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Manual**

B 20 Systems
Executive WRITEone
Word Processing

(Relative to Release Level 3.0)

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INTRODUCTION

This manual provides descriptive and operational information for B 20 Systems word processing applications.

Information in the manual is presented as follows:

Section 1,	Overview
Section 2,	Keyboard
Section 3,	Screen
Section 4,	Basic Operations
Section 5,	Advanced Operations
Section 6,	List Operations
Section 7,	Spelling Checker
Appendix A,	Status Messages
Appendix B,	Print Wheel Configuration
Appendix C,	Printer Configuration
Appendix D,	Hardware Considerations
Appendix E,	Programming Features
Appendix F,	Files Created by the Word Processor
Appendix G,	Document Exchange Format (DEF)
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SECTION 1

OVERVIEW

WORD PROCESSOR FEATURES

The Word Processor is a versatile document-preparation tool that incorporates the following features:

- o Printed characters can be boldface, single or double underlined, superscript, subscript, and overstruck (a hyphen printed over a character).
- o Tabs can be set for left-aligned, right-aligned, decimal-aligned, centered, and evenly spaced left-aligned text. All tab settings can have optional leader dots.
- o A ruler display shows tab and paragraph indent stops and paper width.
- o Previous edits can be undone with a single keystroke.
- o Previous edits can be repeated with a single keystroke.
- o The screen can be divided into multiple windows so that several sections of one or more documents are shown at the same time.
- o Several documents can be edited at the same time.
- o Text is easily moved within a document or from one document to another.
- o You can confirm each text replacement during Search and Replace operations.
- o The same document you were working on when you finished the previous word processing session can automatically appear on the screen when you invoke the Word Processor. The text and cursor positions are the same as they were on the screen when the previous session was finished.

- o Document utilities allow you to open, copy, rename, and delete documents, and to change the work area. A directory of your documents also is provided.
- o Paragraph formatting includes paragraph blocking and indenting, paragraph spacing, line spacing, and margin justification.
- o Page formatting includes setting paper length and width; text length and width; top, bottom, and side margins; and header and footer positions.
- o Ribbon color and print wheel can be changed during printing. Variable character spacing is provided (8 pitch, 10 pitch, 12 pitch, 15 pitch, and proportional).
- o Direct and spooled printing are provided. Both operations allow you to perform other word processing functions while your document is being printed.
- o The printer status feature allows you to check the progress of your document while it is in the print queue awaiting printing.
- o List processing sorts and merges files to produce multiple copies of form documents.
- o The spelling checker feature checks the spelling of approximately 75,000 words and tells you when to correct a misspelled word. It also provides automatic hyphenation.
- o You can gain access to other programs while in the Word Processor.
- o The document exchange format provides a common language which allows you to convert non-B 20 format word processing documents to B 20 format word processing documents.

SECTION 2

KEYBOARD

GENERAL

The keyboard is similar to a standard typewriter keyboard but has additional keys. (See Figure 2-1.) It is divided into six key pads, each of which performs special word processing functions. These pads are

- o typewriter
- o cursor
- o function
- o control
- o display
- o numeric

The keys of each pad are pressed singly, or in combination with other keys.

See Sections 4 and 5, for details of all the commands invoked when the various keys and key combinations are pressed.

TYPEWRITER PAD

The typewriter pad keys are used to enter characters at the cursor position. Many of these keys are used with the SHIFT or CODE key to invoke commands.

Hyphen (-) inserts a breaking required hyphen. (See "Special Characters" in Section 4.)

CODE-hyphen
inserts a discretionary hyphen.

CODE-SHIFT-hyphen
inserts a nonbreaking required hyphen.

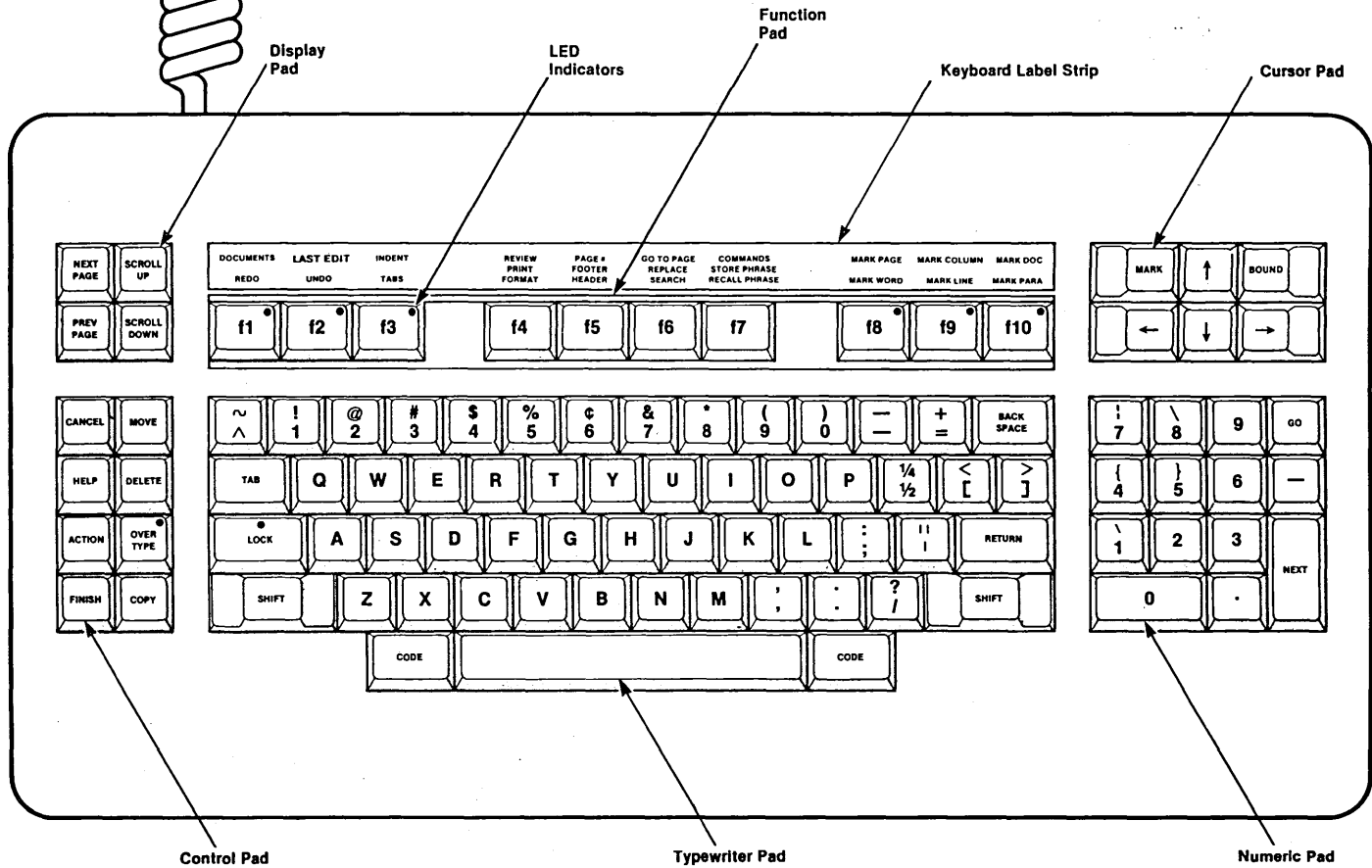


Figure 2-1. Keyboard.

BACKSPACE in insert mode, moves the cursor one position to the left and then deletes the character at the cursor position. In overtype mode, it moves the cursor one position to the left (or, if the cursor is at the beginning of a line, to the end of the preceding line) but does not delete a character.

CODE-BACKSPACE
inserts a required backspace for an overstriking character. (See "Required Backspace" in Section 4.)

TAB moves the cursor to the next tab stop.

CODE-TAB
moves the left paragraph indent forward to the next tab stop.

CODE-SHIFT-TAB
moves the left paragraph indent back to the previous tab stop.

LOCK locks the SHIFT key for entering uppercase alphabetic characters. (This key has a light that is on for uppercase and off for lowercase.) Unlike the SHIFT-LOCK key of a typewriter, this key affects only the alphabetic keys.

RETURN moves the cursor to the next line to begin a new paragraph and inserts a paragraph symbol.

SHIFT-RETURN
begins a new line without beginning a new paragraph and inserts a new line symbol.

CODE-SHIFT-RETURN
moves the left paragraph indent back to the far left margin.

SHIFT is similar to the SHIFT key on a typewriter. It allows you to enter uppercase alphabetic characters, punctuation marks, and symbols from the typewriter pad. SHIFT also is used together with other keys to invoke commands.

CODE is used together with other keys to invoke commands.

spacebar inserts a space.

CODE-spacebar
inserts a discretionary line break.

CODE-SHIFT-spacebar
inserts a nonbreaking space.

(See "Special Characters" in Section 4.)

CURSOR PAD

The cursor pad keys have two functions: the cursor keys control cursor movement and the Mark and Bound keys make selections. (See "Multiple Windows in a Single Document" in Section 5 for details on how the cursor keys work in multiple windows.)

Up Arrow (↑)

moves the cursor upward one line at a time. If the cursor is at the top of the screen, it remains there.

SHIFT-up arrow
moves the cursor upward in increments of several lines.

CODE-up arrow
quickly moves the cursor to the top border of the window in which it is positioned.

Left Arrow (←)

moves the cursor one position to the left.

SHIFT-left arrow

moves the cursor left in increments of several characters.

CODE-left arrow

quickly moves the cursor to the beginning of the current line.

Down Arrow (↓)

moves the cursor downward one line at a time. If the cursor is at the bottom of the screen, it remains there.

SHIFT-down arrow

moves the cursor downward in increments of several lines.

CODE-down arrow

quickly moves the cursor to the bottom border of the window in which it is positioned.

Right Arrow (→)

moves the cursor one position to the right.

SHIFT-right arrow

moves the cursor right in increments of several characters.

CODE-right arrow

quickly moves the cursor to the end of the current line.

MARK

selects and highlights (in reverse video) the character or space in which the cursor is positioned. (Also see MARK WORD, MARK LINE, MARK PARA, MARK PAGE, MARK COLUMN, MARK DOC, and BOUND.)

CODE-MARK

removes the highlight from selected text without changing the text. (CODE-MARK applies to selections made with all Mark commands.)

BOUND moves the cursor and extends the selection to include more characters, spaces, words, lines, pages, columns, or paragraphs. (See **MARK**, **MARK WORD**, **MARK LINE**, **MARK PARA**, **MARK PAGE**, and **MARK COLUMN**.)

FUNCTION PAD

The function pad keys invoke a number of functions unique to the Word Processor. The keyboard label strip shows the names of the function pad keys.

REDO (f1) repeats the last editing operation.

DOCUMENTS (CODE-f1)
invokes the Documents command for opening, deleting, copying, and renaming documents; changing work areas; and listing the document directory.

UNDO (f2) undoes the last editing operation.

POINT OF LAST EDIT (CODE-f2)
remembers the position within the document that was last edited and positions the cursor at that point.

TABS (f3) invokes the Tabs command for setting and clearing tab stops.

INDENT (CODE-f3)
invokes the Paragraph Indent command for specifying left and right paragraph indents and first line indents.

FORMAT (f4) invokes the Format command for formatting text being entered or edited.

- PRINT (SHIFT-f4) invokes the Print command for printing entire documents or separate pages.
- REVIEW (CODE-f4) invokes the Review Document command for checking hyphenation and widows, and for repaginating the document without printing it.
- HEADER (f5) invokes the Header command for specifying running header text for the top of each printed page.
- FOOTER (SHIFT-f5) invokes the Footer command for specifying running footer text for the bottom of each printed page.
- PAGE # (CODE-f5) invokes the Page Number command for entering a page number symbol that is replaced with the actual page number during printing.
- PAGE # (CODE-SHIFT-f5) invokes the Roman Page Number command for entering a Roman page number symbol that is replaced with the actual page number during printing.
- SEARCH (f6) invokes the Search command for searching the document for specified text.
- REPLACE (SHIFT-f6) invokes the Replace command for replacing old text with new text in a selection or throughout the document.

GO TO PAGE (CODE-f6)
shifts a specific page into the
current window and places the cursor
at the beginning of the page.

RECALL PHRASE (f7)
invokes the Recall Phrase command
for recalling stored phrases.

STORE PHRASE (SHIFT-f7)
invokes the Store Phrase command for
storing phrases.

COMMANDS (CODE-f7)
invokes the Commands menu for
choosing Sort and Merge operations
and accessing non-Word Processor
applications.

MARK WORD (f8)
selects and highlights (in reverse
video) the word in which the cursor
is positioned.

MARK PAGE (CODE-f8)
selects and highlights the page in
which the cursor is positioned.

MARK LINE (f9)
selects and highlights the line in
which the cursor is positioned.

MARK COLUMN (CODE-f9)
selects and highlights the column in
which the cursor is positioned.

MARK PARA (f10)
selects and highlights the paragraph
in which the cursor is positioned.

MARK DOCUMENT (CODE-f10)
selects and highlights the entire
document in which the cursor is
positioned.

CONTROL PAD

The control pad keys perform general editing and control functions.

- HELP lists all commands.
- CANCEL cancels a command and dismisses the form or menu (if any).
- MOVE moves the selected text to the cursor position (and deletes the selected text at its original location).
- COPY copies the selected text to the cursor position (but leaves the selected text at its original location).
- DELETE deletes the character at the cursor position; also, deletes the selection in which the cursor is positioned.
- OVERTYPE allows each character that is typed to replace the existing character at that position. (The key has a light that is on for overtyping text and off for inserting text.)
- FINISH finishes a word processing session, saving all the edits and returning the Executive to the screen.
- ACTION has no effect by itself.
- ACTION-FINISH
(that is, pressing ACTION and FINISH at the same time) exits the word processor without saving any documents and returns the Executive to the screen.

DISPLAY PAD

The display pad keys move displayed text up or down by lines or by pages.

NEXT PAGE shifts the text in the current window to show the next screenful of text.

CODE-NEXT PAGE
invokes the Forced Page command to force a page to start at the cursor position.

PREV PAGE shifts the text in the current window to show the previous screenful of text.

SCROLL UP scrolls the text in the window upward one line at a time. Within multiple windows, **SCROLL UP** expands the current window upward when the cursor is on the window boundary. (See Section 5, "Advanced Operations.")

SHIFT-SCROLL UP
scrolls the text upward in screen-sized increments. Within multiple windows, **SHIFT-SCROLL UP** expands the current window upward in screen-sized increments when the cursor is on the window boundary.

SCROLL DOWN scrolls the text in the window downward one line at a time. Within multiple windows, **SCROLL DOWN** expands the current window downward when the cursor is on the window boundary.

SHIFT-SCROLL DOWN
scrolls the text downward in screen-sized increments. Within multiple windows, **SHIFT-SCROLL DOWN** expands the current window downward in screen-sized increments when the cursor is on the window boundary.

NUMERIC PAD

The numeric pad keys are used to enter numbers conveniently. The numeric pad also includes the GO and NEXT keys.

GO executes a command or responds ("go ahead") to a request by the Word Processor for confirmation.

NEXT moves the cursor from item to item in a form.

SECTION 3

SCREEN

GENERAL

The Word Processor screen, shown in Figure 3-1, is divided into two sections: the ruler display and the main text area, or window. These sections are separated by the document status line.

When the Word Processor is running on a B 22 workstation, text is displayed on the screen in lines of up to 132 characters. Up to 34 lines can be displayed on the screen at one time, including two lines for the ruler display, one line for the document status line, and 31 lines of text. (If the Word Processor is running on a B 21 workstation, see Appendix D.)

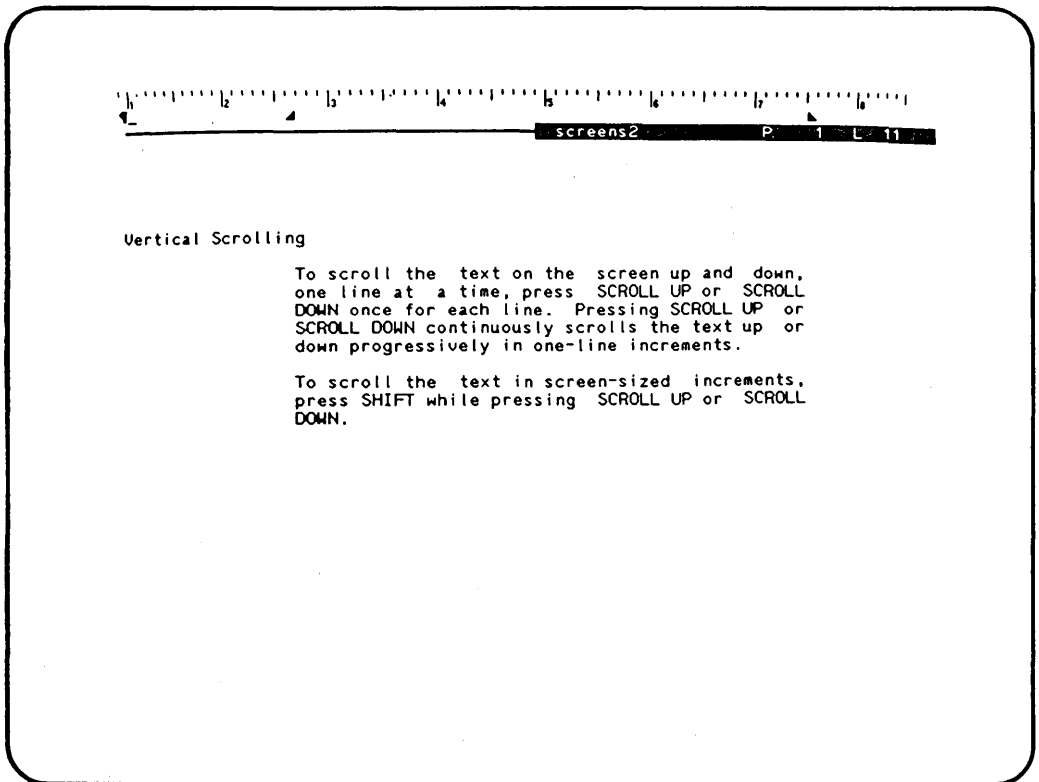


Figure 3-1. Word Processor Screen.

At the start of a word processing session, when the Word Processor is first invoked and no document has been opened, the screen contains the ruler display and the Documents command form. At this time a document can be opened by pressing the letter "O". If a newly created document has been opened, the screen contains the ruler display and the document status line. The main text area is blank and contains the cursor. (See "Invoking the Word Processor through the Executive" and "Opening a Document through the Word Processor" in Section 4.)

If an existing document has been opened, the screen contains the ruler display, document status line, and the first page of text.

RULER DISPLAY

The ruler display, shown in Figure 3-2, is at the top of the screen and is used for setting paragraph indents and tab stops. It is divided into units that correspond to the columns of text. It is scaled with long ticks at half-inch or one-third inch intervals and short ticks elsewhere. A "shadow cursor" within the ruler indicates the horizontal position of the cursor elsewhere on the screen.

Paragraph indents and tab stops for the current line of text are indicated on the ruler display by the symbols shown in Table 3-1 below.

DOCUMENT STATUS LINE

The document status line is the highlighted strip just above the text area. It shows the name of the current document, the number of the page on the screen, and the number of the line at which the cursor is positioned. This information is updated as the cursor is moved within the document.

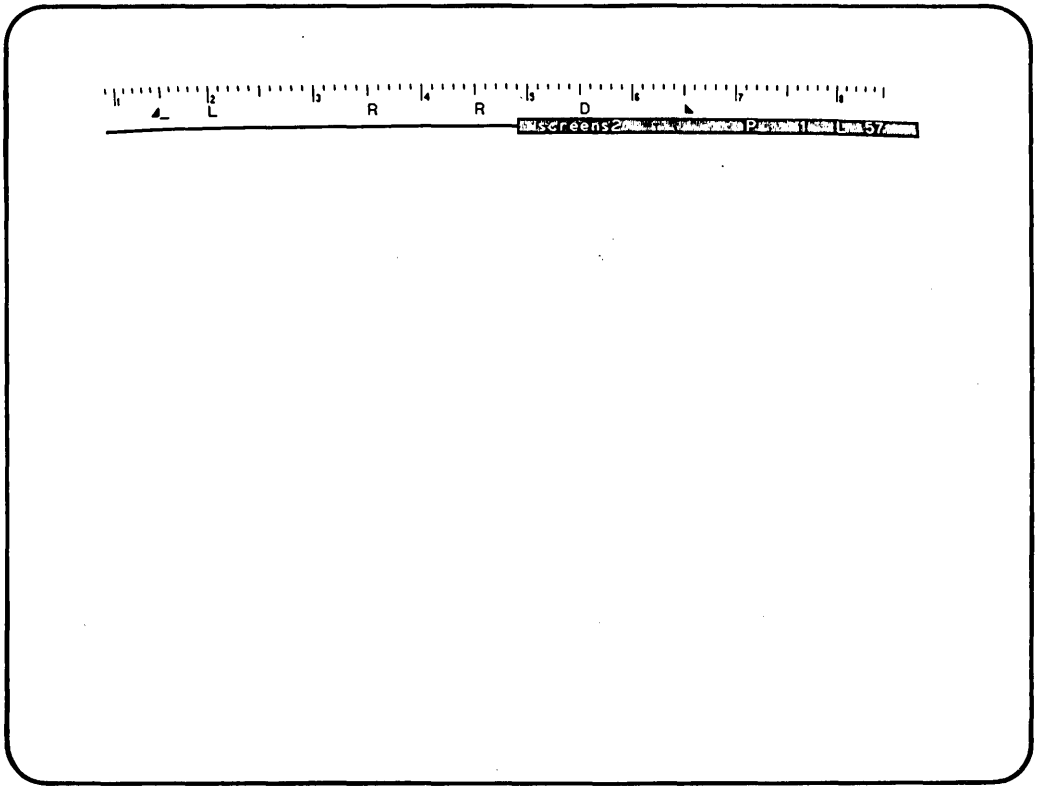


Figure 3-2. Ruler Display.

Table 3-1. Ruler Display Symbols.

Symbol	Description
¶	First line paragraph indent
△	Left paragraph indent
▷	Right paragraph indent
L	Left-aligned tab
R	Right-aligned tab
C	Centered tab
D	Decimal tab
...	Leader dots

CURSOR

The cursor is the movable blinking underline on the screen that indicates where the next character can be entered. The cursor moves automatically as text is entered and edited. Use the cursor control keys to move the cursor to any point on the screen. (See "Moving within the Document" in Section 4 for instructions on using these keys.)

WINDOWS

A window is a part of a document that is currently displayed on the screen. The content of the window changes as text is entered or edited.

You can shift the content of the current window by using the NEXT PAGE, PREV PAGE, or SCROLL UP and SCROLL DOWN keys.

Press NEXT PAGE to shift the next page of text into the current window. Press PREV PAGE to shift the previous page of text into the current window.

Press SCROLL UP or SCROLL DOWN to move the text up or down one line at a time. Continuously press SCROLL UP or SCROLL DOWN to quickly scroll the text up or down in one-line increments.

To scroll the text in screen-sized increments, press SHIFT together with SCROLL UP or SCROLL DOWN.

One or more sections of the same document together with one or more sections of a different document can be viewed on the screen at the same time. (See "Multiple Windows in a Single Document" and "Multiple Documents on a Single Screen" in Section 5 for descriptions of this feature.)

STATUS MESSAGES AND PROMPTS

The bottom line of the screen is used for status messages and prompts. A status message informs you of a particular occurrence within the system. (See Appendix A.) A prompt guides you through certain procedures. For example, when you use the Finish command to finish a document, the prompt

Press GO to confirm FINISH, or CANCEL to cancel the command

appears to tell you to confirm the command. Press GO, and the message

Saving....

appears as well as a row of empty boxes. As the boxes are filled in, it indicates what percentage of the save has been done so far.

SECTION 4

BASIC OPERATIONS

GENERAL

This section describes the operations most frequently used in word processing. It discusses signing on; opening and closing documents; creating and editing documents; moving the cursor; formatting characters, paragraphs, and pages; hyphenation; printing; and using document utilities.

The commands used during most of these operations are summarized in Table 4-1.

Table 4-1. Summary of Commands.

<u>Command</u>	<u>Keystroke</u>	<u>Description</u>
Bound	BOUND	Moves the cursor and extends the selection to include additional characters, columns, lines, pages, paragraphs, or words. (See Mark, Mark Column, Mark Line, Mark Page, Mark Para, and Mark Word.)
Breaking Required Hyphen	Hyphen	Inserts a standard hyphen for phrases that must be hyphenated, but can be split after a hyphen.
Close Window	CODE-c	Closes the current document and removes it from the screen.
Commands	COMMANDS (CODE-f7)	Invokes the Commands function for specifying Sort/Select, Merge, Spelling Checker, and for accessing non-Word Processor applications.
Copy	COPY	Copies selected text from one location in the document to another location specified by the cursor position.
Date/Time	CODE-t	Displays the current date and time at the bottom of the screen.
Delete	DELETE	Deletes a single character or a block of characters.
Discard	CODE-u	Discards all edits made in the current document since the last Finish or Save.

Table 4-1. Summary of Commands. (Page 2 of 6)

<u>Command</u>	<u>Keystroke</u>	<u>Description</u>
Discretionary Hyphen	CODE-hyphen	Allows a word at the end of the line to be split by a hyphen.
Discretionary Line Break	CODE-spacebar	Allows a phrase at the end of a line to be split.
Divide Window	CODE-d	Adds another window to the current screen.
Documents	DOCUMENTS (CODE-f1)	Opens, copies, deletes, renames documents; changes work area; lists document directory.
Finish	FINISH	Finishes a word processing session by saving all edits and closing all documents.
Footer	FOOTER (SHIFT-f5)	Specifies the text that appears at the bottom of each printed page.
Forced Page	CODE-NEXT PAGE	Forces a new page to begin.
Format	FORMAT (f4)	Invokes the Format command for specifying character, line, and page formats.
Go to Beginning	CODE-b	Moves the cursor to the beginning of the document.
Go to End	CODE-e	Moves the cursor to the end of the document.
Go to Page	GO TO PAGE (CODE-f6)	Shifts a specific page into the current window and places the cursor at the beginning of the page.
Header	HEADER (f5)	Specifies the text that appears at the top of each printed page.

Table 4-1. Summary of Commands. (Page 3 of 6)

<u>Command</u>	<u>Keystroke</u>	<u>Description</u>
Help	HELP	Displays a list of command names and keystrokes.
Insert Hexadecimal	CODE-i	Inserts a hexadecimal character in the text.
Insert Literal	CODE-' or CODE-SHIFT-'	Inserts a literal character in the text.
Locate	CODE-l	Shifts the text containing the cursor or the selection to the center of the current window.
Mark	MARK	Selects and highlights the character at the cursor position.
Mark Column	MARK COLUMN (CODE-f9)	Selects and highlights the column in which the cursor is positioned.
Mark Document	MARK DOC (CODE-f10)	Selects and highlights the entire document in which the cursor is positioned.
Mark Line	MARK LINE (f9)	Selects and highlights the line in which the cursor is positioned.
Mark Page	MARK PAGE (CODE-f8)	Selects and highlights the page in which the cursor is positioned.
Mark Paragraph	MARK PARA (f10)	Selects and highlights the paragraph in which the cursor is positioned.
Mark Word	MARK WORD (f8)	Selects and highlights the word at the cursor position.

Table 4-1. Summary of Commands. (Page 4 of 6)

<u>Command</u>	<u>Keystroke</u>	<u>Description</u>
Move	MOVE	Moves selected text to the current cursor position and deletes the text from the original location.
Nonbreaking Hyphen	CODE-SHIFT-hyphen	Keeps a hyphenated expression together on one line, rather than breaking it at a hyphen.
Nonbreaking Space	CODE-SHIFT-spacebar	Keeps a phrase together on one line, rather than breaking it at a space.
Open Document	CODE-o	Opens an existing document or creates a new one.
Outline Indent	CODE-TAB	Moves left indent forward to the next tab stop.
Page Number	PAGE # (CODE-f5)	Enters a page number symbol into a header or footer. The symbol is replaced with the actual page number during printing.
Page Number (Roman)	PAGE # (CODE-SHIFT-f5)	Enters a Roman page number symbol into a header or footer. The symbol is replaced with the actual Roman page number during printing.
Paragraph Indent	INDENT (CODE-f3)	Sets right and left paragraph indents, and first line and other line indents.
Point of Last Edit	POINT OF LAST EDIT (CODE-f2)	Positions the cursor to the last editing point within the document.
Print	PRINT (SHIFT-f4)	Prints a document.
Printer Status	CODE-p	Checks the status of a print request; allows you to halt, resume, cancel printing; lists print queue entries.
Recall Phrase	RECALL PHRASE (f7)	Recalls a stored phrase.

Table 4-1. Summary of Commands. (Page 5 of 6)

<u>Command</u>	<u>Keystroke</u>	<u>Description</u>
Recover	RECOVER (Executive command)	Restores any edits that may have been lost because of power loss or other system failure.
Redo	REDO (f1)	Repeats the last command.
Remove Format	CODE-r	Removes all formatting from the document.
Replace	REPLACE (SHIFT-f6)	Replaces old text with new text.
Required Backspace	CODE-BACKSPACE	Allows the printing of one character over another.
Review Document	REVIEW (CODE-f4)	Checks for hyphenation and widows; repaginates the current document without printing it.
Save	CODE-s	Saves all edits made during a word processing session without closing the current document.
Search	SEARCH (f6)	Searches through a document for specific text.
Store Phrase	STORE PHRASE (SHIFT-f7)	Stores a phrase for later recall.
Tabs	TABS (f3)	Sets and clears tabs for columnar text.
Thumb	CODE-^, 1-0	Moves the cursor directly to a specific position in a document.
Total Unindent	CODE-SHIFT-RETURN	Moves the left paragraph indent back to the far left margin stop.
Undo	UNDO (f2)	Undoes the last editing operation.
Unindent	CODE-SHIFT-TAB	Moves the left paragraph indent to the previous tab stop.

Table 4-1. Summary of Commands. (Page 6 of 6)

<u>Command</u>	<u>Keystroke</u>	<u>Description</u>
Visible	CODE-v	Displays visible representations of nonprinting characters.
Word Backspace	CODE-w	Backspaces and deletes the word to the left of the cursor position.
Zoom	CODE-z	On a B 22 workstation, switches the screen between 80 characters to a line and 132 characters to a line.

COMMANDS

A command is invoked when a key or a combination of keys (with or without the CODE or SHIFT key) is pressed. When you invoke most commands, a form or menu appears at the bottom of the screen and temporarily overlays the text. Certain commands cause a brief prompt to appear at the bottom of the screen. The differences among forms, menus, and prompts are described below.

For example, Figure 4-1 shows the Replace form.

REPLACE: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

```
Search for:  
Replace with:  
Check caps?   Yes   No   (Press Y or N)  
Confirm each? Yes   No   (Press Y or N)
```

Figure 4-1. Example of a Form.

The first line gives the name of the form and tells which actions to perform in this operation. Pressing GO executes the operation, pressing NEXT moves the highlight from item to item, and pressing CANCEL stops the operation.

The highlighted (reverse video) areas in the form accent the places where you either enter text or choose an option. In the above example, enter the string of text to be searched for, press NEXT, and then enter the text that will replace the searched-for text when it is found.

The "Check caps" and "Confirm each" options give you the choice of whether or not to use them. When you press Y or N, the highlight over the "Yes" or "No" becomes brighter.

After you have completed the form, press GO to execute the operation.

When a form appears on the screen, the cursor is at the first position of the first item to be filled in or chosen. The cursor moves back to the text area when the operation is completed, and the form goes away.

A form can contain default values. Default values appear in full brightness; other choices are displayed in half-brightness. If you want the default values to remain, there are two ways to bypass them. You can bypass them by pressing the NEXT key to go to the next item; or, if the default values of the rest of the options on the form are to remain, press GO. For example, in the Replace form, if you do not wish to choose "Check caps" or "Confirm each" and the default is shown to be "No", fill in the "Search for" and "Replace with" items and press GO.

PARAGRAPH INDENT: (Press CANCEL to dismiss)

Move cursor to desired indent position, then:

Press L to set Left indent
R Right indent
F First line indent only
O Other lines

Figure 4-2. Example of a Menu.

A menu offers one choice among a set of options. The Paragraph Indent menu in Figure 4-2 gives you a choice of options that are represented by various keys.

In the above menu, you press the letter that represents the type of paragraph indent you need. This action sets the paragraph indent and causes the menu to leave the screen.

When a menu appears on the screen, the cursor remains within the text area.

A prompt offers no choices and requires no input. A prompt is a brief message that simply tells you what further steps are needed to execute the command that was just invoked. The Move prompt in Figure 4-3 tells you what to do to execute the Move command.

MOVE: (Press GO to execute, CANCEL to dismiss)
Select text to be moved, then press GO to execute

Figure 4-3. Example of a Prompt.

When a prompt appears on the screen, the cursor remains within the text area.

STARTING A WORD PROCESSING SESSION

You can invoke the Word Processor with or without using the Executive, depending on how your system is configured. Procedures for invoking the Word Processor by either method are described here. Figure 4-4 further illustrates how the Word Processor is invoked.

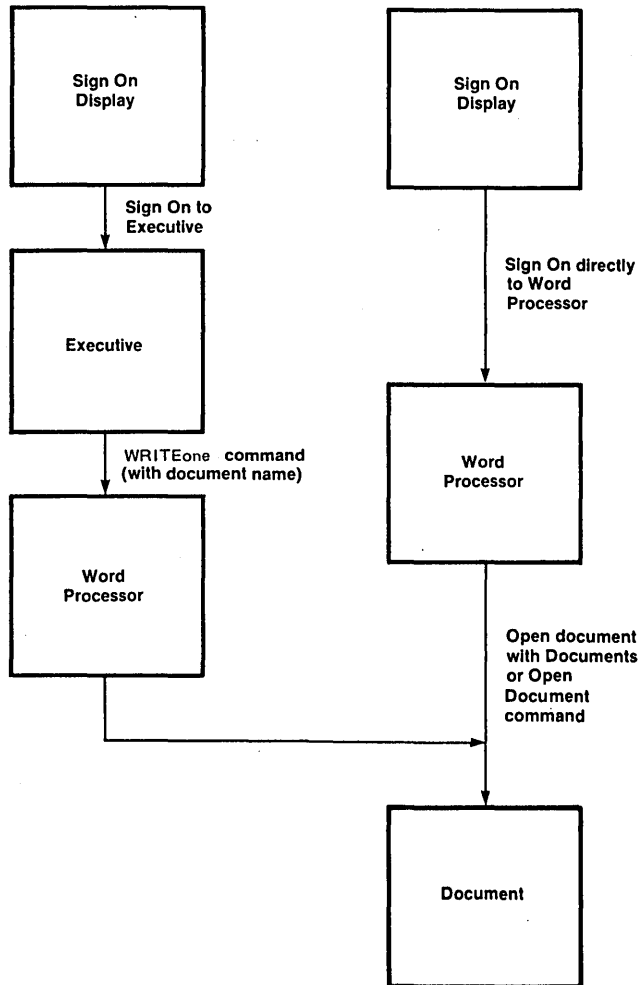


Figure 4-4. Invoking the Word Processor.

Signing On to the Executive

When the system is initialized, the first form to appear on the screen is the Signon form. At this point, the screen looks like Figure 4-5.

(Current day/date/time shown here)

BURROUGHS B 20 OPERATING SYSTEM BTOS n.n

Selection	Enter an application name or leave this line blank to display a Command form.
Password	Enter your assigned password (optional).
Day/Date/Time	Enter the current day, date and time (if not already set).

Then press the GO key.

Selection

Password

Day/Date/Time (e.g., Mon 6/21/82 8:00 am)

Figure 4-5. Sign On Form.

The Sign On form is used to gain access to the Burroughs system by entering a user identification and password. (Whether or not a password is required depends on the installation.) A user name is required when using the word processor on multiple workstations. An error "There is already a user named" occurs when more than one user starts a word processing session using the same user name. Therefore, four user names have already been established during the installation of the B 20 Executive WRITEone word processing system. They are as follows: WRITE1, WRITE2, WRITE3, and WRITE4. These user names have been set up so

the word processor is invoked immediately. In addition, the PATH is automatically set to a corresponding [SYS]<WRITen> directory so that all documents saved during a word processing session will be saved under this directory. If it is desired to change the names of these four user names or to add new user names refer to the section titled "Changing or Adding User Names with the Word Processor" below.

To sign on to the system:

1. Obtain a user name and password (if necessary) from the system administrator at your installation or use one of the four user names which have been established during the installation of the B 20 Executive WRITEone word processing system.
2. Enter your user name in the highlight next to "Selection".
3. If you are not entering a password or changing the date and time, skip steps 4 and 5 and press GO.
4. If it is necessary to enter a password:
 - a. Press NEXT to move the highlight to "Password".
 - b. Enter the password.
5. If you wish to change the day/date/time:
 - a. Press NEXT to move the highlight to "Day/Date/Time".
 - b. Enter day/date/time, using the form "Mon 1/18/82 10:00 am".
6. Press GO.

At this point, one of two things can happen (determined by your user profile). If the system administrator has specified that you use only the Word Processor, the Word Processor is invoked immediately. (See "Invoking the Word Processor without the Executive," below.) If you use other programs in addition to the Word Processor, the Executive is invoked and can then be used to invoke the Word Processor. (See "Invoking the Word Processor through the Executive," below.)

CHANGING OR ADDING USER NAMES WITH THE WORD PROCESSOR

Changing User Names

To change the names of the .user files while in the Word Processor, do the following:

1. Press the CODE key and the fl key at the same time.
2. Press R for Rename document and the following form will be displayed. Fill it in as follows:

RENAME DOCUMENT

Old document name: [sys]<sys>Writel.user
New document name: [sys]<sys>Jane.user
Password: (optional)

Press the Go key.

When the DOCUMENTS menu appears again, the user can change the directory that the user gets logged into as signon time by:

3. Pressing O to Open the new document. The following form will be displayed. Fill it in as follows:

OPEN DOCUMENT

Document name: [sys]<sys>Jane.user
Password: (optional)
Allow changes: Yes
Copy from document:

Press the GO key.

The Jane.user file will then be displayed. Move the cursor to the entry :SignOnDirectory: and position the cursor at the beginning of Writel. Press the DELETE key to delete Writel and then type Jane for the new entry. Press the FINISH key to save the document and go into Command mode (the Executive). Before using this new .user file, the user should create a new directory because it does not exist yet on the system. This is done in Command mode with the CREATE DIRECTORY command as shown below:

CREATE DIRECTORY

New directory name Jane
[Default protection level] 15

Press the GO key.

Adding User Names

To add additional .user files while in the Word Processor, press the CODE key and f1 at the same time. Press C for Copy document, and the following form will be displayed. Fill it in as follows:

COPY DOCUMENT

Old document name: [sys]<sys>Jane.user
New document name: [sys]<sys>John.user
Password: (optional)

Press the GO key.

Again, to change the directory, follow the instructions mentioned above under the heading CHANGING USER NAMES WITH WORD PROCESSOR.

Invoking the Word Processor Without the Executive

When you have entered the proper user name for invoking the Word Processor without going through the Executive, the Word Processor is immediately invoked. The following message appears on the screen:

Would you like to display the same documents as
in your last session? Press GO to confirm,
CANCEL to start a new session.

If you press GO, the Word Processor opens the document that you were working on at the end of the previous word processing session. The cursor is in the same position in the document as it was before, so you can easily continue from where you left off.

If you want to open a new document or a document other than the one you were working on at the end of the previous word processing session, press CANCEL. The message goes away and the Documents menu appears, as shown in Figure 4-6.

DOCUMENTS: (Press FINISH to exit Word Processor)

Press O to	Open document	Press W to	change Work area
D	Delete document	L	List documents
C	Copy document		
R	Rename document		

Figure 4-6. Documents Menu (#1).

You can now open a new or existing document. (See "Opening a Document through the Word Processor," below.)

Invoking the Word Processor Through the Executive

When you have entered the proper user name for invoking the Executive, the screen changes to look like Figure 4-7.

- o Enter "WRITEone" in the highlight next to "Command".

You now have the choice of opening a document through the Executive or through the Word Processor. (See "Opening a Document through the Word Processor," below.)

To open a document through the Executive:

1. Press RETURN to move the highlight to "Document(s)".

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Selection	Enter an application name or leave this line blank to display a Command form.
Password	Enter your assigned password (optional).
Day/Date/Time	Enter the current day, date and time (if not already set).

Then press the GO key.

Selection
Password
Day/Date/Time (e.g., Mon 6/21/82 8:00 am)
Command

Figure 4-7. Executive Command Form.

2. Enter the document name.
3. Press GO.

If an existing document is opened, the Word Processor is invoked, and the screen changes to show the first page of text.

If the document is new, the following blinking message appears:

Press GO to create document X, CANCEL to cancel command.

In this case, press GO again to open the document. The Word Processor is invoked and the screen changes to show the ruler display and a blank text area.

If you want to open a document through the Word Processor:

- o Press GO after entering "WRITEone" in the highlight next to "Command".

The Word Processor is invoked, and the screen shows the ruler display and the Documents menu. Now, follow the procedures below to open a document.

Opening a Document Through the Word Processor

The Documents menu, shown in Figure 4-6, has many options. However, the only one you need here is the "Open Document" option. "Open Document" allows you to open an existing document or create a new one.

You invoke the "Open Document" option by pressing O. The Open Document form appears on the screen. (See Figure 4-8.) "Open Document" has several options for you to choose when you are opening an existing document or creating a new document.

The "Password" option allows you to specify a password, if necessary. (For information on passwords, see the B 20 Software Operation Guide, section 8, "Establishing Security".)

The "Allow changes" option allows you to specify whether or not changes can be made to the document while it is open during a particular session. This option has a default value of "Yes" because you usually open a document to make changes to it. However, there are times when you want to specify "No" for "Allow changes".

For example, if you want only to look at a document and make sure that it can't be changed (such as a letter being inserted if you accidentally press a key), specify "No" for "Allow changes". If other users in your cluster want to look at your document at their workstations at the same time you are looking at it, specify "No" for "Allow changes".

The value you specify for "Allow changes" is only in effect for the current word processing session.

You can use the "Copy from document" option if you are going to create the document by copying a document that already exists. If you do copy an existing document, be sure to give the new document a different name.

To open a document with the Documents menu:

1. Press O to Open document.
2. The Open Document form appears, as shown in Figure 4-8.

OPEN DOCUMENT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

```
Document name:  
Password:  
Allow changes?      Yes   No   (Press Y or N)  
Copy from document:
```

Figure 4-8. Open Document Form.

3. Enter the name of the document. (It must not contain more than 46 alphanumeric characters.)
4. If you must enter a password:
 - a. Press NEXT to move the highlight to "Password". (For information on passwords, see the B 20 Software Operation Guide, section 8, "Establishing Security".)
 - b. Enter the password.

5. If the document should not be changed during this word processing session or is to be viewed by more than one user in your cluster:
 - a. Press NEXT to move the highlight to "Allow changes".
 - b. Press N.

6. If the document can be changed:
 - a. Press GO, or
 - b. Move the highlight to "Copy from Document".

7. If the document is to be copied from another document, enter the name of the document that is being copied.

8. When the form is completed, press GO. The Open Document form goes away and the first page of the opened document appears on the screen.

If you specified a new document, the following message appears:

Press GO to create document X, CANCEL to cancel command.

Press GO again to confirm. The message goes away, and the new document opens.

If you press GO before you enter the document name, the following message appears:

Please fill in "Document Name"

Enter the document name and press GO again.

You can open a document with the Documents menu at any time during a word processing session. For instructions on invoking the Documents command, see the "Document Utilities" subsection below.

Help Command

The Help command, which you invoke by pressing HELP on the control pad, displays an alphabetical listing of every command used in the Word Processor. This listing also describes each command and tells which keystrokes are used to invoke it.

Date/Time Command

The Date/Time command, which you invoke by pressing CODE-t, displays the current date and time at the bottom of the screen. Figure 4-9 shows the date and time message.

DATE AND TIME: (Press CANCEL to dismiss)

The time is now 2:23 PM on Wednesday, October 27, 1982.

Figure 4-9. Date/Time Message.

The date and time message remains on the screen until you press CANCEL, or until it is replaced by a menu or form. The message is continuously updated as it is displayed.

ENTERING A NEW DOCUMENT

Entering Text

Enter text as you would enter text on a typewriter. Simply type the characters from the typewriter pad of the keyboard. You can format text, paragraphs, and pages as you enter them. (See "Character Formatting," "Paragraph Formatting," and "Page Formatting," below.)

As text is entered and the end of a line is reached, the text automatically wraps to the next line. Press the RETURN key only when you reach the end of a paragraph and want to begin a new paragraph with the next sentence.

To end a line or sentence without ending a paragraph and before the text wraps around to the next line, press SHIFT-RETURN. For example, press SHIFT-RETURN when typing the lines of a table to use the same paragraph or indent format for the entire table.

NOTE

It is recommended that SHIFT-RETURN be used instead of the RETURN key whenever blank lines are needed to separate groups of text. If this is done then the performance of WRITEone will be improved.

Text is entered with the keyboard in either insert mode or overtype mode. The keyboard is normally in insert mode. When the keyboard is in insert mode, anything you type into existing text causes the typed text to be inserted just before the cursor. None of the existing text is deleted. The cursor, and any characters to the right of it, move to the right.

To change the keyboard to overtype mode, press the OVERTYPE key. The light on the key turns on. When the keyboard is in overtype mode, anything you type into existing text replaces that text.

To end overtype mode and return to insert mode, press OVERTYPE again. The light on the key now turns off.

Correcting Text

You may want to change or correct the text that you just entered. See "Moving within the Document," below, for instructions on using the cursor control keys to move the cursor to the text that needs revision. Follow the procedures described here to make the changes.

Deleting Text

To delete the single character at the cursor position, press the DELETE key. DELETE, pressed continuously, deletes characters as the cursor moves forward through the text. You also can delete words, lines, paragraphs, or pages by first selecting them (see "Selections," below) and then pressing DELETE.

In insert mode, you can delete a character to the left of the cursor position by pressing the BACKSPACE key. BACKSPACE moves the cursor one position to the left and deletes the character in that position. Pressing BACKSPACE when the cursor is at the left margin of a line moves the cursor to the last character of the preceding line and deletes that character. Pressing BACKSPACE when the cursor is at the left margin of the top line of the screen deletes the last character of the preceding line and scrolls the text down one line.

You also can use BACKSPACE to delete a blank line. For example, if you inserted some blank lines between paragraphs using SHIFT-RETURN, and you want to delete one of the lines, move the cursor to any position in that blank line and press BACKSPACE. The blank line is deleted.

Deleting a Single Word

The Word Backspace command, which you invoke by pressing CODE-w, allows you to delete the word or part of the word to the left of the cursor position. For example, suppose you are typing the phrase

For this type of computer

and just as you finish typing "computer," you decide to change "computer" to "workstation."

Simply press CODE-w. "Computer" is deleted and you can now type "workstation" in its place.

Word Backspace is similar to backspacing, in that it deletes the characters to the left of the cursor position. Consequently, if the cursor is at the last letter of the word you want to delete and you press CODE-w, all the letters of that word except the last letter are deleted. Hence, to delete the entire word, make sure the cursor is in the space to the right of the word before you press CODE-w.

This caution also applies to deleting a word anywhere in the text. Remember to move the cursor to the space to the right of the word before you delete that word.

Word Backspace deletes only in insert mode. If you press CODE-w when the OVERTYPE light is on, the cursor simply backspaces to the first character of the word it is in. No characters are deleted.

Inserting Text

To insert new text in a document (insert mode), move the cursor to the place in the text where you want to make the insertion. Type the new text. The typed characters are inserted just before the cursor. The cursor, and any characters on the line to the right of it, move to the right.

As characters are inserted, the line becomes longer, and text automatically wraps around to the next line.

Inserting a character at the right margin of a line moves the cursor to the left margin of the next line. Inserting a character at the right edge of the bottom line of the current window moves the cursor to the left margin of the next line and scrolls the text up one line.

If you insert text into a blank area on a line that contains some text, the inserted text (and the cursor) move back to the previous text.

Overtyping

To replace, rather than insert, text in a document (overtyping mode), press the OVERTYPE key. (The light on the key turns on.) You now can move the cursor to any position in the text and type characters exactly as before, but every character typed replaces the existing one (if any) at the cursor position. End overtyping mode and return to insert mode by pressing OVERTYPE again. (The light on the key turns off.)

During overtyping mode, the BACKSPACE key behaves as does the backspace key on a typewriter. Press BACKSPACE to backspace to any text that needs to be replaced. (No characters are deleted.)

Required Backspace

The Required Backspace command, which you invoke by pressing CODE-BACKSPACE, allows you to type one character over another. For example, you can enter a not-equal sign (\neq) or a plus/minus sign (\pm). On the screen, only one character appears (such as the / of the \neq). However, both characters are printed. (See "Special Characters" for a description of what appears on the screen when Required Backspace is invoked and the Visible command is in effect.)

The following steps show how to enter a not-equal sign (\neq):

1. Type = (equal sign).
2. Press CODE-BACKSPACE. The cursor moves one position to the left and the = disappears from the screen (but not from memory).
3. Type / (slash).
4. The / remains on the screen.

When the text is printed, the not-equal sign (\neq) will appear.

Saving a Document

The Save command, which you invoke by pressing CODE-s, saves the documents that are opened and worked on any time during an editing session without exiting the Word Processor. This command saves all operations performed in that session.

When this command is invoked, a row of empty boxes will be displayed. As the operation proceeds, the boxes will be filled in in proportion to the progress that has been made in completing the save.

Use of this command is optional. Documents are saved automatically when FINISH is pressed. However, periodic saving of your document is recommended because it shortens recovery time and improves performance.

Occasionally, when memory gets low (as after a complicated Search and Replace operation), the Word Processor reminds you to save your documents with the message "Memory low. Please save." This will be displayed when memory is just starting to become low. If a save isn't done at this point and the user continues the word processing session, performance of the word processor will be reduced. Another message will then be displayed, "Memory very low. Please save", indicating the memory situation is more serious. Performance will be further reduced, and certain operations, such as large replacements, may not have enough free memory left to execute successfully. If a save still isn't done then the message, "Memory extremely low. Please save", is displayed indicating the memory situation has reached a crisis state. If a save is not executed immediately, any operation may cause the word processor to fail due to lack of memory.

The user should never let the word processor come to this point and it is recommended that a save be done when the first message is displayed. In fact the user should not wait for this message to appear before doing a save. They should try to do periodic saves to prevent this message from ever having to be displayed. This will improve the performance of the word processor and prevent any operations from not being performed completely.

Finishing a Document

At the completion of a word processing session, press the FINISH key. FINISH saves all text entered and edited during the session. When you press FINISH, the following message appears:

Press GO to confirm FINISH, CANCEL to cancel command

When GO is pressed, the word processor will display a row of empty boxes. As the operation proceeds, the boxes will be filled in in proportion to the progress that has been made in completing the FINISH.

When FINISH has been completed and the document has been saved, the word processing session ends.

OPENING A DOCUMENT

There are two ways to open a document during a word processing session. You can use the Documents command (described below in the "Document Utilities" subsection) or the Open Document command (described below) to open an existing document or to create a new one.

The Open Document command, which you invoke by pressing CODE-o, allows you to open a new or existing document at any time during a word processing session. (See Figure 4-10.)

The "Password" option allows you to specify a password, if necessary. (For information on passwords, see the B 20 Software Operation Guide, section 8, "Establishing Security".)

The "Allow changes" option allows you to specify whether or not changes can be made to the document while it is open during a particular session. This option has a default value of "Yes", because you will usually open a file to make changes to it. However, there are times when you want to specify "No" for "Allow changes".

For example, if you want only to look at a document and make sure that it can't be changed (such as a letter being inserted if you accidentally press a key), specify "No" for "Allow changes". If other users in your cluster want to look at your document at their workstations at the same time you are looking at it, specify "No" for "Allow changes".

The value you specify for "Allow changes" is only in effect for the current word processing session.

You can use the "Copy from document" option if you are going to create the document by copying a document that already exists. If you do copy an existing document, be sure to give the new document a different name.

To open a document with the Open Document command:

1. Press CODE-o. The Open Document form, shown in Figure 4-10, appears on the screen.
2. Enter the name of the document. (It must not contain more than 46 alphanumeric characters.)
3. If you must enter a password:
 - a. Press NEXT to move the highlight to "Password".
 - b. Enter the password.

OPEN DOCUMENT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

```
Document name:
Password:
Allow changes?      Yes   No   (Press Y or N)
Copy from document:
```

Figure 4-10. Open Document Form.

4. If the document should not be changed during this word processing session or is to be viewed by more than one user in your cluster:
 - a. Press NEXT to move the highlight to "Allow changes".
 - b. Press N.
5. If the document can be changed,
 - a. Press GO, or
 - b. Move the highlight to "Copy from document".
6. If the document is to be copied from another document, enter the name of the document that is being copied.
7. When the form is completed, press GO. The form goes away and the first page of the opened document appears on the screen.

If you specified a new document, the following message appears:

Press GO to create document X, CANCEL to cancel command

Press GO again to confirm. The message goes away, and the new document opens.

If you press GO before you enter the document name, the following message appears:

Please fill in "Document Name"

Enter the document name and press GO again.

If you entered the name of a document that is already open, the following message appears:

Document X is already open

Enter another document name and press GO.

MOVING WITHIN THE DOCUMENT

There are many ways to move the cursor to specific areas within a document. You can use the SCROLL keys, cursor control keys, NEXT PAGE, and PREV PAGE. The Go to Page, Go to Beginning, and Go to End commands move the cursor to specific areas. You can also use the Search command to position the cursor at specific text. (See "Searching for Text," below.)

Vertical Scrolling

To scroll the text on the screen up and down, one line at a time, press SCROLL UP or SCROLL DOWN once for each line. Pressing SCROLL UP or SCROLL DOWN continuously scrolls the text up or down progressively in one-line increments.

To scroll the text in screen-sized increments, press SHIFT while pressing SCROLL UP or SCROLL DOWN.

Horizontal Scrolling

To scroll the text horizontally on the screen, use the right or left arrow cursor control key. To view the right portion of the screen and shift its content to the far left, press the right arrow key continuously. When the cursor reaches the right margin, the text shifts to the left and the leftmost text disappears. The ruler display also shifts to the left. To view the left portion of the screen and shift its content to the far right, press the left arrow key continuously. When the cursor reaches the left margin, the text shifts to the right along with the ruler display.

Cursor Control Keys

You can use the cursor control keys to move the cursor around the screen manually. These keys are used by themselves or in combination with SHIFT and CODE. The following descriptions pertain to cursor movement within a single window. (For descriptions of how these keys work in multiple windows and documents, see "Multiple Windows in a Single Document" in Section 5, "Advanced Operations.")

Up Arrow (↑)

The up arrow key (↑) moves the cursor upward one line at a time. If the cursor is at the top of the window, it remains there.

SHIFT-up arrow moves the cursor upward in increments of several lines.

CODE-up arrow moves the cursor to the top of the window in which it is positioned. If the cursor is already at the top of the window, it is moved into the top of the next window.

Down Arrow (↓)

The down arrow key (↓) moves the cursor downward one line at a time. If the cursor is at the bottom of the window, it remains there.

SHIFT-down arrow moves the cursor downward in increments of several lines.

CODE-down arrow moves the cursor to the bottom of the window in which it is positioned. If the cursor is already at the bottom of the window, it is moved into the next window.

Left Arrow (←)

The left arrow key (←) moves the cursor one position to the left.

SHIFT-left arrow moves the cursor to the left in increments of several characters.

CODE-left arrow moves the cursor to the beginning of the current line.

Right Arrow (→)

The right arrow key (→) moves the cursor one position to the right.

SHIFT-right arrow moves the cursor to the right in increments of several characters.

CODE-right arrow moves the cursor to the end of the current line.

Moving to the Next Page or to the Previous Page

Two keys change the page in the current window. NEXT PAGE shifts the next page of text into the current window. PREV PAGE shifts the previous page of text into the current window. The cursor remains at the same relative position within the newly displayed page.

Moving to a Specific Page

The Go to Page command shifts a specific page in the document to the current window. The Go to Page command, which you invoke by pressing CODE-f6, displays the Go to Page form shown in Figure 4-11.

GO TO PAGE: (Press GO to execute, CANCEL to dismiss)

Page number:

Figure 4-11. Go to Page Form.

To shift a specific page into the current window:

1. Press GO TO PAGE (CODE-f6). The Go to Page form appears, with the cursor next to "Page number".
2. Type the number of the page you want.
3. Press GO.

The specified page appears on the screen with the cursor at the beginning of the first line of text.

Moving to the Beginning or End of the Document

The Go to Beginning command moves the cursor to the first character on the first line of text in the document. Invoke this command by pressing CODE-b. The Go to End command moves the cursor to the last text character in the document. Invoke this command by pressing CODE-e.

EDITING A DOCUMENT

Selections

A selection is a contiguous block of characters that has been chosen for a particular operation. When selected, these characters are highlighted on the screen. A selection can consist of one or more characters, spaces, words, columns, lines, paragraphs, pages, or an entire document. Making a selection is the easiest way to format, move, copy, or delete blocks of text.

Making a Selection

Selections are made with any of the Mark commands. The seven MARK keys on the keyboard represent commands with those same names. These keys are

- o MARK
- o MARK WORD (f8)
- o MARK PAGE (CODE-8)
- o MARK LINE (f9)
- o MARK COLUMN (CODE-f9)
- o MARK PARA (f10)
- o MARK DOC (CODE-f10)

MARK selects and highlights the character or space that contains the cursor, or that is nearest to the cursor on the same line. Any text character or nonprinting control character (for example, carriage return, paragraph symbol) can be selected. (Use the Visible command, described below under "Special Characters," to see nonprinting characters.)

MARK WORD selects and highlights the word containing the cursor.

MARK LINE selects and highlights the line containing the cursor.

MARK COLUMN selects and highlights the column containing the cursor.

MARK PARA selects and highlights the paragraph containing the cursor.

MARK PAGE selects and highlights the page containing the cursor.

MARK DOC selects and highlights the document containing the cursor.

To make a selection:

1. Move the cursor to the first character of the text you want to select.
2. Press the appropriate MARK key.

The selection is highlighted. You can then use the selection as needed.

A selection need not always contain text. For example, you can use MARK LINE to select a blank line for deletion.

Figure 4-12 shows a screen containing a selection made with the Mark Line and Bound commands.

Extending a Selection

To extend a selection, press BOUND. Depending on which type of selection is made, BOUND moves the cursor and extends the highlight to the next space, character, word, line, column, paragraph, or page.

For example, the cursor is positioned in the first word of the following text:

The Word Processing Reference Manual describes an interactive word processor.

1. Press MARK WORD and the word "The" is selected and highlighted.
2. Press BOUND once. The cursor moves to the space following "The" and the highlighted selection extends to include that space.
3. Press BOUND again. The cursor moves to the next word ("Word") and it is highlighted and added to the selection.

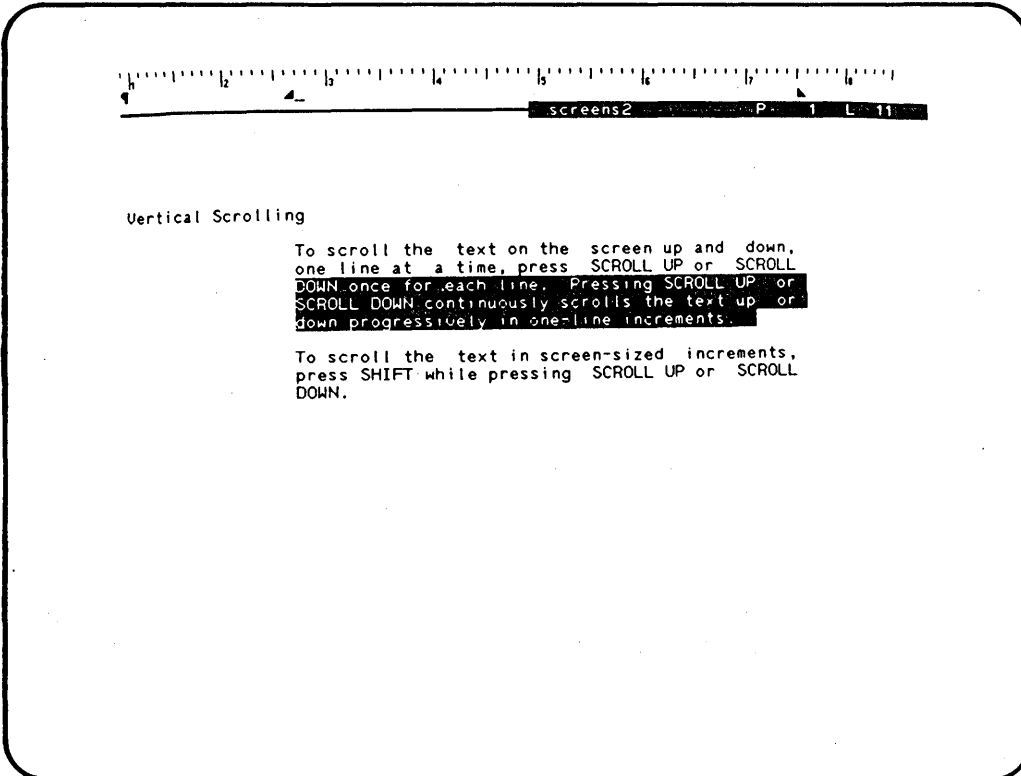


Figure 4-12. Example of a Selection.

You can extend or reduce a selection by many characters by moving the cursor to the last character to be part of the selection and pressing BOUND. The selection is automatically extended or reduced to include that cursor position.

You also can change a selection by repeating the Mark key that was used to make the selection. For example, pressing MARK PARA a second time moves the highlight and the cursor downward to the next paragraph. Pressing MARK PARA a third time again moves the highlight and the cursor to the next paragraph, and so on.

Removing a Selection

A selection is temporary. It is removed as soon as it is used in a procedure, or when another selection is made. Alternatively, you can press CODE-MARK to remove the highlight and restore the text to its normal appearance.

Deleting Selected Text

To delete selected text:

1. Move the cursor into the selection.
2. Press DELETE. The selected text is deleted.

Moving Text

There are two ways to move text to any location within a document:

- o By first selecting the text to be moved, moving the cursor to the position where the text is to be placed, and then invoking the Move command by pressing MOVE.
- o By moving the cursor to the position where the text is to be placed, invoking the Move command by pressing MOVE, selecting the text to be moved, and then pressing GO.

To use the first procedure, in which you make the selection before pressing MOVE:

1. Use the appropriate Mark (and Bound) command to select the text to be moved.
2. Move the cursor to the position where you want the text to appear.
3. Press MOVE. The selected text moves to the cursor position (and is deleted from its original location).

To use the second procedure, in which you make the selection after pressing MOVE:

1. Move the cursor to the position where you want the text to appear.

2. Press MOVE. The Move prompt, shown in Figure 4-13, appears on the screen.
3. Once you have pressed MOVE and the Move prompt is displayed, you can move the cursor to the beginning of the text to be moved. (The Word Processor remembers where the cursor was located when MOVE was pressed.) Use the appropriate Mark (and Bound) command to select the text to be moved.
4. Press GO. The selected text moves to the position where the cursor was located when MOVE was pressed (and is deleted from its original location).

MOVE: (Press GO to execute, CANCEL to dismiss)

Select text to be moved, then press GO to execute

Figure 4-13. Move Prompt.

Copying Text

The Copy command works in almost the same way as the Move command. There are two ways to copy text to any location within a document:

- o By first selecting the text to be copied, moving the cursor to the position where the copied text is to be placed, and then invoking the Copy command by pressing COPY.
- o By moving the cursor to the position where the text is to be placed, invoking the Copy command by pressing COPY, selecting the text to be copied, and then pressing GO.

To use the first procedure, in which you make the selection before pressing COPY:

1. Use the appropriate Mark (and Bound) command to select the text to be copied.
2. Move the cursor to the position where you want the copied text to appear.
3. Press COPY. The selected text is copied to the cursor position (but is not deleted from its original location).

To use the second procedure, in which you make the selection after pressing COPY:

1. Move the cursor to the position where you want the copied text to appear.
2. Press COPY. The Copy prompt, shown in Figure 4-14, appears on the screen.

COPY: (Press GO to execute, CANCEL to dismiss)

Select text to be copied, then press GO to execute

Figure 4-14. Copy Prompt.

3. Once you have pressed COPY and the Copy prompt is displayed, you can move the cursor to the beginning of the text to be copied. (The Word Processor remembers where the cursor was located when COPY was pressed.) Use the appropriate Mark (and Bound) command to select the text to be copied.
4. Press GO. The selected text is copied to the position where the cursor was located when COPY was pressed (but is not deleted from its original location).

Searching for Text

You can invoke the Search command to search for a string of one or more characters within a document. The search starts at the cursor position. The Word Processor ignores format attributes during a search and searches only for alphanumeric characters. For example, if you specify a search string that is underlined, the underline is ignored and the search is made only for the actual text in the string.

If you specify the "Check caps" option, the system searches only for the words that have the same uppercase and lowercase characters as does the search string. Otherwise, the system searches for all characters contained in the search string regardless of uppercase and lowercase characteristics.

The Search command, which you invoke by pressing SEARCH (f6), displays the SEARCH form shown in Figure 4-15.

SEARCH: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Search for:
Check caps? Yes No (Press Y or N)

Figure 4-15. Search Form.

To search for a particular text string, regardless of uppercase and lowercase characteristics:

1. Press SEARCH (f6). The Search form appears.
2. Enter the text string in the highlighted area.
3. Press GO.

To search for a matching uppercase and lowercase text string:

1. Press SEARCH (f6). The Search form appears.
2. Enter the text string in the highlighted area.
3. Press NEXT to move the highlight to "Check caps".
4. Press Y.
5. Press GO.

When you press GO, the message

Searching...

appears at the top of the form. The highlighted area in the form goes away.

When the text is found, the Search form goes away. The cursor is positioned at the end of the text string, which is now highlighted. To remove the highlight, press CODE-MARK. (See "Selections," above.)

If the string is not found, the blinking message

Not found

appears at the top of the form. The highlighted area in the form remains.

Replacing Text

You can use the Replace command to search the document for a specific character string and replace it with another character string. If no selection is made, the system searches the entire document for the search string, irrespective of the cursor position. However, if a selection has been made, the search-and-replacement is made only in the selected text.

If you specify the "Check caps" option, the Word Processor searches for and replaces only the text that has the same uppercase and lowercase characters as the search string. Otherwise, the system searches for and replaces all characters contained in the search string, regardless of uppercase and lowercase. However, the replacement inherits the uppercase and lowercase characteristics of the replaced text. For example, if the search string is "which" and the replacement is "that", the Word Processor finds "which" and "Which". The replacements inherit both uppercase and lowercase characters and become "that" and "That". In addition, if at least the first two characters of the replaced text are uppercase alphabetic, then the replacement will be all uppercase.

If you specify the "Confirm each" option, the Word Processor stops at each place where a replacement is possible. Press GO to make the replacement, press NEXT to continue without making the replacement, or press CANCEL to stop the replacement.

Only alphanumeric characters are valid in the search-and-replace strings. That is, no formatting attributes can be assigned to the strings. However, the replacement inherits the formatting attributes of the replaced text. For example, if the search string is "the" and the replacement is "a", the Word Processor finds "the", "the", "the", and so on. The replacements inherit these format attributes and become "a", "a", "a", and so on.

The Replace command, which you invoke by pressing REPLACE (SHIFT-f6), displays the Replace form shown in Figure 4-16. The cursor leaves the text and goes to the highlight next to "Search for".

REPLACE: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

```
Search for:
Replace with:
Check caps?  Yes   No   (Press Y or N)
Confirm each? Yes   No   (Press Y or N)
```

Figure 4-16. Replace Form.

To search for a specific character string and replace it with other characters:

1. Press REPLACE (SHIFT-f6). The Replace form appears.
2. Type the character string to be searched for.
3. Press NEXT to move the highlight to "Replace with".
4. Type the replacement string.
5. If the "Check caps" or "Confirm each" option is not wanted, press GO.
6. If the "Check caps" or "Confirm each" option
 - a. Press NEXT to move the highlight to either option.
 - b. Press Y.
7. Press GO.

When you press GO, the search begins. The message

Replacing...

appears at the top of the form until completion.

At completion of the search-and-replacement, the form goes away and the cursor returns to the text area. The following message appears at the bottom of the screen, showing the number of replacements made:

3 replacements made

The next keystroke removes the message.

If no search string is found, the message

Not found

appears at the top of the form.

To enter another search string, press NEXT to move the highlight to "Search for".

Forced Page Break

You can use the Forced Page command to force text to start on a new page. For example, suppose you are typing text that contains a table. As you enter the text, you discover that there is not enough room on that page for the entire table. You use the Forced Page command to end the page just before you start typing the table. This procedure allows you to type the table on a new page.

You invoke the Forced Page command by pressing CODE-NEXT PAGE. This command indicates the new page by inserting a double line of dashes in the text where the previous page ended.

If CODE-NEXT PAGE is pressed when the cursor is in the middle of a line of text, the text is broken at that point and the double line of dashes is inserted.

To specify a forced page break:

1. Move the cursor to the position in the text where you want the new page to start.
2. Press CODE-NEXT PAGE.
3. The double line of dashes is inserted and a new page begins.

To remove the forced page break:

1. Move the cursor to the double line of dashes.
2. Press DELETE.

Redoing an Edit

The Redo command, which you invoke by pressing REDO (f1), repeats the previous editing operation. For example, if you have just invoked the Search command to find some text, use Redo to find succeeding occurrences of that text.

Redo works only if no other operation was performed after the previous editing operation. For example, if you just used the Search command, and then typed some text into a sentence, pressing Redo will not repeat the Search operation.

Undoing an Edit

The Undo command, which you invoke by pressing UNDO (f2), "undoes" the last editing operation.

For example, if you just mistakenly deleted a selection, press UNDO to restore it. Pressing UNDO again deletes the selection again. (It "undoes" the Undo.)

Undo only works if no other operation was performed after the previous editing operation.

Jumping to the Last Edit Point

The Point of Last Edit command, which you invoke by pressing POINT OF LAST EDIT (CODE-f2), remembers the position in your document where you last edited and places the cursor there.

For example, if you edit at one position, then cursor to another position and edit there, pressing CODE-f2 will position the cursor back to the first editing point. This feature is useful if while editing a document you wish to scan or alter text at some other position in the document and then you want to quickly return to the original position to continue editing.

The word processor actually remembers more than just the last editing point, so that multiple depressions of CODE-f2 will reposition the cursor at each editing point.

TABS

Text, either numeric or alphabetic, can be entered and automatically formatted into columns. Use the Tabs command to specify the tab settings and the type of columnar format. The Tabs command, which you invoke by pressing TABS (f3), displays the Tabs menu shown in Figure 4-17. To facilitate the setting of multiple tab stops, the TABS menu will remain up when a tab stop is set. Any selection present will also remain. To remove the menu and the selection, press the CANCEL key. The ruler display at the top of the screen is your guide to the location of the tab stops. (See "Ruler Display" in Section 3, "Screens.")

TABS: (Press CANCEL to dismiss)

Move cursor to desired tab stop, then:

Press L for Left-aligned tab
R Right-aligned tab
C Centered tab
D Decimal tab
E Evenly spaced left-aligned tabs
. leader dots

Press O to clear One tab at cursor position
A All tabs in current paragraph

Figure 4-17. Tabs Menu.

Setting Tabs

The Tabs command, which you invoke by pressing TABS (f3), includes five types of tabs.

- o Left-aligned tab: text is left-aligned at the tab stop.
- o Right-aligned tab: text is right-aligned at the tab stop. Note that the data will be positioned to the left of the tab stop.
- o Center tab: text is centered at the tab stop.
- o Decimal tab: text is aligned under the decimal point.
- o Evenly spaced left-aligned tabs: tabs are set at evenly spaced intervals across the page.

Leader dots can be specified for any of the above tab settings except evenly spaced left-aligned tabs.

You can set evenly spaced left-aligned tabs with just one keystroke. This option sets a series of tab stops across the ruler display. The space between tab stops is determined by the position of the first tab stop in relation to the beginning of the ruler.

For example, if you specify the first tab at the one-inch mark on the ruler, the tab stops are automatically set at one-inch intervals. Or, if you specify the first tab at the one-and-one-half-inch mark on the ruler, the tab stops are automatically set at one-and-one-half-inch intervals.

Tabs can be set to the left or to the right of a paragraph indent setting.

To set tabs:

1. Press TABS (f3). The Tabs menu appears.
2. Move the cursor to the desired tab stop on the ruler display.
3. Choose the desired type of tab setting by entering the corresponding tab symbol.

Press L for Left-aligned tab
Press R for Right-aligned tab
Press C for Centered tab
Press D for Decimal tab
Press E for Evenly spaced left-aligned tabs
Press . for leader dots

4. When you have selected any one of the above tab settings except leader dots, the selected tab symbol is displayed at the cursor position on the ruler display. Note that the Tabs menu is still displayed so that additional tabs can be set. When all the desired tab stops have been set, press the CANCEL key to dismiss the TABS menu.

If you selected Leader dots, the Leader Dots menu, shown in Figure 4-18, appears.

1. Move the cursor to the desired tab stop on the ruler display.
2. Select the desired type of tab setting with leader dots by typing the corresponding tab symbol.

Press L for Left-aligned tab
Press R for Right-aligned tab
Press C for Centered tab
Press D for Decimal tab

3. The selected tab symbol and leader dots appear in the ruler display. The Leader Dots menu is still displayed so that additional leader dot tabs can be set. When all the desired tab stops have been set, press the CANCEL key to dismiss the Leader Dots menu.

LEADER DOTS: (Press CANCEL to dismiss)

Press L for Left-aligned tab
R Right-aligned tab
C Centered tab
D Decimal tab

Figure 4-18. Leader Dots Menu.

If you are specifying a series of identical tab settings across a page, such as right-aligned tabs at even or uneven intervals, use the Redo command after specifying the first tab setting.

To do so, specify the first tab setting using the above procedures. Then, move the cursor to the next required tab stop and press REDO. Repeat these steps to set the other tabs. Redo will work only when you are specifying the same type of tab setting.

Clearing Tabs

You can clear existing tab settings with the Tabs command. Pressing TABS (f3) brings up the Tabs menu, as shown in Figure 4-17. The ruler display at the top of the screen shows where each tab is set.

To clear one or more tab settings:

1. Press TABS (f3). The Tabs menu appears.
2. To clear one tab setting, move the cursor to that tab setting.
3. Type 0.

4. The tab setting at the cursor position is cleared. The tab symbol is removed from the ruler display.
5. To clear all tab settings, press A.
6. All tab settings are cleared. All tab symbols are removed from the ruler display.

To clear a few tab settings (but not all), use the Redo command. To do so, clear one tab setting using steps 1 through 3, above. Then move the cursor to the next tab setting you wish to clear and press REDO. Repeat, moving the cursor and pressing REDO to clear additional tab settings.

Entering Tabular Text

The TAB key on the typewriter pad is used to enter tabular text. This key is similar to the tab key on a typewriter. TAB moves the cursor to the settings specified by the tab stops on the ruler display.

TAB also acts as a return key. After you enter the last column of text on a line, press TAB to move the cursor to the first tab stop on the next line.

For example, in the table below, tab stops have been set for two columns of left-aligned text. The cursor is positioned to the right of "Mary Smith".

Name	Employee No.
James Johnson	123789
Mary Smith	

To continue entering text in the table:

1. Press TAB. The cursor moves to the next tab setting under "Employee No."
2. Enter the employee number.
3. Press TAB again. The cursor moves to the first tab setting on the next line under "Name" (just below "Mary Smith").
4. Enter another name.
5. Repeat the above steps to enter more text.

Entering Center Tab Text

When using centered tabs with even numbered character strings, the additional character will be placed to the left of the tab stop. This should not be of concern, as when this text is printed out the characters will align correctly with respect to each other and the center tab.

Entering Decimal Tab Text

When entering decimal tab data, any character which is not in the following set (\$, -, +, =, {, [, (, <, @, #, 0-9) will not act as a delimiter for a decimal tab stop. That is, if a ~9.9 is entered at a decimal tab stop, the decimal point will not align correctly.

Entering Right Aligned Tab Text

When entering right aligned tab data, spaces will not be considered part of the field for right aligned tabs. However, if spaces are desired, a non-breaking space (CODE-SHIFT-spacebar) can be used and will align correctly.

CHARACTER FORMATTING

Certain formatting characteristics apply to one or more adjacent characters. Characters are formatted with combinations of the following attributes:

- o underline
- o double underline
- o boldface
- o superscript
- o subscript
- o struck-out text

The above attributes are specified with the Format command.

Format Command

The Format command, which you invoke by pressing FORMAT (f4), displays the Format menu shown in Figure 4-19. This menu serves two purposes. The top of the menu shows the current characteristics of the paragraph or selection in which the cursor is positioned. The rest of the menu tells you what keys to press to specify the various format attributes. If you made any format changes to the text (for example, you change the text from single spacing to double spacing), the Format menu reflects that change the next time it appears.

The Format menu is in two parts. The first part is displayed when FORMAT (f4) is pressed. Pressing FORMAT a second time displays the second part of the menu. (Pressing FORMAT a third time causes the first part of the menu to reappear.)

Although the Format menu is in two parts and each part displays different sets of options, you can choose any of the options when either part is displayed.

(Once you are familiar with using the Format command, you can specify a format attribute without causing the menu to appear. To do so, press FORMAT and then quickly type the character that represents the option you want.)

FORMAT: (Press CANCEL to dismiss)

Current: * Normal Text * Courier 72 * 10-Pitch
 * Left Flush * Single Spaced

Press B for Boldface text	Press ^ for Superscript text
- Underlined text	. Subscript text
= Double-underlined text	A Alternate ribbon color
S Struck-out text	K merge Keyword

or CODE and indicated key to remove attribute

Press N for Normal text Press FORMAT again for more choices

Format Menu (Part 1)

FORMAT: (Press CANCEL to dismiss)

Current:

Press L for Left-flush text	Press 1 for Single-spaced text
C Centered text	2 Double-spaced text
J Justified text	/ Single/double spacing
R Right-flush text	1/2 1 1/2-line spacing
	0 Other line spacing

Press P to change Page format
Press space bar to change pitch
Press W to change print Wheel Press FORMAT again for more choices

Format Menu (Part 2)

Figure 4-19. Format Menu, Parts 1 and 2.

In Figure 4-19, the current paragraph is shown to have normal, left-flush, single-spaced, 10-pitch text, and the print wheel in use is Courier 72. Instructions for using the Format menu to specify particular attributes appear below according to function.

Underlines

Both new and existing text can be underlined. Single or double underlining is both specified and removed with the Format command. (See "Format Command," above.)

To underline text as it is entered:

1. Press FORMAT (f4). The Format menu appears.
2. Press - (hyphen) for single underline, or press = (equal sign) for double underline.
3. The Format menu goes away.
4. Enter text. For single underline the text is automatically underlined as it is entered. For double underline the text will appear in half brightness.

To stop underlining text as it is entered:

1. Press FORMAT (f4). The Format menu appears.
2. Press CODE- - (hyphen) to stop the single underline or press CODE- = (equal sign) to stop the double underline.
3. The Format menu goes away. Text no longer is underlined as it is entered.

To underline existing text:

1. Use the appropriate Mark (and Bound) command to select the text to be underlined. (See "Selections," above.)
2. Press FORMAT (f4). The Format menu appears.
3. Press - (hyphen) for single underline or press = (equal sign) for double underline.
4. The Format menu goes away. For single underline the selected text is underlined (and the highlight goes away). For double underline the text appears in half brightness (and the highlight goes away).

To remove the underline from existing text:

1. Use the appropriate Mark (and Bound) command to select the underlined text.
2. Press FORMAT (f4). The Format menu appears.
3. Press CODE- - (hyphen) to remove single underlining or press CODE- = (equal sign) to remove double underlining.
4. The Format menu goes away. The underlining is removed from the selected text (and the highlight goes away).

Boldface

A character or string of characters can be printed in boldface. The boldface attribute can be specified for new or existing text. When boldface text has been specified, it appears on the screen in half-brightness.

Boldface text is specified with the Format command. (See "Format Command," above.) Boldface text is changed back to normal text with the same command.

To specify boldface text as it is entered:

1. Press FORMAT (f4). The Format menu appears.
2. Press B.
3. The Format menu goes away.
4. Enter text. It will appear in half-brightness on the screen.

To stop entering boldface text:

1. Press FORMAT (f4). The Format menu appears.
2. Press CODE-B. The Format menu goes away.
3. Enter text. It will appear in normal brightness on the screen.

To change existing text to boldface:

1. Use the appropriate Mark (and Bound) command to select and highlight the text.
2. Press FORMAT (f4). The Format menu appears.
3. Press B.
4. The Format menu goes away. The selected text changes to half-brightness.

To change existing boldface text back to normal text:

1. Use the appropriate Mark (and Bound) command to select and highlight the boldface text.
2. Press FORMAT (f4). The Format menu appears.
3. Press CODE-B.
4. The Format menu goes away. The selected text returns to normal brightness.

Superscript

Text can be printed above the normal line of text. Text above the line is known as superscript and is specified with the Format command. (See "Format Command," above.) This command is also used to change superscript text back to normal text. Superscript text appears on the screen in half-brightness. However, if the digits 0-9 are used, they will be displayed on the screen as small supercripted digits and will not appear in half brightness. When these digits (0-9) are printed they will print as full size digits, the same as any other superscripted character.

To specify superscript as you enter text:

1. Press FORMAT (f4). The Format menu appears.
2. Press ^ (caret).
3. The Format menu goes away.
4. Enter text. It appears on the screen in half-brightness except the digits 0-9 which appear as small superscripted digits.

To stop entering superscript text:

1. Press FORMAT (f4). The Format menu appears.
2. Press CODE-^ (caret).
3. The Format menu goes away.
4. Enter text. It appears on the screen in normal brightness and digits will display full size.

To change existing text to superscript:

1. Use the appropriate Mark (and Bound) command to select and highlight the text to be changed.
2. Press FORMAT (f4). The Format menu appears.
3. Press ^ (caret).
4. The Format menu goes away. The selected text changes to superscript text and is displayed on the screen in half-brightness except the digits 0-9 which appear as small superscripted digits.

To change superscript text to normal text:

1. Use the appropriate Mark (and Bound) command to select and highlight the superscript text.
2. Press FORMAT (f4). The Format menu appears.
3. Press CODE-^ (caret).
4. The Format menu goes away. The selected superscript text changes back to normal text.

Subscript

Text can be printed below the normal line of text. This kind of text is known as subscript and is specified with the Format command. (See "Format Command," above.) This command also is used to change subscript text back to normal text. Subscript text appears on the screen in half-brightness. However, if the digits 0-9 are used, they will be displayed on the screen as small subscripted digits and will not appear in half brightness. When these digits (0-9) are printed they will print as full size digits, the same as any other subscripted character.

To specify subscript as you enter text:

1. Press FORMAT (f4). The Format menu appears.
2. Press . (period).
3. The Format menu goes away.
4. Enter text. It appears on the screen in half-brightness except the digits 0-9 which appear as small subscripted digits.

To stop entering subscript text:

1. Press FORMAT (f4). The Format menu appears.
2. Press CODE- . (period).
3. The Format menu goes away.
4. Enter text. It appears on the screen in normal brightness and digits will display full size.

To change existing text to subscript text:

1. Use the appropriate Mark (and Bound) command to select and highlight the text to be changed.
2. Press FORMAT (f4). The Format menu appears.
3. Press . (period).
4. The Format menu goes away. The selected text changes to subscript text and is displayed on the screen in half-brightness except the digits 0-9 which appear as small subscripted digits.

To change subscript text to normal text:

1. Use the appropriate Mark (and Bound) command to select and highlight the subscript text.
2. Press FORMAT (f4). The Format menu appears.
3. Press CODE- . (period).
4. The Format menu goes away. The selected subscript text changes back to normal text.

Struck-Out Text

When you are revising a document, you may wish to retain deleted text in some form. The Word Processor allows you to print "deleted" text and indicate its state in the printed document.

For example, you are deleting a phrase in a draft copy of a document but want to show that this phrase will be removed from the final copy. Do the following:

1. Use the Mark Word and Bound commands to select the phrase to be struck out.
2. Press FORMAT (f4). The Format menu appears.
3. Press S.
4. The Format menu goes away. The selected phrase appears on the screen in half-brightness.
5. When the document is printed, the "deleted" or struck-out phrase looks like this:

. . .all men are created equal, but some men are created more equal than others.

Removing Multiple Character Format Attributes

Your document might have a block of text containing more than one kind of character format attribute. For example, a paragraph contains words that are both boldface and underlined. If that block of text needs to be changed back to normal (no character format attributes), it is not necessary to remove each attribute individually.

To remove multiple format attributes at one time:

1. Use the appropriate Mark (and Bound) command to select the formatted text to be changed back to normal.
2. Press FORMAT (f4). The Format menu appears.
3. Press N for normal text.
4. The Format menu goes away. The character format attributes are removed, and the selected text changes back to normal.

SPECIAL CHARACTERS

The Word Processor provides several special characters for better control of text formatting. These characters are

- o discretionary hyphen
- o breaking required hyphen
- o nonbreaking required hyphen
- o nonbreaking space
- o discretionary line break

Visible Command

The Visible command, which you invoke by pressing CODE-v, causes these special characters to appear on the screen. There are three levels of visibility on the screen. When Visible is not invoked, the screen contains regular spaces between words and shows no special characters or symbols. Pressing CODE-v once causes small dots to appear in the spaces, and paragraph symbols to appear at the beginning of each paragraph. Pressing CODE-v again causes the special characters to appear. Pressing CODE-v a third time causes all special characters and symbols to disappear, leaving the screen as it was originally.

For example, if you are using the Required Backspace command, you can see the special character inserted by the command by pressing CODE-v twice. Required Backspace inserts a special character that appears on the screen only when Visible is invoked. The special character does not appear in the printed document.

Discretionary Hyphen

A discretionary hyphen can be inserted when a word breaks at the end of a line, and not otherwise. Sometimes a long word cannot fit at the end of a line. The Word Processor wraps the word around to the next line, leaving large "holes" in the previous line. Placing a discretionary hyphen in the long word causes the word to break when it would otherwise extend beyond

the end of a line. If the text is later edited so that the word no longer breaks at the end of a line, the hyphen does not appear.

To specify a discretionary hyphen, place the cursor to the right of the letter at which you want the word to break and then press CODE-hyphen.

Breaking Required Hyphen

A breaking required hyphen is the standard hyphen that is used in expressions such as father-in-law and tailor-made. These expressions must always be hyphenated, but can be broken, if necessary, after a hyphen.

A breaking required hyphen is typed with the standard hyphen key.

Nonbreaking Required Hyphen

A nonbreaking required hyphen keeps expressions together as a group at the end of a line, rather than breaking them at a hyphen. For example, the expression 3-2, as in Figure 3-2, or the phone number 800-538-7560, should not break.

Type a nonbreaking required hyphen with CODE-SHIFT-hyphen at the position where the hyphen appears in the text.

Nonbreaking Space

A nonbreaking space keeps expressions together as a group at the end of a line rather than splitting them at a space. For example, the equation $A + B = C$ should not split.

Type a nonbreaking space with CODE-SHIFT-spacebar at the position where the space appears in the text.

Discretionary Line Break

A discretionary line break can be inserted into a phrase or a sentence to split it at a specific place at the end of a line. For example, an expression such as and/or can be split after the slash (/) if the line ends there.

To specify a discretionary line break, place the cursor to the right of the character at which you want the line to split and then press CODE-spacebar.

PARAGRAPH FORMATTING

Certain formatting characteristics apply to one or more adjacent paragraphs. Paragraphs are formatted with combinations of the following attributes:

- o left and right paragraph indents
- o first line indent
- o spacing between lines of a paragraph
- o text alignment (left-flush, right-flush, justified, centered)
- o tab settings

Setting Paragraph Indents

Left and right paragraph indents are specified with the Paragraph Indent command. The Paragraph Indent command, which you invoke by pressing INDENT (CODE-f3), displays the Paragraph Indent menu shown in Figure 4-20.

Paragraphs can be formatted in square block mode or can have the first line or other lines indented. Block paragraphs are specified by the setting of the left indent. The ruler display is your guide to setting indent stops. (See Section 3, "Screens.")

It is not necessary to Mark one specific paragraph of existing text to select it for a paragraph indent change. However, to change paragraph indents in two or more consecutive paragraphs of existing text or in an entire document of existing text, it is necessary to select those paragraphs or to select the document. (See "Making a Selection," above.)

Specifying Left and Right Indents

To specify left (block) and right paragraph indents while entering new text:

1. Press INDENT (CODE-f3). The Paragraph Indent menu appears.
2. Move the cursor to the desired indent stop on the ruler display.
3. Choose the desired type of paragraph indent by pressing the corresponding letter:

Press L to set Left indent
Press R to set Right indent

4. After you have chosen the desired indent, the indent symbol appears on the ruler display at the new indent stop, and the form goes away. The text you enter will be formatted according to the new indent setting.

PARAGRAPH INDENT: (Press CANCEL to dismiss)

Move cursor to desired indent position, then:

Press L to set Left indent
R Right indent
F First line indent only
O Other lines

Figure 4-20 Paragraph Indent Menu.

To change existing paragraph indents:

1. Use the appropriate Mark (and Bound) command to select the paragraphs to be changed. If only one paragraph requires a changed paragraph indent, it is not necessary to select that paragraph as long as the cursor is positioned within it.
2. Press INDENT (CODE-f3). The Paragraph Indent menu appears.
3. Move the cursor to the new paragraph indent setting.
4. Choose the desired type of paragraph indent by pressing the appropriate letter:

Press L to set Left indent
Press R to set Right indent
5. The menu goes away. The indent symbol appears on the ruler display at the new indent stop. The paragraph or selected paragraphs are reformatted to reflect the new indent setting.

Indenting the First Line of a Paragraph

The first line of a paragraph can be automatically indented to the right or to the left of the left indent setting each time RETURN is pressed. The Paragraph Indent command is used to set first-line paragraph indents.

To set the first-line paragraph indent while entering text:

1. Press INDENT (CODE-f3). The Paragraph Indent menu appears.
2. Move the cursor to the desired first-line paragraph indent stop on the ruler display. This indent stop can be to the right or to the left of the existing paragraph indent stop.

3. Press F for first-line paragraph indent. The paragraph symbol appears in the ruler display to denote the first-line paragraph indent stop and the menu goes away.
4. Press INDENT again. The Paragraph Indent menu reappears.
5. Move the cursor to the desired indent stop for the other lines of the paragraph.
6. Press O. The indent symbol appears in the ruler display to denote the indent stop for the other lines of the paragraph and the menu goes away.

To change existing first-line paragraph indents:

1. Use the appropriate Mark (and Bound) command to select the paragraphs to be changed. If only one paragraph requires a changed first-line paragraph indent, it is not necessary to select that paragraph as long as the cursor is positioned within it.
2. Press INDENT (CODE-f3). The Paragraph Indent menu appears.
3. Move the cursor to the desired first-line indent stop on the ruler display. This indent stop can be to the right or to the left of the existing paragraph indent stop.
4. Press F for first-line paragraph indent. The paragraph symbol appears in the ruler display to denote the first-line paragraph indent stop and the menu goes away.
5. Press INDENT again. The Paragraph Indent menu reappears.
6. Move the cursor to the desired indent stop for the other lines of the paragraph.
7. Press O. The indent symbol appears in the ruler display to denote the indent stop for the other lines of the paragraph and the menu goes away.

Figures 4-21 and 4-22 show examples of first-line paragraph indents.

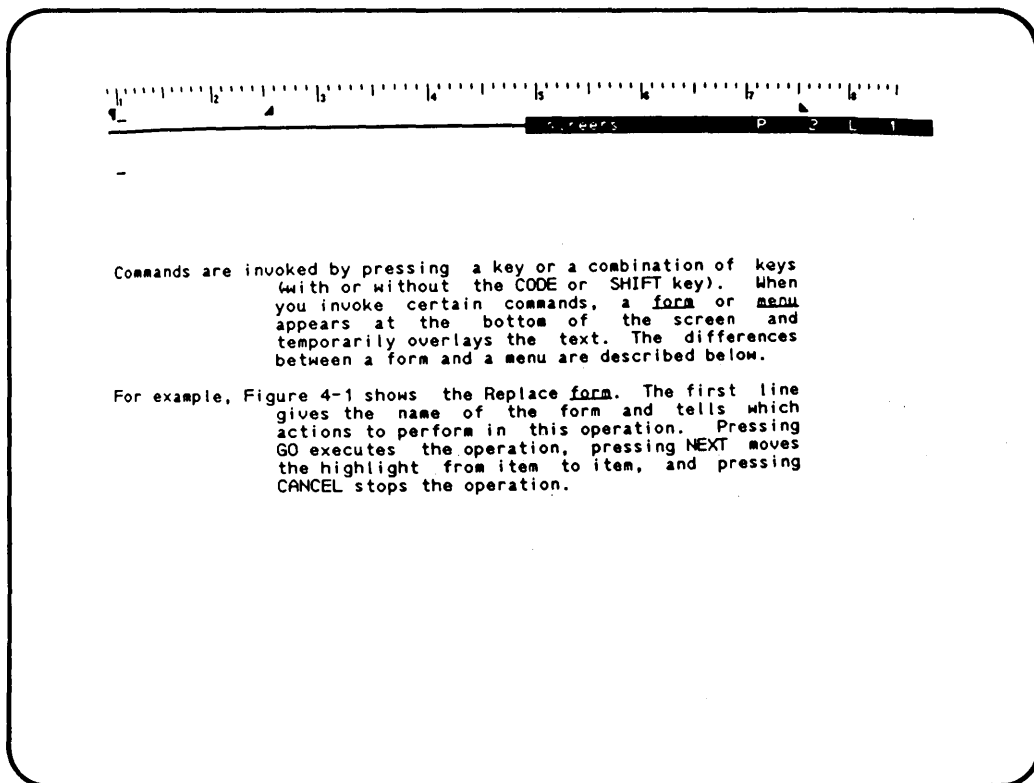


Figure 4-21. Example of Left First-Line Paragraph Indent.

Changing Indents

Three commands are used to change or remove left paragraph indent settings: Outline Indent, Unindent, and Total Unindent. These commands move the text forward or backward to the next or previous tab (not indent) stops. These commands affect the paragraph in which the cursor is positioned. The ruler display also changes to reflect the new indents.

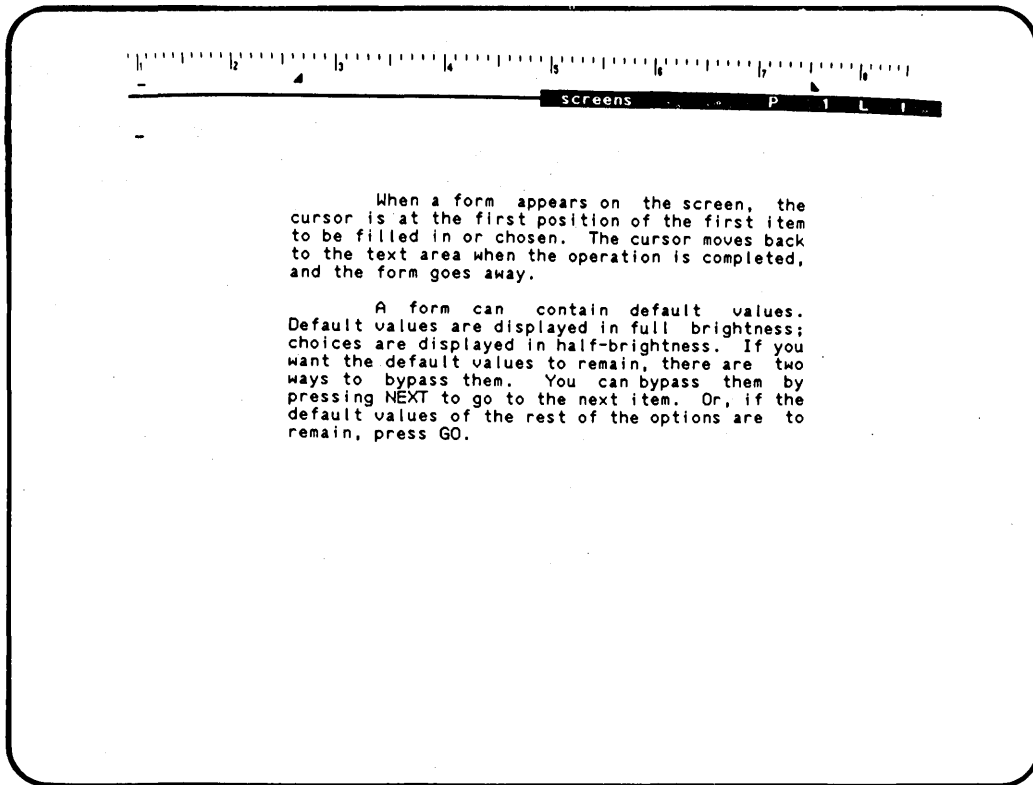


Figure 4-22. Example of Right First-Line Paragraph Indent.

If the cursor is at the beginning of a line and text is to be entered, invoking any of these commands will cause the new text to be indented according to the new left indent setting.

If the cursor is positioned in existing text, the text is reformatted according to the new left indent setting.

Press CODE-TAB to invoke the Outline Indent command, which moves the left paragraph indent forward to the next tab stop. The indent symbol on the ruler display moves forward accordingly. If the ruler display does not show any tab stops, the cursor will move at half-inch intervals.

Press CODE-SHIFT-TAB to invoke the Unindent command, which moves the left paragraph indent back to the previous tab stop. The indent symbol on the ruler display moves back accordingly. If the ruler display does not show any tab stops, the cursor will move at half-inch intervals.

Press CODE-SHIFT-RETURN to invoke the Total Unindent command, which moves the left paragraph indent back to the far left margin (the default left margin).

Line Spacing

Text is automatically single spaced as it is typed into a new document. However, the spacing between lines in either a newly created document or an existing document can be changed. Use the Format command to specify any of the following line spacings with one keystroke:

- o single-spaced text
- o double-spaced text
- o one-and one-half-spaced text
- o double spaced between paragraphs when text is single spaced

In addition, you can specify other line spacing such as two-and one-half-spaced or triple-spaced text.

Line spacing is a paragraph attribute: a change in line spacing within a paragraph affects the entire paragraph. No matter where the cursor is within that paragraph, the entire paragraph changes. In addition, when a new paragraph begins after RETURN is pressed, the new paragraph inherits the spacing characteristics of the previous paragraph. The procedures for changing line spacing in specific paragraphs of a document are described below.

It is not necessary to Mark one specific paragraph of existing text to select it for a line spacing change. However, to change line spacing in two or more consecutive paragraphs of existing text or in an entire document of existing text, it is necessary to select those paragraphs or the document. (See "Making a Selection," above.)

Single and double spacing show on the screen; half-line spacing does not. However, the document status line always reflects the current line position of the cursor: For example, if the line position is 11 1/2 (because the paragraph has one-half line spacing), the document status line shows that line number.

The Format command is used to specify line spacing. (See Figure 4-19 for the Format menu.)

To choose line spacing either for text being entered or for existing text:

1. Move the cursor to the place where you want the new line spacing to begin.
2. Press FORMAT (f4) twice. The Format menu appears.
3. Choose the type of line spacing you need:

Press 1 for Single-spaced text
Press 2 for Double-spaced text
Press / for Single/double spacing
Press 1/2 for 1 1/2-line spacing
Press 0 for Other line spacing

4. If you choose any one of the first four line spacing choices, the Format menu goes away and the following occurs:
 - o If you are entering text, it is now spaced according to the new line spacing.
 - o If you are changing existing text, the paragraph containing the cursor or the selection changes its line spacing.
5. If you choose 0 for other line spacing, the Line Spacing form, shown in Figure 4-23, appears.

LINE SPACING: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

	<u>Currently</u>	(Please enter measurements in lines)
Before:	3.0 lines	
Within:	2.0 lines	
After:	0.0 lines	

Figure 4-23. Line Spacing Form.

The Line Spacing form shows the line spacing for the paragraph containing the cursor and provides areas in which to specify line spacing other than the spacing options provided on the Format menu.

To specify other line spacing:

1. Enter the number of spaces to appear above the paragraph.
2. Press NEXT to move the highlight to "Within".
3. Enter the number of spaces to appear between the lines within the paragraph.
4. Press NEXT to move the highlight to "After".
5. Enter 0.0 (zero).
6. Press GO.
7. The Line Spacing form goes away, and the line spacing in the document changes accordingly.

The following example tells you how to change line spacing as you enter text into a document.

Example

You are writing a one-page memo to announce a new alarm system in a building. The memo will contain four paragraphs, the second of which is to have boldface type and double spacing to accentuate its meaning.

Set the first paragraph with single spaces within the paragraph and a double space after the paragraph. You can do so by pressing FORMAT (f4) and entering "/". Note that as you enter text, the document status line reflects the current spacing when the cursor goes to a new line.

At the very start of the second paragraph, after you press RETURN but before any text is entered, change the line spacing to double spaced within the paragraph and four spaces before and after it. Do so by pressing FORMAT (f4) and specifying "O" in the Format menu. When the Line Spacing form appears, specify four lines for "Before", two lines for "Within", four lines for "After", and press GO. After the Line Spacing form goes away, press Format again and specify "B" for boldface text. When you enter text, it will be double spaced and displayed in half-brightness on the screen. Press RETURN again at the end of the second paragraph.

At the start of the third paragraph, before any text is entered, change the line spacing back to single spaced with double spaces before and after the paragraph. Do so by pressing FORMAT (f4) and entering "/" again. Remove the boldface format attribute by pressing FORMAT and then pressing CODE-b. All text that you subsequently enter in this paragraph and in the fourth paragraph will have the same spacing as did the first paragraph.

See "Line Spacing" in Section 5, "Advanced Operations," for more information about specifying line spacing.

Text Alignment

You can specify different ways of aligning text at left and right margins. Text can be right flush, left flush, or justified (right and left). Text can also be centered on a page, which is convenient for entering titles. Text alignment is specified with the Format command. (See "Format Command," above.)

The position at which the text is aligned at the left and right is determined by the paragraph indent that you specify. The margin is the actual space between the edge of the paper and the edge of the text.

Specifying left-flush text causes the text to line up evenly against the left paragraph indent position. This position is the default, and all new text is entered left flush unless specified otherwise. Left-flush text has an uneven right margin.

Specifying right-flush text causes the text to line up evenly against the right paragraph indent position. Right-flush text has an uneven left margin.

Specifying justified text adjusts the spaces within the text so that the text is lined up evenly against both the right and left paragraph indent positions. Words are spaced out within the text to conform to this format.

Specifying centered text centers the text on the page, leaving uneven right and left margins. Note when an even numbered character string is entered, the additional character will be placed to the right of the center. However, when this text is printed out, the characters will align correctly with respect to each other and the center point.

Text alignment is a paragraph attribute. Any alignment change affects the entire paragraph in which the change was made.

To specify text alignment while you are entering text:

1. Press FORMAT (f4) twice. The Format menu appears.

2. Choose the desired type of alignment:

- Press L for Left-flush text
- Press C for Centered text
- Press J for Justified text
- Press R for Right-flush text

3. Once you make your choice, the Format menu goes away and the text you enter is aligned as specified.

To change text alignment of existing text:

1. Use the appropriate Mark (and Bound) command to select and highlight the text you wish to realign.
2. Press FORMAT (f4) twice. The Format menu appears.
3. Choose the desired type of alignment:
Press L for Left-flush text
Press C for Centered text
Press J for Justified text
Press R for Right-flush text
4. The Format menu goes away, and the selected text is realigned.

When you are specifying different text alignment formats for consecutive paragraphs, you must press the RETURN key before specifying the different format for the new paragraph. For example, you are typing a document that has left-justified text and you want to start a new paragraph that has centered text. After typing the left-justified text, press RETURN. Then, invoke the Format command and choose C for centered text. The subsequent text you type will be centered.

PAGE FORMATTING

Certain formatting characteristics apply to one or more adjacent pages. Different page formats can be specified for the first page of a document, and for all odd and all even pages. Pages are formatted with combinations of the following attributes:

- o paper height and width
- o text height and width
- o top, bottom, left, and right margins
- o headers
- o footers
- o page numbers

The Format command is used to specify these attributes. (See "Format Command, above.) Invoke the command by pressing FORMAT (f4), which displays the Format menu. (See Figure 4-19.) Then press P to display the Page Format form, shown in Figure 4-24. All the procedures described below are for use with the Page Format form. Page numbers are specified with the Page Number command, described below under "Headers" and "Footers."

The Page Format form shows the current values in both inches and lines.

Paper Height and Width

You can specify the size of the paper on which your document will be printed. The system default paper size is 8 1/2 by 11 inches, which is standard letter size. Before the document is printed, make sure your printer is adjusted according to paper size.

To change paper height and width:

1. Press FORMAT (f4) twice. The Format menu appears.
2. Press P. The Page Format form appears.
3. Enter the paper width in inches.
4. Press NEXT to move the highlight to "Paper height".
5. Enter the paper height in inches.
6. If no other changes are to be specified, press GO. Otherwise, enter the other changes, using the appropriate steps described below.

PAGE FORMAT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

	<u>Currently</u>	(Please enter measurements in inches)
Paper width:	8.5"	
Paper height:	11.0" (66.0 lines)	
Left margin:	1.5"	
Text width:	6.0"	
Right margin:	1.0"	
Top margin:	1.0" (6.0 lines)	
Text height:	9.0" (54.0 lines)	
Bottom margin:	1.0" (6.0 lines)	
Header position:	0.5" (3.0 lines)	
Footer position:	0.5" (3.0 lines)	
Facing pages?	Yes No	(Press Y or N)
Forced page?	Yes No Odd Even	(Press Y, N, O, or E)
Forced page number:		

Figure 4-24. Page Format Form.

Page Margins and Paper Size

You can specify the size of the top, bottom, left, and right margins and the height and width of the text on the printed page.

If the printed text will be bound, it will require different sized left and right margins. (The margins for a left page also are different from those for a right page.) Size is specified in inches. (A two-inch margin is entered as 2.0, and a half-inch margin is entered as 0.5.)

It is not necessary to specify both margin size and text size, as long as text size is specified. For example, if the page size is standard 8 1/2 by 11 inches and you specify text height of 9 inches and text width of 6 1/2 inches, you do not have to specify margin size.

However, if you need to specify margins of different widths or heights, such as a left margin that is wider than a right margin, you should specify margin size rather than text size.

To specify either page margins or text size:

1. Press FORMAT (f4) twice. The Format menu appears.
2. Press P. The Page Format form appears.
3. Press NEXT to move the highlight to "Left margin".
4. Enter the left margin width in inches.
5. Press NEXT to move the highlight to "Text width".
6. Enter the text width in inches. (On an 8 1/2-by-11-inch sheet of paper, the text width is 6 1/2 inches if each side margin is 1 inch wide.)
7. Press NEXT to move the highlight to "Right margin".
8. Enter the right margin width in inches.
9. Press NEXT to move the highlight to "Top margin".
10. Enter the top margin height in inches.
11. Press NEXT to move the highlight to "Text height".
12. Enter the text height in inches. (On an 8 1/2-by-11-inch sheet of paper, the text height is 9.0 inches if the top margin is 1 inch.)
13. Press NEXT to move the highlight to "Bottom margin".
14. Enter the bottom margin height in inches.
15. If no other changes are to be made, press GO. Otherwise, enter the other changes, using the appropriate steps described below.

Header and Footer Position

Before you specify headers and footers (see "Headers" and "Footers," below), determine where they should appear in the top or bottom margins.

Header and footer position refers to the distance from the top or bottom edge of the page. For example, if the header is to appear one-half inch below the top edge of the page in a one-inch top margin, specify a header position of 0.5 (one-half inch). If the footer is to appear one inch from the bottom edge of a page in a three-inch bottom margin, specify a footer position of 1.0 (one inch).

To specify header and footer positions:

1. Press **FORMAT** (f4) twice. The Format menu appears.
2. Press **P**. The Page Format form appears.
3. Press **NEXT** to move the highlight to "Header position".
4. Enter the header position in inches.
5. Press **NEXT** to move the highlight to "Footer position".
6. Enter the footer position in inches.
7. Press **GO**.

Facing Pages

Some printed documents have facing pages. In such cases, the margins on the left page are a mirror image of the margins on the right (facing) page.

Example

If a printed document is bound in a ring binder, the margin containing the ring holes must be wide enough to accommodate them. Generally, that side margin is wider than the other side margin. In this example, you would specify a right page with a one-and-one-half-inch left margin and a one-inch right margin.

If any of the pages are facing each other, specify the "Facing pages" option. This option causes the Word Processor to make a mirror image of the right page and print a left page with a one-inch left margin and a one-and-one-half-inch right margin. (The wider right margin accommodates the ring holes in a left-hand page.)

To specify facing pages:

1. Press FORMAT (f4) twice. The Format menu appears.
2. Press P. The Page Format form appears.
3. If facing pages are required, press NEXT to move the highlight to "Facing Pages". (Make sure your left and right margins have been specified.)
4. Type Y.
5. Press NEXT to move the highlight to the next item, if needed.
6. Otherwise, press GO.

Forced Pages

You can use the Page Format option to force a page to break and a new page to begin.

Page breaks can be either temporary or permanent (forced). A temporary page break can be removed with the Review Documents command. A permanent page break cannot be removed. In addition, a page break can be required to fall on an odd- or even-numbered page. For example, if a section of a document must always begin on an odd-numbered page, the beginning of a section is a forced odd page break. Forcing an odd page might insert a blank page of text to precede it.

1. Press FORMAT (f4) twice. The Format menu appears.
2. Press P. The Page Format form appears.
3. Press NEXT to move the highlight to "Forced page".

4. Choose the desired type of page break:

Press Y for a forced page break
Press N for a temporary page break
Press O for an Odd forced page break
Press E for an Even forced page break

5. Press GO.

Forced Page Number

You can force page numbering to start on a particular page. The Word Processor finds the page within the document, and resets the page counter, and subsequent pages are numbered accordingly.

The page number appears on the printed copy of the document in place of the page number symbol (#) when one is specified (usually within a header or footer). A forced page number can be applied to any page in the document.

To specify a forced page number:

1. Press NEXT to move the highlight to "Forced page number".
2. Enter the number of the forced page.
3. Press GO.

You must specify the forced page option before assigning the forced page number. Otherwise, the following message appears after you press GO:

Forced page number requires forced page

Specify your forced page using the steps described above under "Forced Pages."

Headers

You can specify certain text to appear at the top of a printed page. Titles, subtitles, page numbers, and dates are examples of headers that can be specified. The Header command, which you invoke by pressing HEADER (f5), displays the Header menu shown in Figure 4-25.

You can specify headers for an entire document or for just a few pages. To do so, select those pages with Mark Page before you specify the header.

You can specify both odd and even headers for the same page if there is a chance that a page might change from odd to even. The Word Processor will retain both types of headers and will print the appropriate one after repagination has occurred.

HEADER: (Press CANCEL to dismiss)

```
Press O to set Odd header
      E      Even header
      B      Both headers
```

Figure 4-25. Header Menu.

Odd headers appear on odd-numbered pages. Even headers appear on even-numbered pages. If B is selected, the header appears on all pages.

To specify header text for an entire document:

1. Press GO TO BEGINNING (CODE-b) to move the cursor to the beginning of the document.
2. Press HEADER (f5). The Header menu appears.
3. Choose the desired type of header:

```
Press O to set Odd header
Press E to set Even header
Press B to set Both headers
```
4. When the header type is chosen, a small window appears at the bottom of the screen in which to enter the header text.
5. Enter the header text.

6. If you want to include the page number in the header text, press PAGE # (CODE-f5) at the exact place in the header where the page number is to appear. This procedure inserts a half-bright # that is replaced by the actual page number when the document is printed.

To include a Roman page number in the header text, press PAGE # (CODE-SHIFT-f5) at the exact place in the header where the page number is to appear. This procedure inserts a half-bright i that is replaced by the actual Roman page number when the document is printed.

7. Press GO.

To specify header text for specific pages of a document:

1. Use the Mark Page (and Bound) command to select the pages for which you are specifying headers.

2. Press HEADER (f5). The Header menu appears.

3. Choose the desired type of header:

Press O to set Odd header
Press E to set Even header
Press B to set Both headers

4. When the header type is chosen, a small window appears at the bottom of the screen in which to enter the header text.

5. Enter the header text.

6. If you want to include the page number in the header text, press PAGE # (CODE-f5) at the exact place in the header where the page number is to appear. This procedure inserts a half-bright # that is replaced by the actual page number when the document is printed.

To include a Roman page number in the header text, press PAGE # (CODE-SHIFT-f5) at the exact place in the header where the page number is to appear. This procedure inserts a half-bright i that is replaced by the actual Roman page number when the document is printed.

7. Press GO.

To delete an existing header for an entire document:

1. Press GO TO BEGINNING (CODE-b) to move the cursor to the beginning of the document.
2. Press HEADER (f5). The Header menu appears.
3. Choose the type of header that exists currently.
4. When the header text appears in the window at the bottom of the screen, select it with the appropriate Mark key.
5. Press DELETE.
6. Press GO.

To delete an existing header in a specific page:

1. Use the Mark Page (and Bound) command to select the page in which the header is to be deleted.
2. Press HEADER (f5). The Header menu appears.
3. Use the DELETE or BACKSPACE key to delete the header text.
4. Press GO.

To change the text in an existing header for an entire document:

1. Press GO TO BEGINNING (CODE-b) to move the cursor to the beginning of the document.
2. Press HEADER (f5). The Header menu appears.
3. Choose the type of header that exists currently.
4. When the header text appears in the window at the bottom of the screen, make the necessary changes.
5. Press GO.

To change the header text in a header for a particular page in an existing document:

1. Use the Mark Page (and Bound) command to select the page in which the header is to be changed.
2. Press HEADER (f5). The Header menu appears.
3. Choose the type of header that exists currently.
4. When the header text appears in the window at the bottom of the screen, make the necessary changes.
5. Press GO.

NOTE

When doing such operations as Formatting, Search, Replace, or Check Spelling, etc., the word processor will not include the header into these operations on the document. Therefore, a header should be treated as a separate document when these operations need to be performed on headers. This is done by calling up the header, positioning the cursor within the header text, and then invoking the required operation.

Footers

You can specify certain text to appear at the bottom of a printed page. The Footer command, which you invoke by pressing FOOTER (SHIFT-f5), displays the Footer menu shown in Figure 4-26.

Odd footers appear on odd-numbered pages. Even footers appear on even-numbered pages. If B is selected, the footer appears on all pages.

You can specify footers for an entire document or for just a few pages. To do so, select those pages before you specify the footer.

FOOTER: (Press CANCEL to dismiss)

Press O to set Odd footer
E Even footer
B Both footers

Figure 4-26. Footer Menu.

You can specify both odd and even footers for the same page if there is a chance that a page might change from odd to even. The Word Processor will retain both types of footers and will print the appropriate one after repagination has occurred.

To specify footer text for an entire document:

1. Press GO TO BEGINNING (CODE-b) to move the cursor to the beginning of the document.
2. Press FOOTER (SHIFT-f5). The Footer menu appears.
3. Choose the desired type of footer:
Press O to set Odd footer
Press E to set Even footer
Press B to set Both footers
4. When the footer type is chosen, a small window appears at the bottom of the screen in which to enter the footer information.
5. Enter the footer information.
6. If you want to include the page number in the footer text, press PAGE # (CODE-f5) at the exact place in the footer where the page number is to appear. This procedure inserts a half-bright # that is replaced by the actual page number when the document is printed.

To include a Roman page number in the footer text, press PAGE # (CODE-SHIFT-f5) at the exact place in the footer where the page number is to appear. This procedure inserts a half-bright i that is replaced by the actual Roman page number when the document is printed.

7. Press GO.

To specify footer text for specific pages of a document:

1. Use the Mark Page (and Bound) command to select the pages for which you are specifying footers.

2. Press FOOTER (SHIFT-f5). The Footer menu appears.

3. Choose the desired type of footer:

Press O to set Odd footer
Press E to set Even footer
Press B to set Both footers

4. When the footer type is chosen, a small window appears at the bottom of the screen in which to enter the footer information.

5. Enter the footer information.

6. If you want to include the page number in the footer text, press PAGE # (CODE-f5) at the exact place in the footer where the page number is to appear. This procedure inserts a half-bright # that is replaced by the actual page number when the document is printed.

To include a Roman page number in the footer text, press PAGE # (CODE-SHIFT-f5) at the exact place in the footer where the page number is to appear. This procedure inserts a half-bright i that is replaced by the actual Roman page number when the document is printed.

7. Press GO.

To delete an existing footer for an entire document:

1. Press GO TO BEGINNING (CODE-b) to move the cursor to the beginning of the document.
2. Press FOOTER (SHIFT-f5). The Footer menu appears.
3. Choose the type of footer that exists currently.
4. When the footer text appears in the window at the bottom of the screen, select it with the appropriate Mark key.
5. Press DELETE.
6. Press GO.

To delete an existing footer in a specific page:

1. Use the Mark Page (and Bound) command to select the page in which the footer is to be deleted.
2. Press FOOTER (SHIFT-f5). The Footer menu appears.
3. Use the DELETE or BACKSPACE key to delete the footer text.
4. Press GO.

To change the text in an existing footer for an entire document:

1. Press GO TO BEGINNING (CODE-b) to move the cursor to the beginning of the document.
2. Press FOOTER (SHIFT-f5). The Footer menu appears.
3. Choose the type of footer that exists currently.
4. When the footer text appears in the window at the bottom of the screen, make the necessary changes.
5. Press GO.

To change the footer text in a footer for a particular page of existing text:

1. Use the Mark Page (and Bound) command to select the page in which the footer is to be changed.
2. Press FOOTER (SHIFT-f5). The Footer menu appears.
3. Choose the type of footer that exists currently.
4. When the footer text appears in the window at the bottom of the screen, make the necessary changes.
5. Press GO.

NOTE

When doing such operations as Formatting, Search, Replace, or Check Spelling, etc., the word processor will not include the footer into these operations on the document. Therefore, a footer should be treated as a separate document when these operations need to be performed on footers. This is done by calling up the footer, positioning the cursor within the footer text, and then invoking the required operation.

REVIEW DOCUMENT

Review Document allows you to hyphenate, repaginate, and eliminate widow text before the document is printed. The Review Document command, which you invoke by pressing REVIEW (CODE-f4), displays the Review Document form shown in Figure 4-27.

```
REVIEW DOCUMENT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Hyphenate?                Yes  No  (Press Y or N)
Hot zone (default = 1/2 inch):
Paginate?                 Yes  No  (Press Y or N)
Eliminate widows?        Yes  No  (Press Y or N)
```

Figure 4-27. Review Document Form.

Hyphenation

The "Hyphenate" option checks for excess white space within text. It asks you to insert discretionary hyphens in places where a hyphenated word would cause the text to be rearranged, thereby eliminating the excess white space.

White space is the blank space the system adds to each line of text to fill in the entire area from left margin to right margin. For example, when text is left justified on a line, some white space may appear on the line at the far right. Right justified text may cause some white space to appear on the line at the far left. When text is both right and left justified, white space sometimes is inserted between words to adjust the spacing of the words to fit the line.

You can control how much white space appears within a line of text by specifying a hot zone. The hot zone represents the amount of white space that is acceptable within a line. If you do not enter a specific number (in inches or fractions of an inch), the Word Processor uses the default of one-half inch and allows not more than one-half inch of white space to appear on a line. The hyphenation function works like this: After you choose the hyphenate option, enter the size of the hot zone (or allow the default value), and press GO. The Word Processor starts checking each line for white space that exceeds the specified hot zone. The cursor moves down through the document on the screen while the following message is displayed:

Formatting...

When the Word Processor finds a line that contains excess white space, it displays this message:

Position cursor within highlighted area
and press GO to hyphenate. Press NEXT to
skip this word, CANCEL to cancel command.

The Word Processor allows you to specify exactly where a word should be hyphenated. That word is on the line following the line that contains the excess white space. The Word Processor highlights an area of text anywhere within which a discretionary hyphen would cause reduction of white space on the previous line. It also positions the cursor at the last character in the highlighted area. You must move the cursor back to the specific place in the word where the discretionary hyphen is to be inserted and press GO. Since you probably want to reduce the white space on the previous line by as much as possible, choose the first such location.

You do not have to hyphenate at every point for which the Word Processor prompts. Pressing NEXT skips the highlighted text at which the cursor is positioned and continues the hyphenation check. Pressing CANCEL cancels the command.

Example

The following two lines are a typical example of how the hyphenation feature works. The first line contains excess white space, so the cursor has stopped in the second line to allow you to specify where the text should be hyphenated.

A selection is a contiguous block of characters that has been chosen for a copy

The text "charac" is highlighted because it is the area of text within which a discretionary hyphen can reduce the amount of white space on the previous line. The cursor is positioned at the last character (c). Move the cursor back one position to "a" (the second "a" in the word) and press GO. The word is split at that point and the first four letters and the inserted hyphen are placed at the end of the previous line. The rest of the word remains on the second line, which is adjusted to contain text from the succeeding line. These lines now look like this:

A selection is a contiguous block of characters that has been chosen for a copy or

The Word Processor continues checking for excess white space until the whole document has been checked.

Autohyphenation

NOTE

The Autohyphenation feature is only available with the dictionary option.

It uses an internal dictionary to determine where words should be hyphenated, rather than asking you. It asks you to divide only those words that are not found in the dictionary. If the autohyphenation option has been configured in your Word Processor, it works when ever you choose the Hyphenate option for the Review Document command.

Pagination

The "Paginate" option repaginates the document on the screen before printing. You can bypass this option if you prefer to have pagination done during printing. (See "Printing a Document," below.)

Eliminating Widows

The "Eliminate widows" option checks through the document for widows. This option works in conjunction with the "Paginate" option. A widow is a few words at the end of a paragraph that cannot fit on the page and are carried over to the next page. The Word Processor adjusts the number of lines on a printed page to prevent widows being printed.

The "Eliminate widows" option also prevents a page containing just one line of text from being generated. For example, suppose you specify a page length of 54 lines and you create a document that has 55 lines. When you invoke Review Documents and specify both the "Paginate" and "Eliminate widows" options, the Word Processor keeps line 55 on the first page of the document. (However, if a document has 56 lines, a second page containing two lines is created.)

To select Review Document options:

1. Press REVIEW (CODE-f4). The Review Document form appears.
2. Press Y or N to choose whether or not the document is to be checked for hyphens.
3. If you pressed Y, press NEXT to move the highlight to "Hot zone". Otherwise, move the highlight to another option.
4. Enter the amount of blank space that is allowable within a line (in inches or fractions of an inch). (The default is one-half inch.)
5. If pagination is required, press NEXT to move the highlight to "Paginate".
6. Press Y.

7. If widows are to be eliminated, press NEXT to move the highlight to "Eliminate widows". (Make sure you also specified Y for "Paginate".)
8. Press Y.
9. Press GO.

The message

Formatting...

appears on the screen during execution of any or all of the Review Document options.

At completion, the Review Document form goes away, and the document on the screen is reformatted and repaginated. Hyphens have been inserted where needed, widows have been eliminated (if found), and new page numbers have been assigned.

PRINTING A DOCUMENT

There are many options available for printing your documents.

- o You can request one or more entire documents at one time for printing.
- o Documents can be printed on continuous attached pages, or each page can be printed on a separate sheet of paper.
- o Documents can be repaginated as they are being printed.
- o A specific number of copies of a document can be printed.
- o Various types of printers can be used, including a line printer, which has no character formatting but has paragraph and page formatting.
- o Each print request can be assigned a priority in the print queue.
- o Both direct printing and spooled printing are available. (Both operations are performed in the background.)

You can choose these options with the Print command, which you can invoke at any time during a word processing session. Invoke the Print command by pressing PRINT (SHIFT-f4). The Print form, shown in Figure 4-28, appears on the screen.

```
PRINT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Document name (s):
Number of copies:
Repaginate?           Yes           No           (Press Y or N)
Pages to print:
  for example: 1, 3-5
Number docs. separately? Yes           No           (Press Y or N)
Paper feed:           Continuous  Manual      (Press C or M)
Printer name:
  for example: Serial, Parallel, DirectSer, DirectPar, etc.
Priority (0-9):
```

Figure 4-28. Print Form.

Printing From a Standalone, Master, or Cluster Workstation

Documents can be printed on a printer that is connected to a standalone, master, or cluster workstation. If a printer is connected to a standalone workstation, it can be used only by that station. A printer connected to a master workstation or to a cluster workstation can be used only by that workstation or by any cluster workstation attached to it if the printer spooler is installed.

Two types of printing are available with the Word Processor: direct printing and spooled printing. Both types of printing are performed in the background, which means that word processing operations can continue while a document is being printed.

Direct Printing

Direct printing is done on a printer that is directly attached to your workstation.

Direct printing transfers text directly from the workstation to the printer and allows word processing operations to continue during printing. However, the document being printed, as well as any documents in the print queue, cannot be accessed.

You can issue additional print requests while a document is being printed. The Word Processor will place these requests in the print queue and print the documents in turn.

Spooled Printing

Spooled printing can be done on a printer that is attached to either a master workstation or a cluster workstation. Spooled printing requires that the printer spooler program be installed.

In spooled printing, an entry is created for each print request and is entered in the print queue. When the printer is available, the printer spooler obtains the queue entry for printing.

You need not wait for a printer to be available to enter a print request. Once your print request has been entered in the print queue, you can continue your word processing session and work on any document other than those documents that are in the print queue or being printed. Use the Printer Status command (CODE-p) to check the status of your document in the print queue.

With both types of printing, the Word Processor includes a spooled printing facility that is quite similar in its functions to those provided by the Spooler Status program. However, the two facilities are intended for two somewhat different groups of users--that in the Executive for sophisticated data processing users and that in the Word Processor for casual or less sophisticated end users. Certain adaptations

have been made to suit the needs of these two groups. The two facilities remain fully compatible and either may be used without knowledge of the other. However, the user already familiar with the Spooler Status program and the user who will be using both facilities should be aware of the following distinctions.

If the name of the spooled document is examined from within the Word Processor, using the Display Print Queue option of the Printer Status command (CODE-P), the document name will be shown exactly as it is known to the user. If the same name is examined from the Spooler Program, the name will appear as a unique name derived from the document name, user name, and the time that the document was entered into the print queue.

The Spooler program distinguishes two commands for removing a document from the print queue: Delete print request and Cancel print. The former is used for a document which has not begun printing, whereas the latter is used for a document whose printing is in progress (including the case where the printer is temporarily paused). The Word Processor merges these two commands into the single Cancel printing command which applies to both cases.

The Spooler manages multiple print queues and multiple printers and allows a print queue to be served by multiple printers. The Spooler program has commands for selecting particular printers or print queues and performing the operations applicable to the selected entity. The Word Processor at once simplifies and restricts this facility by assuming that a print queue is served by a single printer. It offers a single Select printer command for selecting the unique combination of queue and single printer and, when given a command, applies it to the printer or queue as appropriate. The name used by the word processing operator to refer to the printer and queue is the "friendly" printer name defined in the file Sys.printers and associated with a particular print queue or direct printer.

Printer Description File

See Appendix C, "Printer Configuration," for information about the printer description file, which is used for specifying printer configurations.

Designating Print Specifications

To designate print specifications:

1. Press PRINT (SHIFT-f4). The Print form appears.
2. Enter the name(s) of the document(s) to be printed. If a document is currently open and contains the cursor, its name will automatically appear in the Print form when Print is invoked.

If more than one document is entered, a "," should be used as a delimiter to separate the document names.

3. Press NEXT to move the highlight to "Number of copies".
4. Specify how many copies of the document are to be printed.
5. Press NEXT to move the highlight to "Repaginate".
6. If the document is to be repaginated, press Y. Otherwise, press N.
7. Press NEXT to move the highlight to "Pages to print".
8. If individual pages are to be printed, enter their page numbers (in the form 1-3, 1, 2-).
9. Press NEXT to move the highlight to "Number docs. separately".
10. If more than one document is to be printed, specify whether or not each document is to be numbered separately.

11. Press NEXT to move the highlight to "Paper feed".
12. To indicate the type of paper feed, press C (Continuous) or M (Manual). If M is specified, the printer will pause after each page is printed to allow insertion of a new piece of paper.
13. Press NEXT to move the highlight to "Printer name".
14. Enter printer name(s). Names of printers are listed after "for example". (The default printer is the first name on the list.)
15. If you want to assign a priority to your print request, press NEXT to move the highlight to "Priority (0-9)". Otherwise, press GO.
16. Enter the desired priority number. (0 is the highest priority, 9 is the lowest. The default priority is 5.)
17. Press GO.

With either direct or spooled printing, the Print form leaves the screen. Documents are printed in order of priority.

If you assigned a priority to your print request, the document with the highest priority will be printed first. (0 is the highest priority, 9 is the lowest.) For example, a very long document might be given a priority of 9, so that print requests for shorter documents would be honored first.

Printer Status

After you have completed the Printer form and pressed GO, you can check the progress of your print. The Printer Status command, which you invoke by pressing CODE-p, displays the Printer Status menu shown in Figure 4-29.

A status message, such as "Printing Page 8 of Status Report," appears at the top of the menu. This message is updated periodically to reflect the changing status of the printer that is identified by name next to "Printer name" on the menu. Possible status messages are

Printing Page n of X (where n is a page number and X is a document name)

Print queue empty

Printing halted

Change print wheel to X (where X is a print wheel name)

Please load single-sheet paper

Problem with printer

PRINTER STATUS: (Press CANCEL to dismiss)

Printer name:
Status:

Press S to Select printer
H Halt printing
R Resume printing

Press P to reprint from page n
C Cancel printing
Q display print Queue

Figure 4-29. Printer Status Menu.

Certain conditions encountered by the word processor will cause the word processor to beep and display the message "Printer" on the left hand side of the window border just below the ruler. This will not interrupt any work that the user is doing at that time. Pressing CODE-P to display the Printer Status menu will remove this message from the screen and allow the user to correct the printer condition that required attention. If the condition is not corrected, or the printer needs further attention, the message will reappear after the printer status menu has been dismissed.

Changing print wheels, changing ribbons, loading paper, hardware malfunctions, and other conditions that require human attention can cause the "Printer" message to appear.

Several Printer Status options are available. These options are:

- Press S to Select printer
- Press H to Halt printing
- Press R to Resume printing
- Press P to reprint from Page n
- Press C to Cancel printing
- Press Q to display print Queue

Instructions for using these options are described below.

Select Printer

If you have access to more than one printer, status will be displayed for the printer you specified the last time you issued a print request. To display the status for a different printer, press S. The Select Printer form, shown in Figure 4-30, appears.

SELECT PRINTER: (Press GO to execute, CANCEL to dismiss)

Printer name:
for example: Serial, Parallel, DirectSer, DirectPar, etc.

Figure 4-30. Select Printer Form.

1. Enter the name of the printer whose status you wish to display.
2. Press GO.
3. The Select Printer form goes away.
4. The Printer Status menu reappears, showing the status of the newly selected printer.

Half Printing

If necessary, you can stop the printer while it is printing a document. For example, you may notice an undetected paper jam or ribbon problems. In either case, press H on the Printer Status menu to halt the printer. The specified printer stops printing after several seconds, and the following status message appears at the top of the Printer Status menu:

Printing halted

The printer may take a while before stopping because the printers have a buffer of output not yet printed and thus must be used up before halting a print.

Resume Printing

To resume printing exactly where printing stopped when you halted the printer, press R on the Printer Status menu. You can also use the Resume Printing option when the printer has halted it self for a print wheel change, after loading paper, and for other similar conditions.

Reprint from Page

You can use the "Reprint from Page" option to restart a halted printer at a place in the document other than where it was halted. For example, if a paper jam has crumpled a page, you probably will want to reprint from the top of that page or from a previous page. This option also can be used to skip ahead to a page that has not yet been printed. Press P on the Printer Select menu to display the Reprint from Page form shown in Figure 4-31.

REPRINT FROM PAGE: (Press GO to execute, CANCEL to dismiss)

Printer name:

Status:

Page number:

(Leave blank to restart from the top of the current page)

Figure 4-31. Reprint from Page Form.

1. Enter the desired page number.
2. Press GO.
3. The Reprint from Page form goes away.
4. The printer restarts at the specified page.
5. The Printer Status menu reappears.

The page number you specify should be the actual page number printed on that page. Thus, if your document begins with page 10 and you want to have the third page reprinted, enter the number 12, not the number 3.

Cancel Printing

If the printer has halted with an irreparable problem, or if you change your mind about a document being printed, use the Cancel Printing option to remove your print request from the queue. Press C on the Printer Status menu to display the Cancel Printing form shown in Figure 4-32.

CANCEL PRINTING: (Press GO to execute, CANCEL to dismiss,

Printer name:
Status:

Document name(s):

Figure 4-32. Cancel Printing Form.

1. To cancel printing for the first document in the queue, enter the name of that document.
2. To cancel printing for some other document in the queue, enter the name of that document. (You can enter more than one document name; all will be removed from the print queue.)

NOTE

When cancelling a document that is being printed off a floppy, it is necessary to specify the volume name of the floppy. For instance if you have specified a print request for [F0]<SYS>Test and the volume name of the floppy is [FILES], then in the CANCEL menu the file [FILES]<SYS>Test must be entered for the document name, not [F0]<SYS>Test.

3. Press GO.
4. The Cancel Printing form goes away.
5. The specified documents are removed from the print queue.
6. The Printer Status menu reappears.

Cancel Printing works even if the specified document is being printed currently. The printer may take a while before stopping because the printers have a buffer of output not yet printed and thus must be used up before canceling a print. In this case, printing resumes with the first document remaining in the print queue.

You also can remove your print request from the queue by using the Display Print Queue option, described below.

Display Print Queue

Use the Display Print Queue option to find out which documents are queued for the selected printer. Press Q on the Printer Status menu to display the list of documents that are queued for that printer. This is a one-time rather than continuously updating display. For instance, if another document is queued up while the Print Queue List is displayed then that document will not be displayed until the Display Print Queue option is chosen again. (The Printer Status menu remains on the screen while the list is displayed.) Figure 4-33 is an example of a typical print queue list.

<u>Document</u>	<u>User</u>	<u>Priority</u>	<u>Time to Print</u>
November Status Report	Fred	5	printing
Weekly Report	LongUserName	9	20 min.

Figure 4-33. Print Queue List.

The list displays each document name along with the user name of the person who made the print request, the document's priority, and an estimated time to print. This estimated time is based on the length of the document and the speed of the selected printer. Actual printing time can be longer if the document requires print wheel changes or other human intervention, or excessive formatting.

NOTE

When printing more than one document per print request, the queue entry of the Printer Status command will only display the first document name followed by etc.. This is so the "Number docs. separately?" option will work. Therefore, if it is required to delete any one of the documents that was queued up, then all the documents will have to be canceled by entering the name that is in the queue.

You can select names in the print queue (by using Mark, Mark Word, Mark Line) to cancel printing.

1. Move the cursor to the document name you want to remove from the print queue.
2. Press the appropriate MARK key.
3. The selected name is highlighted.
4. Press C to invoke Cancel Printing.
5. The Cancel Printing form appears with the selected document name already filled in.
6. Press GO.
7. The selected document is removed from the print queue.

When you are finished with the Print Queue list, press CANCEL to remove it from the screen. Press CANCEL a second time to remove the Printer Status menu from the screen.

Specifying Print Wheels

You can change print wheels to print different typefaces (fonts) while a document is printing. When the print wheel has to be changed, the printer stops to allow you to insert the new print wheel.

For example, the default print wheel used in the Word Processor is Courier 72, which has a 10-pitch font. When a different pitch is indicated, such as an Elite 12 print wheel, margins and tab settings are adjusted accordingly. However, if you want the Courier 72 print wheel to print with 12-pitch spacing, use the Pitch option of the Format command to change the pitch. (See "Changing Pitch," below.)

The Word Processor allows you to specify various types of print wheels other than the print wheels that are part of the standard configuration. Your system administrator or supervisor maintains a file, the print wheel set, that contains the characteristics associated with print wheels and their use. A new print wheel must be defined in the print wheel set before it can be used. (See Appendix B, "Print Wheel Configuration," for a description of the print wheel set, and for instructions on how to add a new print wheel to the print wheel set file.)

To specify a print wheel change (which includes a change of pitch) while entering text:

1. Press FORMAT (f4) twice. The Format menu appears. (See Figure 4-19.)
2. Press W. The Print Wheel menu, shown in Figure 4-34, appears. Listed are the names of all available print wheels. If more than 10 print wheels are available, the message

Press W again for more choices

appears at the bottom of the menu. Press W for another menu showing the remaining available print wheels.

PRINT WHEEL: (Press GO to execute, CANCEL to dismiss)

```
Press 1 for Courier 72`
  2   Elite 12
  3   Cubic PS 96
  4   Scientific 10
  5   Courier 10
```

Note: Changing print wheel also changes pitch to the default for that wheel.

Press 0 to change print wheel Only (and leave pitch as is)

Figure 4-34. Print Wheel Menu.

3. Choose the desired print wheel by pressing its corresponding number. For example:

```
Press 1 for Courier 72
Press 2 for Elite 12
Press 3 for Cubic PS 96
Press 4 for Scientific 10
Press 5 for Courier 10
```

4. Press GO.
5. The menu goes away.
6. Enter text.

During printing, when the section of the document is reached where the print wheel change is specified, the printer stops to allow insertion of the new print wheel. The Printer Status menu appears on the screen with the message "Change print wheel to X and press R to resume printing" (spooled printing) or "Change print wheel to X and press GO to continue printing. Press CANCEL to cancel command" (direct printing).

To specify a print wheel change only, without affecting the pitch:

1. Press FORMAT (f4) twice. The Format menu appears. (See Figure 4-19.)
2. Press W. The Print Wheel menu appears. (See Figure 4-34.)

3. Press 0 to change print wheel Only. The Print Wheel Only menu, shown in Figure 4-35, appears on the screen.

PRINT WHEEL ONLY: (Press GO to execute, CANCEL to dismiss)

```
Press 1 for Courier 72
      2   Elite 12
      3   Cubic PS 96
      4   Scientific 10
      5   Courier 10
```

Press B to change Both print wheel and pitch

Figure 4-35. Print Wheel Only Menu.

4. Choose the desired print wheel by pressing its corresponding number. For example:

```
Press 1 for Courier 72
Press 2 for Elite 12
Press 3 for Cubic PS 96
Press 4 for Scientific 10
Press 5 for Courier 10
```

5. Press GO.
6. The menu goes away.
7. Enter text.

To return to the previous menu, press B.

You also can change pitch without changing the print wheel. (See "Changing Pitch," below.)

To specify a print wheel change (which changes the pitch) in existing text:

1. Use the appropriate Mark (and Bound) command to select the text to be printed with the different print wheel.
2. Press FORMAT (f4) twice. The Format menu appears.

3. Press W. The Print Wheel menu appears.
4. Choose the desired print wheel by typing the corresponding number. For example:

Press 1 for Courier 72
Press 2 for Elite 12
Press 3 for Cubic PS 96
Press 4 for Scientific 10
Press 5 for Courier 10
5. Press GO.
6. The Print Wheel menu goes away. If specified, the selected text changes to half-brightness.
7. During printing, when the section of the document is reached where the print wheel change is specified, the Printer Status menu appears on the screen, and the printer stops to allow insertion of the new print wheel.

If an invalid print wheel name is entered, the following blinking message appears:

X is not a valid print wheel name

Specify another print wheel name and press GO.

To specify a print wheel change in existing text without affecting the pitch:

1. Use the appropriate Mark (and Bound) command to select the text to be printed with the different print wheel.
2. Press FORMAT (f4) twice. The Format menu appears.
3. Press W. The Print Wheel menu appears.
4. Press O to change print wheel Only. The Print Wheel Only menu, shown in Figure 4-35, appears.
5. Choose the desired print wheel by pressing its corresponding number. For example:

Press 1 for Courier 72
Press 2 for Elite 12
Press 3 for Cubic PS 96
Press 4 for Scientific 10
Press 5 for Courier 10

6. Press GO.
7. The menu goes away.

To return to the previous menu, press B.

You can also change pitch without changing the print wheel. (See "Changing Pitch," below.)

Changing Pitch

The Word Processor allows you to specify a pitch other than the pitch that is standard for the print wheel currently in use. For example, if you are using the Courier 72, 10-pitch print wheel, you have the option of changing it to print as a 12-pitch print wheel. Changing pitch from 10 to 12 prints more characters per inch, leaving less space between characters. Conversely, changing Elite 12 printing to 10-pitch prints fewer characters per inch, with more space between characters. Page margins and tab settings are adjusted accordingly.

To specify a change of pitch as text is being entered:

1. Press FORMAT (f4) twice. The Format menu appears. (See Figure 4-19.)
2. Press the space bar. The Pitch menu, shown in Figure 4-36, appears.
3. Choose the desired pitch by typing the corresponding number.

Press 8 for 8-pitch text
Press 0 for 10-pitch text
Press 2 for 12-pitch text
Press 5 for 15-pitch text

4. Press GO.
5. The Pitch menu goes away.
6. All the text you enter will now be printed with the specified pitch when the document is printed.

To return to the standard (default) pitch:

1. Repeat steps 1 and 2 above.
2. Type D to choose the default print wheel.
3. Press GO.
4. The text you now enter will be printed in the standard pitch for the print wheel in use when the document is printed.

PITCH: (Press GO to execute, CANCEL to dismiss)

```
Press 8 for 8-pitch text
      0   10-pitch text
      2   12-pitch text
      5   15-pitch text
      D   Default pitch
```

Figure 4-36. Pitch Menu.

To specify a change of pitch in existing text:

1. Use the appropriate Mark (and Bound) command to select the text to be printed with changed pitch.
2. Press FORMAT (f4) twice. The Format menu appears.
3. Press the space bar. The Pitch menu appears.
4. Choose the desired pitch by pressing the corresponding number.

```
Press 8 for 8-pitch text
Press 0 for 10-pitch text
Press 2 for 12-pitch text
Press 5 for 15-pitch text
```

5. Press GO.
6. The Pitch menu goes away. The selected text is printed with the changed pitch when the document is printed.

To return existing text from changed (non standard) pitch to standard (default) pitch:

1. Use the appropriate Mark (and Bound) command to select the text that has the nonstandard pitch.
2. Press FORMAT (f4) twice. The Format menu appears.
3. Press the space bar. The Pitch menu appears.
4. Press D for default pitch.
5. The selected text is printed in the standard pitch when the document is printed.

Changing Ribbon Color during Printing

You can change ribbon colors while a document is being printed. You can specify the exact sections of the document in which another ribbon color is needed, and the printer will change ribbon colors accordingly. Generally, ribbon color changes are limited to those ribbons having red and black sections. The printer makes adjustments so that the specific section of the ribbon is struck during printing. When the printer is using a two-color ribbon, black is the default.

Use the Format command to select an alternate ribbon color. (See "Format Command," above.)

To specify an alternate ribbon color as you enter text:

1. Press FORMAT (f4). The Format menu appears.
2. Press A for Alternate ribbon color.
3. The Format menu goes away.
4. Enter text. Text will appear on the screen in half-brightness.
5. During printing, the ribbon color will change as specified.

To return to the original ribbon color (usually black), repeat steps 1, 2, and 3 above, but press CODE-A instead of A in step 2.

To specify an alternate ribbon color for existing text:

1. Use the appropriate Mark (and Bound) command to select the text that will be printed in another color.
2. Press FORMAT (f4). The Format menu appears.
3. Press A for Alternate ribbon color.
4. The Format menu goes away and the selected text appears on the screen in half-brightness. The ribbon color will change for the selected text during printing.

DOCUMENT UTILITIES

The Documents command provides the following document utilities.

- o Open document opens a document for creation or editing.
- o Delete document deletes a document from your directory.
- o Copy document copies an existing document and gives the copy a new name.
- o Rename document renames an existing document.
- o Change work area changes the work area from one volume (disk) directory to another.
- o List document lists documents by name or by date, or gives details on each document of page size, number of characters, date of last printing, and so on.

You can use these utilities at any time during a word processing session.

There are a number of subtleties of the implementation of the DOCUMENTS commands (e.g., Copy, Rename, and Delete) that are helpful to understand. Because of the general principle of the Word Processor that all operations must be recoverable from the typescript following a failure, the DOCUMENTS commands cannot in general be implemented by direct execution of the corresponding file system function. Instead, these commands are done "virtually" during the course of a word processing session and completed at the time of a save (CODE-S) or FINISH command. Functions within the Word Processor such as listing the directory of documents or opening documents are properly implemented to behave as though the "virtual" operation had been fully carried out. However, if a session fails or is terminated with ACTION-FINISH, then these operations will NOT have been carried out. If a Word Processor recovery is done, followed by a save, the pending operations will be carried out.

Special care must be taken in using the DOCUMENTS commands with floppy diskettes. After a diskette has been accessed for an Open, Rename, Delete, or Copy subcommand, you must SAVE or FINISH before dismounting the diskette. (Never dismount a diskette containing a document currently displayed on the screen). In addition, if the Change Work Area subcommand is used to change your work area to a directory on a diskette, it is important to mount the diskette before executing the command, or reissue the command after the diskette has been mounted. If your default path (as specified by either the Executive Path command or by your name.user used by SignOn) references a diskette which is not mounted when you invoke the Word Processor, then you must execute a Change Work Area command after you have mounted the diskette.

The Word Processor associates with a document information that is not understood or preserved by other components of Burroughs software. In particular, the information displayed by the Word Processor List documents subcommand, such as document length or time to print, will be incorrect for a document copied using the Executive Copy command or the Word Processor Copy subcommand. This is verified by the fact that, after the length, the symbol "~" appears indicating that the length may be inaccurate.

However, if the document is subsequently modified by the Word Processor and saved, the correct information will be recalculated.

If a List documents subcommand is given during a Word Processing session, and that session is subsequently recovered, the list of documents will appear during the recovery with the documents names replaced by dots. This should not be a subject of concern--the replacement is done for reasons of efficiency and it does not indicate any error in the recovery function. Note that this replacement during recovery is also done for the Display Print Queue subcommand of the Printer Status (CODE-P) command.

The Documents command, which you invoke by pressing DOCUMENTS (CODE-f1), displays the Documents menu shown in Figure 4-37. The Documents command is automatically invoked whenever there are no open documents on the screen.

DOCUMENTS: (Press CANCEL to dismiss)

Press O to Open document	Press W to change Work area
D Delete document	L List documents
C Copy document	
R Rename document	

Figure 4-37. Documents Menu (#2).

To choose a document utility:

1. Press DOCUMENTS (CODE-f1). The Documents menu appears.
2. Choose one of the following utilities by pressing the appropriate key:

Press O to Open document
Press D to Delete document
Press C to Copy document
Press R to Rename document
Press W to change Work area
Press L to List documents

Open Document

For procedures on using "Open document," see "Opening a Document through the Word Processor," above.

Delete Document

If you choose "Delete document", the Delete Document form appears. (See Figure 4-38.) Deleting a document removes the current document as well as the "doc-Old" version.

DELETE DOCUMENT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Document name(s):
Password:

Figure 4-38. Delete Document Form.

1. Enter the name of the document to be deleted. (If that document is currently opened, its name appears in the highlight next to "Document name(s)".
2. If it is necessary to enter a password:
 - a. Press NEXT to move the highlight to "Password".
 - b. Enter the password.
 - c. Press GO.
3. Otherwise, press GO.

Copy Document

If you choose "Copy document", the Copy Document form appears. (See Figure 4-39.) The document specified as "Old document name" is copied. No documents are deleted.

COPY DOCUMENT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Old document name:

New document name:

Password:

Figure 4-39. Copy Document Form.

1. Enter the name of the document that is being copied. (If that document is currently opened, its name appears in the highlight next to "Old document name".)
2. Press NEXT to move the highlight to "New document name".
3. Enter the name of the document that is being created.
4. If it is necessary to enter a password:
 - a. Press NEXT to move the highlight to "Password".
 - b. Enter the password.
 - c. Press GO.
5. Otherwise, press GO.

Rename Document

If you choose "Rename document", the Rename Document form appears. (See Figure 4-40.) The document specified in "Old document name" is renamed, but the "doc-Old" version of that document is deleted.

RENAME DOCUMENT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Old document name:

New document name:

Password:

Figure 4-40. Rename Document Form.

1. Enter the old document name.
2. Press NEXT to move the highlight to "New document name".
3. Enter the new document name.
4. If it is necessary to enter a password:
 - a. Press NEXT to move the highlight to "Password".
 - b. Enter the password.
 - c. Press GO.
5. Otherwise, press GO.

Change Work Area

If you choose "change Work area", the Work Area form appears. (See Figure 4-41.)

1. Enter the name of the new volume to be used. (Volume is the area in the system in which your documents directory is located and in which you use the Word Processor. Note that the name of the volume you are in appears in the highlight next to "Volume".)
2. Press NEXT to move the highlight to "Directory".
3. Enter the name of the directory, which can be the same name you used to sign on to the system.
4. If it is necessary to enter a password:
 - a. Press NEXT to move the highlight to "Password".
 - b. Enter the password.
 - c. Press GO.
5. Otherwise, press GO.

WORK AREA: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Volume:
Directory:
Password:

Figure 4-41. Work Area Form.

List Documents

If you choose "List documents", the List Documents form appears. (See Figure 4-42.)

The List Documents form displays the names of the current volume, directory, and password, and asks for a specific type of document directory listing.

You can get a directory listing of specific document names by specifying in the highlight next to "Pattern" a name containing a wild card character. A document name containing a wild card character is equivalent to a list of all the documents whose names match the name containing the wild card character. In word processing, the wild card character can be either a * (asterisk), which represents two or more characters, or ? (question mark), which represents one character.

For example, suppose you have a group of documents in your directory whose names end in the characters "text": Doctext, Memotext, Recordstext, Lettertext, and so on. If you want a directory listing of only those documents, specify "*text" as the pattern. The Word Processor looks through your directory for all names ending with "text" and then lists those names.

For more information on the use of the wild card character, see the B 20 Executive Manual, Section 9, "File Specification."

LIST DOCUMENTS: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Volume:
Directory:
Password:
Pattern:
Details: Names Dates Everything (Press N, D, or E)

Figure 4-42. List Documents Form.

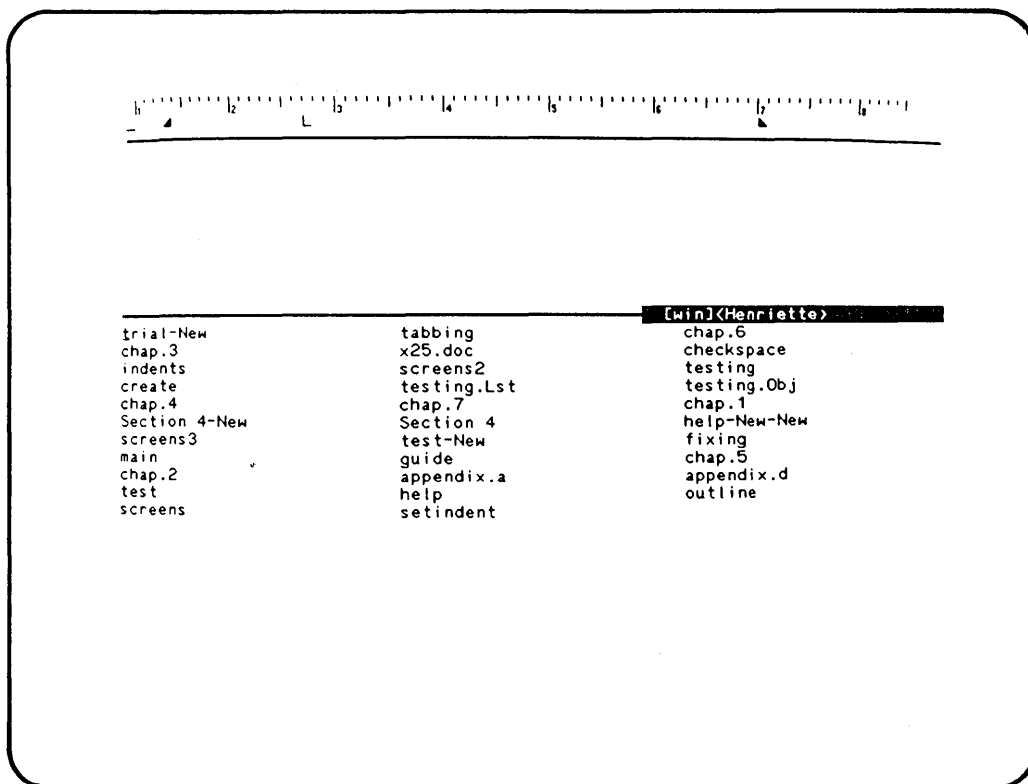


Figure 4-43. Directory Listed by Names.

Three types of directory listings are provided. The "Names" option lists document names for all types of documents in random order. Figure 4-43 is an example of a directory listing that was generated when "Names" was selected.

Document	Pages	Created	Revised	Accessed	Printed
trial-New	~1	11/09/81	2/13/82	2/13/82	
tabbing	~1	12/23/81	2/13/82	2/13/82	
chap.6	~6	1/11/82	2/13/82	2/13/82	
chap.3	~2	1/11/82	2/13/82	2/13/82	
x25.doc	~31	1/13/82	2/13/82	2/13/82	
checkspace	~1	1/15/82	2/13/82	2/13/82	
indents	~1	12/17/81	2/13/82	2/13/82	
screens2	1	2/12/82	2/16/82	2/17/82	
testing	3	11/03/81	2/17/82	2/17/82	
create	~2	12/10/81	2/13/82	2/13/82	
testing.Lst	~8	1/07/82	2/13/82	2/13/82	
testing.Obj	~1	1/07/82	2/13/82	2/13/82	
chap.4	~4	1/11/82	2/13/82	2/13/82	
chap.7	~3	1/11/82	2/13/82	2/13/82	
chap.1	~2	1/11/82	2/13/82	2/13/82	
Section 4-New	~1	1/11/82	2/13/82	2/13/82	
Section 4	~1	1/11/82	2/13/82	2/13/82	
help-New-New	~3	2/09/82	2/13/82	2/13/82	
screens3	1	2/16/82	2/16/82	2/17/82	
test-New	~1	10/23/81	2/13/82	2/13/82	
fixing	~0	10/29/81	2/13/82	2/13/82	
main	~1	10/23/81	2/13/82	2/13/82	
guide	~5	1/11/82	2/13/82	2/13/82	
chap.5	~1	1/11/82	2/13/82	2/13/82	
chap.2	~5	1/11/82	2/13/82	2/13/82	
appendix.a	~4	1/11/82	2/13/82	2/13/82	
appendix.d	~1	1/11/82	2/13/82	2/13/82	
test	~1	10/23/81	2/13/82	2/13/82	
help	~4	2/10/82	2/13/82	2/13/82	
outline	~2	2/10/82	2/13/82	2/13/82	

Figure 4-44. Directory Listed by Dates.

The "Dates" option lists each document with dates of creation, revision, and printing. Also listed for each document is the number of pages it contains. Figure 4-44 is an example of a directory listing that was generated when "Dates" was selected.

The "Everything" option lists each document name with its accessibility, length in pages and characters, dates of creation, last revision, and last access, and the time it takes to be printed. Figure 4-45 is an example of a directory listing that was generated when "Everything" was selected.

Only the name of the latest version of a document is listed. The name of the "doc-Old" version is not listed.

```

      h  a  l  b  k  b  k  b
-----
trial-New Length: ~1 page(s) 1536 character(s)
          Created: Nov 9, 1981 2:50 PM
          Revised: Feb 13, 1982 8:49 AM
          Accessed: Feb 13, 1982 8:49 AM
          Printed:
          Time to print: minute(s)

tabbing Length: ~1 page(s) 1536 character(s)
         Created: Dec 23, 1981 11:18 AM
         Revised: Feb 13, 1982 8:49 AM
         Accessed: Feb 13, 1982 8:49 AM
         Printed:
         Time to print: minute(s)

chap.6 Length: ~6 page(s) 12800 character(s)
        Created: Jan 11, 1982 2:55 PM
        Revised: Feb 13, 1982 8:49 AM
        Accessed: Feb 13, 1982 8:49 AM
        Printed:
        Time to print: minute(s)

chap.3 Length: ~2 page(s) 4096 character(s)
        Created: Jan 11, 1982 2:55 PM
        Revised: Feb 13, 1982 8:49 AM
        Accessed: Feb 13, 1982 8:49 AM
        Printed:
        Time to print: minute(s)

x25.doc Length: ~31 page(s) 66631 character(s)
        Created: Jan 13, 1982 11:48 AM
        Revised: Feb 13, 1982 8:49 AM

```

Figure 4-45. Directory Listed with Everything.

Displayed at the end of each directory listing are the current number of files in the directory, the amount of space used in the directory (by number of pages and characters), and the amount of space left on the volume (by number of pages and characters).

To obtain a directory listing:

1. Press NEXT to move the highlight to "Details".
2. Choose the desired type of listing:

Press N for Names
Press D for Dates
Press E for Everything
3. Press GO.

After you have chosen an option and pressed GO, the following message appears:

Searching directory X. Press CANCEL to interrupt.

The message goes away as soon as the directory listing is displayed. If there are a large number of documents listed it may be necessary to use the SCROLL UP and SCROLL DOWN keys to see all the documents.

Selecting Names in the Directory

You can select document names in any of the three types of directory lists (by using Mark or Mark Word) for opening, renaming, copying, deleting, and printing options.

1. Press L in the Documents menu to display the List Documents form.
2. Use the steps described under "List Documents" to display the directory of your choice.
3. Move the cursor to the name of the document that is to be opened, renamed, copied, or deleted.
4. Press the appropriate MARK key.

5. The selected name is highlighted.
6. Choose the desired option from the Documents menu.
7. When the appropriate form is displayed, the selected document name appears in the high light next to "Document Name(s)" (in Open Document and Delete Document forms) or in the highlight next to "Old document name" (in Copy and Rename forms).
8. Press GO.

To select a document for printing:

1. Press L in the Documents menu to display the List Documents form.
2. Use the steps described under "List Documents" to display the directory of your choice.
3. Press CANCEL once to dismiss the Documents menu.
4. Move the cursor to the name of the document to be printed.
5. Press the appropriate MARK key.
6. Press PRINT (SHIFT-f4) to invoke the Print command.
7. When the Print form appears, the selected document name appears in the highlighted text next to "Document(s)".

When you are finished with the Directory list, press CANCEL to remove it from the screen. Press CANCEL a second time to remove the Documents menu from the screen.

SECTION 5

ADVANCED OPERATIONS

This section describes the more advanced word processing operations such as

- o multiple windows
- o multiple documents
- o line spacing
- o column operations
- o add row/column
- o the Zoom command
- o recovery procedures
- o store/recall phrases
- o the Commands function

MULTIPLE WINDOW OPERATIONS

Multiple Windows on a Single Document

The Word Processor allows you to work in one or more sections of a single document at one time. For example, you can view the first page of a long document in a window at the top of the screen; you can view another part of the same document in another window on the same screen. The top window within each document is the primary window; the others are secondary windows. Figure 5-1 shows the screen divided into one primary and one secondary window of the same document.

Multiple windows are separated by index tabs. The index tab is a shortened version of the document status line. It displays the page number of the window below it and the number of the line in which the cursor is positioned.

The current window is the window containing the cursor. Editing operations affect the document in the current window.

You can specify multiple windows with the Divide Window command, which you invoke by pressing CODE-d. Each time you invoke this command, the current window divides into two windows. Up to

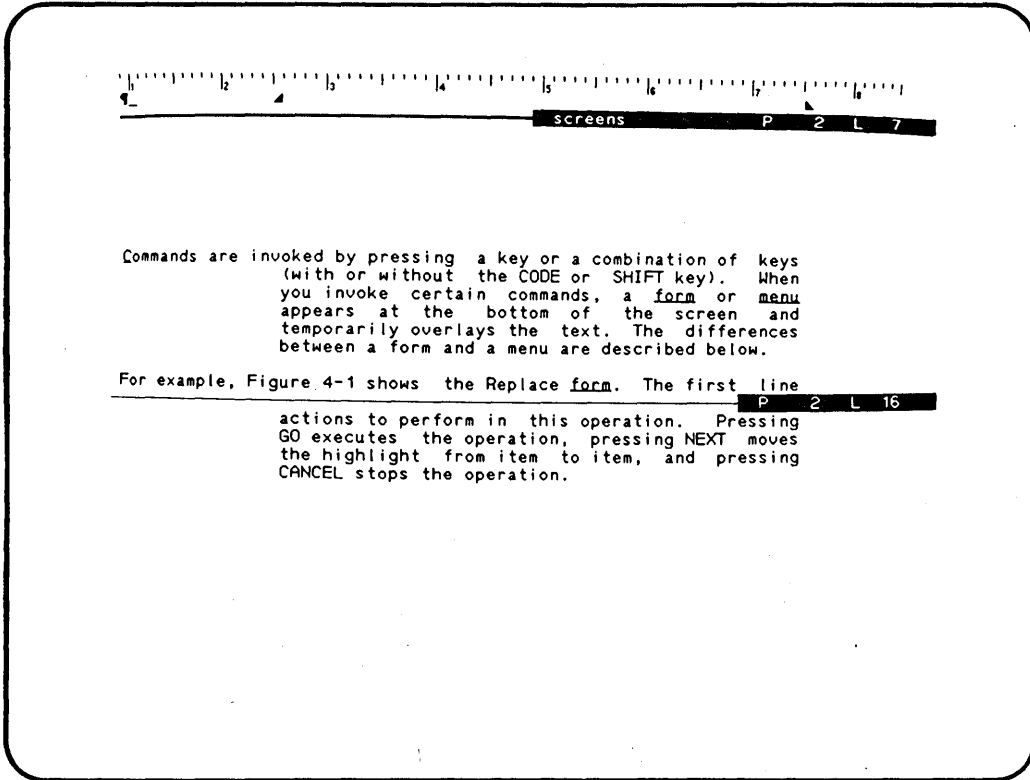


Figure 5-1. Document with Multiple Windows.

seven windows can be on a screen at one time. If you try to create too many windows on a single screen, this message appears:

Too many windows

To remove a window, move the cursor into that window and press CODE-c to invoke the Close Window command. The window goes away, and the adjoining window lengthens.

Moving the Cursor from One Window to Another

You can use the cursor control keys to move the cursor around a multiple window screen. Use them in the same way as in a single window screen. (See "Cursor Control Keys" in Section 4, "Basic Operations.") There are two exceptions: CODE-down arrow moves the cursor downward to the index tab (or document status line) of the next window. CODE-up arrow moves the cursor upward to the index tab (or document status line) of the previous window.

Scrolling

Text can be shifted up or down within a window with the SCROLL UP and SCROLL DOWN keys. (See "Vertical Scrolling" in Section 4, "Basic Operations.") To scroll within a particular window, move the cursor to that window and press the appropriate scroll key. Scrolling does not alter the number of lines of text in the window.

You can shift the content of one or more windows horizontally on the same screen by using the left or right arrow cursor control key. (See "Horizontal Scrolling" in Section 4, "Basic Operations.")

Expanding a Window

SCROLL UP and SCROLL DOWN also change the size of the window by expanding it upward or downward. The window expands by "borrowing" lines from adjoining windows. The expansion occurs only in the window containing the cursor. However, the window below or above the expanded window grows smaller, depending on whether the expansion is downward or upward.

For example, there are three windows on the screen and you want to expand the top window.

1. Position the cursor in the index tab (or document status line) that is under the top window.
2. Press SCROLL DOWN.
3. The top window expands downward. (The middle window becomes smaller.)

If you want to expand the middle window, you can either expand downward using SCROLL DOWN, or expand upward using SCROLL UP as follows:

1. Position the cursor in the index tab (or document status line) that is above the middle window.
2. Press SCROLL UP.
3. The middle window expands upward. (The top window becomes smaller.)

Multiple Documents on a Single Screen

You can work on several documents at the same time on a single screen. Each separate document has its primary window. Each of these primary windows can be divided (as described above under "Multiple Windows in a Single Document") into one or more secondary windows.

Figure 5-2 shows the screen divided into two primary windows, one for each document.

Each primary window, representing a different document, is topped by a document status line showing the document name, page number, and number of the line containing the cursor. Secondary windows for each separate document are topped by the index tab showing just the page number of that window and the number of the line containing the cursor.

You can open documents on the screen with the Open Document command, which you invoke by pressing CODE-o. (See "Opening a Document through the Word Processor" in Section 4.)

Scrolling, window expansion, and cursor movement work the same way among multiple documents as they do among multiple windows of a single document. (See "Multiple Windows in a Single Document," above.)

Moving Text from One Window to Another

You can move text from one window to another in the same way as you move it within a single window. Text movement can be from one document to another document, or to and from windows within a single document. Movement can be in an upward or downward direction, from a window at the top of the screen to a window at the bottom, and vice versa.

There are two ways to move text from one window to another window:

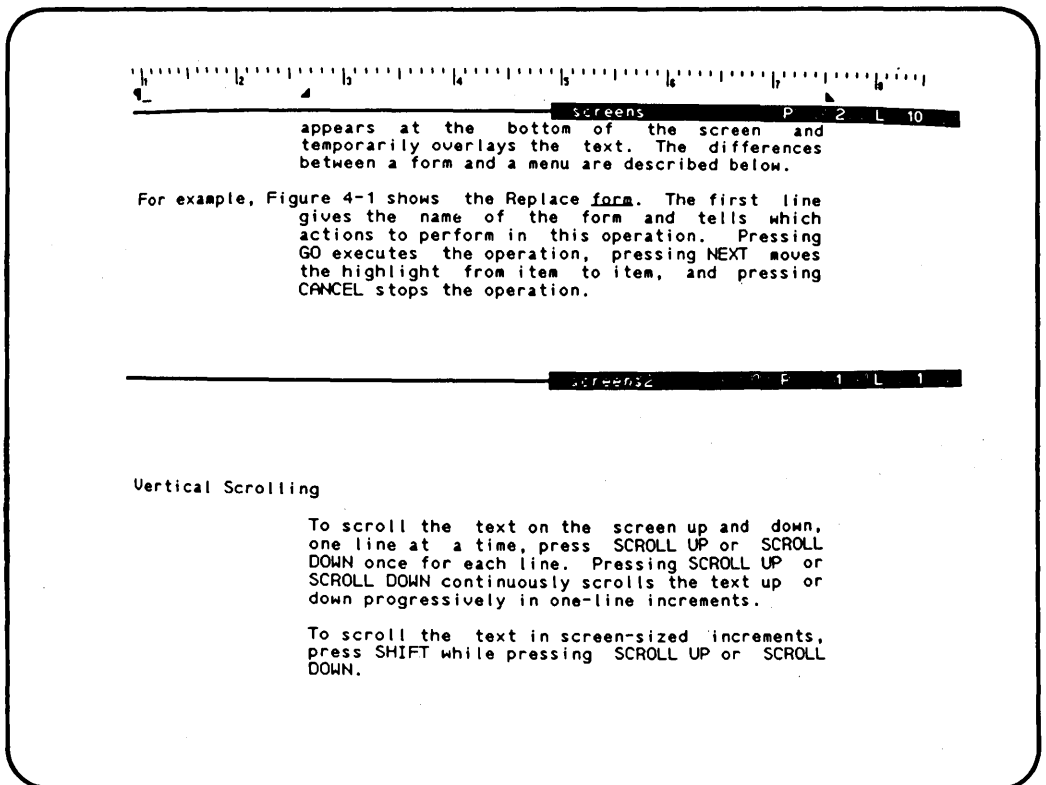


Figure 5-2. Two Documents on a Single Screen.

- o By first selecting the text to be moved, moving the cursor to the position where the text is to be placed, and then pressing MOVE.
- o By moving the cursor to the position where the text is to be placed, pressing MOVE, selecting the text to be moved, and then pressing GO.

To use the first procedure, in which you make the selection before pressing MOVE:

1. Use the appropriate Mark command (and Bound, if needed) to select and highlight the text to be moved from one window to another window.
2. Move the cursor to the location in the other window where you want the selected text to appear.
3. Press MOVE.
4. The selected text moves to the cursor position in the other window (and is deleted from its original location).

To use the second procedure, in which you make the selection after pressing MOVE:

1. Move the cursor to the exact place in the other window where you want the text to appear.
2. Press MOVE. The Move prompt appears on the screen. (See Figure 5-3.)

MOVE: (Press GO to execute, CANCEL to dismiss)

Select text to be moved, then press GO to execute

Figure 5-3. Move Prompt.

3. Once you have pressed MOVE and the Move prompt is displayed, you can move the cursor to the beginning of the text to be moved. (The Word Processor remembers where the cursor was located when MOVE was pressed.) Use the appropriate Mark (and Bound) command to select the text to be moved.
4. Press GO. The selected text moves to the position where the cursor was located when MOVE was pressed (and is deleted from its original location).

Copying Text from One Window to Another

You can copy text from one window to another in the same way as you copy it within a single window. Text can be copied from one document to another document, or to and from windows within a single document. You can copy in an upward or downward direction, from a window at the top of the screen to a window at the bottom, and vice versa.

There are two ways to copy text from one window to another window:

- o By first selecting the text to be copied, moving the cursor to the position where the text is to be placed, and then pressing COPY.
- o By moving the cursor to the position where the copied text is to be placed, pressing COPY, selecting the text to be copied, and then pressing GO.

To use the first procedure, in which you make the selection before pressing COPY:

1. Use the appropriate Mark command (and Bound, if needed) to select and highlight the text to be copied from one window to another window.
2. Move the cursor to the location in the other window where you want the selected text to appear.
3. Press COPY.

4. The selected text is copied to the cursor position in the other window (but is not deleted from its original location).

COPY: (Press GO to execute, CANCEL to dismiss)

Select text to be copied, then press GO to execute

Figure 5-4. Copy Prompt.

To use the second procedure, in which you make the selection after pressing COPY:

1. Move the cursor to the exact place in the other window where you want the text to appear.
2. Press COPY. The Copy prompt appears on the screen. (See Figure 5-4.)
3. Once you have pressed COPY and the Copy prompt is displayed, you can move the cursor to the beginning of the text to be copied. (The Word Processor remembers where the cursor was located when COPY was pressed.) Use the appropriate Mark (and Bound) command to select the text to be copied.
4. Press GO. The selected text is copied to the position where the cursor was located when COPY was pressed (but is not deleted from its original location).

LINE SPACING

Text is single spaced automatically within a paragraph when it is first entered if you did not choose a different line spacing with the Format command.

Format, which you invoke by pressing FORMAT (F4), has five line spacing options:

- o single-spaced text
- o double-spaced text
- o one and one-half spacing
- o double spaced between paragraphs and single spaced within the paragraph
- o other line spacing

These options are described in Section 4 under "Paragraph Formatting." However, the more advanced ways of using the "Other line spacing" option are described in this section. This option allows you to specify line spacing other than the single, double, and one-half line spacing provided by the Format function. You can use the "Other line spacing" option to specify triple or larger spaces between paragraphs or to insert extra-wide spaces for future insertion of text or figures.

Unless you need to format a complex document (with multiple levels of section headings, for example), you can defer reading the rest of this section.

When you choose the "Other line spacing" option by pressing O in the Format menu, the Line Spacing form appears on the screen. (See Figure 5-5.)

The Line Spacing form shows the line spacing for the paragraph containing the cursor and provides areas in which to specify line spacing. In the example in Figure 5-5, there is triple spacing before the paragraph, and double spacing within the paragraph. Paragraphs that have the same space values before and after are simple to specify.

However, when a paragraph has different values before and after, such as double spaces before and triple spaces after, line spacing formatting can get complicated. You can specify the line spacing for a current document with particular values, which will show in the Line Spacing form as the current values. However, the spacing you see on the screen may differ from the spacing in the printed document.

LINE SPACING: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

	<u>Currently</u>	(Please enter measurements in lines)
Before:	3.0 lines	
Within:	2.0 lines	
After:	0.0 lines	

Figure 5-5. Line Spacing Form.

If the first paragraph has an "after" line spacing of three, but the next paragraph has a "before" line spacing of two, the Word Processor compares the larger value with the smaller value, and the larger value takes precedence. Hence, if you specify line spacing of double spaces before, single spaces within, and triple spaces after, the following occurs. The triple spaces "after" the first paragraph take precedence over the double spaces of the next paragraph's "before," and so on, as long as these values are unchanged for that document. The document still retains the current values of double spaces before, single spaces within, and triple spaces after (as shown in the Line Spacing form). However, your screen and printed copy will show triple spaces before and after the paragraphs of that document.

If you have an existing document that needs line spacing changes, follow the steps in this example to make the changes.

Example

You have a short document that contains a total of seven paragraphs that are double spaced before and after and single spaced within. Two paragraphs need to change to quadruple spacing before and after and double spacing within.

To change the line spacing:

1. Press MARK PARA and BOUND to select the two paragraphs.

2. Press FORMAT (f4). The Format menu appears.
3. Press 0. The Line Spacing form appears.
4. Enter 4.0 (the number of spaces to appear before the paragraph).
5. Press NEXT to move the highlight to "Within".
6. Enter 2.0 (the number of spaces to appear between the lines within the paragraph).
7. Press NEXT to move the highlight to "After".
8. Enter 4.0 (the number of spaces to appear after the paragraph).
9. Press GO.
10. The Line Spacing form goes away, and the line spacing in the two paragraphs changes accordingly.

In this example, note that the line spacing changes affect the spacing of the paragraphs on either side of the two changed paragraphs. The paragraph above the first changed paragraph still has line spacing specifications of double spaces before and after. However, the new quadruple spacing of the next paragraph's "before" takes precedence over the double spacing of the previous paragraph's "after."

When you are inserting new text and changing line spacing attributes in an existing document, be aware of how the larger value takes precedence over a smaller value before and after a paragraph.

COLUMN OPERATIONS

The Word Processor allows you to select, move, copy, delete, and total columns of text as well as lines or paragraphs of text. The column operations deal specifically with columns that you create by typing tables of numbers or other data separated by tab characters. Columns of text created when you specify wide page margins are not affected by any of the column operations. It should be noted, however, that groups of columnar text should begin with a new paragraph. If this is not done, then certain operations will not work correctly when selecting columns.

Selecting a Column

Columns in a table are selected with Mark Column (CODE-f9). The cursor must be within a table when Mark Column is invoked; otherwise, the message

Cursor must be in a table

is displayed and no selection is made.

Mark Column selects and highlights the column containing the cursor, as well as the tab character pertaining to that column. All text under the tab stop nearest the cursor is included in the selection.

To select a column:

1. Move the cursor into the specific column.
2. Press MARK COLUMN (CODE-f9).

The selected column is highlighted. You can use the selection as needed.

You can extend a column selection to include several columns by pressing BOUND. The cursor must be within a table when BOUND is pressed, otherwise, the message

Cursor must be in a table

is displayed and the selection is not altered.

There are two ways to expand a column selection:

1. Press BOUND once. The cursor moves to the next column and the highlighted selection extends to include that column. Pressing BOUND consecutively expands the selection accordingly.
2. Move the cursor to the last column within the table that is to be part of the expanded selection. Press BOUND. The selection is expanded automatically to include the column containing the cursor.

Selecting a Line

You can select one or more lines within a table using the existing Mark Line and Bound commands. Commands such as Move, Copy, and Delete work in the usual way for selected lines.

Moving a Column

You can move a column of text to another position within the same document or to another document.

When a column is moved, its corresponding tab stop is moved with it. (The text and the tab stop are deleted from their original location.)

Tab stops are not merged when columns are moved. If necessary, the position of a new tab stop will be shifted a bit to the right to prevent it from coinciding with an existing tab stop.

The steps provided below explain how to move columns within a single document. To move columns from one document to another, use the steps provided above in "Moving Text from One Window to Another."

There are two ways to move a column to another location within a document:

- o By first selecting the column to be moved, moving the cursor to the position where the column is to be placed, and then pressing MOVE.
- o By moving the cursor to the position where the column is to be placed, pressing MOVE, selecting the column to be moved, and then pressing GO.

To use the first procedure, in which you make the selection before pressing MOVE:

1. Select the column to be moved with Mark Column (and Bound, if necessary).
2. Move the cursor to the position where the column is to be placed.

3. Press MOVE. The selected column moves to the cursor position (and is deleted from its original location).

To use the second procedure, in which you make the selection after pressing MOVE:

1. Move the cursor to the position where the column is to be placed.
2. Press MOVE. The Move prompt appears on the screen. (See Figure 5-6.)

MOVE: (Press GO to execute, CANCEL to dismiss)

Select text to be moved, then press GO to execute

Figure 5-6. Move Prompt.

3. Move the cursor into the column to be moved.
4. Select the column with Mark Column (and Bound, if necessary).
5. Press GO. The selected column moves to the position where the cursor was located when you pressed MOVE (and is deleted from its original location).

Copying a Column

You can copy a column of text to another position within a document. When the column is copied, its corresponding tab stop is copied with it. (The text and the tab stop remain at their original location.)

The tab stop is not merged when the column is copied. If necessary, the position of a new tab stop will be shifted a bit to the right to prevent it from coinciding with an existing tab stop.

The steps provided below explain how to copy columns within a single document. To copy columns from one document to another, use the steps provided above in "Copying Text from One Window to Another."

There are two ways to copy a column of text within a document.

- o By first selecting the column to be copied, moving the cursor to the position where the copied column is to be placed, and then pressing COPY.
- o By moving the cursor to the position where the copied column is to be placed, pressing COPY, selecting the column to be copied, and then pressing GO.

To use the first procedure, in which you make the selection before pressing COPY:

1. Select the text to be copied with Mark Column (and Bound, if necessary).
2. Move the cursor to the position where the column is to be copied.
3. Press COPY. The selected column is copied to the cursor position (but is not deleted from its original location).

To use the second procedure, in which you make the selection after pressing COPY:

1. Move the cursor to the position where the copied column is to be placed.
2. Press COPY. The Copy prompt appears on the screen. (See Figure 5-7.)
3. Move the cursor into the column to be copied.
4. Select the column with Mark Column (and Bound, if necessary).
5. Press GO. The selected column is copied to the position where the cursor was located when COPY was pressed (but is not deleted from its original location).

COPY: (Press GO to execute, CANCEL to dismiss)

Select text to be copied, then press GO to execute

Figure 5-7. Copy Prompt.

Deleting a Column

You can delete a column of text from a table along with its corresponding tab stop. Other columns (and their tab stops) within the same table are not affected when a column is deleted. You can delete several columns within the same table at once by using Bound with Mark Column as described under "Selecting a Column."

To delete a column:

1. Select the column to be deleted with Mark Column (and Bound, if necessary).
2. Press DELETE. The column is removed.

Clearing a Line or a Column

You can clear a single line or a single column. Clearing deletes the selected line or column but leaves the corresponding tab stops in place.

Clearing is useful in conjunction with totaling a line or column. (See the section "Totaling a Line or a Column" below.)

For example, in a table where the last line contains the totals for each of the columns, you can easily remove only the totals but leave the rest of the column intact. This feature is helpful when you are inserting more entries into a table and the columns must be totaled again for a new total.

To clear a line or column:

1. Use Mark Line (and Bound, if needed) to mark the line to be cleared, or
2. Use Mark Column (and Bound, if needed) to mark the column to be cleared.
3. Press CODE-DELETE.
4. The selected line or column is deleted. However, the tab characters and tab stops for those entries are left in place.

The cleared line or column continues to exist in the table and can be filled in again with new text entries.

ADD ROW/COLUMN

The Add Row/Column feature (CODE=) of the Word Processor(WP) is actually a generalized 4-function math expression evaluator. When CODE= is depressed, the WP will evaluate each entry of the table within the current selection before summing up the entries. This means that if all the entries in a table are simply numbers, then the Add Row/Column feature will simply add up the selected rows or columns. If, however, there are entries which are expressions, the WP will evaluate them before including the result into the sum.

An expression does not have to occur in a table before it can be evaluated. If you select an expression within your text and press CODE=, the expression will be evaluated and the result displayed at the bottom of the screen.

An "expression" can contain any of the following:

- o numbers
- o + plus sign
- o - minus sign
- o * multiply sign
- o x multiply sign
- o X multiply sign
- o / divide sign
- o mod modulus sign
- o \$ dollar sign
- o ¢ cent sign
- o % percent sign
- o ½ half sign
- o ¼ fourth sign
- o () parentheses
- o <> debit signs
- o . decimal point
- o , comma
- o space

Therefore any of the following are valid expressions together with their computed results:

\$10,343.50 - 10,000.00	\$343.50
34 + 54¢	\$34.54
23½ - 10 ¢	\$23.40
<54 - 32>	-22
(123 * 49800)/(4 + (-10*3))	-235592.31
100000/3	33333.33
100000.000/3	33333.333
100000.00000/3	33333.33333
100000/3.00000	33333.33333
(100 + 43) * 10%	14.30
((234 - 23) x 53%)	-111.83
345.45-	-345.45
-345.45	-345.45
345.45+	345.45
+345.45	345.45
25 mod 6	1
27 mod 6	3
12 mod 3	0

Note that the number of digits displayed in the fraction of the result is determined by the maximum number of digits of precision of the supplied operands. If this number is less than two, and the result has a non-zero fraction, two digits of fraction will be displayed in the result.

Also note that parentheses which enclose the entire expression are taken as a debit sign, negating the result.

If the word processor encounters an expression which is malformed, it will do one of two things. If the selection contains other expressions, the word processor will go ahead and evaluate all other expressions, add them up, and display the result at the bottom of the screen together with the message "Selection contains n invalid entries". If the selection contains no other expressions, then a message will display at the bottom of the screen describing what it is about the expression which makes it malformed. For example, here are some malformed expressions together with the messages they generate.

$(345 + 34 - 98) + 86 / (40 - 23 - 17)$

Cannot divide by zero: $86 / (40 - 23 - 17)$

$456 \times 988ef$

ef is not a valid operator

anc54

Number expected near anc

$345 / (15 \bmod 35.3)$

Operand must be an integer: $15 \bmod 35.3$

$(3455 + 453) / 9345)$

Unmatched) in expression

Totaling a Line or Column

You can total numbers in a single line or in a single column within a table. A line is totaled across; a column is totaled downward.

To total a line or column of numbers:

1. Select the line with Mark Line, or
2. Select the column with Mark Column.
3. Press CODE-+.
4. The total is displayed in the Add Row/Column form. (See Figure 5-7.)
5. The displayed total is highlighted as a selection and you can copy it out of the form by using Copy.

If any of the entries in the line or column is invalid, the message

Value must be a number less than 65535

is displayed. Otherwise, the entire line or column is totaled.

ADD ROW/COLUMN: (Press CANCEL to dismiss)

Sum:

Figure 5-8. Add Row/Column Prompt.

ZOOM COMMAND

The Zoom command, which you invoke by pressing CODE-z, switches the content of the screen between 80 columns of text and 132 columns of text.

This command works only on a B 22 workstation, which can display up to 132 columns of text on the screen. If you press CODE-z on a B 21 workstation, the following message appears:

Cannot ZOOM with this type of workstation

When the screen expands to 132 columns, the size of the characters decreases. (Figure 5-9 is an example of a 132-column screen.)

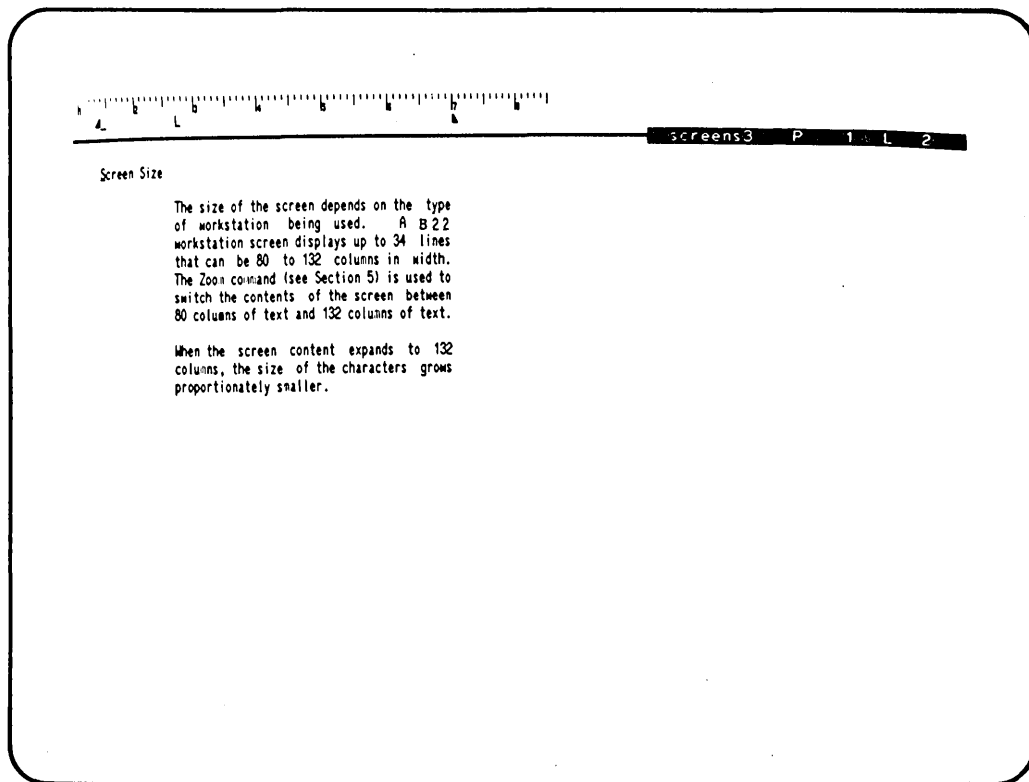


Figure 5-9. 132-Column Screen.

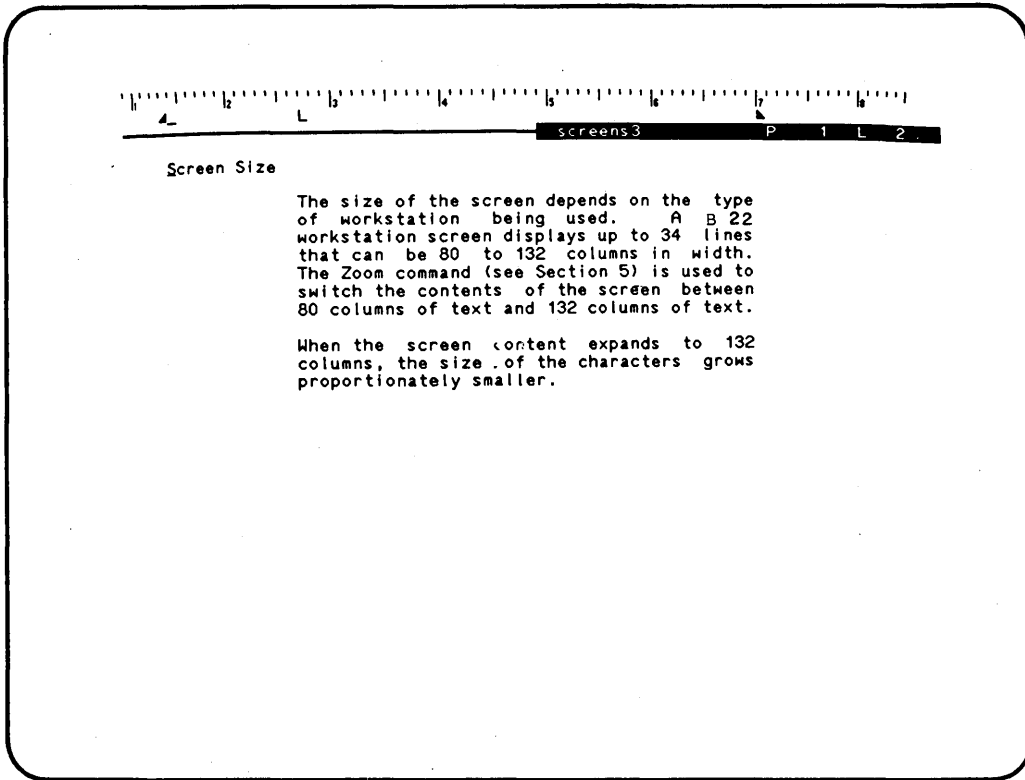


Figure 5-10. 80-Column Screen.

If the screen is displaying 132 columns, Zoom contracts the screen from 132 columns of text to 80. In this case, the size of the characters increases. (Figure 5-10 is an example of an 80-column screen.)

RECOVERY PROCEDURES

The Recover procedure protects your documents against loss or damage caused by, for example, a power failure or the accidental pressing of the power button. Recovery is possible because the Word Processor maintains a special document, the typescript, of all work done during a session.

When you invoke the Word Processor after such a failure, the following message appears:

Your last session did not finish successfully. Press GO to recover, CANCEL to start a new session.

Pressing GO invokes the recovery and you will see an "instant replay" on the screen of your previous word processing session. The Word Processor replays all the entering and editing performed on your document and stops at the point in the session when the failure occurred.

You can interrupt recovery by pressing CANCEL, which causes the following message to appear:

Recovery suspended

Press GO to continue the recovery, or CANCEL to end it.

When recovery is complete, or when you press GO twice, the following message appears:

Recovery complete

You can then open your documents and proceed with the word processing session.

You also can invoke recovery through the Executive with the Recover command, whether or not a failure occurred. Enter "Recover" in the Executive command form. (See Figure 5-11.) The previous word processing session is replayed on the screen.

(Current day/date/time shown here)

BURROUGHS B 20 OPERATING SYSTEM BTOS n.n

Selection	Enter an application name or leave this line blank to display a Command form.
Password	Enter your assigned password (optional).
Day/Date/Time	Enter the current day, date and time (if not already set).

Then press the GO key.

Selection
Password
Day/Date/Time (e.g., Mon 6/21/82 8:00 am)
Command

Figure 5-11. Executive Command Form, Recovery.

STORE/RECALL PHRASE

The Store/Recall Phrase feature provides the user with a way of assigning short names to commonly-used text strings ("phrases") in such a way that the long string may be recalled and inserted into a document by typing the short phrase name. Phrases may contain arbitrary formatting, including paragraph and page marks; indeed, storing a paragraph mark as a phrase is a convenient way to remember a commonly-used group of format settings (e.g. justified, double spaced, first line indented) for easy access later.

Phrase names and their associated phrases are stored together in a single file. The name of this phrase file is specified by each user in his or her .user file, as follows:

```
:WpPhrases:[vol]<dir>PhraseFileName
```

Phrases are added to the phrase file with the Store Phrase command. First enter the text of the phrase into a document (e.g. "The Wall Street Journal") and select the Phrase text. Press STORE PHRASE (shift f7) and the STORE PHRASE command form is displayed. (See figure 5-12).

```
STORE PHRASE: (Press GO to execute, CANCEL  
to dismiss)
```

```
Phrase name:
```

Figure 5-12. Store Phrase Form.

Enter the desired phrase name (e.g. "wsj") and press GO. The selected text is entered in the phrase file under the given phrase name. If there is already a phrase by that name, the following message is displayed:

```
Press GO to redefine phrase X, CANCEL to  
cancel command
```

where X is the phrase name. Press GO to confirm overriding the previous definition of X.

Stored phrases may be recalled using the Recall Phrase command. Recall Phrase may be used in two ways. As you are entering text, at the point where you wish to include a phrase expansion, press Recall Phrase (f7) and the Recall Phrase command form is displayed. (See figure 5-13).

```
RECALL PHRASE: (Press GO to execute, CANCEL  
to dismiss)
```

```
Phrase name:
```

Figure 5-13. Recall Phrase Form.

Enter the desired phrase name and press GO. The given phrase name is looked up and expanded at the cursor position. If no phrase by that name is found, the message

There is no phrase named X

is displayed.

Formatting attributes of the expanded phrase are combined with the formatting attributes currently in effect for insertion, as shown in the Format menu under "Current:". That is, if the Format menu shows "Underlined" text and the phrase as stored contains bold text, the expansion comes out both bold and underlined.

Alternatively, Recall Phrase may be used to expand a phrase name which already appears in existing text. Select the existing phrase name. Press Recall Phrase. No command form is displayed in this case; rather, the selected phrase name is immediately replaced by its expansion. The attributes of the replacement text are determined by combining the attributes of the selected phrase name and of the stored phrase as described above. As before, if no phrase by that name is found, a message so informing the user is displayed.

To remove phrases or list phrases in the phrase file see the "Remove Phrase" and "List Phrases" subsections under the section "Commands Function" below.

COMMANDS FUNCTION

The Commands function allows you to access certain advanced word processing operations as well as other programs while in the Word Processor. For example, these operations are

- o Document Exchange
- o Mail
- o Multiplan
- o Picture Editor (Business Graphics Package)
- o Sort/Select
- o Merge
- o Spelling Checker

The Commands function also allows you to go directly to the Executive from the Word Processor without having to FINISH the word processing session.

When you invoke the Commands function by pressing COMMANDS (CODE-f7), the Commands menu appears on the screen. (See Figure 5-14.)

COMMANDS: (Press CANCEL to dismiss)

Press D for	Document Exchange	Press C to	Check Spelling
E	Electronic Mail	V	View Dictionary
M	Multiplan	L	Load Personal Dictionary
P	Picture Editor	U	Unload Personal Dictionary
X	Executive	H	Hyphenate Word
		R	Remove Phrase
S	Sort/Select	I	List Phrases
G	Merge		
TAB	Reformat Tabs		

Figure 5-14. Commands Menu.

To choose an operation from the Commands menu:

1. Press COMMANDS (CODE-f7). The Commands menu appears.
2. Choose one of the operations by pressing the appropriate key. For example:

Press D for Document Exchange
Press E for Electronic Mail
Press M for Multiplan
Press P for Picture Editor
Press X for Executive
Press S for Sort/Select
Press G for Merge
Press TAB to Reformat tabs
Press C to Check Spelling
Press V to View Dictionary
Press L to Load Personal Dictionary
Press U to Unload Personal Dictionary
Press H to Hyphenate Word
Press R to Remove Phrase
Press I to List Phrases

Document Exchange

For procedures on using "Document Exchange", see the "Document Exchange Format" subsection below.

Electronic Mail

If "Electronic Mail" is chosen, the Mail form appears on the screen. (See Figure 5-15.)

MAIL: (Press GO to execute, CANCEL to dismiss)

[To]:
[Attach]:

Figure 5-15. Mail Form.

1. Press GO to invoke Electronic Mail.
2. Any documents that are currently opened are saved, the word processing session finishes, and Mail's initial display appears on the screen.

If you are signed on to the Electronic Mail system and you have new mail arrive during a word processing session, or have any mail that has not been put into your "in tray" when you start a word processing session, the message "Mail" or "Urgent Mail", as appropriate, will be displayed on the left hand side of the window border just below the ruler. These messages will remain until you enter the Electronic Mail system and read the new mail into your "in tray".

Multiplan

If "Multiplan" is chosen, the Multiplan form appears on the screen. (See Figure 5-16.)

MULTIPLAN: (Press GO to execute, CANCEL to dismiss)

Figure 5-16. Multiplan Form.

1. Press GO to invoke Multiplan.
2. Any documents that are currently open are saved, the word processing session finishes, and Multiplan's initial display appears on the screen.

Picture Editor

If "Picture Editor" is chosen, the Picture Editor form appears on the screen. (See Figure 5-17.)

PICTURE EDITOR: (Press GO to execute, CANCEL to dismiss)

Picture file:

Figure 5-17. Picture Editor Form.

1. Press GO to invoke the Picture Editor.
2. Any documents that are currently open are saved, the word processing session finishes, and the Picture Editor's initial display appears on the screen.

Executive

If "Executive" is chosen, any documents that are currently opened are saved, the word processing session finishes, and the Executive command form appears on the screen. (See Figure 5-11 in this section, and Section 3 of the Executive Manual, "Filling in a Form.")

Merge

For procedures on using "Merge", see the "Merge" subsection in Section 6, "List Processing."

Sort/Select

For procedures on using "Sort/Select", see the "Sort/Select" subsection in Section 6, "List Processing."

Tab

Documents created under 1.0 WRITEone handle tabs differently than in the current version. Therefore, if a 1.0 document is brought up that has tabs, the user should perform this operation so that the tabs will align correctly.

CAUTION

The Reformat Tabs command should be run on only documents last SAVED on version 1.0 WRITEone. In addition, this command should only be executed once on these documents.

If it is required to run Reformat Tabs on a large number of documents, it is not necessary to enter the word processor and type CODE-f7 TAB for each one. This feature also works in a batch mode as a command from the executive. This allows you to create submit files to run overnight (for example) which will convert large sets of documents.

This utility is invoked by entering "Fix Tabs" on the command line in the executive. The executive form will then prompt the user for a document or documents to be reformatted, saved, and then the utility will exit to the executive. The document as well as status messages will be displayed while a document is being reformatted. As many as seven documents may be reformatted at one time.

To implement this feature, the user must create a new command called "Fix Tabs" as follows:

```
New Command
Command name 'Fix Tabs'
Run File     [sys]<sys>WordProcessor.run
Field Names  'Document(s)'
Description  'Reformat tabs from 1.0 to 3.0'
             [Overwrite ok?]
```

NOTE

The command name entered should be "Fix Tabs", as the word processor is specifically looking for that command name to inform it that it is to perform a batch Reformat Tabs operation.

Spelling Checker

For procedures on using the Spelling Checker and its associated operations, "View Dictionary," "Load Personal Dictionary," "Unload Personal Dictionary," and "Hyphenate Word," see Section 7, "Spelling Checker."

Remove Phrase

This command is used to delete phrases from the phrase file. When this command is invoked the Remove Phrases form will be displayed. (See Figure 5-18).

REMOVE PHRASE: (Press GO to execute, CANCEL to dismiss)

Phrase name:

Figure 5-18. Remove Phrase Form.

To remove a phrase from the phrase file:

1. Fill in the name of the phrase to be removed.
2. Press GO.

If there is no phrase with that name, or any other problems are encountered, appropriate messages and instructions will be displayed.

Phrase names in form letters:

During a Merge operation, if a form letter contains a keyword which is not found in the supplied records file, the word processor will look to see if the keyword is a phrase name. If so, it will treat it as a phrase name, substituting the associated phrase text.

List Phrases

This command is used to display a listing of all or part of the phrase file. When this command is invoked the List Phrases form is displayed. (See figure 5-19.)

LIST PHRASES: (Press GO to execute, CANCEL to dismiss)

Pattern:
Details: Names Expansions (Press N or E)

Figure 5-19. List Phrases Form.

To display a listing of phrases:

1. Fill in the Pattern line with:
 - a. The name of a specific phrase. This will display a single phrase.

or
 - b. The wild-card character '*'. This will display all phrases in the phrase file.

or
 - c. A combination of characters and wild-card(s). This will display a portion of the phrases in the phrase file.
2. Select one of two choices under Details. Selecting the 'Names' displays only the names of the phrases that match the given pattern and selecting 'Expansions' displays both the names of the phrases matching the given pattern and the text that the phrase expands to.
3. When the desired pattern and details have been entered, press GO.

The list of phrases and details will be displayed on the screen. If any problems are encountered, appropriate messages will be displayed.

SECTION 6

LIST PROCESSING

The Word Processor's list processing operations are Merge and Sort/Select. You can use Merge to merge text from one file into another. Use Sort/Select to sort and/or select specific records of a file before the file is merged.

One of the most common list processing applications is the creation of mailing lists of names and addresses that are merged with a form letter. You can specify that an entire mailing list be merged, or that only parts of it be merged. Also, you can have the mailing list sorted alphabetically or numerically before it is merged with the form letter.

List processing requires three components: records files, form documents, and the commands used to sort, select, merge, and print the final output. The records files and the form documents are standard word-processing documents.

For example, you might be sending to 200 people a form letter in which only the name, address, and greeting differ in each letter. The records file contains the names, addresses, and greetings that are merged into the form letter. The form letter contains specific areas into which the contents of the records file are merged. The Merge command merges the records file into the form letter and then prints 200 copies of the letter. Each copy of the letter contains a different name, address, and greeting. If addresses in only a specific geographic area are to receive the letters, the Sort/Select command sorts or selects the records file to obtain the specific records to be merged.

RECORDS FILES

A records file is a text document containing a list of records, each of which contains zero or more fields. In list processing, a record is defined as a contiguous group of related items, and each item is represented by a single field. A field is a group of related characters, separated by a special symbol, that represent a single unit. (These special symbols, when acting as separators, also are called delimiters.)

Each record and field is defined with a special character or symbol. Records start with the record start character: for example, an "!" (exclamation symbol). Fields start with the field start character: for example, a "/" (slash). Any character or symbol (except a paragraph symbol, new page symbol, or space) can be used as a record start or field start character. However, they must be used consistently within the records file in which they are defined.

Template Record

The first two characters of a records file are always the record start character and the field start character of the template record.

The first record of any records file is called the template record. The template record defines the record start and field start characters. It also defines the symbolic field name, or keyword, and establishes the correspondence between the keyword and the positions within the record for all records in the file. Each keyword represents the actual data that is merged into the form letter during the merge operation. A keyword can represent a word, a phrase, or a paragraph. You will be using keywords when you create the form letter into which the records data is merged.

The records file can contain any number of keywords not found in the form letter with which it is merged.

Example of a Records File

Figure 6-1 is an example of a records file consisting of the template record and two text records. The template record defines the record start character, the field start character, and the keywords. The two subsequent records contain the actual names and addresses that can be merged into a form letter.

```
!/FirstName/Initial/LastName  
/Address  
/City/State/Zip  
  
!/John/A./Johnson  
/210 Elm Street  
/Centerville/CA/92900  
  
!this is a comment  
  
!/Mary/J./Jones  
/1299 Main Street  
/Springdale/NJ/11688
```

Figure 6-1. Example of a Records File.

In this example, record start and field start characters for this records file are, respectively, "!" and "/". The first record in the file is the template record, which has seven fields. Each field represents a particular item in the record. The first field of the template record has the keyword "FirstName". Each first field in subsequent records contains an actual first name that will be inserted into the form letter. The second field of the template record has the keyword "Initial". Each second field in subsequent records is the middle initial of the name that will be inserted into the form letter.

Any text in a records file that is between a record start character and the next record start or field start character is ignored. This feature allows you to insert comments into the records file.

In Figure 6-1, note the third entry

```
!this is a comment
```

This entry has a record start character but no field start character. It is placed between its own record start character and the record start character for the next record in the file. Hence, it is considered to be a comment, and it will not be used for any list processing operations.

Special characters such as blanks, commas, forced page symbols, new page symbols, paragraph symbols, and new line symbols surrounding record start and field start characters are ignored. Therefore, you can use these characters freely to format the records file in any way you like. These same special characters cannot be placed within a keyword in the template record. However, a special character placed in a keyword in a form letter acts as a delimiter.

A keyword must not contain an embedded blank (space inserted with the spacebar). However, corresponding text in subsequent records can contain an embedded blank. For example, the keyword "Address" in the template record can correspond to "10 Main Street" in subsequent records. However, the keyword "First Name" in the template record cannot be used because it contains an embedded blank. The keyword "FirstName" should be used instead.

A keyword can contain up to 20 characters. However, this limitation does not apply to the number of characters in the text that the keyword represents.

FORM DOCUMENTS

Form documents are the documents into which the data in the records file is merged. The form letter can contain any of the keywords defined in the template record of the records files to indicate where the information represented by the keyword will appear in the printed letter.

Example of a Form Letter

Figure 6-2 is a typical form letter created with word processing. The keywords representing the information to be merged into the letter are underlined here for visibility.

FirstName Initial LastName
Address
City State Zip

Dear Mr. LastName:

I am pleased to inform you that you are the lucky winner of a FREE trip to sunny Hawaii! All your neighbors in City will be green with envy when you and the entire LastName family take off this winter for two lovely weeks in the Islands.

We will be contacting you very soon, Mr. LastName, to tell you more about your exciting vacation.

Sincerely,

Vista Travel Services, Ltd.

Figure 6-2. Example of a Form Letter.

The keywords in the above letter are the same keywords that are contained in the template record of the records file that will be merged with the letter. The keywords are replaced at merge time with data from the corresponding fields of the records file.

A keyword can appear more than once in a given form letter. Every time the keyword appears, it is replaced in the printed letter with the same text value. For example, in the form letter in Figure 6-2, the same "LastName" keyword appears four times. Each time, the same last name appears in the printed letter.

If a keyword in a form document does not have a corresponding keyword in the template record of the specified records file, no merge operation occurs. Instead, the following statistics for the merge operation are printed:

```
Records file [vol]<dir>filename cannot be
merged with this form letter. Its template
record does not contain the keyword X.
```

```
Records file(s) provided
      [vol]<dir>filename
Number of these record(s) found to be
useable: 0
```

```
Total number of records (in the useable
files): 0
  0 record(s) successfully merged
  1 records file(s) rejected
  In the records files used, 0 record(s)
  rejected or skipped.
```

Specifying Keywords in a Form Document

Keywords are specified in a form document with a special keyword format option. It is the "Merge Keyword" option in the Format command. (See Figure 6-3.)

To specify a keyword as you enter it in a form letter or document:

1. Press FORMAT (f4). The Format menu appears.
2. Press K for "merge Keyword".
3. Enter the keyword text. It appears in half-brightness.

To indicate the end of a keyword after it is entered:

1. Press FORMAT (f4). The Format menu appears.
2. Press CODE-K to remove the keyword attribute.
3. The Format menu goes away. Subsequent text is entered in normal brightness.

FORMAT: (Press CANCEL to dismiss)

Current: * Normal Text * Courier 72 * 10-Pitch
 * Left Flush * Single Spaced

Press B for Boldface text	Press ^ for Superscript text
- Underlined text	. Subscript text
= Double-underlined text	A Alternate ribbon color
S Struck-out text	K merge Keyword

or CODE and indicated key to remove attribute

Press N for Normal text Press FORMAT again for more choices

Figure 6-3. Format Menu, Part 1.

To specify existing text to be a keyword:

1. Use the appropriate Mark (and Bound) command to select the text for a keyword. (See "Selections" in Section 4, "Basic Operations.")
2. Press FORMAT (f4). The Format menu appears.
3. Press K for "merge Keyword".
4. The Format menu goes away. The selected text changes to half-brightness.

To change a keyword in existing text back to normal text:

1. Use the appropriate Mark (and Bound) command to select the keyword.
2. Press FORMAT (f4). The Format menu appears.
3. Press CODE-K to remove the Keyword attribute.
4. The Format menu goes away. The selected text returns to normal brightness.

Formatting Keywords

The character formatting attributes (underline, boldface, and so on) of the text that replaces the keyword at merge time come from two sources. They are the attributes of the keyword as it appears in the form letter, plus the attributes of the text within the records file. For example, if the keyword in the letter is in bold face and the corresponding text in the records file is underlined, the replacement text is in boldface and is underlined.

A keyword can have more than one character attribute. Before or after you have specified a keyword in a form letter, you can give it any of the formatting options of the Format command. (See "Character Formatting" in Section 4, "Basic Operations.")

Reserved Keywords

Some reserved keywords have been predefined by the Word Processor. These keywords expand to their predefined text when the form document is printed. Reserved keywords do not have to be defined in a records file.

You can specify a reserved keyword in the form document by using the "merge Keyword" option of the Format command. Reserved keywords are listed in Table 6-1.

Whenever you want the current date and/or time to be printed, enter the keywords "date" or "sdate" and/or "time" in the appropriate place in the form document. The current date or time is merged into the form document at merge time and appears in the printed copies.

The keyword "date" causes the date to appear in the printed document in long format (for example, December 18, 1982). The keyword "sdate" causes the date to appear in the printed document in short format (for example, 12-18-82).

The current time always appears as 8:15 am, or 10:05 pm.

Table 6-1. Reserved Keywords.

Keyword	Expansion
date	Current date in long format.
sdate	Current date in short format.
time	Current time.
sequence	Sequence number of the current record.

The keyword "sequence" shows the sequence number of the current successfully merged record. For example, you might have a records file containing 40 records. Each record is sequentially numbered 1 through 40. If you specify the keyword "sequence" in the form letter that is merged with the records file, the sequence number of each successfully merged record appears in the printed letter that corresponds to it.

MERGE

You invoke the Merge operation with the Merge command through the Commands function.

To invoke Merge:

1. Press COMMANDS (CODE-f7). The Commands menu appears on the screen. (See Figure 6-4).

COMMANDS: (Press CANCEL to dismiss)

Press D for Document Exchange	Press C to Check Spelling
E Electronic Mail	V View Dictionary
M Multiplan	L Load Personal Dictionary
P Picture Editor	U Unload Personal Dictionary
X Executive	H Hyphenate Word
	R Remove Phrase
S Sort/Select	I List Phrases
G Merge	
TAB Reformat Tabs	

Figure 6-4. Commands Menu.

2. Press G to choose the Merge command. The Merge form appears on the screen. (See Figure 6-5.)

MERGE: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Form name:
Records file (s):
Number of records to skip: 0
Paper feed: Continuous Manual (Press C or M)
Printer name:
for example: Serial, Parallel, DirectSer, DirectPar, etc.
Priority: (0-9)

Figure 6-5. Merge Form.

Records from the records file(s) are merged with the form document. You can specify more than one records file to be merged with a single form document. As each record is processed, a new copy of the form letter is made. The new copy starts at the top of a new page whose page number is one, unless the form contains a "forced page number" attribute. (See "Page Formatting" in Section 4, "Basic Operations.")

Pagination of each completed form letter occurs automatically. However, you can change this pagination by inserting forced page breaks within the form letter when it is first created.

You can use the "Number of records to skip" option to skip the first n useable records in the records file, if necessary. This option can be useful if a previous merge operation was not completed, and you want to start again without repeating the letters that already have been done.

For spooled printing, the form letters or documents are queued for printing in batches of 50. Each batch appears in the print queue as "FormName1-50", "FormName51-100", and so on. If the disk becomes full, smaller batches are created. (FormName represents the name you have given to that particular form letter.)

Any bad records that are found during Merge are flagged with a message such as "Field X does not exist." These messages, together with a copy of the record that caused them, are collected in a log that is printed at the end of the merged output.

When the merge operation has completed and the form letters have been printed, the following statistics are printed.

Records file(s) provided

[vol]<dir>filename

Number of these records file(s) found to be useable: n

Total number of records (in the useable files): n

n record(s) successfully merged

n records file(s) rejected

In the records files used n record(s) rejected or skipped

To merge a records file with a form letter:

1. Enter the name of the form letter next to "Form name".
2. Press NEXT to move the highlight to "Records file(s)".

3. Enter the name of the records file(s).
4. Press NEXT to move the highlight either to "Number of records to skip" or to "Paper feed".
5. If needed, enter "Number of records to skip".
6. If needed, specify the "Paper feed" option by pressing C or M for "Continuous" or "Manual". ("Continuous" is the default.)
7. Press NEXT to move the highlight to "Printer name".
8. Enter the printer name.
9. If you want to change the printer priority, press NEXT. (The default is 5.) Otherwise, press GO.
10. Specify the printer priority. Highest priority is 0; lowest priority is 9.
11. Press GO.

SORT/SELECT

You may need only a selected portion of your records file merged with a particular form letter. Similarly, you may wish to have the records file sorted with respect to certain fields. The Sort/Select command does both operations. You invoke Sort/Select through the Commands function.

Invoking the Sort/Select Command

To invoke Sort/Select:

1. Press COMMANDS (CODE-f7). The Commands menu appears on the screen. (See Figure 6-4.)
2. Press S to choose Sort/Select. The Sort/Select form appears on the screen. (See Figure 6-6.)

SORT/SELECT: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Records from file(s):
Records to file:

Selection test 1:
Select on field:
Field value(s):
Keep/discard the records? Keep Discard (Press K or D)

Selection test 2:
Select on field:
Field value(s):
Keep/discard the records? Keep Discard (Press K or D)

Selection test 3:
Select on field:
Field value(s):
Keep/discard the records? Keep Discard (Press K or D)

Primary sort field:
Sort type: Ascending Descending (Press A or D)
Secondary sort field:
Sort type: Ascending Descending (Press A or D)

Figure 6-6. Sort/Select Form.

You specify the records file to be sorted and/or selected with "Records from file(s)". Specify the file into which selected and/or sorted records are placed with "Records to file". The file(s) that you specified in "Records from file(s)" does not have to be currently displayed.

Records can be selected without being sorted.
Records can be sorted without being selected.

Select

You specify the records to be selected by filling in the keyword for a field in the blank next to "Select on Field" under "Selection test 1, 2, or 3". Specify the allowed values for that field in the next "Field value(s)" blank. Ranges of values are allowed (for example, 10-200, 900-, CA-NY).

Suppose you want only last names starting with A through J in an address list to be merged into a form letter. Under "Selection Test 1", specify a keyword called "LastName" for "Select on field" and A-J for "Field value(s)". Then press K (keep) to include these records in the file. Only last names starting with A to J are merged into the form letter at merge time. If you want last names starting with A to J and living only in California, you specify "Select on field" and "Field value(s)" under "Selection test 1" and "Selection test 2". First, under "Selection test 1", specify the keyword "LastName" for "Select on field" and A-J for "Field value(s)". Then, under "Selection test 2," specify the keyword "State" for another "Select on field" and "CA" for its "Field value(s)".

To select specific records in a records file (without specifying Sort):

1. Invoke the Sort/Select command. (See "Invoking the Sort/Select Command," above.) The Sort/Select form appears on the screen. (See Figure 6-6.)
2. Next to "Records from file(s)", enter the name of the record file (or files) from which the records are to be selected.
3. Press NEXT.
4. Next to "Records to file", enter the name of the file that will contain the selected records.
5. Press NEXT.
6. Under "Selection test 1", enter the keyword of the field to be selected next to "Select on field".
7. Press NEXT.
8. Next to "Field value(s)", enter the value (for example, 1-10, A-G).
9. Press NEXT.
10. Enter K to keep selected records or enter D to discard selected records.

11. If no more fields are to be selected, press GO. Otherwise, repeatedly press NEXT to move the highlight to "Select on field" under "Selection test 2" and repeat steps 6 through 11 as needed.

After GO is pressed, the message

Press GO to create X, CANCEL to dismiss

appears at the top of the Sort/Select form. X is the name of the "Records to file" that is being created to contain the selected records. Press GO to create the file.

If the selected records are going to a file that already exists, the message

Press GO to overwrite X, CANCEL to dismiss

appears at the top of the Sort/Select form. X is the name of the "Records to file" that is being overwritten to contain the selected records. Press GO to overwrite the file.

TECHNICAL NOTE

During the Select operation, each record is tested to see if the value of the named field matches one of the specified values (the field values specified for a particular field are ORed together). Records that pass the test for a specified field are either kept or discarded from the resultant set, depending upon whether you specified K for "keep" or D for "discard." Tests on subsequent fields will further reduce this set. If none of the "Select on field" blanks are filled in, all records specified in the "Records from file(s)" are selected.

Sort

Selected records are sorted according to the values found in the field that is specified in "Primary sort field".

The sort can be either ascending or descending. For example, an alphabetic sort in ascending order sorts from A through Z; an alphabetic sort in descending order sorts from Z through A.

The sort is stable: that is, records of equal sort value appear in the same sequence when they are output as when they were input. Two methods of sorting are used; numeric and lexicographic (see Glossary). A field is sorted numerically if its keyword in the template record of the records file is preceded by a # symbol. Otherwise, the field is sorted lexicographically.

The result of a Sort/Select operation is a valid records file. In particular, it includes a copy of the template record found at the beginning of the input records file.

You can specify a two-level sort by filling in the "Secondary sort field" with another keyword. Groups of records whose primary field values are equal are sorted within the group according to the values of the secondary field.

If neither "Primary sort field" nor "Secondary sort field" is specified, no sorting occurs.

You can specify a sort of more levels than are provided in the Sort/Select form by repeating the Sort/Select command to the same set of records. In this case, it is necessary to sort on the least significant level first, ending with a sort on the most significant level.

To sort specific records in a records file (without doing a Select):

1. Invoke the Sort/Select command. (See "Invoking the Sort/Select Command," above.) The Sort/Select form appears on the screen. (See Figure 6-6.)
2. Next to "Records from file(s)", enter the name of the records file (or files) from which the records are to be sorted.
3. Press NEXT.
4. Next to "Records to file", enter the name of the file that will contain the sorted records.
5. Press NEXT several times to move the highlight to "Primary sort field".
6. Enter the keyword of the primary field to be sorted.

7. Press NEXT.
8. Press A for ascending sort or press D for descending sort.
9. If a secondary sort is not needed, press GO.
10. Otherwise, press NEXT.
11. Next to "Secondary sort field", enter the keyword of the secondary field to be sorted.
12. Press NEXT.
13. Press A for ascending sort or press D for descending sort.
14. Press GO.

After GO is pressed, the message

Press GO to create X, CANCEL to dismiss

appears at the top of the Sort/Select form. X is the name of the "Records to file" that is being created to contain the sorted records. Press GO to create the file.

If the sorted records are going to a file that already exists, the message

Press GO to overwrite X, CANCEL to dismiss

appears at the top of the Sort/Select form. X is the name of the "Records to file" that is being overwritten to contain the sorted records. Press GO to overwrite the file.

Sorting and Selecting a Records File

A sort and a select can be performed on the same records file in the same fields. For example, suppose you have a records file consisting of names and addresses of people living in the three Pacific Coast states: California, Oregon, and Washington. However, you want to send form letters only to people living in California whose addresses are in alphabetic order by city.

In this case, under "Selection test 1", specify the keyword representing the state in "Select on Field" and specify a "Field value(s)" of CA. You want to keep these records in the "Records to file", so you press K. Next, specify the keyword representing the city in the "Primary sort field" and specify an ascending sort by pressing A. Then, press GO.

The resulting records file contains a list of only California addresses, listed in order from A through Z by city.

EXAMPLES OF LIST PROCESSING APPLICATIONS

The following pages describe three examples that show how list processing is commonly used.

The first example is a typical letter into which names, addresses, and some other data are merged. The form letter, records file, and printed letter are described.

The second example describes a records file that has specific fields selected. Both the "Records from file" and the resulting "Records to file" are illustrated.

The third example describes a records file that is sorted on both primary and secondary sort fields. Both the "Records from file" and the resulting "Records to file" are illustrated.

Example 1

This example is a typical semipersonal form letter produced with list processing. Figure 6-7 shows how the printed letter appears with the personalized information inserted in specific places. The inserted text is underlined here for visibility.

Ms. Joanne R. Kramer
4025 West Laurel Street
Weston, CT 06810

Dear Ms. Kramer:

Thank you for your check in the amount of \$75.00. We at WXYZ sincerely appreciate your generous donation.

Friends like you, Ms. Kramer, help us to reach our goal of raising \$450,000 by September 30th, 1982 to expand our programming facilities.

Sincerely,

WXYZ -- YOUR PUBLIC TELEVISION STATION

W. J. FARMER
Program Director

Figure 6-7. Typical Printed Form Letter.

The underlined information in the above letter is contained in the first record of a records file. (See Figure 6-8.)

The information from the first record of the above records file appears in the letter shown in Figure 6-7. The other printed copies of the letter contain information from subsequent records.

Figure 6-9 is the form letter that was used to produce the printed letter shown in Figure 6-7. The keywords are underlined for visibility and correspond to the keywords in the template record of the records file in Figure 6-8.

1/Title/First/Initial/Last
/Address
/City/State/Zip
/Donation

1/Ms./Joanne/R./Kramer
/4025 West Laurel Street
/Weston/CT/06810
/\$75.00

1/Mr./Arthur/M./Pendragon
/98 South Cornwall Place
/West Haven/CT/06866
/\$100.00

1/Mrs./Lynette/P./Harrison
/12387 Limestone Road
/Ridgefield/CT/06434
/\$24.00

Figure 6-8. Typical Records File.

Title First Initial Last
Address
City, State Zip

Dear Title Last:

Thank you for your check in the amount of Donation. We at WXYZ sincerely appreciate your generous donation.

Friends like you, Title Last, help us to reach our goal of raising \$450,000 by September 30th, 1982 to expand our programming facilities.

Sincerely,

WXYZ -- YOUR PUBLIC TELEVISION STATION

W. J. FARMER
Program Director

Figure 6-9. Form Letter Showing Keywords.

Example 2

The short records file described here contains a sample mailing list of names and addresses of people living in central California. Only those names and addresses with zip codes beginning with 94 and 95 are needed for a mass mailing of form letters. The field containing the zip code will be selected to be kept in the new records file that will be used for the mailing. Figure 6-10 shows the template record and the eight records of the records file, which is named "CentralCal".

To obtain the list of names and addresses within the 94 and 95 zipcode areas, use the Sort/Select command in the following way.

1. Specify the records file CentralCal as the "Records from file(s)". Press NEXT.
2. Specify the "Records to file" with the name "Zip9", which will contain the selected records. Press NEXT.
3. Under "Selection test 1", specify the keyword "Zip" (which represents the zip code field) next to "Select on field". Press NEXT.
4. Specify 94000-95999 next to "Field value(s)" because you want only zip codes starting with 94 and 95. Press NEXT.
5. Press K for "Keep" because you want all records containing those zip codes to be included in the file "Zip9".
6. Press GO.

The new "Records to file", Zip9, is created (or overwritten) and includes only the selected records containing the 94 and 95 zip codes. In this example, four records in the CentralCal file were selected and placed in the Zip9 records file. Figure 6-11 shows the template record and the four records of the Zip9 file.

1/Title/FirstName/LastName
/Address
/City/State/Zip

1/Mr./Robert/Kelly
/34 North Park Street
/Oakdale/CA/96400

1/Ms./Anna/Stone
/120 Market Avenue
/Santa Clara/CA/95050

1/Ms./Cathy/Miller
/P. O. Box 7779
/Millbrae/CA/94133

1/Mr./Arthur/Grant
/80 South 6th Street
/Hollister/CA/91008

1/Miss/Ellen/Easton
/2216 Buena Vista Lane
/Monte Sereno/CA/95123

1/Mrs./J./Goodfriend
/4 Northeastern Pkwy.
/Tracy/CA/93003

1/Mr./Philip/Peters
/1110 Main Avenue
/Palo Alto/CA/94006

1/Ms./Tracy/Wilkins
/14 West Elm Road
/Moraga/CA/98765

Figure 6-10. Example of a Records File.

```
! /Title/FirstName/LastName  
/Address  
/City/State/Zip  
  
! /Ms./Anna/Stone  
/120 Market Avenue  
/Santa Clara/CA/95050/  
  
! /Ms./Cathy/Miller  
/P. O. Box 7779  
/Millbrae/CA/94133  
  
! /Mrs./Ellen/Easton  
/2216 Buena Vista Lane  
/Monte Sereno/CA/95123  
  
! /Mr./Philip/Peters  
/1110 Main Avenue  
/Palo Alto/CA/94006
```

Figure 6-11. Example of a File Containing Selected Records.

Example 3

The records file in this example is another sample mailing list of names and addresses of people living in most of the 50 states. You want this list to be in alphabetic order, from A to Z, by state and by last names within each state. In this example, the records file to be sorted is named "StateList" and the records file being created to contain the sorted records is named "SortedList". Figure 6-12 shows the template record and the eight records in the StateList records file.

```
!/Title/FirstName/LastName
/Address
/City/State/Zip

!/Mrs./Anna/Jackson
/P. O. Box 4
/Central Valley/IA/70111

!/Mr./Richard/Kelly
/99 South Market Street
/Birmingham/AL/67783

!/Mr./Robert/Greene
/456 Second Avenue
/Santa Clara/CA/95055

!/Ms./Joan/Smith
/375 Nut Tree Drive
/Cedar/GA/87765

!/Ms./Diana/Levine
/988 Riverside Drive
/New York/NY/10086

!/Mr./Peter/Stewart
/4 West Sunnoaks/
/Gridley/CA/92101

!/Ms./Mary/Wright
/1212 Main Street/
/Huntsville/AL/45678

!/Mrs./Arlene/Thompson
/74-26 East 10th Street
/Berkeley/CA/95338
```

Figure 6-12. Example of a Records File Before Sorting.

To sort the StateList records file by state and last name, do the following:

1. Specify StateList as the "Records from file(s)", which is your original records file. Press NEXT.
2. Specify SortedList as the "Records to file", which is where the sorted records will go after the sort. Press NEXT. highlight reaches the "Primary sort field".

3. No fields need be selected, so you can skip the "Selection test" area of the Sort/Select form by consecutively pressing NEXT until the
4. Specify the keyword "State" in the "Primary sort field". Press NEXT.
5. Press A for "Ascending" because you want the sort to be from A to Z. Press NEXT.
6. Specify the keyword "LastName" in the "Secondary sort field". Press NEXT.
7. Again, you want the sort to be from A to Z, so press A for "Ascending".
8. Then press GO.

The sort operation will sort the StateList records file and put all the records in alphabetic order, first by state and then by last name.

These sorted records go into the SortedList records file, which then can be used as needed.

Figure 6-13 shows the SortedList records file.

1/Title/FirstName/LastName
/Address
/City/State/Zip

1/Mr./Richard/Kelly
/99 South Market Street
/Birmingham/AL/67783

1/Mrs./Mary/Wright
/1212 Main Street
/Huntsville/AL/67890

1/Mr./Robert/Greene
/456 Second Avenue
/Santa Clara/CA/95055

1/Mr./Peter/Stewart
/4 West Sunnyside
/Gridley/CA/92101

1/Mrs./Arlene/Thompson
/74-26 East 10th Street
/Berkeley/CA/95338

1/Mrs./Joan/Smith
/375 Nut Tree Drive
/Cedar/GA/87765

1/Mrs./Anna/Jackson
/P. O. Box 4
/Central Valley/IA/70111

1/Ms./Diana/Levine
/988 Riverside Drive
/New York/NY/10086

Figure 6-13. Example of a Sorted Records File.

SECTION 7

SPELLING CHECKER

NOTE

This feature is only available with the Dictionary option.

The spelling checker allows you to check the spelling of each word in an open document and to correct any misspelled words that are found.

The spelling checker has

- o two dictionaries for checking words
- o several options for correcting misspelled words
- o an autohyphenation option
- o an automatic correction option

You can invoke the spelling checker at any time during a word processing session. Your document is checked one word at a time. When a misspelled word is found, you are given several options for correcting that word.

DICTIONARIES

The spelling checker checks against two dictionaries to find misspelled words: a shared common word dictionary and a personal dictionary.

Common Word Dictionary

The common word dictionary contains 76,000 commonly used words. It can be shared by other users within the same cluster. You can view any part of this dictionary, but you cannot make any changes to its contents. The common word dictionary is internal and is accessible only if the spelling checker is installed.

Personal Dictionary

The personal dictionary is an optional dictionary that is keyed to the individual user. Its purpose is to provide a dictionary that contains words that do not appear in the common word dictionary. For example, there are certain words that are used in specific environments, such as in the computer and electronics industries, that may not be in the common word dictionary. You can put these words in your personal dictionary to be used by the spelling checker in the same way as the words in the common word dictionary are used.

After you create your personal dictionary, install it with the "Load Personal Dictionary" option of the Commands function. Once your personal dictionary is installed, you can view any part of it and make changes to its contents.

Creating Your Personal Dictionary

Before you create your personal dictionary, contact your system administrator to find out if your internal user profile (.user file) contains the name for your personal dictionary. If your user profile has no such entry, you will not be able to install your personal dictionary.

You create your personal dictionary in the same way as you would create any other word processing document. The only difference between your personal dictionary document and a standard word processing document is that once your personal dictionary is installed in the spelling checker, it assumes a different name. That name is taken from your internal user profile.

For example, suppose you create a document named "MyDictionary" that contains the entries to your personal dictionary. When you install "MyDictionary" as your personal dictionary, it assumes the name specified for it in your internal user profile (.user file). The original document, "MyDictionary," still exists in your directory as a normal word processing document.

To create your personal dictionary,

1. Create a new document. (Use either the Open Document command or the "Open Document" option of the Documents command.)
2. Enter the words that you need for your personal dictionary. You can enter the words in any order. If you are unsure of the spelling of a word, do not put that word in the document until you make sure it is spelled correctly.

Use the Discretionary Hyphen command (CODE-hyphen) to insert discretionary hyphens in any words that have two or more syllables. (See "Special Characters" in Section 4, "Basic Operations.") Make sure that hyphenation is correct.

You can add more words to your personal dictionary while you are correcting misspelled words. (See "Spelling Correction Options" below.)

Your personal dictionary can contain up to 250 words. If the number of words reaches 250, the message

Personal dictionary is full

is displayed at the bottom of the screen. You should unload the contents of your personal dictionary and create a new one. (See "Unloading Your Personal Dictionary," below.)

Installing Your Personal Dictionary

After you create your personal dictionary document, install it with the "Load Personal Dictionary" option of the Commands function. To install your personal dictionary,

1. Press COMMANDS (CODE-f7) to invoke the Commands function. The Commands menu, shown in Figure 7-1, appears on the screen.

COMMANDS: (Press CANCEL to dismiss)

Press D for Document Exchange	Press C to Check Spelling
E Electronic Mail	V View Dictionary
M Multiplan	L Load Personal Dictionary
P Picture Editor	U Unload Personal Dictionary
X Executive	H Hyphenate Word
	R Remove Phrase
S Sort/Select	I List Phrases
G Merge	
TAB Reformat Tabs	

Figure 7-1. Commands Menu.

2. Press L to invoke the "Load Personal Dictionary" option. The Load Personal Dictionary form, shown in Figure 7-2, appears on the screen.

LOAD PERSONAL DICTIONARY: (Press GO to execute, CANCEL to dismiss)

From document:
Keep old dictionary contents? Yes No (Press Y or N)

Figure 7-2. Load Personal Dictionary Form.

3. Next to "From document", enter the name of the document that contains the words for your personal dictionary. (The name of the "From document" is filled in automatically if the document is open and contains the cursor.)

4. Press NEXT.
5. If you wish to keep the contents of the old dictionary, choose "Y" for "Keep old dictionary contents". In this case, the words from the "From document" will be added to the words in the old dictionary.
6. If you press "N" to choose No for "Keep old dictionary contents", the words in the "From document" will replace the words in the old dictionary. (The default is no.)
7. Press GO.

The message

Loading dictionary . . .

appears on the screen. When your personal dictionary has been installed, the Load Personal Dictionary form goes away, and the message

Dictionary load complete. n words loaded

appears on the screen. (n represents the number of words placed in your personal dictionary.)

If the document containing the words for the dictionary is still open and displayed on the screen, press CODE-c (Close Window) to close the document and remove it from the screen.

When you use the spelling checker to correct misspelled words, you can add entries to your personal dictionary. (See "Spelling Correction Options" below to find how to add these entries.)

Unloading Your Personal Dictionary

You can move the contents of your personal dictionary to another document with the "Unload Personal Dictionary" option of the Commands function.

The "Unload Personal Dictionary" option either creates either a new document for the purpose of unloading your personal dictionary, or overwrites the contents of an existing document.

To move the contents of your personal dictionary,

1. Press COMMANDS (CODE-f7) to invoke the Commands function. The Commands menu appears on the screen. (See Figure 7-1.)
2. Press U to invoke the "Unload Personal Dictionary" option. The Unload Personal Dictionary form, as shown in Figure 7-3, appears on the screen.

UNLOAD PERSONAL DICTIONARY: (Press GO to execute, CANCEL to dismiss)

To document:

Figure 7-3. Unload Personal Dictionary Form.

3. Enter the name of the document that is to contain the contents of your personal dictionary.
4. Press GO.

The message

Unloading dictionary . . .

appears at the bottom of the screen. When the operation is completed, the Unload Personal Dictionary form goes away and the message

n words unloaded

appears at the bottom of the screen.

Note that the contents of your personal dictionary are not deleted by the "Unload Personal Dictionary" option. To delete the contents of your dictionary, choose "No" for "Keep old dictionary contents" in the "Load Personal Dictionary" option the next time you load your personal dictionary.

INVOKING THE SPELLING CHECKER

You can use the spelling checker whenever you need it. It does not matter if you are in the middle of typing your document, or if the document is completed. You invoke the spelling checker with the "Check Spelling" option of the Commands function.

To invoke the spelling checker,

1. Open the document in which the spelling is to be checked.
2. Press COMMANDS (CODE-f7) to invoke the Commands function. The Commands menu appears on the screen. (See Figure 7-1.)
3. Press C to invoke the "Check Spelling" option. The Check Spelling form, shown in Figure 7-4, appears on the screen.

```
CHECK SPELLING: (Press GO to execute, NEXT for next item, CANCEL to dismiss)
Automatic Correction?                Yes   No   (Press Y or N)
```

Figure 7-4. Check Spelling Form.

The "Automatic correction" option works only with your personal dictionary under certain conditions. You choose "Yes" for this option if those conditions exist. (See "Automatic Correction" option below.)

If you choose "No" for the "Automatic Correction" option, you have the choice of various options to use for correcting the misspelled word manually when it is found. (See "Spelling Correction Options," below.)

When you press GO to start the spelling check, your document is checked word by word against both the common word dictionary and the personal dictionary. The message

Verifying spelling

is displayed at the bottom of the screen.

When a word is found that does not match any word in either dictionary, the message goes away. The word is highlighted in the document, and either the Word Not Found in Dictionary menu (see Figure 7-5) or the Substitute Word menu (see Figure 7-8), appears on the screen.

If the Word Not Found in Dictionary menu appears on the screen, the highlighted word either is misspelled or is an uncommon word that was not included in the either dictionary.

WORD NOT FOUND IN DICTIONARY: (Press CANCEL to cancel command)

Press S to Skip
E Enter in personal dictionary
C Correct manually and check correction
R Correct manually and remember correction
V View dictionary

Figure 7-5. Word Not Found in Dictionary Form.

SPELLING CORRECTION OPTIONS

There are several different ways in which you can handle the highlighted word after it is found and the Word Not Found in Dictionary menu is displayed.

You can press l to choose the "Skip and proceed" option if you want the word to remain as it appears in the document. This option is useful if you know that the highlighted word is correctly spelled and does not have to be placed in your personal dictionary. Choosing "Skip and proceed" removes the highlight from the word and allows the spelling check to continue.

You can press 2 to choose the "Skip and save in Personal Directory" option if you want the word to remain as it is and be saved in your personal directory. (Note that this option works only if you have installed your personal dictionary.) You might use this option to place a word in your personal dictionary that you know is spelled correctly and will appear again in your document. Choosing "Skip and save in Personal Dictionary" removes the highlight from the word and allows the spelling check to continue.

You can press 3 to choose the "Correct manually and check correction" option if you want to correct the word and then have it checked again against the dictionaries. When you choose this option, the Correct and Recheck Form appears on the screen. (See Figure 7-6.)

CORRECT AND RECHECK: (Press GO to accept, CANCEL to dismiss)

Make correction:

Reminder: Use discretionary hyphen to indicate desired hyphenation points.

Figure 7-6. Correct and Recheck Form.

The misspelled word is displayed in the highlight next to "Make correction". Correct the word and then press GO. The corrected word is checked against the dictionaries. If the word is found in either of the dictionaries, it is assumed to be spelled correctly. If so, four things occur on the screen.

1. The highlighted word in the document is corrected automatically.
2. The highlight goes away.
3. The Correct and Recheck form goes away.
4. The spelling check resumes.

If the corrected word is not found in either of the dictionaries, the Word Not Found in Dictionary menu again appears on the screen. (See Figure 7-5.) If you think you may have misspelled the word again, you can choose the "Correct manually and check correction" option a second time and make another correction. Or, you can choose another option.

You can press 4 to choose the "Correct manually and Save correction" option if you want to correct the word and then have it saved in your personal dictionary. When you choose this option, the Correct and Save form appears on the screen. (See Figure 7-7.)

CORRECT AND SAVE: (Press GO to accept, CANCEL to dismiss)

Make correction:

Reminder: Use discretionary hyphen to indicate desired hyphenation points.

Figure 7-7. Correct and Save Form.

The misspelled word is displayed in the highlight next to "Make correction". Correct the word and then press GO. The corrected word is saved and placed in your personal dictionary. Four things occur on the screen:

1. The highlighted word in the document is corrected.
2. The highlight goes away.
3. The Correct and Save form goes away.
4. The spelling check resumes.

The Correct and Recheck form and the Correct and Save form display a reminder to insert a discretionary hyphen in the word you are correcting to indicate desired hyphenation points. This procedure is to ensure that all words in the document have discretionary hyphens. If in the future you use the Review Documents command to

hyphenate the document, the words will be hyphenated automatically. (See "Review Documents" in Section 4, "Basic Operations.")

Substitute Word

When you correct and save a word with the "Correct manually and save correction" option, the correction is saved in your personal dictionary together with the original, correctly spelled word. For example, suppose the word "workstation" is in your personal dictionary. However, in the document being checked, the word is consistently misspelled as "workstatoin."

When the spelling checker first finds this misspelled word, the checking stops, and you are given the choice of the various correction options. You choose the "Correct manually and save correction" option, correct the word, and press GO. Five things occur:

1. The highlighted word in the document is corrected.
2. The highlight goes away.
3. The Correct and Save form goes away.
4. The spelling checker places the misspelled word, "workstatoin," in your personal dictionary and pairs it with the correctly spelled word, "workstation."
5. The spelling check resumes.

The next time the spelling checker finds "workstatoin" in your document, it displays the Substitute Word menu, shown in Figure 7-8.

SUBSTITUTE WORD: (Press CANCEL to cancel command)

Suggested correction:

Press S to Skip
C Correct manually and check correction
A Accepted suggested correction
V View dictionary

Figure 7-8. Substitute Word Menu.

In the highlight next to "Suggested correction is:" is the suggested correct spelling of the misspelled word that was just found. When the spelling check resumed, the misspelled word was found and compared with the previous misspelling of the same word. The word is misspelled the same way as it was before, and it matches the previous correction.

You can press 6 to choose the "Accept suggested correction and proceed" option, or you can choose any of the other options. If you choose the "Accept suggested correction and proceed" option, four things occur.

1. The highlighted word in the document is corrected.
2. The highlight goes away.
3. The Substitute Word menu goes away.
4. The spelling check resumes.

If you choose any of the other options offered in the Substitute Word menu, the option works in the same way as it does with the Word Not Found in Dictionary menu.

Automatic Correction

When you invoke the spelling checker and the Check Spelling form appears on the screen, you can specify "Yes" to choose the "Automatic Correction" option. However, you can use this option only under the following conditions:

- o Your personal dictionary is installed.
- o You already corrected a specific word by using the "Correct manually and save correction" option, and your personal dictionary has a paired entry for that word. (See "Substitute Word," above.)
- o You are checking a document that contains the same word that you corrected before and is still misspelled the same way throughout the document.

For example, suppose you invoke the spelling checker to check another document that has "work station" misspelled as "workstatoin." You already corrected the same misspelled word in a previous document and your personal dictionary contains the misspelled and corrected words as a pair.

When you choose "Yes" for the "Automatic Correction" option, the spelling checker looks for the matched pair of words (workstation - workstatoin) in the personal dictionary as soon as it finds the first occurrence of "work station." When the matched pair is found, the spelling checker corrects automatically all occurrences of "workstatoin." You can see the corrections being made as the spelling checker proceeds through your document.

Viewing a Dictionary

You have three ways to invoke the "View Dictionary" option to see the contents of the dictionaries.

You can invoke the Commands function and press V to choose the "View Dictionary" option. Or, if the Word Not Found in Dictionary menu or the Substitute Word menu is displayed, you can press 5 to choose the "View Dictionary" option.

The "View dictionary" option lets you see one word or a group of words as they appear in the common word dictionary or in your personal dictionary.

To invoke the "View Dictionary" option through the Commands function,

1. Press COMMANDS (CODE-f7) to invoke the Commands function. The Commands menu appears on the screen. (See Figure 7-1.)
2. Press V to invoke the "View Dictionary" option. The View Dictionary form, shown in Figure 7-9, appears on the screen.

VIEW DICTIONARY: (Press GO to execute, CANCEL to dismiss)

Search for:

Reminder: 3 or more letters followed by a * will display string of words.

Figure 7-9. View Dictionary Form.

3. In the highlight next to "Search for", type the word you want to view, or type three or more letters followed by a * (asterisk) for a list of all words beginning with those letters.
4. Press GO.

To invoke the "View Dictionary" option from the Word Not Found in Dictionary menu or from the Substitute Word menu (see Figures 7-5 and 7-8):

1. Press V to invoke the "View Dictionary" option.
2. The "View Dictionary" form appears on the screen. (See Figure 7-9.)
3. In the highlight next to "Search for", type the word you want to view, or type three or more letters followed by a * (asterisk) for a list of all words beginning with those letters.
4. Press GO.

If the word is found in either dictionary, it is displayed in a window at the bottom of the screen. Press CANCEL to remove the word.

If no word is found, the message

Not found

appears in a window at the bottom of the screen. Press CANCEL to remove the window and the word.

If you entered three or more characters followed by a * (for example, num*), the message

Searching for num*....
(Press CANCEL to interrupt)

appears on the screen.

When the list of words is found, it appears on the screen in a window that has a document status line above it. The document status line contains the title of the word list:

Word List 1982 Houghton Mifflin Co.

The message

Number of matched words: nn

appears at the bottom of the word list to show how many words are in the list.

Completing the Spelling Check

When the spelling check has completed, the message

Spelling verification complete.
Word totals: X checked, X not found, X corrected.

where X is the number of words, is displayed at the bottom of the screen.

HYPHENATE WORD OPTION

You can use the "Hyphenate word" option to find out where to place discretionary hyphens in a word that has two or more syllables. This option checks both the personal dictionary and the common dictionary for proper hyphenation.

All the words in the common dictionary that have two or more syllables contain discretionary hyphens. However, the words in your personal dictionary have discretionary hyphens only if you put them in. You can put discretionary hyphens in the contents of your personal dictionary when the dictionary was first created, or when you added the words during the "Correct manually and save correction" operation.

To invoke the "Hyphenate word" option:

1. Open the document that contains the word (or words) in which a discretionary hyphen is to be inserted.
2. Move the cursor into that word.
3. Press COMMANDS (CODE-f7) to invoke the Commands function. The Commands menu appears on the screen. (See Figure 7-1.)
4. Press H to choose the "Hyphenate word" option.
5. The Commands menu is dismissed and the chosen word appears at the bottom of the screen containing the discretionary hyphens.
6. You now can insert the discretionary hyphens in the word in the document. Move the cursor to the next position to the right of the place where the discretionary hyphen is to be inserted.
7. Press CODE-hyphen. The discretionary hyphen is inserted in the word.
8. Repeat steps 4 and 5 to insert more discretionary hyphens into the word, if necessary.
9. Notice that the hyphenated word goes away as soon as the cursor is moved within the text.

AUTOHYPHENATION

Autohyphenation works in conjunction with the Review Documents command. (See "Review Documents in Section 4, "Basic Operations.") When you choose the "Hyphenate" option of the Review Documents command, the Word Processor checks the common word dictionary every time a word is encountered that needs to be hyphenated. (Your personal dictionary is not used for this option.) If the word is found in the dictionary, it is hyphenated automatically. If the word is not found, you are asked to hyphenate the word manually.

APPENDIX A

STATUS MESSAGES

- l replacement made
Displayed at completion of Replace operation.
- A software error has occurred; status code = n. Please report the error to your system administrator before recovering. Press any key to exit Word Processor.
- Access denied
You attempted to open a document for which you did not have the proper file access. Use the Password field on all forms to enter the proper password. Alternatively, make sure that your system administrator has configured your system to allow your access to this file.
- Bad password
You entered a password of more than 12 characters.
- Cancelling...
You invoked the "Cancel printing" option of the Printer Status command to remove a print request from the print queue.
- Cannot divide by zero: X
The column entry has an expression X, (where X is the expression), which contains a division by zero.
- Cannot edit there
You attempted to edit text in an area of the screen, such as the Document Status Line, not appropriate for that operation. Move the cursor elsewhere.
- Cannot find printer description file
There is no printer description file available. See system administrator or supervisor for assistance.
- Cannot pause more than n local printers simultaneously
You attempted to pause too many local background printers.

Cannot recover, typescript not valid

You have attempted to recover a session that was created with an earlier version of the Word Processor. Recovery is not possible in this case.

Cannot recover, no typescript

You attempted a recovery at the beginning of a word processing session when no typescript file exists.

Cannot search there

You attempted a search operation in an area of the screen, such as a directory listing, in which a search cannot take place.

Cannot select there

You attempted to make a selection in an area of the screen, such as the document status line, not available for selection. Move the cursor elsewhere.

Cannot set more than 20 tabs per paragraph

You specified more than 20 tab settings in a single paragraph.

Cannot ZOOM on this type of workstation

The Zoom command works only with a B 22 workstation.

Can only recover on an AWS

If you were using a B 21 workstation when the failure occurred, you must recover on a B 21 workstation.

Can only recover on an IWS

If you were using a B 22 workstation when the failure occurred, you must recover on a B 22 workstation.

Change print wheel to X and press GO to continue printing. Press CANCEL to cancel command.

The printer has come to the text for which you specified a different print wheel. X is the font name specified in the print wheel configuration file. Applicable to direct printing only.

This message also appears if the word processor comes across a character which is not on the current print wheel. (The word processor will look through the print wheel file to see which print wheel has that character and thus print this message so the character can be printed.

Change print wheel to X and press R to resume printing.

The printer has come to the text for which you specified a different print wheel. X is the font name specified in the print wheel configuration file. Applicable to spooled printing only.

This message also appears if the word processor comes across a character which is not on the current print wheel. (The word processor will look through the print wheel file to see which print wheel has that character and thus print this message so the character can be printed.

Change printer forms to X and press R to resume printing.

Applicable to spooled printing.

Change printer forms to X and press GO to continue printing, press CANCEL to cancel command.

Applicable to direct printing.

Command canceled

You pressed CANCEL during execution of a command.

Copying...

The document is being copied.

Cursor must be in a table

You attempted to make a selection with MARK COLUMN when the cursor was not within a column.

Cursor must be in a window

You attempted an operation (such as Mark or Bound) that requires the cursor be in a window. Move the cursor to a window.

Deleting...

The document is being deleted.

Dictionary load complete. n words loaded
Your personal dictionary is loaded and contains
n words. (This message applies only to the
optional spelling checker package.)

Dictionary not available
You attempted to do a spelling check with no
dictionary installed. (This message applies
only to the optional spelling checker package.)

Directory X is protected: Access denied
You did not supply a password to allow you to
access this directory.

Disk full
There is no room left on the disk. If it is a
hard disk, copy some documents to a floppy disk
and delete them from the hard disk. If it is a
floppy disk, move some of its documents to a
different floppy disk.

Document X cannot be changed
The document you are trying to change is write
protected.

Document X cannot be changed. Press GO to print
without repaginating, CANCEL to cancel command.
You issued a print request with pagination for
a document that was opened with "No" specified
for "Allow changes".

Document X cannot be changed. Press GO to
proceed, CANCEL to cancel command.
You attempted to edit a document, X (where X is
the name of the document), on a write-protected
floppy disk. Specify "Allow Changes: Yes" when
opening the document, or place a tab over the
write-protect notch if using an 8-inch floppy
disk. If using a 5 1/4-inch floppy disk,
remove the tab over the write-protect notch.

Document X is already open
You attempted to open a document, X (where X is
the name of the document), that is already dis-
played on the screen.

Document X is in use
You attempted to open a document, X (where X is
the name of the document), that is already in
use by another workstation in the cluster
configuration.

Document X is unavailable. Please try again later.

You attempted to open a document, X (where X is the name of the document), that is currently in a print queue or is being printed.

Document X is protected: Access denied

You attempted to open a document, X (where X is the name of the document), that is password protected. See your system administrator to obtain the correct password.

Down

The printer you specified is not available.

Expression is too complex

There are too many parentheses, brackets ([]), or angle brackets (<>) in an expression. These symbols must always appear as pairs.

Field contains a nonnumeric character

You cannot enter a nonnumeric character in a numeric field.

Forced page number is invalid

The page number for a forced page must be numeric.

Forced page number requires forced page

You assigned a forced page number without specifying a forced page.

Form contains a keyword with more than 20 characters

In list processing, a keyword cannot contain more than 20 characters.

Formatting...

This message is displayed during hyphenation and pagination.

Generating a records file. Press CANCEL to interrupt.

You pressed GO to execute Sort/Select. The "Records to" file is being generated.

GO not valid

You pressed GO when no command has been invoked.

Idle...

The status message in the Printer Status form shows that the printer is idle.

Inches must be a number less than 273

You specified a number greater than 273 in the Page Format form.

Invalid character in word

Invalid format set

The version number of the format set (Wp.Fmt) does not match the version number of the format set in your WordProcessor.Run file.

Invalid hexadecimal digit in code

You used a character other than a hexadecimal digit (0 to 9 and A to F) in the "Hexadecimal code" field of the Insert Hexadecimal form.

Invalid print wheel set

You are attempting to access an invalid print wheel set. See your system administrator or supervisor for assistance.

Invalid printer channel

Only printer channels A, B, and 0 are valid.

Invalid printer status... Printer status code = n

There is a printer spooler problem. See your supervisor or system administrator.

Load paper and press GO to continue printing.

Press CANCEL to cancel command.

The printer halted because it is out of paper. Load paper and press GO.

Loading Dictionary...

Your personal dictionary is being loaded. (This messages applies only to the optional spelling checker package.)

Master going down in n seconds...press GO to continue printing, CANCEL to cancel command

Memory low; please Save

Memory is too low for the current editing operation. Press CODE-s to save your document and recover memory.

Merging...

You pressed GO to execute Merge and the form document is being merged with the records file.

n records files were processed, of these n were unusable. In the records files which were usable, there were a total of n records. Of these, n records were successfully merged, n records were rejected as being malformed.

n replacements made

Displayed at completion of Replace operation.

n words loaded

n words were loaded into your personal dictionary. (This message applies only to the optional spelling checker package.)

Next key typed will be inserted literally

NEXT not valid

You pressed NEXT when a form was not present.

No replacements made

This message is displayed at completion of the Replace operation.

No such command

You entered a nonexistent command; press HELP for a list of commands.

Not found

The Search command did not find the text you specified. In spelling correction operations, the word you requested from the dictionary for viewing cannot be found.

Not in service...

This message appears when you specified spooled printing but the printer spooler is not installed, or if you specified a printer for spooled printing and that printer is not configured for spooled printing.

Number expected near X

The contents of an expression are out of order.

Only vertical measurements can be entered as lines

Page Format form only allows vertical measurements in lines as well as inches.

Offline...

The status message in the Printer Status form shows that the printer is currently offline.

Operand must be an integer: X

The operand in this mod expression must be an integer.

Operator expected near X

The contents of an expression are out of order.

Page formatting cannot be applied to headers or footers

You attempted to apply a page formatting attribute to a header or footer.

Page n does not exist

The page you specified with the Go to Page command does not exist.

Pages to print must be of the form 1-5, 1-, 5, etc.

You entered an invalid number. Try again with the correct page number.

Paragraph indent cannot be moved off edge of paper

You attempted to set a paragraph indent beyond the paper width specified. Check Page Format specifications.

Pattern too complex

The wild card specification you made in the List Directory form is invalid. (See "Documents" in Section 4, "Basic Operations," for information on wild card formats.)

Paused...

The status message in the Printer Status form shows that the printer is currently paused.

Personal dictionary is full

Your personal dictionary can contain only 250 words. (This message applies only to the optional spelling checker package.)

Place cursor to right of either a tab or a " " mark

When you are setting evenly spaced tabs, the cursor must be to the right of either a tab or " " mark.

Please delete odd or even footer
You attempted to specify a "Both odd and even footer" when separate odd and even footers already exist.

Please delete odd or even header
You attempted to specify a "Both odd and even header" when separate odd and even headers already exist.

Please fill in "Directory"
You must specify the name of the directory before pressing GO to change your work area.

Please fill in "Document name"
You tried to open a document without filling in the document name in the Open Document form.

Please fill in "Form name"
You pressed GO to execute Merge, but you did not enter the form name.

Please fill in "New document name"
You must specify the new document name before pressing GO to copy a document.

Please fill in "Old document name"
You must specify the old document name before pressing GO to copy a document.

Please fill in "Page number"
You did not specify a page number in the Go to Page form.

Please fill in "Printer name"
You must specify the name of the printer before you press GO to start print operations.

Please fill in "Records file(s)"
You must specify the "Records file(s)" before pressing GO to execute Merge.

Please fill in "Records from file(s)"
You must specify the "Records from file(s)" before pressing GO to execute Sort/Select.

Please fill in "Records to file"
You must specify the "Records to file" before pressing GO to execute Sort/Select.

Please fill in "Search for"
You left the "Search for" field of the Search form blank. Fill it in.

Please fill in "Volume"
You must specify the volume name before pressing GO to change your work area.

Please load single-sheet paper
You specified single-sheet paper on the Print form. The printer has stopped and the system is telling you to load a sheet of paper.

Please make a selection
You attempted an operation that requires a selection but no selection exists.

Please specify "Allow changes: Yes"
You are trying to copy a document to a document that has "Allow changes: No" specified.

Position cursor and press GO to hyphenate. Press NEXT to skip this word, CANCEL to cancel command.
This message is displayed during hyphenation to prompt you to specify insertion of a discretionary hyphen.

Press FINISH to exit Word Processor

Press GO to confirm Discard, CANCEL to cancel command
If you press GO, all edits made to the document will be undone. Press CANCEL if you do not want this to occur.

Press GO to confirm FINISH, CANCEL to cancel command

Press GO to confirm printing to file X, CANCEL to cancel command
You are printing to another file, rather than to a printer.

Press GO to confirm Remove Format, or CANCEL to cancel command
If you press GO, all formatting information, such as underlining, paragraph indenting, tabs, and so on, will be deleted. Press CANCEL if you do not want this to occur.

Press GO to create document X, CANCEL to cancel command

You have created a new document.

Press GO to create document, CANCEL to dismiss
A new document is being created to contain the output of a Sort or Select operation.

Press GO to overwrite document, CANCEL to dismiss
An existing document is being overwritten to contain the output of a Sort or Select operation.

Press GO to replace, NEXT to skip item, CANCEL to cancel command

Print queue empty

The Printer Status form shows that there are no entries in the print queue.

Print queue full; try again later

There are too many entries in the print queue.

Print wheel X is not defined in your Wheel Set.
Press GO to substitute X, CANCEL to cancel printing.

You specified a print wheel that is not defined in your Wheel Set file.

Printer spooler not available

The printer spooler is not installed.

Printer X does not exist

You specified the name of a nonexistent printer.

Printer X is currently out of service

You specified printer X, which is currently out of service.

Printer X must be used for direct printing

You specified printer X for other than direct printing.

Printer X must be used for spooled printing

You specified printer X for other than spooled printing.

Printing halted

You pressed H in the Printer Status menu to halt the printer.

Printing is in progress. Press GO to cancel printing and proceed, CANCEL to cancel command

Printing page n of document X.

The status message in the Printer Status form shows the page number and name of the document being printed.

Printing priority must be from 0 to 9

You specified a print priority value out of the range of 0 to 9.

Printing will occur in n pieces

The output of your Merge operation will print in groups of n pieces.

Problem with printer; press GO to continue or CANCEL to cancel command

The printer is offline, is out of paper, or has another problem. After rectifying the problem, press GO to continue printing.

Records file <vol>[dir]filename cannot be merged with this form letter. Its template record does not contain the keyword X.

In list processing, the keywords in the form letter must have corresponding keywords in the template record of the records file.

Recovery complete

You can continue editing, or you can FINISH your session.

Recovery suspended; press GO to continue, CANCEL to stop recovery

If you press GO, the recovery of the session will continue; if you press CANCEL, it will be terminated with the document left just as displayed.

REDO not valid

REDO cannot redo the last operation.

Renaming...

Your document is being renamed.

Replacing...

This message is displayed while a global replace operation is occurring; no user response is required.

Save complete

Your documents have been fully saved on disk. You can continue editing, or you can FINISH your session.

Saving...

Please wait for the SAVE that you requested to be completed.

Scanning queue for printer X

The status message in the Printer Status form shows that the queue is being scanned for printer X.

Searching...

This message is displayed while a search operation is occurring. No user response is required.

Searching Dictionary for X...(Press CANCEL to interrupt)

The dictionaries are being checked for X, where X is the word you specified for the "View Dictionary" option. (This message applies only to the optional spelling checker package.)

Searching directory X...(Press CANCEL to interrupt)

This message is displayed while a search operation is occurring. No user response is required.

Selection contains n invalid entry(s)

The column you selected for totaling contains n invalid entries (where n represents an alphabetic rather than a numeric entry).

Service requested is not available at this workstation

You requested an operation that is not installed at this workstation.

Spelling verification complete. Word totals: n checked, n not found, n corrected.

Spooling operation incomplete -- disk full.

Your spooled print request has been terminated because of lack of space on disk.

Starting a new session will destroy your unrecovered work. Are you sure this is what you want to do? Press GO to proceed with new session, CANCEL to exit Word Processor.

See "Recovery Procedures" in Section 5, "Advanced Operations."

Sum of values entered for Left margin, Text width, and Right margin exceeds Paper width.

Sum of values for left margin, text width, and right margin must equal paper width.

Sum of values entered for Top margin, Text height, and Bottom margin exceeds Paper height.

Sum of values for top margin, text height, and bottom margin must equal paper height.

Warning: Document X cannot be printed. Print wheel X is not defined in your Wheel Set. (See the B 20 Executive WRITEone Word Processing Reference Manual.)

That document cannot be changed

You attempted to edit a document that cannot be changed.

That document has not been changed

You attempted to discard the edits to a document that has not been edited.

There is already a document named X

You attempted to open a new document, X (where X is the name of the document), using the name of an already existing one. Choose another name.

There is already a user named X

You signed on with the same user name, X (where X is the name you specified), as another user. Sign on with a different name.

There is no directory named X.

You entered the name X (where X is the name you specified), of a nonexistent directory in the List Document form.

There is no document named X in the print queue

You are trying to cancel a document that is not in the print queue.

There is no document named X.

You entered the name X (where X is the name you specified), of a nonexistent document in the Open Document form.

There is no file named X

You are attempting to access a nonexistent file.

There is no spooler queue named X

You entered the name X (where X is the name you specified) of a nonexistent queue in the spooler.

There is no volume named X.

You entered the name X (where X is the name you specified), of a nonexistent volume in the Work Area form.

Too many documents in directory

You tried to save a document when there was not enough room in the directory. The simplest remedy is to log in to a different directory. Alternatively, you can expand the directory capacity as follows: Rename all the documents in this directory to another directory, and then remove this one. Create a new directory with the name of the old directory. Then rename all the documents from the other directory to this new, expanded directory.

Too many documents open; please Save

More documents are open than the Word Processor can handle. Save all the documents by pressing CODE-s, and then use CODE-c to close any documents that are not needed in that session.

Too many windows

You opened more windows than the Word Processor can handle (a maximum of seven). Close one or more windows.

Unable to complete command: status code N

Command cannot complete. For example, you filled in the Print form and pressed GO to print, but no printer was connected.

Unable to create file X.

Typescript cannot be created.

Unable to open file X.

The typescript, print wheel set, or format set cannot be opened.

Unattached...

The status message in the Printer Status form shows that the printer spooler is installed but the printer is not plugged into the back of the workstation.

Unloading dictionary...

The contents of your personal dictionary are being unloaded. (This message applies only to the optional spelling checker package.)

Unmatched X in expression

Parentheses, brackets, and angle brackets always must be paired in an expression.

Value entered must be a whole number -- no fractions.

You specified a number that was not a whole number in the Forced page number field of the Page Format form.

Value must be a number less than 65535

The value 65535 cannot be exceeded in the following operations: Go to Page; totaling columns; Review Document (specifying hot zone); Print (page number and number of copies); Merge (skipping records).

Verifying spelling

The spelling checker is checking your document for misspelled words. (This message applies to the optional spelling checker package.)

Volume X is not mounted

You specified, as part of a document name in the Open Document form, a volume, X (where X is the name of the volume), that either does not exist or is improperly mounted. Make sure the door is closed on the floppy disk drive.

Warning: Document X cannot be printed. Print wheel X is not defined in your Wheel Set. (See the B 20 Executive WRITEone Word Processing Reference Manual.)

When Left margin, Text width, and Right margin are all specified, their sum must equal Paper width.

Sum of left margin, text width, and right margin is lower than paper width.

When Top margin, Text height, and Bottom margin are all specified, their sum must equal Paper height.

Sum of top margin, text height, and bottom margin is lower than paper height.

Would you like to display the same documents as in your last session? Press GO to confirm, CANCEL to start a new session.

X is not a valid configuration file
The configuration file, X (where X is the name of the configuration file), which is required for printing, is malformed. A well-formed configuration file must be supplied. See the B 20 Software Operation Guide.

X is not a valid directory name.
You specified an invalid directory name when you invoked the "List directory" option of the Documents command.

X is not a valid document name
You specified a document, X (where X is the name of the document), inconsistent with BTOS Operating System naming conventions. See the B 20 Executive Manual.

X is not a valid number
You attempted to total a column that contains an invalid number. (For example, 5.5.5 or 6 1/2 1/4.)

X is not a valid operator
You attempted to total a column that contains an operator that is not +, -, x, or /.

X is not a valid print wheel name
You specified an incorrect print wheel name, X (where X is the name of the print wheel), in the Print Wheel form.

Your directory is full. Please delete or rename unneeded documents before Recovering. Press any key to exit Word Processor.

Your disk is full. Please delete or rename unneeded documents before Recovering. Press any key to exit Word Processor.

Your last session did not FINISH successfully. Press GO to recover, CANCEL to start a new session.

See "Recovery Procedures" in Section 5, "Advanced Operations."

NOTE

If you get a status message that has a number from 1300 through 1399, please save your <wp>username.ts file along with the documents that were being worked on at the time of this error before recovering. Also, please contact your technical support personnel when one of these error occurs. If the above mentioned files are saved your technical support personnel will be more able to help you.

APPENDIX B

PRINT WHEEL CONFIGURATION

This Appendix describes the print wheel set and need be read only by the system administrator or supervisor who is setting up a nonstandard print wheel configuration.

The print wheel set file is used to specify a print wheel that is not part of the standard print wheel configuration for the Word Processor. For example, you might have a standard print wheel configuration consisting of the following print wheels: Courier 10, Elite 12, Gothic PS, and a print wheel containing special symbols (trade mark, copyright, etc.). These print wheels are defined in the print wheel set when the system is installed.

Whenever a new print wheel is purchased that has a type face or character set that has not been used before, an entry must be made in the print wheel set describing the new print wheel.

The print wheel set is contained in a file called [sys]<sys>Wp.wheels. Various attributes of each print wheel are specified in this file.

Print Wheel Name

Each print wheel in the print wheel set has a name. This name serves two purposes: The user enters the name in the Print Wheel form when specifying that text is to be printed with a particular print wheel. Later, when the text is printed, the system requests that this print wheel be mounted.

When adding a new print wheel to the print wheel set file, assign a name by making an entry at the end of the file as follows:

```
Wheel-name "text"
```

where the "text" is the name for this particular print wheel. (Please note when adding a new print wheel, it is important that the new print wheel be put at the end of the print wheel set file and that the current order of the file not be changed.) Usually, this name is the name printed on the print wheel itself, such as Elite 12 or Cubic PS. (You can, of course, choose any name.)

Character Spacing

Print wheels are designed with different character spacing attributes. They can be fixed pitch, with each character occupying the same amount of space on a line, or proportional, with certain characters (such as "m" or "w") wider than other characters (such as "i" and "j"). Usually, the print wheel's name reflects the intended spacing, as Elite 12 (a 12-pitch wheel) or Cubic PS (a proportionally spaced wheel).

To specify a fixed-pitch print wheel, make the following entry in the print wheel set file after the line containing the print wheel name: type the word "Fixed" followed by a number. The number is the desired spacing measured in 240ths of an inch. For example:

```
Wheel-name "Elite 12"  
Fixed 20
```

Since this is a 12-pitch print wheel, the number "20" is entered (240 divided by 12 equals 20). For a 10-pitch wheel such as Pica 10, the correct number is 24.

To specify a proportionally-spaced print wheel, make the following entry in the print wheel set file after the line containing the print wheel name: type the word "Proportional" followed by a table of 256 numbers. The numbers are the desired character spacings, measured in 240ths of an inch, for each of 256 possible characters. For example:

```
Wheel-name "Cubic PS"  
Proportional  
  
20 20 20 20 20 20 20 20 20 20  
20 20 20 20 20 20 20 20 20 20  
20 20 20 20 20 20 20 20 20 20  
20 20 20 12 16 24 20 32 28 8  
12 12 20 20 12 16 12 16 20 20  
...
```

You can derive the correct number from the manufacturer's data sheet supplied with the print wheel by following these steps:

1. See Table B-1 for the set of possible symbols to be printed. These symbols are compatible with the Word Processor.

Table B-1. Word Processor Symbol Table.

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
(0-9)	↑		¢			½				
(10-19)	↓			←	↑	¼	↓	→		
(20-29)	+	|	§	≠	≈	¶	•	┌	≦	
(30-39)	±	≧	!	"	#	\$	%	&	'	
(40-49)	(	)	*	+	,	-	.	/	0	1
(50-59)	2	3	4	5	6	7	8	9	:	;
(60-69)	<	=	>	?	@	A	B	C	D	E
(70-79)	F	G	H	I	J	K	L	M	N	O
(80-89)	P	Q	R	S	T	U	V	W	X	Y
(90-99)	Z	[	\	\]	^	_	'	a	b	c
(100-109)	d	e	f	g	h	i	j	k	l	m
(110-119)	n	o	p	q	r	s	t	u	v	w
(120-129)	x	y	z	{	|	}	~			
(130-139)										
(140-149)										
(150-159)										
(160-169)	Å	ä	Ä	ä	Ö	ö	ø	ø	Û	ü
(170-179)	ç	ê	é	è	Æ	æ	β	£	0	©
(180-189)	®	™								
(190-199)										
(200-209)										
(210-219)										
(220-229)										
(230-239)										
(240-249)										
(250-255)										

2. For each position in Table B-1, find that same symbol in the manufacturer's data sheet.
3. Next to each symbol on the data sheet is a number, sometimes called a "PS value" or "PS units." If the desired symbol does not appear in the data sheet, use the number listed for the space character (usually 5 or 6).
4. Multiply the number by 4 to obtain the correct spacing measurement in 240ths of an inch.
5. Enter the resulting number in your proportional table for the print wheel set.
6. Repeat steps 2 through 5 for all symbol positions in Table B-1.

Character Set

The set of symbols capable of being printed by a given print wheel is called the print wheel's character set. Not all print wheels have the same character set. Some print wheels have square brackets where others have symbols for one-half and one-fourth. Still other print wheels have no letters at all and consist entirely of special symbols.

To make sure your documents print correctly with a given print wheel, it may be necessary to provide a mapping table to match the print wheel's character set with the character set used by the Word Processor. Follow these steps to determine whether your print wheel requires this mapping table.

1. Mount the new print wheel on the printer in place of the regular print wheel.
2. Make sure that the printer switch settings are appropriate for the new print wheel. For example, if the new print wheel is a 96-character metal wheel, set the switches accordingly.
3. Invoke the Word Processor and open the document "TableB-2.Doc". This document was entered under each [sys]<WRITEn> directory during installation. It contains Table B-2, which corresponds to Table B-2 in this Appendix.

4. Print a copy of Table B-2, using the Print feature of the Word Processor.

Compare the printed output with Table B-2 as viewed on the screen. If each position in the printed table contains the same symbol as on the screen, then no mapping table is required. If any positions differ from printed copy to screen, a mapping table is required.

To specify a mapping table, make the following entry in the print wheel set file after the line where you have specified fixed spacing (if it is a fixed-pitch wheel) or after the proportional table (if it is a proportional wheel): type the word "Mapped" followed by a table of 256 numbers. For example:

```
Wheel-name "Elite 12"
Fixed 20
Mapped
  255  255  255  ...
```

Table B-2. Example of Print Wheel Symbol Table.

	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(32-39)			¢	!	"	#	\$	%	&	'
(40-49)	(	)	*	+	,	-	.	/	0	1
(50-59)	2	3	4	5	6	7	8	9	:	;
(60-69)	<	=	>	?	@	A	B	C	D	E
(70-79)	F	G	H	I	J	K	L	M	N	O
(80-89)	P	Q	R	S	T	U	V	W	X	Y
(90-99)	Z	[	=	]	^	_	`	a	b	c
(100-109)	d	e	f	g	h	i	j	k	l	m
(110-119)	n	o	p	q	r	s	t	u	v	w
(120-129)	x	y	z	{	|	}	~	⌋		

You can determine the correct number by following these steps:

1. See Table B-1 for the set of possible symbols to be printed.

2. For each position in Table B-1, find that same symbol in the printed version of Table B-2 that was made with the new print wheel.
3. Determine the position number of the symbol in Table B-2 by reading up and across to the numbers in parentheses at the left. If the desired symbol does not appear in the printed copy of Table B-2, use the number 255 or the hex value FFh. Note that the decimal values can be used instead of the hexadecimal values for the symbols. An ASCII chart has been provided at the end of this appendix giving both the hexadecimal and decimal equivalents of the ASCII characters.
4. Enter the resulting number in your mapping table in the print wheel set file.
5. Repeat steps 2 through 4 for all symbol positions in Table B-1.

Assembling the Print Wheel Set File

After you have added the above entries to the print wheel set file, you must assemble the file so that the Word Processor recognizes the new print wheel. Use the Make Wheel Set command as follows:

1. Invoke the Executive.
2. Type in the command form: Make Wheel Set
3. Press RETURN.
4. The screen now displays
Make Wheel Set
Wheel set file
[Listing file]
5. Type Wp.Wheels in the highlight next to "Wheel set file".
6. Press GO.

The print wheel set is translated into a form that is usable by the Word Processor. To verify that your print wheel has been successfully added to the print wheel set, enter the Word Processor and use the Format command to display the Print Wheel form. The new print wheel name should be listed along with the other print wheel names.

Character Mapping to Multiple Print Wheel Spokes

Word processing allows character mapping to multiple print wheel spokes. A single character within a font can be composed of several different characters when printed, such as the combination of a character and a diacritical mark.

The following example from a print wheel set file shows the exact syntax used to define a cent sign that the printer creates by combining a lower case "c" and the ASCII vertical bar "|".

```
Wheel-name "Special cent sign"  
  Half-Bright  
  Fixed 24 (10 pitch)  
  Mapped  
  
    FFh FFh FFh *1 FFh FFh FFh FFh FFh FFh FFh  
      .  
      .  
      .  
  Overstrike  
    *1 < "c" 1 0 0 > < "|" 1 0 0 >  
  Wheel-name "special type"  
      .  
      .
```

The *1 in the mapped table is a tag to connect a given character to the proper character list in the overstrike table.

The width of the combined character is the width taken from the entry in the width table at location 3 (character code for a cent sign).

The entries in the overstrike table consist of two parts: the tag (*1, *2, and so on), and the character list (< "c" 0 -2 3 >). The components of a single element in the character list are as follows:

1. Opening bracket <
2. Print wheel spoke c
(This component can be either a single quoted character, a decimal number, or hexadecimal number.)

3. Hammer energy 1
(Included for a future version of the Word Processor. The current Word Processor ignores this field and uses the printer's default hammer energy.)
4. X (horizontal) offset -2
(This offset is used to fine tune the position of each component character on the paper. The offset is in 1/240ths of an inch. Position is relative to the center of the character cell [that is, where a normal individual character would be printed]. The value can be positive or negative. Note that the offset of each character in the character list is relative to the center of the character cell, and not to the previous character in the list.)
5. Y (vertical) offset 3
(Similar in effect to the horizontal offset of the character. Can be positive or negative.)
6. Closing bracket >

The number of items in the character list for a single character code can be from 1 to 255.

Table B-3. Hexadecimal and Decimal Equivalents of ASCII Characters.

HEX	ASCII	DECIMAL	HEX	ASCII	DECIMAL
20	space	32	50	P	80
21	!	33	51	Q	81
22	"	34	52	R	82
23	#	35	53	S	83
24	\$	36	54	T	84
25	%	37	55	U	85
26	&	38	56	V	86
27	'	39	57	W	87
28	(	40	58	X	88
29	)	41	59	Y	89
2A	*	42	5A	Z	90
2B	+	43	5B	[	91
2C	,	44	5C	\	92
2D	-	45	5D	]	93
2E	.	46	5E	^	94
2F	/	47	5F	_	95
30	0	48	60	`	96
31	1	49	61	a	97
32	2	50	62	b	98
33	3	51	63	c	99
34	4	52	64	d	100
35	5	53	65	e	101
36	6	54	66	f	102
37	7	55	67	g	103
38	8	56	68	h	104
39	9	57	69	i	105

Hexadecimal and Decimal Equivalents
of ASCII Characters

HEX	ASCII	DECIMAL	HEX	ASCII	DECIMAL
3A	:	58	6A	j	106
3B	;	59	6B	k	107
3C	<	60	6C	l	108
3D	=	61	6D	m	109
3E	>	62	6E	n	110
3F	?	63	6F	o	111
40	@	64	70	p	112
41	A	65	71	q	113
42	B	66	72	r	114
43	C	67	73	s	115
44	D	68	74	t	116
45	E	69	75	u	117
46	F	70	76	v	118
47	G	71	77	w	119
48	H	72	78	x	120
49	I	73	79	y	121
4A	J	74	7A	z	122
4B	K	75	7B	{	123
4C	L	76	7C	|	124
4D	M	77	7D	}	125
4E	N	78	7E	~	126
4F	O	79	7F	DEL	127

Hexadecimal and Decimal Equivalents of ASCII Characters

HEX	ASCII	DECIMAL	HEX	ASCII	DECIMAL	HEX	ASCII	DECIMAL	HEX	ASCII	DECIMAL
20	space	32	50	P	80	38	8	56	66	h	104
21	!	33	51	Q	81	39	9	57	67	i	105
22	"	34	52	R	82	3A	:	58	6A	j	106
23	#	35	53	S	83	3B	;	59	6B	k	107
24	\$	36	54	T	84	3C	<	60	6C	l	108
25	%	37	55	U	85	3D	=	61	6D	m	109
26	&	38	56	V	86	3E	>	62	6E	n	110
27	'	39	57	W	87	3F	?	63	6F	o	111
28	(	40	58	X	88	40	@	64	70	p	112
29	)	41	59	Y	89	41	A	65	71	q	113
2A	*	42	5A	Z	90	42	B	66	72	r	114
2B	+	43	5B	[	91	43	C	67	73	s	115
2C	,	44	5C	\	92	44	D	68	74	t	116
2D	-	45	5D	]	93	45	E	69	75	u	117
2E	.	46	5E	^	94	46	F	70	76	v	118
2F	/	47	5F	_	95	47	G	71	77	w	119
30	0	48	60	`	96	48	H	72	78	x	120
31	1	49	61	a	97	49	I	73	79	y	121
32	2	50	62	b	98	4A	J	74	7A	z	122
33	3	51	63	c	99	4B	K	75	7B	{	123
34	4	52	64	d	100	4C	L	76	7C	|	124
35	5	53	65	e	101	4D	M	77	7D	}	125
36	6	54	66	f	102	4E	N	78	7E	~	126
37	7	55	67	g	103	4F	O	79	7F	DEL	127

APPENDIX C

PRINTER CONFIGURATION

This Appendix describes the printer description file and printer switch settings.

The information about the printer description file need only be read by a system administrator or supervisor who is setting up a nonstandard printer configuration.

Printer Description File

The printer description file is used to specify all printers that are part of the printer configuration for the Word Processor. This file is installed with the Word Processor. At installation, the file contains entries for each printer in the standard printer configuration. When a new printer is added to the Word Processor, an entry must be made to the printer description file to describe it.

There is one entry in the printer description file for each printer. Each entry is on a separate line within the file.

The Word Processor defaults to the first entry in the printer description file if no other printer is specified by the user.

The syntax for entries in the printer description file is

```
"printer name":device:format
```

where:

"printer name"

is the string identifying this particular output device, such as "PAR", "SERIAL", or "DIRECT PAR".

device

is the system device name, spooler queue name, or file specification to which the document is to be sent, such as "[Ptr]B", "[Lpt]", or [New]<Edit>Edited.doc".

format

is the printer format in which the document is to be generated, such as "Draft", or "Diablo630".

NOTE

When a file is specified for a printer name, that document will be copied to that file name and all formatting will be lost. This should only be done if an edit file needs to be created, otherwise the Copy function of the Document Utilities command (CODE-fl) should be used.

There is no physical limitation to the number or size of entries in the printer description file. However, there are some practical limitations. The identifiers should be kept short for two reasons: to make it easy for the user to specify a particular device for printing, and because they are used in the Print form to display a list of possible choices.

The size of the Device field is not critical and can be as long as needed.

The Printer Format field must contain one of the codes recognized by the Word Processor, or it will default to "draft". For example, two of the printer format codes currently recognized are

Diablo630 (for Diablo 630 format)
Draft (for draft printer format)

Instead of entering an identifier in the Print form, you can enter Device and/or Format fields directly, separated by a colon. The Word Processor will react in the same way as if the Device and Format fields were read from the printer description file. In this case, if the Format field is omitted, Format defaults to "draft".

Figure C-1 is an example of a typical printer description file.

```
SERIAL:      [SplB]:          Diablo630
PARALLEL:    [Spl]:          Draft
DIRECTSER:   [Ptr]B&[sys]<sys>WpPtrBConfig.sys:  Diablo630
DIRECTPAR:   [Lpt]&[sys]<sys>WpLptConfig.sys:     Draft
SER:         [SplB]:          Diablo630
PAR:         [Spl]:          Draft
DSER:        [Ptr]B&[sys]<sys>WpPtrBConfig.sys:  Diablo630
DPAR:        [Lpt]&[sys]<sys>WpLptConfig.sys:     Draft
DIRECT:      [Lpt]&[sys]<sys>WpLptConfig.sys:     Draft
```

Figure C-1. Example of a Printer Description File.

The following are the descriptions of the printers listed in the printer description file.

SERIAL or SER To print to a serial-style printer using spooler from a master or cluster workstation.

PARALLEL or PAR To print to a parallel-style printer using spooler from a master or cluster workstation.

DIRECTSER or DSER To print direct to a serial-style printer directly connected to a standalone or cluster workstation.

DIRECTPAR or DPAR To print direct to a parallel-style printer directly connected to a standalone or cluster workstation.

Changing Printer Default Values

The standard file Sys.printers makes direct printing the default way of printing for standalone systems and spooled printing for cluster systems. The following describes the steps necessary to change the default values of the [sys]<sys>Sys.printers file while in the word processor.

1. Press the CODE key and f1. Press the CODE key and f1 key at the same time to get the DOCUMENTS menu.
2. Press C for Copy document, and the following form will be displayed. Fill it in as follows:

COPY DOCUMENT

Old document: [sys]<sys>Sys.printers
New document: [sys]<sys>Sys.printers.new
Password: (optional)

Press the GO key.

3. Press O for Open document, and the following form will be displayed. Fill it in as follows:

OPEN DOCUMENT

Document name: [sys]<sys>Sys.printers.new
Password: (optional)
Allow changes: Yes
Copy from document:

Press the GO key.

4. The Sys.printers.new file will be displayed so it can be edited.

- 1) Move the cursor to the line which has the desired default value.
- 2) Press the Mark Line (f9) key.
- 3) Position the cursor to the first line.
- 4) Press the MOVE key and the new defaulted value will move to the first line. It may occur that these two lines will run together. To correct this, position the cursor under the character where you wish the second line to begin and press the SHIFT and RETURN keys at the same time. This will insert a carriage return at that position.
- 5) Press the FINISH key to save the new file and return to the executive.

5. Enter COPY into the command form.

6. Press the RETURN key and the following form will be displayed. Fill it in as follows:

COPY

File from: [sys]<sys>Sys.printers.new
File to: [sys]<sys>Sys.printers
[Overwrite ok?] Yes
[Confirm each]

Press the GO key.

7. Enter WRITEone in the command form and press the GO key.

8. To verify the new default printer, press the SHIFT and f4 keys at the same time. If the correct printer is displayed in the "Printer name:" field, then press the CANCEL key. Now the [sys]<sys>Sys.printers.new file can be deleted because it is no longer needed. Use the following steps to do this.

- 1) Press the CODE and f1 keys at the same time.
- 2) Press D for Delete document, and the following form will be displayed. Fill it in as follows:

DELETE DOCUMENT

Document name(s): [sys]<sys>Sys.printers.new
Password: (optional)

Press the GO key.

When the Documents menu is redisplayed, press the CANCEL key and continue with the word processing session. If, however, the default is incorrect, press the CODE and O key and fill in the form as shown in step 3 and repeat the procedures from that step.

Printer Switch Settings

For the switch settings on the various B 20 printers refer to the appropriate printer reference manuals.

APPENDIX D

HARDWARE CONSIDERATIONS

The size of the screen depends on the type of workstation being used. A B 22 workstation screen displays up to 34 lines that can be either 80 or 132 columns wide. The Zoom command (see Section 5, "Advanced Operations") is used to switch the content of the screen between 80 columns of text and 132 columns of text.

When the screen content expands to 132 columns, the size of the characters grows proportionately smaller.

Figure D-1 shows a B 22 screen that has been expanded to 132 columns.

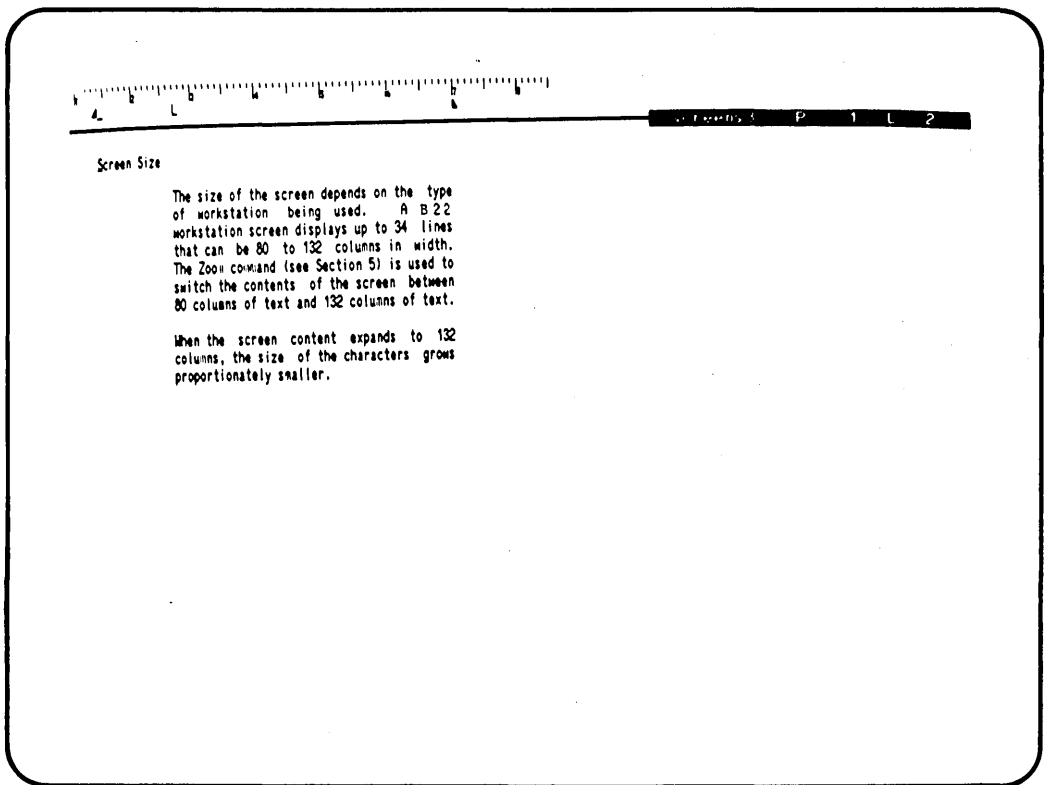


Figure D-1. 132-Column Screen.

A B 21 workstation screen displays 28 lines of text that are up to 80 columns wide. (The Zoom command has no effect on a B 21 screen.)

Figure D-2 shows an 80-column B 21 screen.

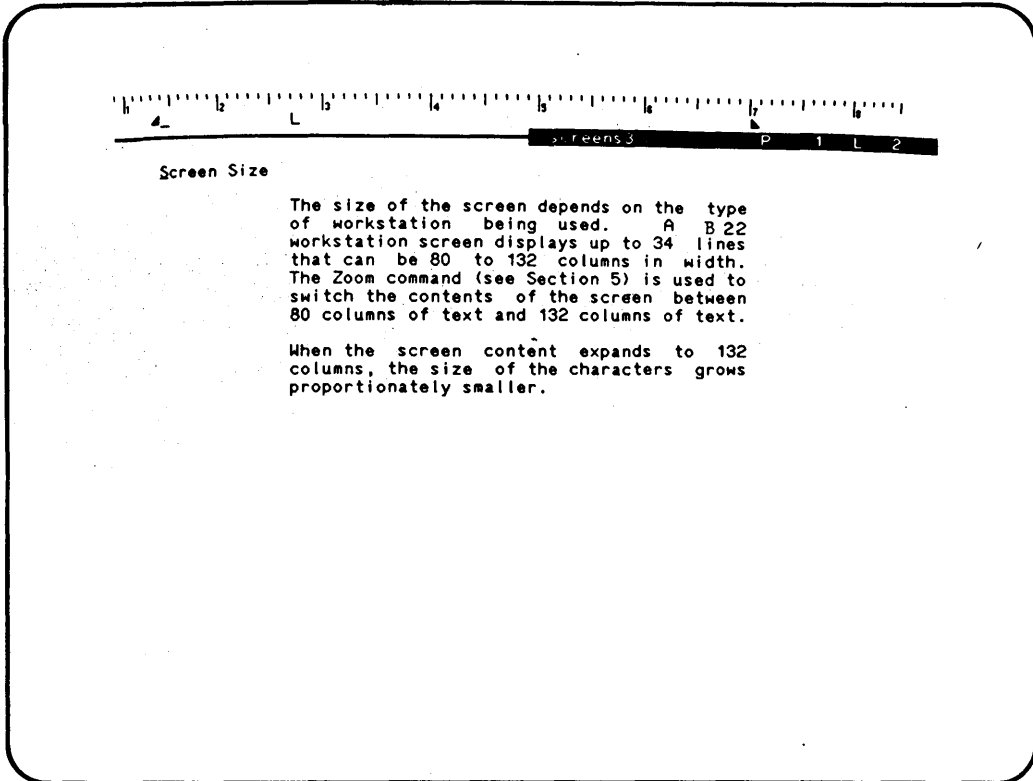


Figure D-2. 80-Column Screen.

Format Change Limitations

The B 21 screen displays a maximum of 14 character format changes (such as boldface, underline, subscript) per line of text. (Changing to boldface text and then changing back to normal text counts as two character format changes.) However, changes exceeding this amount will still be recorded and printed, even though they do not show up on the screen.

Character format changes other than underline cause the text to show up on the screen in half-brightness. If 16 changes occur on one line of text, the remainder of the line is displayed as half-bright text.

Write-Protecting Disks

All floppy disks used with the Word Processor have a write-protect feature. This feature prevents accidental changes being made to the disks.

There is an exposed write-protect notch on the edge of floppy disks. If you are using a B 22 workstation with standard-sized (8-inch) disks, the disks are write-protected and cannot be changed as long as there is no tab covering the write-protect notch. To make changes to that disk, you must place a tab over the write-protect notch.

If you are using mini-floppy (5 1/4-inch) disks with B 21 workstations, you must uncover the write-protect notch to make changes to the disk. To prevent the disk from being changed, place a tab over the write-protect notch.

APPENDIX E

PROGRAMMING FEATURES

This Appendix describes the programming-specific functions that are used primarily by software programmers for editing and documenting their work. These functions are inserting hexadecimal and literal characters, thumbing through a document, discarding edits, removing formats, and programmer format sets.

Inserting Hexadecimal Code

The Insert Hexadecimal command inserts a character specified by hexadecimal code. This command, invoked by pressing CODE-i, brings up the Insert Hexadecimal form shown in Figure E-1 below.

INSERT HEXADECIMAL: (Press GO to execute, CANCEL to dismiss)

Hexadecimal code(s):

Insert Hexadecimal Form

Figure E-1. Insert Hexadecimal Form.

To insert a character specified by hexadecimal code:

1. Move the cursor to where you want to insert the character.
2. Press CODE-i. The Insert Hexadecimal form appears.

3. Type the hexadecimal code. (You can specify more than one hexadecimal code by separating them with commas. For example: A6, A7, A8.)
4. Press GO.

The hexadecimal character appears in the text at the cursor position.

For example, to insert a slashed 0, fill in the form this way:

Hexadecimal code(s): A6

If you specify other than a hexadecimal digit, the following message appears:

Invalid hexadecimal digit in code

Inserting Literal Characters

The Insert Literal command inserts a literal character at the cursor position.

To insert a literal character, do the following:

1. Move the cursor to where you want to insert the literal character.
2. Press CODE-' or CODE-SHIFT-'.
3. Type the character.

For example, to insert a ↑ (up arrow), press CODE-' and then the up arrow key. (Pressing the up arrow key without first pressing CODE-' only moves the cursor.)

Thumbing Through a Document

Thumbing moves the cursor to a specified relative position within the document. The keys ^ (caret) to 0 on the top row of the typewriter pad are analogous to the thumb indents of a dictionary. Think of the document as being divided into tenths. Each time you press CODE together with any of keys 1 through 0, the cursor moves through the document in increments of ten. (CODE-^ represents the beginning of the document.)

For example, pressing CODE- moves the cursor to the beginning of the document; pressing CODE-1 moves the cursor to the 10-percent point of the document; CODE-2 moves the cursor to the 20-percent point of the document, etc. CODE-0 specifies the end of the document (100-percent point).

As the cursor moves within the document, the content of the window shifts accordingly.

Discarding Edits

The Discard command discards all edits made to the current document since the last Finish or Save.

Discard is invoked by pressing CODE-u. When these keys are pressed, the following message appears:

Press GO to confirm Discard or CANCEL to cancel the command

Before you press GO, be sure that you really want to remove the edits from the document. Once this command is executed, it cannot be undone.

Action Finish

Pressing ACTION and FINISH at the same time exits the Word Processor without saving any documents and returns the Executive to the screen. This procedure should not normally be used to finish a word processing session.

Removing Formatting

You might wish to remove a document's formatting attributes and leave just the raw, unformatted text. Use the Remove Format command, invoked by pressing CODE-r.

When these keys are pressed, the following message appears:

Press GO to confirm Remove Format, CANCEL to cancel command.

Before you press GO, be sure that you really want to remove the formatting from the document. Once this command is executed, it cannot be undone.

When GO is pressed, the message

Saving...

appears at the bottom of the screen to indicate that the document is being saved while the formatting attributes are removed.

The message

Save complete

appears when the formatting is removed. The document then looks like the example in Figure E-2 below. All character attributes (such as boldface and underline) are removed, as are tab and paragraph indent settings. All text is aligned at the default left indent setting.

Indenting the First Line of a Paragraph

The first line of a paragraph can be automatically indented to the right or to the left of the left indent setting each time RETURN is pressed. The Paragraph Indent command is used to set first-line paragraph indents.

To set the first-line paragraph indent while entering text:

1. Press INDENT (CODE-f3). The Paragraph Indent menu appears.
2. Move the cursor to the desired first-line indent stop on the ruler display. This can be to the right or to the left of the existing paragraph indent stop.
3. Press F for first-line paragraph indent. The paragraph symbol appears in the ruler display to denote the first-line paragraph indent stop, and the menu goes away.
4. Press INDENT again. The Paragraph Indent menu reappears.
5. Move the cursor to the desired indent stop for the other lines of the paragraph.
6. Press O. The indent symbol appears in the ruler display to denote the indent stop for the other lines of the paragraph, and the menu goes away.

Figure E-2. Example of an Unformatted Document.

Programmer Format Sets

One of the files placed on a system by the installation procedures, WP.fmt, specifies certain word processor defaults in a way more suitable for editing of documents rather than programs. If instead, the user is going to use the word processor to edit programs, one file [sys]<sys>Prog80.fmt or [sys]<sys>Prog132.fmt, should be added to the user's .user file. This is done by following these steps:

1. Enter WRITEone in the command form.
2. Enter the name of the user file to be edited.

3. Press the GO key.
4. Make an entry of one of the following forms:

:WPFormatSet: [sys]<sys>Prog80.fmt

or

:WPFormatSet: [sys]<sys>Prog132.fmt

This allows the user to edit programs in 80-column or 132-column mode. In addition these formats contain evenly spaced tabs stops. These tabs should not be used when creating COBOL or FOTRAN sources because they will not be accepted when these sources are compiled. If it is desired to use the word processor for writing programs, then delete the first page marker before any typing is done on the document. This is accomplished by pressing the Return key twice and then positioning the cursor on the first line. This will eliminate page markers being inserted into the document and thus eliminate syntax errors when the source programs are compiled. This can also be accomplished by using the Remove Format command (CODE-r).

APPENDIX F

FILES CREATED BY THE WORD PROCESSOR

The Word Processor creates the following files during its operation:

In the user dictionary: Document, Document-old, and Document-new where Document is the name of a document being edited. Normally, the "new-" file only exists temporarily during the save operation; its presence on the disk with no save operation in progress indicates that some failure has occurred. If this is observed, the user should attempt to recover. If unable to recover, a comparison of the contents of the various versions of the document should be made to determine which is the most accurate version. (If the Word Processor is to be used to compare the contents of the files, copies must first be made without the "-old" and "-new" suffixes.) If the "-new" file is determined to be most accurate, it should be renamed to Document.

The presence of an "-old" file on the disk is normal--this file reflects the contents of the document prior to the most recent save (CODE-S) of FINISH. Therefore, the user can return to this prior state renaming Document-old as Document. Alternatively, if the user is confident that he does not wish to return to this prior state, he may free space on the diskette by deleting the "-old" files.

In the <Wp> directory: User.ts where User is the name supplied at the time of sign on. These are called typescript files and are used by the Word Processor recovery function. There will be one such file for each word processing user on a system. This file grows in size as keystrokes are entered during a word processing session. If space on a hard disk system runs short, the files may be deleted--this will recover the space occupied for inactive users and the typescripts of active users will be automatically recreated. Beware that if a user's most recent session ended abnormally, then the deletion of the typescript will make it impossible to recover the session.

In the <\$> directory: WpBin.tmp, WpBinB.tmp, WpFop.tmp, WpQue.tmp, WpDir.tmp, Wp.tmp, and WpB.tmp. These files contain various temporary data structures internal to the Word Processor that are needed during sessions. In between sessions they may be deleted to recover space and they will be automatically recreated as required. The creation of a file does take some time so in the interests of efficiency, their deletion is not performed automatically.

APPENDIX G

DOCUMENT EXCHANGE FORMAT (DEF)

INTRODUCTION

The Document Exchange Format is a programmer's tool and requires programming knowledge in order to be used successfully. A program has to be written, in one of the available B 20 languages, in order to convert a non-B 20 word processing file to a B 20 word processing file. This is accomplished by translating the non-B 20 word processing file's embedded escape codes to the equivalent DEF escape codes. This information along with the commands to do this are provided below.

THE DEF FORMAT

Levels of Format Application

The Burroughs word processor applies document formatting in three levels. These are: character-level formats, paragraph-level formats, and page-level formats. No other levels of format exist. Also, DEF respects only these three levels of formatting.

Character formats are those that modify characters only. Examples of character formats are superscript, boldface, and underscore. Examples of paragraph formats are tab settings and line spacing. Page formats include paper size and header margins.

It is important to understand the relationship between these three levels. Since paragraphs are composed of characters and pages consist of characters and paragraphs, it may be confusing as to the level a particular format applies. For example, all of the characters in a paragraph may be boldface. This does not mean boldface is a paragraph-level format because it certainly is not necessary that every character in that paragraph be in boldface. However, if a paragraph has a tab stop at three inches, that tab stop exists for all text within that paragraph.

Related to the word processing format levels is the notion of runs. A run is a contiguous portion of text sharing the same formatting attributes. This implies that there are, again, three types of runs: character runs, paragraph runs, and page runs. A character run might consist of several words which are subscripted. A paragraph run may be many left-flush paragraphs. A page run would be all contiguous pages which have the same size and margins (Quite often in small documents there is only one paragraph run and one page run since all of the paragraphs and pages in a document have identical format).

Note that all of the formatting attributes for a particular run type (character, paragraph, a page) must be identical in order to qualify as a run. For example, text with boldface and strike-through signifies a run. However, if underline is added, a new run begins even though both share boldface and strike-through. Not also that all the run types co-exist with each other without dependencies. This means that the start of a new paragraph run will not affect the existing character run.

DEF Organization

DEF files have embedded escape codes which signify document formatting. These codes indicate format runs which are contiguous portions of text that share the same format attribute. There are three types of runs: character, paragraph, and page.

Because DEF escape codes indicate formatting runs, this implies that any DEF action remains in effect until some other DEF action terminates the run. For example, if a DEF command sets the left document margin at two inches, all subsequent document margins are at the same position until changed.

By nature, DEF files are stream files, meaning that DEF files can be accessed sequentially. No DEF command may apply to prior text, only subsequent text. This also means that interpretation of DEF files are done in a single pass. Although it may be necessary to make several passes on a foreign system document in order to create a DEF file, the DEF file can only be a sequential file.

DEF escape codes for character runs apply to the characters that immediately follow the escape sequence. However, for paragraph and page escape codes, the new attributes do not go into effect until an explicit New Paragraph or New Page escape code is encountered. This enables the DEF file to set a variety of paragraph and page formats prior to their actual invocation.

Special Characters

Several characters in Burroughs word processing documents are unique to Burroughs. These characters do not have ASCII representation. Unique DEF escape codes exist for these codes. Examples of such codes are page numbers, discretionary hyphens, and non-breaking spaces. Also included in the special characters are the New Paragraph and New Page escape codes.

Headers and Footers

Burroughs word processing headers and footers receive special treatment by DEF (For simplicity, the term headers shall apply to both headers and footers). Headers are a page-level formatting attribute. This means that a different header may appear on each page.

Two components are required to apply a header to a page. First is the header text itself. Since multiple headers are allowed, this implies multiple header text definition. Secondly, there is the header application command. This command specifies that a header will reside on a given page, and also references the particular item from the array of header text mentioned. This array of header text must logically lie in the DEF file at the end of all other text if headers are to be used (headers are optional in Burroughs word processing documents).

As an example, suppose a three-page document contained headers. In the body text portion of the first page, an escape command would indicate a header is used on this page, and the first header text defined is to be used. On the second page, the header command could specify the third header text item (order is not important). The third page would then specify the second header text item.

Because of this, a new class of DEF command exists -- the header text definition command. Header application commands are considered page-level formats. Header text definition command in a DEF file signifies the end of body text and the beginning of header text. All text from a header definition command until the next header definition command of end of the DEF file is considered part of the header definition. Note that header text may contain paragraph and character formats but page formats are ignored.

DEF ESCAPE CODES

DEF escape codes have the form \$(command) where command is two or more characters. Recall that these commands are embedded within text in a DEF file, and that there are essentially five types of DEF commands: character commands, paragraph commands, page commands, header commands, and special commands.

Certain DEF commands require numeric values in addition to the two or three character command identifiers. Many of these numeric values are measurements, such as margins, tab stops, and page sizes. These measurements are considered to be units in 1/240th inch. This allows the lowest common denominator of many standard word processing measuring schemes. Therefore, a numeric value of 240 represents one inch, and 48 represents 1/5 inch. Note that these numeric values are kept in ASCII rather than binary. This enables DEF to be used with simple communications schemes which only permit ASCII data, and it makes for DEF files which are easier read.

Character Escape Codes

DEF character escape codes affect formatting when they occur. As with all DEF escape codes, character formats set by DEF escape codes remain in effect until reset by some other escape command. All Burroughs word processing character formats have corresponding DEF escape code representation.

Character Escape Codes (Cont.)

ESCAPE CODE	FORMAT ACTION
\$(AY)	Start alternate ribbon.
\$(AN)	Stop alternate ribbon.
\$(BY)	Start boldface.
\$(BN)	Stop boldface.
\$(DY)	Start double underline.
\$(DN)	Stop double underline.
\$(KY)	Start Keyword.
\$(KN)	Stop Keyword.
\$(PT _n)	Set the pitch value to the value specified by n.
\$(SY)	Start strike-thru text.
\$(SN)	Stop strike-thru text.
\$(UY)	Start underline.
\$(UN)	Stop underline.
\$(XY)	Start superscript.
\$(XN)	Stop superscript.
\$(YY)	Start subscript.
\$(YN)	Stop subscript.
\$(NR)	Start normal text. This will reset all character attributes, including the print wheel.
\$(WHname)	Use the print wheel specified by name. The named print wheel must be supported by the Burroughs word processing system or this command is ignored.

Paragraph Escape Codes

Paragraph escape codes do not go into effect when encountered. Instead, their actions are saved until a New Paragraph escape code is encountered (see Special Character Codes). All Burroughs word processing paragraph formats have corresponding DEF escape code representation. This allows several formatting commands to go into effect at one time. Recall that whenever numeric values are required, these are represented in ASCII rather than binary.

ESCAPE CODE	FORMAT ACTION
\$(IFn)	Set the paragraph first line indent to the value specified by n (given in units of 1/240th inch). The first line indent is measured relative to the paragraph left indent (see below).
\$(ILn)	Set the paragraph left indent to the value specified by n (given in units of 1/240th inch). The left indent is measure relative to the left document margin (see page escape codes).
\$(IRn)	Set the paragrphah right indent to the value specified by n (given in units of 1/240th inch). The right indent is measured relative to the right document margin (see page escape codes).

Paragraph Escape Codes (Cont.)

ESCAPE CODE	FORMAT ACTION
(TBtp, tp, ..., tp)	<p>Set the tab stops to the position represented by p, and of the type represented by t. The tab types may be one of the following: L (left-flush), R (right-flush), C (centered), D (decimal-aligned), or A (comma-aligned). Further, each type may be optionally preceded by a period to indicate leader dots -- i.e., .L indicates a left-flush tab with leader dots.</p> <p>The tab position is specified by p (given in units of 1/240th inch). The position is measured relative to the left document margin. A maximum of twenty tabs per paragraph is allowed.</p>
\$(LF)	Set the paragraph to left-flush.
\$(RF)	Set the paragraph to right-flush.
\$(JS)	Set the paragraph to justified (both left- and right-flush).
\$(CN)	Set the paragraph to centered.

Note that paragraphs may be exactly one of either left-flush, right-flush, justified or centered. Unlike many other word processor implementations, center is a paragraph format and is mutually exclusive with all others

Paragraph Escape Codes (Cont.)

ESCAPE CODE	FORMAT ACTION
\$(LNb,w,a)	Set paragraph line spacing. These measurements are required to set paragraph line spacing: before (b), within (w), and after (a). All three measurements are given in units of 1/240th inch. For systems which support only two kinds of paragraph spacing: within, and between, it is suggested that the before (b) and after (a) value each be set to 1/2 of the between value.

Page Escape Codes

Page escape codes do not go into effect when encountered. Instead, their actions are saved until a New Page escape code is encountered (see Special Escape Codes). This permits several formatting commands to go into effect at one time. All Burroughs word processing page formats have corresponding DEF escape code representation. Recall that whenever numeric values are required, they are represented in ASCII rather than in binary.

ESCAPE CODE	FORMAT ACTION
\$(PGSw,h)	Set page width, represented by w, and height, represented by h (each given in units of 1/240th inch). Both entries are required.

Page Escape Codes (Cont.)

ESCAPE CODE	FORMAT ACTION
\$(PGMl,r,t,b)	<p>Set the page margins. These are represented by l (left margin), r (right margin), t (top margin), and b (bottom margin). All four entries are required.</p> <p>The left page margins measured relative to the left paper edge, the right margin is relative to the right paper edge, the top margin is relative to the top paper edge, and the bottom margin is relative to the bottom paper edge (each given in units of 1/240th inch).</p>
\$(PGHh,f)	<p>Set the page header and footer margins. The header margin is represented by h, and the footer margin is represented by f. The header margin is measured relative to the top edge of the paper, and the Footer margin is measured relative to the bottom edge of the paper (given in units of 1/240th inch). Both measurements are necessary.</p>
\$(PGNfa,fo,n)	<p>Set the page attributes. These will set facing pages (represented by fa), forced page (represented by fo), and page number (represented by n).</p>

Page Escape Codes (Cont.)

ESCAPE CODE

FORMAT ACTION

The facing pages value (fa) may be either Y or N, where Y means facing pages is true. The forced page value (fo) may be either Y, N, O, or E, where Y means forced page, N means no forced page, O means odd forced page, and E means even forced page (odd and even forced page breaks will produce blank pages in order to generate the necessary parity). The page number (n), determines the actual page number only if one of the three types of forced page breaks have been set. The facing pages and forced page values are mandatory, but the page number value is optional (the comma after the forced page value is mandatory, i.e., '\$(PGNN,N,)').

\$(HOn)

Set headers for odd pages to the nth header of footer Text Definition. The number n indexes into the set of all header or footer text for the document as defined by the \$(DH) format escape codes. (See Header Escape Codes).

\$(HEn)

Set headers for even pages to the nth header of footer Text Definition. The number n indexed into the set of all header of footer text for the document as defined by the \$(DH) format escape codes. (See Header Escape Codes).

Page Escape Codes (Cont.)

ESCAPE CODE	FORMAT ACTION
\$(HBn)	Set headers for both odd and even pages to the nth header of footer Text Definition. The number n indexes into the set of all header or footer text for the document as defined by the \$(DH) format escape codes. (See Header Escape Codes).
\$(FOn)	Set footers for odd pages to the nth header of footer Text Definition. The number n indexes into the set of all header or footer text for the document as defined by the \$(DH) format escape codes. (See Header Escape Codes).
\$(FEn)	Set footers for even pages to the nth header of footer Text Definition. The number n indexes into the set of all header or footer text for the document as defined by the \$(DH) format escape codes. (See Header Escape Codes).
\$(FBn)	Set footers for both odd and even pages to the nth header of footer Text Definition. The number n indexes into the set of all header or footer text for the document as defined by the \$(DH) format escape codes. (See Header Escape Codes).
\$(WY)	Widow Control On.
\$(WN)	Widow Control Off

Header Escape Codes

Header escape codes are distinct from other format specifications. For simplicity's sake, assume both header and footer text definition. These codes contain the actual text that appears within the headers or footers as defined per page (see Page Escape Codes). The text contained within a header specification begins after the Define Header escape code and continues until the next Define Header escape code (or end of file). The first occurrence of a Define Header escape code signifies the end of the body text portion of a document. All Define Header escapes must be contiguous.

The text within a header text definition may itself contain DEF escape codes. These may be either character escape codes, paragraph escape codes, or special escape codes. Page escape codes are not allowed, and header escape codes delimit header text.

ESCAPE CODE	FORMAT ACTION
\$(DH)	Define header or footer text. The text includes that which follows the header escape code up to, but not including, the next header escape code (or end of file).

Special Escape Codes

Special escape codes are those which represent characters not easily interpreted by normal text. Included among the special escape codes are New Paragraph and New Page. These special codes signify the start of a new paragraph or page, and also apply any new paragraph or page formats as defined by the paragraph or page escape codes.

ESCAPE CODE	SPECIAL CHARACTER
\$(SA)	\$ - Since the \$ character identifies DEF escape code, this escape code permits their use in DEF files.

Special Escape Codes (Cont.)

ESCAPE CODE	SPECIAL CHARACTER
\$(SB)	New Paragraph - Begin a new paragraph setting any new paragraph formatting attributes pending such application.
\$(SC)	New Page - Begin a new page setting any new page formatting attributes pending such application.
\$(SD)	Arabic Page Number.
\$(SE)	Discretionary line break. Also known as a discretionary space.
\$(SF)	Non-breaking space, Also known as a required space.
\$(SG)	Discretionary hyphen.
\$(SH)	Discretionary return (Note - there is no such character in the Burroughs word processing document format. This is included for compatibility with other systems but will be ignored by Burroughs word processing.)
\$(SI)	Non-breaking hyphen. Also known as a required hyphen.
\$(SJ)	Roman Page Number

USING DEF

Document Exchange Format (DEF) is a definition of a format for word processing document files. It provides a common language through which word processing files created on non-Burroughs systems (for example, NBI and Wang) can be translated into word processing files that have a format that a Burroughs system can use.

If a foreign word processing file is to be converted to the Burroughs format, it must first be converted to a file that has the DEF format. The DEF format file then can be converted to a Burroughs format file.

The Document Exchange Format operation has two functions.

- o It converts a Burroughs word processing format file to a DEF file.
- o It converts a DEF file to a Burroughs word processing format file.

Figure G-1 further illustrates how files are converted by using this operation.

You invoke the Document Exchange Format command through the Commands function.

1. Press COMMANDS (CODE-f7). The Commands menu appears on the screen. (See Figure 5-14.)
2. Press D for Document Exchange. The Document Exchange menu appears on the screen. (See Figure G-2.)

The Document Exchange menu allows you to convert a Burroughs format document file to a DEF file or to convert a DEF file to Burroughs format.

To convert a Burroughs format file to a DEF file:

1. Enter the document name of the Burroughs format file that is being converted to a DEF file. Press NEXT.
2. Enter the name of the DEF file that is being created. Press NEXT.

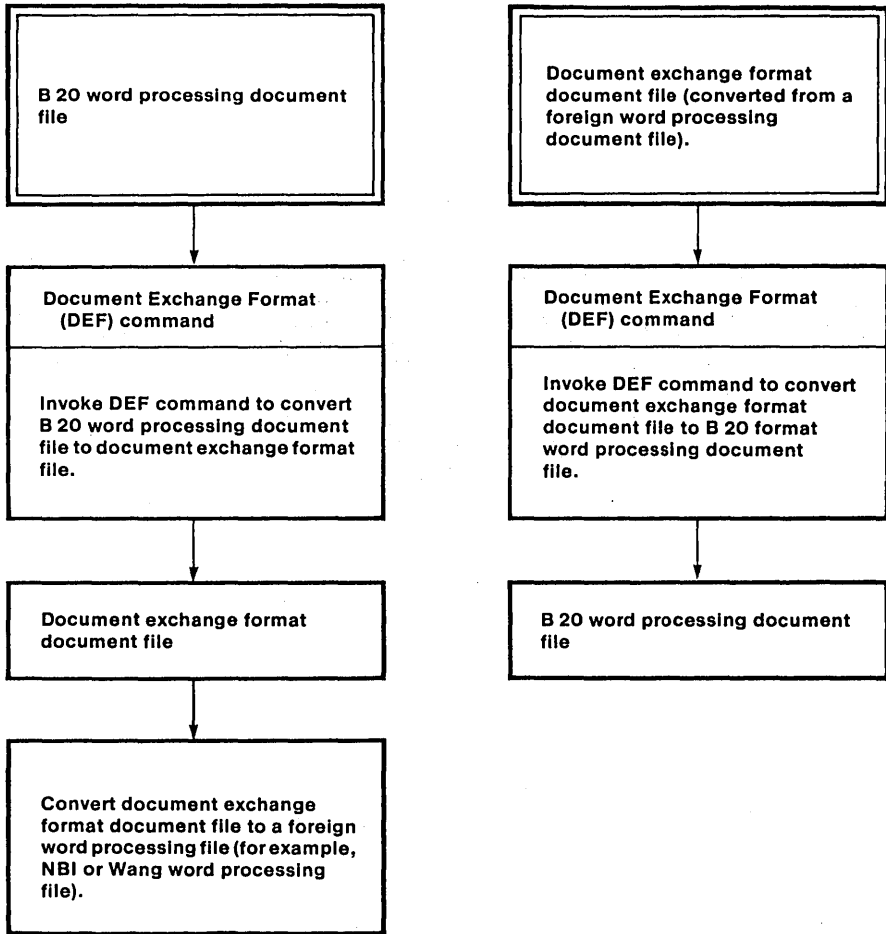


Figure G-1. Document Exchange Format Operations.

3. Press T for "To DEF" to specify the direction of the conversion. (Here you want the Burroughs file to be converted to a DEF file.)
4. Press GO.

After you press GO, the message

Press GO to create X, CANCEL to dismiss

appears at the top of the Document Exchange form. X is the name of the file that is being created to contain the DEF version of the Burroughs file. Press GO to create the file.

DOCUMENT EXCHANGE: (Press GO to execute, NEXT for next item, CANCEL to dismiss)

Document name:

DEF file name:

Direction: To DEF From DEF (Press T or F)

Figure G-2. Document Exchange Format Menu.

To convert a DEF file to a Burroughs format file:

1. Enter the document name of the Burroughs format file that is being created. Press NEXT.
2. Enter the name of the DEF file that is being converted. Press NEXT.
3. Press F for "From DEF" to specify the direction of the conversion. (Here you want the DEF file to be converted to a Burroughs format file.)
4. Press GO.

After you press GO, the message

Press GO to create X, CANCEL to dismiss

appears at the top of the Document Exchange form. X is the name of the file that is being created to contain the Burroughs format version of the DEF file. Press GO to create the file.

GLOSSARY

NOTE

For descriptions of specific keys and their functions that are not found in this Glossary, see Section 2, "Keyboard."

BACKSPACE. BACKSPACE is the key used to back space one position. In insert mode, it deletes one character. In overtype mode, it moves the cursor one position to the left (or, if the cursor is at the start of a line, to the end of the previous line) but does not delete a character.

BOUND. The BOUND key moves the cursor and extends the selection to the next space, character, word, line, paragraph, or page.

Breaking Required Hyphen. A breaking required hyphen (typed with the hyphen key) is the standard hyphen and is used in expressions such as father-in-law and tailor-made. These expressions must always be hyphenated but can be split, if needed, after a hyphen. The Word Processor breaks such an expression if it would otherwise extend beyond the end of a line.

Current Window. The current window is the window containing the cursor. Editing operations affect the document in the current window.

Cursor. The cursor is the blinking underline on the screen that indicates where the next character can be entered.

Daisy Wheel Printer. A daisy wheel printer is a character printer that uses interchangeable metal and plastic print wheels to print several types and sizes of characters. (Also see Draft Printer.)

Dedicated Printer. A dedicated printer is a printer that is physically connected to a particular workstation and cannot be shared by another workstation. (Also see Local Printer and Shared Printer.)

Default Value. A default value is the value assumed by a field in a form or menu in the absence of a user-specified parameter.

Delimiter. A delimiter is a character that is used to separate and organize a string of data, but is never a part of the string.

Discretionary Hyphen. A discretionary hyphen (typed with CODE-hyphen) is a hyphen that appears when a word breaks at the end of a line, and not otherwise. Sometimes a long word cannot fit at the end of a line. Placing a discretionary hyphen in the long word causes the word to break when it would otherwise extend beyond the end of a line. If the text is later edited so that the word no longer breaks at the end of a line, the hyphen does not appear.

Discretionary Line Break. A discretionary line break (typed with CODE-spacebar) inserted into a phrase or a sentence causes the phrase or sentence to break when it would otherwise extend beyond the end of the line.

Document Status Line. The document status line is the line dividing the main text area of the screen and the ruler display. It displays the name of the current document, the page number in the current window, and the number of the line in which the cursor is positioned.

Draft Printer. A draft printer is a line printer that prints documents that do not have character formats, such as underlines, boldface, proportional spacing, etc. (Also see Daisy Wheel Printer.)

Field. A field is a part of a form in which specific instructions are given to the Word Processor. A field is either a blank (to be filled in) or a choice of options. In list processing, a field is a group of characters, separated by delimiters, that represent a single unit.

Footer. A footer is one or more lines of text that print at the bottom of each page of a document.

Form. A form is the screen display that requests you to fill in certain areas to specify particular operations. (Also see Menu.)

Form document. In list processing, a form document is the document into which the data in the records file is merged during the merge operation. (Also see Records File.)

Format. A format is a set of attributes applied to a block of text or a single character, for example, underlining, centering, first line paragraph indent.

Function Key. A function key is one of the ten keys, labeled f1 to f10, in the top row of the typewriter pad of the keyboard.

Header. A header is one or more lines of text that print at the top of each page of a document.

Indent. An indent is the left or right block indent of a paragraph from the left or right page margin, or its first line indent from the left page margin.

Index Tab. An index tab is the highlighted strip at the top boundary of each window when multiple windows are displayed. The index tab shows the number of the page being displayed and the number of the line containing the cursor.

Insert Mode. Insert mode is the mode in which characters typed from the typewriter pad of the keyboard are inserted into a document. The characters are inserted just before the cursor. The cursor, and any characters on the line to the right of it, move to the right. The Word Processor is in insert mode when the light on the OVERTYPE key is off. (Also see Overtyping Mode.)

Keyword. In list processing, a keyword is the symbolic field name (defined in the template record of the records file) that represents the actual data that is merged into the form document during the merge operation.

Lexicographic sort. In list processing, a records file can be sorted either numerically, or lexicographically (alphabetically and numerically). (Entries in a dictionary are sorted and listed lexicographically.)

Local Printer. A local printer is a printer that is physically connected to a particular work station. It can be shared by other workstations if it is local to the master and the spooler is installed. (Also see Dedicated Printer and Shared Printer.)

Menu. A menu lists various options and allows you one choice. (Also see Form.)

Nonbreaking Required Hyphen. A nonbreaking required hyphen (typed with CODE-SHIFT-hyphen) is a hyphen that keeps expressions together as a group, rather than breaking them at a hyphen when at the end of a line.

Nonbreaking Space. A nonbreaking space (typed with CODE-SHIFT-spacebar) is one that keeps expressions together as a group, rather than breaking them at a space when at the end of a line.

Overtyping Mode. Overtyping mode is the mode in which characters typed from the typewriter pad of the keyboard replace (rather than insert) characters in a document. You can move the cursor and type characters exactly as in insert mode, but every character typed replaces the existing one (if any) at the cursor position. The Word Processor is in overtyping mode when the light on the OVERTYPE key is on. (Also see Insert Mode.)

Page Number Symbol. The page number symbol (typed with CODE-f5) is a half-bright # on the screen and is replaced with the proper page number when the document is printed.

Paging. Paging (using PREV PAGE or NEXT PAGE) is an operation that shifts the content of the window backward or forward one page at a time.

Paragraph. A paragraph is an area of text beginning with a paragraph mark and ending with (but not including) the next paragraph mark or the end of the document. A new paragraph begins each time RETURN is pressed.

Pitch. Pitch refers to the size of a printed character (in characters per inch) on a print wheel. The Word Processor has 10-pitch and 12-pitch print wheels as standard. Print wheels with nonstandard pitch (such as 8- or 15-pitch) also can be used.

Primary Window. A primary window is the top window of a document. (Also see Secondary Window.)

Printer Spooler. The printer spooler is used to print documents from standalone and cluster work stations on spooled printers at user-specified priorities and permits other tasks to be performed during printing.

Records. In list processing, a record is a contiguous group of related items. Each item is represented by a single field.

Records file. In list processing, a records file is a text document containing a list of records, each of which contains zero or more fields. The contents of the records file are sorted and/or selected during sort/select operations, and are merged with the form document during the merge operation. (Also see Form Document.)

Recover. The Recover command is used to repeat automatically the work of a word processing session, by replaying a typescript of all work done. (Also see Typescript.)

Required Backspace. A required backspace (typed with CODE-BACKSPACE) allows special characters to be created that may not be part of a print wheel set. For example, a slash (/) can be printed over an equal sign (=) to produce the not-equal sign (/).

Ruler Display. The ruler display occupies the top two lines of the screen and is used for setting tabs and indents. It is divided into units that represent the columns of text, depending on the pitch of the print wheel being used.

Scrolling. Scrolling is an operation that moves text up and down (vertical scrolling) or left and right (horizontal scrolling) on the screen.

Secondary Window. A secondary window is the lower window created after division of a document. (Also see Primary Window.)

Selection. A selection is a contiguous block of characters (highlighted in reverse video) in a document on which certain editing operations can be performed (such as formatting, moving, copying, deleting).

Shared Printer. A shared printer is a printer that is shared by more than one workstation. A shared printer is always connected to the master workstation and contains the printer spooler. (Also see Local Printer and Dedicated Printer.)

Status Message. A status message appears at the bottom line of the screen to inform you of a particular occurrence within the system.

Struck-Out Text. Struck-out text is a character format attribute that specifies a single horizontal line typed over the text.

Template record. In list processing, the template record is the first record in a records file. It defines the record start and field start characters and the keywords. (Also see Keyword and Records File.)

Typescript. A typescript is a file created during a word processing session that contains a record of all changes made to a document during that session. (Also see Recover.)

Widow. A few words at the end of a paragraph that cannot fit on the page and are carried over to the next page.

Window. A window is the part of a document that is currently displayed on the screen.

Wraparound. Wraparound is the automatic moving of text (as it is entered) to the next line when the end of a line is reached.

Zoom. The Zoom command switches a B 22 workstation screen between 80 and 132 columns of text. (Zoom does not work on a B 21 workstation screen.)

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