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ELT320

Flat Panel Terminal

INSTALLATION AND USER'S GUIDE

Printed in U.S.A.

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Chapter 1

A LOOK AT THE TERMINAL

This chapter introduces you to the ELT320 Flat Panel Video Display Terminal and includes a short description to some general features and operating modes.

The ELT320 is an alphanumeric video terminal which is functionally compatible with the DEC VT320 terminal and also includes numerous additional advanced features. This terminal can operate on–line to a host system or the host can be put on hold sending your input into page memory of the terminal. The terminal stores data received from the host, until you put it back on–line. As is the case with any other emulator, the ELT320 has some minor variances. If you would like more information, call Planar Applications Engineering and ask for the ELT320 Compatibility Applications note.

The features listed below will be described in detail in the following chapters.

GENERAL FEATURES

The ELT320 is compatible with Digital's VT320 terminal and also offers additional new features.

SET-UP	You can select operating features from the keyboard using set–up screens for various functions, like display, printer, tabs and communications.
Electroluminescent flat panel	The screen will display 25 lines X 80 columns with yellow characters on a jet black background or black characters on a yellow background.
Page Memory	You can store up to 19,008 characters in 1 to 6 pages of internal memory.
Status Line	This line of text at the bottom of the screen displays the operating status of the ELT320.

Local Editing	The ELT320 stores your typed characters before sending them to the host system. Your application must support this feature.
Selective Erase Capability	You can erase part or all of a line of text with this feature.
5 Character Sets	Each character set contains 94 characters including DEC Technical and ISO Latin characters.
High Speed Communications	The ELT320 can communicate with its Host at up to 38.4 Kbits per second. The transmit and receive rates are independently programmable.
Mounting Options	Several different mountings are available for the ELT320.
Keyboard	LK-401 compatible keyboard. See Chapter 6.

Note:
For complete technical details see Technical Specifications in Chapter 7 in this users guide.

Chapter 2

INSTALLATION

Unpacking

Remove the terminal carefully from the container. Save all packing material in case the terminal must be shipped again. After unpacking, check whether the terminal is damaged. Immediately notify the shipping company if damage has occurred.

Operating Environment

The ELT320 can be operated in the usual office environment and does not require special air-conditioning.

Mounting Options

The ELT320 is available with several options for supporting the terminal. The Desk Stand has a small 7" x 9" (18 cm x 23cm) foot print. The Moveable Arm suspends the terminal above other items you may have on your work surface. The unique wall mount provides a convenient way to locate full terminal functionality right at the point of data collection. Extending less than 5 inches from the wall, the ELT320 is housed out of the way and is immediately accessible when needed.

Detailed instructions for adapting the terminal to your work space are included with the mounting option.

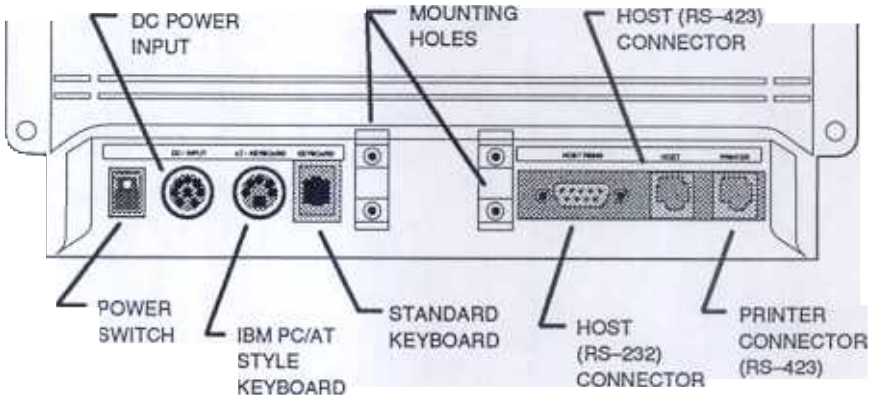


Figure 2–1 The ELT320 rear panel connectors and controls

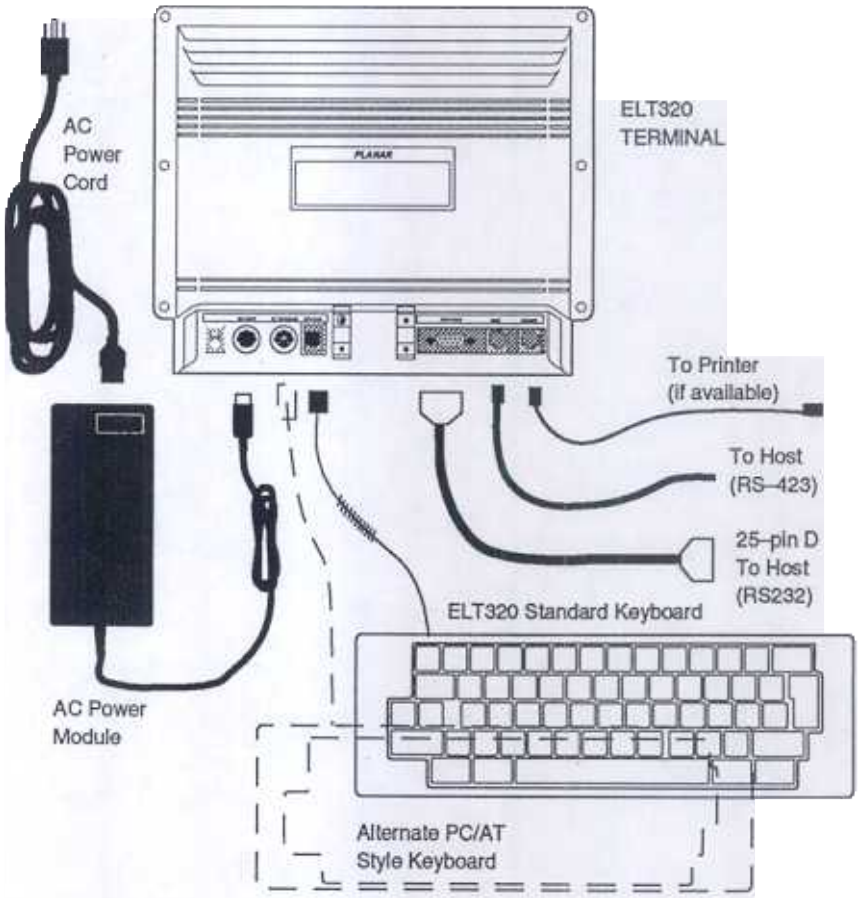


Figure 2–2 The ELT320 system layout

CAUTION: Turn the power switch off before connecting or removing the cables.

Installation of the ELT320 terminal

Place the terminal unit at the work station.

2. Check to see if the terminal is switched off (press the BOTTOM of the power switch, found on the rear of the terminal.)

3. Connect the power module to the terminal power connector.

4. Next connect the power cord to its receptacle on the end of the power module and plug it into a grounded electrical outlet.

5. Connect the keyboard cable to its receptacle on the back of the terminal unit.

6. Connect the host computer communication cable to the appropriate HOST port. Check the proper connector pin assignment. See Chapter 7 the Technical Specifications for host connector details.

7. Connect a printer communication cable, if required, to the PRINTER port.

   Note: This cable is not supplied with the ELT320 terminal.

8. Turn the terminal power switch on (press the top of the power switch.)

9. Make sure that the yellow power indicator is on.

10. Listen for a bell tone from the keyboard.

11. After the power-on self test, the "ELT320 OK" message appears on the screen. Press F3 to see the Set-Up Menu or any other key to clear the screen and obtain a cursor.

12. If you have problems, see "Problem Solving" at the end of this chapter.

Connection to Host Computer

The ELT320 can be connected to the host computer through the HOST connector.
The HOST 9 pin D type connector is an RS-232-C interface.
The HOST 6 pin DEC type connector is an RS-423 interface.
The RS-232-C connection can be made directly to the host or through a MODEM or terminal server to host.
Communication parameters can be selected in Set-Up. (See Chapter 4 in this Manual.)

Getting Started

When you install your ELT320 all operating features are set to their factory-default settings. This setting works with most computer systems. If you have to set some features to match your host system, see Chapter 4 –Set-up.

To connect the terminal to your host system you must have the following properly set:

- The host port selected for use.
- The keyboard language.
- The baud rate and character format.
- The emulation type.

Brightness Control
The brightness control is a thumbwheel located at the bottom edge of the face of the terminal. The control adjusts the display's brightness level from full bright to half bright. This range allows the user to change the brightness to compensate for environmental light levels. Clockwise rotation increases the display brightness. When the brightness is reduced, contrast is diminished.

Note: Some units do not have brightness controls.

Power On Indicator
When the ELT320 Power Switch has been pressed to the On position, a yellow LED indicates the 12V power supply is on.

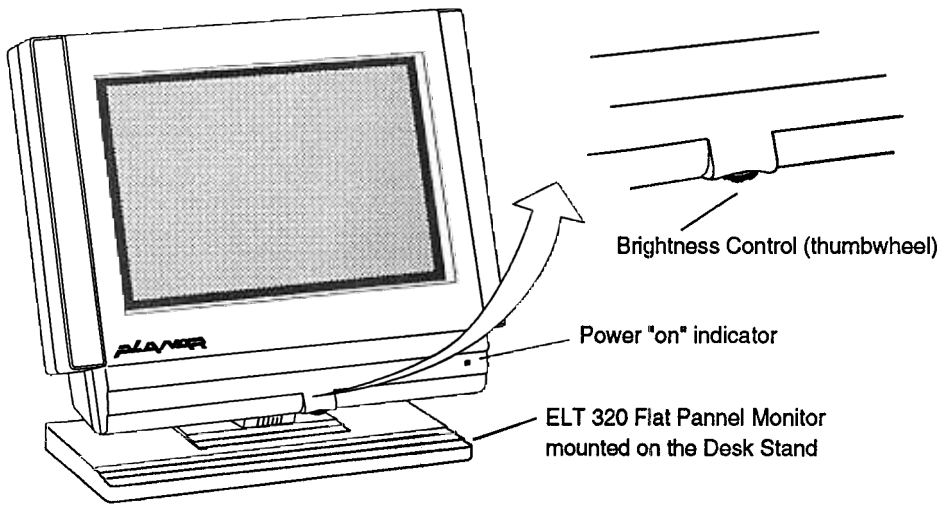


Figure 2–3 The ELT320 and the Brightness control

Maintenance

Cleaning

Before cleaning, turn off the terminal and disconnect the power. The terminal unit and the keyboard can be cleaned with a soft cloth and a mild cleaner. To clean the screen use a clean, soft cloth and a high quality glass cleaner.

Problem Solving

This section summarizes the basic faults which can be repaired without special knowledge. If you are unable to repair your terminal using this short list, please consult the factory.

Table 2–1 Problem solving

Fault	Possible cause	Repair instruction
No Display	The screen saver turned off the screen display	Press any key.
	Power failure	Check mains power
	Power disconnected	Check the power cord connections.
The bell tone does not sound	The keyboard cable is not connected.	Connect it
Any error message appears instead of "ELT320 OK."		Contact your Service Office
No communication with host	Communication setup incorrectlly installed.	Check communications setup. See Chapter 4.
	Terminal is in local mode	Check general setup. See Chapter 4.
	Host cable disconnected.	Check host cable connections at terminal and host system.
	Host cable wired incorrectly	Check cable/connector pin out. See Chapter 7.
No communication with printer	Printer setup does not match your printer.	Check printer setup. See Chapter 4.

Chapter 3

THE KEYBOARD, CONTROLS AND INDICATORS

Keyboard Layout

The ELT320 uses 16 different keyboards for 16 different languages. The only difference between these keyboards are the legends on the keys. You must set the keyboard Dialect feature in the Keyboard Set-Up screen to match your keyboard.

The keyboards have four groups of keys, two visual indicators and one audible indicator.

The key groups:

- Main keypad
- Editing keypad
- Numeric keypad
- Top-row function keys

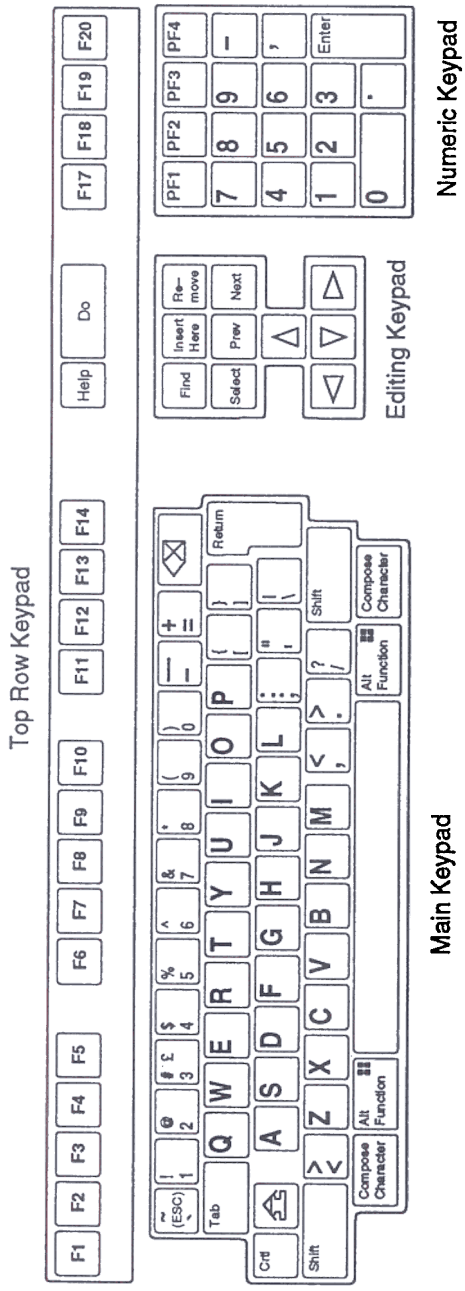


Figure 3–1 The ELT320 Keyboard layout

Main Keypad

The main keypad, similar to a typewriter, includes standard alphanumeric characters and punctuation marks. Pressing these keys sends the characters to the host or displays them on the screen. The main keypad also has the following special function keys:

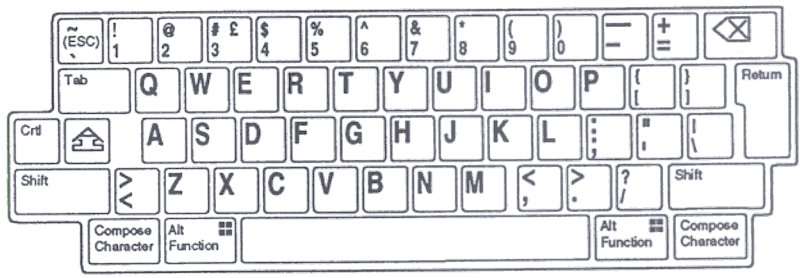


Figure 3–2 The Main keypad

Table 3–1 The Main keypad key function

Key	Function
Tab	Pressing **Tab** sends a horizontal tab, which normally moves the cursor to the next tab stop. Holding down **Ctrl** and pressing another key sends a control code to the host. Pressing **Lock** down makes the alphabetic keys send their uppercase characters. If you set the lock key feature in the keyboard Set-Up screen to "Shift Lock", the lock key makes all keys send the top character on the key. The **Shift** key has three functions. • Holding down shift and pressing an alphanumeric key sends the uppercase (or top) character on the key. • With some special function keys –**Shift** starts a predefined control function. • With a User-Defined Key **Shift** sends a UDK function.

Table 3–1 continued (The Main keypad key function)

Key	Function
Return	Pressing **Return** sends either a carriage return or a carriage return and a linefeed (Selected in the display set-up screen).
⌫	Pressing ⌫ Sends a DEL or a BS character (Selected in the keyboard set-up screen.)
Space Bar	Pressing the **Space Bar** sends a space.
Compose Character	This key lets you display characters that do not appear as standard keys on your keyboard. See Chapter 5.

Editing Keypad

The editing keypad has four arrow keys and six editing keys. You can use the editing keys in several ways.

- For set-up functions (See Chapter 4.)
- For panning across pages (See Appendix D)
- For local editing (See Appendix D)
- For special functions defined by application software.

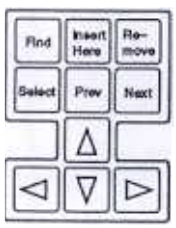


Figure 3–3 The Editing keypad

Table 3–2 Codes generated by Editing keys.

Key	VT 300 mode	VT 100	VT 52 mode
FIND	CSI 1 ~	none	none
INSERT HERE	CSI 2 ~	none	-
REMOVE	CSI 3 ~		
SELECT	CSI 4 ~		
PREV SCREEN	CSI 5 ~		
NEXT SCREEN	CSI 6 ~		

Table 3–3 Codes generated by Arrow keys.

Arrow Keys	ANSI Normal	VT300, VT100 Application	VT 52 Normal	Application
△	CSI A	SS3 A	ESC A	ESC A
▽	CSI B	SS3 B	ESC B	ESC B
▷	CSI C	SS3 C	ESC C	ESC C
◁	CSI D	SS3 D	ESC D	ESC D

Note: CSI can be generated by ESC [
SS3 can be generated by ESC O

Numeric Keypad

You can use the numeric keypad to enter numeric data and to generate hexadecimal compose sequences. The keys often have special functions assigned by application software. In local editing mode some numeric keys have special functions.

Figure 3–4 Numeric keypad

Table 3–4 The Numeric keypad key function

Key	Function
Enter	• **Enter** sends a carriage return, or a carriage return and a line feed. Normally, this key works like the **Return** key. • When you use local editing, you use this key to transmit blocks of data to the host system. (See Chapter 4.) You can use **Enter** to select features in Set-Up screens. Application software may use **Enter** as a special function key.
(Comma)	The comma key will send a comma or the space character (selected in the Keyboard Set-Up screen.)

Table 3–5 The Codes generated by numeric keys

ANSI (VT300/VT100) mode			VT-52 mode	
Key	**Numeric**	**Application mode**	**Numeric**	**Application mode**
0	0	SS3 p	0	ESC ? p
1	1	SS3 q	1	ESC ? q
2	2	SS3 r	2	ESC ? r
3	3	SS3 s	3	ESC ? s
4	4	SS3 t	4	ESC ? t
5	5	SS3 u	5	ESC ? u
6	6	SS3 v	6	ESC ? v
7	7	SS3 w	7	ESC ? w
8	8	SS3 x	8	ESC ? x
9	9	SS3 y	9	ESC ? y
-	-	SS3 m	-	ESC ? m
,	,	SS3 l		ESC ? l
		SS3 n		ESC ? n
Enter	CR or CR LF	SS3 M	CR or CR LF	ESC ? M
PF1	SS3 P	SS3 P	ESC P	ESC P
PF2	SS3 Q	SS3 Q	ESC Q	ESC Q
PF3	SS3 R	SS3 R	ESC R	ESC R
PF4	SS3 S	SS3 S	ESC S	ESC S

Top-Row Function Keys

Most of the top-row keys have functions assigned by application software. Your application software manuals should describe the function of these keys. The first five keys on the left of this row have predefined functions. Applications cannot redefine these keys.

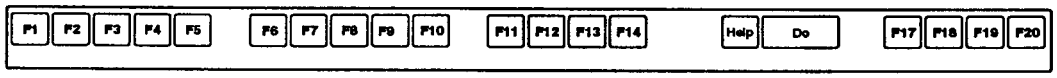


Figure 3–5 Top-row Function Keys

Table 3–6 The Top–row Function Keys

Function	Action
Hold Screen	Pressing **Hold Screen (F1)** freezes incoming data on the screen, so you can read it. When you freeze the screen, the Hold Screen indicator [⊡], on the keyboard lights. Pressing Hold Screen again releases the screen. Note: The key does not work if the Receive XOFF Point is set to "never."
Local Print	Pressing **Local Print (F2)** sends the text from page memory to the printer. Page memory includes the text on the screen. The Page Arrangement feature in the Display Set-Up screen determines the number of lines sent to the printer.
Ctrl-Local Print	Pressing **Ctrl-Local Print (Ctrl-F2)** turns auto print mode on or off. In auto print mode, you can automatically print each line of text as it is received from the host system.
Set-Up	You press **Set-Up (F3)** to enter or leave Set-Up. When you enter Set-Up, the terminal displays the Set-Up Directory screen. You can leave Set-Up from any Set-Up screen.
F4	The **F4** key is disabled.

3–6 continued (The Top–row Function Keys)

Function	Action
Break	**Break (F5)** works alone or with other keys to perform a function that affects communication between the host system and your terminal. Pressing **Break** usually ends communication with the host immediately. You can turn this key on or off with the Break feature in the Keyboard Set-Up screen.
Shift-Break	Pressing **Shift-Break (Shift–F5)** ends communication with a modem.
Ctrl-Break	Pressing **Ctrl-Break (Ctrl–F5)** sends the answerback message to the host. See The Keyboard Set-Up screen in Chapter 4.

3–7 The Codes generated by F6 through F20 keys

Key	VT 300 mode	VT100/VT52 modes
F6	CSI 17 ~	
F7	CSI 18 ~	
F8	CSI 19 ~	
F9	CSI 20 ~	
F10	CSI 21 ~	-
F11	CSI 23 ~	ESC
F12	CSI 24 ~	BS
F13	CSI 25 ~	LF
F14	CSI 26 ~	-
F15 (Help)	CSI 28 ~	-
F16 (Do)	CSI 29 ~	-
F17	CSI 31 ~	-
F18	CSI 32 ~	-
F19	CSI 33 ~	-
F20	CSI 34 ~	-

Note: F1 through F5 are local function keys and do not generate codes.

Typewriter and Data Processing Keys

Most national keyboards have some data processing keys. These keys have three or four characters on their key cap. The characters on the left half of the key are called typewriter characters. The characters on the right are called data processing characters. You can select typewriter or data processing character with the Keyboard Mode feature in the Keyboard Set-Up screen.

Indicator lights

The keyboard has two indicator lights.

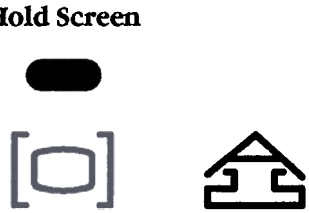


Figure 3–6 Indicator lights

Hold Screen This indicator turns on when you press the **Hold Screen (F1)** key to freeze the screen display.

Lock This indicator turns on to indicate the terminal is sending only upper case characters.

Status Line

The ELT320 uses the 25th line at the bottom of the screen to display status of the terminal. You can select when to display the status line and what type of status line to use.

Indicator: The status line appears at all times, providing information about the terminal.

None: The status line appears when
- you select a set-up screen, or
- the host system selects the status line.

Host-writable: Applications can write messages on the status line.

Table 3–8 The Status Line Fields

Field	Value	Indicates
1	1	1 Page
	2	2 Page
	3	3 Page
	4	4 Page
	5	5 Page
	6	6 Page
2.	(x,y)	Cursor position x = row (1 to 24, 36, 72 or 144) y = column (1 to 80 or 132)
3.	Edit	Local Editing mode. This field is blank unless you are using local editing mode.
4.	Insert	Inserts new characters at the cursor position without replacing characters on screen.
	Overstrike	Each new character replaces the old character at the cursor position.

Table 3–8 continued (The Status Line Fields)

Field	Value	Indicates
5.	Printer: Ready	The printer can receive data for printing.
	Printer: Not Ready	The printer is not ready to receive data for printing (off-line).
	Printer: None	The printer is off or not connected to the ELT320 terminal.
	Printer: Auto print	The ELT320 is in auto print mode. The terminal sends the current display line to the printer when the cursor moves to the next line.
	Printer: Controller	The ELT320 terminal is in printer controller mode. You cannot select this mode from the terminal. The host system selects printer controller mode.
6.	Modem: DSR	The modem is ready to send or receive data. The modem sends the data set ready signal (DSR) to indicate the modem is ready.
	Modem: No DSR	The modem is not ready to send or receive data from the terminal. Field 6 is blank, unless the Modem Control feature in the Communications Set-Up screen is set to "mode 1" or "mode 2".

Chapter 4

SET-UP

The ELT320 has ten set-up screens that display the terminal's operating features. You can display, check and change these settings from the keyboard. The terminal has three groups of set-up parameters: the factory default settings stored in the terminal's EPROM; the saved setting stored in nonvolatile memory; and the current setting stored in the terminal's RAM.

A Guide to Set-Up Features

The following chapter directory lists all the ELT320 set-up screens and their features:

Note: Use the arrow keys to select desired action, then press ENTER key.
To move among screens, you can press the NEXT SCREEN and PREV SCREEN keys.
To leave Set-Up, press Set-Up key.

Entering and Leaving Set-Up

To enter Set-Up, you press Set-Up key (F3). The terminal displays the Set-Up Directory. To leave Set-Up you press Set-Up key (F3) again.

Set-Up Directory

The Set-Up Directory includes:

- a screen title
- features
- set-up directions
- status line.

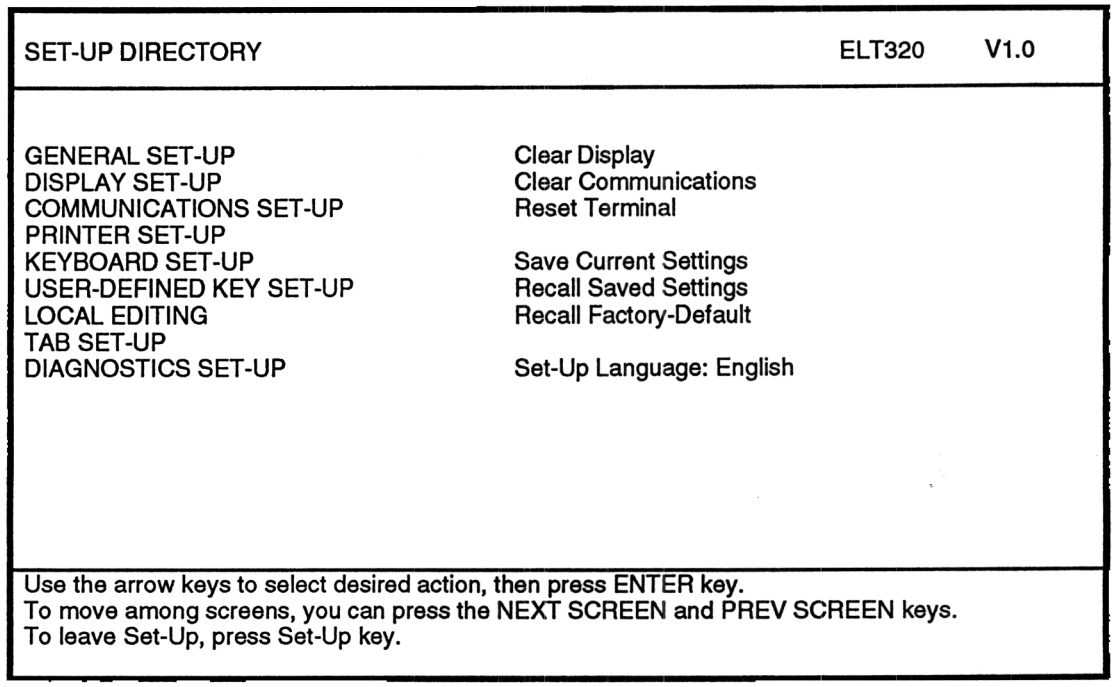


Figure 4–1 Set–up Directory screen

Screen Title

SET-UP DIRECTORY ELT320 V1.0

The screen title displays the set-up screen name, the model number of the terminal, and the firmware version.

SET-UP Directory Features

The left half of the Set-Up Directory lists the remaining set-up screens. The right half of the screen lists some actions you can perform from this screen.

SET-UP Directions

The Set-Up directions tell you how to move the cursor to select features and change current settings.

Status Line

The ELT320 uses the last line on the screen (line 25) to display a status line for the terminal in reverse video. You can select when to display the status line. See the Status Line section at the end of Chapter 3.

Set-Up Cursor

Set-Up uses a special cursor that highlights a screen entry or field in reverse video. When you enter Set-Up, the cursor highlights the GENERAL SET-UP field in the Set-Up Directory.

Action and parameter fields

The Set-Up screens have action and parameter fields.

When you select the highlighted action field by pressing the **Enter** key, the terminal immediately performs that action. The terminal displays the "Done" message to let you know if the action was successful.

Most of the parameter fields have a three column format:

Feature Current Setting Saved setting

The **Feature** column lists each feature you can set from that screen.
The **Current Setting** column shows the setting in effect for that feature.
The **Saved Setting** column shows the setting stored in the terminal's nonvolatile memory. You can use the up/down arrow keys to move the highlighting cursor to any feature and use the ◁, ▷ and the **Enter** keys to change the current setting of a feature.

The Set-Up Directory lists the remaining set-up screens and some actions.

Table 4–1 The Set–up Screen Features

Action Field	Function
GENERAL SET-UP DISPLAY SET-UP COMMUNICATIONS SET-UP PRINTER SET-UP KEYBOARD SET-UP USER-DEFINED KEY SET-UP LOCAL EDITING TAB SET-UP DIAGNOSTIC SET-UP	These fields display the selected set-up screen.
Clear Display	Clears the screen (including the host-writable status line) when you leave Set-Up.
Clear Communications	Clears communication as follows: • Cancels any print operation. • Cancels any escape sequence, control sequence, or device control string (DCS). • Clears the keyboard buffer. • Clears the receive buffer. • Clears the transmit buffer. • Resets Printer Mode. • Sends an XON signal to the host. • Resets the XOFF receive flags at the printer and host. • In local editing mode, cancels any block transmission in progress. Note: Clear Communications does not disconnect communication with the host system.

Table 4–1 continued (The Set–up Screen Features)

Action Field	Function
Reset Terminal	Resets many set-up features to their Factory-Default settings. Resets internal features to default settings that work with many application programs.
Save Current Setting	Saves all current settings in most set-up screens. The current settings become the saved settings.
Recall Saved Settings	Replaces all current settings in most set-up screens with the saved settings.
Recall Factory-Default Settings	Replaces all current settings in all set-up screens with the default settings. This feature also performs the following functions. • Clears the screen. • Moves the cursor to the top left of the screen. • Clears any definitions stored by the User-Defined key Set-Up screen.
Set-Up Language	Selects one of three languages to use for the set-up screens and terminal status line: English, Francais or Deutsch.

General Set-Up

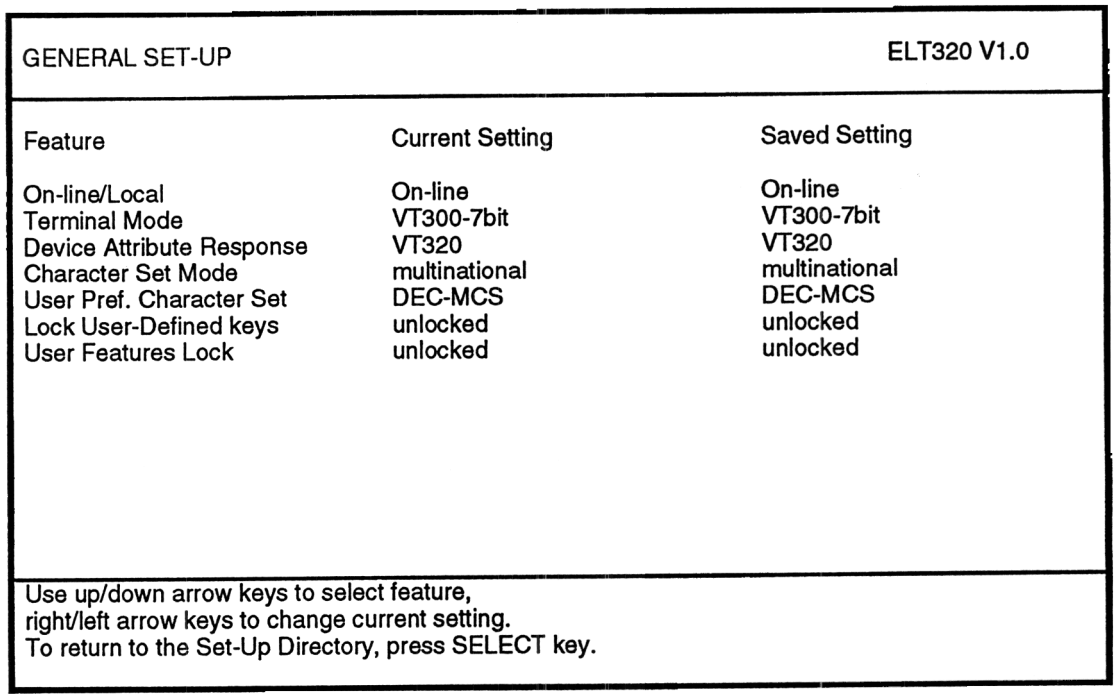


Figure 4–2 Set–up Directory screen

This screen lets you set general features, such as the type of character set used to display characters on the screen.

Table 4–2 The General Set–up Screen Features

Feature	Settings	Function
On-line/Local		Selects whether or not the ELT320 can communicate with a host system.
	On-line	On-line lets the ELT320 communicate with a host.
	Local	Effectively puts the host on hold. The characters you type go directly to the screen.

Table 4–2 continued (The General Set–up Screen Features)

Feature	Settings	Function
Terminal Mode		Selects the terminal's operating mode. The ELT320 can emulate any VT series terminal.
	VT300-7bit	Lets the terminal use all VT300 features. The terminal uses 7- bit controls and 8-bit graphic characters.
	VT300-8bit	Lets the terminal use all VT300 features. The terminal uses 8-bit controls and 8-bit characters. Use this mode for VT200 applications that use 8-bit control characters. Many VT100 applications will work in VT300-8 bit mode. This mode is the most efficient, but not yet supported by many applications.
	VT100	Lets the terminal run VT100 applications.
	VT52	Lets the terminal run VT52 applications.
Device Attribute Response		Selects the device attribute response, also called the terminal ID. Some applications require specific DA responses.
	VT320 VT220 VT131 VT102 VT101 VT100	
Character Set Mode		Selects the type of character set used, multinational or national.
	multinational	Supports the 8-bit DEC Multinational or ISO Latin-1 set. Both include the 7-bit ASCII set. You select the specific set with the User Pref. Character Set below.
	national	Makes the ELT320 use one of the 7-bit national replacement character (NRC) sets. You select the specific NRC set with the Keyboard Dialect in the Keyboard Set-Up screen.

Table 4–2 continued (The General Set–up Screen Features)

Feature	Settings	Function
User Pref. Character Set		When Character Set Mode is set to "multinational" selects the DEC Multinational or ISO Latin-1 set. The difference between the two sets is their supplemental character set.
	DEC-MCS	Selects the DEC Multinational character set. This set is compatible with Digital applications.
	ISO Latin-1	Selects the International Standards Organization (ISO) character set.
Lock User-Defined Keys		Selects whether or not the host can change user-defined key (UDK) definitions.
	unlocked	Lets the host change UDK definition.
	locked	Does not let the host change UDK definition.
User Features Lock		Selects whether or not the host system can change certain set-up features that users often set to their own preference: Column Mode, Scrolling, Display Background and Auto Repeat.
	unlocked	Lets the host change user preference features.
	locked	Does not let the host change the user preference features.

Display Set-Up

DISPLAY SET-UP		ELT320 V1.0
Feature	Current Setting	Saved Setting
Screen Saver	disabled	disabled
Scrolling	smooth-2	smooth-2
Display Background	dark	dark
Column Mode	80	80
Page Arrangement	6x24	6x24
Horizontal Coupling	disabled	disabled
Vertical Coupling	enabled	enabled
Page Coupling	enabled	enabled
Status Display	indicator	indicator
Text Cursor	displayed	displayed
Cursor Style	block	block
Cursor Blink	blink	blink
Control Representation Mode	interpret controls	interpret controls
New Line Mode	no new line	no new line
Auto Wrap	no auto wrap	no auto wrap
Use up/down arrow keys to select feature, right/left arrow keys to change current setting. To return to the Set-Up Directory, press SELECT key.		

Figure 4–3 Display Set–up screen

This screen has features that affect how the data appears on the screen

Table 4–3 The Display Set–up Screen Features

Feature	Settings	Function
Screen Saver		Increases screen life.
	5 min. 10 min. 15 min. 20 min. 25 min. 30 min.	If the terminal is left on but inactive for 5, 10, 15, 20, 25, or 30 minutes, the screen goes blank. You can press any key to reactivate the screen. The host can also reactivate the screen by sending any character.
	disabled	Screen Saver feature is off

Table 4–3 continued (The Display Set–up Screen Features)

Feature	Settings	Function
Scrolling		Selects how fast lines appear on the screen when you scroll.
	smooth-2	Lines scroll at 6 lines per second.
	smooth-4	Lines scroll at 12 lines per second.
	no	The terminal does not scroll.
		Lines scroll as fast as the terminal receives them.
	smooth-1	Lines scroll at 3 lines per second.
Display Background		Selects light text on dark background, or dark text on light background.
		Select dark background.
		Selects light background.
Column Mode		Selects an 80 or 132 column page width for text. The screen always displays 80 characters. See Horizontal Coupling. If you change the current setting, page memory clears and the page size is set to 24 line.
	80	A page can have 80 characters per line.
	132	A page can have 132 characters per line.
Page Arrangement		Selects the size of pages in the terminal's page memory, based on the number of lines per page.
		Selects 6 pages with 24 lines per page.
		Selects 4 pages, with 36 lines per page.
		Selects 2 pages, with 72 lines per page.
	1x144	Selects 1 page of 144 lines.

Table 4–3 continued (The Display Set-up Screen Features)

Feature	Settings	Function
Horizontal Coupling		Selects whether or not to automatically pan when the cursor moves beyond the left or right border of the screen.
	disabled	The ELT320 does not pan automatically.
	enabled	The ELT320 pans automatically to keep the cursor visible.
Vertical Coupling		Selects whether or not to automatically pan when the cursor moves beyond the top or bottom border of the screen.
	disabled	The ELT320 does not pan automatically.
	enabled	The ELT320 pans automatically to keep the cursor visible.
Page Coupling		Selects whether or not to automatically display a new page when the cursor moves to a new page in page memory.
	enabled	If the cursor moves to a new page, the ELT320 displays the new page.
	disabled	If the cursor moves to a new page, you cannot see the page or the cursor.
Status Display		Selects how and when to use the status line.
	indicator	The ELT320 displays a status line for the terminal at all times.
	none	The ELT320 cannot display a status line outside of set-up.
	host-writable	The host can display information on the status line.
Text Cursor		Selects whether or not to display the text cursor.
	displayed	Displays the text cursor.
	not displayed	Does not display the text cursor.

Table 4–3 continued (The Display Set–up Screen Features)

Feature	Settings	Function
Cursor Style		Selects a block or underline cursor.
		Selects a block cursor.
	underline	Selects an underline cursor.
Cursor Blink		Selects whether or not the cursor blinks.
		The cursor blinks.
	no blink	The cursor does not blink.
Control Representation Mode		Selects whether the terminal displays or processes control characters. You can use this feature as an aid for debugging programs.
	interpret controls	The ELT320 processes control characters, but does not display them.
	display controls	The ELT320 displays most control characters without processing them.
New Line Mode		Selects how the **Return** key and some control characters work.
	no new line	Pressing **Return** sends a carriage return character. The ELT320 does not move the cursor to a new line.
	new line	Pressing **Return** sends a carriage return and a line feed.
Auto Wrap		Selects whether or not text characters automatically wrap to the next line when you reach the right margin.
	no wrap	When you reach the margin, the ELT320 displays each new character in the last column of the line. Each new character overwrites the previous character at that position.
	wrap	When you reach the margin, the ELT320 displays new characters on the next line.

Communication Set-Up

COMMUNICATIONS SET-UP ELT320 V1.0

Feature	Current Setting	Saved Setting
Transmit Speed	9600	9600
Receive Speed	receive=transmit	receive=transmit
Receive XOFF Point	256	256
Transmit Flow Control	XON/XOFF	XON/XOFF
Transmit Rate Limiting	enabled	enabled
Character Format	8 bits, no parity	8 bits, no parity
Stop Bits	1	1
Modem Control	disabled	disabled
Disconnect Delay	2 s	2 s
Local Echo	disabled	disabled
Communication Port	RS-232	RS-232
Auto Answerback	disabled	disabled
Conceal Answerback	not concealed	not concealed
Answerback Message	^	

Use up/down arrow keys to select feature,
right/left arrow keys to change current setting.
To return to the Set-Up Directory, press SELECT key.

Figure 4–4 Communications Set–up screen

This screen has features that the ELT320 uses to communicate with your host system.

Table 4–4 The Communications Set–up Screen Features

Feature	Settings	Function
Transmit Speed		Selects the baud rate the ELT320 uses to send data to the host system.
	75 110 150 300 600 1200 2400 4800 9600 19.2K 38.4K	
Receive Speed		Selects the baud rate the ELT320 uses to receive data from the host system.
	Receive=Transmit	Makes receive speed always equal to transmit speed.
	75 110 150 300 600 1200 2400 4800 9600 19.2K 38.4K	
Receive XOFF Point		Selects the number of characters the ELT320 can store in its input buffer before sending the XOFF signal.
	64 256 512 1K never	

Table 4–4 continued (The Communications Set–up Screen Features)

Feature	Settings	Function
Transmit Flow Control		Turns XON/XOFF protocol on or off.
	XON/XOFF	Turns XON/XOFF protocol on.
	none	Turns XON/XOFF protocol off.
Transmit Rate Limiting		Selects whether or not to limit the number of characters per second that the ELT320 sends. A limited rate reduces the burden on the host system.
	disabled	Does not limit the transmit rate.
	enabled	Limits the terminal to sending 150 to 240 characters per second.
Character Format		Selects the character format used to communicate with the host system.
	8 bits, no parity 8 bits, even parity 8 bits, odd parity 8 bits, even, no check 8 bits, odd, no check 7 bits, no parity 7 bits, even parity 7 bits, odd parity 7 bits, mark parity 7 bits, space parity 7 bits, even, no check 7 bits, odd, no check	
Stop Bits		Selects the number of stop bits used in the character format.
	1 2	

Table 4–4 continued (The Communications Set–up Screen Features)

Feature	Settings	Function
Modem Control		Sets up the terminal to work with different types of modems.
	disabled	Modem control pins on the RS-232 connector are not used.
	mode-1	Selects full modem control and is VT220 compatible.
	mode-2	Selects partial modem control for CCITT V.25 compatible modems. Supports modems with autodial, auto-originate, and auto–answer features.
Disconnect Delay		Selects the time allowed for the ELT320 to disconnect from a communication line. The ELT320 disconnects when it no longer detects the receive line signal detection (RLSD) signal. Modem Control must be on mode 1 or mode 2.
	2 s	Selects a 2 second delay.
	60 ms	Selects a 60 millisecond delay.
	no disconnect	Turns this feature off.
Local Echo		Selects whether or not to send the characters you type directly to page memory.
	disabled	Sends keyboard data to the host system. The host decides whether or not to send the data to the page memory.
	enabled	Sends keyboard data to both the host and page memory.
Communication Port		Selects which cable connector is used to connect to the host system
	RS-232	Selects the 9 pin RS-232 connector.
	RS-423	Selects the 6 pin RS-423 connector.

Table 4–4 continued (The Communications Set–up Screen Features)

Feature	Settings	Function
Auto Answerback		Selects whether or not to send the answerback message to the host system after a communication line connection.
	disabled	Does not send the answerback message to the host after a communication line connection.
	enabled	Automatically sends the answerback message to the host after a communication line connection.
Conceal Answerback		Selects whether or not the ELT320 can display the answerback message.
	not concealed	The ELT320 can display the answerback message in set-up.
	concealed	The ELT320 does not display the answerback message in set-up.
Answerback Message		Lets you type an answerback message. You can use up to 30 characters.

Printer Set-Up

PRINTER SET-UP		ELT320 V1.0
Feature	Current Setting	Saved Setting
Print Mode	normal	normal
Print Extent Mode	full page	full page
Print Terminator	none	none
Printed Data Type	national	national
Printer to Host Communication	enabled	enabled
Print Speed	4800	4800
Flow Control	XON/XOFF	XON/XOFF
Character Format	8 bits, no parity	8 bits, no parity
Stop Bits	1	1

Use up/down arrow keys to select feature,
right/left arrow keys to change current setting.
To return to the Set-Up Directory, press SELECT key.

Figure 4–5 Printer Set–up screen

This screen lets you select features to match those of your printer.

Table 4–5 The Printer Set–up Screen Features

Feature	Settings	Function
Print Mode		Determines when and how printing takes place.
	normal	Prints the current page in page memory when you press **Local Print (F2)**.
	auto	Prints the current text line when the ELT320 receives a line feed, form feed, vertical tab, or autowrap from the host.
	controller	Lets the host send data to the printer without displaying the data on the screen.
Print Extent Mode		Selects the area of page memory to send to the printer for printing operations.
	full page	Selects the current page.
	scroll region	Selects the scrolling region. The scrolling region is the area inside the scrolling margins.
Print Terminator		Selects whether or not to send a form feed character at the end of a print page operation.
	none	Does not send a form feed.
	FF	Sends a form feed after each page prints.
Printed Data Type		Lets you select character sets to match the character sets in the printer.
	national	Use with a printer that supports • the current national set ("national" mode) or • The ASCII set ("multinational " mode)
	national & line drawing	Use with a printer that supports the VT100 line drawing set and the • ASCII set ("multinational mode") or • Current national set ("national mode")
	multinational	Use with a printer that supports the multi-national and VT100 line drawing character sets.
	all characters	Use with a printer that supports all the ELT320 character sets.

Table 4–5 continued (The Printer Set–up Screen Features)

Feature	Settings	Function
Printer to Host Communication		Selects whether or not the printer port can send control information to the host system.
	enabled	The printer can send control information.
	disabled	The printer cannot send control information.
Print Speed		Selects the baud rate the ELT320 uses to send and receive data from a printer.
	75 110 150 300 600 1200 2400 4800 9600 19.2K	
Flow Control		Selects the type of data flow control for the printer port.
	XON/XOFF	Selects XON/XOFF flow control. This is the standard for most DEC printers.
	none	Selects no flow control, assumes printer is always ready to receive data.
	DTR	The terminal checks the data terminal ready (DTR) line to see if the printer can receive characters.

Table 4–5 continued (The Printer Set–up Screen Features)

Feature	Settings	Function
Character Format		Selects a character format for sending data to the printer.
	8 bits, no parity 8 bits, even parity 8 bits, odd parity 7 bits, no parity 7 bits, even parity 7 bits, odd parity 7 bits, mark parity 7 bits, space parity	
Stop Bits		Selects the number of stop bits used by the printer port.
	1 2	

Keyboard Set-Up

KEYBOARD SET-UP		ELT320 V1.0
Feature	Current Setting	Saved Setting
Keyboard Dialect	North American	North American
Keyboard Mode	typewriter	typewriter
Keypad Mode	numeric	numeric
Cursor Key Mode	normal	normal
Auto Repeat	enabled	enabled
Keyclick	enabled	enabled
Margin Bell	disabled	disabled
Warning Bell	enabled	enabled
<x] Key	delete	delete
Keypad comma (,)	comma	comma
Lock Key	caps lock	caps lock
Compose	enabled	enabled
Break	enabled	enabled
, < and .> keys	, < and .>	, < and .>
< > key	< >	< >
` ~ key	` ~	` ~
Use up/down arrow keys to select feature, right/left arrow keys to change current setting. To return to the Set-Up Directory, press SELECT key.		

Figure 4–6 Keyboard Set–up screen

This screen lets you control keyboard features such as: the keyboard language, keyclick, margin, bell, and **Compose** key.

Table 4–6 The Keyboard Set–up Screen Features

Feature	Settings	Function
Keyboard Dialect		Lets you select one of the following languages or dialects to match your keyboard. Takes effect in set-up.
	North American British Flemish Canadian (French) Danish Finnish German Dutch Italian Swiss (French) Swiss (German) Swedish Norwegian French/Belgian Spanish Portuguese	
Keyboard Mode		Selects the character used when you press a key that has three or four characters on its keycap.
	typewriter	Selects characters on the left half of keycaps.
	data processing	Selects characters on the right half of keycaps.
Keypad Mode		Selects the type of characters sent by the numeric keypad.
	numeric	The keypad sends the ASCII code for the numbers shown on the keycaps.
	application	The keypad sends control sequences (used with some applications).

Table 4–6 continued (The Keyboard Set–up Screen Features)

Feature	Settings	Function
Cursor Key Mode		Selects whether the arrow keys send ANSI cursor control sequences or application-specific control functions.
	normal	Arrow keys send standard ANSI cursor control functions.
	application	Arrow keys send application-specific control functions.
Auto Repeat		Selects whether or not a key automatically repeats its character when you hold a key down.
	enabled	Holding down a key sends the character repeatedly, until you release the key.
	disabled	Holding down a key sends only one character.
Keyclick		Selects whether or not the ELT320 makes a keyclick sound.
	enabled	The ELT320 makes a keyclick sound when you press a key.
	disabled	Turns this feature off.
Margin Bell		Selects whether the ELT320 makes a bell tone when the cursor approaches the right margin.
	enabled	Turns margin bell on.
	disabled	Turns margin bell off.
Warning Bell		Selects whether or not the warning bell sounds when an operating error occurs
	enabled	Turns warning bell on.
	disabled	Turns warning bell off.

Table 4–6 continued (The Keyboard Set-up Screen Features)

Feature	Settings	Function
⌫ Key		Selects the character sent to the host system when you press the ⌫ key. In edit mode, the ⌫ key always deletes one character to the left of the cursor.
		Sends DEL character.
	backspace	Sends BS (backspace) character.
Keypad Comma		Selects the character sent by the **comma** key on the keypad when Keypad Mode is set to numeric.
	comma	Sends a comma.
		Sends a dot.
	space	Sends a space.
Lock key		Selects the function of the **Lock** key.
	caps lock	Alphabetic keys send the uppercase character. Other keys still send the bottom character on the keycap.
	shift lock	Alphabetic keys send their uppercase character. Other keys send the top character on their keycap.
Compose		Selects whether or not the **Compose** key works.
	enabled	You can use the **Compose** key.
	disabled	You cannot use the **Compose** key.
Break		Selects whether or not the **Break** key sends a break signal.
	enabled	The **Break** key sends a break signal.
	disabled	The **Break** key does not work alone.

Table 4–6 continued (The Keyboard Set–up Screen Features)

Feature	Settings	Function
< and .> Keys	, < and .> keys	The , < key sends a comma when unshifted and a < character when shifted. The .> key sends a period when unshifted and a > character when shifted.
	,< and .> keys Send ,, and ..	The ,< key sends a comma when shifted or unshifted. The .> key sends a period when shifted or unshifted. The tilde key sends a ` when unshifted and a ~ when shifted.
	`~ key sends ESC	The `~ key sends a and escape (ESC) character.
<> Key	<>	The angle bracket key sends a < when unshifted and a > when shifted.
	<> key sends `~	The angle bracket key sends a ` when unshifted and a ~ when shifted.

1) Function 1 works only in North American and British keyboard selections.
2) Functions 2 & 3 work only in North American, British & Dutch keyboards.

User-Defined Key Set-Up

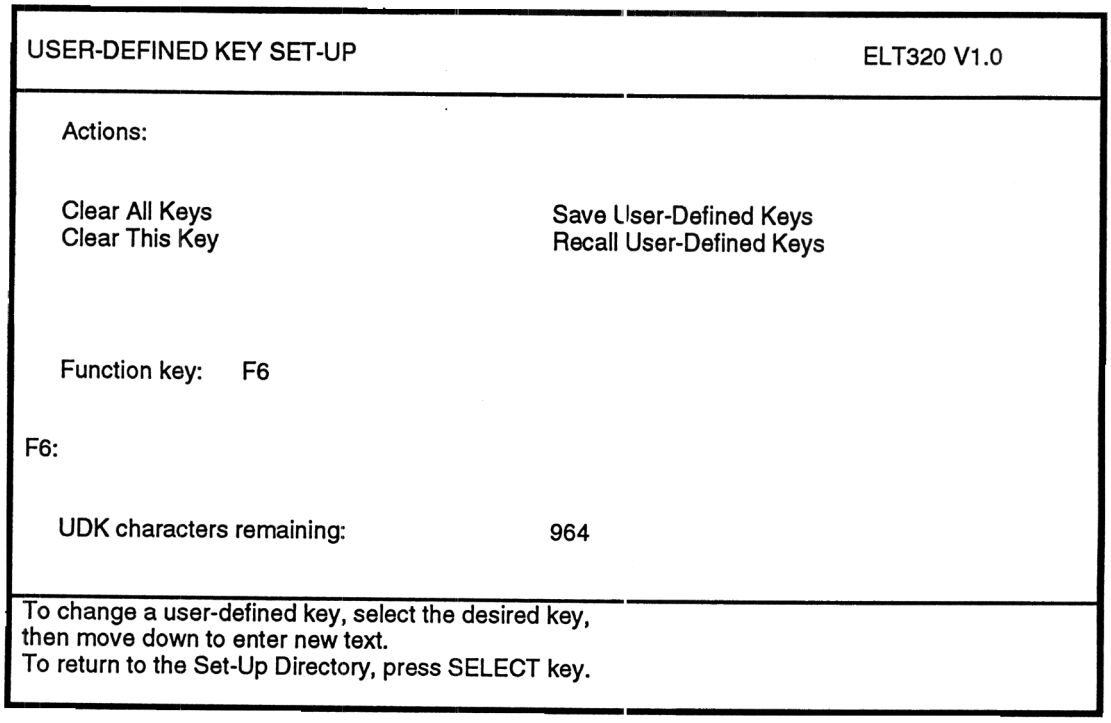


Figure 4–7 User–Defined Key Set–up screen

This screen lets you define the function of all 15 keys (F6–F20) on the top row of the keyboard.

All the features are action fields. To select a feature, you move the cursor to that field and press **Enter**. The terminal immediately performs the action. The screen also has a field to select the desired function key. The number of the selected key also appears below the field, followed by the key's current definition. The screen also shows you how many characters you can still use to define UDKs. Press the down arrow key to move the cursor to the definition line. Enter the definition for the key.

Table 4–7 The User–Defined Key Set–up Screen Features

Action	Function
Clear All Keys	Clears all UDK definitions.Updates the number of characters available.
Clear This Key	Clears the definition of the displayed key. Updates the number of characters available.
Save User-Defined Keys	Saves the definitions of UDKs in nonvolatile memory. You can turn the terminal off, without losing your definitions.
Recall User-Defined Keys	Recalls any saved UDK definitions from nonvolatile memory.

Local Editing Set-Up

LOCAL EDITING SET-UP		ELT320 V1.0
Feature	Current Setting	Saved Setting
Edit Mode	unavailable	unavailable
Erasure Mode	all	all
Edit Key Execution Mode	immediate	immediate
Transmit Execution Mode	immediate	immediate
Local Editing Application Mode	no effect	no effect
Guarded Area Transfer Mode	all	all
Selected Area Transfer Mode	all	all
Multiple Area Transfer Mode	multiple	multiple
Line Transmit Mode	disabled	disabled
Transfer Termination Mode	enabled	enabled
VT131 Transfer Mode	ANSI	ANSI
Space Compression	disabled	disabled
End of Line Characters	C_R^	C_R
End of Block Characters	^	
Use up/down arrow keys to select feature, right/left arrow keys to change current setting. To return to the Set-Up Directory, press SELECT key.		

Figure 4–8 Local Editing Set-up screen

The ELT320 can work as an interactive or editing terminal. As an interactive terminal, the ELT320 sends each character you type directly to the host system. The host performs your edits, for example, inserting and deleting text. As an editing terminal, the ELT320 stores your text in page memory. You edit your text on the terminal, then send a block of edited text to the system. This kind of editing is called **local editing.** While you edit text on the terminal, the system is free to perform other tasks. This screen lets you select edit mode and set the features for that mode.

Note: When in "Edit" mode and the "Overstrike" or "Insert" mode is selected and you exit "Edit" mode, the terminal will continue to function in the last selected mode of either "Overstrike" or "Insert".

Table 4–8 The Local Editing Set–up Screen Features

Feature	Settings	Function
Edit Mode		Determines whether or not you can select local editing.
	unavailable	Neither you nor the host system can select edit mode.
	interactive	Selects interactive mode. Each character you type is sent immediately to the host. To turn edit mode on, press **Shift-Select** The host can turn edit mode off.
	edit	Selects edit mode. The ELT320 stores your edited text in page memory, until you send the text to the host with the transmit key.
Erasure Mode		Determines which characters you or the host system can erase in edit mode.
	unprotected	You or the host can only edit unprotected characters.
	all	You or the host can edit protected and unprotected characters.
Edit Key Execution Mode		Determines how the ELT320 switches between interactive and editing modes.
	immediate	When you press **Shift-Select**, the ELT320 immediately switches modes.
	deferred	When you press **Shift-Select**, the ELT320 sends a request to the host to switch modes.
Transmit Execution Mode		Determines how the ELT320 sends a block of data to the system in edit mode.
	immediate	When you press **ENTER**, the ELT320 immediately sends data to the host.
	deferred	When you press **ENTER**, the ELT320 notifies the host that data is available. The terminal locks the keyboard until the terminal receives a transmit instruction from the host.

Table 4–8 continued (The Local Editing Set–up Screen Features)

Feature	Settings	Function
Local Editing Application Mode		Determines how the unshifted function keys **F6** through **F20** work in edit mode. Your application software may assign functions to these keys.
	no effect	**F6** through **F20** do not work in local edit mode.
	breakthrough	**F6** through **F20** work immediately in edit mode, if they are assigned functions by application software.
	prefix transmit	If you press **F6** through **F20**, the ELT320 sends that function to the host before sending a block of data.
	suffix transmit	If you press **F6** through **F20**, the ELT320 sends that function to host after sending a block of data.
Guarded Area Transfer Mode		Determines whether or not you can send protected characters to the host system.
	all	When you press **ENTER**, the ELT320 sends protected and unprotected characters.
	unprotected	When you press **ENTER**, the ELT320 sends only unprotected characters .
Selected Area Transfer Mode		Determines whether the ELT320 can send all characters or only selected characters on the current page.
	all	When you press **ENTER**, the ELT320 sends all characters on the current page.
	selected	When you press **ENTER**, the ELT320 sends only selected areas.

Table 4–8 continued (The Local Editing Set–up Screen Features)

Feature	Settings	Function
Multiple Area Transfer Mode		Determines whether the ELT320 can send all selected areas on the page, or only the selected area with the cursor. This mode only works when selected area Transfer Mode is set to "Selected"
	multiple	When you press **ENTER**, the ELT320 sends all selected areas on the current page.
	single	When you press **ENTER**, the ELT320 sends only the selected area containing the cursor.
Line Transmit Mode		Lets you send characters a line at a time to the host system.
	disabled	When you press **ENTER**, the ELT320 sends a full or partial page. The size of the page depends on the next two features.
	enabled	When you press **ENTER**, the ELT320 sends only a line of eligible characters.
	Note: When you enable Line Transmit Mode, the **Return** key works like the **ENTER** key.	
Transfer Termination Mode		When Line Transmit Mode is disabled, this feature determines whether the ELT320 sends a partial page or the scrolling region.
	enabled	When you press **ENTER**, the ELT320 sends the scrolling region.
	disabled	When you press **ENTER**, the ELT320 sends a block based on the setting of VT131 Transmit Mode.

Table 4–8 continued (The Local Editing Set–up Screen Features)

Feature	Settings	Function
VT131 Transfer Mode		When Line Transmit Mode is disabled this feature selects an ANSI-style or VT131-style data transmission. The size of the block depends on Transmit Termination Mode.
	ANSI	The ELT320 works according to ANSI rules.
	VT131	The ELT320 works like a VT131 terminal. Use this setting to run software designed for the VT131.
Space Compression		Determines how the ELT320 sends unused character fields and spaces in a data block.
	disabled	The ELT320 sends a space character for each unused character position.
	enabled	Selects space compression. The ELT320 sends a record separator in place of unused characters. The last field on a line contains an End of Line Character.
End of Line Characters		Lets you select characters used to indicate the end of a line in a data block. By default, the ELT320 sends a carriage return. You can edit the characters by using the ⌫ key ◁ key, and ▷ key.
End of Block Characters		Lets you select characters used to indicate the end of a data block. This feature has no default. You can enter up to six characters by using the ⌫ key, ◁ key, or ▷ key.

Local Editing Keys

This section describes the local editing keys that have special functions in edit mode.

Table 4–9 Local Editing Keys

Key/Mode	Function
EDIT	You press **Shift-Select** to enter or leave edit mode. When you use edit mode, the status line displays the word "Edit". If the Edit Mode feature is set to "unavailable", you cannot enter edit mode using **Shift-Select**. You can also enter edit mode by setting the Edit Mode feature to "edit" in the local editing set-up menu.
Home Cursor Find	Pressing **Find** moves the cursor to the top left position on a page memory.
Insert/Overstrike	The **Insert Here** key selects whether or not to erase characters in memory when you type new characters or insert additional characters.
Insert mode	When you type new characters on a line, characters already on the line move right.
Overstrike mode	In the Overstrike mode, typing a new character replaces the character at the cursor position with the typed character. The status line shows you the state of the **Insert/Overstrike** modes.The Overstrike Mode is the default setting.
Clear Page/Clear Field	
Remove	Pressing the **Remove** key clears an unprotected field of all characters. The cursor moves to the beginning of the field. The warning bell rings if you press this key when the cursor is in a protected field, the cursor moves to the beginning of the next unprotected field.
Shift-Remove	Pressing **Shift-Remove** key clears all unprotected fields in the scrolling region. The cursor moves to the first unprotected character position in the scrolling region.

Table 4–9 continued (Local Editing Keys)

Key/Mode	Function
Previous Page	Pressing **Prev** moves the cursor to the beginning of the previous page in page memory. The screen displays the new page.
Next Page	Pressing the **Next** key moves the cursor to the beginning of the next page in page memory. The screen displays the new page.
Tab	
Tab/PF1	Pressing **Tab** or **PF1** advances the cursor to the first occurrence of the following. • a tab stop at the beginning of an unprotected field • an unprotected field • the end of the current page
Shift-Tab **Shift–PF1**	Pressing **Shift-Tab** or **Shift-PF1** moves the cursor back to the first occurrence of the following. • the previous tab stop • the beginning of the current unprotected field • the beginning of the current page
Insert Line **PF2**	Pressing **PF2** adds a blank line on the screen. All following lines move down one line. The new blank line has the same attributes as the previous line. The cursor moves to the beginning of the new line.
Delete Line **PF3**	Pressing **PF3** deletes a line from the screen. Lines that follow move up one line. The cursor moves to the first column of the new line.
Delete Char **PF4**	Pressing **PF4** deletes unprotected characters at the cursor. The cursor does not move when you press **PF4**.The warning bell rings if you try TO delete a protected character.

Table 4–9 continued (Local Editing Keys)

Key/Mode	Function
Transmit Key	
Enter	Pressing **ENTER** sends a block of edited text to the host. Use **ENTER** when you are ready to send data to the host.
Return	This key works like **ENTER** when you set the Line Transmit Mode in the Local Editing Set-Up screen to "enabled".
⌫	Pressing ⌫ deletes one character to the left of the cursor.

Tab Set-Up

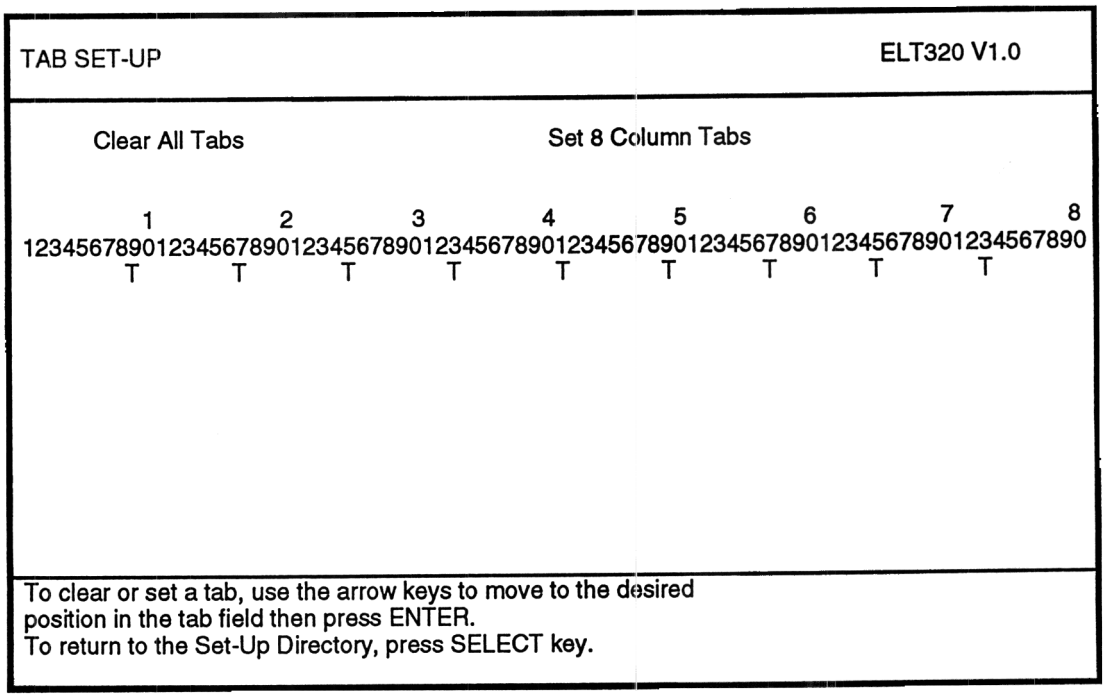


Figure 4–9 Tab Set–up screen

This screen lets you set the number of tab stops on a line. Tab stops on the screen are similar to tab stops on a typewriter. When you press the tab key outside of set-up, the cursor advances to the next tab stop.

There are two possible settings for each tab stop field: the letter T (tab stop) or a blank (no tab stop).

Table 4–10 The Display Set–up Screen Features

Feature	Function
Clear All Tabs	Removes all current tab settings shown on the Tab Set-Up screen.
Set 8 Column Tabs	Sets one tab every eight columns, starting at column 9.

Diagnostic Set-Up

DIAGNOSTIC SET-UP		ELT320 V1.0
Feature	Current Setting	Saved Settings
Host External Loopback	disabled	disabled
Printer External Loopback	disabled	disabled
Power-Up Test	disabled	disabled
Run Tests Run Screen Tests	Repeat Tests	
Use up/down arrow keys to select feature, right/left arrow keys to change current setting. To return to the Set-Up Directory, press SELECT key.		

Figure 4–10 Diagnostic Set–up screen

This screen is for use by service personnel. Most diagnostics require a special loopback connector.

The tests check many parts of the terminal. If the terminal fails a test an error message appears on the screen.

Table 4–11 The Diagnostics Set–up Screen Features

Feature	Settings	Function
Host External Loopback		Checks the operating status of the HOST port.
	disabled enabled	
Printer External Loopback		Checks the operating status of the PRINTER port.
	disabled enabled	
Power-Up Test		Runs the power-up self-test.
	disabled enabled	
Run Tests		Runs the enabled tests.
Run Screen Tests		Runs screen tests.
Repeat Tests		Continuously repeats the enabled tests.

Chapter 5

COMPOSING CHARACTERS

Compose Character Sequences

Compose sequences let you display more characters than those appearing on your keyboard. There are three types of compose sequences:

- three-stroke sequences
- two-stroke sequences
- hexadecimal sequences

The compose sequences you can use depend on the Keyboard Dialect, and the Character Set Mode (typewriter or data processing) features. Table 5–2 lists the compose sequences you can use in multinational mode. In national mode, use table 5–3 (typewriter keyboard) or table 5–4 (data processing keyboard).

You can use three-stroke sequences on all keyboards. To display a character in column 1 of tables 5–2, 5–3 or 5–4 press the **Compose Character** key then type the two characters in column 2, to produce the character you want.

A two-stroke compose sequence is one of the following non-spacing diacritical marks followed by a standard character key as found in column 3 of tables 5–2, 5–3 or 5–4.

grave accent `	tilde mark ~
acute accent ´	diaeresis mark (umlaut) ¨
circumflex accent ^	ring mark °

Table 5–1 lists the keyboards that have diacritical marks for compose sequences. Table 5–3 lists the two-stroke sequences available for different keyboards in national mode. To display a character in column 1 of table 5–2, press the diacritical mark shown in column 3 then type the second character shown in column 3.

Hexadecimal Compose Key Sequence

You can use the **Compose Character** key with the numeric keypad to create a hexadecimal compose sequence. When you press the **Compose Character** key the terminal assigns hexadecimal values to the numeric keypad keys (Figure 5–1). The character code tables in ELT320 Text Programming show the hexadecimal value for each character. To display a character, press the **Compose Character** key, then type two hexadecimal digits.

Key	Hexadecimal digit
PF1	A
PF2	B
PF3	C
PF4	D
Minus	E
Comma	F

Figure 5–1 Hexadecimal Compose Keys

Table 5–1 Non-spacing Diacritical marks in Multinational Mode

Keyboard	Grave Accent	Acute Accent	Circ. Accent	Tilde Mark	Umlaut
Finnish	yes	no	yes	yes	no
Flemish	yes	no	yes	yes	yes
French/Belgian	yes	no	yes	yes	yes
French/Canadian	yes	no	yes	yes	no
German/Austrian	yes	yes	yes	yes	no
Portuguese	no	no	no	yes	no
Spanish	yes	yes	yes	yes	yes
Swedish	yes	no	yes	yes	no
Swiss (French)	yes	no	yes	yes	yes
Swiss (German)	yes	no	yes	yes	yes

Multinational Mode Character Sequences

Table 5–2 Compose Character Sequences for Multinational Mode

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	quotation mark	"(sp)	
#	number sign	++	
	apostrophe	'(sp)	
@	commercial at	A A	
[	opening bracket	((	
\	backslash	// or / <	
	closing bracket	))	
^	circumflex accent	^(sp)	^(sp)
`	grave accent	`(sp)	`(sp)
{	opening brace	(–	
	vertical line	/^	
	closing brace	) –	
	tilde	~ (sp)	~ (sp)
¡	inverted !	!!	
¢	cent sign	c/ or C/ or c| or C|	
£	pound sign	l– or L– or l= or L=	
¥	yen sign	y– or Y– or y= or Y=	
§	section sign	so or SO or S! or s! or s0 or S0	
¤	currency sign	xo or XO or x0 or X0	

Table 5–2 continued (Compose Character Sequences for Multinational Mode)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
©	copyright sign	co or CO or c0 or C0	
ª	feminine ordinal indicator	a_ or A_	small a underline or upper case A underline
«	double open angle brackets	<<	
°	degree sign	0^	
±	plus or minus sign	+–	
²	superscript 2	2^	
³	superscript 3	3^	
µ	micro sign	/u or /U (in order)	
¶	paragraph sign	p! or P!	
·	middle dot	.^	
¹	superscript 1	1^	
º	masculine ordinal indicator	o_ or O_	
»	double closed angle brackets	>>	
¼	fraction one-quarter	1 4 (in order)	
½	fraction one-half	1 2 (in order)	
¿	inverted ?	??	
À	A grave	A`	`A
Á	A acute	A'	'A
Â	A circumflex	A^	^A
Ã	A tilde	A~	~A
Ä	A umlaut	A" or "A	"A
Å	A ring	A* or A° (degree sign)	°A
Æ	AE diphthong	Æ (in order)	
Ç	C cedilla	C,	
È	E grave	E`	`E
É	E acute	E'	'E
Ê	E circumflex	E^	^E
Ë	E umlaut	E" or "E	"E
Ì	I grave	I`	`I
Í	I acute	I'	'I
Î	I circumflex	I^	^I
Ï	I umlaut	I" or "I	"I
Ñ	N tilde	N~	~N

Table 5–2 continued (Compose Character Sequences for Multinational Mode)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
Ò	O grave	O`	`O
Ó	O acute	O'	'O
Ô	O circumflex	O^	^O
Õ	O tilde	O~	~O
Ö	O umlaut	O" or ¨O	
Œ	O E diphthong	O E (in order)	
Ø	O Slash	o/	
Ù	U grave	U`	`U
Ú	U acute	U'	'U
Û	U circumflex	U^	^U
Ü	U umlaut	U" or ¨U	¨U
Ÿ	Y umlaut	Y" or ¨Y	¨Y
ß	German small sharp s	ss	
à	a grave	a`	`a
á	a acute	a'	'a
â	a circumflex	a^	^a
ã	a tilde	a~	~a
ä	a umlaut	a" or ¨a	¨a
å	a ring	a* or a° (degree sign)	
æ	ae diphthong	a e (in order)	
ç	c cedilla	c ,	
è	e grave	e`	`e
é	e acute	e'	'e
ê	e circumflex	e^	^e
ë	e umlaut	e" or ¨e	¨e
ì	i grave	i`	`i
í	i acute	i'	'i
î	i circumflex	i^	^i
ï	i umlaut	i" or ¨i	¨i

Table 5–2 continued (Compose Character Sequences for Multinational Mode)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
ñ	n tilde	n~	~n
ò	o grave	o`	`o
ó	o acute	o'	'o
ô	o circumflex	o^	^o
õ	o tilde	o~	~o
ö	o umlaut	o" or ¨o	¨o
œ	oe diphthong †	o e (in order)	
ø	o slash	o/	
ù	u grave	`u	`u
ú	u acute	u'	'u
û	u circumflex	u^	^u
ü	u umlaut	u" or ¨u	¨u
ÿ	y umlaut	y" or ¨y	¨y

Table 5–2 continued (Compose Character Sequences for Multinational Mode)

ISO (Latin–1) Characters

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
(sp)	no break space	sp sp	
	broken vertical bar	| | or !^	
¬	logical not	– ,	
-	soft (syllable) hyphen	– –	
®	registered trademark	R O	
	macron	–^ or ^–	
3/4	three quarters	3 4	
÷	division sign	–:	
x	multiplication sign	x x	
	acute sign	' '	
	cedilla	, ,	
	dieresis	" " or "(sp)	¨(sp)
Ý	Y acute	Y'	'Y
ý	y acute	y'	'y
Þ	capital Icelandic thorn	TH (in order)	
þ	small Icelandic thorn	th (in order)	
Ð	capital Icelandic Eth	–D	
ð	small Icelandic Eth	–d	

Note: These characters are only available when you use the ISO Latin-1 multinational character set.

National Mode Character Sequences

Table 5–3 Compose Character Sequences for National Mode Using Typewriter Keys.

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	British Keyboard		
£	pound sign	l– or L– or l= or L=	
\	backslash	/<	
"	quotation mark	" (sp)	
	apostrophe	' (sp)	
@	commercial at	aa or AA	
[	opening bracket	((	
	closing bracket	))	
	opening brace	)–	
	closing brace	(–	
	vertical bar	^/	
^	circumflex accent	^ (sp)	
	grave accent	` (sp)	
	tilde character	~ (sp)	
	Danish Keyboard		
	quotation mark	" (sp)	
#	number sign	++	
	apostrophe	' (sp)	
@	commercial at	aa or AA or aA	
	grave accent	` (sp)	
^	circumflex accent	^ (sp)	
~	tilde	~ (sp)	
Å	A ring	* A	
Æ	AE diphthong	A E (in order)	
Ø	O slash	0 /	
å	a ring	* a	
æ	ae diphthong	a e (in order)	
ø	o slash	o /	

Table 5–3 continued (Compose Character Sequences for National Mode Using Typewriter Keys.)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	Dutch Keyboard		
£	pound sign	l– or L– or l= or L=	
"	quotation mark	" (sp)	
	apostrophe	' (sp)	
1/4	one quarter	1 4 (in order)	
1/2	one half	1 2 (in order)	
3/4	three quarters	3 4 (in order)	
ij	ij sign	i j (in order)	
f	Florin	f – (in order)	
	vertical bar	/^	
	grave accent	` (sp)	
	acute accent	' '	
^	circumflex accent	^(sp)	
	dieresis	" ^	
	Finnish Keyboard		
"	quotation mark	" (sp)	
#	number sign	++	
	apostrophe	' (sp)	
@	commercial at	aa or AA or aA	
Ä	A umlaut	"A	
Å	A ring	*A	
Ö	O umlaut	"O	
ü	U umlaut	"U	
ä	a umlaut	"a	
å	a ring	*a	
é	e acute	'e	
ö	o umlaut	"o	
ü	u umlaut	"u	

Table 5–3 continued (Compose Character Sequences for National Mode Using Typewriter Keys.)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	Flemish and French/Belgian Keyboards		
£	pound sign	l- or L- or l= or L=	
"	quotation mark	" (sp)	
	apostrophe	' (sp)	
§	section sign	!s or !S or os or oS or Cs or OS or 0s or 0s	
	degree sign	0^ or °(sp)	
	grave accent	` (sp)	
^	circumflex	^ (sp)	
à	(a grave)	`a	
è	e grave	`e	
é	e acute	´e	
ù	u grave	`u	
ç	c cedilla	c,	
	French Canadian Keyboard		
	quotation mark	" (sp)	
#	number sign	++	
	apostrophe	'(sp)	
à	a grave	`a	`a
â	a circumflex	^a	^a
è	e grave	`e	`e
é	e acute	´e	
ê	e circumflex	^e	^e
î	i circumflex	^i	^i
ô	o circumflex	^o	^o
ù	u grave	`u	`u
û	u circumflex	^u	^u
ç	c cedilla	,c	

Table 5–3 continued (Compose Character Sequences for National Mode Using Typewriter Keys.)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	German/Austrian Keyboard		
	quotation mark	" (sp)	
#	number sign	++	
'	apostrophe	' (sp)	
§	section sign	!s or !S or os or oS or Os or OS or 0s or 0S	
	grave accent	` (sp)	
^	circumflex accent	^ (sp)	
ß	German sharp s	ss	
Ä	A umlaut	"A	
Ö	O umlaut	"O	
ü	U umlaut	"U	
ä	a umlaut	"a	
ö	o umlaut	"a	
ü	u umlaut	"u	
	Italian Keyboard		
£	pound sign	l– or L– or l= or L=	
"	quotation mark	" (sp)	
	apostrophe	' (sp)	
	degree	^0	
§	section sign	!s or !S or os or oS or Os or OS or 0s or 0S	
^	circumflex	^ (sp)	
à	a grave	`a	`a
è	e grave	`e	`e
é	e acute	´e	
ì	i grave	`i	`i
ò	o grave	`o	`o
ù	u grave	`u	`u
ç	c cedilla	c,	

Table 5–3 continued (Compose Character Sequences for National Mode Using Typewriter Keys.)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	Norwegian Keyboard		
	quotation mark	" (sp)	
#	number sign	++	
	apostrophe	' (sp)	
@	commercial at	aa or AA or aA	
	grave accent	` (sp)	
^	circumflex accent	^ (sp)	
~	tilde	~ (sp)	
Å	A ring	*A	
Æ	AE diphthong	A E (in order)	
Ø	O slash	0/	
å	a ring	*a	
æ	ae diphthong	ae	
ø	o slash	o/	
	Portuguese Keyboard		
	quotation mark	" (sp)	
	apostrophe	' (sp)	
@	commercial at	aa or AA or aA	
^	circumflex accent	^ (sp)	
	grave accent	` (sp)	
~	tilde	~ (sp)	
Ã	A tilde	~A	~A
Õ	O tilde	~O	~O
Ç	C cedilla	C,	
ã	a tilde	~a	~a
õ	o tilde	~o	~o
ç	c cedilla	c,	

Table 5–3 continued (Compose Character Sequences for National Mode Using Typewriter Keys.)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	Spanish Keyboard		
£	pound sign	l– or L– or l= or L=	
"	quotation mark	" (sp)	
'	apostrophe	' (sp)	
	degree sign	o^ or *(sp)	
§	section sign	!s or !S or os or oS or Os or OS or 0s or 0S	
¡	inverted !	!!	
¿	inverted ?	??	
	grave accent	` (sp)	
^	circumflex	^ (sp)	
~	tilde	~ (sp)	
Ñ	N tilde	~N	
ç	c cedilla	c,	
ñ	n tilde	~n	
	Swedish Keyboard		
	quotation mark	" (sp)	
#	number sign	++	
	apostrophe	'(sp)	
Ä	A umlaut	"A	
Å	A ring	*A	
É	E acute	'E	
Ö	O umlaut	"O	
ü	U umlaut	"U	
ä	a umlaut	"a	
å	a ring	*a	
é	e acute	'e	
ö	o umlaut	"o	
ü	u umlaut	"u	

Table 5–3 continued (Compose Character Sequences for National Mode Using Typewriter Keys.)

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	Swiss (French) and (German) Keyboards		
	quotation mark	" (sp)	
	apostrophe	' (sp)	
à	a grave	`a	`a
ä	a umlaut	a	
è	e grave	`e	`e
é	e acute	´e	
ê	e circumflex	^e	^e
î	i circumflex	^i	^i
ô	o circumflex	^o	^o
ö	o umlaut	"o	
ù	u grave	`u	`u
û	u circumflex	^u	^u
ü	u umlaut	"u	
ç	c cedilla	c,	

National Mode Data Processing Keys

Table 5–4 Compose Character Sequences for National Mode, Using Data Processing Keys

(1) Compose Character		(2) 3-Character Sequence	(3) 2-Character Sequence
	quotation mark	" (sp)	
#	number sign	++	
	apostrophe	'(sp)	
@	commercial at	aa or AA or aA	
[	opening bracket	((	
\	backslash	/<	
]	closing bracket	))	
	opening brace	(–	
	vertical bar	^/	
	closing brace	)–	
	tilde character	~ (sp)	

German Keyboard Functionality

German Keyboard Dialect
On the German keyboard, the "Compose Character" key is replaced by "Group Shift" and "Alternate Shift".

If you select the German Keyboard dialect in the Set-up Directory, the "Group Shift" key replaces the "Compose Character" key on the left side of the keyboard and "Alternate Shift" replaces the "Compose Character" key on the right side of the keyboard.

Group Shift
Many keys on the German keyboard have a second group of legends on the right half of their keycap. These legends are called Group-2.

To enter a single character from Group-2, press and release the "Group Shift" key. An arrow symbol shows up in the 25th status line to indicate that you have selected the Group-2 keys. Type the key that has the desired character on the right half of the keycap. The character appears on the screen, and the arrow indicator turns off.

To enter a series of characters from Group-2, hold down the "Group Shift" key and type the series of keys that have the desired characters on the right half of their keycaps. The characters appear on the screen. When you are done typing characters from Group 2, release the "Group Shift" key. The arrow indicator turns off.

Alternate Shift
"Alternate Shift" is a modifier key, used to generate a no break space (NBSP) or soft hyphen (SHY) character.

Alternate Shift + space bar = NBSP character
Alternate Shift + - = SHY character.

Chapter 6

KEYBOARDS

This section contains keyboard layout drawings for each keyboard supported by the ELT320.

North American/United Kingdom (data processing version)

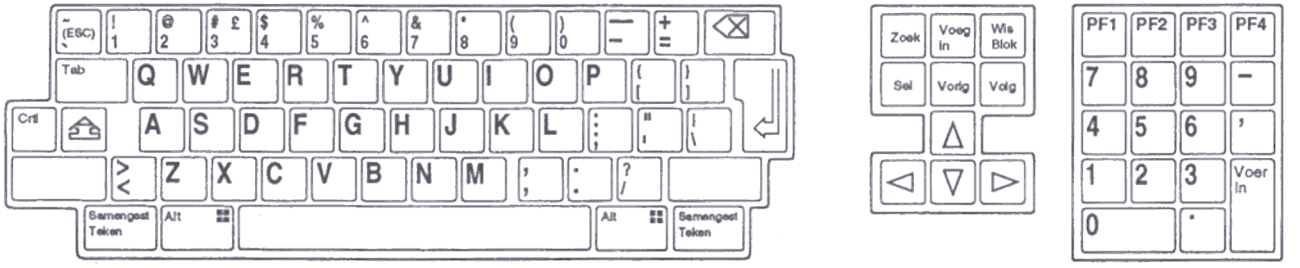
Belgium (Flemish)

Canada (French)

F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 Hjælp Udfør F17 F18 F19 F20
PF1 PF2 PF3 PF4 7 8 9 - 4 5 6 , 1 2 3 Ind-læs 0 .
Slet Indsæt Forrige Næste Vælg
Kode Skift Kombiner tegn Alt Skift Kombiner tegn
Denmark
F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 Help Do F17 F18 F19 F20
PF1 PF2 PF3 PF4 7 8 9 - 4 5 6 , 1 2 3 Enter 0 .
Find Insert Here Re-move Prev Screen Next Screen Select
Tab Ctrl Compose Character Alt Alt Compose Character
Finland

France/Belgium

Germany/Austria



Holland

Italy