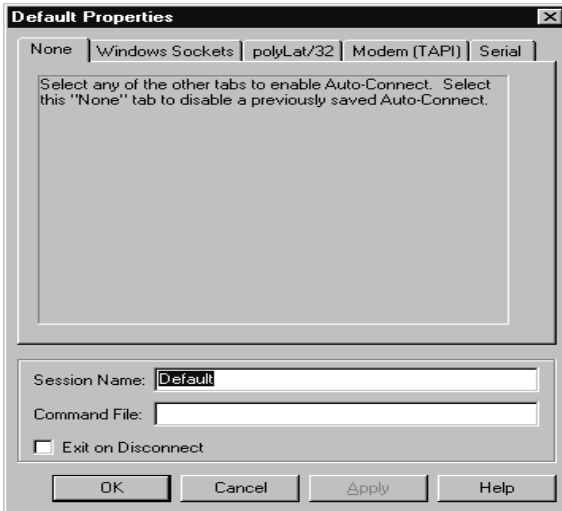
Click on **Connect - Session Manager** to display the Session Manager dialog box.



Creating Sessions

To create a new session:

1. Click on **Connect - Session Manager**.
2. Click the **New** button. The properties dialog box for the new session is displayed.



The following options are available on the Properties page:

Session Name

VT320W/32 automatically assigns a Session Name to each new or copied session. However, the default name can be changed.

Command File

A **Command File** name can be entered which will automatically be executed when the session is launched.

Exit on Disconnect

Exits the emulator when the session is disconnected.

OK Button

Saves the Properties page and returns to the *Session Manager*. New sessions and copied sessions will appear in the **Create Sessions** list.

Cancel Button

Cancels any changes made to the Properties page and returns to the *Session Manager* without creating a new or copied session.

3. Enter a new **Session Name** if desired. Otherwise a default name, **Session X**, is assigned.
4. Select the type of connection from the available tabs.

5. Adjust property parameters as necessary. For more information, refer to the following sections.
6. Click **OK**. The new session name displays in the **Create Sessions** list.

Copying Sessions

The Copy feature is a quick way to create sessions of a similar type. For example, if connecting to both VMS and UNIX systems, a VMS version and a UNIX version connection can be created. These base versions can then be copied when making multiple sessions for a given type.

To copy a session:

1. Click on **Connect - Session Manager**.
2. Select a session to copy.
3. Click the **Copy** button. The Properties dialog box for the new session displays.
4. Enter a new **Session Name** if desired. Otherwise a default name, **Copy X**, is assigned.
5. Select the type of connection from the available tabs.
6. Adjust property parameters as necessary. For more information, refer to the following sections.
7. Click **OK**. The new **Session Name** displays in the **Create Session** list.

Deleting Sessions

To delete a session:

1. Click on **Connect - Session Manager**.
2. Select a session to delete.
3. Click the **Delete** button.

Switching Sessions

To switch between sessions:

1. Click on **Connect - Session Manager**.
2. Click the **Show Active Sessions...** button. The Session Manager switches to the *Session Manager -Active Session* dialog box.



3. Select a session to switch to from the **Active Sessions** window.
4. Click the **Goto** button.

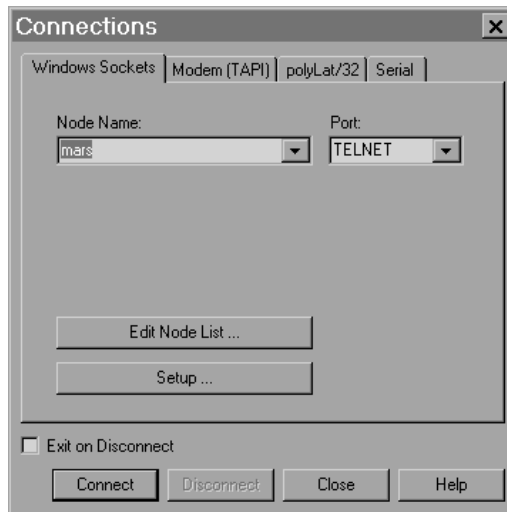
Exiting Sessions Remotely

To exit a session remotely:

1. Click on **Connect - Session Manager**.
2. Click the **Show Active Sessions...** button.
3. Select a session to close.
4. Click the **End Session** button. If the session selected is the current session, a message appears warning the user that they are about to exit the session.

Windows Sockets

Windows Sockets (WINSOCK) provides connectivity using any of several protocols. WINSOCK is a standard network interface that many network protocol providers have available for their protocol stacks. Normally WINSOCK gives the user access to a TCP/IP stack.



Node Name

Enter or select a node name. If a new node name is entered and the connection is successful, the node name will be added to the Node Name list.

Port

Enter or select the desired port.

Edit Node List...

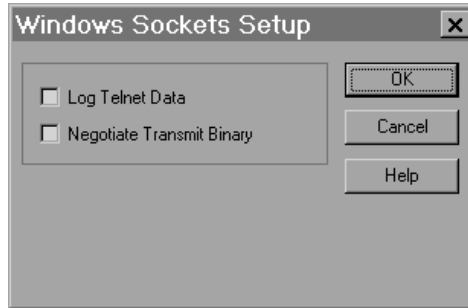
Displays the *Edit Node List* dialog box.

Setup... button

Displays the *Windows Sockets Setup* dialog box.

Windows Sockets Setup

From the Windows Sockets tab, click the *Setup...* button. The *Windows Sockets Setup* dialog box is displayed.



Log Telnet Data

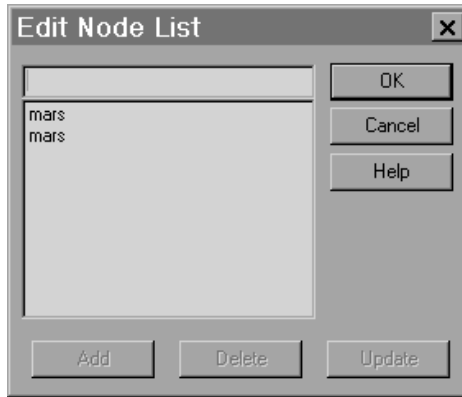
Create a special log file that includes Telnet “Interpret as Command” (IAC) negotiations along with the actual data stream.

Negotiate Transmit Binary

Transmit Binary causes the Telnet protocol to interpret characters not preceded by an IAC character (255 decimal) as 8-bit Binary data.

Edit Node List

From the *Windows Sockets* tab, click the *Edit Node List...* button. The *Edit Node List* dialog box is displayed.



Node List

Displays the list of available nodes.

Add Button

To add a node to the list, type the **node name** in the edit box, then click *Add*.

Delete Button

To delete a node from the list, click on the **node name** or type the name in the edit box, then click *Delete*.

Update Button

Click on a **node name**. It will appear in the edit box. Change the **node name**, then click *Update*.

Modem (TAPI)

TAPI is a protocol available in *Windows 95* and *Windows NT* that allows connections to modems defined in the *Windows* operating system. If the modems were not installed by *Windows* plug-and-play or manually through the *Windows* Control Panel, the modem will not be available in TAPI.



Phone Number

The number to dial. The number can include spaces or dashes for readability. The maximum length is 32 characters. If the **phone number** is not in the list, but is entered and a successful connection is made to that location, the new number will be added to the **phone number** list.

Port Device

Displays a list of the modem(s) installed in *Windows*. If the list is blank, a modem must be installed before TAPI can be used.

Config... Button

Displays the *Properties* page for the selected port device.

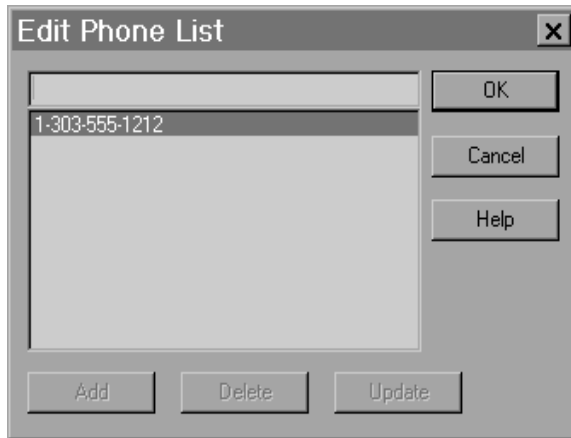
Edit Phone List... Button

Displays the *Edit Phone List* dialog box.

Hangup — Hangs up the modem.

Edit Phone List

Displays a list of phone numbers which can be added, deleted or updated.



Phone List

Displays the list of available phone numbers.

Add Button

To add a phone number to the list, type the number in the edit box, then click *Add*.

Delete Button

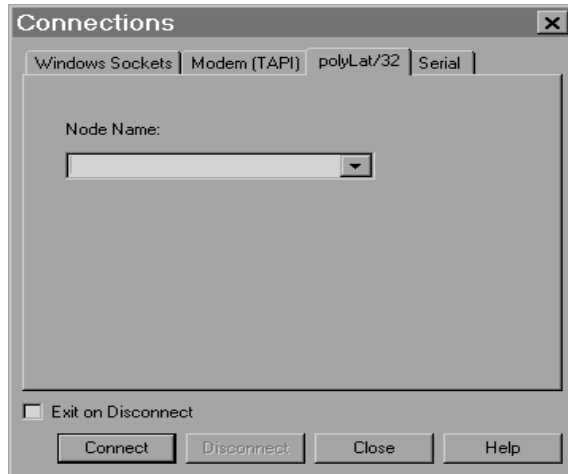
To delete a phone number from the list, click on the number or type the number in the edit box, then click *Delete*.

Update

Click on a number. It will appear in the edit box. Change the number, then click *Update*.

Poly/LAT-32

PolyLAT/32 is a LAT protocol for DEC terminal communications. If polyLAT is installed on your system, DECnet terminal communications can be established with this feature.

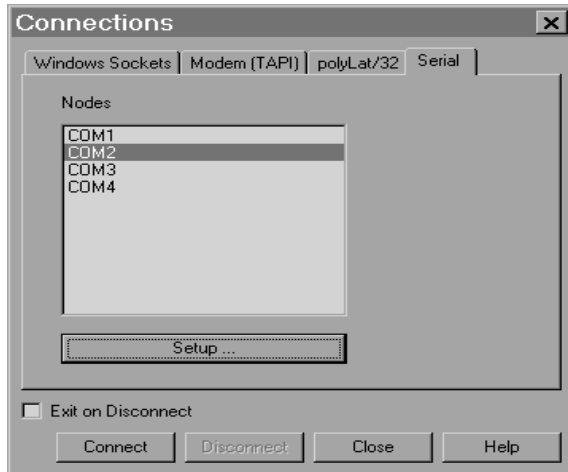


Node Name

The list of nodes is compiled by and from the network. If the desired **Node Name** does not appear in the list, contact your network administrator.

Serial

Serial communications are accomplished by a direct serial connection between the host and the PC. The *Serial tab* allows connection through the PC's available serial ports.



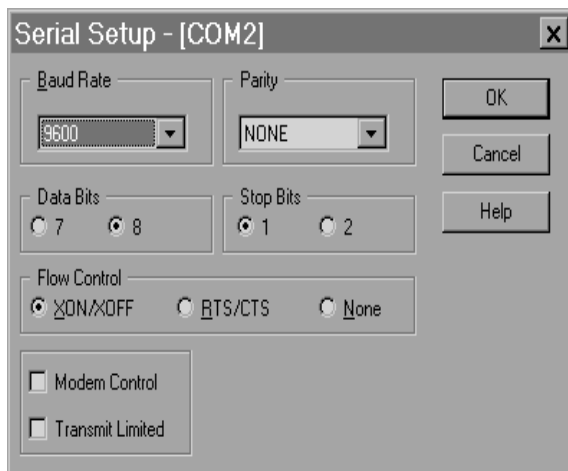
Nodes

Displays a list of the available Serial ports.

Setup... button

Displays the *Serial Setup* dialog box.

Serial Setup



Baud Rate

Selects the communications port speed.

Parity

Selects parity for the data word.

Even — Even parity.

Mark — Forces parity bit to one.

None — No parity bit. Use this setting when operating in a full VT320 8-bit environment.

Odd — Odd parity.

Space — Forces parity bit to zero. Recommended for 7-bit environments not requiring odd or even parity.

Data Bits

Selects **7** or **8** data bits. Seven bits is usually required when **Parity** is set to anything other than None.

Stop Bits

Sets the number of stop bits for each data word to **1** or **2**. For baud rates above 110 the correct setting is **1**.

Flow Control

Selects the communications flow control protocol.

None — Disables all receive buffer control. In this mode, characters are lost if the emulator cannot process characters fast enough to prevent the receive buffer from overflowing. The receive buffer size should not be set below 3168 characters if **None** is selected.

RTS/CTS — Sets hardware flow control mode. When the buffer is full, the **RTS** (Request to Send) modem control signal is dropped. When space becomes available in the receive buffer, RTS is enabled. If CTS is disabled, the emulator cannot send characters.

Xon/Xoff — The flow control method used by all DEC and most other computer systems. **Xon/Xoff** sends a DC3 (Ctrl S) character to the host when the receive buffer is full. When space becomes available in the receive buffer, a DC1 (Ctrl Q) is sent to the host.

Modem Control

If enabled, the emulator monitors the modem's carrier detect signal to determine the modem connect status. Modem Control should be disabled when using a direct connection to the host.

Transmit Limited

Enabling limited transmit restricts the emulator transmit speed from between 150 and 180 characters per second, regardless of the actual baud rate. This places a nominal interrupt burden on the host computer's operating system. Limited transmit may be necessary for proper communication with some half-duplex systems.

Window Sizing and Location

Several options in *View* control the appearance of the emulation mode presentation. The emulation window can be toggled between framed, unframed and maximize workspace, left justified and centered.

The size of the emulation window is determined by the font selected for the presentation window size. The emulator automatically selects a font that utilizes as much of the presentation window as possible while displaying all lines and columns currently configured.

Presentation window sizing is accomplished in the typical Windows manner; use mouse button 1 to grab a border and drag it to size the window. However, the emulator will not allow you to resize the emulator smaller than the smallest font. To size the emulator without automatic font selection (so not all columns and rows are visible without scrolling), press mouse button 2 while dragging the borders.

Number of Emulation Lines

The number of emulation lines is configured in *Setup - Terminal - Display* and is continuously variable from 24 to 48.

Maximize Workspace

Maximize Workspace maximizes the emulation window (working area) by “hiding” the menu bar, message lists, status line and toolbars. Emulator drop down menus are available through the Control Menu by enabling the Menu Bar option.

There are three ways to toggle Maximize Workspace mode on and off:

- Click on the toolbar icon.
 - Click on *View - Maximize Workspace*.
 - Click on the **Control Menu** icon located in the upper-left corner of the emulator title bar (or press Alt Spacebar) and select the **Maximize Workspace** item.
-

Screen Scrollback

The scrollbar display is manipulated through the vertical scrollbar. To move one line, click on the arrows at the ends of the scrollbar. To move a page, click in the gray area near the ends of the scrollbar.

If the scrollbar is not displayed, click on either *View - Scrollbar* or the scrollbar button on the *Hold Toolbar*.

The size of the scrollbar memory can be set to a maximum of 10,000 lines.

Video Attribute to Color Mapping

Video attribute color mapping is mapping of colors to normal VT320 monochrome attributes such as bold, reverse video, and underline. Video attribute mapping is configured through the *Color Setup* tab in *Setup -Terminal - Display* option. For more information, refer to the *Color Setup* topic in Chapter 3.

Character Sets

VT320W/32 supports the following character sets:

- DEC Multinational (consists of the ASCII and DEC supplemental character sets)
- DEC Special Graphics
- ISO Latin-1
- National Replacement Character
- PC

If a DEC VT terminal is selected, then on initial load or after a terminal reset, DEC Multinational is mapped as the default terminal character set.

The ASCII set is accessed for character codes 0-127. The DEC Supplemental set is accessed for codes 128-255. During a serial connection, the DEC Supplemental set does not display properly unless the emulator is set to **8 Data Bits** and **No Parity**.

Printer Support

All VT100 and VT320 print modes are supported.

Print Mode	Function
Print Screen	Sends the contents of the screen to the printer. If the screen is set to 132 columns, up to 132 columns can be sent to the printer.
Auto Print	Prints every line sent to the screen. Also known as Continuous Print mode.
Printer Controller	Prints every character received by the emulator without displaying it on the screen.
Print Cursor Line	Prints the line the cursor is on.
Print Extent	When set, the print screen function only prints the contents of the scrolling region.

The following print modes can be initiated using a function key, emulator PRINT command, or by a host control sequence. Other print modes can only be selected by using control sequences. Refer to the *Printing* topic in online help for more information.

Print Mode	Token	Command
Print Screen	PRTSCR	PRINT SCREEN
Auto Print	PRTAUTO	PRINT ON/OFF
Controller Print	PRTCTL	PRINT/CONTROLLER ON/OFF

Compose Characters

This feature allows you to create characters that do not exist on the standard North American keyboard using compose sequences. There are two types of compose sequences; two-stroke sequences and three-stroke sequences. Since the two-stroke sequences cannot be used on a North American keyboard, the emulator supports only the three-stroke compose sequences.

Three-stroke sequences can be performed on all keyboards. First, press COMPOSE (default is Alt F1) then press two standard keys whose characters form a valid sequence.

To create a compose character:

1. Locate the character in the Compose table.
2. Press COMPOSE (the Compose indicator displays on the Status Line).
3. Type the two characters from the “3-Stroke Sequence” column (the Compose indicator turns off when the sequence is complete).

For example, to create a U with an umlaut (Ü), press COMPOSE , then type U and a double quotation mark.

Resultant Character	3-Stroke Sequence	Resultant Character	3-Stroke Sequence
¡ (inverted !)	!!	Ó (O acute)	O´
¢ (cent sign)	c/ Ô	(O circumflex)	O^
£ (pound sign)	l- or l=	Õ (O tilde)	O~
¥ (yen sign)	y- or y=	Ö (O umlaut)	O¨ or ¨O
§ (section sign)	so or s! or s0	OE (OE ligature)	OE
¤ (currency sign)	xo or x0	Û (U grave)	U´
© (copyright sign)	co or c0	(U acute)	U´
^a (feminine ordinal)	a_	Û (U circumflex)	U^
« (angle quotation mark)	<<	(U tilde)	U~
° (degree sign)	0^ or (sp)0	Ü (U umlaut)	U¨ or ¨U
± (plus/minus sign)	+-	ÿ (y umlaut)	y¨ or ¨y
² (superscript 2)	2^	ß (German small sharp s)	ss
³ (superscript 3)	3^	à (a grave)	a´
µ (micro sign)	/u	á (a acute)	a´
¶ (paragraph sign)	p!	â (a circumflex)	a^
• (middle dot)	.^	ã (a tilde)	a~
¹ (superscript 1)	1^	ä (a umlaut)	a¨ or ¨a
° (masculine ordinal)	o_	å (a ring)	a*
» (angle quotation mark)	>>	ae (ae ligature)	ae
¹ ¼ (fraction one-quarter)	14	ç (c cedilla)	c,
¹ ½ (fraction one-half)	12	è (e grave)	e´
¿ (inverted ?)	??	é (e acute)	e´
À (A grave)	A´	ê (e circumflex)	e^
Á (A acute)	A´	ë (e umlaut)	e¨ or ¨e
Â (A circumflex)	A^	ì (i grave)	i´
Ã (A tilde)	A~	í (i acute)	i´

Resultant Character	3-Stroke Sequence	Resultant Character	3-Stroke Sequence
Ä (A umlaut)	A" or "A	î (i circumflex)	i^
Å (A ring)	A*	ï (i umlaut)	i" or "i
Æ (A E ligature)	AE	ñ (n tilde)	n~
Ç (C cedilla)	C,	ò (o grave)	o´
È (E grave)	E´	ó (o acute)	o´
É (E acute)	E´	ô (o circumflex)	o^
Ê (E circumflex)	E^	õ (o tilde)	o~
Ë (E umlaut)	E" or "E	ö (o umlaut)	o" or "o
Ì (I grave)	I´	oe (oe ligature)	oe
Í (I acute)	I´	ø (o slash)	o/
Î (I circumflex)	I^	ù (u grave)	u´
Ï (I umlaut)	I" or "I	ú (u acute)	u´
Ñ (N tilde)	N~	û (u circumflex)	u^
Ò (O grave)	O´	ü (u umlaut)	u" or "u

Common Problems

Keyboards

The backspace key doesn't appear to work

VT terminals have two backspace codes to choose from. To set these codes, select the *Keyboard* tab in **Setup - Terminal**. Change the backspace setting to the other keycode. Click **OK**.

Terminal Type XXX not defined

Winsock Connections to UNIX systems only:

Be sure that the terminal type selected in **Setup - Terminal** is a terminal type recognized by the host. Logoff and logon again. Note that many UNIX systems do not recognize the terminal type VT320, but they do recognize the terminal type VT220.

Error message: Error Attempting Connect

For Winsock (TCP/IP) connections:

Check that the node name is correct and try again. Or, instead of the node name, try the IP address of the host. Certain TCP/IP configuration problems can cause names to fail while allowing IP addresses to work.

For polyLAT/32 connections:

Be sure that polyLAT/32 is installed. Be sure that no other LAT, such as Pathworks LAT, is installed. If so, remove it or it will interfere with polyLAT/32.

For TAPI (modem) connections:

Check the phone number for accuracy. The phone line might be busy.

For Serial connections:

No Response

The port might be in use by another application. Be sure that no other copy of VT320W/32 is connected to the port. Check that no FAX program is connected to the port.

Incorrect COM (serial) port selected in the *Serial Setup* dialog box.

Incorrect baud rate selected in the *Serial Setup* dialog box.

Flow control is off on the host system. Press Ctrl Q (Xon) to clear the flow control.

More than one serial communications interface is assigned to the same COM port. Look at the jumpers on the serial board to make sure that they are set for a unique COM port. Consult the serial board documentation.

Incorrect RS232 cable. Try another cable.

Garbage Characters Appear on the Screen

Incorrect **baud rate** selected in the *Serial Setup* dialog box.

Incorrect **parity** selection when using VT320 mode. VT320 mode interprets all eight bits. If your host system is not properly configured for full 8-bit operation, select **Space Parity** in the *Serial Setup* dialog box. Most common combinations are **8 Data Bits/No Parity** and **7 Data Bits/Space Parity**.

Dropping Characters

The host doesn't use Xon/Xoff flow control. Try reducing the **baud rate** in the *Serial Setup* dialog box.

The PC has a hardware problem. Try running the emulator on another PC.

More than one serial communications interface is hardware jumpered to the same COM port.

Chapter 3: Drop Down Menus

Overview

The menu bar lists the drop down menus for emulator features and setup. Click on a name and a list of options will drop down. Click on the desired option to display a dialog box or to execute a command or feature.

Edit

The *Edit* drop down menu lists the Windows Clipboard functions.



Copy

Copies selected text to the Clipboard.

Paste

Pastes a copy of the current Clipboard contents at the current cursor position.

Send

Sends the contents of the Clipboard to the host computer. Carriage returns are sent at the end of each line.

Select All

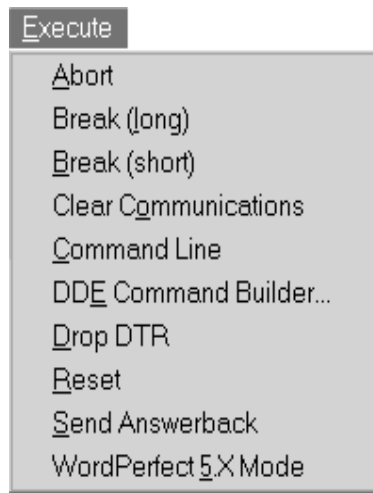
Selects the current screen and all of the scrollback data.

Select Screen

Selects all the text on the screen.

Execute

The Execute drop down menu lists different emulator commands and features.



Abort

Click on **Execute - Abort** to abort file transfers, emulator commands, and command file execution.

Break (short)

Sends a 200 millisecond break to the Serial or Modem communications port.

Break (long)

Sends a 3.5 second break to the Serial or Modem communications port.

Command Line

Displays the command prompt (CMD>) for execution of emulator commands and command files.

Clear Communications

Releases a hold condition and sets flow control on.

DDE Command Builder

Displays the DDE Command Builder dialog box. For more detailed information on this dialog box and DDE, refer to the help topic.

Drop DTR

Drops the Data Terminal Ready (DTR) and Request to Send (RTS) modem control signal.

Reset

Resets the terminal emulator. The following actions take place during a reset:

- The default character set is selected.
- The scrolling region is set to 24 lines.
- The UDKs are cleared.
- The screen is erased and the cursor is set to [1,1].
- Video attributes are set to normal.
- All screen characters positions are set to erasable.

Send Answerback

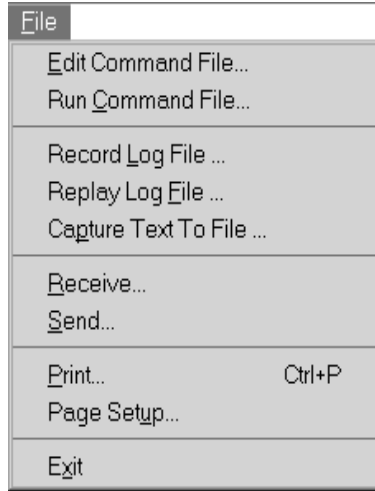
Sends the Answerback message to the host. The message is specified in the *Terminal Setup* dialog box.

WordPerfect 5.x Mode

Toggles WordPerfect 5.x mode on or off. A checkmark indicates that WP5 mode is enabled. In WP5 mode, the VAX/VMS WordPerfect version 5.x operates using the PC keystrokes. This feature allows the user familiar with PC WordPerfect 5.x keystrokes to operate VAX/VMS WordPerfect 5.x without having to learn the VAX WordPerfect 5.x keystrokes.

File

The **File** drop down menu lists different features requiring filename input.



Run Command File Selection

Click on **File - Run Command File** to display the Run Command File Selection dialog box.



File Name

Select or enter the name of the command file to execute.

Open button

Executes the selected command file.

Edit Command File Selection

Click on *File - Edit Command File* to display the Edit Command File Selection dialog box.



File Name

Select or enter the name of the command file to edit.

Open button

Launches the Notepad editor with the selected file loaded for editing.

Record Log File Selection

Click on **File - Record Log File** to display the Record Log File Selection dialog box.



The Log feature records all data sent to the emulator from the host into a file on the PC.

File Name

Specifies the name of the log file where the data is recorded.

Append

If selected, the data recorded is appended to the end of an existing log file.

Overwrite Protection

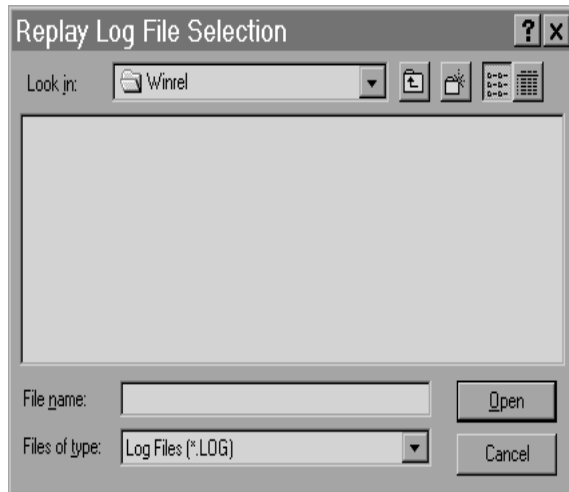
When enabled, prompts for overwrite confirmation if the specified file already exists. This also applies when opening a log file from the command line.

Save button

Opens the log file and enables recording. To stop recording, click on **File - Stop Recording Log File**.

Replay Log File Selection

Click on **File - Replay Log File** to display the Replay Log File Selection dialog box.



File Name

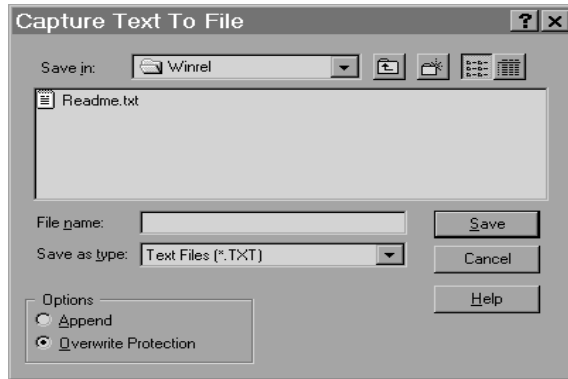
Select or enter the name of the log file to replay.

Open button

Replays the selected log file.

Capture Text to File

The Capture Text to File feature records all data sent to the emulator from the host into a file on the PC. The data is first interpreted by the emulator, so it appears in the log file as it appears on the screen. Click on **File -Capture Text to File** to display the Capture Text to File dialog box.



File Name

Specifies the name of the capture file where the data is recorded.

Append

Selects append mode. If selected, the data recorded is appended to the end of an existing capture file.

Overwrite Protection

When enabled, prompts for overwrite confirmation if the specified file already exists.

Save button

Opens the capture file and begins recording. To stop recording, click on File - Stop Capturing Text to File.

Receive

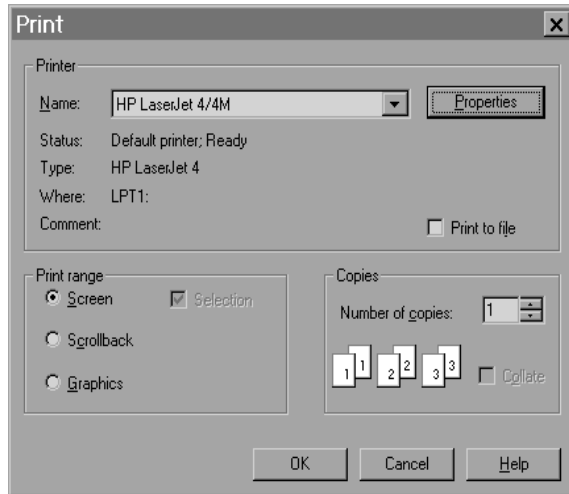
Click on **File - Receive** to display the File Receive Selection dialog box. Refer to File Transfer in the online help for detailed information on file transfer.

Send

Click on **File - Send** to display the File Send Selection dialog box. Refer to File Transfer in the online help for detailed information on file transfer.

Print

To enter the Print dialog box, click on *File - Print*.



Note: Changes made to this dialog box are not saved and are valid for the individual print cycle only.

Printer

Displays the name of the default printer. Click on the down arrow to select another installed printer.

Properties button

Click on this button to display the properties of the selected printer.

Print to File

When this box is enabled and OK is clicked, the Print to File Selection dialog box appears. Select or enter the name of the file. The default extension of .PRN is used.

Print Range

Screen — Prints only the text on the screen.

Scrollbar — Prints the text on the screen and in scrollbar.

Selected — Prints only selected text. If no text is selected, this option is disabled.

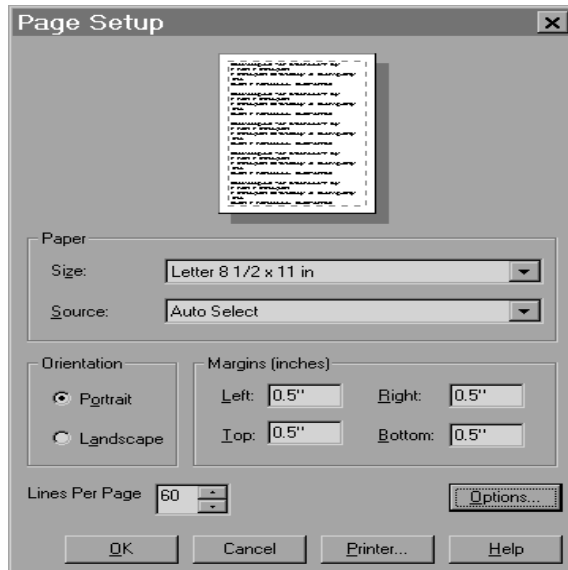
Graphics — Prints graphics. (VT340 mode only.)

Copies

Select the number of copies to print.

Page Setup

The Page Setup selects various options for the printer. Click on **File - Page Setup** to display the initial Page Setup dialog box.



Note: Changes made to this dialog box are saved for all subsequent print operations.

Paper

Select the paper size and source.

Orientation

Select portrait or landscape printing mode.

Margins

Select the margins for the top, bottom, left and right sides of the page.

Lines Per Page

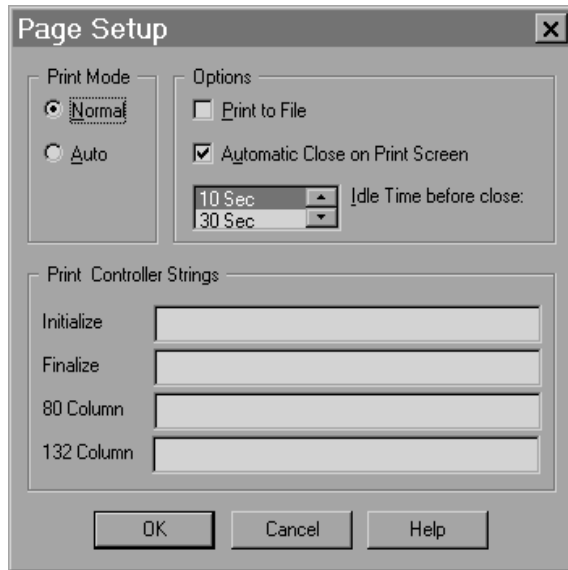
Select the number of lines to print per page.

Options... button

Displays the Page Setup options dialog box.

Page Setup Options

Click the *Options...* button in the Page Setup dialog box to display the Page Setup options dialog box.



Print Mode

Normal — Prints the entire contents of the screen.

Auto — Sends each line of text displayed on the screen to the printer.

Print to File

When this box is enabled and OK is clicked, the *Print to File Selection* dialog box appears. Select or enter the name of the file. The default extension of .PRN is used.

Automatic Close on Print Screen

If checked, the printer is closed after each print screen. If this option is unchecked, the printer closes after the time specified by **Idle Time before Close** option.

Idle Time Before Close

The idle timer monitors the printer activity. When the host sends a message for the emulator to stop printing, the timer takes effect. When the timer expires, the emulator sends the **Finalize String**, closes the print job and ejects the page. The print job can be closed manually, before time runs out, by clicking the **Close Printer** button on the *Hold Toolbar*.

If the timer is set to manual, the **Close Printer** button must be used to close the print job.

Print Controller

These strings define the character strings that control various printer functions. Most printer control strings have an enable string that selects a printer feature and a disable string that deselects a printer feature.

The printer strings can include any ASCII control character. Refer to ASCII Control Code Table in the online help to locate the correct control character mnemonic.

Example: <ESC> <^O>(E S C S I)

Enables Condensed Print for the IBM ProPrinter. The Esc key is displayed as Ctrl [.

Initialization

The initialization string can be used to:

- Select a specific printer connected to a printer sharing device.
- Select a printer feature, such as condensed print, prior to sending the printer data.

This string is sent to the printer, at the beginning of printer output, when the print is initiated.

Finalize

The Reset String is sent to the printer at the end of a print operation, and can be used to:

- Deselect a printer attached to a printer sharing device.
- Reset a printer feature that was enabled by the initialization string.

80 Column

This string is sent when the emulator is in 80 column mode. This string is sent when Auto mode is selected or when the host initiates a printer mode.

132 Column

This string is sent when the emulator is in 132 column mode. This string is sent when Auto mode is selected or when the host initiates a printer mode.

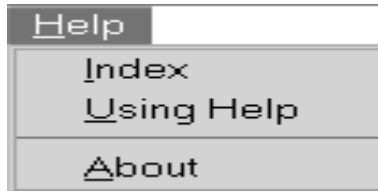
Printer	Set String	Reset String
Epson FX, MX, or LQ	<ESC><^O>	<^R>
HP LaserJet	<ESC>(s16.66H	<ESC>(s10H
IBM ProPrinter	<ESC><^O>	<^R>

Exit

Exits the emulator, closes the application window, and disconnects all sessions.

Help

The Help drop down menu lists the help options.



Index

Lists all help topics. Cross-referencing and searching is supported.

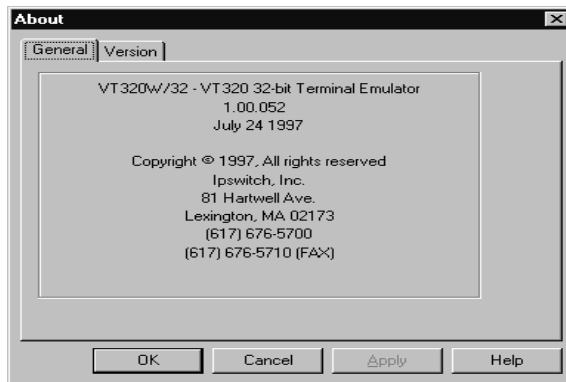
Using Help

Gives instructions on using Windows Help. See the Microsoft Windows documentation for more information.

About

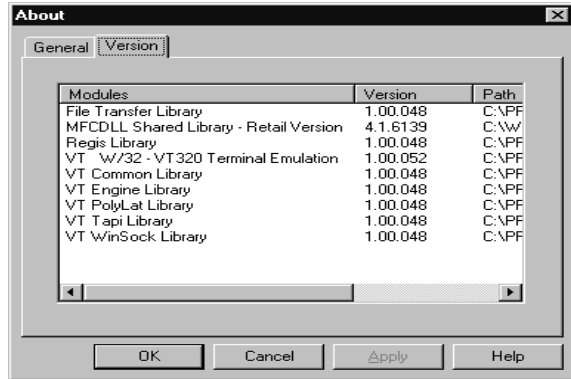
General

Displays information such as the version number and release date of the emulator installed on your PC.



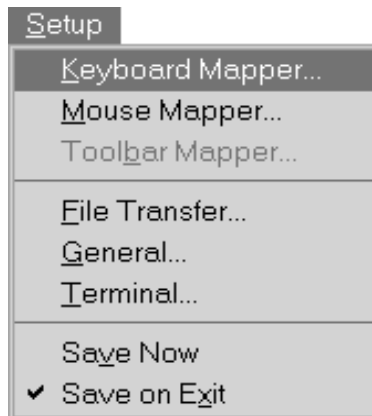
Version

The Version tab displays the name, version and path to all the modules used by the emulator.



Setup

The Setup menu lists the following categories that customize the emulator to your PC and host computer.



There are two Save options available.

- **Save on Exit** saves all configuration changes upon exiting the emulator. A checkmark indicates when this option is in effect.
- To save your selections immediately, click on **Save Now**.

Keyboard Mapper

The Keyboard Mapper is discussed in detail in Keyboard and Mouse Mapping.

Mouse Mapper

The Mouse Mapper is discussed in detail in Keyboard and Mouse Mapping.

File Transfer

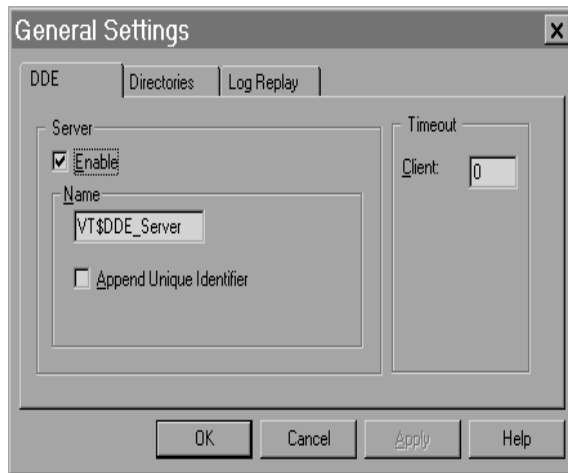
The File Transfer Setup is discussed in detail in the File Transfer topic in the online help.

General

The General Settings dialog box contains tabs for DDE, Directories and Log Replay. To display, click on **Setup - General**.

DDE

Click on **Setup - General** and then select the **DDE tab** to display the DDE dialog box.



Server

Enable

Allows the emulator to act as a DDE Server. If disabled, the emulator ignores any attempt by another application to initiate a DDE conversation. This is helpful when running multiple instances, e.g., if a specific instance should be prevented from participating in a DDE conversation.

Name

The name that the emulator responds to as a DDE server. A client uses this name as the "Service Name" when performing a DDE connect transaction.

Append Unique Identifier

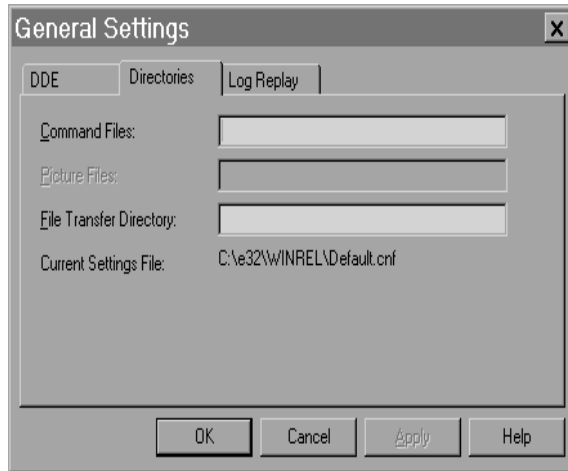
When enabled, appends a **Unique Identifier** to the end of the **Server Name**. This allows the execution of multiple instances of the emulator while still being able to distinguish them as servers.

Timeout

The amount of time, in seconds, that the emulator waits, after sending a message to the client, to receive an acknowledgment. An error occurs if the acknowledgment is not received within the specified time.

Directories

Click on *Setup - General* and then select the Directories tab to display the Directories dialog box.



Command Files

Enter the directory paths containing command files that you wish to read from multiple locations. Separate each path name with a semi-colon.

Picture Files

(VT340 mode only)

File Transfer Directory

Enter a single directory path to be used as the default PC File Name directory in the Send and Receive File Selection dialog boxes.

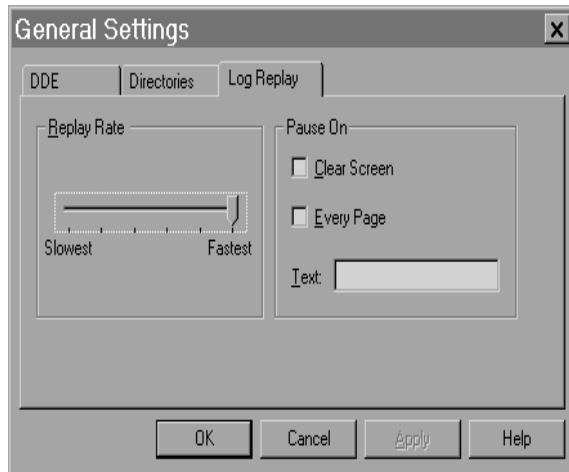
Note: If either file is empty, the default path is defined by the Working Directory entry in the emulator's Properties dialog box.

Current Settings File

The path and filename of the current settings file.

Log File Replay

Click on **Setup - General** and then select the *Log Replay* tab to display the Log Replay dialog box.



Replay Rate

Sets the rate of replay for log files. Incremented from slowest to fastest, the rates go from 300, 1100, 2400, 4800, 9600 to the maximum baud rate.

Pause On

Clear Screen

If enabled, causes the log file replay to pause each time the screen is cleared.

Every Page

If enabled, causes the log file replay to pause when a new page of text is scrolled onto the screen.

Text

This parameter is used to enter a comparison string. When the string is matched by data in the replay file, a replay pause occurs. The string can be up to 25 characters in length and can include control characters. To disable the comparison string, leave this field blank.

Terminal Setup

The Terminal Setup contains tabs for Display, Keyboard and the Terminal type.

Display

Click on *Setup - Terminal*, then select the *Display* tab. The Display setup dialog box appears.



Columns

Sets the display width to 80 or 132 columns. This option is typically controlled by the host.

Cursor

Selects a visible or invisible cursor.

Cursor Type

Selects a block or underline cursor.

Auto Wrap

Enables or disables Auto Wrap.

Disabled — Characters written to the last column of the screen overwrite each other.

Enabled — Wraps the next received character at the end of a full line to the beginning of the next line. Display lines are 80 or 132 columns, depending on the number of screen columns selected.

Smooth Scroll

Enables or disables smooth scrolling.

Display Lines

Selects the number of lines, from 24 through 48, that are displayed on the emulation screen.

Jump Scrolling

Determines the number of lines scrolled when updating the screen. Increasing the number of lines enables the screen to keep up with the data being received from the host.

Scrollback Lines

Sets the size of scrollback memory in lines. The maximum value is 10,000 lines.

Tabs

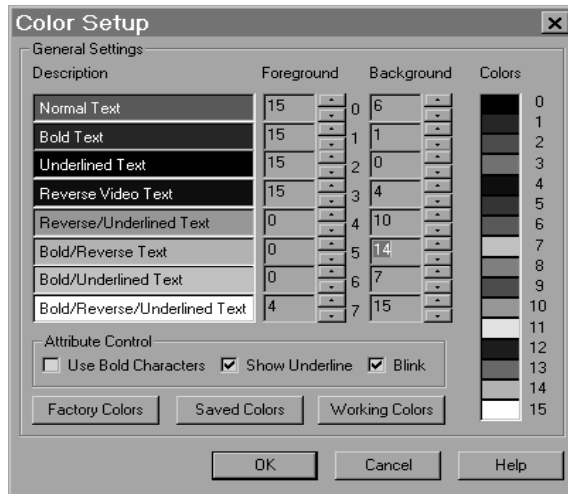
A small line represents each character of a 132 column line. To add a tab, click on the desired location. An arrow appears for each tab setting. To delete a tab, click on the location again and the arrow disappears.

Clear All button — Clears all tab settings.

Set Every button — Sets the tabs to every position indicated by the selected number.

Color Setup

Click the **Color Setup...** button in the *Display tab* to displays the Color Setup dialog box.



General Settings

Description

Foreground and background colors can be selected for video text attributes such as bold, underline and reverse video, and the various combinations of these attributes.

To modify colors, select the foreground or background column of the video attribute. Click on the up or down arrow until the number matches the desired color displayed in the Colors palette. When colors are modified, existing text is unaffected. However, any new text or screen erase reflects the new selections.

Colors

The color palette shows the possible colors for text foreground and background.

Attribute Control

The following options affect both color and monochrome systems.

Use Bold Characters — Bolds characters by increasing font width.

Show Underline — Draws a line under the character.

Blink — Blinks the character.

Factory Colors button

Clicking this button forces all color entries to the factory default colors.

Saved Colors button

At any time, the user can recall the last set of colors saved using the **Save Now** or **Save on Exit** options by clicking this button.

Working Colors button

Reverts to using the colors most recently selected in the dialog box that have not been saved using the **Save Now** or **Save on Exit** options.

Keyboard

Click on **Setup - Terminal**, then select the *Keyboard tab*. The Keyboard setup dialog box appears.



Keyboard Type

VT320W/32 checks the system for the keyboard installed on the PC and displays a match for use with VT320W/32. Thus, the name may not reflect the actual keyboard name but is the appropriate configuration.

Margin/Warning Bells

Margin Bell — If checked, the bell sounds when the cursor is eight columns from the end of the current line during keyboard input only.

Warning Bell — If disabled, the emulator will not generate a bell tone for operating errors and receipt of a Ctrl G character.

Key Behavior

Backspace Key

Delete — Sets the Backspace key to generate the delete (7F Hex) code and Shift Backspace to generate the backspace (08 Hex) code.

Backspace — Sets the Backspace key to generate the backspace code and Shift Backspace to generate the delete code.

IBM Keypad (AT Keyboard only)

Uses the unshifted IBM keypad keys 2, 4, 6, and 8 (keypad arrow keys) as numeric keypad keys or arrow keys. The IBM Keypad parameter determines the initial function of the 2, 4, 6, and 8 keypad keys.

Numeric — The keypad 2, 4, 6, and 8 keys generate the VT320 codes for the numeric values. The codes generated depend upon the keypad mode (numeric or application). The Shift 2, 4, 6, and 8 keys generate the VT320 arrow key codes.

Arrows — The keypad 2, 4, 6, and 8 keys generate the VT320 arrow key codes. The Shift 2, 4, 6, and 8 keys generate the numeric values.

Return Key

Selects the characters sent to the host when the Return key is pressed.

CR — Sends a carriage return to the host (normal setting).

CR/LF — Sends a carriage return and line feed to the host.

LF — Sends a line feed to the host.

Menu Bar Accelerator Key Operation

Specifies the operation of the accelerator keys.

Off — If selected, Alt key combinations will not activate menu bar selections; you must use the mouse. All default emulator key definitions are available when this option is selected.

Alt Key Only — Pressing and releasing the Alt key moves the cursor up to the menu bar. The arrow keys or the underlined letter can then be used to select the option of interest.

Alt Key Plus, Letter Key — Pressing the Alt key plus the underlined letter of the menu bar option displays the associated drop down menu or dialog box. Also enables Alt Key Only.

Default Enhanced Keyboard Key Assignments

When accelerator keys are enabled, some Alt keys are reserved to access the menu bar. To prevent this, the Accelerator Keys must be disabled.

<i>Emulator Tokens — Enhanced</i>	
VT320W/32 Tokens	Key
ABORT	Alt A
BREAK	Alt B
CMD	Alt C
DEBUG	Alt ‘
DROP_DTR	Alt D

<i>Emulator Tokens — Enhanced</i>	
VT320W/32 Tokens	Key
Esc	Escape
KERMIT	Alt K
LBREAK	Alt Shift B
LOG	Alt L
REPLAY	Alt ;

<i>VT320 Function Tokens — Enhanced</i>	
VT320 Token	Key
PF1	Num Lock
PF2	Keypad Slash
PF3	Keypad Asterisk
PF4	Keypad Minus
KP0-KP9	Keypad 0 - 9
KP COMMA	Pause
KP ENTER	Keypad Enter
KP MINUS	Keypad Plus
KP PERIOD	Keypad Period
DO	Scroll Lock
FIND	Insert
INSERT HERE	Home
NEXT SCREEN	Page Down
PREVIOUS SCREEN	End
REMOVE	Page Up
SELECT	Delete
VTHELP	F5
UP ARROW	Up Arrow
DOWN ARROW	Down Arrow
LEFT ARROW	Left Arrow
RIGHT ARROW	Right Arrow
BACKSPACE	Shift Backspace
COMPOSE	Alt ESC
DELETE	Backspace
HOLD SCREEN	F1

<i>VT320 Function Tokens — Enhanced</i>	
VT320 Token	Key
LINE FEED	Shift Enter
PRTAUTO	Alt F2
PRTSCR	F2
UDK6-UDK10	Shift F6 - F12
UDK11-UDK20	Alt Shift F3 - F10
VTF6-VTF10	F6 - F12
VTF11 -VTF20	Alt F3 - F10
F4	VTF14
F5	VTF15
Alt F6 -F10	VTF16-VT20

Default AT Keyboard Key Assignments

When accelerator keys are enabled, some Alt keys are reserved to access the menu bar. To prevent this, the Accelerator Keys must be disabled.

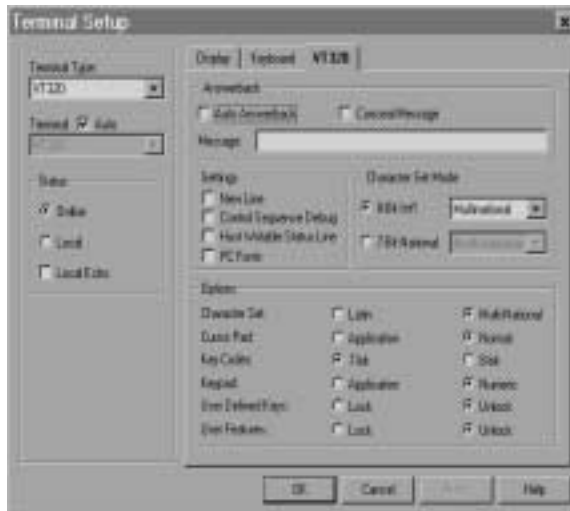
<i>Emulator Tokens — AT</i>	
VT320W/32 Tokens	Key
ABORT	Alt A
BREAK	Alt B
CMD	Alt C
DEBUG	Alt F10
DROP_DTR	Alt D
Esc	F2
KERMIT	Alt K
LONG BREAK	Alt Shift B
LOG	Alt L
REPLAY	Alt ;
SCRBCK	Alt S

VT320 Function Tokens — AT

VT320 Token	Key
PF1	Esc
PF2	Num Lock
PF3	Scroll Lock
PF4	Sys Req
KP0-KP9	Keypad 0 - 9
KP COMMA	Keypad Minus
KP ENTER	Keypad Plus
KP MINUS	Prtsc
KP PERIOD	Keypad Period
DO	Alt
FIND	Alt Keypad 7
INSERT HERE	Alt Keypad 8
NEXT SCREEN	Alt Keypad 6
PREVIOUS SCREEN	Alt Keypad 5
REMOVE	Alt Keypad 9
SELECT	Alt Keypad 4
VTHELP	Alt Num Lock
UP ARROW	Shift Keypad 8 or F5
DOWN ARROW	Shift Keypad 2 or F6
LEFT ARROW	Shift Keypad 4 of F7
RIGHT ARROW	Shift Keypad 6 or F8
BACKSPACE	Shift Del
COMPOSE	Alt F1
DELETE	Del
HOLD SCREEN	F1
LINE FEED	Shift Return or F4
PRTAUTO	Alt F4
PRTSCR	F4
UDK6-UDK10	Alt Shift 6 - 0
UDK11-UDK20	Alt Shift Q - P
VTF6-VTF10	Alt 6-0
VTF11 -VTF20	Alt Q - P

Terminal Tabs

Click on **Setup - Terminal**. Select a Terminal Type, then click on the tab of the same name to display the Terminal tab.



Terminal Type/Terminal ID

VT320 — Emulates a DEC VT320 terminal. In this mode all 7 and 8-bit control sequences are interpreted and multinational characters are displayed. This mode is recommended for combined VT102/220/320 operation as it offers VT100 compatibility and provides all the VT320 features.

VT220 — Emulates a DEC VT220 terminal. When VT220 is selected, the terminal identifies itself as a VT220 instead of a VT320.

VT102 — Emulates the DEC VT102 and identifies itself as a VT102 terminal to the host. All VT102 control sequences are emulated. This mode is recommended for VT100 emulation.

VT100 — Emulates the VT102 terminal. However, it identifies itself as a VT100 with AVO and a printer. This mode is for use with programs that require the VT100 identification sequence. All VT102 control sequences are emulated in this mode.

VT52 — Emulates the older DEC VT52 terminal.

SCOANSI — SCO ANSI is a blend of VT, ANSI color, and extensions limited to hosts running SCO. The emulator interprets the control sequences sent by the host running SCO.

BBSANSI — Displays the ANSI characters and color sequences which are generally available through bulletin board services.

Status

Selects **Online** or **Local** mode.

Online — Allows the emulator to communicate with the host system. This is the default setting.

Local — The emulator does not send data to the host or process data received from the host.

Local Echo — Sends the data transmitted to the host computer to the PC screen. Enable **Local Echo** when communicating with half-duplex computer systems.

Note: All the options below are found on the VT320 tab, but since each Terminal Type is different, these options will vary, depending on terminal selected.

Answerback

Auto Answerback

Enables or disables (default) the sending of the Answerback Message automatically when a communication connection is established. When using serial communications, Modem Control must be enabled if Auto Answerback is enabled.

Conceal Message

If selected, the Answerback Message is not displayed on the screen. Instead, "<Concealed>" appears. Once an Answerback Message is concealed, it can only be made visible by entering a new message.

Message

The Answerback Message is sent on receipt of an ENQ code, clicking Execute - Send Answerback, or entering the SEND ANSWERBACK command. It is generally used as a security measure by host computer systems to identify certain terminals or users.

Settings

New Line

Sends a carriage return and line feed to the host. If a line feed is received from the host, a carriage return is added.

Control Sequence Debug

This mode is a substitute for VT320 Display Controls mode.

When debug mode is enabled, and DEBUG (default is Alt `) is pressed, VT320 control sequences display on the bottom line of the screen before they are executed. Pressing any key executes the sequence. Press DEBUG again to allow control sequences to execute without displaying.

Host Writable Status Line

If enabled, this option allows the host program to write information to the bottom line of the screen.

PC Fonts

Uses the IBM PC character set which includes line drawing characters.

Character Set Mode

8-Bit Int'l — Selects the DEC Multinational or the Korean character set.

7-Bit National — Selects the 7-bit National Replacement Character Set.

Character Set

Selects DEC Multinational (default) or ISO Latin-1 as the DEC Supplemental character set.

Cursor Pad

Allows manual control of the codes generated by the VT320 cursor pad. The cursor pad is normally controlled by the host computer.

If Normal is selected the code for the arrows printed on the keys is generated. If Application is selected, the emulator generates control sequences used by application programs.

Key Codes

7-bit — Sends 7-bit control sequences to the host, but still interprets 8-bit control sequences and characters.

8-bit — Eight-bit control sequences are transmitted to the host computer by the emulator.

VT320 8-bit mode is not a communication setting. It is an operating environment. To select 8-bit communications, configure the emulator to 8 data bits and no parity.

Keypad

Allows manual control of the codes generated by the keypad. This is normally controlled by the host.

If Numeric is selected the numeric values printed on the keys are generated. If Application is selected the emulator generates control sequences used by application programs.

User Defined Keys (UDKs)

Locks or unlocks the user-defined keys.

Lock — Locking the keys prevents downloading and protects the current key contents. UDKs can be locked by the host system but can only be unlocked through the setup menu.

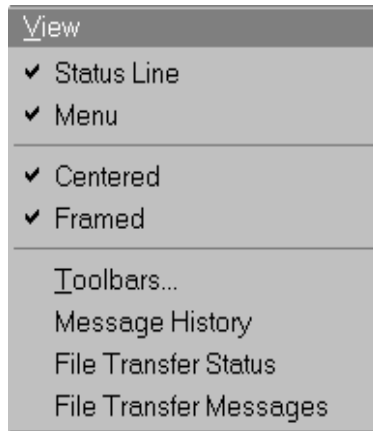
Unlock — When unlocked, the host system can download the function keys with user-defined strings.

User Features

Locks or unlocks the user preference features. If locked, the emulator ignores control sequences that affect the user preference features. Slow/fast scroll and normal/reverse screen are considered user preference features.

View

The **View** menu options affect the look of the emulation window.



Status Line

Toggles the display of the Status Line on the bottom of the emulation window.

Menu

Toggles the display of the menu bar.

Centered

If checked, centers the emulation window. Otherwise, the window is left-justified.

Framed

If checked, places a frame around the emulation window. Otherwise, the window is unframed.

Maximize Workspace

Toggles the Maximize Workspace mode on and off. When the workspace is maximized, the status line, menu bar and toolbars are hidden. A checkmark indicates that this option is in effect. For more information on how the Maximize Workspace feature works, refer to the Maximize Workspace topic in Chapter 2.

Scrollbar

Toggles the display of the scrollbar.

File Transfer Messages

Toggles the display of the File Transfer Messages window.

Message History

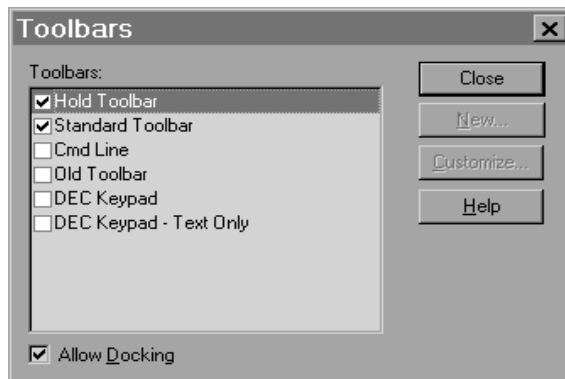
Toggles the display of the Message History window.

Toolbars

The display of the Toolbars is controlled in the Toolbars dialog box. Click on **View - Toolbars** to select the toolbars to display.

Toolbars

The figure below shows the Toolbars dialog box. Click on **View - Toolbars** to select the toolbars to display.



Toolbars

This window contains a list of available toolbars. To select or deselect, click on the white box to the left of each name, then click Close.




Allow Docking

If checked, this option allows the selected toolbars to be docked to any of the four sides of the application window. As each toolbar is selected, this option changes, depending on its condition for the selected toolbar.















Default Toolbar Descriptions

The figure below shows the Toolbar buttons and their functions.





Cmd Line

	Command line prompt
	Kermit command line prompt
	DDE command line prompt










Standard

	Send File
	Receive File
	Print Screen
	Edit Copy
	Edit Paste
	Edit Send
	Select All
	Select Screen
	Toggle 132 column
	Maximize Workspace
	Toggle Msg History
	Help
	Switch Sessions
	Exit emulator

Hold

	Hold
	Abort
	Toggle Scrollbar
	Close Printer

Old

	Maximize Workspace
	Help
	Send File
	Receive File
	Toggle 132 column
	Toggle Wordperfect
	Print Screen (text)
	Switch Sessions
	Exit emulator

DEC Keypad

DEC Keypad - Text Only

PF1	PF1
PF2	PF2
PF3	PF3
PF4	PF4
7	7
8	8
9	9
-	.
4	4
5	5
6	6
,	,
1	1
2	2
3	3
↵	ENTE
0	0
.	.

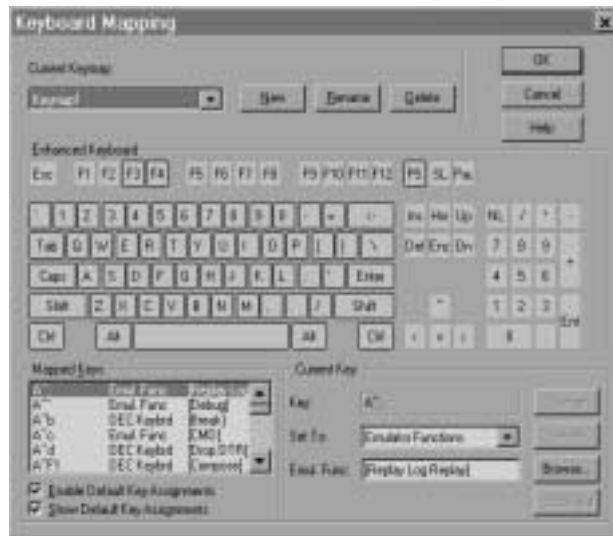
Chapter 4: Keyboard and Mouse Mapping

The operation of the emulator can be customized using the Keyboard and Mouse mappers. Keystrokes and mouse clicks can be assigned to a wide variety of functions through these simple, easy-to-use mappers.

Keyboard Mapping

Through the Keyboard Mapping dialog box, the keyboard can be configured to perform many different functions. An individual key can be defined to send a string, a command, execute a command file, access a help file, and more. The emulator provides some default keymaps whose definitions can be edited, but not deleted.

To configure the keyboard, click on Setup -Keyboard Mapper. The Keyboard Mapping dialog box appears.



Current Keymap

Displays the name of the current keymap. You can select another keymap from the drop down list if available, or create a **New** keymap.

Mapped Keys

Displays a list of mapped keys with their definitions for both the default and current keymaps.

Current Key

Displays the currently highlighted key and its definition.

Enable Default Key Assignments

Disables the default definitions of the keys. Each predefined key definition is then set to UNMAPPED.

Show Default Key Assignments

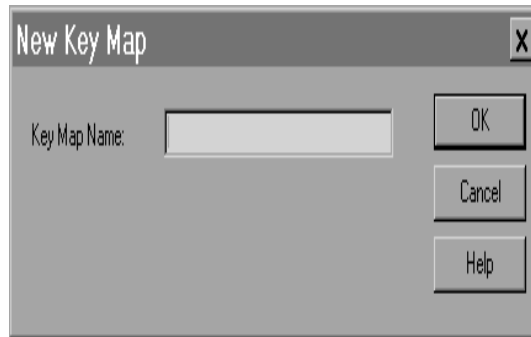
Toggles the display of the key definitions in the Mapped Keys window. This option does not disable the definitions which will still display in the Current Key section.

Creating a New Key Map

The top of the dialog box contains a section that deals with the keymaps as whole entities. The name of the current keyboard map is listed in the **Current Keymap** list box.

New button

When clicked, the New Key Map dialog box appears. Enter a new Key Map name, then click **OK**.



Rename button

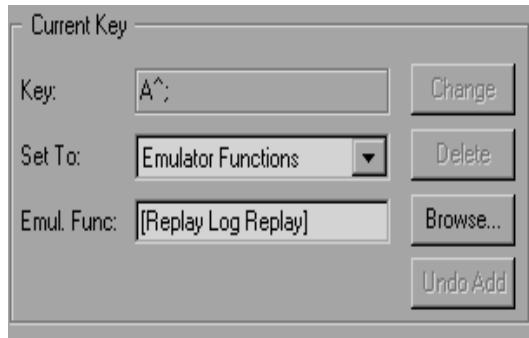
When clicked, the New Key Map dialog box appears. Change the Key Map name, then click **OK**.

Delete button

Deletes the currently selected Key Map.

Defining a Key

Key definitions are set in the **Current Key** section. Note that predefined keys displayed on the online keyboards are outlined in green, while user defined keys are outlined in blue.



The image shows a dialog box titled "Current Key". It has three rows of controls. The first row has a text field containing "A^;" and a "Change" button. The second row has a dropdown menu showing "Emulator Functions" and a "Delete" button. The third row has a text field containing "[Replay Log Replay]" and a "Browse..." button. At the bottom right of the dialog is an "Undo Add" button.

To define a key to perform a specific function:

1. Using the mouse, click on the desired keys in the order they should be pressed.

For example, to map the following keystroke, **Alt+Shift+F1**, click the Alt key, then the Shift key, followed by the F1 key. The sequence displays in the **Current Key - Key** field as follows:

KEY: A^S^F1

Any combination of Alt, Shift, and Ctrl can be used. Note however, that these keys will always display in the Key field in the order A^,S^, and C^.

2. Select a function for the keystroke from the Set To list. The following Set To options are available:

Command

Defines a single ECL command to be executed when the key is pressed. Enter a valid command in the **Command** field. Refer to the online help (Command Language topic) for more information.

Example: Command : **ERASE SCREEN**

Erases the screen when the key is pressed.

Example: Command : **DISPLAY "HELLO THERE"**

Displays **HELLO THERE** at the current cursor position.

Command File

Specifies the execution of a command file. Enter the path name of a command file in the **CMD File** field or click **Browse** to display the Command File Selection dialog box. Select a command file then click **OK**. Refer to the online help (Command File Programming topic) for more information.

DEC Keyboard

Perform a DEC keyboard function. Enter a valid name in the **DEC Keybrd** field or click **Browse** and select a function from the list. The following options are available:

DEC Keyboard	Name	Function
Arrow Keys	UP	Up Arrow
	DOWN	Down Arrow
	LEFT	Left Arrow
	RIGHT	Right Arrow
Edit Pad	FIND	Find
	INSERT HERE	Insert Here
	NEXT SCREEN	Next Screen
	PREV SCREEN	Previous Screen
	REMOVE	Remove
	SELECT	Select
	F6 - F20	F6 - F14
F15		Help
F16		Do
F17 - F20		F17 - F20
Keypad		PF1 - PF4
	0 - 9	Keypad 0 - 9
	COMMA	Keypad comma
	MINUS	Keypad minus
	PERIOD	Keypad period
	ENTER	Keypad enter

DEC Keyboard	Name	Function
Printing	PRINT AUTO	Continuous Print Mode (auto)
	PRINT CLOSE	Close Printer
	PRINT CONTIN.	Continuous Print Mode
	PRINT CTRLR	Controller Print Mode
	PRINT SCREEN	Print Screen
User Defined Keys Other	UDK1 - UDK20	UDK 1-20
	BACKSPACE	Backspace
	BREAK	Send a short break
	BREAK (long)	Send a long break
	COMPOSE	Compose
	DELETE	Delete
	DROP_DTR	Drops DTR for 2 seconds
	ESCAPE	Escape
	HOLD SCREEN	Hold Screen
	LINE FEED	Line Feed
	NULL	Null
	SEND ASWRBACK	Log File

Edit/Paste

Performs an edit/paste function. Enter a valid name in the **Edit/Paste** field or click **Browse** and select from the list. The following functions are available:

Edit/Paste	Function
Copy	Copy selected text to Clipboard.
Paste	Paste information from Clipboard.
Send	Send selected text to host.
Select All	Select the current screen and all the scrollbar data.
Select Screen	Select all the text on the screen.

Emulator Functions

Executes a VT key or emulator function. Enter a valid name in the **Emul. Func.** field or click **Browse** and select from the list. The following functions are available:

<i>Emulator Functions</i>	
Name	Function
80/132	Toggles between 80 and 132 column modes.
Abort	Performs an abort of a file transfer or command execution.
CMD Prompt	Displays the command prompt.
Command Msgs	Toggles the display of the Command Msgs window.
DDE Prompt	Displays the DDE command prompt.
Debug	Debug on/off.
Exit	Exit the Emulator
File Messages	Toggles the display of the File Transfer Message window.
File Receive	Opens the File Transfer Receive dialog box.
File Send	Opens the File Transfer Send dialog box.
Help	Opens the help file.
Kermit Prompt	Displays the Kermit command prompt.
KP Numeric Toggle	Keypad Numeric toggle.
KP-Set Numeric	Keypad top numeric mode.
KP-Set Function	Keypad top function mode.
Log Record	Record a log file.
Log Replay	Replay a log file.
Max Workspace	Maximizes the workspace.
Scrollbar	Enables or disables the display of scrollbars for scrollbar.
Switch Session	Switches to the next instance of the emulator (if any).
VT Mode	Switches to VT terminal mode.
WordPerfect	Toggles between normal and WordPerfect mode.
4014 Mode	Switches to Tek 4014 mode (Tektronix only).

Help File

Launches a help file. Enter the path name of a help file in the **Help File** field or click **Browse** to display the Help File Selection dialog box. Select a help file, then click **OK**.

Nothing

Ignores any key action (disables the key definition). Nothing can be entered in the **Nothing** field.

String

Defines a string to be sent to the host. A simple ASCII string can be entered in the **String** field. To enter special characters, enclose the ASCII value in angle brackets <>. Refer to the online help (Special Characters topic).

Examples: String: <027>OP or String: <ESC>OP

Both examples send the escape sequence **Control [OP (^[OP).**

String:<<BELL>>

Sends <BELL>. Double angle brackets prevent conversion to numeric values.

String:<%x44>

Converts the string from its Hex value to **D**.

Unmapped

The default setting for unmapped keys. Nothing can be entered in the **Unmapped** field.

3. When you are satisfied with the key combination, click the **Add** button. The key definition displays in the Mapped Keys list box, and the keystroke combination is highlighted in blue.

If at any time while defining a key you wish to make changes, click the **Undo** button.

4. Save the Key Map by clicking the **OK** button.

Changing a Key Definition

To change the existing configuration for the currently selected keystroke.

1. Select the key definition to change.
2. Set to the desired function.
3. Click the *Change* button

Note: Be sure to click the Add or Change button before selecting another key definition from the keyboard map, otherwise all changes to the current keystroke will be lost.

Deleting a Key Definition

To delete a key definition:

1. Select the key definition to delete.
2. Click the *Delete* button.

Note: Predefined (default) keys can be edited and redefined, but can never be deleted. If you delete the user defined definition, it will revert to the default definition.

Mouse Mapping

Through the Mouse Mapping dialog box, mouse buttons can be configured to perform many functions such as sending a string, a command, a mouse position report, a command file, perform emulator functions, and more.

Mouse clicks are only redefined while the mouse cursor is in the emulation window. If the mouse cursor is moved outside of the emulation window, the mouse buttons perform their normal Windows functions.

To enter the Mouse Mapping dialog box, click on *Setup - Mouse Mapper*.



Current Mousemap

Displays the name of the current mousemap. You can select another mousemap from the drop down list if available, or create a **New** mousemap.

Mapped Action

Displays a list of mapped mouse buttons with their definitions for both the default and current mousemaps.

Current Action

Displays the currently highlighted mouse button and its definition.

Enable Default Button Assignments

Disables the default definitions of the mouse buttons. Each predefined mouse button is then set to UNMAPPED.

Show Default Button Assignments

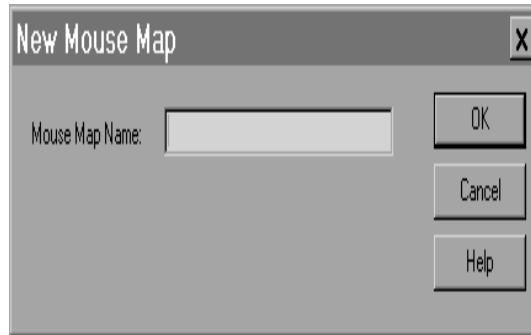
Toggles the display of the mouse button definitions in the Mapped Action window. This option does not disable the definitions which will still display in the Set To field.

Creating a New Mouse Map

The top of the dialog box contains a section that deals with the keymaps as whole entities. The name of the current keyboard map is listed in the **Current Keymap** list box.

New button

Creates a new mouse map. When this button is clicked, the Mouse Map Name dialog box appears.



Rename button

Used to change the current mouse map's name. When clicked, this button displays the Mouse Map Name dialog box. Change the mouse map's name, then click **OK**.

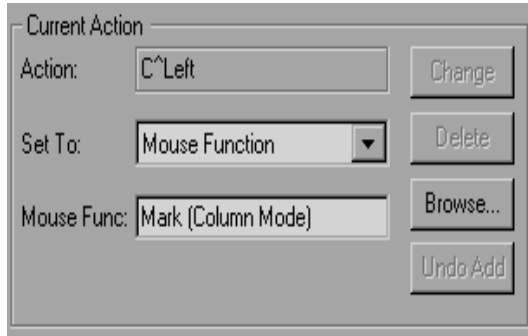
Delete button

Deletes the currently selected mouse map.

Note: The New, Rename, and Delete operations cannot be undone by clicking the Cancel button.

Defining a Mouse Button

Mouse button definitions are set in the Current Action section. Note that predefined mouse buttons displayed on the Mouse Button Layout are outlined in green, while user defined keys are outlined in blue.



The image shows a dialog box titled "Current Action". It has four main input fields and four buttons. The "Action:" field contains the text "C^Left". To its right is a "Change" button. The "Set To:" field is a dropdown menu currently showing "Mouse Function". To its right is a "Delete" button. The "Mouse Func:" field contains the text "Mark (Column Mode)". To its right is a "Browse..." button. Below the "Browse..." button is an "Undo Add" button.

To define a mouse button to perform a specific function:

1. Using the mouse, click on the desired mouse button and Alt, Shift, or Control if desired. For example, to map the following mouse button, **Alt+Right Button**, click the Alt key followed by Right. The sequence displays in the **Current Action - Action** field as follows:

ACTION: **A^Right**

Any combination of Alt, Shift, and Ctrl can be used. Note however, that these keys will always display in the Action: field in the order C[^], A[^], and S[^].

Mouse buttons that are shown with a colored border are predefined and display in the Mapped Action window.

2. Select a function for the mouse button from the Set To list. The following Set To options are available:

Command

Defines a single ECL command to be executed when the mouse button is pressed. Enter a valid command in the **Command** field. Refer to the online help (Command Language topic) for more information.

Example: Command : **ERASE SCREEN**

Erases the screen when the mouse button is pressed.

Example: Command : **SAVE C:\EMULATOR\SETTING**

Saves the current settings to SETTING3.CNF in the \EMULATOR directory.

Command File

Specifies the execution of a command file. Enter the path name of a command file in the **CMD File** field or click **Browse** to display the Command File Selection dialog box. Select a command file then click **OK**. Refer to the online help (Command File Programming topic) for more information.

DEC Keyboard

Perform a DEC keyboard function. Enter a valid name in the **DEC Keybrd** field or click **Browse** and select a function from the list. The following options are available:

DEC Keyboard	Name	Function
Arrow Keys	UP	Up Arrow
	DOWN	Down Arrow
	LEFT	Left Arrow
	RIGHT	Right Arrow
Edit Pad	FIND	Find
	INSERT HERE	Insert Here
	NEXT SCREEN	Next Screen
	PREV SCREEN	Previous Screen
	REMOVE	Remove
	SELECT	Select
F6 - F20	F6 - F14	F6 - F14
	F15	Help
	F16	Do
	F17 - F20	F17 - F20
Keypad	PF1 - PF4	PF1 - PF4
	0 - 9	Keypad 0 - 9
	COMMA	Keypad comma
	MINUS	Keypad minus
	PERIOD	Keypad period
	ENTER	Keypad enter

DEC Keyboard	Name	Function
Printing	PRINT AUTO	Continuous Print Mode (auto)
	PRINT CLOSE	Close Printer
	PRINT CONTIN.	Continuous Print Mode
	PRINT CTRLR	Controller Print Mode
	PRINT SCREEN	Print Screen
User Defined Keys Other	UDK1 - UDK20	UDK 1-20
	BACKSPACE	Backspace
	BREAK	Send a short break
	BREAK (long)	Send a long break
	COMPOSE	Compose
	DELETE	Delete
	DROP_DTR	Drops DTR for 2 seconds
	ESCAPE	Escape
	HOLD SCREEN	Hold Screen
	LINE FEED	Line Feed
	NULL	Null
	SEND ASWRBACK	Log File

Edit/Paste

Performs an edit/paste function. Enter a valid name in the Edit/Paste field or click Browse and select from the list. The following functions are available:

Edit/Paste	Function
Copy	Copy selected text to Clipboard.
Paste	Paste information from Clipboard.
Send	Send selected text to host.
Select All	Select the current screen and all the scrollbar data.

Emulator Functions

Executes a VT key or emulator function. Enter a valid name in the **Emul. Func.** field or click **Browse** and select from the list. The following functions are available:

<i>Emulator Functions</i>	
Name	Function
80/132	Toggles between 80 and 132 column modes.
Abort	Performs an abort of a file transfer or command execution.
CMD Prompt	Displays the command prompt.
Command Mes- sages	Toggles the display of the Command Messages window.
DDE Prompt	Displays the DDE command prompt.
Debug	Debug on/off.
Exit	Exit the Emulator
File Messages	Toggles the display of the File Transfer Message window.
File Receive	Opens the File Transfer Receive dialog box.
File Send	Opens the File Transfer Send dialog box.
Help	Opens the help file.
Kermit Prompt	Displays the Kermit command prompt.
KP Numeric Toggle	Keypad Numeric toggle.
KP-Set Numeric	Keypad top numeric mode.
KP-Set Function	Keypad top function mode.
Log Record	Record a log file.
Log Replay	Replay a log file.
Max Workspace	Maximizes the workspace.
Scrollbar	Enables or disables the display of scrollbars for scrollbar.
Switch Session	Switches to the next instance of the emulator (if any).
VT Mode	Switches to VT terminal mode.
WordPerfect	Toggles between normal and WordPerfect modes.
4014 Mode	Switches to Tek 4014 mode (Tektronix only).

Mouse Function

Assigns special mouse actions to a mouse button. Enter the name of a mouse function in the **Mouse Func.** field or click **Browse** to display the Mouse Functions list. Select a Mouse Function, then click **OK**.

Name	Function
Mark	Selects text by the pressing and holding of the assigned button. Release the button when finished selecting.
Mark Column	Marks blocks of text using column mode.
Send	Sends the text contained in the selected area.

Note: Only one mouse button can be assigned to a particular mouse function. When selecting a mouse function for a button, the emulator resets all other mouse buttons with the same mouse function.

Mouse Position Report

Sends the following string to the host indicating the mouse position in alpha cursor coordinates.

Example: **ESC P[row;column] CR**

The **Mouse Pos.** field is disabled for this selection. Nothing can be entered.

Extended Mouse Report

Sends the following string to the host indicating the cursor position, mouse button, and the shift keys:

ESC M(A1 A1 A3 B) [row;column] CR

Where:

- A1** is "A" if Alt key is down - blank if not.
- A1** is "C" if Control key is down - blank if not.
- A1** is "S" if Shift key is down - blank if not.
- B** is "L(left), M(middle), or R(right) for the button pressed.

Example: ESC M(A L)[1;1] CR
Results: Keys = A SPACE SPACE Alt key
Button = L Left
Position = 1;2 Row 1, Column 2
The possible key combinations are: Control, Shift, Shift Control, and Alt.

The Ext. Mouse field is disabled for this selection. Nothing can be entered.

Nothing

Ignores any mouse button action (disables the mouse button definition). Nothing can be entered in the **Nothing** field.

String

Defines a string to be sent to the host. A simple ASCII string can be entered in the String field. To enter special characters, enclose the ASCII value in angle brackets < >. Refer to the Special Characters topic for more information.

Examples: String: <027>OP or String: <ESC>OP

Both examples send the escape sequence **Control [OP (^[OP)**.

String:<<BELL>>

Sends <BELL>. Double angle brackets prevent conversion to numeric values.

String:<%x44>

Converts the string from its Hex value to **D**.

Unmapped

The default setting for unmapped mouse buttons. Nothing can be entered in the **Unmapped** field.

3. When you are satisfied with the mouse button combination, click the **Add** button. The mouse button action displays in the Mapped Action window, and the mouse button combination is highlighted.

If at any time while defining a mouse button you wish to make changes, click the *Undo* button.

4. Save the Mouse Map by clicking the *OK* button.

Changing a Mouse Button Definition

To change the existing configuration for the currently selected mouse button.

1. Select the mouse button definition to change.
2. Set to the desired function.
3. Click the **Change** button

Note: Be sure to click the Add or Change button before selecting another mouse button definition from the Mouse Button Layout, otherwise all changes to the current mouse button will be **lost**.

Deleting a Mouse Button Definition

To delete a mouse button definition:

1. Select the mouse button definition to delete.
2. Click the **Delete** button.

Note: Predefined (default) mouse buttons can be edited and redefined, but can never be deleted. If you delete the user defined definition, it will revert to the default definition.

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