



Burroughs

BTOS Burroughs Terminal Emulator (BTE)

Operations Guide

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Burroughs

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**Operations
Guide**

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Introduction

The Purpose of an Emulator

The Burroughs Terminal Emulator (BTE) software allows your Burroughs workstation to perform as a Burroughs terminal. As a Burroughs terminal the workstation can be linked to a large Burroughs computer (called a *host computer*) in order to access its data base or run its application programs. Once the BTE software has been installed, your workstation will operate differently. Some keys will have new functions. Through the BTE software, your workstation will send data to the host and receive data from the host.

About This Guide

This guide is for the operator who wants to use BTE only as a means of getting to a specific application on the host computer. Included are instructions on how to:

- Run BTE software
- Read the screen
- Use the keyboard
- Interact with BTE
- Work with host computer
- Read system and error messages and correct simple problems.

Within the sections of this guide are explanations of commands and keyboard sequences you must follow to execute certain commands. The instructions are given in the following format:

Characters you must type onto the screen appear in **boldface**.

Keyboard keys, such as RETURN and GO, appear in uppercase.

A sample instruction: Type **Burroughs Terminal Emulator** and press GO.

Starting BTE

Running BTE Software

To use BTE software, BTOS (level 5.0 or higher) and BMULTI (level 5.0 or higher) software must be installed on your workstation.

To run the BTE software you perform certain steps that differ slightly depending on whether your system uses a local hard disk or a dual floppy disk for main storage. The directions for installing the software on each are listed separately. Read the following subsection that describes your workstation.

Hard Disk System

BTOS, BMULTI, and the BTE software should already be installed on your workstation and ready to run. If they are not, see your system administrator. When they are installed, follow the instructions in Figure 1-1. After you have done this, go to the subsection entitled "Cursor and Status Lines."

Figure 1-1 Installing BTE into Hard Disk System

Step	Action	Result				
1	Type Install BMULTI on the command line. Press GO .	a. Executes BMULTI <table border="1" data-bbox="578 1052 871 1247"> <thead> <tr> <th data-bbox="578 1052 726 1101">If this appears:</th> <th data-bbox="726 1052 871 1101">It means</th> </tr> </thead> <tbody> <tr> <td data-bbox="578 1101 726 1247">Error 8401</td> <td data-bbox="726 1101 871 1247">BMULTI has already been installed and you can go ahead.</td> </tr> </tbody> </table> b. A new command line appears.	If this appears:	It means	Error 8401	BMULTI has already been installed and you can go ahead.
If this appears:	It means					
Error 8401	BMULTI has already been installed and you can go ahead.					
2	Type B T E on the command line. Press GO .	***** appears on upper left. The confidence tests have been successfully completed.				

Dual Floppy Disk System

The instructions in Figure 1-2 assume that your system administrator has already copied the necessary files (Exec.Run and Sys.Font) onto the BTE software disk.

Note: Handle the BTE software disk carefully. When you're not using it, keep it in a safe place.

Figure 1-2 Installing BTE into Dual Floppy System

Step	Action	Result						
1	Insert BTOS disk in F0 (the left disk drive). Turn the system off. Turn the system on. Remove the BTOS disk.	Loads operating system automatically.						
2	Insert the BMULTI disk in F0. Type Install BMULTI on the command line. Press GO .	You invoke BMULTI. BMULTI should already be configured for your workstation. If the system doesn't recognize the command or you get an error code, see your supervisor.						
3	Insert BTE disk in F0. Type B T E on the command line. Press GO .	<table border="1"> <thead> <tr> <th data-bbox="586 1052 726 1101">If this appears:</th> <th data-bbox="726 1052 891 1101">It means:</th> </tr> </thead> <tbody> <tr> <td data-bbox="586 1101 726 1263">*****</td> <td data-bbox="726 1101 891 1263"> The confidence tests have been completed successfully. You're in the emulator. </td> </tr> <tr> <td data-bbox="586 1263 726 1373">Error 33</td> <td data-bbox="726 1263 891 1373"> BMULTI has not yet been installed. Go to step 2. </td> </tr> </tbody> </table>	If this appears:	It means:	*****	The confidence tests have been completed successfully. You're in the emulator.	Error 33	BMULTI has not yet been installed. Go to step 2.
If this appears:	It means:							
*****	The confidence tests have been completed successfully. You're in the emulator.							
Error 33	BMULTI has not yet been installed. Go to step 2.							

Cursor and Status Lines

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

BTE typically moves the cursor to two different positions on the screen: home and mobile home.

In nonforms mode, *home* is the upper left corner of the page. In forms mode, it is the first unprotected field. See "Forms Mode" for more information on unprotected fields.

System Status Line

Mobile home can be anywhere on the page and may be different from workstation to workstation. Ask your system administrator about how to use the mobile home position.

At the bottom of the screen are three lines of information:

The top line is called the *user status* line.

The middle line is called the *environment status* line.

The bottom line is called the *system status* line.

The subsection "Reading the Screen" tells you how to interpret these lines.

Exiting BTE

Figure 1-3 tells you how to exit BTE.

Figure 1-3 Exiting BTE

Step	Action	Result						
1	Press FINISH	<table border="1"> <tr> <td data-bbox="584 477 736 542">If:</td> <td data-bbox="736 477 888 542">Then this appears:</td> </tr> <tr> <td data-bbox="584 542 736 651">BTE is in local mode (F8 is lit),</td> <td data-bbox="736 542 888 651">"Finish?..Press GO to confirm or CANCEL to deny."</td> </tr> <tr> <td data-bbox="584 651 736 776">If BTE is not in Local Mode, press F8 and press FINISH.</td> <td data-bbox="736 651 888 776">F8 lights up</td> </tr> </table>	If:	Then this appears:	BTE is in local mode (F8 is lit),	"Finish?..Press GO to confirm or CANCEL to deny."	If BTE is not in Local Mode, press F8 and press FINISH.	F8 lights up
If:	Then this appears:							
BTE is in local mode (F8 is lit),	"Finish?..Press GO to confirm or CANCEL to deny."							
If BTE is not in Local Mode, press F8 and press FINISH.	F8 lights up							
2	If you press GO If you press CANCEL	You exit BTE and return to the Executive. The screen displays: "Emulation ended. Good bye from BTE." You return to BTE.						

Note: To exit BTE, it must be in local mode. (The F8 LED is lit when you're in local mode.) If you're not in local mode, press F8 so that the F8 LED is lit before you complete the steps in Figure 1-3.

The HELP Key

Once BTE software is running on your workstation and you've entered BTE, you have access to on-line information about BTE (see Figure 1-4). For more information, ask your system administrator.

Figure 1-4 Displaying Help Screens

Step	Action	Result
1	Press HELP	Displays first help screen.
2	Press NEXT PAGE	Displays succeeding screens.
3	Press CANCEL.	Exits help screens.

Reading the Screen

When you enter BTE you see a new screen format (see Figure 1-5). The bottom three lines on the screen are the user, environment, and system status lines. They contain information you need to read. The user line, however, is often blank.

Figure 1-5 BTE Status Lines

```

_____ ENV 1
                ENV 1
Thu Oct 31, 1985 12:58 PM   ENO 1 2 3 RCV 1 2 3   UP COL 7 ROW 1 PAGE 1
                [Sys]<Berratti> _____ USER
                _____ ENVIRONMENT
                _____ SYSTEM

```

M0001

User Status Line

The user status line is *application-dependent*: Its appearance varies widely from one application to another. Usually, however, it is blank.

System Status Line

date time ENQ 1 2 3 RCV 1 2 3 [sys]<directory>

date time

The format to display time and date varies.

ENQ 1 2 3 RCV 1 2 3

This highlights the environment that is sending or receiving data to or from the host.

[sys]<directory>

The workstation's volume and directory can be displayed here.

Environment Status Line

Error Messages Env # System messages Cursor position

Error Messages

The section on error messages explains each error message and tells you what to do to solve the problems they indicate.

Env #

ENVMNT 1, ENVMNT 2, or ENVMNT 3 appears here depending on which environment you're working in.

System Messages

Most messages refer to the page your cursor is in.

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

Cursor Position

This tells you what column, row, and page the cursor is in. It will look something like this:

```
COL      7 ROW      42 PAGE  1
```

The cursor is in the seventh column, the forty-second row, the first page.

Some of these messages can be changed. 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.



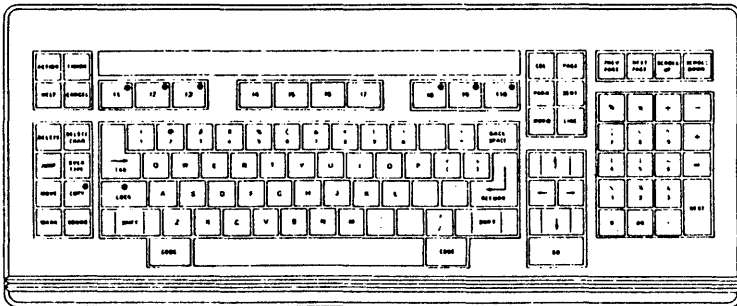
Using BTE

The Keyboard

LEDs

Certain keys have lights. Push OVERTYPE. It lights up. The light is called a LED (Light-Emitting Diode). If you study your keyboard you'll notice that the LOCK, F1, F2, F3, F8, F9 and F10 keys also have LEDs. Each LED has a specific meaning when it's lit.

Figure 2-1 Typical BTE Keyboard



TC9979

Your keyboard may not look just exactly the one in Figure 2-1. The keys may be in a slightly different place, but the meanings of the keys and LEDs are identical.

Lit LED	Meaning
LOCK	Typed letters appear only in uppercase when the LOCK key LED is on; press the key to turn the LED off. Letters in both upper and lowercase are displayed on the screen when the LED is off if the lowercase lockout option is off.
F1	(Not used)
F2	When F2 LED is on, BTE is in forms mode; you are able to enter data only in the unprotected fields. If you press F2, the LED turns off and you take BTE out of forms mode, or toggle forms mode.
F3	When F3 LED is lit, the host is trying to send a message to your workstation but can't because the emulator is not ready. Press F9 to receive the message; this puts BTE in receive mode and turns the F3 LED off.
F8	When F8 LED is lit, BTE is in local mode. This LED must be lit to exit BTE.
F9	When F9 LED is lit, BTE is ready to receive data from the host.
F10	When F10 LED is lit, BTE is transmitting information to the host. When this LED is lit, don't press F10 again; it will slow down the transmission.
OVERTYPE	When OVERTYPE LED is lit, BTE is in overtyping mode. Any key you press causes that character to replace the character at the cursor position. To turn off the function (and the LED) press OVERTYPE again to go back to insert mode.

The major difference between your normal system keyboard and the BTE keyboard is in how certain keys function.

The Function Control Strip

You received a function control strip with your BTE software. This strip contains descriptions of what the function keys (F1 to F10) do. Put the function control strip in the depression above these keys for quick reference.

The keys are explained in greater detail here. Notice that some keys have different functions in forms mode and nonforms mode.

Figure 2-2 BTE Function Keys



(HOME)

Nonforms: Moves cursor to column 1, row 1.
Forms: Moves cursor to first unprotected field.



CLEAR PAGE

Nonforms: Clears page; moves cursor to column 1, row 1.
Forms: Clears unprotected fields; moves cursor to first unprotected field.



FORMS

Puts page in forms mode.



CLEAR FORMS

Takes page out of forms mode (and into nonforms mode).



PRINT

Prints unprotected fields in a forms page; equivalent to the command CTRL :



PRINT

Prints whole page up to cursor position; equivalent to the command CTRL ;



CL EOL

Nonforms: Clears from cursor to end of line.
Forms: Clears field the cursor is in.



CL EOP

Nonforms: Clears to end of page.
Forms: Clears unprotected fields from cursor to end of page.



LINE INSERT

Inserts blank line at cursor position, discards last line in page. No effect in forms mode.



LINE DELETE

Deletes line at cursor position; moves lines in page up. No effect in forms mode.



& function key



& function key

} Programmable

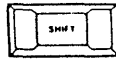
M0003

Figure 2-2 BTE Function Keys (Continued)



CTRL

Toggles control mode. Push the key once. CTRL appears in the environment status line and you enter control mode. Push the key again and you exit control mode (the message disappears). Pressing a key that is not part of a valid CTRL sequence will also turn off CTRL mode.



CONTROL HOLD

Holds BTE in control mode after a command sequence has been completed. Turn CTRL-HOLD off by pressing F6. Pressing a key that is not part of a valid CTRL sequence will also turn off CTRL mode.



SPCFY

Reports to the host where the keyboard cursor is. See "Specify" in Section 12.



LOCAL

Takes BTE out of receive or transmit mode. (When F9 LED or F10 LED is lit, F8 turns them off.) F8 clears any error message that appears on the status line. F8 can also abort an input/output operation (including printing) that was initiated from the keyboard.



RCV

Makes BTE ready to receive any message from the host.

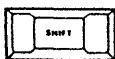


XMT

Sends data from home to cursor to the host. See "Transmit" in Section 12 for more information.



& function key



& function key

} Programmable

Figure 2-2 BTE Function Keys (Continued)



(End of Text)

IF: The cursor is not in a protected field
 THEN: Pressing this key stores an end-of-text at the cursor position and moves the cursor to Col 1 of the same line or to your mobile home position. The end-of-text position affects what data is transmitted to the host when you press F10.



Deletes character.



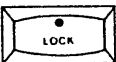
Toggles BTE between insert and overtype modes (see OVERTYPE LED).



In nonforms mode, tabs the cursor right if tabs are set. In forms mode, moves the cursor to the next unprotected field.



Tabs the cursor left if tabs are set.



Toggles the keyboard between displaying only uppercase letters (when the LOCK LED is lit) and lower- and uppercase letters. Displays the first BTE help screen.



displays the first BTE Help screen.

Input to BTE

BTE receives input from the keyboard and from the host. Each of these sources has a pointer that indicates where incoming data will be shown on the screen. They're independent of each other: They may be in different lines or in different pages.

Cursor: The keyboard cursor is indicated by a blinking underline or rectangle; it's displayed on the screen.

Data from Host: This data comes to BTE in various ways; it depends on the application the host is running at the time. The data comes into the screen at a point called the *DCP*, or data comm pointer. The DCP is invisible; you can tell where it is only by watching where the data comm messages come onto your screen.

Moving the Cursor within a Page

Within a page you can move the cursor up, down, left, right, and home. You use these commands:



Press the up-arrow key. The cursor moves up vertically for as long as you press the key. If the cursor is on the top line of the screen, it jumps to the bottom line.



Press the down-arrow key. The cursor moves down vertically for as long as you press the key. If the cursor is on the bottom line of the screen, it jumps to the top line.



Press the right-arrow key. The cursor moves right for as long as you press the key. 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.



Press the left-arrow key. The cursor moves left for as long as you press the key. 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.



Press SCROLL UP. All data moves up a line. The data on the top line of the screen is moved up and off the screen, and the bottom line is filled with 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.



Press SCROLL DOWN. All data moves down a line. The data on the bottom line of the screen is moved down and off the screen, and the top line is filled with 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.



You can tab the cursor across a line using TAB. However, tabbing has two entirely different effects, depending on whether you are in forms or nonforms mode. Try the TAB key: It either moves you to the next tab on the screen in a nonforms page or to the next unprotected field in a forms page. See "Forms Mode" for more information on forms and nonforms mode.



SHIFT-TAB moves the cursor left to the previous tab stop or home if no tab stops are set. In a forms page, SHIFT-TAB moves the cursor to the previous unprotected field.



In overtype mode BACKSPACE moves the cursor left; in insert mode it deletes the character at the left and moves the cursor left into that position.

Moving the Cursor Between Pages

You can move the cursor to the next page or to the previous page. (When the cursor moves to another page, the environment status line may change its messages, because page attributes may change from page to page.)

Cursor to Next Page

Press NEXT PAGE. The cursor jumps to the next page (if there is a next page) and to the last position it held in that page. The environment status line changes to indicate the cursor's new position and the features of the new page.

Cursor to Previous Page

Press PREV PAGE. The cursor jumps to the previous page and to the last position it held in that page. The environment status line changes to indicate the cursor's new position and the features of the new page.

Forms Mode

A page can be in forms mode or nonforms mode. A forms page has special delimiters that define the fields you can write in (unprotected fields) and fields you won't be able to write in (protected fields). The message "FORM" appears on the environment status line. A nonforms page has no message on the status line and you can write anywhere on the page.

Figure 2-3 A Forms Mode Page

```

                VITAL STATISTICS.  01. <
SURNAME.   FIRST NAME.  
ACCOUNT NO.   BALANCE.  

```

```

ENV 1
FORM LO COL 9 ROW 3 PAGE 1
Wed Feb 19, 1986 1:20 PM ENQ 1 2 3 RCV 1 2 3 [Sys]<Barrett>

```

M0006

Using Figure 2-3 as an example, fill in the form. First press F1 to position the cursor in the first unprotected field (beside Surname). Type in the correct information as you would using a word processor, then skip the cursor to the next field using TAB or NEXT. (The cursor may automatically skip to the next field when the current field has been filled with data.) Repeat this procedure until you have completed the form.

After you fill it in, it might look like Figure 2-4.

Figure 2-4 A Completed Form

```

                VITAL STATISTICS.  01. <
SURNAME.  BUNCE <      FIRST NAME.  MR. <
ACCOUNT NO..  001. <      BALANCE.  00.00. <

```

```

ENV 1          FORM          LO COL  9 ROW  3 PAGE  1
Wed Feb 19, 1986 1:21 PM    ENQ 1 2 3 RCV 1 2 3  [Sys]<Barrett>

```

M0007

To transmit data you type in, press F1, then F10. If you transmitted all the fields in the example shown above, the data would look like this to the host:

```
BunceMr.00100.00
```

BTE has the capability to send all the form fields in response to pressing F10 only. Ask your system administrator about how you should transmit data in a forms page.

The Host Computer

The object of using BTE is to link with a Burroughs computer. Once you've logged into the host computer, you can access its data base or run its application programs. But you have to become acquainted with the host environment before you can perform your tasks.

Transmitting and Receiving Data

Most of your work involves transmitting and receiving data from the host computer. To receive data you must make sure BTE is in receive mode (F9 is lit). When BTE is in receive mode, you receive data passively; that is, you don't do anything to get it. It's sent from the host. To transmit data in a forms page, press F1 first (to move the cursor home) and then F10 to transmit the data. In a nonforms page, press F10 to transmit data from the home position (the top left corner of the page) to the cursor.

Host/emulator 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.

System and Errors Messages

System and error messages you receive appear on the left side of the environment status line. None of the errors will stop the operation of the emulator, but you may have to press a key to clear the problem before you can continue with your work. The messages you may encounter are listed below along with a description of the problem. To clear the error message, press LOCAL (F8) and try again. If the problem recurs, see your supervisor.

Message	Interpretation
Buffer Overflow	You've sent (or received) more data than your emulator can process. The last part of the message will have been cut off.
Printer Error	The printer may not be turned on; it may be out of paper; its cables may not be attached; 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.

Beep System. A bell 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.

Glossary

Delimiter. A special character used in forms mode to start and end forms fields.

Environment. An assigned location within BTE to which the host sends data, from which it receives data, and in which it runs applications. BTE can have up to three environments.

ETX. The end-of-text character that determines where data transmission from the BTE page to the host stops, regardless of cursor position. You create an ETX character from the keyboard by pressing MARK.

Forms mode. A special page format that has fields. You can type only in the unprotected fields and can move directly from field to field using NEXT.

HELP. A BTE subsystem that gives brief information about BTE.

Host. The mainframe computer with which BTE communicates.

Page. A unit of data within an environment. There may be one, two, or three pages. A page is distinct from a screen. Many BTE features, such as forms mode and data transmission, work on a per-page basis.

Screen. The amount of data you can view on the monitor at one time. A screen may display exactly one page, several pages, or part of a page.

Status lines. Three lines that appear at the bottom of the BTE screen giving information about the BTE system, environment, and host application being used.

System. A reference to BTE as a system, not an environment within the system.

Toggle. To turn a function off and on using the same key. For example, OVERTYPE toggles BTE between overtype and insert modes. Press OVERTYPE once and you're in overtype mode; press it again and you're in insert mode.

Title: _____

Form Number: _____ Date: _____

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Please check type of suggestion: Addition Deletion Revision
 Error

Comments: _____

Name _____

Title _____

Company _____

Address _____

Telephone Number (Street) City State Zip
Area Code

Title: _____

Form Number: _____ Date: _____

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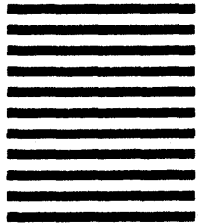
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