

**Basic Four[®]
Ergonomic Video Display Terminal
Operator's Guide**

BFISD 5161

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Ergonomic Video Display Terminal
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Overview

The Ergonomic Video Display Terminal (EVDT) is a general purpose terminal designed to make communicating with your Basic Four computer as simple and as comfortable as possible. The EVDT was designed for operator comfort, and is equipped with a lightweight, detached keyboard that can be placed in any convenient position near the terminal (Figure 1-1).



Figure 1-1. The Ergonomic Video Display Terminal

Features of the EVDT include keyboard and program selectable screen attributes, such as brightness or reverse video, and programmable function keys, which store user-defined commands.

The EVDT can be used with the 110 through 710 Systems, and on the System 810.

How to Use This Manual

This manual is written for three types of users:

1. an operator who wishes to communicate with the computer and has a minimal knowledge of computer processing,
2. a System Manager or supervisor responsible for the setup and maintenance of the system, and
3. a programmer or an operator who has a good understanding of computer processing.

Table 1-1 shows each type of user which sections to read. If you are an operator, you do not need to read the sections applicable only to a System Manager or to a programmer.

Table 1-1. What to Read

TYPE OF USER	SECTIONS TO READ
OPERATOR	Sections 1, 2, and 3
SYSTEM MANAGER	Sections 1, 2, 3, 4, 5, 6, 7, and 8
PROGRAMMER	Sections 1, 2, 3, 4, 5, 6, and 7

Contents

This manual provides an overall description of the Ergonomic Video Display Terminal and its features, then describes the keyboard, how to select display options, programmable function keys, and routine maintenance. The contents of the manual are arranged as follows:

Section 2, "Terminal Description" - describes the ergonomic features of the terminal, the control switch and ports, and the keyboard.

Section 3, "Special Functions" - explains the purpose of the Special Function keys and how to use them, and of the status line and what it contains, of the terminal modes, and how to set the real time clock display.

Section 4, "Terminal SetUp" - describes the computer interface attributes and screen attributes that can be set by the terminal user.

Section 5, "Block Mode" - explains the use of Block mode and what functions are available while in that mode.

Section 6, "Programmable Function Keys" - explains the use of the Programmable Function Keys and how to program them, and how to view or erase the program contents.

Section 7, "Code Sequences" - describes the use of various code sequences used in writing and executing application software.

Section 8, "Routine Maintenance and Troubleshooting" - describes routine maintenance procedures and how often to perform them.

Conventions

This document follows the established MAI Technical Manual Documentation Standards.

- Terminal keys are identified by all capital letters plus an underline.
- Switches are identified by all capital letters.
- **[RETURN]** indicates that the user should press the **RETURN** key.
- Any input to be entered exactly as shown is in capital letters and enclosed in single quotes. The quotes themselves are not to be entered.

Related Publications

The Operator's Guide for your particular Basic Four system provides related information on the use of the EVDT as a part of the system.

Section 2 — Terminal Description

Overview

This section of the manual describes the physical appearance of the Ergonomic Video Display Terminal, the ergonomic features, the control switch and ports, and the keyboard. Special function keys are listed, but their use is discussed in Sections 3 and 6.

The EVDT

The EVDT is a compact terminal that fits easily on a desktop or a VDT worktable. It has a 12 inch, nonglare display screen with user controlled brightness. The terminal dimensions are the following:

	Display Unit	Keyboard
Height:	12 inches (30.5cm)	1.7 inches (4.3cm)
Width:	16 inches (40.6cm)	19 inches (48.3cm)
Depth:	13.5 inches (34.3cm)	8.6 inches (21.7cm)

Pedestal

The pedestal provided with the terminal allows you to tilt the display unit as much as 10° above or below horizontal and to swivel the unit from side to side. It adds an additional 3 inches to the height of the terminal.

To tilt the unit downward, push down gently on the top of the unit near the front. To tilt it upward, place your fingers under the front of the pedestal and pull up gently.

To turn the unit to either side, grasp the pedestal on both sides and turn the unit the desired distance.

Power Switch

The On/Off power switch is located on the lower, right rear of the display unit. Figure 2-1 shows the location of the switch.

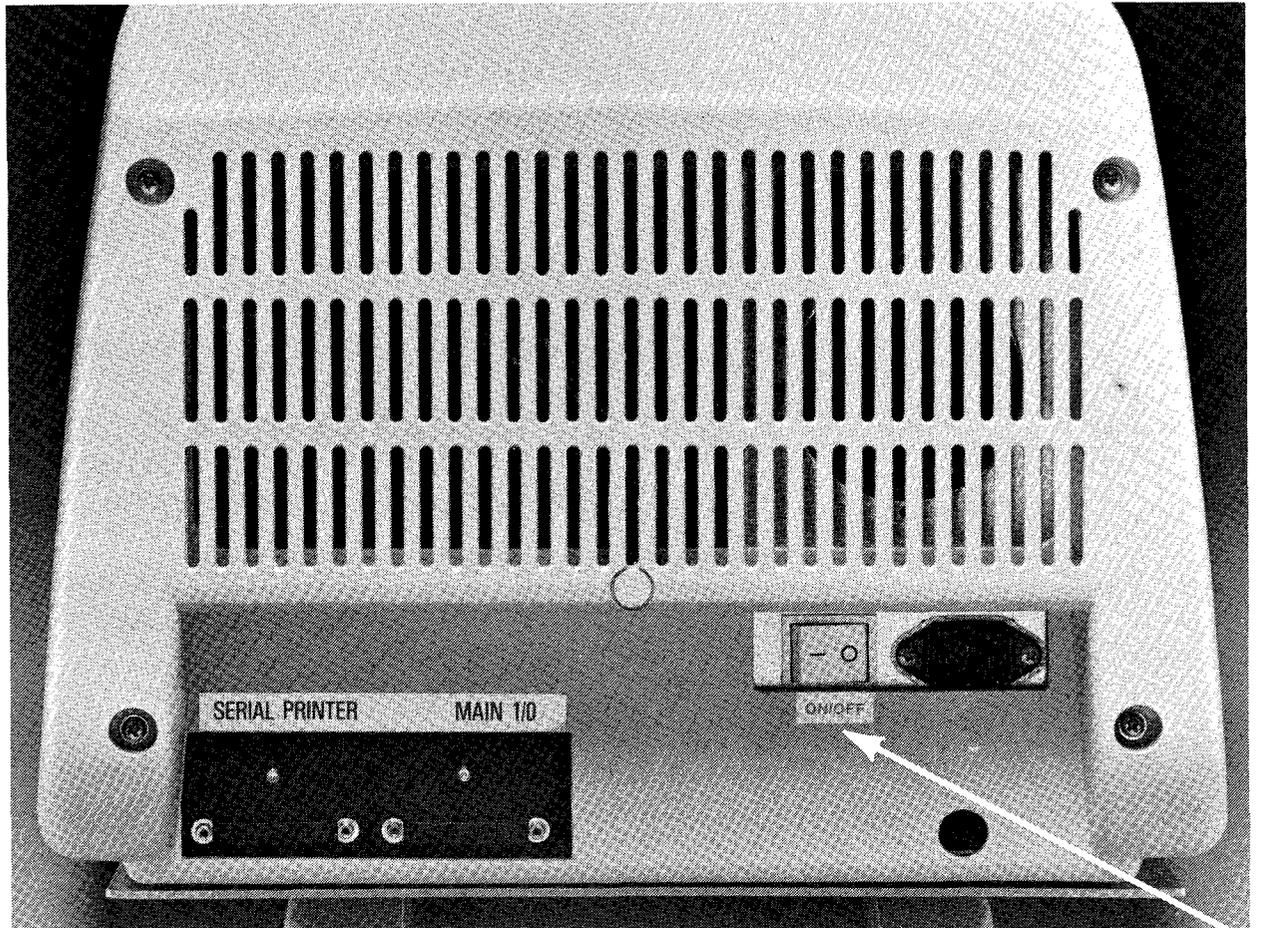


Figure 2-1. Power Switch

To turn the terminal on, press the left side of the switch, labeled with an "O". The terminal will beep twice, indicating it is ready to use. To turn the terminal off, press the right side of the switch, labeled with a "-".

Input/Output Ports

The input/output ports are located on the lower left rear of the display unit. (See Figure 2-2.) The right port, Port A, is for the connecting cable to the host computer. The left port, Port B, is for the cable connecting a serial printer to the terminal.

Both ports are bidirectional and conform to RS-232-C standards.

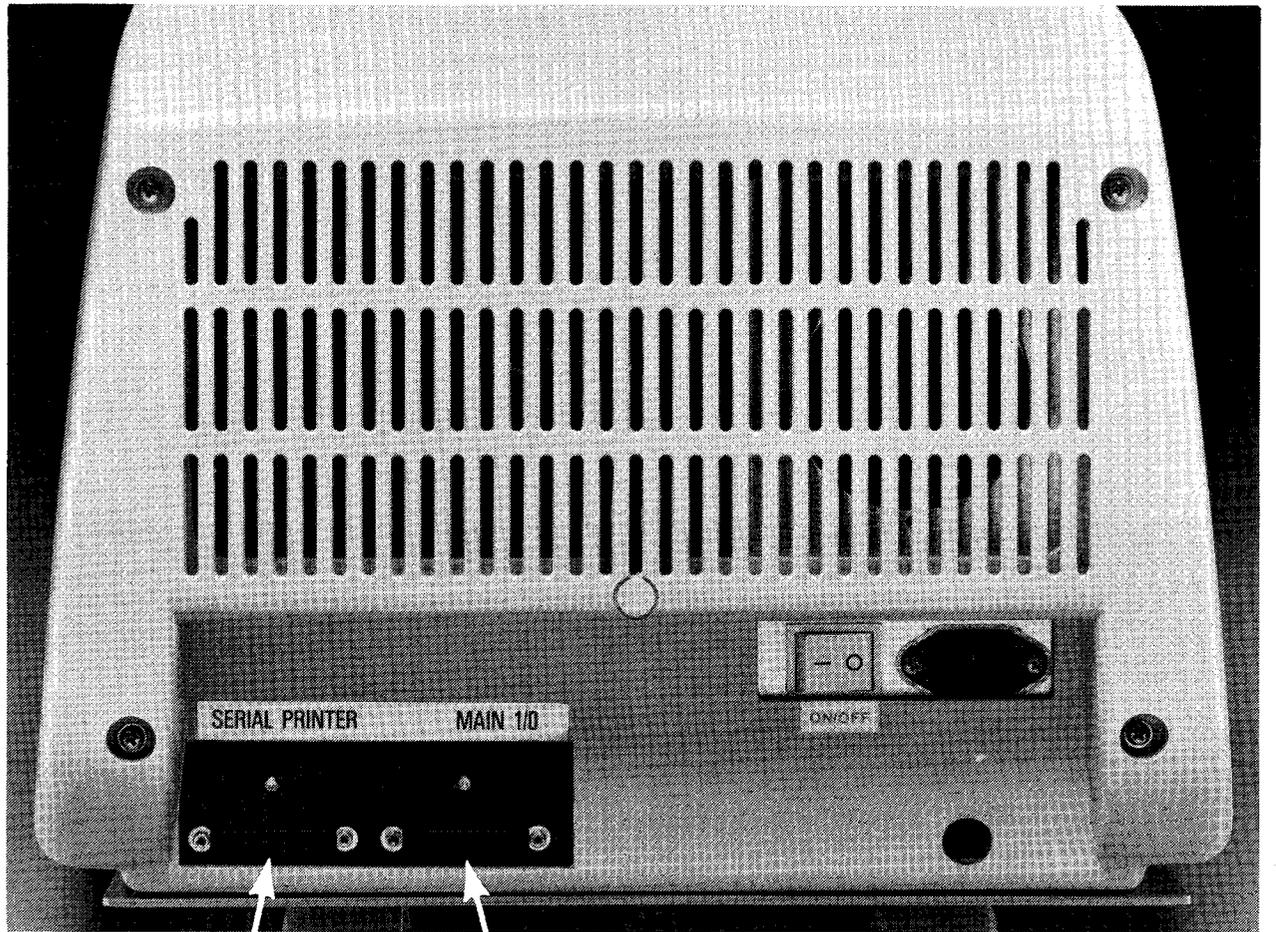


Figure 2-2. The Input/Output Ports

The Keyboard

The keyboard for the EVDT is a separate, detached unit that you can place in any comfortable position near the EVDT.

NOTE

Do not stretch the coiled power cord more than six feet, or you may inadvertently disconnect the keyboard.

Figure 2-3 shows the layout of the keyboard. In addition to the standard alphanumeric keys and the numeric pad, the EVDT has special function and control keys used to perform specific tasks. This section discusses the control keys, and Sections 3 and 6 discuss the special function keys.



Figure 2-3. The EVDT Keyboard Layout

Control Keys

Control keys control cursor movement and select character entry for dual character keys. Table 2-1 lists the control keys, key locations, and how they are used.

Table 2-1. EVDT Control Keys

KEY	LOCATION AND DESCRIPTION
Arrow Keys	Right keypad. These keys, when pressed with a SHIFT key, move the cursor one position in the direction of the arrow.
BACK SPACE	Bottom row, far right. In Conversational mode the cursor moves one position to the left and erases any character in the original position. In Block mode the cursor moves one position to the left, but no data is erased.
BACK TAB	Third row, far left. In Block mode, when this key is pressed with the SHIFT key, the cursor moves to the left to the prior tab stop or to the first position of the prior unprotected field.
CAPS LOCK	Fourth row, far left. This key, when active, causes all alphabetic input to be upper case. The status line (top line) shows a "Cp" when the key is active. To turn the function off, press the key again.
Control Bars I-IV	Roman numerals I, II, III, IV on the right keypad. These keys control the cursor while in an application program; the specific use is defined by the program.
PAD	Fourth row, far left. Pressing FUNC and CAPS LOCK locks the keyboard pad so cursor control functions (Arrow keys) are active. To turn the function off, press the keys again.
RETURN	Fourth row, extreme right. Pressed to signal that keyboard entry of a piece of information is complete.
SHIFT	Fifth row, far left and far right. This key, when pressed with another key, causes entry of the upper character on keys that have two characters printed on top. For alphabetic keys, it causes entry of an upper case letter. The SHIFT key can be locked in the on position by pressing the CAPS LOCK key together with the SHIFT key. To turn this function off, press both keys again.
TAB	Third row, far left. This key advances the cursor to the next preset tab stop or to the first position of the next unprotected field, whichever is first.

Special Function Keys

Special Function keys allow the operator to control the screen, configure terminal options, program certain keys, and change the terminal mode of operation. Table 2-2 lists these keys and their location and purpose. Section 6 explains how to use the Programmable Function keys and the associated Special Function keys, and Section 3 explains the other Special Function keys.

Table 2-2. Special Function Keys

KEY	LOCATION AND DESCRIPTION
FUNC	Second row, far right. This key is pressed simultaneously with certain other keys to cause a special function to occur. All keys with a red label on the front require the use of this key.
Block Mode	For this function, press FUNC with the A key. A "Bk" appears on the status line indicating the terminal is in Block Mode. In Block Mode, the terminal operates without an active connection to the computer. Keystrokes are displayed on the screen and functions performed within the terminal. When data is sent to the computer, it is sent as a block rather than one character at a time. To release Block Mode, press FUNC with the S key.
BRITE	Third row left of keypad. When pressed with the FUNC key, this key increases the brightness of the screen display.
Conversation Mode	For this function, press FUNC with the S key. Conversation Mode starts full or half duplex communication with the computer; characters sent or received are displayed on the screen. Absence of "Bk" on the status line indicates Conversation Mode.
CLEAR	First row, far right. This key, when pressed with FUNC , clears the screen display and places the cursor in the upper left (home) position of the screen.
DIM	Third row center of keyboard. When pressed with the FUNC key, this key decreases the brightness of the screen display.
EXAMINE F	Second row, right. This key displays the command strings stored under the Programmable Function keys when in Block mode only. To exit, clear the screen using the FUNC , ESC sequence.
Freeze Mode	For this function, press FUNC with the F key. Freeze Mode stops the display screen from changing, but allows incoming data into the data buffer. To release the screen from Freeze Mode, press the keys again.

(Continued)

Table 2-2, Continued

PRINT	First row, right keypad. The PRINT key causes all data on the screen from the home position (upper left) to the cursor to be printed on the attached serial printer. If a printer is not attached, and the key is pressed, the cursor will not be active for approximately 5 seconds.
PROGRAMMABLE FUNCTION KEYS	First row, keys F1 - F14 (and F15 - F28 with SHIFT). These keys store user selected character string commands in continuous memory. You press a key to tell the terminal to execute the commands stored under that key.
SET F	Third row, far right. This key places the line indicated by the cursor into Programmable Function key memory when in Block mode only.
SetUp	For this function, press FUNC plus the 0 (Zero) key. SetUp displays the Terminal Options Menu and allows you to change or view options. Section 4 explains SetUp.

Overview

The Ergonomic Video Display Terminal has many special features, some of which are accessed through Special Function keys. Special features also include the Status Line, terminal modes, and the real time clock display. This section explains the Special Function keys used by an operator, the terminal modes, the Status Line, and the real time clock display. Keys not discussed in this section are explained in Section 6, Programmable Function Keys.

Special Function Keys

The Special Function Keys discussed here control the screen display, the terminal mode, and printing to the attached printer. Because many of these keys are pressed simultaneously with the **FUNC** key, that key is discussed first.

Function Key

The **FUNC** key tells the terminal to override the standard key functions and instead activate a special function key code. You select the particular function to activate by pressing a Special Function key at the same time that you press the **FUNC** key. Some of the Special Function keys are identified by red words on the front of the keys, while the remainder are standard typewriter keys and are identified by the letter or number on top of the key.

Escape Key

In Conversational mode, pressing the **ESCAPE** key sends a signal to the host causing the program to be interrupted. In Block mode, pressing the **ESCAPE** key signifies to the terminal that an escape sequence (see Section 7) is about to be generated. Pressing the **ESCAPE** key twice, in Block mode, causes the symbol **E_C** to appear on the screen. This symbol may be helpful when programming function keys (see Section 6).

Screen Display Keys

Screen display keys control the intensity of the screen, clear the screen, and temporarily stop the display from changing. Table 3-1 explains how to use these keys.

Table 3-1. Screen Display Keys

KEY OR FUNCTION	HOW TO USE IT
BRITE	Press this key at the same time you press the FUNC key. Each time you press the keys, the display becomes a little brighter. If Auto-repeat is turned on, hold the keys down until the screen is the desired brightness.
CLEAR	Press this key at the same time you press the FUNC key. The CLEAR key clears the screen of all characters and return the cursor to the home position, that is, row 1, column 1. The screen characters are not replaced with blanks or spaces.
DIM	Press this key at the same time you press the FUNC key. Each time you press the keys, the display becomes a little fainter. If Auto-repeat is turned on, hold the keys down until the screen is at the desired dimness.
Freeze Mode	Press the FUNC key at the same time you press the F key. Freeze Mode stops the computer from sending data to the screen, but allows it to send data to the screen buffer. The screen display is thus "frozen" and you can examine the display at your leisure. Freeze Mode also allows you to set a Programmable Function Key while in the middle of another task. To exit Freeze Mode, again press the two keys simultaneously.

Terminal Modes

There are two operational modes for the EVDT, Block Mode and Conversational Mode. Conversational Mode is the usual mode for operation of the terminal, and it has two submodes, half duplex and full duplex.

In full duplex operation, when you press a key, the terminal sends the character to the computer which then sends it to the screen for display. In half duplex operation, when you press a key, the terminal sends the character to the screen as well as to the computer. The half or full duplex option is chosen during Set Up, which is discussed in Section 4.

You choose Conversational Mode by pressing the **S** key while holding down the **FUNC** key. The terminal then automatically goes into the submode chosen during Set Up.

Block Mode stops the sending of each character as a key is pressed, and instead treats the screen area as a block of data to be processed and then sent to the computer as a whole. Block Mode is used to set the Programmable Function keys, to edit the screen buffer, and to transmit part or all of the buffer. Section 5 discusses the Block Mode functions.

To enter Block Mode, press the **A** key while pressing the **FUNC** key.

The Status Line

The Status Line is the 25th line on the terminal screen, which is the **top** line of the display screen. This line tells you the status of certain control keys and of the terminal mode.

Figure 3-1 shows a sample status line display.

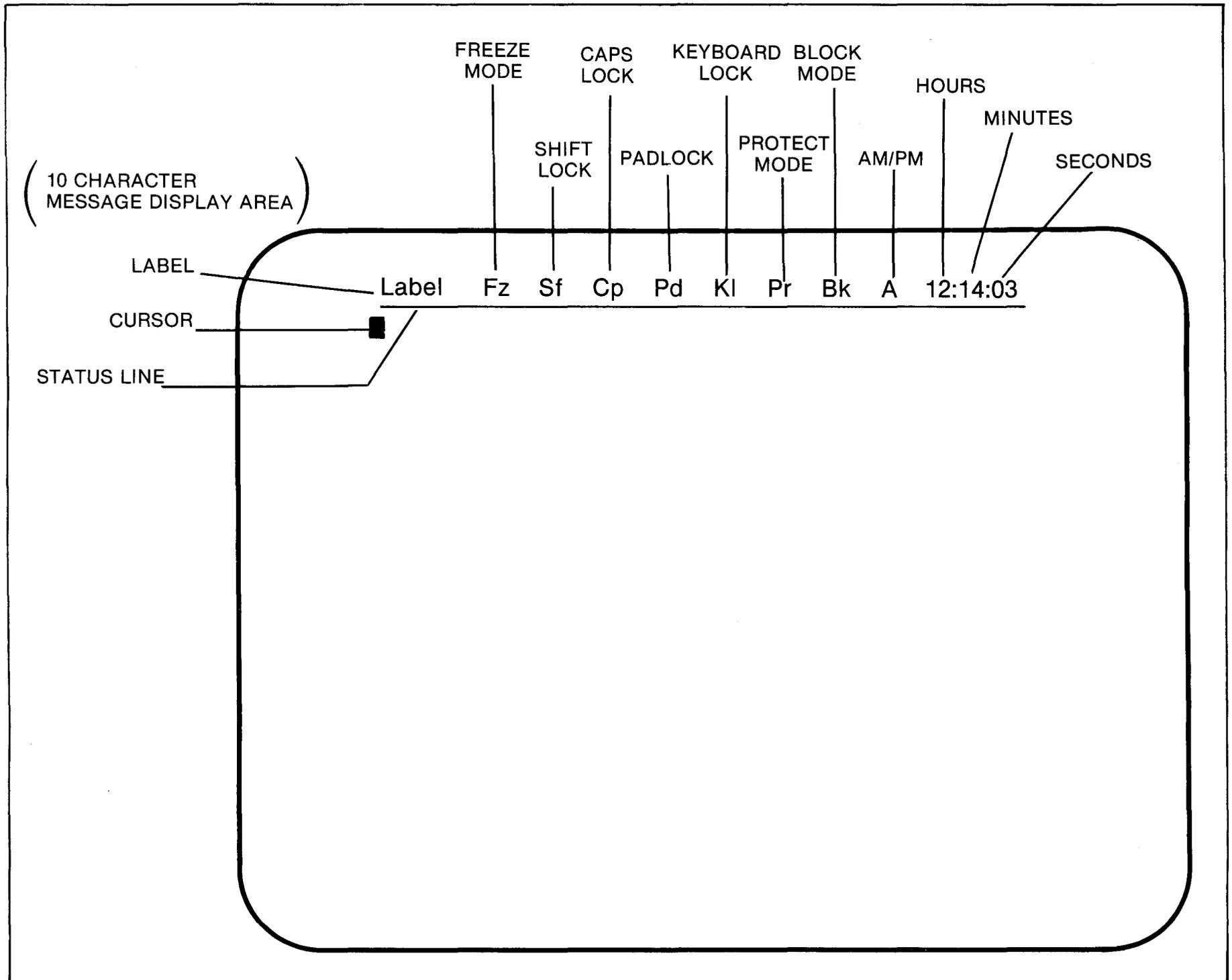


Figure 3-1. Status Line Display

The items in the Status Line are explained in Table 3-2.

Table 3-2. Status Line Items

ITEM NO.	SYMBOL WHEN ON	SYMBOL WHEN OFF	MEANING
1.	User Specified Title	Blank	User's specified title for the terminal
2.	Fz	Blank	Freeze Mode indicator
3.	Sf	Blank	Shift Lock indicator
4.	Cp	Blank	Caps Lock indicator
5.	Pd	Blank	Pad Lock indicator
6.	Kl	Blank	Keyboard Lock indicator
7.	Pr	Blank	Protect Mode indicator
8.	Bk	Blank	Block Mode indicator; when this is blank, the terminal is in Conversation Mode
9.	hh:mm:ss	Blank	Real time clock; 12 or 24 hour. See the following subsection to set the clock

Real Time Clock Display

The real time clock displays on the right side of the Status line. The clock can be set for AM/PM or 24 operation, and shows hours, minutes, and seconds. Figure 3-2 shows a sample display.



Figure 3-2. Real Time Clock Display

The initial letter in the display indicates whether the time is AM or PM. Selection of 24 hour or AM/PM is controlled from the Set Up Menu. See Section 4 for an explanation of this procedure.

Whether the clock display is on or off, and the actual time the clock displays, can be set from the keyboard or from the computer. The control sequence is the same for both.

Set Time From the Keyboard

To turn the clock on or off, or to set it, from the keyboard:

1. Enter Block Mode by pressing **FUNC** + **A**.
2. press the **ESCAPE** key, then enter the following sequence from the keyboard with no spaces between the characters:

'h + code + value'

where:

code = a decimal value from 0 to 7 which indicates the clock command to execute. Table 3-3 explains the Clock Codes.

value = the ASCII or Hexadecimal value for the hour, minutes, and seconds. Table 3-4 gives these values for the numbers 0 to 60. The value is used only when Clock Codes 5, 6, and 7 are used.

If you are using a 24 hour clock, the following formula can be used instead of referring to Table 3-4:

'h + code + CHR(t + 160)'

where "t" is the desired hour, minute, or second.

Set Time From A Program or the Keyboard

To set the time from a program or from the keyboard:

1. Enter Block Mode if setting time from the keyboard;
2. Enter or use the following sequence:

`'PRINT 'ES', "h", "code", "value''`

where code and value have the same meaning as in the prior subsection.

Table 3-3. Clock Command Codes

CODE	COMMAND AND DESCRIPTION
0	CLOCK DISPLAY ON - causes the clock to display on the Status line.
1	CLOCK DISPLAY OFF - removes the clock display from the Status line.
2	ADVANCE THE HOUR - advances the hour display by one hour.
3	ADVANCE THE MINUTE - advances the minute display by one minute.
4	ACTUAL TIME - sends to the computer the actual time displayed by the clock. The hour, minute, and second values are the actual values plus 160.
5	WRITE THE HOUR - use the following value for the hour display of the clock.
6	WRITE THE MINUTE - use the following value for the minute display of the clock.
7	WRITE THE SECOND - use the following value for the second display of the clock.

Table 3-4. Time Value Codes

HOUR MINUTE SECOND	ASCII VALUE	HEXA- DECIMAL VALUE	HOUR MINUTE SECOND	ASCII VALUE	HEXA- DECIMAL VALUE
0	Space	A0	30	>	CE
1	!	A1	31	?	CF
2	"	A2	32	@	C0
3	#	A3	33	A	C1
4	\$	A4	34	B	C2
5	%	A5	35	C	C3
6	&	A6	36	D	C4
7	'	A7	37	E	C5
8	(	A8	38	F	C6
9	)	A9	39	G	C7
10	*	AA	40	H	C8
11	+	AB	41	I	C9
12	,	AC	42	J	CA
13	-	AD	43	K	CB
14	.	AE	44	L	CC
15	/	AF	45	M	CD

Table 3-4, Continued

HOUR MINUTE SECOND	ASCII VALUE	HEXA- DECIMAL VALUE	HOUR MINUTE SECOND	ASCII VALUE	HEXA- DECIMAL VALUE
16	0	B0	46	N	CE
17	1	B1	47	O	CF
18	2	B2	48	P	D0
19	3	B3	49	Q	D1
20	4	B4	50	R	D2
21	5	B5	51	S	D3
22	6	B6	52	T	D4
23	7	B7	53	U	D5
24	8	B8	54	V	D6
25	9	B9	55	W	D7
26	:	BA	56	X	D8
27	;	BB	57	Y	D9
28	<	BC	58	Z	DA
29	=	BD	59	[	DB
			60		DC

Overview

The Ergonomic Video Display Terminal has a number of features which allow the user to tailor the terminal to fit a particular operation and individual preferences. These features fall into two categories: interface parameters to the computer, and keystroke and display features.

Interface parameters control the input/output to the computer. These parameters must be set correctly, or else incorrect data may be sent to or received from the computer. Normally, the parameters are set initially and not changed unless a unique software program requires it.

Keystroke and display features let you tailor the terminal to fit your own preferences. These features affect only the local operation of the terminal, and have no effect on the computer.

Parameters and features are set or changed while the terminal is in SetUp Mode. While in this mode, you have the option of viewing the entire SetUp Menu, or one line at a time of the menu.

SetUp Mode

SetUp Mode places the terminal in an offline condition and gives you access to the SetUp Menu. Once in the Menu, you can view and change the current values of the parameters and features.

To enter SetUp Mode:

- Press and hold the **FUNC** key, and press the **0** (Zero) key on the right keypad. This displays the Single Line SetUp Menu. Select the desired menu line by entering the line number.
- Press the **0** (Zero) key again to display the full Menu.

NOTE

*Be sure the Pad Lock and Shift Locks are not active, because both locks prevent the **0** key from operating.*

The full SetUp Menu replaces whatever was on the screen, and returns to a blank screen when you exit SetUp Mode. The Single Line Menu retains all of the screen display with the exception of the first line, which returns when you exit SetUp Mode.

To exit SetUp Mode, press **ESCAPE**.

The SetUp Menu

Figure 4-1 shows the full SetUp Menu.

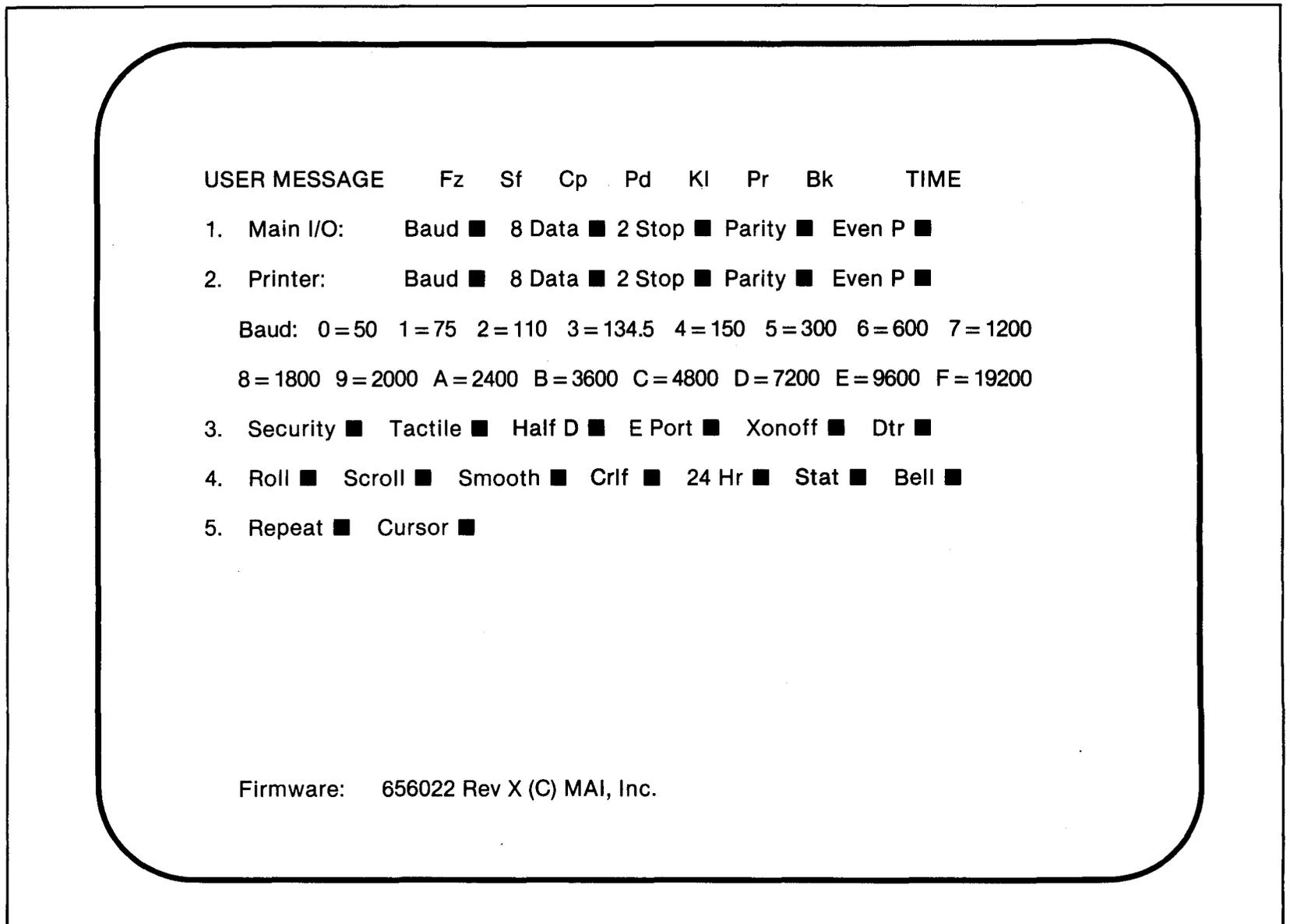


Figure 4-1. The SetUp Menu

The items in the SetUp Menu are explained in the following subsections.

The Single Line SetUp Menu displays a line at a time of the SetUp Menu. When you enter the SetUp Mode, the terminal prompts you to enter the number of a line on the SetUp Menu. Enter a line number, e.g., enter '3' for the third line, and view or modify it.

To access another line, press **ESCAPE**, then enter the line number.

To change any parameter or feature in either the full or Single Line Menu, move the cursor to the character to change, and enter the new character. You control cursor movement with the following keys:

- press **RETURN** to move the cursor downward in the same screen column in Conversational mode. After the cursor reaches the lowest line, it returns to the top line the next time you press **RETURN**.
- press the **SPACE BAR** to move the cursor from left to right across a row. After the cursor reaches the rightmost position, it returns to the first position the next time you press the **SPACE BAR**.

Menu Features

The individual items in the SetUp Menu and the choices for each item are explained in the following paragraphs. The default value for each item, preset at the factory, is indicated by an “*”.

Main I/O

Port A is for the terminal-computer connection.

Printer

Port B is for the terminal-printer connection.

Baud

The baud rate is the speed of data flow between the terminal and the computer or the terminal and the printer. The rates available and the corresponding Hexadecimal value to enter for each are shown on the display below Line 2. The default value is 9600 Baud (E) for the computer connection and 2400 Baud (A) for the printer.

8 Data

This is the bit length of a word for each I/O port.

0 = seven bit word length*

1 = eight bit word length

2 Stop

This parameter is the number of stop bits to add to each data word.

0 = one stop bit*

1 = two stop bits

Parity	<p>This parameter asks if you want a parity check on each data word.</p> <p>0 = no parity check</p> <p>1 = parity check*</p>
Even P	<p>Even or odd parity, if parity is selected.</p> <p>0 = odd parity*</p> <p>1 = even parity</p>
Security	<p>Security refers to setting up security for the terminal such that certain Escape sequences are ignored if they are input.</p> <p>0 = allow full access to all Escape sequences</p> <p>1 = restrict access to certain Escape sequences (all but SetUp Mode and program Escape restricted)*</p>
Tactile	<p>With tactile active, you hear an audible click when you press a code generating key.</p> <p>0 = do not produce an audible click*</p> <p>1 = produce an audible click</p>
Half D	<p>Half or full duplex transmission</p> <p>0 = full*</p> <p>1 = half</p>
E Port	<p>This parameter indicates whether the secondary port is to receive data from the primary port and pass it to a device connected to the secondary port.</p> <p>0 = Extension Port not active - do not pass data</p> <p>1 = Extension Port active - pass data</p>

XonXoff

Xon Xoff is a parameter that allows terminal control of transmission flow from the computer. When Xon Xoff is active, you control transmission by pressing **CONTROL** plus **S** which stops transmission when the input buffer is 32 characters short of being full. You can restart transmission by pressing **CONTROL** plus **Q**, which signals the computer to resume when the input buffer is half empty.

0 = XonXoff is not active*

1 = XonXoff is active

DTR

Data Terminal Ready. This feature controls transmission flow and complements Xon Xoff. When this feature is active, the terminal drops the Data Terminal Ready signal when the input buffer is 32 characters from being full. If both DTR and Xon Xoff are active, the terminal automatically sends a Control S code prior to dropping the DTR signal.

0 = DTR not active*

1 = DTR active

Roll

Roll refers to cursor movement. When roll is turned on, the cursor goes to the first column of the next line after leaving the last column on the right of a line. If roll is not turned on, the cursor will stop at the end of the line.

0 = roll not turned on

1 = roll is turned on*

Scroll

With scrolling, all lines on the screen move up when the bottom line is filled to the 80th column. If scrolling is not turned on the screen will not scroll up and the cursor will remain at the bottom line.

0 = no scrolling

1 = scrolling active*

Smooth

Scrolling can be smooth or regular. With regular scrolling, screen lines move up a line at a time. With smooth scrolling, no jump is perceived. The lines scroll up one dot row at a time.

0 = regular scrolling*

1 = smooth scrolling

CRLF	With CRLF, there is automatic line feed when you press the RETURN key. 0 = no line feed with RETURN * 1 = line feed with RETURN
24 HR	Standard 12 hour clock (AM/PM) or 24 hour clock 0 = 12 hour clock* 1 = 24 hour clock
Status	This feature refers to display of the Status line at the top of the screen. 0 = do not display Status Line 1 = display Status Line*
Bell	Bell sounds eight characters before the end of a line. 0 = do not sound bell* 1 = sound bell
Repeat	Any alphanumeric keys, programmable function keys, and cursor movement keys can be automatically repeated when the key is held down for more than one second. Repetition is at the rate of 16 per second. 0 = do not repeat keystrokes* 1 = repeat keystrokes

Cursor

There are eight possible modes for cursor display:

0 = blank; no cursor display

1 = underline the cursor position

2 = blink the character at cursor position

3 = blink the character **and** underline it

4 = reverse video block*

5 = reverse video block underlined

6 = reverse video block with blinking character

7 = as in 6, but with underline also

Overview

The EVDT can operate in two states, Conversational and Block. In the Conversational state, or mode, the information you enter from the keyboard goes directly to the computer. In Block mode, the information you enter goes to the computer only when you direct the terminal to send it. Before sending the information, you can review and edit it through the use of special keys.

This section discusses Block mode and the functions you can perform while in this mode.

Block Mode

Block mode places the EVDT in a holding state, during which it “holds” and displays data entered from the keyboard. This data can be changed through editing until it is ready to send to the computer. To send the data, the user can press certain keys, or the computer can send escape code sequences to direct the EVDT to perform the same key functions.

Block mode is also used to set the Programmable Function Keys. These keys have a special memory storage to hold commands which execute when you press the keys. Section 6 discusses these keys.

While the EVDT is in Block mode, it can still receive data from the computer.

Entering and Exiting Block Mode

To enter Block mode, press and hold the **FUNC** key, and press **A**. To exit Block mode, press and hold the **FUNC** key and press **S**.

Block Mode Editing

Certain editing functions are available while in Block mode. To access these functions from the keyboard, you must first enable special functions by pressing **ESCAPE** plus **\$**. It is only necessary to do this once before editing.

Now you can access the editing functions by pressing the **FUNC** plus letter keys. Table 5-1 lists the functions and the keys used to access them.

Table 5-1. Block Mode Editing Keys

KEYS	EDITING TASK
FUNC + ESC	CLEAR SCREEN - Erases all unprotected characters and their attributes from the display screen, and places the cursor at the first unprotected position on the screen.
FUNC + L	ERASE LINE - This key combination erases all characters from the cursor position to the end of the line. Screen intensity, and protected characters and attributes are not affected.
FUNC + ;	ERASE PAGE - Erases all characters from the cursor position to the end of the page. Screen intensity, and protected characters and attributes are not affected.
FUNC + V	DELETE LINE - This key combination deletes the entire display line which contains the cursor. The cursor remains in the same position. This key does not affect protected characters.
FUNC + C	INSERT LINE - This key combination inserts a blank line at the line of the screen display where the cursor is located. The cursor line and all lines below it move down one line. This function does not work in Protect Mode.
FUNC + X	DELETE CHARACTER - This key combination erases the character at the cursor position. All characters to the right on that line then move one space to the left. Protected characters and characters to the right of a protected character do not move.
FUNC + Z	INSERT CHARACTER - This key combination moves the character at the cursor, and all characters to the right of the cursor, one position to the right. If there is a character at the last position of the line, it is lost. This key does not affect protected characters.
FUNC + W	CLEAR TAB - This key combination clears a tab stop at the current cursor position.

Table 5-1, Continued

FUNC + Q	SET TAB - This key combination sets a tab stop at the current cursor position.
FUNC + E	CLEAR ALL TABS - This key combination clears all tab stops across the entire page.

Block Mode Transmission

In Block mode transmission, the EVDT sends a line, a partial page, or a page at a time to the computer or to an attached serial printer. The EVDT can be directed to transmit the information by pressing a key on the keyboard or by sending an Escape sequence from the computer or from the keyboard.

By Pressing a Key

The keys explained in Table 5-2 are used to send data to the computer when the EVDT is in Block Mode.

Table 5-2. Keys Used for Block Mode Transmission

FUNC + N	SEND LINE - This key combination sends all unprotected characters, from the beginning of the line through the cursor position, to the computer. A carriage return is sent after the line.
FUNC + M	SEND PAGE - This key combination sends all unprotected characters, from the home position (0,0) through the cursor position, to the computer. A carriage return is sent after the page.
FUNC + .	PRINT LINE - This key combination sends all unprotected characters from the beginning of the line through the cursor position, to the attached printer or other output device attached to the secondary port.
PRINT	PRINT PAGE - This key sends all data on the screen, from the home (0,0) position up to the cursor position, to the attached serial printer. The cursor is placed on each character as it is sent. During transmission to the printer, the EVDT does not respond to any keyboard entry. However, if ESCAPE is pressed, that command is sent to the computer when printing is finished.

Through Escape Sequences

The following Escape sequences are used to transmit data to the computer or to an attached serial printer when the EVDT is in Block mode. Table 5-3 summarizes the sequences for easy reference, and the following text explains the sequences in detail. Each sequence varies slightly depending on whether the EVDT is in Protected or Unprotected mode.

Table 5-3. Escape Sequences for Block Mode Transmission

ESCAPE SEQUENCE	ACTIVITY RESULTING FROM THIS SEQUENCE
ESCAPE, 4	Send all unprotected characters on this line, from the first column through the cursor, to the computer.
ESCAPE, 6	Send all characters on this line, from the first column through the cursor, to the computer.
ESCAPE, 5	Send all unprotected data from the home position (0,0) through the cursor position to the computer. Follow with a carriage return.
ESCAPE, 7	Send all data from the home position (0,0) through the cursor position to the computer. Follow with a carriage return.
ESCAPE, S	Send data between ESCAPE, S sequences to the computer.

Send Line - Escape, 4 & Escape, 6

Through the use of different Escape sequences and modes, you can send to the computer:

1. all the unprotected characters in a line. Use **ESCAPE, 4** while in PROTECT mode.

This sequence sends all unprotected data, from the beginning of the line through the cursor position, to the computer, and follows it with a carriage return. The cursor is placed on each character as it is sent.

2. all characters in a line, with no differentiation between protected and unprotected characters. Use either **ESCAPE, 4** or **ESCAPE, 6** in UNPROTECTED mode.

These sequences send all data, from the beginning of the line through the cursor position, to the computer, and follow it with a carriage return. The cursor is placed on each character as it is sent.

3. all characters in a line, including the Escape sequences for starting and stopping background mode. Use **ESCAPE, 6** in PROTECT mode.

This sequence sends all data, from the beginning of the line through the cursor position, to the computer, and follows it with a carriage return. The **ESCAPE,)** and **ESCAPE, (** sequences for starting and ending background mode are also transmitted as protected fields are entered and exited. The cursor is placed on each character as it is sent.

Send Partial Page - Escape, S

The **ESCAPE, S** sequence is used to send a portion of a page to the computer. You enter text on the page until you wish to send it, then mark that point with an **ESCAPE, S** sequence. This places a field separator at the cursor location. The EVDT then backs up the cursor until it finds the previous field separator and sends all data between the two field separators to the computer. If no previous field separator ('FS') code is found, transmission begins at the home position. Please note, field separators are control codes that are usually entered by pressing Motor Bar I.

When the EVDT is in PROTECT mode, **only unprotected** characters are sent. When the EVDT is not in PROTECT mode, **all** characters are sent.

Send Page - Escape, 5 & Escape, 7

Through the use of different Escape sequences and modes, you can send:

1. all the unprotected characters on a page. Use **ESCAPE, 5** in PROTECT mode.

This sequence sends all unprotected data, from the beginning of the page through the cursor position, to the computer, and follows it with a carriage return. The cursor is placed on each character as it is sent.

2. all characters on a page, with no differentiation between protected and nonprotected characters. Use either **ESCAPE, 5** or **ESCAPE, 7** in UNPROTECTED mode.

These sequences send all data, from the beginning of the page to the cursor position, to the computer, and follow the data with a carriage return. The cursor is placed on each character as it is sent.

-
3. all characters on a page, including the Escape sequences for starting and stopping background mode. Use **ESCAPE, 7** in PROTECT mode.

This sequence sends all data, from the beginning of the page through the cursor position, to the computer, and follows it with a carriage return. The **ESCAPE,)** and **ESCAPE, (** sequences for starting and ending background mode are also transmitted as protected fields are entered and exited. The cursor is placed on each character as it is sent.

Section 6 — Programmable Function Keys

Overview

This section explains the Programmable Function Keys and how to use them. The related Special Function Keys **EXAMINE F** and **SET F** are explained also.

Programmable Function keys allow you to store command sequences in terminal memory and later execute these sequences by pressing keys. Once you enter a command sequence, the commands remain in memory until you delete or change them. The terminal stores the commands in continuous memory which is maintained by a long life battery during power off periods.

Each Programmable Function Key can store a maximum of 77 characters, with a maximum combined storage of 300 characters for all keys. You use the **SET F** key to store the command strings under a particular key, and the **EXAMINE F** key to display the strings and the number of remaining character spaces.

There are 28 Programmable Function Keys available for use. These are **F1** through **F14**, and, with the **SHIFT** key, **F1** through **F14** become **F15** through **F28**. The keys are located in the top row of the keyboard, and are identified as Function Keys by the characters F1 - F14 on the key tops.

Programming the Function Keys

To program a function key, follow these steps.

1. Place the terminal in Block mode by pressing and holding the **FUNC** key and pressing **A**.
2. Move the cursor to the first column of any blank line.
3. In the first two columns of that line, enter the two digit number of the Programmable Function Key to program, e.g., enter '02' for key F2.
4. Enter the commands to be stored, a maximum of 77 characters.
5. Place the cursor one position to the right of the last command character.

6. Store the string by pressing and holding the **FUNC** key and pressing the **SET F** key.

If you enter an incorrect command string, e.g., one that is too long, the terminal rejects the input and displays a “?”.

If your input is accepted, but the command string does not execute when you press the Function key, check to be sure that:

1. the first two characters of the line are the Function Key numbers, and
2. the command string starts at the third column or beyond.

Linking Function Keys

You can link Programmable Function Keys together to form a longer command string, up to 300 characters. To link them, follow steps 1 through 5 of the programming instructions, then do the following:

1. Press **ESCAPE** twice.
2. Enter a “ \ ”
3. Enter the number of the Function Key which contains the command sequence to be executed next, e.g., enter ‘04’ if the key is F4.
4. Place the cursor one position to the right of the number.
5. Store the string by pressing and holding the **FUNC** key and pressing the **SET F** key.

Entering Control Codes

If you need to place a control code, such as **RETURN**, in the command string, you must first press the **ESCAPE** key. This tells the terminal that the next entry is a control code.

For example, to enter **RETURN** in the command string:

1. press **ESCAPE**;
2. press **RETURN**.

Using the Programmable Function Keys

You can use the Programmable Function Keys at any time the terminal can accept input. To use a key, simply press that key.

Viewing the Programmed Functions

To view the command strings for the Programmable Function Keys, press and hold **FUNC** and press **EXAMINE F**. A display similar to that shown in Figure 6-1 appears on the screen.

```
                245  
  
HM  
RG  
LF  
UP  
DN  
BT  
01RUN "****"  
02  
03  
04  
05  
06CONSOL  
07  
08  
09  
10  
11  
12
```

Figure 6-1. The Programmed Functions Display

The number at the top of the display is the number of character positions available to be programmed.

The next six lines contain cursor control characters which indicate which keys perform which cursor control movements. The meaning of the cursor control characters is as follows:

HM = Home	UP = Up cursor
RG = Right cursor	DN = Down cursor
LF = Left cursor	BT = Back Tab

Erasing Programmed Functions

The remaining lines show the contents of each Programmable Function Key, identified by the first two numbers of the line. To view the contents of keys 13 through 28, again press **FUNC** and **EXAMINE F**, this time simultaneously pressing the **SHIFT** key.

You can edit the contents of the Programmable Function Keys while viewing them. Move the cursor to the desired line and reenter all or part of the command string. Then move the cursor to the right of the last character and press **FUNC** and **SET F**.

To erase the command string for any Programmable Function Key, you send a blank line to the key memory. The procedure for erasing is the following:

1. Place the terminal in Block mode by pressing and holding the **FUNC** key and pressing **A**.
2. Move the cursor to the first column of any blank line.
3. In the first two columns of that line, enter the two digit number of the Programmable Function Key to program, e.g., enter '02' for key F2.
4. Move the cursor immediately to the right of the number and press **SET F** while pressing **FUNC**.

Overview

The EVDT is designed specifically for ease of use. This section discusses various coding sequences which provide efficiency in both writing and executing application software programs. Table 7-5 at the end of this section summarizes all code sequences described within this chapter.

Scrolling

The terminal has the capability of scrolling the contents of the screen. The two types of scrolling are explained below.

Smooth Scroll Enable

Data moves up the screen one matrix dot (rather than a character) at a time resulting in smooth continuous scrolling. If the terminal memory buffer becomes full faster than data can scroll, then transmission stops until the buffer begins to empty. Background and attributes are turned off. Foreground mode begins.

Smooth Scroll Disable

Smooth scrolling is disabled and data moves up the screen a character (rather than a matrix dot) at a time. Background and attributes are turned off. Foreground mode begins.

Protected Fields

The terminal has the capability to protect user designated areas on the screen so that data in these areas cannot be over-written. These areas are then in Protect mode. Protect mode applies to current as well as previously protected input.

Start Background

Background mode is started. Characters are marked as protected by displaying them at one half of the normal intensity, but protection is not actually begun.

Start Foreground

Foreground mode is started. Characters are displayed at full intensity.

Start Protect Mode

Protection is started. The cursor cannot enter a previously protected position and the screen cannot scroll. The status line displays "Pr".

End Protect Mode

Protection is ended. The "Pr" (indicating Protect mode) on the status line is removed.

Cursor Movement

Cursor movement is quite flexible and is described in detail below.

Backspace (Cursor Left)

Unprotected: The cursor moves one position to the left. In Block mode, if the cursor is in the first position of a line, it moves to the last position of the preceding line. If the cursor is in home position, it moves to the last location of the last line. In Conversational mode the cursor moves to the left until it reaches the left margin.

Protected: The cursor continues to move to the left until it finds an unprotected position.

Line Feed

Unprotected: In Block mode the cursor moves down to the next lower line of the display and remains in the same column position. In Conversational mode the cursor is placed on the first column position of the same line.

Protected: The cursor moves down to the first position of the first unprotected field of the next lower line. If no unprotected field exists on that line, the cursor continues to move down until one is found.

Vertical Tab (Cursor Up)

Unprotected: The cursor moves up to the next higher line of the display and remains in the same column position in both Block and Conversational modes.

Protected: The cursor moves up to the next higher line of the display and remains in the same column position **if the location is unprotected**. If that location is protected, the cursor moves to the left and up until it finds an unprotected position.

Cursor Forward (Cursor Right)

Unprotected: The cursor moves one character to the right. If the cursor is in the last position of a line, it moves to the first position of the next lower line in both Block and Conversational modes.

Protected: The cursor continues to move one position to the right until it finds an unprotected position.

Carriage Return

Unprotected: In Block mode the cursor is placed on the first character position of the same line. In Conversational mode the cursor is placed on the first character position of the next lower line.

Protected: The cursor is placed on the first position of the first unprotected field of the same line.

Cursor Home

Unprotected: The cursor moves to the home position (0,0).

Protected: If the home position is protected, the cursor moves toward the right on the same line until an unprotected location is found.

New Line

Unprotected: This action is equivalent to a combination of a carriage return and a line feed. The cursor moves to the first position of the next lower line.

Protected: The cursor is placed in the first position of the first unprotected field of the next lower line. If no unprotected field exists on that line, the cursor moves down until one is found.

Cursor Related Functions

These functions use the location of the cursor as a starting point for performing other operations described below.

Set Cursor Positions

The cursor moves to the corresponding Y (row) and X (column) coordinates. If the coordinates are out of range, the cursor defaults to the nearest valid position. When using the ESC 'Y', 'X' sequence the appropriate ASCII or HEX values must be used. See Table 3-4. The cursor can be placed on a protected screen position resulting in the overwriting of a protected area.

Read Cursor Positions

The positions of the Y (row) and X (column) coordinates and a carriage return character are transmitted to the host computer. The cursor then moves to the first position of the next lower line (see New Line). See Table 3-4 for corresponding ASCII and HEX values.

Read Cursor Content

The character content of the current cursor position and a carriage return character is transmitted to the host computer. See Table 3-4 for corresponding ASCII and HEX values.

Back Tab Cursor

Unprotected: The cursor moves to the previous tab stop. If no tab stops were set, the cursor moves to the last position on the screen.

Protected: The cursor moves to the left to the first character position of the current unprotected field. If no tab stops were set, the cursor moves to the last position on the screen.

Tab Control

Tab stops can be used to expedite editing, as described below.

Horizontal Tab

Unprotected: The cursor moves to the first position of the next unprotected field or to the next tab stop. If no tab stops have been created, the cursor moves to home position.

Protected: The cursor moves to the right to the first position of the next unprotected field.

Clear All Tabs

All tab stops are cleared and protect mode ends.

Set Tab

Unprotected: Tab stops are set for the entire page at the specified cursor column location.

Protected: This code is ignored in protect mode.

Clear Tab

Unprotected: Tab stops are cleared for the entire page at the specified cursor column location.

Protected: This code is ignored in protect mode.

Set Tabs Every Eighth Column

Unprotected: Tab stops are set for the entire page at every eighth column.

Protected: This code is ignored in protect mode.

Keyboard Related Functions

The functions described below affect the use of the keyboard.

Disable Keyboard

All pressing of keys is ignored. This function can be initiated from the host computer or the keyboard. If initiated from the keyboard, however, it can only be unlocked from the host computer. The status line displays "KI" indicating the keyboard is locked.

Enable Keyboard

All pressing of keys is processed. This function is initiated by the host computer only. The "KI" (indicating the locked keyboard) is removed from the status line.

Freeze Mode

This function enables the operator to freeze data being sent to the display screen. Incoming data continues to fill the buffer.

Special Functions

Through certain specified coding sequences, the terminal is capable of some special functions including, but not limited to, altering screen brightness, business graphics, and viewing a split screen.

Brite and Dim Keys

These keys, when used in conjunction with the FUNCTION key, alter screen brightness. If the auto repeat feature has been selected in the Set-Up Mode, hold the appropriate key down continuously for a smooth adjustment. If the auto repeat feature has not been set up, the key must be repeatedly pressed.

Set Brightness Level

This code sequence alters screen brightness by using the appropriate ASCII values. The minimum brightness level corresponds to the ASCII 'NUL' character. The maximum brightness level corresponds to the ASCII tilde (~) character.

Business Graphics Enable

The capability for line graphics is invoked. All defined character codes received from the host computer or the keyboard are displayed as a corresponding graphics character (please see Appendix A). All control functions are disabled while in graphics mode.

Business Graphics Disable

Capability for line graphics is disabled. Characters are displayed normally. All control functions are enabled.

Send Terminal I.D.

Eight characters and a carriage return character are sent to the host computer. This code sequence is initiated by the host computer only. Refer to Table 7-1.

Table 7-1. Terminal Identification

CHARACTERS IN SEQUENCE	CODED INFORMATION	ASCII
1	VDT Type	F
2	Firmware	0
3	Rev Level (Example V0.09.0)	9
4	Reserved Space	
5	" "	
6	" "	
7	" "	
8	Carriage Return	CR

**Split Screen
Enable**

This feature allows the user to divide the screen into accessible and inaccessible sections. Thus, the user can work in one area of the screen while keeping the rest of the screen unchanged. A maximum of one section can be accessed at one time. Because this section may reside in the middle of the screen, there is a maximum of two inaccessible sections.

To set the split screen, press **ESCAPE, S**, then the accessible area starting row number followed by the ending row number. The row numbers are input as the ASCII characters corresponding to the row numbers. Table 3-4 contains the ASCII to decimal conversion needed for this entry.

For example, to start the accessible area at row 5 and end it at row 12, press the following keys in sequence:

ESCAPE s \$ +

**Split Screen
Disable**

The screen is returned to full display mode with full accessibility.

Edit Functions

A number of editing features are provided for ease in writing and executing application software programs.

Clear Screen

Background and attributes are turned off. Foreground and protect modes are started and the entire screen display is cleared to spaces. The cursor is placed at home position.

Clear Foreground

Unprotected: Background and attributes are turned off. Foreground mode is started, and the entire screen display is cleared to spaces. The cursor is placed at home position.

Protected: Background and attributes are unchanged in protected fields. Unprotected characters are cleared to spaces. The cursor is placed at home position.

Erase Page

Unprotected: Background and attributes are turned off. Foreground mode is started, and all character positions from the cursor position to the end of the screen are cleared to spaces. The cursor position remains unchanged.

Protected: Background and attributes are turned off. Foreground mode is started, and all unprotected character positions from the cursor position to the end of the screen are cleared to spaces. The cursor position remains unchanged.

Clear Line

Unprotected: Background and attributes are turned off. Foreground mode is started, and all character positions from the cursor position to the end of the line are cleared to spaces. The cursor position remains unchanged.

Protected: Background and attributes are turned off. Foreground is started, and all unprotected character positions from the cursor position to the end of the line, or the last character of the current unprotected field (whichever comes first), are cleared to spaces.

Delete Line

Unprotected: Background and attributes are turned off. Foreground mode is started. The contents of the line the cursor is on are deleted. All lines below are moved up one line. The bottom of the screen is filled with spaces and the cursor is placed on the first character position of the new empty line.

Protected: This code is ignored in protect mode.

Insert Line

The line the cursor is on, and all lines below, move down one line. The bottom line is then lost.

Delete Character

Unprotected: Background and attributes are turned off. Foreground mode is started. The character the cursor is on is deleted. All characters to the right move one position to the left. The cursor position remains unchanged.

Protected: Background and attributes are turned off. Foreground mode is started. The unprotected character the cursor is on is deleted. All unprotected characters to the right of the cursor, and to the end of the line or to the last character of the current unprotected field (whichever comes first), are moved one position to the left. The cursor position remains unchanged.

Insert Character

Unprotected: Background and attributes are turned off. Foreground mode is started. All characters from the cursor to the end of the line move one position to the right, and a blank is stored at the current cursor position. The cursor position remains unchanged.

Protected: Background and attributes are turned off. Foreground mode is started. All unprotected characters from the cursor position to the end of the line, or to the last character of the current unprotected field (whichever comes first), move one position to the right and a blank is stored at the current cursor position. The cursor position remains unchanged.

Print Functions

Through the use of different code sequences, the EVDT is capable of printing various sections of data at a time.

Print Page

Entering the code sequence <ESC> <P> causes all screen data from the home position up to (but not including) the cursor position, to be transmitted to the serial printer. Entering the <ESC> <@> or <ESC> </> sequences causes all screen data from the home position up to and including the cursor position to be transmitted to the serial printer. Data is sent line by line, and trailing spaces are suppressed. During printing, the terminal will not respond to any keyboard entry except pressing the ESCAPE key. In addition, a seven byte printer status message is sent to the host computer at the end of the print operation.

**Print Page
Unformatted**

Prints all characters (including nulls with no carriage returns or line feeds) from home position up to and including the cursor position.

Print Line

Prints a line of unprotected characters from the first column up to and including the cursor position.

Screen Attributes

The combination sequence of ESC, Location Code, and Attribute select code causes subsequent characters to have the desired attributes. Refer to Table 7-2 for the attribute location codes and Table 7-3 for the attribute select codes.

Table 7-2. Attribute Location Codes

LOCATION CODE	DESCRIPTION
g (character)	Turns on the attribute for all characters from the cursor position up to the position the attribute is turned off. No display positions are used to store the attribute.
f	Clears the character (g) attribute.
G (line)	Turns on the attribute for all characters from the cursor position to the end of the line. A blank protected character is stored where the attribute is invoked and where it is reset or altered using G.
H (page)	Turns on the attribute for the entire screen.

Table 7-3. Attributes Codes

ATTRIBUTE CODES	EQUIVALENT VISUAL
0	No attributes (normal display)
1	Underlined
2	Blinking
3	Underlined, blinking
4	Reverse video*
5	Reverse video, underlined
6	Blinking, reverse video
7	Reverse video, blinking, underlined
8	Reduced intensity
9	Underlined, reduced intensity
A	Blinking, reduced intensity
B	Underlined, blinking, reduced intensity
C	Reverse video, reduced intensity
D	Reverse video, underlined, reduced intensity
E	Blinking, reverse video, reduced intensity
F	Reverse video, blinking, underlined, reduced intensity

*An alternate method to initiate reverse video for the entire screen is achieved by pressing **FUNC** and **J** or **FUNC** and **j**.

Character Size Attributes

Using certain code sequences enables the user to alter character size.

Double Wide Line (half)

The characters on the line the cursor is on expand to double their width (desired text can be no more than half way across the screen). The height of the characters remains single high. Refer to Table 7-4 for character size attribute codes.

Double High Line (both halves)

The characters on the line the cursor is on expand to double their height by using the ESC m sequence. The width of the characters remains single wide. Refer to Table 7-4 for character attribute size codes.

Double High Line (half)

To display complete double high characters (top and bottom halves) text must be duplicated on two consecutive lines. If the ESC F 5 sequence is used, the top half of the double high, single width characters is displayed. The width of the characters remains single wide. If the ESC F D sequence is used, the bottom half of the double high, single width characters is displayed. The width of the characters remains single wide. Refer to Table 7-4 for a summary of character size attribute codes.

Double High Double Wide Line (half)

To display complete double high characters (top and bottom halves) text must be duplicated on two consecutive lines. If the code sequence ESC F 7 is used, the character is expanded displaying the top half as double high and double wide. If an ESC F F is used, the character is expanded displaying the bottom half as double high and double wide. Refer to Table 7-4 for a summary of character size attribute codes.

Double High Double Wide Line (both halves)

Characters may be expanded to double high and double wide without sending characters to both lines (see double high double wide halves). Enter desired text no more than half way across the screen. Place cursor to the right of the data. Initiate the double wide feature (ESC F 3) first. Then initiate double high (ESC m). Text now appears as double high and double wide. Refer to Table 7-4 for a summary of character size attribute codes.

Clear Size Attributes

Restores to normal size one line at a time. This code sequence must be repeated twice for double high lines. Refer to Table 7-4 for a summary of character size attribute codes.

Table 7-4. Character Size Attribute Codes

ATTRIBUTE CODES	EQUIVALENT VISUAL
7	Double high, double wide top half
F	Double high, double wide bottom half
3	Double wide, single high
5	Double high, top half
D	Double high, bottom half
1	Clear size

Control Codes

The following control codes add to the flexibility of the terminal.

Null

No operation occurs. No data is displayed. This character is used to pad for timing delays.

ESC Sequence Introducer

This code sequence functions identically to pressing the ESCAPE key from the keyboard.

Beep

An audible tone is produced for approximately one second.

Enable/Disable Functions

Various functions are enabled or disabled by using the appropriate Escape sequence in conjunction with the **FUNC** key followed by an alphanumeric key.

Enable Functions

The following functions are enabled by an ESC \$ sequence and the appropriate alphanumeric character:

back tab cursor	insert line
clear all tabs	delete character
set tab	insert character
clear tab	send line
erase page	print page
clear line	print line
delete line	

Disable Functions

All functions described under Enable Functions are disabled by an ESC % sequence.

Resetting the Terminal

Certain key sequences reset the terminal characteristics to the default values set during manufacturing.

Reset

Pressing the **CONTROL**, **FUNC**, and **ESCAPE** keys simultaneously from the keyboard, resets the terminal to the default values. An **ESCAPE** sequence is used from the host computer. All data on the screen is lost, terminal memory remains intact.

Master Reset

Pressing the **CONTROL**, **SHIFT**, **FUNC**, and **CLEAR** keys simultaneously from the keyboard resets the terminal and all terminal memory to all default values. All data on the screen and in the data buffer area is lost. This sequence can only be performed from the keyboard.

Table 7-5. EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST
SCROLLING			
Smooth Scroll Enable	ESC 8	2	ESC 8
Smooth Scroll Disable	ESC 9	2	ESC 9
PROTECTED FIELDS			
Start Background	ESC)	2	ESC)
Start Foreground	ESC (	2	ESC (
Start Protect Mode	ESC &	2	ESC &
End Protect Mode	ESC '	2	ESC '
CURSOR MOVEMENT			
Backspace (cursor left)	SHIFT or CTRL H or ESC [D	2	ESC [D
Line Feed (cursor down)	SHIFT or CTRL J or ESC [B	2	ESC [B
Vertical Tab (cursor up)	SHIFT or CTRL K or ESC [A	2	ESC [A
Cursor Forward (cursor right)	SHIFT or CTRL L or ESC [C	2	ESC [C
Carriage Return (cursor return)	RETURN or CTRL M	2	
Cursor Home	CTRL ^ or ESC [H	2	
New Line (carriage return line feed)	CTRL -	2	
CURSOR RELATED FUNCTIONS			
Set Cursor Position			ESC = Y axis.* ESC = X axis.*
Read Cursor Position			ESC ?
Read Cursor Content			ESC ^
Back Tab Cursor	ESC I or SHIFT TAB ^D	2	ESC I
TAB CONTROL			
Horizontal Tab	TAB or CTRL I or ESC i	2	ESC i
Clear All Tabs	ESC 0 or FUNC E ^D	2	ESC 0
Set Tab (at cursor position for entire page) ^{np}	ESC 1 or FUNC Q ^D	2	ESC 1
Clear Tab (at cursor position for entire page) ^{np}	ESC 2 or FUNC W ^D	2	ESC 2
Set Tab (for entire page every eighth column) ^{np}	ESC 3	2	

Note: 1 Active in both CONV and BLOCK Mode.
2 Active in BLOCK Mode only.

np = Non-Protect mode only.
p = Protect or non-protect.
* = Data entered by magnitude of ASCII CHAR.
See Table 3-4
D = These special functions must be enabled.

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST
KEYBOARD RELATED FUNCTIONS Enable Keyboard Disable Keyboard Freeze Mode (repeat to disengage)	ESC # FUNC F	1	ESC '' ESC #
SPECIAL FUNCTIONS Brite or Dim Set Brightness Level Business Graphics Enable Business Graphics Disable Send Terminal I.D. Split Screen Enable Split Screen Disable	FUNC Brite or FUNC Dim ESC e (ASCII CHAR)* ESC < ESC > ESC s Top(1-24)*Bottom(1-24)* ESC s CTRL CTL 1 CTL1	1 2 2 2 2 2	ESC < ESC > ESC d ESC s Top(1-24)*Bottom(1-24)* ESC s CTRL CTL1 CTL1
EDIT FUNCTIONS Clear Foreground ^{np} Clear Foreground ^{np} Clear Screen ^p Erase Page (from cursor on) ^{np} Erase Page (from cursor on) ^{np} Clear Line (from cursor on) ^{np} Clear Line (from cursor on) ^{np} Delete Line ^{np} Delete Line ^{np} Insert Line ^{np} Insert Line ^{np} Delete Char (^{np} field only) Delete Char (^{np} field only) Insert Char (^{np} field only) Insert Char (^{np} field only)	FUNC CLEAR ESC + or ESC ; ESC * or ESC : ESC Y or ESC y FUNC ; ^D FUNC L ^D ESC t or ESC T FUNC V ^D ESC R FUNC C ^D ; ESC E FUNC X ^D ESC W FUNC Z ^D ESC Q	1 2 2 2 1 1 2 1 2 1 2 1 2 1 2	ESC + or ESC ; ESC * or ESC : ESC Y or ESC y ESC t or ESC T ESC R ESC E ESC W ESC Q

Note: 1 Active in both CONV and BLOCK Mode.
2 Active in BLOCK Mode only.

np = Non-Protect mode only.
p = Protect or non-protect.
* = Data entered by magnitude of ASCII CHAR.
See Table 3-4
D = These special functions must be enabled.

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST
PRINT FUNCTIONS			
Print Page (from Home to Cursor)	ESC P	2	ESC P
Print Page (from Home thru Cursor)	FUNC/D	1	
Print Page (from Home thru Cursor)	ESC @	2	ESC @
Print Page (Unformatted)	ESC _____	2	ESC _____
Print Line (from 1st. column thru Cursor)	FUNC . ^D	1	
Print Line (from 1st. column thru Cursor)	ESC a	2	ESC a

Note: 1 Active in both CONV and BLOCK Mode.
2 Active in BLOCK Mode only.

np = Non-Protect mode only.
p = Protect or non-protect
* = Data entered by magnitude of ASCII CHAR.
See Table 3-4
D = These special functions must be enabled.

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST
SCREEN ATTRIBUTES Enter Display Attributes Location Codes: All CHAR following cursor Clears above condition (g) from cursor to end of line Self attribute for entire screen ATTRIBUTE SELECT CODES: No attributes (normal display) Underline Blinking Underline, Blinking Reverse Video Reverse Video, entire screen Underline, Reverse Video Blinking, Reverse Video Underline, Blinking, Reverse Video Reduced Intensity Underlined, Reduced Intensity Blinking, Reduced Intensity Underlined, Blinking, Reduced Intensity Reverse Video, Reduced Intensity Underlined, Reverse Video, Reduced Intensity Blinking, Reverse Video, Reduced Intensity Underline, Blinking, Reverse Video, Reduced Intensity	ESC (Location Code) (Attribute Select Code) g f G H 0 1 2 3 4 FUNC + J or FUNC + j 5 6 7 8 9 A B C D E F	2	ESC (Location Code) (Attribute Select Code) g f G H 0 1 2 3 4 5 6 7 8 9 A B C D E F

Note: 1 Active in Both CONV and BLOCK Mode.
 2 Active in Block Mode only.

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST
CHARACTER SIZE ATTRIBUTES			
Double Wide Line (half)	ESC F 3	2	ESC F 3
Double High Line (both halves)	ESC m	2	ESC m
Double High Line (top half)	ESC F 5	2	ESC F 5
Double High Line (bottom half)	ESC F D	2	ESC F D
Double High, Double Wide Line (top half)	ESC F 7		ESC F 7
Double High, Double Wide Line (bottom half)	ESC F F		ESC F F
Clear Size Attributes (one line)	ESC F 1		ESC F 1
CONTROL CODES			
Null (no-op)	CTRL @	2	'NUL'
ESC Sequence Introducer	CTRL [	2	'ES'
Beep (Bell)	CTRL G	2	'BEL'
ENABLE/DISABLE			
SPECIAL FUNCTIONS			
Enable Special Functions	ESC\$	2	ESC\$
Disable Special Functions	ESC%	2	ESC%
RESETTING TERMINAL			
Reset Terminal	CTRL FUNC CLEAR or ESC Z	1	ESC Z
Master Reset	CTRL SHIFT FUNC CLEAR	1	

Note: 1 Active in both CONV and BLOCK Mode.
 2 Active in BLOCK Mode only.

Section 8 — Routine Care and Troubleshooting

Overview

The Ergonomic Video Display Terminal maintenance is comparable to that of a conventional electric typewriter. This section explains how to care for the terminal, and also describes how to troubleshoot simple situations that may occur.

Care of the EVDT

To care for the EVDT, you need to pay attention to two areas:

- free air circulation
- keeping the screen and keyboard clean.

Free air circulation is necessary to allow generated heat to escape and cool air to enter the terminal enclosure. To allow good circulation, follow these simple precautions:

- do not place anything on the top of the EVDT.
- do not stack books, papers, etc. near the front and rear grills of the terminal.

Wipe or brush off dust, lint, and smudges whenever they become noticeable. Pay particular attention to the screen, where any residual dirt film may later block the character display. Be careful not to wipe or brush dust into the keyboard through the spaces between and around the keys.

For wiping, use a soft, clean cloth or commercial lint-free tissue. For stubborn accumulations, dampen the cloth or tissue slightly, but only with plain water or a cleaning fluid safe for use on plastic or painted surfaces, such as a commercial antistatic cleaning fluid or 70% isopropyl alcohol (rubbing alcohol). The cloth or tissue should not be wet, just damp, so that it picks up dust or dirt readily.

Simple Troubleshooting

Table 6-1 presents some common situations that may occur while you are using the EVDT, the possible causes, and any corrective action you may need to take. The corrective action does not involve any adjustments to the interior of the terminal or keyboard, but points out a simple solution that may have been overlooked.

Table 8-1. Troubleshooting Simple Situations

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Terminal does not come on - no beep is heard	No AC power	Check that power cord is plugged in at the terminal and at outlet
Screen is dark - no cursor or Status Line	Brightness turned down to limit Cursor blanked and/or Status Line disabled	Increase brightness - FUNC + BRITE Change through SetUp Menu - Section 4
Characters entered from keyboard not displayed	Keyboard connector not plugged into display unit Foreign objects under keycaps Terminal not in Block Mode	Plug keyboard connector into front of display unit Check for and remove any objects Place terminal in Block Mode - FUNC + A
Incorrect characters displayed	Baud rate incorrect	Reset baud rate through SetUp Menu - Section 4
Printer does not receive data correctly	Incorrect baud rate Extension Port on EVDT to printer cable not connected	Reset baud rate through SetUp Menu - Section 4 Set Extension Port to 0 on SetUp Menu Connect cable

Appendix A — Business Graphics Characters

HEX CODE	GRAPHIC CHARACTER	ASCII CHARACTER	HEX CODE	GRAPHIC CHARACTER	ASCII CHARACTER	HEX CODE	GRAPHIC CHARACTER	ASCII CHARACTER	HEX CODE	GRAPHIC CHARACTER	ASCII CHARACTER
00		NUL	10		DLE	60		'	70		p
01		SOH	11		DC1	61		a	71		q
02		STX	12		DC2	62		b	72		r
03		ETX	13		DC3	63		c	73		s
04		EOT	14		DC4	64		d	74		t
05		ENQ	14		NAK	65		e	75		u
06		ACK	16		SYN	66		f	76		v
07		BEL	17		ETB	67		g	77		w
08		BS	18		CAN	68		h	78		x
09		HT	19		EM	69		i	79		y
0A		LF	1A		SUB	6A		j	7A		z
0B		VT	1B		ESC	6B		k	7B		{
0C		FF	1C		FS	6C		l	7C		|
0D		CR	1D		GS	6D		m	7D		}
0E		SO	1E		RS	6E		n	7E		~
0F		SI	1F		US	6F		o	7F	SPACE	DEL

Appendix B — EVDT Quick Reference Guide

The following chart is a summary of all coding information contained within the manual. It does not correspond with the Chart 7-5.

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST	7270	13XX	810
SMOOTH SCROLL ENABLE	ESC 8	2	ESC 8	NO		
SMOOTH SCROLL DISABLE	ESC 9	2	ESC 9	NO		
SET WRITE PROTECT MODE	ESC)	2	ESC)	YES	'SB'	'SB'
RESET WRITE PROTECT MODE	ESC (	2	ESC (	YES	'SF'	'SF'
SET PROTECT MODE	ESC &	2	ESC &	YES	'PS'	'PS'
RESET PROTECT MODE	ESC '	2	ESC '	YES	'PE'	'PE'
NULL (No-Op)	CTRL @	2	'NUL'	YES		
ESC SEQUENCE INTRODUCER	CTRL [	2		YES	'ES'	'ES'
BEEP (Bell)	CTRL G	2		YES	'RB'	'RB'
BACKSPACE (cursor left)	SHIFT or CTRL H or ESC [D	2	ESC [D	CTRL H	'BS'	'BS'
LINE FEED (cursor down)	SHIFT or CTRL J or ESC [B	2	ESC [B	CTRL J	'LF'	'LF'
VERTICAL TAB (cursor up)	SHIFT or CTRL K or ESC [A	2	ESC [A	CTRL K	'VT'	'VT'
CURSOR FORWARD (cursor right)	SHIFT or CTRL L or ESC [C	2	ESC [C	CTRL L	'FF'	'FF'
CARRIAGE RETURN (cursor return)	RETURN or CTRL M	2		CTRL M		
CURSOR HOME	CTRL A or ESC [H	2		NO	'CH'	'CH'
NEW LINE (carriage return line feed)	CTRL -	2		NO	'CR'	'CR'
SET CURSOR POSITION			ESC = Y axis.* ESC = X axis.*	YES YES	@(X Y)	@(X Y)
READ CURSOR POSITION			ESC ?	YES	'RC'	'TP'
READ CURSOR CONTENT			ESC	NO		
HORIZONTAL TAB	TAB or CTRL I or ESC i	2	ESC i	CTRL I		
BACK TAB CURSOR	ESC I or SHIFT TAB ^D	2	ESC I	ESC I		
CLEAR ALL TABS	ESC 0 or FUNC E ^D	2	ESC 0	NO		
SET TAB (at cursor position for entire page) ^{np}	ESC 1 or FUNC Q ^D	2	ESC 1	NO		
CLEAR TAB (at cursor position for entire page) ^{np}	ESC 2 or FUNC W ^D	2	ESC 2	NO		
SET TAB (for entire page every eighth column) ^{np}	ESC 3	2		NO		
FREEZE MODE (repeat to disengage)	FUNC F	1		NO		
BRITE OR DIM	FUNC Brite or FUNC Dim	1		NO		
SET BRIGHTNESS LEVEL	ESC e (ASCII CHAR)*	2		NO		
BUSINESS GRAPHICS ENABLE	ESC <	2	ESC <	NO		
BUSINESS GRAPHICS DISABLE	ESC >	2	ESC >	NO		
SPLIT SCREEN	ESC s Top(1-24)*Bottom(1-24)*	2		NO		
SPLIT SCREEN DISABLE	ESC s CTRL CTL1 CTL1	2	ESC s CTRL CTL 1 CTL 1	NO		

Note: 1 Active in both CONV and BLOCK Mode.
2 Active in BLOCK Mode only.

np = Non-Protect mode only.
p = Protect or non-protect.
* = Data entered by magnitude of ASCII CHAR.
See Table 3.3
D = These functions must be enabled.
(3.2.12.12-Enable Special Function Keys)

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST	7270	13XX	810
CLEAR TO SPACES ^{np}	FUNC CLEAR	1		CLR KEY		
CLEAR TO SPACES ^{np}	ESC + or ESC ;	2	ESC + or ESC ;	YES	'CF'	'CF'
CLEAR ALL TO SPACES ^p	ESC * or ESC :	2	ESC * or ESC :	YES	'CS'	'CS'
ERASE PAGE (from cursor on) ^p	ESC Y	2	ESC Y	YES	'CE'	'CE'
CLEAR PAGE (from cursor on) ^{np}	FUNC ; ^D	1		NO		
CLEAR PAGE (from cursor on) ^{np}	ESC y	2	ESC y	NO	'CE'	'CE'
ERASE LINE (from cursor on) ^{np}	ESC T	2	ESC T	YES	'CL'	'CL'
CLEAR LINE (from cursor on) ^{np}	FUNC LD	1	NO			
CLEAR LINE (from cursor on) ^{np}	ESC t	2	ESC t	NO		
DELETE LINE ^{np}	FUNC VD	1		NO		
DELETE LINE ^{np}	ESC R	2	ESC R	YES	'LD'	'LD'
INSERT LINE ^{np}	FUNC CD	1		NO		
INSERT LINE ^{np}	ESC E	2	ESC E	YES	'LI'	'LI'
DELETE CHAR (^{np} field only)	FUNC XD	1		NO		
DELETE CHAR (^{np} field only)	ESC W	2	ESC W	YES	'DC'	'DC'
INSERT CHAR (^{np} field only)	FUNC Z ^D	1		NO		
INSERT CHAR (^{np} field only)	ESC Q	2	ESC Q	YES	'IC'	'IC'
SEND PAGE (from home position)	FUNC MD	1		NO		
SEND LINE (from 1st. column thru cursor)	FUNC ND	1		NO		
SEND LINE (from 1st. column thru cursor)	ESC F	2	ESC F	NO		
SEND PAGE (from home position thru cursor) ^{np}	ESC 5	2	ESC 5	YES	'TR'	
SEND PAGE (from home position thru cursor) ^p	ESC 7	2	ESC 7	YES		
SEND LINE (from 1st. column thru cursor) ^{np}	ESC 4	2	ESC 4	YES		
SEND LINE (from 1st. column thru cursor) ^p	ESC 6	2	ESC 6	YES		
PARTIAL SEND ^p (from line below 'FS' to Next 'FS')	ESC S	2	ESC S	YES		
PRINT KEY (All Data)	PRINT KEY	1		YES		
PRINT PAGE (from Home to Cursor)	ESC P	2	ESC P	YES		
PRINT PAGE (from Home thru Cursor)	FUNC / ^D	1		NO		
PRINT PAGE (from Home thru Cursor)	ESC @	2	ESC @	NO		
PRINT PAGE (Unformatted)	ESC -	2	ESC -	NO		
PRINT LINE (from 1st. column thru Cursor)	FUNC . ^D	1		NO		
PRINT LINE (from 1st. column thru Cursor)	ESC a	2	ESC a	NO		

Note: 1 Active in both CONV and BLOCK Mode.
2 Active in BLOCK Mode only.

np = Non-protect mode only.
p = Protect or non-protect.
* = Data entered by magnitude of ASCII CHAR.
See Table 3.3
D = These functions must be enabled.

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST	7270	13XX	810								
ENTER PRINT BYPASS MODE	ESC A	2	ESC A	YES										
EXIT PRINT BYPASS MODE	ESC B	2	ESC B	YES										
RESET TERMINAL	CTRL FUNC CLEAR on ESC Z	1	ESC Z	NO										
MASTER RESET	CTRL SHIFT FUNC CLEAR	1		NO										
ENTER MODE ENABLE	ESC V	2	ESC V	NO										
ENTER MODE DISABLE	ESC v	2	ESC v	NO										
INSERT MODE ENABLE	ESC q	2	ESC q	NO										
INSERT MODE DISABLE	ESC r	2	ESC r	NO										
ENABLE SPECIAL FUNCTION KEYS	ESC \$	2	ESC \$	NO										
DISABLE SPECIAL FUNCTION KEYS	ESC %	2	ESC %	NO										
SEND TERMINAL I.D. (8 char & carriage return) Char. Sequence: 1 VDT Type 2,3 Firmware Rev. Level 4 Language in Use	<p align="center">Typical Output: F 13</p> <table border="0"> <tr> <td>0 Standard</td> <td>1 French</td> </tr> <tr> <td>2 Italian</td> <td>2 Swedish</td> </tr> <tr> <td>4 Spanish</td> <td>5 Norwegian</td> </tr> <tr> <td>6 German</td> <td>7 Danish</td> </tr> </table> <p>spaces 'CR'</p>	0 Standard	1 French	2 Italian	2 Swedish	4 Spanish	5 Norwegian	6 German	7 Danish		ESC d	NO		
0 Standard	1 French													
2 Italian	2 Swedish													
4 Spanish	5 Norwegian													
6 German	7 Danish													
5-8 Reserved 9 Carriage Return														
WRITE TITLE (10 char incl. spaces)	ESC] ten CHAR	2	ESC] ten CHAR	NO										
READ TITLE	ESC n	2	ESC n	NO										
PROGRAMMING FUNCTION KEYS	CURSOR 1st. Column Any Blank Line	2	CURSOR 1st. Column Any Blank Line	NO										
ENTER FUNCTION KEY	(01-28) 2 Digit	2	(01-28) 2 Digit											
ENTER CHAR STRING	(77 CHAR. MAX)	2	(77 CHAR MAX)											
STORE PROGRAM	FUNC SETF	1												
STORE PROGRAM	ESC k		ESC k											
LINK FUNCTIONS TOGETHER	ENTER FIRST FUNC-ESC ESC\ ENTER 2ND. FUNCTION	2	ENTER FIRST FUNC ESC ESC/ENTER 2ND FUNCTION											
EXAMINE FUNCTION KEYS	FUNC EXAMINE F	1												
EXAMINE FUNCTION KEYS (Function can be edited in this mode)	ESC j	2	ESC j											
ERASE FUNCTIONS	(FUNC #) FUNC SET F	1												
ERASE FUNCTIONS	(FUNC #) ESC k		(FUNC #) ESC k											
INVOKING FUNCTION KEYS	F1-F14 (Shift F15-F28)	1												
INVOKING FUNCTION KEYS	ESC \ (Func #)	2	ESC \ (Func #)											
DISABLE KEYBOARD	ESC #		ESC #	YES		'KL'								
ENABLE KEYBOARD			ESC "	YES		'KU'								
SHIFT LOCK	SHIFT CAPS LOCK			NO										
CAPS LOCK	CAPS LOCK			MODE										
PAD LOCK	FUNC PAD			NO										

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST	7270	13XX	810
ENTER DISPLAY ATTRIBUTED	ESC (Location Code) (Attribute Select Code)	2	ESC (Loc. Code) (Attri. Select Code)	NO		
LOCATION CODES:						
All CHAR following cursor clears above condition (g)	g		g			
from cursor to end of line	f		f			
Self attribute for entire screen	G		G			
ATTRIBUTE SELECT CODES:						
No Attributes (normal display)	H		H			
Underline	0		0			
Blinking	1		1			
Underline, Blinking	2		2			
Reverse Video	3		3			
Reverse Video (Entire Screen)	4		4			
Underline, Reverse Video	FUNC J or j					
Blinking, Reverse Video	5		5			
Underline, Blinking, Reverse Video	6		6			
Reduced Intensity	7		7			
Underline, Reduced Intensity	8		8			
Blinking, Reduced Intensity	9		9			
Underline, Blinking, Reduced Intensity	A		A			
Reverse Video, Reduced Intensity	B		B			
Underline, Reverse Video, Reduced Intensity	C		C			
Blinking, Reverse Video Reduced Intensity	D		D			
Underline, Blinking, Reverse Video, Reduced Intensity	E		E			
DOUBLE-HIGH, DOUBLE-WIDE, LINE (Top Half)	F		F			
DOUBLE-HIGH, DOUBLE-WIDE, LINE (Bottom Half)	ESC F 7	2	ESC F 7			
DOUBLE-WIDE LINE	ESC F F		ESC F F			
DOUBLE-HIGH LINE (Top Half)	ESC F 3	2	ESC F 3			
DOUBLE-HIGH LINE (Bottom Half)	ESC F 5	2	ESC F 5			
DOUBLE-HIGH LINE (Both Halves)	ESC F D	2	ESC F D			
CLEAR SIZE ATTRIBUTES	ESC m	2	ESC m			
	ESC F 1	2	ESC F 1			

EVDT Quick Reference Guide

DESCRIPTION OF FUNCTION	HOW INVOKED FROM EVDT	NOTE	HOW INVOKED FROM HOST	7270	13XX	810
CLOCK CONTROL	ESC n (Select Operation)	2	ESC n	NO		
TIME INDICATOR ON	0		0			
TIME INDICATOR OFF	1		1			
INCREMENT HOUR	2		2			
INCREMENT MINUTE	3		3			
REAL TIME INDICATOR	4		4			
See WRITE HOUR	5		5			
Table WRITE MINUTE	6		6			
3.6.7 WRITE SECOND	7		7			
ENTER SET-UP MODE	FUNC 0 (on pad only) or ESC x	1	ESC x	NO		
for full page set-up	Above sequence 0	1	(") 0			
ROW SELECT	SPACE BAR	1	'SP' (SPACE)			
COLUMN SELECT	RETURN KEY	1	'CR'			
EXIT SET-UP MODE	ESC	1	ESC	NO		

- Block Mode
 - Description, 5-1
 - Editing Keys, 5-2
 - Entering, 5-1
 - Exiting, 5-1
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