

UNISYS

BTOS

**Burroughs Terminal
Emulator (BTE)**

**Operations
Guide**

Relative to
Release Level 2.0

Priced Item

August 1987
Distribution Code SA
Printed in US America
1188158

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About This Guide

Burroughs Terminal Emulator (BTE) software allows your BTOS workstation to emulate a T 27. As a T 27 terminal, the workstation can be linked to a mainframe computer (also called a host computer) to access its data base or run its application programs. Using the BTE software, your workstation can send data to the host and receive data from the host.

Scope

Included are instructions on how to:

- Run BTE software
- Read the screen
- Use the keyboard
- Enter data
- Transmit data to the host computer
- Read system and error messages and correct simple problems

Audience

This guide is intended for the operator who wants to use BTE only as a means of getting to a specific application on the host computer.

Prerequisites

No prior experience with computers is necessary in order to use this guide.

Organization

This manual consists of nine sections and a glossary and is organized as follows:

Section 1, "Starting BTE," gives software requirements for running BTE and describes basic operations.

Section 2, "The Keyboard," explains how the keys function in BTE.

Section 3, "Screen Configuration," describes how to display the different BTE environments.

Section 4, "Forms Mode," defines forms mode and the fields on a page. It also explains how to enter and exit forms mode and how to build and transmit a form.

Section 5, "Search Mode," tells how to search for a character in BTE.

Section 6, "Data Transmission," explains how data is sent to and received from the host.

Section 7, "Key Programming," tells how to program a key to execute a sequence of keystrokes.

Section 8, "Printing," gives BTE printer capabilities and operations. It also provides printer errors.

Section 9, "Error Messages," gives common BTE error messages and what they mean.

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Starting BTE

Before You Begin

The following software must be installed on your system before you can use BTE:

- BTOS operating system (release level 8.0 or higher)
- Burroughs Multipoint Data Communications Services (BMULTI) (release level 7.0 or higher)
- BTE

If they are not, see your system administrator.

Invoking BTE

To invoke BTE:

- 1 At the Command line type **Install BMULTI** and press GO.

Note: If error code 8401 appears, BMULTI has already been installed. Go on to step 2.

- 2 At the new Command line type **B T E** and press GO.

Your system administrator may want you to use a configuration file other than the default. If so, press RETURN, enter the correct prefix, and press GO.

Six asterisks in the upper left corner of the screen indicate that BTE has been successfully invoked.

Exiting BTE

To exit, BTE must be in local mode. Press F8 (LOCAL). Then press FINISH and GO.

The HELP Key

Once you've entered BTE, you have access to on-line information by pressing HELP. You can only page forward through the screens. When the last screen is displayed, press NEXT PAGE or SCROLL UP to exit the help screens and return you to the previously displayed BTE screen. Press CANCEL to exit the help screens at any point.

Cursor and Cursor Movement

The blinking underline or rectangle on the screen is the keyboard cursor. It indicates where input from the keyboard will appear on the screen.

BTE has a *stationary cursor*: Whenever the cursor moves to another page, it returns to the position it held the last time it was in that page. For example, if the cursor was beside an inventory sum before you left the page, the cursor returns there when you return to the page.

Home and Mobile Home

The *home* position is the upper left corner of a nonforms page. When you press the HOME key (F1), the cursor moves there. In forms mode, the cursor moves to the first unprotected field when you press HOME. See “Function Keys” in Section 2 for more information.

The *mobile home* position can be anywhere on the page and can be set by the host. It becomes important when you transmit and print data. (see Sections 6 and 8).

The Data Comm Pointer

The data comm pointer (DCP) indicates where data coming from the host will be shown on the screen. However, the DCP is invisible. You can tell where it is only by watching where the data comm messages come onto your screen. To determine the DCP position, you can align the cursor with the DCP by pressing CTRL >. (F6 is the CTRL key.)

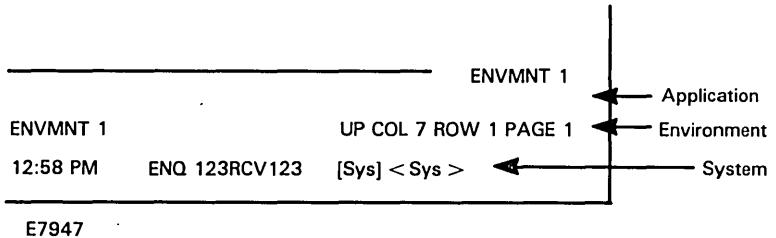
The Keyboard Environment

BTE can run three environments simultaneously. Each can talk to a different host and run a different application program. You can enter data from the keyboard into only one environment at a time. This environment is called the *keyboard* environment. Only the keyboard environment displays a cursor (when the cursor is visible—the cursor can be configured to be invisible).

Status Lines

BTE displays three status lines at the bottom of the screen: the application, environment, and system status lines (see Figure 1-1). They contain information you need to read. The application line in Figure 1-1 is blank.

Figure 1-1 BTE Status Lines



Application Status Line

The application status line is application-dependent: Its appearance varies widely from one application to another.

System Status Line

The system status line gives four kinds of information. The leftmost portion of the line gives the date and time.

The middle portion of the system status line consists of *ENQ* and *RCV*, followed by the number(s) of the enabled environment(s). When the host has a message to send to an environment, the number of that environment is highlighted next to *ENQ*. When an environment is in the process of receiving a message from the host, the number of that environment is highlighted next to *RCV*.

The rightmost portion of the system status line displays the workstation's current volume and directory.

Environment Status Line

The information on the environment status line reflects the status of the keyboard environment only. It is divided into four sections: error messages, ENVMNT #, system messages, and cursor position.

Error Messages Section 9 lists error messages and tells you how to clear them.

ENVMNT # # is replaced with *1*, *2*, or *3* to indicate the keyboard environment.

System Messages gives the status of selected keyboard functions.

Message	Meaning
CTRL	BTE is in CTRL (control) mode.
FORM	Page is in forms mode.
INS/PG	Inserting data shifts everything in the page right.
INS/LN	Inserting data shifts everything in the line right.
SEARCH	BTE is in search mode.
UP	Only uppercase letters appear on screen as you type.
LO	Lower- and uppercase letters appear on screen as you type (as long as LOCK key LED is not lit).

Cursor Position displays the column, row, and page the cursor is in. In Figure 1-1, the cursor position is column 7, row 1, page 1.

If you see a message on your screen that is not listed here, it's probably been customized for your work group. If you need further information, ask your system administrator.

The Keyboard

LEDs

Light-Emitting Diodes (LEDs) are the lights that appear on some of the keys on the keyboard. Each lit LED indicates a specific condition in the keyboard environment. These are listed in Table 2-1.

If your keyboard also has LEDs in the upper right corner, their meanings correspond to the functions shown in Figure 2-1. LEDs reflect the status of the keyboard environment only.

Figure 2-1 K3 BTE LEDs

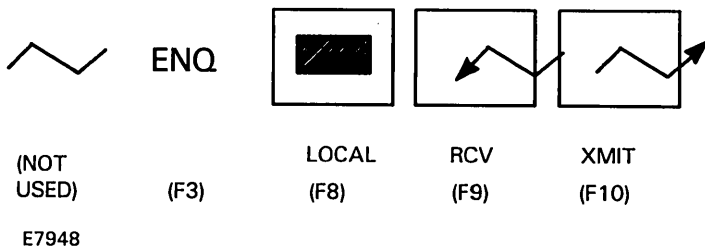


Table 2-1 BTE LEDs

Lit LED	Meaning
F1	Not used.
F2	FORMS. BTE is in forms mode. You can enter data only in the unprotected fields. Press SHIFT-F2 to take BTE out of forms mode and turn the LED off.
F3	ENQ. The host is trying to send a message but can't because BTE is in local mode. (Press F9 to put BTE in RCV mode and receive the message.)
F8	LOCAL. BTE is in local mode. To exit BTE, F8 must be lit.
F9	RCV. BTE is ready to receive data from the host.
F10	XMIT. BTE is transmitting information to the host. This function works only as quickly as the host is prepared to receive and process the message.
OVERTYPE	BTE is in overtype mode. Characters you type overwrite existing characters at the cursor position. Press OVERTYPE again to return to insert mode.
	When BTE enters insert mode, it inserts a space at the cursor position and INS/LN appears on a status line. Any data you enter thereafter shifts existing data right.
LOCK	Letters appear only in uppercase when typed. To turn off the function, press LOCK again. The LOCK LED goes off and upper- and lowercase letters are displayed as you type (if BTE has been configured to do so).

Function Keys

The function keys (F1 through F10) are explained here. Notice that some keys have different functions in forms mode and nonforms mode. For example, when you press SHIFT-F1 in nonforms mode, the entire page will be cleared of text; however, in forms mode SHIFT-F1 will clear only the unprotected fields.

F1 (HOME)

Nonforms: Moves the cursor to the home position—column 1, row 1 of the page.

Forms: Moves the cursor to the first data entry position in the first unprotected field.

SHIFT-F1 (CLEAR PAGE)

Nonforms: Clears page; moves cursor to the home position.

Forms: Depending on how your workstation is configured either 1) the cursor moves home, the page is cleared, and BTE goes into nonforms mode, or 2) the cursor moves to first unprotected field and unprotected fields are cleared.

F2 (FORM ENABLE)

Nonforms: Puts page in forms mode if an unprotected field has been entered in the page.

Forms: No effect.

SHIFT-F2 (FORM DISABLE)

Nonforms: No effect.

Forms: Takes page out of forms mode, and, depending on how your workstation is configured either 1) moves the cursor home and clears the page, or 2) moves the cursor to home.

F3 (PRINT)

Nonforms: Data from home to the cursor is sent to the printer with a form feed. If the cursor is home, the entire page is printed.

Forms: Data in unprotected fields from home to the cursor is sent to the printer with a form feed. Protected data is printed as blanks. If the cursor is home, data in all unprotected fields is printed.

SHIFT-F3 (PRINT ALL)

Nonforms: Data from home to the cursor is sent to printer with a form feed. If the cursor is home, the entire page is printed.

Forms: Data in protected and unprotected fields from home to the cursor is printed with a form feed. If the cursor is on or before the data entry position of the first unprotected field, data in all unprotected and protected fields is printed.

F4 (CLEAR EOL)

Nonforms: Clears data from the cursor to the end of the line.

Forms: If the cursor is in an unprotected field, clears text from the cursor to the end of the unprotected field. (See "Forms Mode," Section 4.)

If the cursor is in a right-justified field but not in the data entry position, the key has no effect (see Section 4).

SHIFT-F4 (CLEAR EOP)

Nonforms: Clears data from the cursor to the end of the page.

Forms: Clears data in the unprotected fields from the cursor to the end of the page.

When the cursor is in a right-justified field but not in the data entry position, the key has no effect (see Section 4).

F5 (LINE INSERT)

Nonforms: Inserts a blank line at the beginning of the present cursor line, the cursor moves to the beginning of the inserted line, the remaining lines are shifted down and the last line in page is discarded.

Forms: No effect.

SHIFT-F5 (LINE DELETE)

Nonforms: Deletes the line containing the cursor. Moves up remaining lines in page. The cursor moves to the beginning of the line. A blank line is inserted at the end of the page.

Forms: No effect.

F6 (CTRL)

Forms and Nonforms: Sets CTRL mode and begins a control sequence. CTRL appears in the environment status line. Also cancels CTRL HOLD mode. To exit CTRL mode, press F6 again. Pressing a key not part of a valid CTRL sequence also exits CTRL mode.

SHIFT-F6 (CTRL HOLD)

Forms and Nonforms: Enters CTRL HOLD mode. BTE remains in CTRL mode after a valid control sequence has ended. However, an invalid control sequence cancels CTRL HOLD mode. Also, pressing CTRL cancels CTRL HOLD mode.

F7 (SPCFY)

Sends cursor location to host in forms and nonforms mode.

SHIFT-F7 (SPCFY)

Same as F7.

F8 (LOCAL)

Puts BTE in local mode. Turns on the LOCAL LED; turns off the ENQ, RCV, and XMIT LEDS. Exits CTRL mode if BTE was in CTRL mode when the key was pressed. Clears error messages on the system status line.

SHIFT-F8 (LOCAL)

Same as F-8.

F9 (RECEIVE)

Puts BTE into RCV mode if it was in local mode. Turns off the LOCAL and ENQ LEDs and turns on the RCV LED.

SHIFT-F9 (RECEIVE)

Same as F9.

F10 (XMIT)

Sends data in the page to the host. The scope of any transmit function is the cursor page. How much data is sent depends on the cursor position at the time that you press XMIT. If the cursor is home, all data in the page is sent. See your system administrator for more information.

The LOCAL and RCV LEDs turn off. The XMIT LED turns on.

If the error message *BUFFER OVERFLOW* appears on the environment status line, you tried to send more data than the host could handle. The data that did not get sent is lost.

General Keyboard Functions

Note: If you press any key but text keys and BACKSPACE, BTE exits insert mode and enters overtyping mode.

BACKSPACE	In overtyping mode, moves the cursor left; in insert mode, deletes the character at the left and moves the cursor left into that position. The BACKSPACE function does not wrap around when cursor is home.
DELETE	Deletes the character and shifts remaining text in line left.
CANCEL	Cancels certain keyboard functions, exits the help screens, and cancels exiting from BTE.
DOWN ARROW	Moves the cursor down in the page. If the cursor is on the bottom line of the page, it jumps to the top line. SHIFT-down arrow scrolls page down.

FINISH	Exits BTE if you press GO after you press FINISH.
GO	Same as XMIT. See "Function Keys," F10.
HELP	Displays the first BTE help screen.
LEFT ARROW	Moves the cursor left in the page. If the cursor is in the first column of a line, it jumps to the last column of the line above. If the cursor is in the first column of the first line of the page, it jumps to the last column of the last line of the same page. SHIFT-left arrow is effective only in 132-column mode and scrolls the data on the screen horizontally to the left.
LOCK	Toggles the keyboard between displaying only uppercase letters (when the LOCK LED is lit) and lower- and uppercase letters.
MARK	End-of-Text. In nonforms mode, stores an EX at the cursor position and moves the cursor to the mobile home position. The end-of-text position affects what data is transmitted to the host when you press XMIT. SHIFT-MARK has the same function as MARK.
NEXT	In nonforms and forms mode, functions the same as the TAB key. In search mode, advances the cursor to the next instance of the search character.
NEXT PAGE	Moves the cursor to the next page (if there is a next page) and to the last position it held in that page during the current BTE session. (Cursor position is not stored when you exit BTE.) The environment status line changes to indicate the cursor's new position and the features of the new page. After pressing HELP, NEXT PAGE displays the next help screen.
OVERTYPE	Toggles BTE between insert and overtyping modes (see OVERTYPE LED).
PREV PAGE	Moves the cursor to the previous page and to the last position it held in that page during the current BTE session. (Cursor position is not stored when you exit BTE.) The environment status line changes to indicate the cursor's new position and the features of the new page.
RETURN	Moves the cursor to the first column of the row it's in or to the first column of the next row.
RIGHT ARROW	Moves the cursor right in the page. If the cursor is in the last column of a line, it jumps to the first column of the line below. If the cursor is in the last column of the last line of the page, it jumps to the first column of the first line of the same page. SHIFT-right arrow is effective only in 132-column mode and scrolls the data on the screen horizontally to the right.
SCROLL DOWN	Moves all data in the keyboard environment down a line. The bottom line of data moves off the screen and the top line displays the next line above. If the top line of the first page (which could be blank) is already shown on the screen, SCROLL DOWN has no effect.

SCROLL UP	Moves all data in the keyboard environment up a line. The top line of data moves off the screen and the bottom line displays the next line below. If the bottom line of the last page (which could be blank) is already shown on the screen, SCROLL UP has no effect.
NEXT	Moves the cursor left to the previous tab stop or to the home position if there are no tab settings. In a forms page, NEXT moves the cursor to the previous unprotected field.
TAB	Moves the cursor across a line to the next tab setting. In forms mode, moves the cursor to the next unprotected field.
UP ARROW	Moves the cursor up in the page. If the cursor is on the top line of the page, it jumps to the bottom line. SHIFT-up arrow scrolls up the page.

Control and Code Sequences

To begin a control sequence, press and release **CTRL**. *CTRL* appears on a status line. *CTRL* should remain visible for the length of the control sequence. If it vanishes before the sequence is completed, you've pressed an incorrect key in the sequence and have to begin again.

To begin a code sequence, press and hold **CODE** as you press the next key.

Control and code sequences are used in BTE functions like window configuration, forms mode, search mode, and key programming. A few of the more commonly used control sequences are listed here. They are discussed in detail in the next sections.

CODE left arrow	Moves cursor to the leftmost column.
CODE right arrow	Moves cursor to one character position past the rightmost nonblank position in the line.
CODE Z	Toggles between real and virtual display of 132 columns on B 27 only (see Section 3).
CTRL A	Enables search mode. BTE enters search mode. <i>SEARCH</i> appears on the status line (see Section 5).
CTRL E x	Specifies search character. Whatever character you type for <i>x</i> becomes the search character (see Section 5).
CTRL J n	Changes the keyboard environment. <i>n</i> is 1, 2, or 3, depending on which environment you want to work in.
CTRL NEXT PAGE	Changes the keyboard environment to the next enabled environment.

CTRL O	Clears variable tabs if BTE is configured for it.
CTRL P	Toggles variable tabs if BTE is configured for it.
CTRL PREV PAGE	Changes the keyboard environment to the previous enabled environment.
CTRL Q	Disables forms mode. Same as FORM DISABLE (SHIFT-F2) (see Section 4).
CTRL S	Disables search mode (see Section 5).
CTRL space L CTRL	Begins key programming sequence (see Section 7).
CTRL W	Enables forms mode. Same as FORM ENABLE (F2) (see Section 4).
CTRL X	Enables window configuration. The possible window configurations are displayed as you press RETURN. Press GO to implement the window configuration displayed (see Section 3).
CTRL Z	Toggles between a split- and full-screen display of the keyboard environment (see Section 3).

Screen Configuration

132-Column Mode and Horizontal Scrolling

BTE can be configured to display 132 columns. The columns can all appear on the screen at one time in reduced characters (B 27 only). This is called *real* 132-column mode. BTE can also display *virtual*

132-column mode—you see only 80 columns on the screen at one time, but you are able to scroll horizontally using SHIFT-right arrow and SHIFT-left arrow to view the other columns. CODE-Z toggles a display between real and virtual 132-column display (B 27 only).

Full- vs. Split-Screen Views

BTE can communicate with the host via three separate environments. Each works with the host independently and can run a different host application. BTE can display one environment at a time using a full-screen view, or up to three environments simultaneously using a split-screen view. (More than one environment must be enabled to display a split-screen view.) You choose how the environments are displayed with the Window Configuration command, CTRL X.

When BTE displays a split-screen view, you can “zoom” the keyboard environment into full-screen view by pressing CTRL Z. Once in full-screen view, press CTRL Z again to return to the split-screen view.

Configuring a Split-Screen View

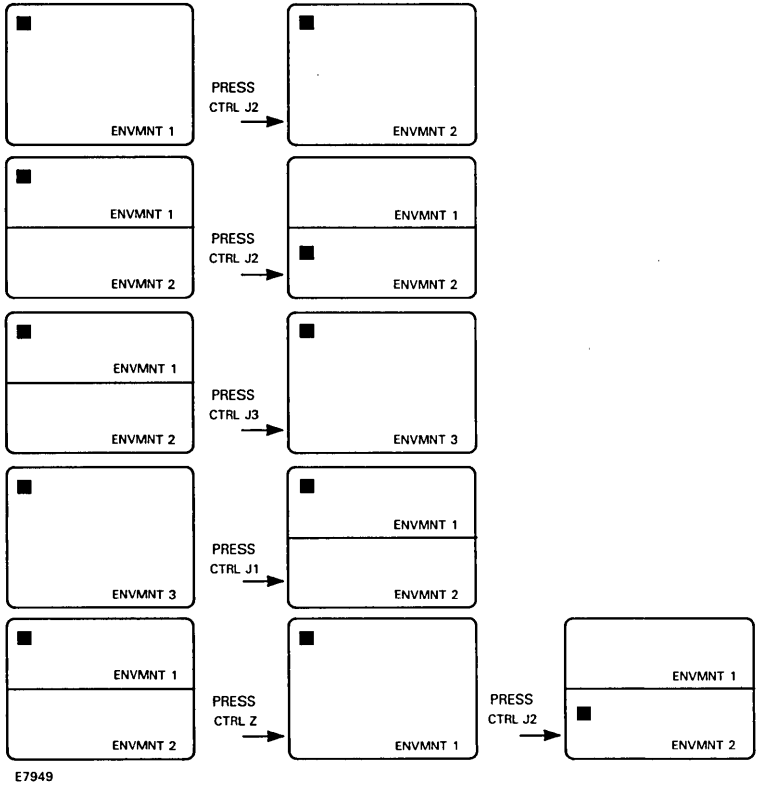
Press CTRL X and RETURN alternately until the window configuration you want appears. Press GO to implement that configuration. CANCEL aborts the configuration while in the menu.

Changing the Keyboard Environment

CTRL J *n* specifies the keyboard environment, where *n* is 1, 2, or 3. When you change keyboard environments, the BTE screen display may change from split- to full-screen view, depending on the window configuration you started

with and the keyboard environment you specify. Figure 3-1 illustrates how BTE can be expected to change the display. (CTRL NEXT PAGE and CTRL PREV PAGE also change the keyboard environment.)

Figure 3-1 Changing Keyboard Environments



Forms Mode

A page in forms mode has two kinds of fields: those you can write in (unprotected) and those you can't write in (protected). Special delimiters define these fields. When BTE is in forms mode, *FORM* appears on the environment status line.

Figure 4-1 A Sample Form

```

                                SAMPLE FORM ◆ 19-2 ◀

SURNAME ▶ DONALDSON ◀ FIRST NAME ▶ LOUISA ◀
      AGE ▲ 34 ◀      WORKER ID ▲ 4713-22-5 ◀

_____ ENVMNT 1
ENVMNT 1      FORM      UPCOL 85 ROW  9 PAGE 1
  
```

E7951

A form can be sent to your workstation from the host or you may be instructed to press a certain key to receive it. The triangles in the figure are forms fields delimiters. The field prompts, such as *SURNAME* and *FIRST NAME* in Figure 4-1, are in protected fields. The data, such as *34* and *Louisa*, are in unprotected fields. *Sample Form # 19-2* is in a protected field: you cannot modify data in that field.

To fill in a form, type the required data into the unprotected field, then move the cursor to the next field using *TAB* or *NEXT*. (If there is only one field, the cursor moves to the beginning of that field.) After you fill in a field, the cursor may automatically skip to the next field. After you fill in the needed unprotected fields, you transmit the data to the host using *XMIT*.

Unprotected Fields

There are two kinds of unprotected fields: right- and left-justified. They have different data-entry positions. When you press *TAB* or *NEXT*, the cursor automatically moves to the data-entry position of the next unprotected field.

Left-Justified Fields

In a left-justified field, the data-entry position is the leftmost side of the field. As you enter data, the cursor moves right, as it does in a normal word processor, and you can enter data anywhere in the field. When a left-justified field is filled with data, the cursor may move automatically to the next unprotected field.

To delete text in a left-justified field, press *F4* or *DELETE* to delete the data from the cursor to the end of the field.

Right-Justified Fields

In a right-justified field, the data-entry position is the right-most side of the field. As you enter data, the cursor remains stationary and the data shifts left. Once the field is filled if you enter more text, the leftmost characters are lost. You cannot enter data into this field if the cursor is in any other position in the field. You must press *TAB* to move the cursor to the next field.

To delete text in a right-justified field, make sure the cursor is in the rightmost position and press *DELETE*. The characters shift right as you delete. Press *DELETE* until the incorrect character has been deleted. To clear the field, put the cursor in the data-entry position and press *F4*.

Protected Fields

Protected fields are defined by forms delimiters, but you cannot write in them.

Transmitting Data in a Form

To transmit all the data you entered into a form, press HOME (F1), then XMIT (F10). If you transmitted all the fields in Figure 4-1, the data would look like this to the host: (The data in the protected field is sent as well.)

19-2DonaldsonLouisa34473-22-5

BTE can also send only a field of data at a time. Ask your system administrator about how you should transmit data in a forms page.

Figure 4-2 Building a Form

SAMPLE FORM ◆ 19-2 ◀

SURNAME ▶		◀ FIRST NAME ▶	
AGE ▲	◀	WORKER ID ▲	◀

ENVMNT 1

ENVMNT 1
FORM
UPCOL 85 ROW
9 PAGE 1

E7950

Building a Form

You must build a form in nonforms mode (before you enter forms mode), and you must specify at least one unprotected field to transfer what you built into forms mode. Specific control sequences create right- and left-justified fields. A third command specifies a protected field.

To create the form in Figure 4-2, type the heading **Sample Form** and the prompts for the fields, **Surname**, **First Name**, **Age**, and **Occupation**, positioning them approximately where you see them in the figure. (Make sure *FORM* does not appear on a status line. If it does, press SHIFT-F2 to exit forms mode before you begin.)

After you type the heading and prompts, use the arrow keys to position your cursor on your screen about where the numbered triangles appear in the figure. The numbers indicate different control sequence you will press to produce the different forms delimiters.

At each 1 press	CTRL H ? You specify a left-justified unprotected field.
At each 2 press	CTRL H - You specify a right-justified unprotected field.
At each 3 press	CTRL H > You end an unprotected field.

You should see each form delimiter on your screen as you complete each control sequence.

Entering Forms Mode

Once you have built a form following the instructions in the previous subsection, press FORM ENABLE (F2). *FORM* appears on the status line and the F2 LED lights up. Press TAB to move the cursor from field to field. Notice that in the form fields beside *SURNAME* and *FIRST NAME*, the cursor moves to the leftmost position in the field. These are left-justified fields. When the cursor moves to the fields beside *AGE* and *OCCUPATION*, it occupies the rightmost position. These are right-justified fields.

Exiting Forms Mode

Press FORM DISABLE (SHIFT-F2) to exit forms mode. Depending on how BTE has been configured, your screen may also be cleared when you exit forms mode. *FORM* disappears from the status line.

Summary: Entering and Exiting Forms Mode

- You must have at least one unprotected field to enter forms mode.
- You can enter data only in unprotected fields.
- You cannot overwrite forms delimiters or text in protected fields while in forms mode.

Control Sequence/Key	Result
FORM ENABLE (F2) CTRL W	Enters forms mode. <i>FORM</i> appears on the status line. You can't enter data into protected fields.
FORM DISABLE (SHIFT-F2) CTRL Q	Exits forms mode. <i>FORM</i> disappears from the status line. You can alter the form: overwrite form delimiters, enter new delimiters, and alter data in protected fields.
TAB	Moves cursor to next unprotected field.
HOME (F1)	Moves cursor to first unprotected field.
CLEAR (SHIFT-F1)	Clears unprotected fields and moves cursor to first unprotected field. BTE may also clear all the text in the page.
CL EOL(F4)	Clears from cursor to end of field (in right-justified fields when cursor is in data-entry position, clears entire field).
CL EOP(SHIFT-F4)	Clears data in the unprotected fields from the cursor to the end of the page. When the cursor is in a right-justified field but not in the data entry position, the key has no effect.

Search Mode

In search mode, BTE searches for a single character in the page where the cursor lies. (BTE cannot search for a word.) If the search character is not found on that page, the cursor moves to the home position (column 1, row 1 of the page).

When BTE finds the search character, the search stops and you can either replace the search character with another single character or you can reinitiate the search. While in search mode, you can specify a different search character without turning search mode off. Search mode behaves slightly differently in forms mode (see the next subsection).

Procedure

Follow this procedure to use search mode:

- 1 Press CTRL A (*SEARCH* appears on a status line).
- 2 Press CTRL E *x* to specify the search character, where *x* is the desired search character.
- 3 Press NEXT to initiate the search.
- 4 Press CTRL S to turn search mode off.

Example

Suppose, for example, that BTE is in search mode and you specified the search character as *B*. You press NEXT to begin the search. The cursor moves to the first *B* it finds and stops. Now you have two choices: You can resume the search by pressing NEXT, which moves the cursor to the next *B* on the page. Or you can press any single character. Assume you press *Z*. *Z* overwrites *B* and the search resumes automatically. The cursor moves to the next *B* on the page. If there are no more *B*s on the page, the cursor moves to the home position and stops.

Search Mode in a Forms Page

In a forms page, CTRL A turns on search mode and initiates the search (you don't press NEXT to begin the search). In addition to instances of the search character, the search stops at the beginning of unprotected form fields. Search mode also skips any instances of the search character that occur in right-justified fields. Press NEXT to resume the search. When you transmit a forms page that is in search mode, data in protected fields is sent to the host in addition to data in unprotected fields.

Summary of Search Mode Commands

- | | |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CTRL E <i>x</i> | Specifies the search character, where <i>x</i> is the character you want to search for. When you turn search mode off, the search character returns to its default value of the vertical broken bar character. |
| CTRL A | Turns search mode on; in forms mode initiates the search automatically. <i>SEARCH</i> appears on status line. |
| CTRL S | Turns search mode off (<i>SEARCH</i> disappears from the status line) and sets the search character to the vertical broken bar character. |

Data Transmission

To receive data BTE must be in RCV mode (F9 is lit). When BTE is in RCV mode, you receive data passively from the host; that is, you don't do anything to get it.

To transmit data in a forms page, see Section 4, "Forms Mode." In a nonforms page, press XMIT (F10). The XMIT LED lights up, and the data from the keyboard environment is transmitted. The amount of data transmitted depends on how BTE is configured and the relationship of the mobile home position to the cursor position. Ask your system administrator for more information.

Host/BTE transmission and reception operate on a page basis, regardless of what you see on your screen. You may see only a third of a page, yet the transmission to the host will include the entire page.

Key Programming

Key programming is assigning a sequence of keystrokes to one key. Once the key is programmed, pressing it sends the entire sequence to the display. This feature is helpful for quickly entering any sequence of keystrokes that you use frequently, such as a log-on procedure or a commonly used form.

A key program exists only in the environment in which it was created. Thus, a single key can be programmed differently in each of the three environments.

Procedure

Use the following procedure to program a key. The key program is executed as you enter it.

- 1 Press CTRL SPACEBAR L CTRL
- 2 Press the key to be programmed.

If you press a nonprogrammable key, programming stops.

- 3 Enter one or more keystrokes as the key program.

Until you terminate the program (step 4), every key you press becomes part of the program. If you use the arrow keys to edit on the screen, these keystrokes are included in the key program. There are, however, key sequences that cannot be incorporated into a key program. See "Nonprogrammable Functions" later in this section.

- 4 Press LOCAL to terminate the key program.

Note: If you use more memory than you have available for key programming, *BUFFER OVERFLOW* is displayed on a status line, key programming terminates, and the unfinished key program is lost. See your system administrator if this happens.

Restrictions

Key programs cannot be nested. For example, suppose that the *X* key is programmed to display *ABC*. If you program F1 to display *X* as part of the program, you will get only *X* and not the key program *ABC*.

All key sequences are executed as they are entered into the key program, except for CTRL RW—the sequence for entering set-up mode. This sequence is still entered in a key program, but it is executed later when the programmed key is pressed.

Simple Program Deletions

To delete a key program and return a key to its original function:

- 1 Press CTRL SPACEBAR L CTRL
- 2 Press *twice* the key to be deprogrammed.
- 3 Press LOCAL.

Nonprogrammable Functions

The following functions can not be used in key programs:

- CODE Z
- CTRL Z
- CTRL X
- CTRL NEXT PAGE
- CTRL PREV PAGE
- CTRL J n

Permanent Storage

To store a key program permanently (during times when you exit BTE), see your system administrator.

Printing

BTE Printer Capabilities

You can send a print request from each enabled environment without interrupting the request when you enter another environment. However, direct printing—the devices [LPT], [PTR]A, [PTR]B, [PTR]1A, [PTR]1B, [PTR]1C, [PTR]1D, [COMM]A, and [COMM]B—can handle only one print request at a time and works on a first-come, first-serve basis. If you send a second print request while the printer is busy with the first, *PRINTER ERROR* appears on the status line. Spooled printing and printing to a file can run concurrent requests.

Printer Commands

The printer performs the following print operations in response to the appropriate commands.

Note: If the corresponding menu options have been protected, these commands will not work as described.

Print Operation	Command
<p><i>Print Whole Page</i> Prints data from the mobile home to cursor with form feed in forms mode and nonforms mode. If cursor is before or at mobile home position, prints to the end of the page.</p>	<p>PRINT ALL (SHIFT-F3) or CTRL ;</p>
<p><i>Print Unprotected Page</i> Nonforms mode: Prints data from mobile home to cursor, with form feed. Forms mode: Prints data in unprotected fields from home to cursor, with form feed.</p>	<p>PRINT (F3) or CTRL :</p>
<p><i>Print Whole Page, No Form Feed</i> Same as Print Whole Page except there is no form feed.</p>	<p>CTRL]</p>

Selecting BTE Printer Devices

You can select printer devices from the printer menu using:

- CTRL SPACEBAR F CTRL (to invoke printer menu)
- Print prompt

CTRL SPACEBAR F CTRL

BTE must be specifically configured in order for you to use CTRL SPACEBAR F CTRL.

Once you invoke the printer menu with CTRL SPACEBAR F CTRL, you select an item using the arrow keys and toggle the option using RETURN. For *Name*, type the printer name or print file where you want the data to be sent. Press GO to lock in the changes. Press CANCEL to abort any changes. Use the normal printing commands to initiate printing.

Print Prompt

If BTE has been configured for it, any print request made from the keyboard invokes the print menu. Pressing GO in this case initiates printing and pressing CANCEL aborts the print request.

Printer Errors

PRINTER ERROR appears on the screen if:

- You try to print when the printer is busy.
- You selected an incorrect printer.
- The printer is not ready.
- A printer system fault occurs.
- A printer buffer was not enabled.
- The printer configuration file is configured incorrectly.

BUFFER OVERFLOW appears on the screen if:

- You try to print a page that is larger than the print buffer. The data that BTE could not copy into the printer buffer is lost.

Print Screen Data

Certain changes occur to the data during the printing process:

- Data in protected fields in a forms page appear as blanks when you use the CTRL : command.
- Data following carriage returns may not get printed. It depends on how BTE is configured. Ask your system administrator if you have problems printing all of the screen data.
- The printer may start new lines in places you didn't see on the screen.
- Spaces may be printed where control characters appeared on the page.
- Any special characters that are "mapped" to the control characters on the page are printed.

Error Messages

System and error messages appear on the left side of the environment status line. None of the errors stops BTE operation, but you may have to press LOCAL (F8) to clear the message before you can continue working. If any problem recurs, see your system administrator.

Message	Interpretation
Buffer Overflow	You've sent (or received) more data than BTE can process. The last part of the message is lost.
Printer Error	The printer may not be turned on; it may be out of paper; its cables may not be attached; the printer configuration file may be configured incorrectly; or you may have sent too much data to the printer at one time.
Receive Error	Data sent by the host has not been received correctly.
Keystroke Lost	This message usually occurs when you type too fast.
Receiving-P	This message includes the page number on which the data is being received.

A beep may sound on certain errors, when information is received from data comm, or when you reach the end of a page. This is an alerting device.

If you see other messages that aren't explained here, see your system administrator.

Glossary

Address. The BTE environment location as the host recognizes it. The host sends and picks up data according to this address. Each BTE environment must have a separate address.

Buffer. An area of memory devoted to storing information for certain BTE functions, such as the printer buffer or data comm buffer.

Configure. To alter the way BTE executes certain commands.

Cursor (keyboard). An underline or rectangle on the screen that indicates where keyboard characters will be displayed on the screen when they are typed.

Delimiters. In forms mode, the special characters on the screen that indicate the start and end of forms fields.

Environment. A capability of BTE to perform more than one function at a time. BTE can have up to three environments. Each is capable of communicating with a different host, running a different host application, and receiving from and transmitting to the host.

Form fields. A space in a forms page that is defined as protected or unprotected.

Forms mode. A special page format where data is contained in protected and unprotected fields. Keyboard input can be entered only into the unprotected fields.

Full-screen view. A screen display where the keyboard environment occupies the entire screen except for the status line area.

Host. The mainframe computer BTE transmits to and receives information from.

Host applications. Programs the host has that BTE accesses.

Keyboard environment. The BTE environment that you are currently working in.

Left-justified field. An unprotected forms mode field in which data is entered from left to right.

Light Emitting Diodes. (LEDs) Lights on certain keycaps and in the upper right corner of certain keyboards. They light up to indicate conditions or phases of BTE operation.

Glossary-2

Page. Units of data within an environment. You can select how many pages you want each environment to have through BTE set-up mode.

RCV mode. Operations involving reception of data from the host are permitted.

Right-justified field. An unprotected forms mode field in which data is entered at the right side of the field and shifts left as more data is entered.

Search mode. An operation in which BTE searches for a particular character in a page.

Set-up options. The particular features of BTE that can be changed.

Set-up values. The precise instructions BTE follows. Each option has two or more values you can choose from for each option.

Split-screen. A screen display where more than one environment is viewed on the screen at one time.

Status lines. Lines at the bottom of the screen that give you certain information about BTE, environments, and the host application you're using.

System messages. Screen messages that give the status of selected keyboard functions.

Windows. The space on the screen a single environment occupies in a split-screen view.

Zoom. Toggles between a split-screen and a full-screen view of the keyboard environment, or toggles between real and virtual 132-column mode (B 27 only).

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